

Frequency vs. Wavelength

Frequency	Wavelength
1 MHz	300 meters (m)
10 MHz	30 m
100 MHz	3 m
300 MHz	1 m --- 100 centimeters (cm)
1 GHz	30 cm
10 GHz	3 cm
100 GHz	3 millimeters (mm)
300 GHz	1 mm --- 10 ⁻³ m
3 x 10 ¹⁴	1 micron --- 10 ⁻⁶ m

Metric Prefixes

Metric Prefix	Multiplying Factor	Symbol
tera	10 ¹²	T
giga	10 ⁹	G
mega	10 ⁶	M
kilo	10 ³	K
hecto	10 ²	h
deka	10	da
deci	10 ⁻¹	d
centi	10 ⁻²	c
milli	10 ⁻³	m
micro	10 ⁻⁶	μ
nano	10 ⁻⁹	n
pico	10 ⁻¹²	p
femto	10 ⁻¹⁵	f
atto	10 ⁻¹⁸	a

Conversion factors

1 inch	=	2.54 cm
1 inch	=	25.4 mm
1 foot	=	0.305 m
1 mile	=	1.61 km
1 nautical mile	=	6080 ft
1 statute mile	=	5280 ft
1 mil	=	2.54 x 10 ⁻⁵ m
1 kg	=	2.2 lb
1 neper	=	8.686 dB
1 gauss	=	10,000 teslas

Units

Quantity	Unit	Symbol
Capacitance	farad	F
Electric charge	coulomb	Q
Conductance	mhos (siemens)	Ω
Conductivity	mhos/meter	Ω/m
Current	ampere	A
Energy	joule (watt-sec)	J
Field	volts/meter	E
Flux linkage	weber (volt-second)	ψ
Frequency	hertz	Hz
Inductance	Henry	H
Length	meter	m
Mass	gram	g
Power	watt	W
Resistance	ohm	Ω
Time	second	s
Velocity	meter/second	m/s
Electric potential	volt	V

Physical constants

Constant	Value	Symbol
Boltzmann's constant	$1.38 \times 10^{-23} \text{ J/K}$	K
Electric charge (e-)	$1.6 \times 10^{-19} \text{ C}$	q
Electron (voltage)	$1.6 \times 10^{-19} \text{ J}$	eV
Electron (mass)	$9.12 \times 10^{-31} \text{ kg}$	m
Permeability of free space	$4\pi \times 10^{-7} \text{ H/m}$	μ_0
Permittivity of free space	$8.85 \times 10^{-12} \text{ F/m}$	ϵ_0
Planck's constant	$6.626 \times 10^{-34} \text{ J} \cdot \text{s}$	h
Velocity of electromagnetic waves	$3 \times 10^8 \text{ m/s}$	c
Pi (π)	3.1416	π