

End-Fed Antenna Length Study

Chart computes antenna lengths (feet) in increments of 1/8 wave for the Band Centers

Band	Amateur Bands		Band Center	wave length in increments of 1/8 wave:																						
	Low Freq	Hi Freq		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
80	3.500	4.000	3.750	31.200	62.400	93.600	124.800	156.000	187.200	218.400	249.600	280.800	312.000	343.200	374.400	405.600	436.800	468.000	499.200	530.400	561.600	592.800	624.000	655.200	686.400	717.600
40	7.000	7.300	7.150	16.364	32.727	49.091	65.455	81.818	98.182	114.545	130.909	147.273	163.636	180.000	196.364	212.727	229.091	245.455	261.818	278.182	294.545	310.909	327.273	343.636	360.000	376.364
30	10.100	10.150	10.125	11.556	23.111	34.667	46.222	57.778	69.333	80.889	92.444	104.000	115.556	127.111	138.667	150.222	161.778	173.333	184.889	196.444	208.000	219.556	231.111	242.667	254.222	265.778
20	14.000	14.350	14.175	8.254	16.508	24.762	33.016	41.270	49.524	57.778	66.032	74.286	82.540	90.794	99.048	107.302	115.556	123.810	132.063	140.317	148.571	156.825	165.079	173.333	181.587	189.841
17	18.068	18.168	18.118	6.458	12.915	19.373	25.831	32.288	38.746	45.204	51.661	58.119	64.577	71.034	77.492	83.950	90.407	96.865	103.323	109.780	116.238	122.696	129.153	135.611	142.069	148.526
15	21.000	21.450	21.225	5.512	11.025	16.537	22.049	27.562	33.074	38.587	44.099	49.611	55.124	60.636	66.148	71.661	77.173	82.686	88.198	93.710	99.223	104.735	110.247	115.760	121.272	126.784
12	24.890	24.990	24.940	4.691	9.383	14.074	18.765	23.456	28.148	32.839	37.530	42.221	46.913	51.604	56.295	60.986	65.678	70.369	75.060	79.751	84.443	89.134	93.825	98.516	103.208	107.899
10	28.000	29.700	28.850	4.055	8.111	12.166	16.222	20.277	24.333	28.388	32.444	36.499	40.555	44.610	48.666	52.721	56.776	60.832	64.887	68.943	72.998	77.054	81.109	85.165	89.220	93.276

Notes:

Objective: Determine a length of wire for an End-Fed antenna suitable for the 40, 30, 20, & 15m bands such that the impedance at the end will be low and therefore more easily matched. This is based on the work by G3CCB published in "The Antenna File". Mr. Chester rationalized that the safe working lengths were between 1/8 - 3/8, and 5/8 - 7/8 wave long, steering clear of the high impedance half wave point.

Recommended lengths from the Chester article:
 26.5m/86.9ft for 160M - 10M
 15m/49.2ft for 80, 40, 20, 17, 15, 12, 10M
 10m/32.8ft for 80, 40, 30, 17, 15, 12, 10M

Red 1/2 wavelength "stay away" lengths