

Ohms Law: $E = I * R$ (VAO)

(Volts=Amps * Ohms)

Power: $P = E * I$ (WAV)

(Watts=Amps * Volts)

E= Voltage measured in volts (V)

I= Current measured in amps (A)

R= Resistance measured in Ohms (Ω)

P=Power measured in watts (W)

Capacitance measured in farads

Inductance measured in henrys

$C(\text{speed of light}) = \text{freq} * \text{wavelength}$

$C = 300,000,000 \text{ meters/second}$

$\text{Wavelength (Meters)} = 300 / \text{freq (MHz)}$

Power ratio measured in decibels (dB)

3 dB is the amt of change in power from 5W to 10W (2 to 1)

6 dB is the amt of change in power from 12W to 3W (4 to 1)

10 dB is the amt of change in power from 20W to 200W (10 to 1)

3-30 MHz = HF

30-300 MHz = VHF

300-3000 MHz = UHF

(kHz to MHz – take 3 decimals off)

160 meter band = 1.8-2.0 MHz

80 meter band = 3.5-4.0 MHz

40 meter band = 7.0-7.3 MHz

30 meter band = 10.1-10.15 MHz

20 meter band = 14.0-14.35 MHz

17 meter band = 18.068-18.168 MHz

15 meter band = 21.0-21.450 MHz

12 meter band = 24.890-24.990 MHz

10 meter band = 28.0-29.7 MHz

6 meter band = 50.0-54.0 MHz

6 meter band = 50.0-50.1 MHz (CW only)

2 meter band = 144-148 MHz

2 meter band = 144.0-144.1 MHz (CW only)

1.25 meter band = 222-225 MHz

1.25 meter band = 219-220 MHz (Data Only)

70 cm band = 420-450 MHz

33 cm band = 902-928 MHz

23 cm band = 1240-1300 MHz

13 cm 2300-2310 MHz

13 cm 2392-2450 MHz

ITU Region 2 Frequency Privileges

| VHF | Freq Limits |
|------------|-------------------------|
| 6 meter | 50-54 MHz |
| 2 meter | 144-148 MHz |
| 1.25 meter | 219-220 MHz (data only) |
| 1.25 meter | 222-225 MHz |
| UHF | Freq Limits |
| 70 cm | 420-450 MHz |
| 33 cm | 902-928 MHz |
| 23 cm | 1240-1300 MHz |
| 13 cm | 2300-2310 MHz |
| 13 cm | 2392-2450 MHz |

Mega = 1,000,000

Kilo = 1,000

centi = .01

milli = .001

micro = .000001

80 = 3560 kHz

75 = 3900kHz

40 = 7.250 MHz

20 = 14305 kHz

15 = 21300 kHz

28 MHz = 300 baud

10 MHz = 1200 baud

6 MHz = 19.6 kilobaud

2 MHz = 19.6 kilobaud

70cm = 56 kilobaud

Mm to Inches (* 25.4)

Meter to Inches (* .0254)

Inch to Meter (* 39.37)

Inch to mm (/ 25.4)

Wire Dipole Length

$234 / \text{freq} = \text{one side of dipole in feet}$

Test Website:

<https://hamstudy.org/>

<http://qrz.com/hamtest/>