

TFD Model Analysis

Dave Typinski, August 2012

An EZNEC model of a terminated folded dipole (TFD) is analyzed for use in HF radio astronomy.

The Model

After reading the available amateur radio literature describing a tilted terminated folded dipole (T2FD), I created a TFD model using EZNEC+. My model is not tilted with respect to the ground because future investigation will involve two orthogonal TFDs for observation of RCP and LCP.

After many tries with several antenna lengths and wire separations, all at 10' antenna height, I settled on an antenna overall length of 30' with 8" vertical distance between the wires. The wires lie in a N-S plane. The terminating resistor is 800 Ω . There is a 16:1 transformer between the source and the feed point. A diagram of the antenna layout is available. (See page 2).

I then decided to see what effect different antenna heights had on the model's predictions. The antenna will be installed using surplus military green fiberglass tent poles. These poles are 44 $\frac{1}{4}$ " long not counting the inter-connection pieces. Three antenna heights were analyzed: 7'4", 9'2", and 11'0". This represents a height at the top antenna wire of two, two and a half, and three tent poles.

SWR

I performed an SWR sweep from 15 to 35 MHz for each height. The best overall SWR was with the 7'4" height, but moving to 11' did not change the SWR all that much (see pages 2 and 3).

The raw EZNEC SWR sweep output data is available. (See Appendix pages 30 through 32).

Directivity Gain, Net Gain, and Beam Pattern

I plotted the N-S elevation pattern, the E-W elevation pattern, and the 3D pattern in 1 MHz increments for each of the three antenna heights. The 9'2" height has the best directivity and net gain over the bandwidth of interest. The 11'0" height has better gain at the lower end, but suffers from degradation of the nearly uniform beam pattern at the higher end—it becomes progressively bow-tie shaped, and worse, at 34 MHz it is 3 dB down at zenith compared to the two developing lobes pointing east and west. (See page 4).

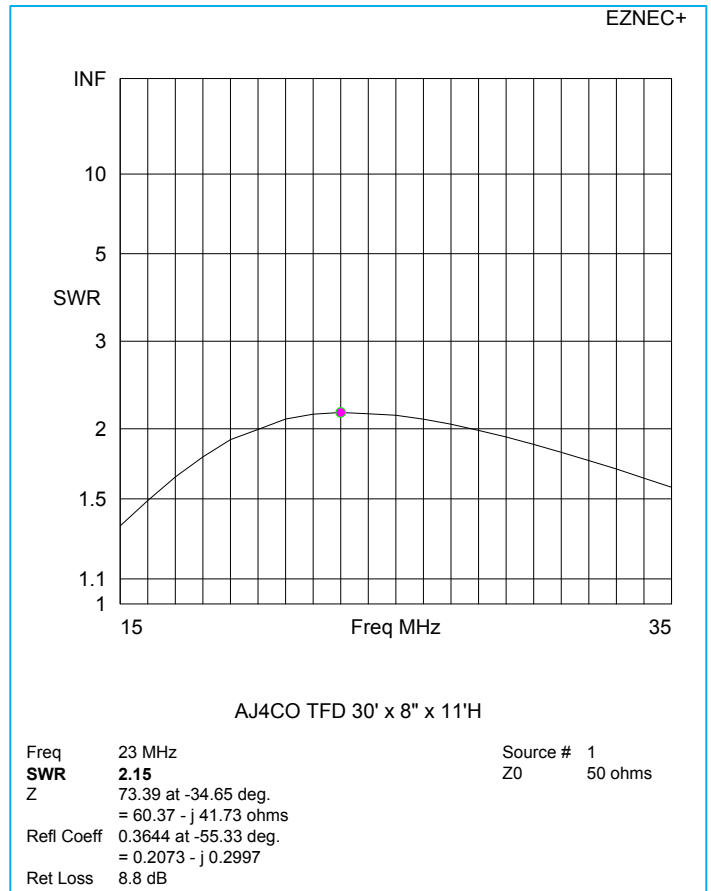
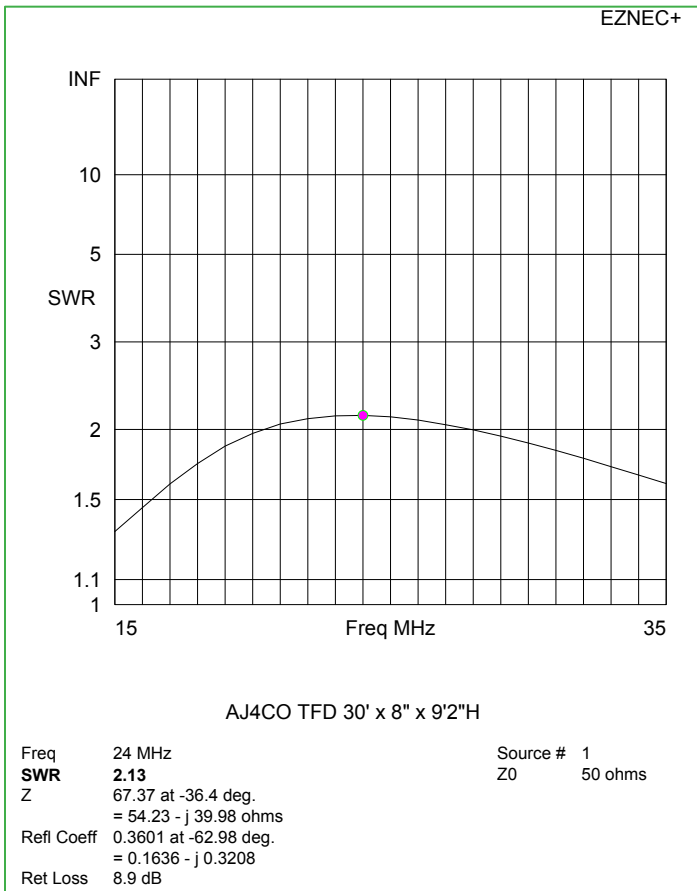
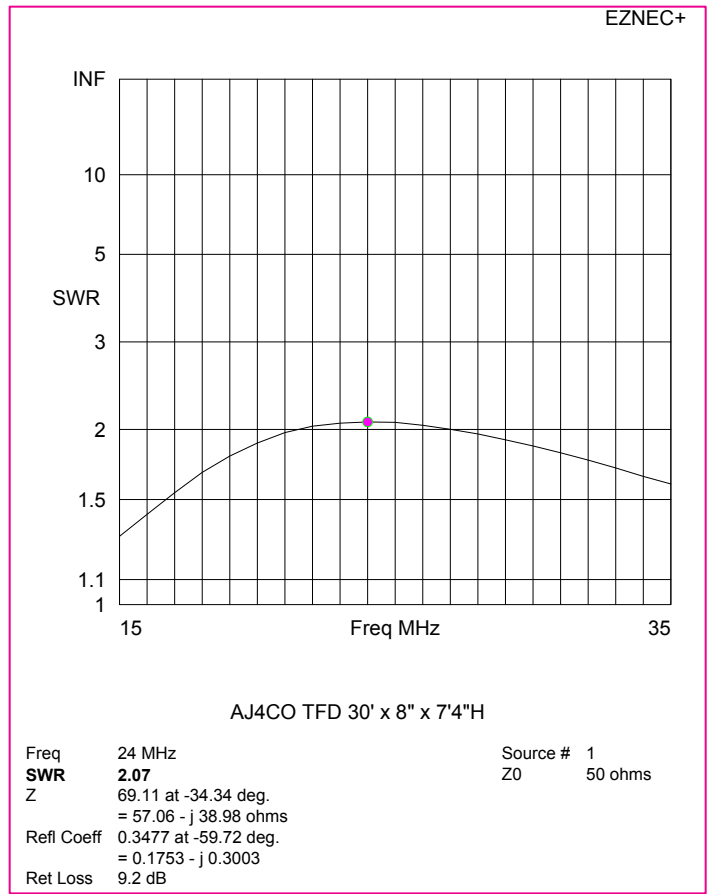
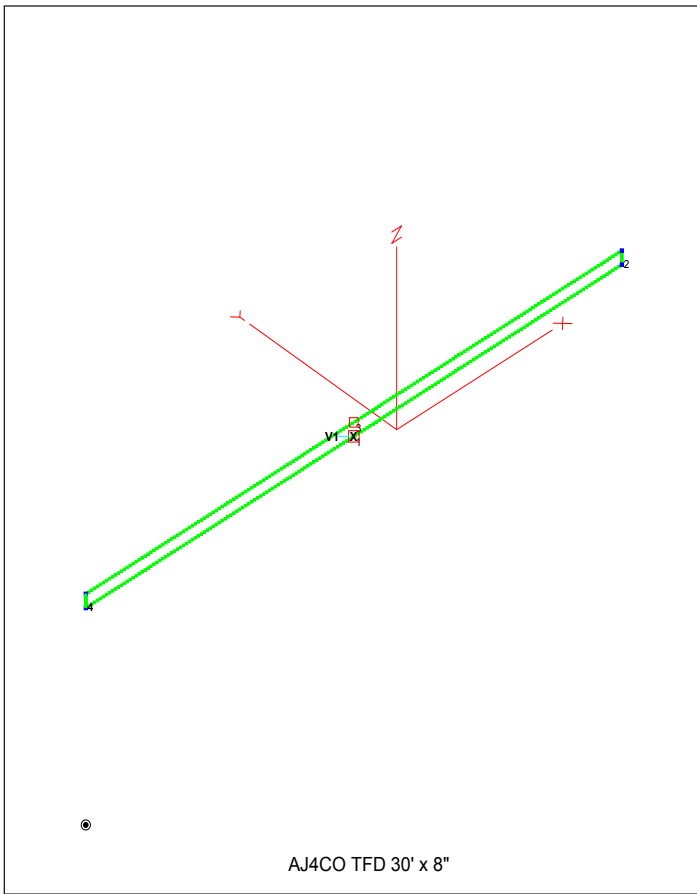
I also performed an analysis of net gain, defined here as the gain at zenith minus the loss due to the impedance mismatch at the feed point. With an SWR of 1.5 to 2, the difference between directivity gain and net gain isn't very much, roughly half a dB. (See page 5).

A more detailed plot of the SWR, directivity gain, mismatch loss, and net gain for each height is also available. (See pages 6, 7, and 8).

The general beam pattern for this model shows an oblong shape with its long axis normal to the antenna's long axis. Maximum gain is at zenith, in general. With increased antenna height and/or increase in frequency, the pattern becomes two lobed. In the gain analyses mentioned above, I used the directivity gain at zenith, even if the gain was higher elsewhere in the beam pattern. I did this because it is the only meaningful way to compare the different situations and because the antenna will be employed as a zenith instrument. Comparisons of the elevation plots and 3D beam patterns are available. (See pages 9 through 29). Larger individual plots are available in the Appendix. (See page 33 onward).

