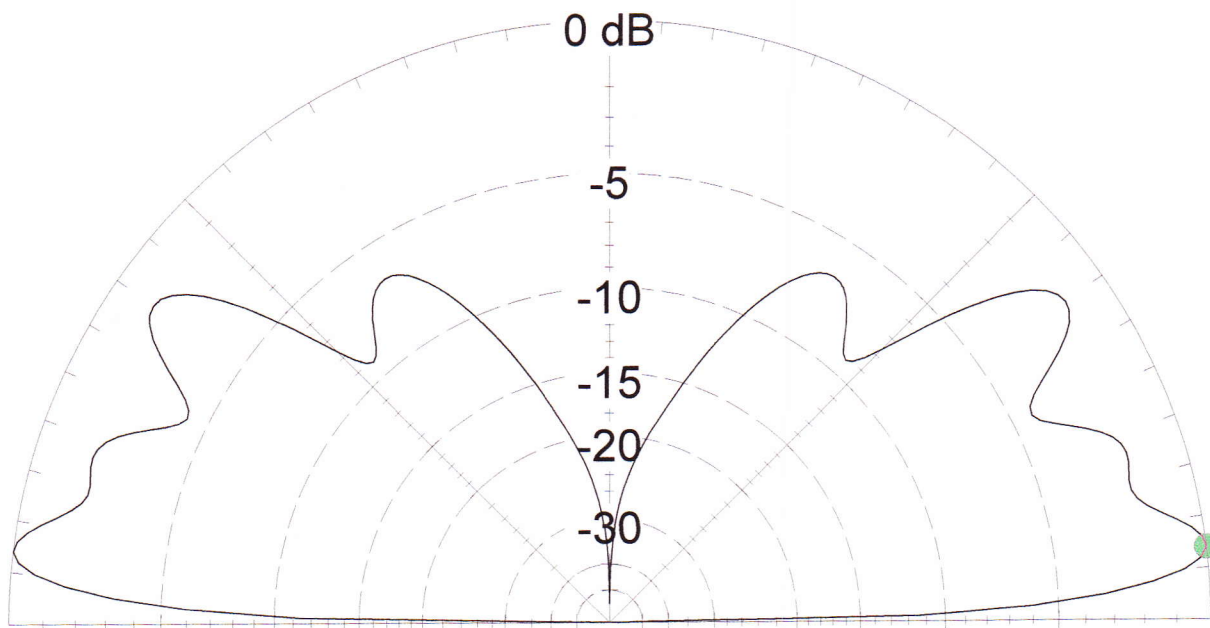


Sigma 4 test 112210

Wire Number 10
 Length 50.4 in
 Seg Length 7.20001 in
 Diameter 0.5 in

AVERAGE GAIN = 1.084 = 0.35 db

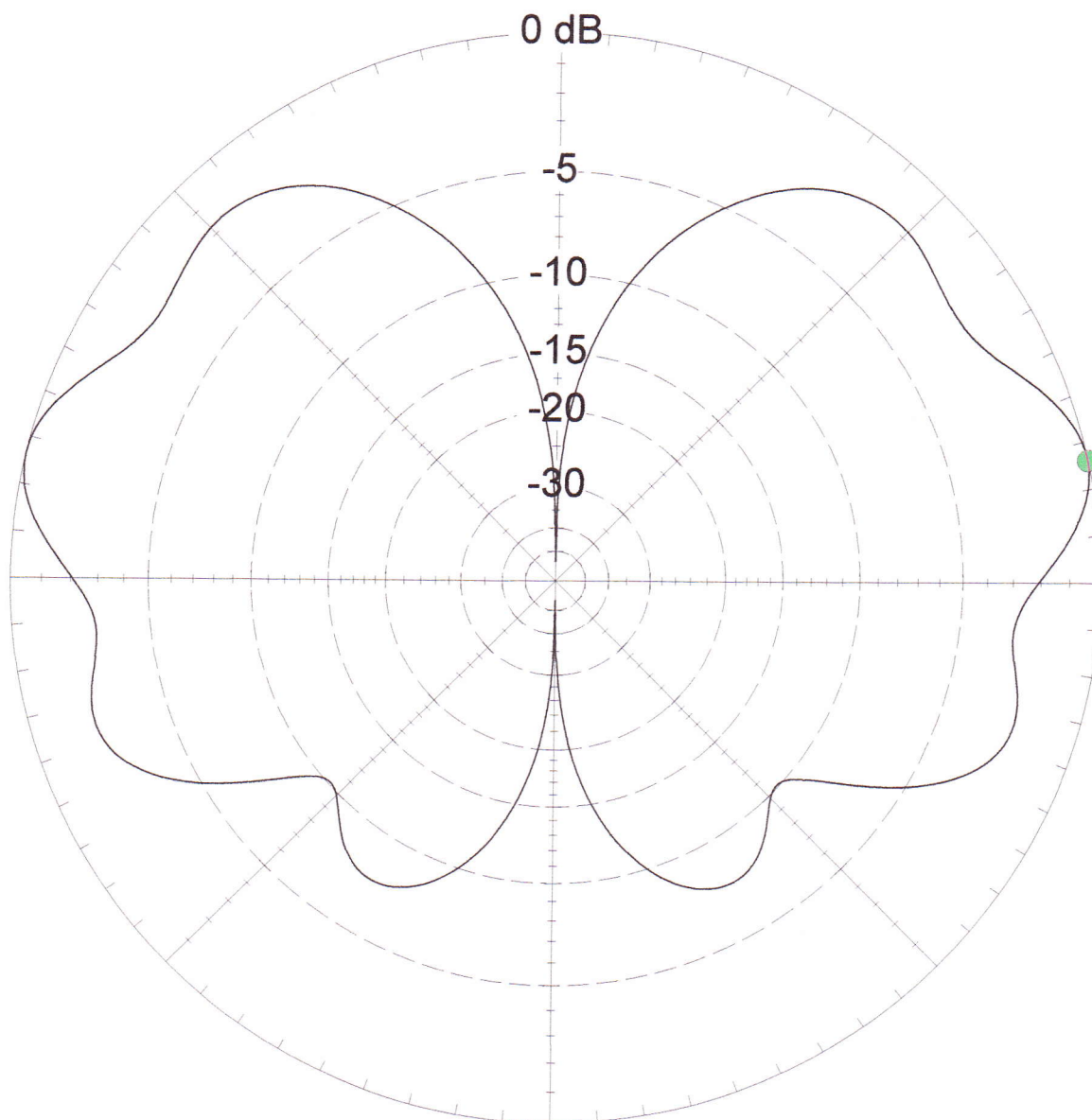
TOTAL RADIATOR LENGTH = 342.3 = 28'6"
 To achieve RESONANCE @ 27.185



Sigma 4 test 112210

27.185 MHz

Elevation Plot		Cursor Elev	7.0 deg.
Azimuth Angle	0.0 deg.	Gain	4.94 dBi
Outer Ring	4.95 dBi		-0.01 dBmax
Slice Max Gain	4.95 dBi @ Elev Angle = 173.0 deg.		
Beamwidth	19.4 deg.; -3dB @ 157.4, 176.8 deg.		
Sidelobe Gain	4.94 dBi @ Elev Angle = 7.0 deg.		
Front/Sidelobe	0.01 dB		



Sigma 4 test 112210

27.185 MHz

Elevation Plot
Azimuth Angle
Outer Ring

0.0 deg.
3.29 dBi

Cursor Elev
Gain

13.0 deg.
3.28 dBi
-0.01 dBmax

Slice Max Gain 3.29 dBi @ Elev Angle = 166.0 deg.
Front/Back 2.28 dB
Beamwidth 83.4 deg.; -3dB @ 121.2, 204.6 deg.
Sidelobe Gain 3.28 dBi @ Elev Angle = 13.0 deg.
Front/Sidelobe 0.01 dB

----- CURRENT DATA -----

Frequency = 27.185 MHz

Wire No. 1:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W47E2	.06407	-175.9

Wire No. 2:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W44E1	1.1099	0.12
2		1.0911	0.10
3		1.0541	0.08
4		1	0.00
5		.93008	-1.05
6		.84586	-2.31
7	W3E1	.74851	-3.81

