

Antenna Length Chart

Ham Band	Frequency (Mhz)	1/4 λ (Feet)	1/2 λ Dipole (Feet)	1λ Loop (Feet)	1/2 λ Inv Vee 90° angle (Feet)	Frequency (Mhz)	1/4 λ (Meters)	1/2 λ Dipole (Meters)	1λ Loop (Meters)	1/2 λ Inv Vee 90° angle (Meters)
160	1.800	130' 0"	260' 0"	558' 4"	247' 0"	1.800	39.6	79.3	170.2	78.9
	1.850	126' 6"	253' 0"	543' 3"	240' 4"	1.850	38.6	77.1	165.6	76.7
	1.900	123' 2"	246' 4"	528' 11"	234' 0"	1.900	37.5	75.1	161.2	74.7
	2.000	117' 0"	234' 0"	502' 6"	222' 4"	2.000	35.7	71.3	153.2	71.0
80	3.500	66' 10"	133' 9"	287' 2"	127' 0"	3.500	20.4	40.8	87.5	40.6
	3.600	65' 0"	130' 0"	279' 2"	123' 6"	3.600	19.8	39.6	85.1	39.4
	3.700	63' 3"	126' 6"	271' 7"	120' 2"	3.700	19.3	38.6	82.8	38.4
	3.800	61' 7"	123' 2"	264' 6"	117' 0"	3.800	18.8	37.5	80.6	37.4
	3.900	60' 0"	120' 0"	257' 8"	114' 0"	3.900	18.3	36.6	78.5	36.4
	4.000	58' 6"	117' 0"	251' 3"	111' 2"	4.000	17.8	35.7	76.6	35.5
40	7.000	33' 5"	66' 10"	143' 7"	63' 6"	7.000	10.2	20.4	43.8	20.3
	7.100	32' 11"	65' 11"	141' 7"	62' 7"	7.100	10.0	20.1	43.1	20.0
	7.200	32' 6"	65' 0"	139' 7"	61' 9"	7.200	9.9	19.8	42.5	19.7
	7.300	32' 1"	64' 1"	137' 8"	60' 11"	7.300	9.8	19.5	42.0	19.4
30	10.100	23' 2"	46' 4"	99' 6"	44' 0"	10.100	7.1	14.1	30.3	14.1
	10.118	23' 2"	46' 3"	99' 4"	43' 11"	10.118	7.0	14.1	30.3	14.0
	10.150	23' 1"	46' 1"	99' 0"	43' 10"	10.150	7.0	14.1	30.2	14.0
20	14.000	16' 9"	33' 5"	71' 9"	31' 9"	14.000	5.1	10.2	21.9	10.1
	14.100	16' 7"	33' 2"	71' 3"	31' 6"	14.100	5.1	10.1	21.7	10.1
	14.200	16' 6"	32' 11"	70' 9"	31' 4"	14.200	5.0	10.0	21.6	10.0
	14.300	16' 4"	32' 9"	70' 3"	31' 1"	14.300	5.0	10.0	21.4	9.9
	14.350	16' 4"	32' 7"	70' 0"	31' 0"	14.350	5.0	9.9	21.3	9.9
17	18.680	12' 6"	25' 1"	53' 10"	23' 10"	18.680	3.8	7.6	16.4	7.6
	18.118	12' 11"	25' 10"	55' 6"	24' 6"	18.118	3.9	7.9	16.9	7.8
	18.168	12' 11"	25' 9"	55' 4"	24' 6"	18.168	3.9	7.9	16.9	7.8
15	21.000	11' 2"	22' 3"	47' 10"	21' 2"	21.000	3.4	6.8	14.6	6.8
	21.100	11' 1"	22' 2"	47' 8"	21' 1"	21.100	3.4	6.8	14.5	6.7
	21.200	11' 0"	22' 1"	47' 5"	21' 0"	21.200	3.4	6.7	14.4	6.7
	21.300	11' 0"	22' 0"	47' 2"	20' 10"	21.300	3.3	6.7	14.4	6.7
	21.400	10' 11"	21' 10"	47' 0"	20' 9"	21.400	3.3	6.7	14.3	6.6
	21.450	10' 11"	21' 10"	46' 10"	20' 9"	21.450	3.3	6.7	14.3	6.6
12	24.890	9' 5"	18' 10"	40' 5"	17' 10"	24.890	2.9	5.7	12.3	5.7
	24.930	9' 5"	18' 9"	40' 4"	17' 10"	24.930	2.9	5.7	12.3	5.7
	24.990	9' 4"	18' 9"	40' 3"	17' 9"	24.990	2.9	5.7	12.3	5.7
10	28.000	8' 4"	16' 9"	35' 11"	15' 11"	28.000	2.5	5.1	10.9	5.1
	28.300	8' 3"	16' 6"	35' 6"	15' 9"	28.300	2.5	5.0	10.8	5.0
	28.500	8' 3"	16' 5"	35' 3"	15' 7"	28.500	2.5	5.0	10.7	5.0
	29.000	8' 1"	16' 2"	34' 8"	15' 4"	29.000	2.5	4.9	10.6	4.9

Antenna length calculations are based on the following formulas

1/2 λ dipole (feet) = 468/frequency in Mhz

1/2 λ dipole (meters) = 142.65/frequency in Mhz

Full wave loop (feet) = 1005/frequency in Mhz

Full wave loop (meters) = 306.32/frequency in Mhz

Inverted Vee with 90 degree included angle is 99.5% the length of 1/2 λ dipole