Conclusions

An antenna height (top wire) of 9 feet 2 inches produces the best overall results in the model; the lower SWR at 7'4" height was offset by its poorer gain at the higher end of the HF band. I am somewhat concerned with the accuracy of the model. Changing the antenna height by 20% (half a tent pole up and down from 9'2") generally should not change the results drastically. This model's predictions do not vary wildly with height, but they do change more than I expected. Performing a VNA sweep on the installed antenna at each height will determine how accurately the model portrays reality.



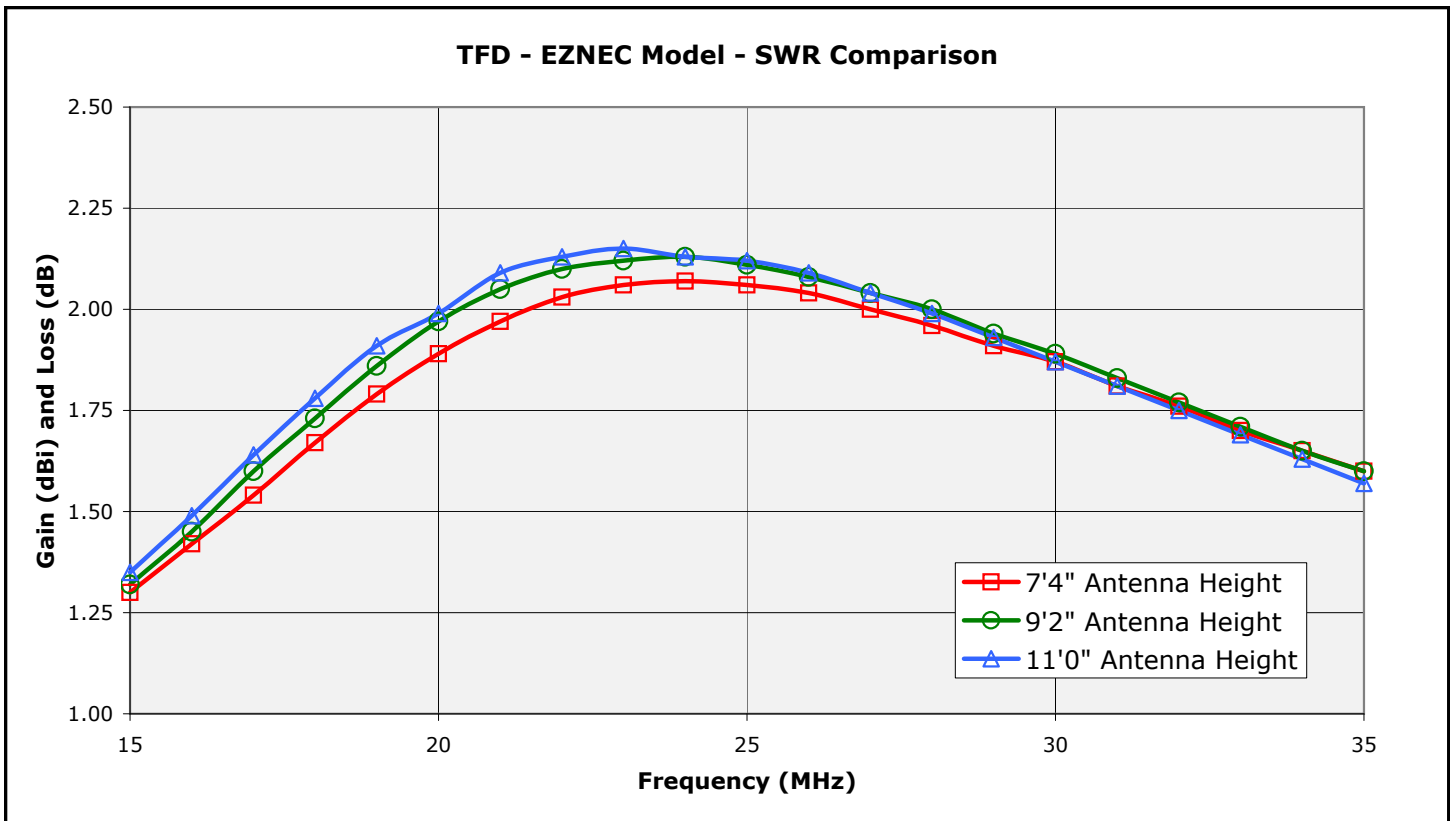
TFD Analysis

Dave Typinski, AJ4CO Observatory
8/18/12

EZNEC Model

30' x 8", 800 Ω terminator resistor, 16:1 transformer
Wires along N-S line

Freq (MHz)	Antenna Height		
	7' 4" SWR	9'2" SWR	11'0" SWR
15	1.30	1.32	1.35
16	1.42	1.45	1.49
17	1.54	1.60	1.64
18	1.67	1.73	1.78
19	1.79	1.86	1.91
20	1.89	1.97	1.99
21	1.97	2.05	2.09
22	2.03	2.10	2.13
23	2.06	2.12	2.15
24	2.07	2.13	2.13
25	2.06	2.11	2.12
26	2.04	2.08	2.09
27	2.00	2.04	2.04
28	1.96	2.00	1.99
29	1.91	1.94	1.93
30	1.87	1.89	1.87
31	1.81	1.83	1.81
32	1.76	1.77	1.75
33	1.70	1.71	1.69
34	1.65	1.65	1.63
35	1.60	1.60	1.57



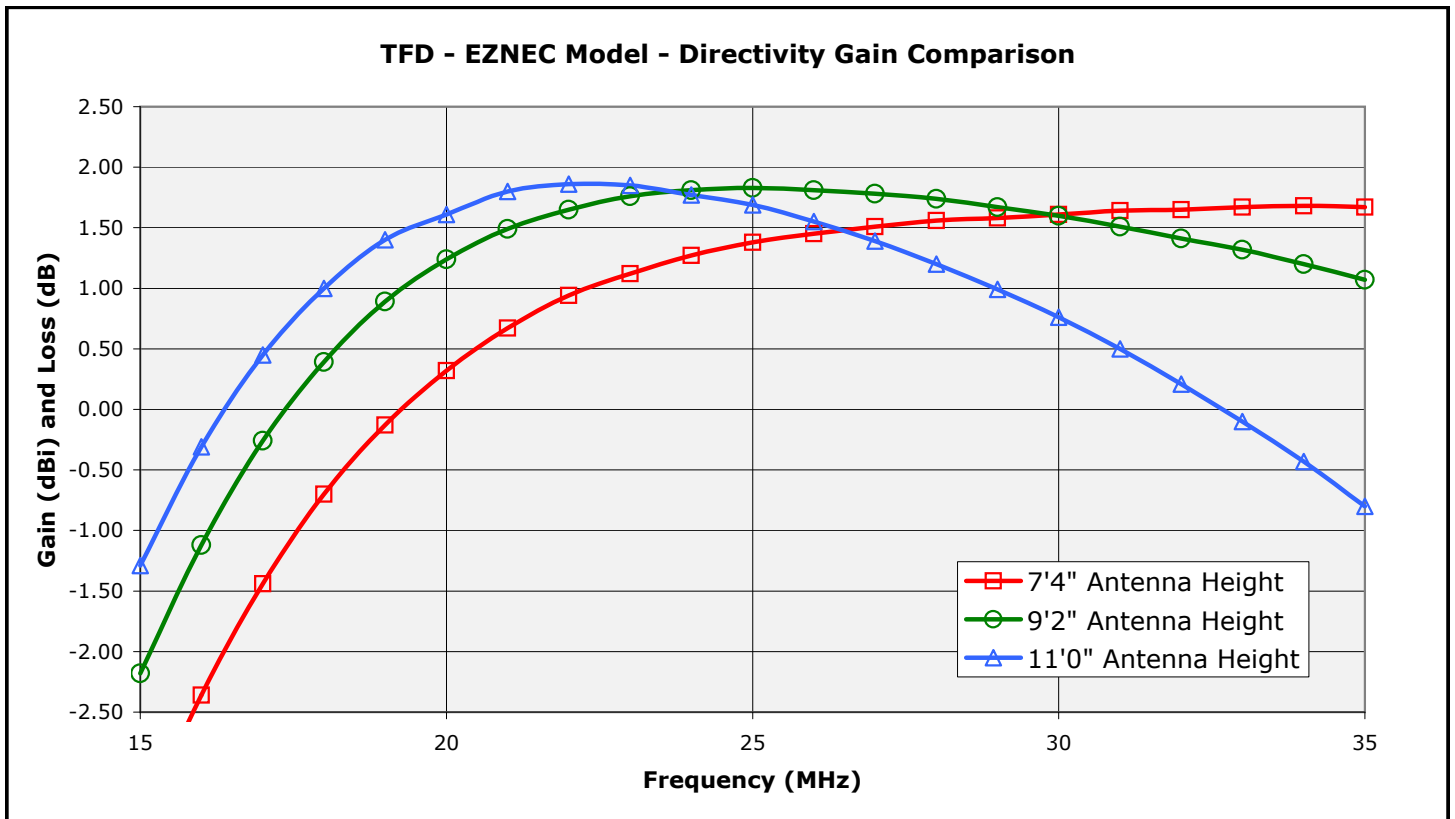
TFD Analysis

Dave Typinski, AJ4CO Observatory
8/18/12

EZNEC Model

30' x 8", 800 Ω terminator resistor, 16:1 transformer
Wires along N-S line

Freq (MHz)	Antenna Height					
	7' 4"		9'2"		11'0"	
	Dir. Gain (dBi)	Net Gain (dB)	Dir. Gain (dBi)	Net Gain (dB)	Dir. Gain (dBi)	Net Gain (dB)
15	-3.48	-3.55	-2.18	-2.26	-1.29	-1.39
16	-2.36	-2.49	-1.12	-1.27	-0.31	-0.48
17	-1.44	-1.64	-0.26	-0.50	0.45	0.19
18	-0.70	-0.98	0.39	0.07	1.00	0.64
19	-0.13	-0.49	0.89	0.48	1.40	0.95
20	0.32	-0.11	1.24	0.75	1.61	1.11
21	0.67	0.18	1.49	0.94	1.80	1.22
22	0.94	0.41	1.65	1.07	1.86	1.25
23	1.12	0.56	1.76	1.16	1.85	1.23
24	1.27	0.71	1.81	1.20	1.77	1.16
25	1.38	0.82	1.83	1.24	1.69	1.09
26	1.45	0.91	1.81	1.24	1.55	0.97
27	1.51	1.00	1.78	1.24	1.39	0.85
28	1.56	1.08	1.74	1.23	1.20	0.70
29	1.58	1.13	1.67	1.20	0.99	0.53
30	1.61	1.19	1.60	1.17	0.76	0.34
31	1.64	1.26	1.51	1.12	0.50	0.12
32	1.65	1.31	1.41	1.06	0.21	-0.13
33	1.67	1.37	1.32	1.01	-0.10	-0.40
34	1.68	1.41	1.20	0.93	-0.43	-0.69
35	1.67	1.43	1.07	0.83	-0.80	-1.02