Wire No. 3:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W2E2	.67128	-5.14
2		.62169	-6.10
3		.56964	-7.23
4		.5157	-8.61
5		.46142	-10.28
6		.40898	-12.34
7	W4E1	.35971	-14.85

Wire No. 4:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W3E2	.31186	-18.12
2		.26546	-22.53
3		.2226	-28.49
4		.18405	-36.84
5		.15173	-48.83
6		.12925	-65.65
7	W5E1	.12119	-86.48

Wire No. 5:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W4E2	.12935	-106.8
2		.15016	-122.7
3		.17858	-134.0
4		.21085	-141.9
5		.24479	-147.5
6		.27913	-151.6
7	W6E1	.31313	-154.8

Wire No. 6:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W5E2	.34607	-157.3
2		.37758	-159.3
3		.4076	-161.0
4		.43584	-162.3
5		.46212	-163.5
6		.48627	-164.6
7	W7E1	.50816	-165.5

Wire No. 7:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
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1	W6E2	.52539	-166.2
2		.53869	-166.7
3		.55049	-167.2
4		.56074	-167.7
5		.56945	-168.1
6		.57655	-168.5
7	W8E1	.58201	-168.9

Wire No. 8:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W7E2	.58578	-169.2
2		.58787	-169.6
3		.58829	-169.9
4		.58704	-170.2
5		.58413	-170.5
6		.57952	-170.7
7	W9E1	.57322	-171.0

Wire No. 9:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W8E2	.56399	-171.3
2		.55095	-171.6
3		.53513	-171.8
4		.51659	-172.1
5		.49542	-172.4
6		.47169	-172.6
7	W10E1	.44544	-172.8

Wire No. 10:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W9E2	.4094	-173.1
2		.36151	-173.4
3		.3087	-173.7
4		.25132	-174.0
5		.18953	-174.3
6		.12306	-174.6
7	Open	.04816	-174.9

Wire No. 11:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W40E2	.06052	179.51

Wire No. 12:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W11E2	.04724	179.54

Wire No. 13:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W12E2	.03276	179.60

Wire No. 14:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W13E2	.01781	179.75

Wire No. 15:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W14E2	.00262	-178.4

Wire No. 16:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W15E2	.01263	-1.00

Wire No. 17:

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W16E2	.0278	-0.76

Wire No. 18:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W17E2	.04272	-0.69
Wire No. 19:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W18E2	.05717	-0.67
Wire No. 20:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W19E2	.07039	-0.65
Wire No. 21:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W42E2	.06984	179.49
Wire No. 22:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W21E2	.05662	179.51
Wire No. 23:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W22E2	.04217	179.54
Wire No. 24:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W23E2	.02725	179.59
Wire No. 25:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W24E2	.01208	180.00
Wire No. 26:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W25E2	.00317	-1.83
Wire No. 27:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W26E2	.01835	-0.78
Wire No. 28:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W27E2	.0333	-0.68
Wire No. 29:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W28E2	.04779	-0.65
Wire No. 30:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W29E2	.06106	-0.64
Wire No. 31:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W43E2	.06554	179.26
Wire No. 32:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W31E2	.05226	179.23
Wire No. 33:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W32E2	.03776	179.16
Wire No. 34:			

Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W33E2	.02278	178.99
Wire No. 35:			
Segment 1	Conn W34E2	Magnitude (A.) .00757	Phase (Deg.) 178.10
Wire No. 36:			
Segment 1	Conn W35E2	Magnitude (A.) .00772	Phase (Deg.) 0.75
Wire No. 37:			
Segment 1	Conn W36E2	Magnitude (A.) .02294	Phase (Deg.) -0.12
Wire No. 38:			
Segment 1	Conn W37E2	Magnitude (A.) .03791	Phase (Deg.) -0.30
Wire No. 39:			
Segment 1	Conn W38E2	Magnitude (A.) .05242	Phase (Deg.) -0.38
Wire No. 40:			
Segment 1	Conn W39E2	Magnitude (A.) .0657	Phase (Deg.) -0.43
Wire No. 41:			
Segment 1	Conn W44E2	Magnitude (A.) .38594	Phase (Deg.) -179.5
2		.3687	-179.3
3		.34148	-179.2
4		.30509	-179.4
5		.26077	-179.8
6		.21039	179.83
7	W11E1	.15872	179.55
Wire No. 42:			
Segment 1	Conn W45E2	Magnitude (A.) .388	Phase (Deg.) -179.5
2		.37393	-179.3
3		.34934	-179.2
4		.31515	-179.5
5		.27254	-179.9
6		.22342	179.74
7	W20E2	.1725	179.45
Wire No. 43:			
Segment 1	Conn W46E2	Magnitude (A.) .386	Phase (Deg.) -179.5
2		.36884	-179.3
3		.34169	-179.2
4		.30536	-179.5
5		.26108	-179.9
6		.21075	179.70
7	W30E2	.15909	179.37
Wire No. 44:			
Segment 1	Conn W45E1	Magnitude (A.) .39108	Phase (Deg.) -179.6
Wire No. 45:			
Segment 1	Conn W46E1	Magnitude (A.) .39095	Phase (Deg.) -179.6

