

W3DZZ Trap Dipole for 80 through 10 meters

Free Space

3.550 MHz

4 wires, feet

6 0 -54 0 0 -32 0 #12

6 0 -32 0 0 0 0 #12

6 0 0 0 0 32 0 #12

6 0 32 0 0 54 0 #12

1 source

12,100,0

2 loads

Laplace Transform

6,2

0 1

8.2 0

0 4.92E-4

18,2

0 1

8.2 0

0 4.92E-4

80m 40m 20m
The ARRL Antenna Book says this antenna is resonant at 3750, 7200, 14150, and 29500, with a very broad resonance on 15 meters, and that the antenna shows a SWR of less than 2 to 1 on 20, 15, and 10 using a 75 ohm feedline. MN computes the resonance points somewhat higher. Try lengthening the inner and outer wires to bring the resonant frequencies more into line.

3.550

0

91

0

91

[illegible]

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Dimensions are in feet except where noted

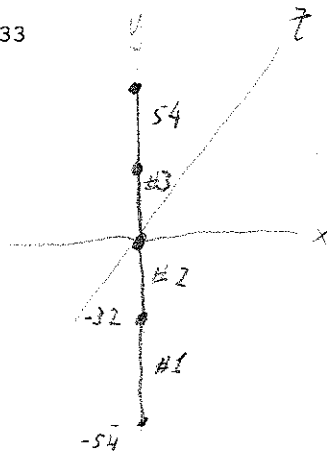
Number of wires: 4

Wire # 1, 6 segments
 End1 = 0 -54 0
 End2 = 0 -32 0
 Diam = #12

Wire # 2, 6 segments
 End1 = 0 -32 0
 End2 = 0 0 0
 Diam = #12

Wire # 3, 6 segments
 End1 = 0 0 0
 End2 = 0 32 0
 Diam = #12

Wire # 4, 6 segments
 End1 = 0 32 0
 End2 = 0 54 0
 Diam = #12



***** Antenna Geometry *****

Wire #	1	Coordinates			Diameter	Connection Pulse		
	X	Y	Z		End1	End2	No.	
	0.00	-50.33	0.00	0.0067			1	
	0.00	-46.67	0.00	0.0067			2	
	0.00	-43.00	0.00	0.0067			3	
	0.00	-39.33	0.00	0.0067			4	
	0.00	-35.67	0.00	0.0067		2	5	

Wire #	2	Coordinates			Diameter	Connection Pulse		
	X	Y	Z		End1	End2	No.	
	0.00	-32.00	0.00	0.0067	1		6	
	0.00	-26.67	0.00	0.0067			7	
	0.00	-21.33	0.00	0.0067			8	
	0.00	-16.00	0.00	0.0067			9	
	0.00	-10.67	0.00	0.0067			10	
	0.00	-5.33	0.00	0.0067		3	11	

Wire #	3	Coordinates			Diameter	Connection Pulse		
	X	Y	Z		End1	End2	No.	
	0.00	0.00	0.00	0.0067	2		12	
	0.00	5.33	0.00	0.0067			13	
	0.00	10.67	0.00	0.0067			14	
	0.00	16.00	0.00	0.0067			15	
	0.00	21.33	0.00	0.0067			16	
	0.00	26.67	0.00	0.0067		4	17	

Wire #	4	Coordinates			Connection Pulse		
	X	Y	Z	Diameter	End1	End2	No.
	0.00	32.00	0.00	0.0067	3		18
	0.00	35.67	0.00	0.0067			19
	0.00	39.33	0.00	0.0067			20
	0.00	43.00	0.00	0.0067			21
	0.00	46.67	0.00	0.0067			22
	0.00	50.33	0.00	0.0067			23

Number of sources: 1

Source # 1 : pulse # 12 , 100 volts, 0 degrees

Number of loads: 2

Pulse # 6 , Order of Laplace Transform 2
 Numerator, denominator coefficients of S^0 : +0.000E+00 +1.000E+00
 Numerator, denominator coefficients of S^1 : +8.200E+00 +0.000E+00
 Numerator, denominator coefficients of S^2 : +0.000E+00 +4.920E-04

Pulse # 18 , Order of Laplace Transform 2
 Numerator, denominator coefficients of S^0 : +0.000E+00 +1.000E+00
 Numerator, denominator coefficients of S^1 : +8.200E+00 +0.000E+00
 Numerator, denominator coefficients of S^2 : +0.000E+00 +4.920E-04

Matrix Fill Time 0:31
 Matrix Factor Time 0:02

***** Source Data *****

Excitation at pulse 12
 Voltage = 100.0 + j 0.0 volts
 Current = 0.1 + j 0.5 amps
 Impedance = 45.8 - j 192.8 ohms
 Power = 5.8 watts
 SWR = 18.19 for Z = 50 ohms

***** Current Data *****

Wire # 1 :

Pulse No.	Real (amps)	Imaginary (amps)	Magnitude (amps)	Phase (degrees)
End	+0.00E+00	+0.00E+00	0.00E+00	0.0
1	+1.59E-02	+5.79E-02	6.01E-02	74.7
2	+3.03E-02	+1.11E-01	1.15E-01	74.8
3	+4.40E-02	+1.63E-01	1.69E-01	74.9
4	+5.70E-02	+2.12E-01	2.20E-01	75.0
5	+6.94E-02	+2.60E-01	2.70E-01	75.1
Junction	+8.13E-02	+3.07E-01	3.18E-01	75.2

Wire # 2 :

Pulse No.	Real (amps)	Imaginary (amps)	Magnitude (amps)	Phase (degrees)
Junction	+8.13E-02	+3.07E-01	3.18E-01	75.2
7	+9.16E-02	+3.50E-01	3.62E-01	75.3
8	+1.00E-01	+3.89E-01	4.02E-01	75.5
9	+1.07E-01	+4.23E-01	4.36E-01	75.8
10	+1.12E-01	+4.51E-01	4.65E-01	76.0
11	+1.16E-01	+4.74E-01	4.87E-01	76.3
Junction	+1.17E-01	+4.91E-01	5.05E-01	76.6

Wire # 3 :

Pulse No.	Real (amps)	Imaginary (amps)	Magnitude (amps)	Phase (degrees)
Junction	+1.17E-01	+4.91E-01	5.05E-01	76.6
13	+1.16E-01	+4.74E-01	4.87E-01	76.3
14	+1.12E-01	+4.51E-01	4.65E-01	76.0
15	+1.07E-01	+4.23E-01	4.36E-01	75.8
16	+1.00E-01	+3.89E-01	4.02E-01	75.5
17	+9.16E-02	+3.50E-01	3.62E-01	75.3
Junction	+8.13E-02	+3.07E-01	3.18E-01	75.2

Wire # 4 :

Pulse No.	Real (amps)	Imaginary (amps)	Magnitude (amps)	Phase (degrees)
Junction	+8.13E-02	+3.07E-01	3.18E-01	75.2
19	+6.94E-02	+2.60E-01	2.70E-01	75.1
20	+5.70E-02	+2.12E-01	2.20E-01	75.0
21	+4.40E-02	+1.63E-01	1.69E-01	74.9
22	+3.03E-02	+1.11E-01	1.15E-01	74.8
23	+1.59E-02	+5.79E-02	6.01E-02	74.7
End	+0.00E+00	+0.00E+00	0.00E+00	0.0

Forward Gain -0.15 dBd
F/B 0.00 dB
Azimuth Beamwidth 82 deg
Elevation Beamwidth 360 deg