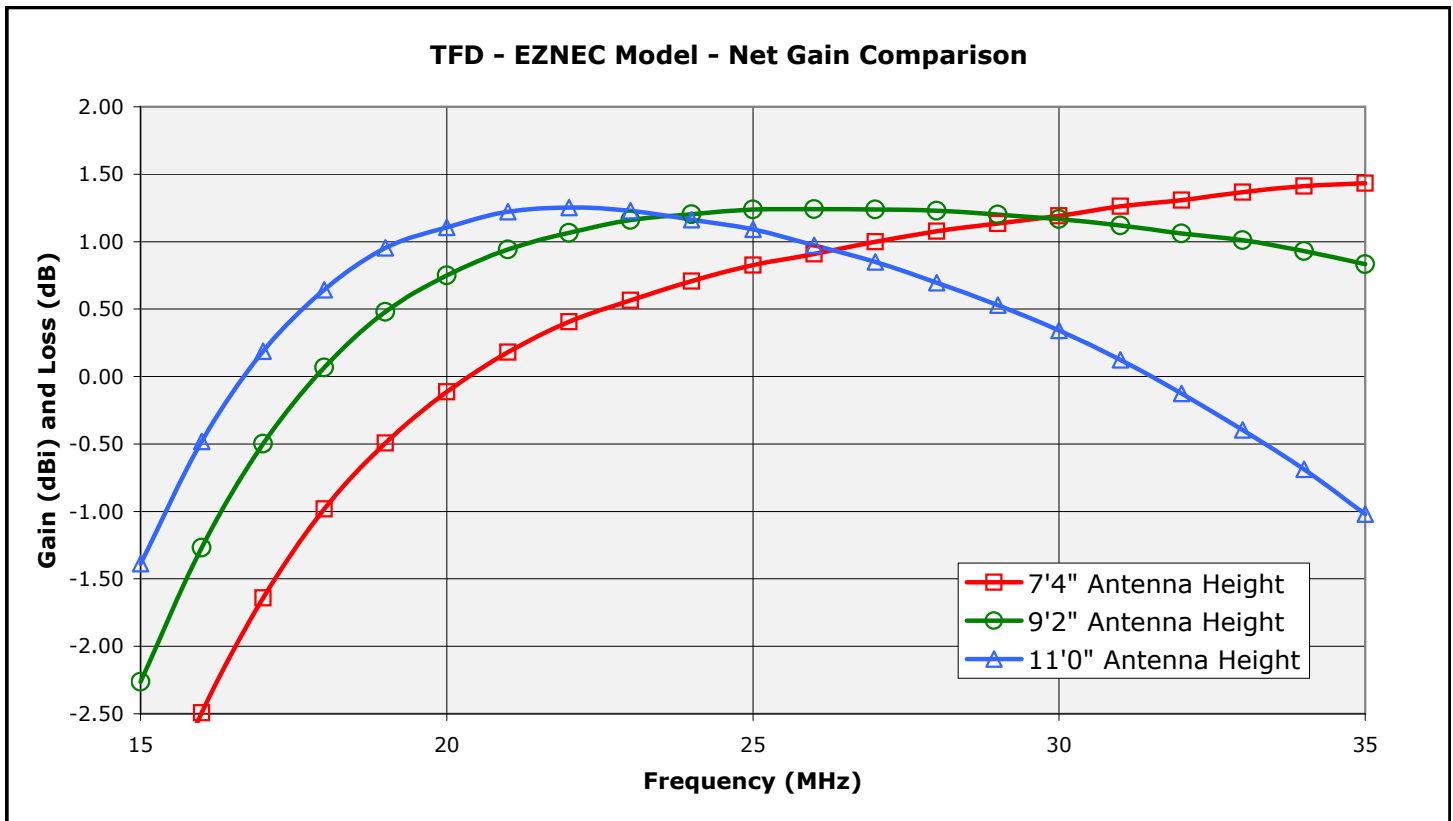
TFD Analysis

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EZNEC Model

30' x 8", 800 Ω terminator resistor, 16:1 transformer
Wires along N-S line

Freq (MHz)	7' 4"		9'2"		11'0"	
	Dir. Gain (dBi)	Net Gain (dB)	Dir. Gain (dBi)	Net Gain (dB)	Dir. Gain (dBi)	Net Gain (dB)
15	-3.48	-3.55	-2.18	-2.26	-1.29	-1.39
16	-2.36	-2.49	-1.12	-1.27	-0.31	-0.48
17	-1.44	-1.64	-0.26	-0.50	0.45	0.19
18	-0.70	-0.98	0.39	0.07	1.00	0.64
19	-0.13	-0.49	0.89	0.48	1.40	0.95
20	0.32	-0.11	1.24	0.75	1.61	1.11
21	0.67	0.18	1.49	0.94	1.80	1.22
22	0.94	0.41	1.65	1.07	1.86	1.25
23	1.12	0.56	1.76	1.16	1.85	1.23
24	1.27	0.71	1.81	1.20	1.77	1.16
25	1.38	0.82	1.83	1.24	1.69	1.09
26	1.45	0.91	1.81	1.24	1.55	0.97
27	1.51	1.00	1.78	1.24	1.39	0.85
28	1.56	1.08	1.74	1.23	1.20	0.70
29	1.58	1.13	1.67	1.20	0.99	0.53
30	1.61	1.19	1.60	1.17	0.76	0.34
31	1.64	1.26	1.51	1.12	0.50	0.12
32	1.65	1.31	1.41	1.06	0.21	-0.13
33	1.67	1.37	1.32	1.01	-0.10	-0.40
34	1.68	1.41	1.20	0.93	-0.43	-0.69
35	1.67	1.43	1.07	0.83	-0.80	-1.02



TFD Analysis

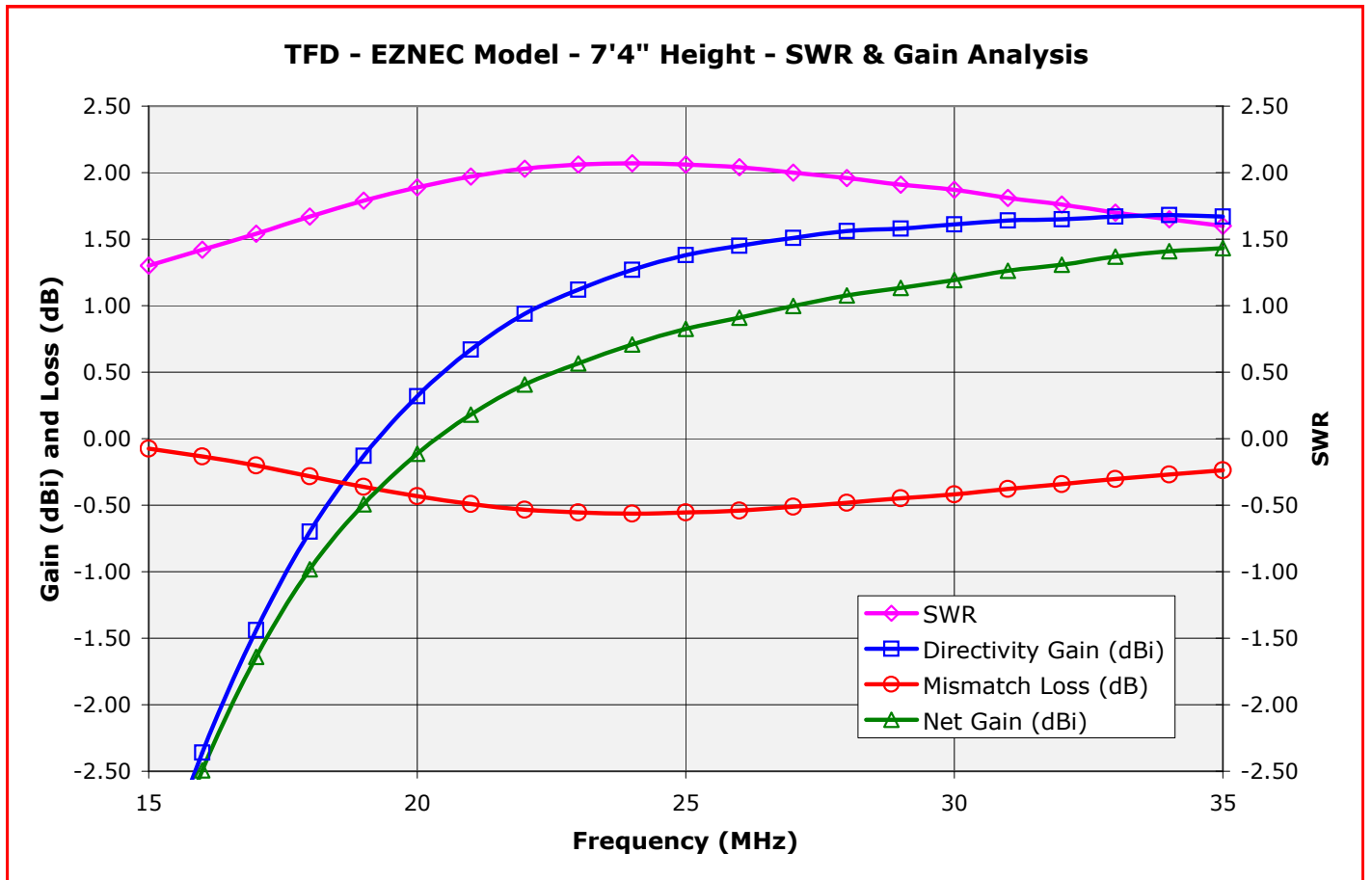
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EZNEC Model

30' x 8", 7'4" height, 800 Ω terminator resistor, 16:1 transformer
Wires along N-S line

$$Loss_{dB} = 10 \log \left[1 - \left(\frac{SWR - 1}{SWR + 1} \right)^2 \right]$$