Wire No. 46:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	W1E2	.39103	-179.6

Wire No. 47:			
Segment	Conn	Magnitude (A.)	Phase (Deg.)
1	Ground	.06508	-174.7
2		.06319	-174.6
3		.05945	-174.5
4		.05398	-174.3
5		.04694	-174.0
6		.03853	-173.5
7		.02899	-172.6
8		.01862	-170.7
9		.00778	-163.1
10		.00399	-21.62
11		.0148	-2.53
12		.02545	0.40
13		.03541	1.63
14		.04437	2.34
15		.05206	2.85
16		.05827	3.27
17		.06282	3.66
18		.06556	4.05
19		.06643	4.48
20		.06539	4.97
21		.06247	5.57
22		.05775	6.35
23		.05138	7.40
24		.04355	8.94
25		.0345	11.43
26		.02455	16.13
27		.01431	28.01
28		.00665	79.18
29		.01201	148.58
30		.02233	164.68
31		.03276	170.43
32		.04255	173.38
33		.05131	175.24
34		.05879	176.57
35		.06477	177.64
36		.06908	178.58
37		.07162	179.49
38		.07235	-179.6
39		.0713	-178.5
40	W1E1	.06858	-177.4

----- WIRES -----

No.	Conn.	End 1 Coord. (in)			Conn.	End 2 Coord. (in)			Dia (in)	Segs	Insulation	
		X	Y	Z		X	Y	Z			Diel C	Thk(in)
1	W47E2	0,	0,	480	W2E1	0,	0,	496.5	1.5	1	1	0
2	W44E1	0,	0,	496.5	W3E1	0,	0,	568	1.5	7	1	0
3	W2E2	0,	0,	568	W4E1	0,	0,	599	1.375	7	1	0
4	W3E2	0,	0,	599	W5E1	0,	0,	633	1.25	7	1	0
5	W4E2	0,	0,	633	W6E1	0,	0,	667	1.125	7	1	0
6	W5E2	0,	0,	667	W7E1	0,	0,	701	1	7	1	0
7	W6E2	0,	0,	701	W8E1	0,	0,	727	0.875	7	1	0
8	W7E2	0,	0,	727	W9E1	0,	0,	753	0.75	7	1	0
9	W8E2	0,	0,	753	W10E1	0,	0,	787	0.625	7	1	0
10	W9E2	0,	0,	787		0,	0,	838.8	0.5	7	1	0
11	W40E2	14.9851,	-1.575,	586	W12E1	14.9851,	1.575,	586	0.375	1	1	0
12	W11E2	14.9851,	1.575,	586	W13E1	14.3302,	4.65616,	586	0.375	1	1	0
13	W12E2	14.3302,	4.65616,	586	W14E1	13.049,	7.53383,	586	0.375	1	1	0
14	W13E2	13.049,	7.53383,	586	W15E1	11.1975,	10.0822,	586	0.375	1	1	0
15	W14E2	11.1975,	10.0822,	586	W16E1	8.85655,	12.19,	586	0.375	1	1	0
16	W15E2	8.85655,	12.19,	586	W17E1	6.12857,	13.765,	586	0.375	1	1	0
17	W16E2	6.12857,	13.765,	586	W18E1	3.13274,	14.7384,	586	0.375	1	1	0
18	W17E2	3.13274,	14.7384,	586	W19E1	0,	15.0677,	586	0.375	1	1	0
19	W18E2	0,	15.0677,	586	W20E1	-3.1327,	14.7384,	586	0.375	1	1	0
20	W19E2	-3.1327,	14.7384,	586	W21E1	-6.1286,	13.765,	586	0.375	1	1	0