Freq (MHz)	N-S HPBW (deg)	E-W HPBW (deg)	SWR (50 Ω)	Zenith Directivity Gain (dBi)	Mismatch Loss (dB)	Net Gain (dB)
15	63	107	1.30	-3.48	-0.07	-3.55
16	62	108	1.42	-2.36	-0.13	-2.49
17	61	109	1.54	-1.44	-0.20	-1.64
18	60	110	1.67	-0.70	-0.28	-0.98
19	59	111	1.79	-0.13	-0.36	-0.49
20	58	112	1.89	0.32	-0.43	-0.11
21	57	113	1.97	0.67	-0.49	0.18
22	56	114	2.03	0.94	-0.53	0.41
23	55	115	2.06	1.12	-0.56	0.56
24	54	116	2.07	1.27	-0.56	0.71
25	53	117	2.06	1.38	-0.56	0.82
26	52	119	2.04	1.45	-0.54	0.91
27	50	120	2.00	1.51	-0.51	1.00
28	49	121	1.96	1.56	-0.48	1.08
29	48	123	1.91	1.58	-0.45	1.13
30	47	124	1.87	1.61	-0.42	1.19
31	45	126	1.81	1.64	-0.38	1.26
32	44	127	1.76	1.65	-0.34	1.31
33	43	128	1.70	1.67	-0.30	1.37
34	41	130	1.65	1.68	-0.27	1.41
35	40	131	1.60	1.67	-0.24	1.43



TFD Analysis

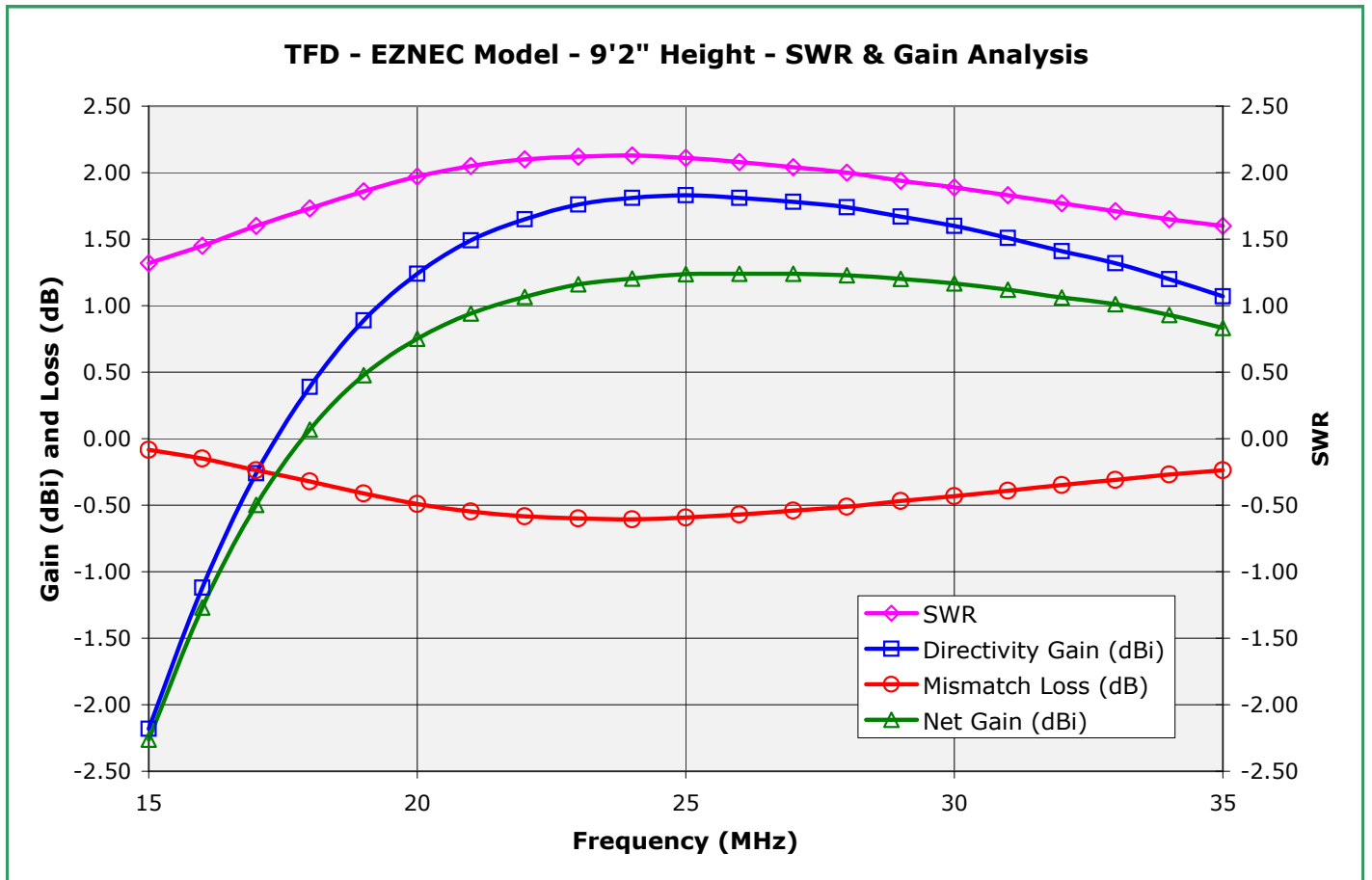
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EZNEC Model

30' x 8", 9'2" height, 800 Ω terminator resistor, 16:1 transformer
Wires along N-S line

$$Loss_{dB} = 10 \log \left[1 - \left(\frac{SWR - 1}{SWR + 1} \right)^2 \right]$$

Freq (MHz)	N-S HPBW (deg)	E-W HPBW (deg)	SWR (50 Ω)	Zenith Directivity Gain (dBi)	Mismatch Loss (dB)	Net Gain (dB)
15	63	111	1.32	-2.18	-0.08	-2.26
16	62	112	1.45	-1.12	-0.15	-1.27
17	61	113	1.60	-0.26	-0.24	-0.50
18	60	115	1.73	0.39	-0.32	0.07
19	60	116	1.86	0.89	-0.41	0.48
20	59	118	1.97	1.24	-0.49	0.75
21	58	119	2.05	1.49	-0.55	0.94
22	57	121	2.10	1.65	-0.58	1.07
23	56	123	2.12	1.76	-0.60	1.16
24	55	125	2.13	1.81	-0.61	1.20
25	55	127	2.11	1.83	-0.59	1.24
26	54	127	2.08	1.81	-0.57	1.24
27	53	130	2.04	1.78	-0.54	1.24
28	52	132	2.00	1.74	-0.51	1.23
29	50	133	1.94	1.67	-0.47	1.20
30	49	135	1.89	1.60	-0.43	1.17
31	48	136	1.83	1.51	-0.39	1.12
32	47	137	1.77	1.41	-0.35	1.06
33	45	138	1.71	1.32	-0.31	1.01
34	44	139	1.65	1.20	-0.27	0.93
35	43	140	1.60	1.07	-0.24	0.83



TFD Analysis

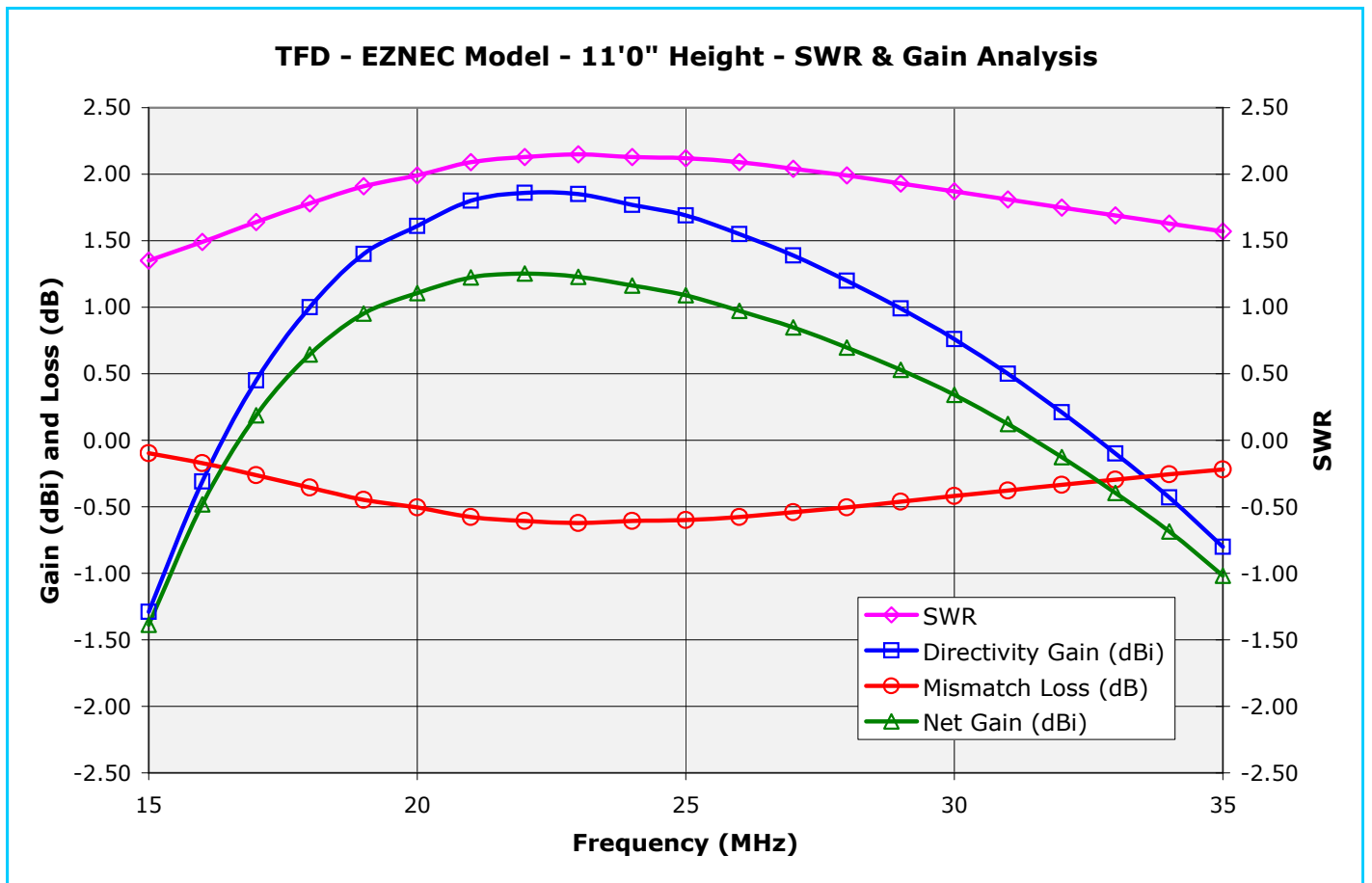
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EZNEC Model

30' x 8", 11'0" height, 800 Ω terminator resistor, 16:1 transformer
Wires along N-S line

$$Loss_{dB} = 10 \log \left[1 - \left(\frac{SWR - 1}{SWR + 1} \right)^2 \right]$$

Freq (MHz)	N-S HPBW (deg)	E-W HPBW (deg)	SWR (50 Ω)	Zenith Directivity Gain (dBi)	Mismatch Loss (dB)	Net Gain (dB)
15	63	115	1.35	-1.29	-0.10	-1.39
16	63	118	1.49	-0.31	-0.17	-0.48
17	62	119	1.64	0.45	-0.26	0.19
18	62	121	1.78	1.00	-0.36	0.64
19	61	123	1.91	1.40	-0.45	0.95
20	61	125	1.99	1.61	-0.50	1.11
21	60	128	2.09	1.80	-0.58	1.22
22	60	130	2.13	1.86	-0.61	1.25
23	59	132	2.15	1.85	-0.62	1.23
24	59	133	2.13	1.77	-0.61	1.16
25	58	135	2.12	1.69	-0.60	1.09
26	57	137	2.09	1.55	-0.58	0.97
27	57	138	2.04	1.39	-0.54	0.85
28	56	139	1.99	1.20	-0.50	0.70
29	55	140	1.93	0.99	-0.46	0.53
30	54	142	1.87	0.76	-0.42	0.34
31	53	143	1.81	0.50	-0.38	0.12
32	52	144	1.75	0.21	-0.34	-0.13
33	51	145	1.69	-0.10	-0.30	-0.40
34	50	145	1.63	-0.43	-0.26	-0.69
35	49	146	1.57	-0.80	-0.22	-1.02



15 MHz

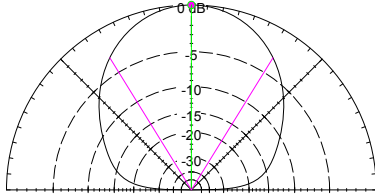
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Total Field EZNEC+

Looking East
at N-S Beam

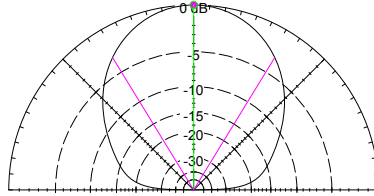


AJ4CO TFD 30' x 8" x 7'4" H 15 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 180.0 deg. Gain -3.48 dBi
Outer Ring -3.48 dBi 0.0 dBmax

Slice Max Gain -3.48 dBi @ Elev Angle = 90.0 deg.
Beamwidth 63.4 deg.; -3dB @ 58.3, 121.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

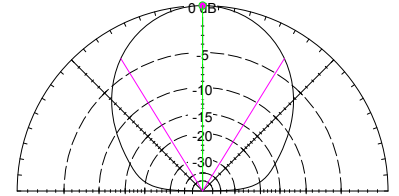


AJ4CO TFD 30' x 8" x 9'2" H 15 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 180.0 deg. Gain -2.18 dBi
Outer Ring -2.18 dBi 0.0 dBmax

Slice Max Gain -2.18 dBi @ Elev Angle = 90.0 deg.
Beamwidth 63.0 deg.; -3dB @ 58.5, 121.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



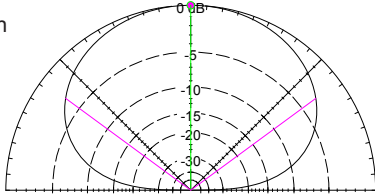
AJ4CO TFD 30' x 8" x 11' H 15 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 180.0 deg. Gain -1.29 dBi
Outer Ring -1.29 dBi 0.0 dBmax

Slice Max Gain -1.29 dBi @ Elev Angle = 90.0 deg.
Beamwidth 63.4 deg.; -3dB @ 58.3, 121.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Looking South
at E-W Beam

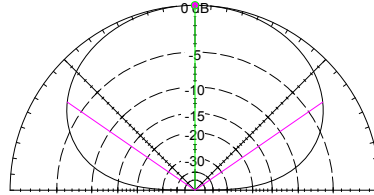


AJ4CO TFD 30' x 8" x 7'4" H 15 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 90.0 deg. Gain -3.48 dBi
Outer Ring -3.48 dBi 0.0 dBmax

Slice Max Gain -3.48 dBi @ Elev Angle = 90.0 deg.
Beamwidth 107.4 deg.; -3dB @ 36.3, 143.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

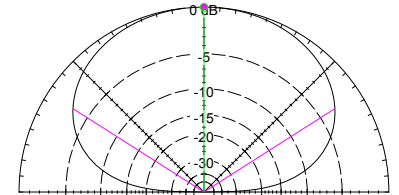


AJ4CO TFD 30' x 8" x 9'2" H 15 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 90.0 deg. Gain -2.18 dBi
Outer Ring -2.18 dBi 0.0 dBmax

Slice Max Gain -2.18 dBi @ Elev Angle = 90.0 deg.
Beamwidth 110.8 deg.; -3dB @ 34.6, 145.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

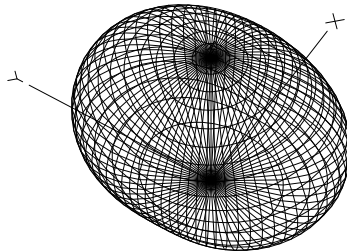


AJ4CO TFD 30' x 8" x 11' H 15 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 90.0 deg. Gain -1.29 dBi
Outer Ring -1.29 dBi 0.0 dBmax

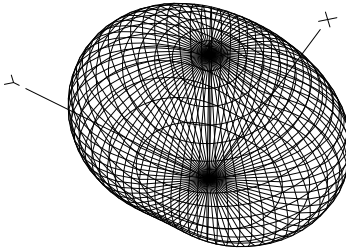
Slice Max Gain -1.29 dBi @ Elev Angle = 90.0 deg.
Beamwidth 115.0 deg.; -3dB @ 32.5, 147.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

EZNEC+



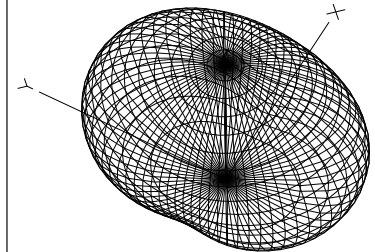
AJ4CO TFD 30' x 8" x 7'4" H

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" H

EZNEC+



AJ4CO TFD 30' x 8" x 11' H

16 MHz

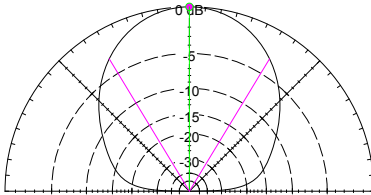
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Looking East
at N-S Beam

Total Field EZNEC+

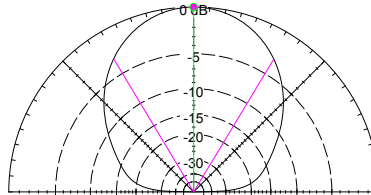


AJ4CO TFD 30' x 8" x 7'4"H 16 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 180.0 deg. Gain -2.36 dBi
Outer Ring -2.36 dBi 0.0 dBmax

Slice Max Gain -2.36 dBi @ Elev Angle = 90.0 deg.
Beamwidth 62.4 deg.; -3dB @ 58.0, 121.2 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

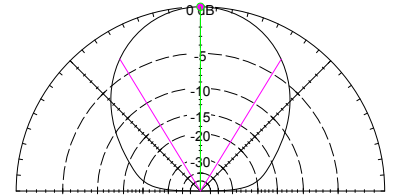


AJ4CO TFD 30' x 8" x 9'2"H 16 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 180.0 deg. Gain -1.12 dBi
Outer Ring -1.12 dBi 0.0 dBmax

Slice Max Gain -1.12 dBi @ Elev Angle = 90.0 deg.
Beamwidth 62.1 deg.; -3dB @ 58.9, 121.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



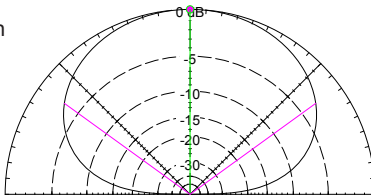
AJ4CO TFD 30' x 8" x 11'H 16 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 180.0 deg. Gain -0.31 dBi
Outer Ring -0.31 dBi 0.0 dBmax

Slice Max Gain -0.31 dBi @ Elev Angle = 90.0 deg.
Beamwidth 62.9 deg.; -3dB @ 58.5, 121.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Looking South
at E-W Beam

Total Field EZNEC+

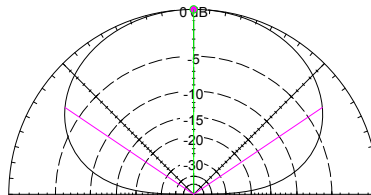


AJ4CO TFD 30' x 8" x 7'4"H 16 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 90.0 deg. Gain -2.36 dBi
Outer Ring -2.36 dBi 0.0 dBmax

Slice Max Gain -2.36 dBi @ Elev Angle = 90.0 deg.
Beamwidth 108.2 deg.; -3dB @ 35.9, 144.1 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

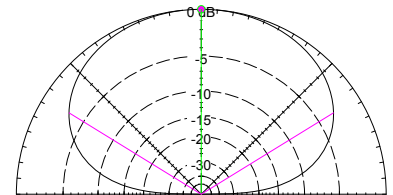


AJ4CO TFD 30' x 8" x 9'2"H 16 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 90.0 deg. Gain -1.12 dBi
Outer Ring -1.12 dBi 0.0 dBmax

Slice Max Gain -1.12 dBi @ Elev Angle = 90.0 deg.
Beamwidth 112.0 deg.; -3dB @ 34.0, 146.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 16 MHz

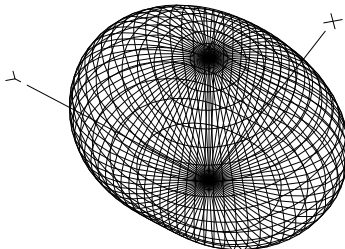
Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 90.0 deg. Gain -0.31 dBi
Outer Ring -0.31 dBi 0.0 dBmax

Slice Max Gain -0.31 dBi @ Elev Angle = 90.0 deg.
Beamwidth 116.8 deg.; -3dB @ 31.6, 148.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

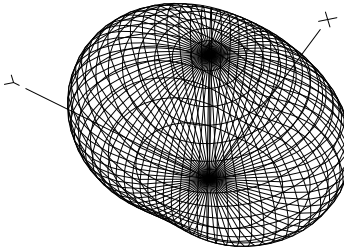
EZNEC+

EZNEC+

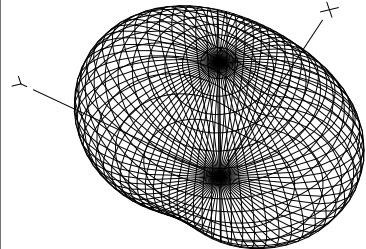
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

17 MHz

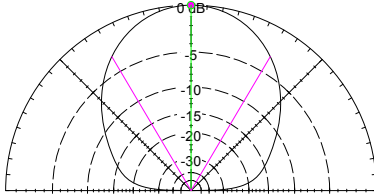
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Looking East
at N-S Beam