21	W42E2	-6.1286,	13.765,	586	W22E1	-8.8566,	12.19,	586	0.375	1	1	0
22	W21E2	-8.8566,	12.19,	586	W23E1	-11.197,	10.0822,	586	0.375	1	1	0
23	W22E2	-11.197,	10.0822,	586	W24E1	-13.049,	7.53383,	586	0.375	1	1	0
24	W23E2	-13.049,	7.53383,	586	W25E1	-14.33,	4.65616,	586	0.375	1	1	0
25	W24E2	-14.33,	4.65616,	586	W26E1	-14.985,	1.575,	586	0.375	1	1	0
26	W25E2	-14.985,	1.575,	586	W27E1	-14.985,	-1.575,	586	0.375	1	1	0
27	W26E2	-14.985,	-1.575,	586	W28E1	-14.33,	-4.6562,	586	0.375	1	1	0
28	W27E2	-14.33,	-4.6562,	586	W29E1	-13.049,	-7.5338,	586	0.375	1	1	0
29	W28E2	-13.049,	-7.5338,	586	W30E1	-11.197,	-10.082,	586	0.375	1	1	0
30	W29E2	-11.197,	-10.082,	586	W31E1	-8.8566,	-12.19,	586	0.375	1	1	0
31	W43E2	-8.8566,	-12.19,	586	W32E1	-6.1286,	-13.765,	586	0.375	1	1	0
32	W31E2	-6.1286,	-13.765,	586	W33E1	-3.1327,	-14.738,	586	0.375	1	1	0
33	W32E2	-3.1327,	-14.738,	586	W34E1	0,	-15.068,	586	0.375	1	1	0
34	W33E2	0,	-15.068,	586	W35E1	3.13274,	-14.738,	586	0.375	1	1	0
35	W34E2	3.13274,	-14.738,	586	W36E1	6.12857,	-13.765,	586	0.375	1	1	0
36	W35E2	6.12857,	-13.765,	586	W37E1	8.85655,	-12.19,	586	0.375	1	1	0
37	W36E2	8.85655,	-12.19,	586	W38E1	11.1975,	-10.082,	586	0.375	1	1	0
38	W37E2	11.1975,	-10.082,	586	W39E1	13.049,	-7.5338,	586	0.375	1	1	0
39	W38E2	13.049,	-7.5338,	586	W40E1	14.3302,	-4.6562,	586	0.375	1	1	0
40	W39E2	14.3302,	-4.6562,	586	W41E2	14.9851,	-1.575,	586	0.375	1	1	0

41	W44E2	2.31912,0.00698,	496.5	W11E1	14.9851, -1.575,	586	0.58	7	1	0
42	W45E2	-1.1656,2.00492,	496.5	W20E2	-6.1286, 13.765,	586	0.58	7	1	0
43	W46E2	-1.1535,-2.0119,	496.5	W30E2	-8.8566, -12.19,	586	0.58	7	1	0
44	W45E1	0, 0,	496.5	W41E1	2.31912,0.00698,	496.5	0.58	1	1	0
45	W46E1	0, 0,	496.5	W42E1	-1.1656,2.00492,	496.5	0.25	1	1	0
46	W1E2	0, 0,	496.5	W43E1	-1.1535,-2.0119,	496.5	0.25	1	1	0
47	GND	0, 0,	0	W1E1	0, 0,	480	1.25	40	1	0

EZNEC ver. 5.0

Sigma 4 test 112210

3/23/2011

10:39:24 AM

----- SOURCE DATA -----

Frequency = 27.185 MHz

Source 1 Voltage = 19.45 V at -0.38 deg.
 Current = 1 A at 0.0 deg.
 Impedance = 19.45 - J 0.1293 ohms
 Power = 19.45 watts
 SWR (50 ohm system) = 2.571 (50 ohm system) = 2.571