Total Field EZNEC+



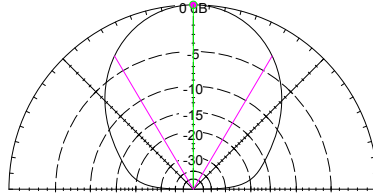
AJ4CO TFD 30' x 8" x 7'4"H 17 MHz

Elevation Plot 180.0 deg.
Azimuth Angle -1.44 dBi
Outer Ring -1.44 dBi

Cursor Elev 90.0 deg.
Gain -1.44 dBi
0.0 dBmax

Slice Max Gain -1.44 dBi @ Elev Angle = 90.0 deg.
Beamwidth 61.2 deg.; -3dB @ 59.4, 120.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



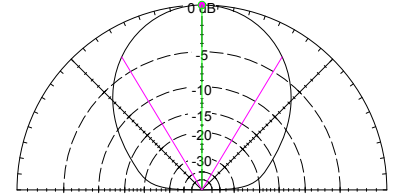
AJ4CO TFD 30' x 8" x 9'2"H 17 MHz

Elevation Plot 180.0 deg.
Azimuth Angle -0.26 dBi
Outer Ring -0.26 dBi

Cursor Elev 90.0 deg.
Gain -0.26 dBi
0.0 dBmax

Slice Max Gain -0.26 dBi @ Elev Angle = 90.0 deg.
Beamwidth 61.2 deg.; -3dB @ 59.4, 120.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 17 MHz

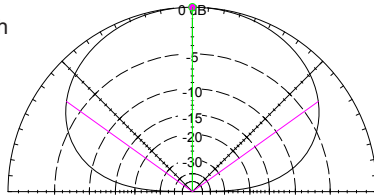
Elevation Plot 180.0 deg.
Azimuth Angle 0.45 dBi
Outer Ring 0.45 dBi

Cursor Elev 90.0 deg.
Gain 0.45 dBi
0.0 dBmax

Slice Max Gain 0.45 dBi @ Elev Angle = 90.0 deg.
Beamwidth 62.2 deg.; -3dB @ 58.9, 121.1 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Looking South
at E-W Beam

Total Field EZNEC+



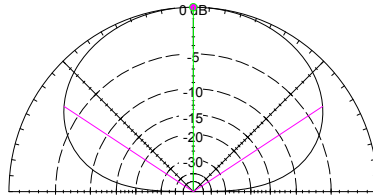
AJ4CO TFD 30' x 8" x 7'4"H 17 MHz

Elevation Plot 90.0 deg.
Azimuth Angle -1.44 dBi
Outer Ring -1.44 dBi

Cursor Elev 90.0 deg.
Gain -1.44 dBi
0.0 dBmax

Slice Max Gain -1.44 dBi @ Elev Angle = 90.0 deg.
Beamwidth 108.8 deg.; -3dB @ 35.6, 144.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



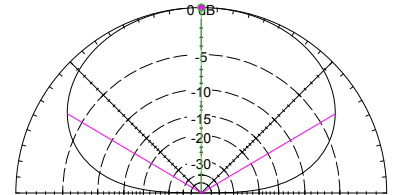
AJ4CO TFD 30' x 8" x 9'2"H 17 MHz

Elevation Plot 90.0 deg.
Azimuth Angle -0.26 dBi
Outer Ring -0.26 dBi

Cursor Elev 90.0 deg.
Gain -0.26 dBi
0.0 dBmax

Slice Max Gain -0.26 dBi @ Elev Angle = 90.0 deg.
Beamwidth 113.2 deg.; -3dB @ 33.4, 146.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 17 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 0.45 dBi
Outer Ring 0.45 dBi

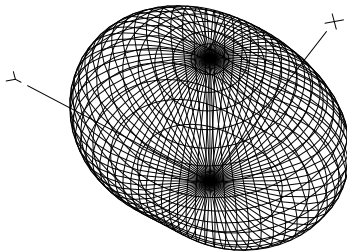
Cursor Elev 90.0 deg.
Gain 0.45 dBi
0.0 dBmax

Slice Max Gain 0.45 dBi @ Elev Angle = 90.0 deg.
Beamwidth 118.8 deg.; -3dB @ 30.6, 149.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

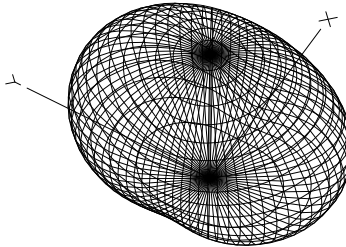
EZNEC+

EZNEC+

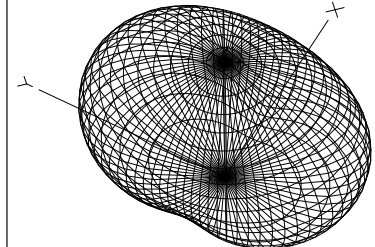
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

18 MHz

HEIGHT 7'4"

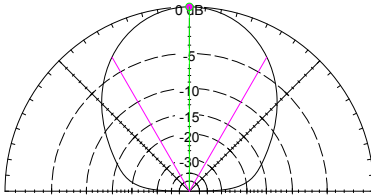
HEIGHT 9'2"

HEIGHT 11'0"

Total Field

EZNEC+

Looking East
at N-S Beam



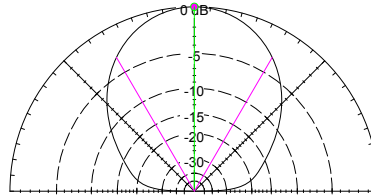
AJ4CO TFD 30' x 8" x 7'4"H 18 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 180.0 deg. Gain -0.7 dBi
Outer Ring -0.7 dBi 0.0 dBmax

Slice Max Gain -0.7 dBi @ Elev Angle = 90.0 deg.
Beamwidth 60.0 deg.; -3dB @ 60.0, 120.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



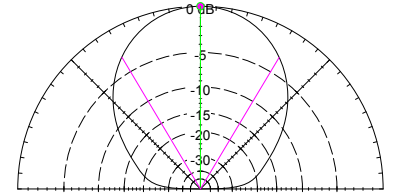
AJ4CO TFD 30' x 8" x 9'2"H 18 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 180.0 deg. Gain 0.39 dBi
Outer Ring 0.39 dBi 0.0 dBmax

Slice Max Gain 0.39 dBi @ Elev Angle = 90.0 deg.
Beamwidth 60.4 deg.; -3dB @ 59.8, 120.2 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 18 MHz

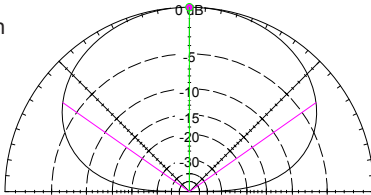
Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 180.0 deg. Gain 1.0 dBi
Outer Ring 1.0 dBi 0.0 dBmax

Slice Max Gain 1.0 dBi @ Elev Angle = 90.0 deg.
Beamwidth 61.7 deg.; -3dB @ 59.1, 120.8 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+

Looking South
at E-W Beam



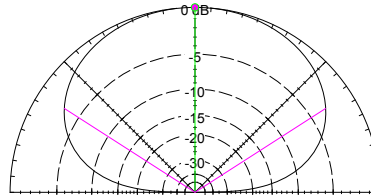
AJ4CO TFD 30' x 8" x 7'4"H 18 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 90.0 deg. Gain -0.7 dBi
Outer Ring -0.7 dBi 0.0 dBmax

Slice Max Gain -0.7 dBi @ Elev Angle = 90.0 deg.
Beamwidth 109.8 deg.; -3dB @ 35.1, 144.9 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



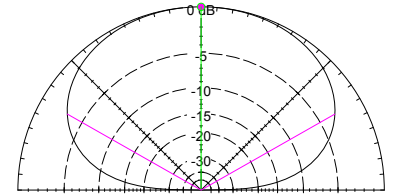
AJ4CO TFD 30' x 8" x 9'2"H 18 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 90.0 deg. Gain 0.39 dBi
Outer Ring 0.39 dBi 0.0 dBmax

Slice Max Gain 0.39 dBi @ Elev Angle = 90.0 deg.
Beamwidth 114.8 deg.; -3dB @ 32.7, 147.3 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 18 MHz

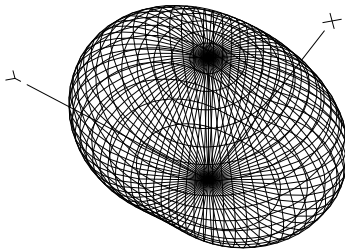
Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 90.0 deg. Gain 1.0 dBi
Outer Ring 1.0 dBi 0.0 dBmax

Slice Max Gain 1.0 dBi @ Elev Angle = 90.0 deg.
Beamwidth 120.8 deg.; -3dB @ 29.6, 150.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

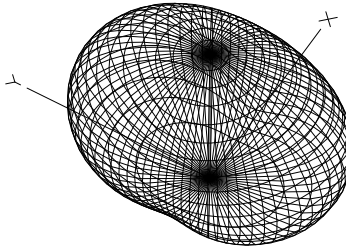
EZNEC+

EZNEC+

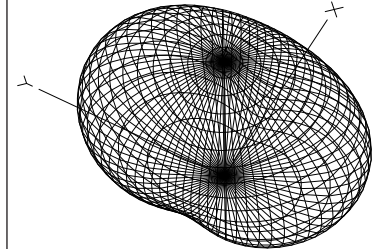
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

19 MHz

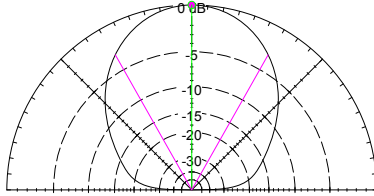
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Total Field EZNEC+

Looking East at N-S Beam

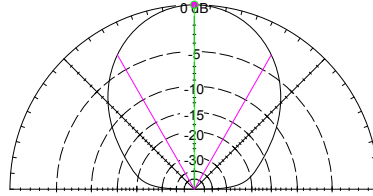


AJ4CO TFD 30' x 8" x 7'4"H 19 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 0.0 deg. Gain -0.13 dBi
Outer Ring -0.13 dBi 0.0 dBmax

Slice Max Gain -0.13 dBi @ Elev Angle = 90.0 deg.
Beamwidth 59.0 deg.; -3dB @ 60.5, 119.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

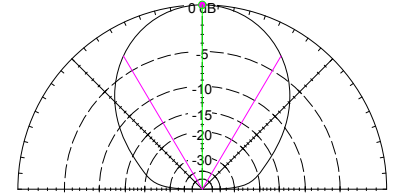


AJ4CO TFD 30' x 8" x 9'2"H 19 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 0.89 dBi Gain 0.89 dBi
Outer Ring 0.89 dBi 0.0 dBmax

Slice Max Gain 0.89 dBi @ Elev Angle = 90.0 deg.
Beamwidth 59.0 deg.; -3dB @ 60.2, 119.8 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



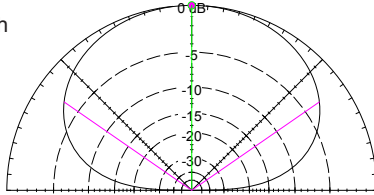
AJ4CO TFD 30' x 8" x 11'H 19 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 1.4 dBi Gain 1.4 dBi
Outer Ring 1.4 dBi 0.0 dBmax

Slice Max Gain 1.4 dBi @ Elev Angle = 90.0 deg.
Beamwidth 61.2 deg.; -3dB @ 59.4, 120.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Looking South at E-W Beam

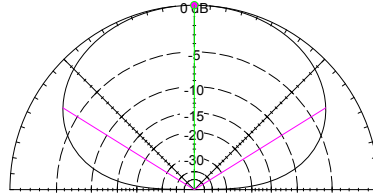


AJ4CO TFD 30' x 8" x 7'4"H 19 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle -0.13 dBi Gain -0.13 dBi
Outer Ring -0.13 dBi 0.0 dBmax

Slice Max Gain -0.13 dBi @ Elev Angle = 90.0 deg.
Beamwidth 110.8 deg.; -3dB @ 34.7, 145.3 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

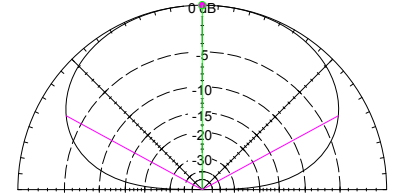


AJ4CO TFD 30' x 8" x 9'2"H 19 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 0.89 dBi Gain 0.89 dBi
Outer Ring 0.89 dBi 0.0 dBmax

Slice Max Gain 0.89 dBi @ Elev Angle = 90.0 deg.
Beamwidth 116.2 deg.; -3dB @ 31.9, 148.1 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 19 MHz

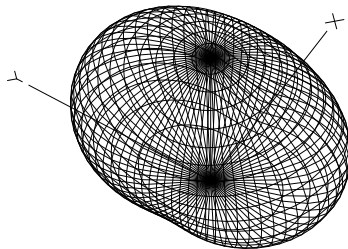
Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 1.4 dBi Gain 1.4 dBi
Outer Ring 1.4 dBi 0.0 dBmax

Slice Max Gain 1.4 dBi @ Elev Angle = 90.0 deg.
Beamwidth 123.0 deg.; -3dB @ 28.5, 151.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

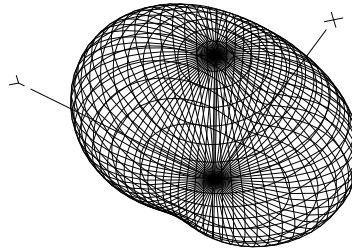
EZNEC+

EZNEC+

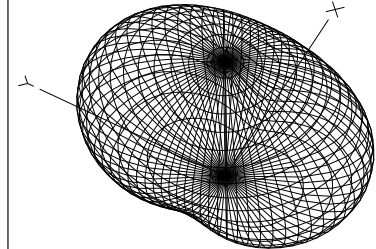
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

20 MHz

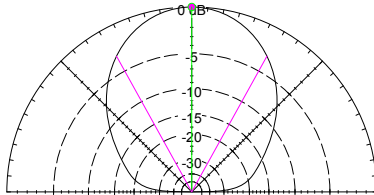
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Looking East
at N-S Beam

Total Field EZNEC+



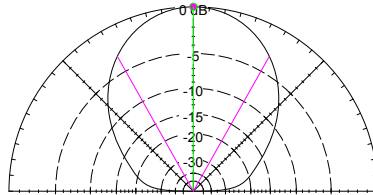
AJ4CO TFD 30' x 8" x 7'4" H 20 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 0.32 dBi
Outer Ring 0.32 dBi

Cursor Elev 90.0 deg.
Gain 0.32 dBi
0.0 dBmax

Slice Max Gain 0.32 dBi @ Elev Angle = 90.0 deg.
Beamwidth 58.0 deg.; -3dB @ 61.0, 119.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



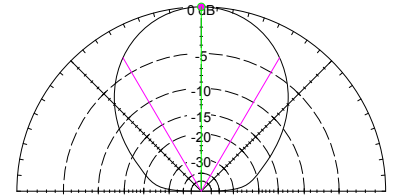
AJ4CO TFD 30' x 8" x 9'2" H 20 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.24 dBi
Outer Ring 1.24 dBi

Cursor Elev 90.0 deg.
Gain 1.24 dBi
0.0 dBmax

Slice Max Gain 1.24 dBi @ Elev Angle = 90.0 deg.
Beamwidth 58.3 deg.; -3dB @ 60.6, 119.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11' H 20 MHz

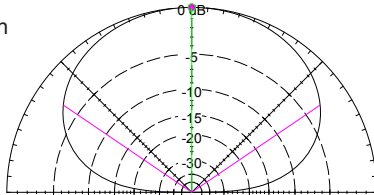
Elevation Plot 180.0 deg.
Azimuth Angle 1.61 dBi
Outer Ring 1.61 dBi

Cursor Elev 90.0 deg.
Gain 1.61 dBi
0.0 dBmax

Slice Max Gain 1.61 dBi @ Elev Angle = 90.0 deg.
Beamwidth 60.3 deg.; -3dB @ 59.6, 120.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Looking South
at E-W Beam

Total Field EZNEC+



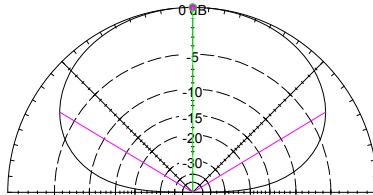
AJ4CO TFD 30' x 8" x 7'4" H 20 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 0.32 dBi
Outer Ring 0.32 dBi

Cursor Elev 90.0 deg.
Gain 0.32 dBi
0.0 dBmax

Slice Max Gain 0.32 dBi @ Elev Angle = 90.0 deg.
Beamwidth 111.6 deg.; -3dB @ 34.2, 145.8 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



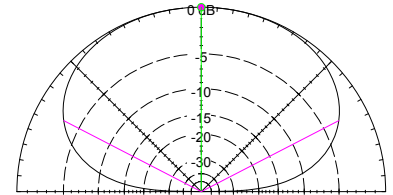
AJ4CO TFD 30' x 8" x 9'2" H 20 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 1.24 dBi
Outer Ring 1.24 dBi

Cursor Elev 90.0 deg.
Gain 1.24 dBi
0.0 dBmax

Slice Max Gain 1.24 dBi @ Elev Angle = 90.0 deg.
Beamwidth 117.8 deg.; -3dB @ 31.1, 148.9 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11' H 20 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 1.61 dBi
Outer Ring 1.61 dBi

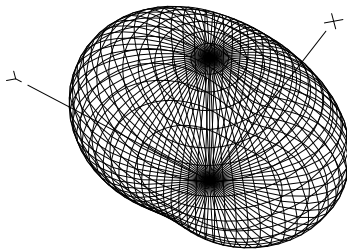
Cursor Elev 90.0 deg.
Gain 1.61 dBi
0.0 dBmax

Slice Max Gain 1.61 dBi @ Elev Angle = 90.0 deg.
Beamwidth 125.4 deg.; -3dB @ 27.3, 152.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

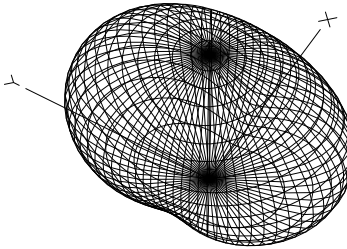
EZNEC+

EZNEC+

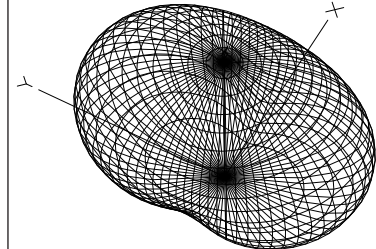
EZNEC+



AJ4CO TFD 30' x 8" x 7'4" H



AJ4CO TFD 30' x 8" x 9'2" H



AJ4CO TFD 30' x 8" x 11' H

21 MHz

HEIGHT 7'4"

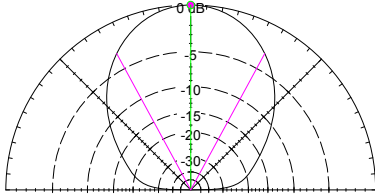
HEIGHT 9'2"

HEIGHT 11'0"

Total Field

EZNEC+

Looking East
at N-S Beam



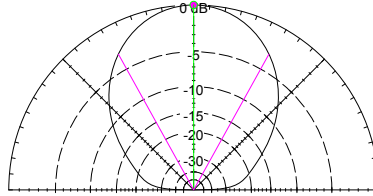
AJ4CO TFD 30' x 8" x 7'4"H 21 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 0.67 dBi Gain 0.67 dBi
Outer Ring 0.67 dBi 0.0 dBmax

Slice Max Gain 0.67 dBi @ Elev Angle = 90.0 deg.
Beamwidth 57.0 deg.; -3dB @ 61.5, 118.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



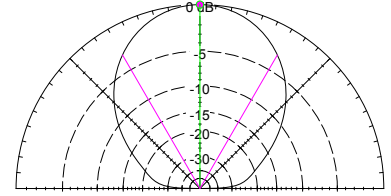
AJ4CO TFD 30' x 8" x 9'2"H 21 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 1.49 dBi Gain 1.49 dBi
Outer Ring 1.49 dBi 0.0 dBmax

Slice Max Gain 1.49 dBi @ Elev Angle = 90.0 deg.
Beamwidth 58.0 deg.; -3dB @ 61.0, 119.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 21 MHz

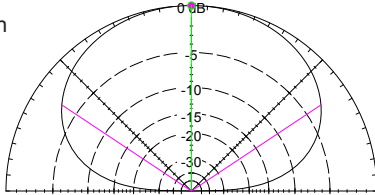
Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 1.8 dBi Gain 1.8 dBi
Outer Ring 1.8 dBi 0.0 dBmax

Slice Max Gain 1.8 dBi @ Elev Angle = 90.0 deg.
Beamwidth 60.2 deg.; -3dB @ 59.9, 120.1 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+

Looking South
at E-W Beam



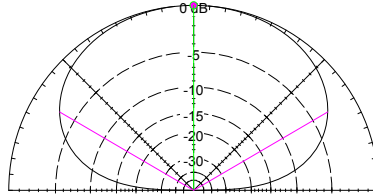
AJ4CO TFD 30' x 8" x 7'4"H 21 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 0.67 dBi Gain 0.67 dBi
Outer Ring 0.67 dBi 0.0 dBmax

Slice Max Gain 0.67 dBi @ Elev Angle = 90.0 deg.
Beamwidth 112.8 deg.; -3dB @ 33.6, 146.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



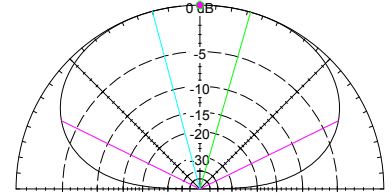
AJ4CO TFD 30' x 8" x 9'2"H 21 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 1.49 dBi Gain 1.49 dBi
Outer Ring 1.49 dBi 0.0 dBmax

Slice Max Gain 1.49 dBi @ Elev Angle = 90.0 deg.
Beamwidth 119.4 deg.; -3dB @ 30.3, 149.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 21 MHz

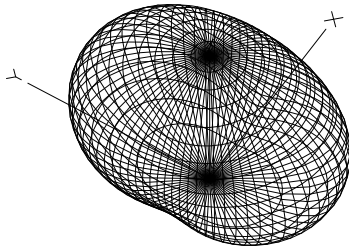
Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 1.81 dBi Gain 1.8 dBi
Outer Ring 1.81 dBi -0.01 dBmax

Slice Max Gain 1.81 dBi @ Elev Angle = 74.0 deg.
Beamwidth 127.6 deg.; -3dB @ 26.2, 153.8 deg.
Sidelobe Gain 1.81 dBi @ Elev Angle = 105.0 deg.
Front/Sidelobe 0.0 dB

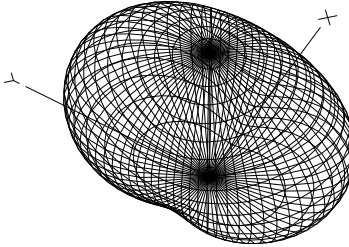
EZNEC+

EZNEC+

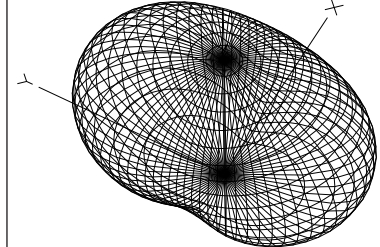
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

22 MHz

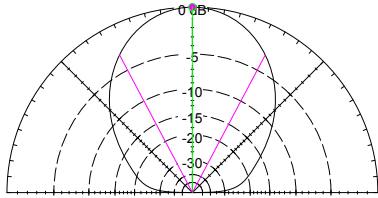
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Total Field EZNEC+

Looking East
at N-S Beam

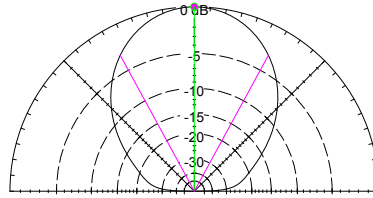


AJ4CO TFD 30' x 8" x 7'4"H 22 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 180.0 deg.
Outer Ring 0.94 dBi
Cursor Elev 90.0 deg.
Gain 0.94 dBi
0.0 dBmax

Slice Max Gain 0.94 dBi @ Elev Angle = 90.0 deg.
Beamwidth 55.8 deg.; -3dB @ 62.1, 117.9 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

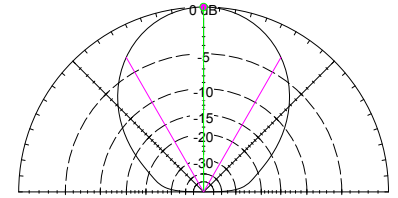


AJ4CO TFD 30' x 8" x 9'2"H 22 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 180.0 deg.
Outer Ring 1.65 dBi
Cursor Elev 90.0 deg.
Gain 1.65 dBi
0.0 dBmax

Slice Max Gain 1.65 dBi @ Elev Angle = 90.0 deg.
Beamwidth 57.2 deg.; -3dB @ 61.4, 118.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



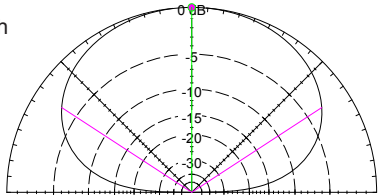
AJ4CO TFD 30' x 8" x 11'H 22 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 180.0 deg.
Outer Ring 1.86 dBi
Cursor Elev 90.0 deg.
Gain 1.86 dBi
0.0 dBmax

Slice Max Gain 1.86 dBi @ Elev Angle = 90.0 deg.
Beamwidth 59.8 deg.; -3dB @ 60.1, 119.9 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Looking South
at E-W Beam

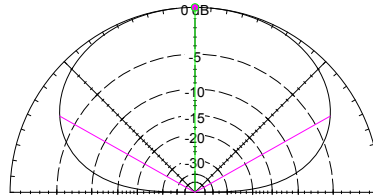


AJ4CO TFD 30' x 8" x 7'4"H 22 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 90.0 deg.
Outer Ring 0.94 dBi
Cursor Elev 90.0 deg.
Gain 0.94 dBi
0.0 dBmax

Slice Max Gain 0.94 dBi @ Elev Angle = 90.0 deg.
Beamwidth 113.8 deg.; -3dB @ 33.1, 146.9 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

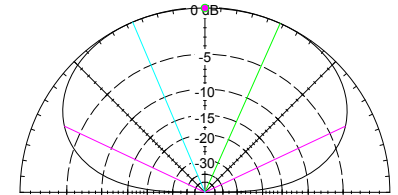


AJ4CO TFD 30' x 8" x 9'2"H 22 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 90.0 deg.
Outer Ring 1.65 dBi
Cursor Elev 90.0 deg.
Gain 1.65 dBi
0.0 dBmax

Slice Max Gain 1.65 dBi @ Elev Angle = 90.0 deg.
Beamwidth 121.2 deg.; -3dB @ 29.4, 150.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 22 MHz

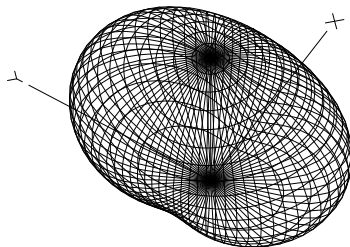
Elevation Plot 90.0 deg.
Azimuth Angle 90.0 deg.
Outer Ring 1.92 dBi
Cursor Elev 90.0 deg.
Gain 1.86 dBi
-0.06 dBmax

Slice Max Gain 1.92 dBi @ Elev Angle = 66.0 deg.
Beamwidth 129.6 deg.; -3dB @ 25.2, 154.8 deg.
Sidelobe Gain 1.92 dBi @ Elev Angle = 113.0 deg.
Front/Sidelobe 0.0 dB

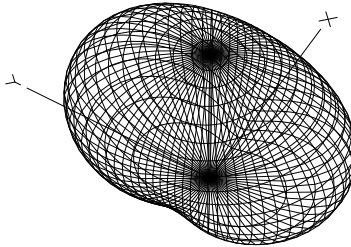
EZNEC+

EZNEC+

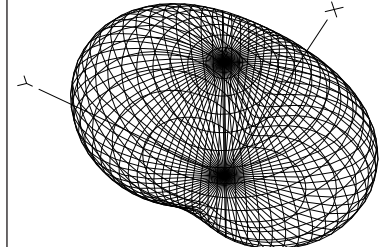
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

23 MHz

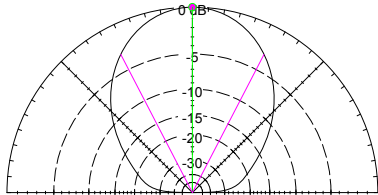
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Total Field EZNEC+

Looking East
at N-S Beam



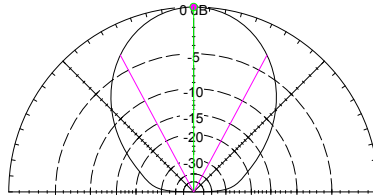
AJ4CO TFD 30' x 8" x 7'4"H 23 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 180.0 deg.
Outer Ring 1.12 dBi

Cursor Elev 90.0 deg.
Gain 1.12 dBi
0.0 dBmax

Slice Max Gain 1.12 dBi @ Elev Angle = 90.0 deg.
Beamwidth 54.8 deg.; -3dB @ 62.6, 117.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



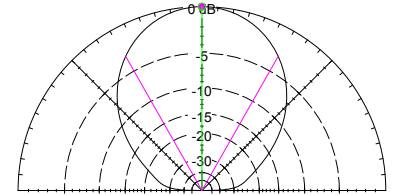
AJ4CO TFD 30' x 8" x 9'2"H 23 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 180.0 deg.
Outer Ring 1.76 dBi

Cursor Elev 90.0 deg.
Gain 1.76 dBi
0.0 dBmax

Slice Max Gain 1.76 dBi @ Elev Angle = 90.0 deg.
Beamwidth 56.4 deg.; -3dB @ 61.8, 118.2 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 23 MHz

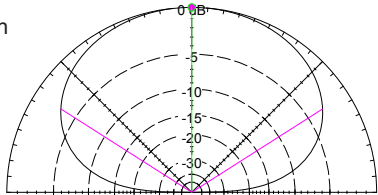
Elevation Plot 90.0 deg.
Azimuth Angle 180.0 deg.
Outer Ring 1.85 dBi

Cursor Elev 90.0 deg.
Gain 1.85 dBi
0.0 dBmax

Slice Max Gain 1.85 dBi @ Elev Angle = 90.0 deg.
Beamwidth 59.2 deg.; -3dB @ 60.4, 119.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Looking South
at E-W Beam



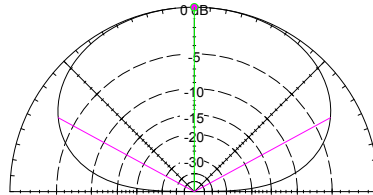
AJ4CO TFD 30' x 8" x 7'4"H 23 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 90.0 deg.
Outer Ring 1.12 dBi

Cursor Elev 90.0 deg.
Gain 1.12 dBi
0.0 dBmax

Slice Max Gain 1.12 dBi @ Elev Angle = 90.0 deg.
Beamwidth 115.0 deg.; -3dB @ 32.5, 147.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



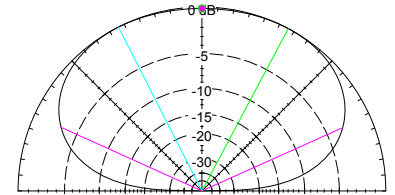
AJ4CO TFD 30' x 8" x 9'2"H 23 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 90.0 deg.
Outer Ring 1.76 dBi

Cursor Elev 90.0 deg.
Gain 1.76 dBi
0.0 dBmax

Slice Max Gain 1.76 dBi @ Elev Angle = 90.0 deg.
Beamwidth 123.0 deg.; -3dB @ 28.5, 151.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 23 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 90.0 deg.
Outer Ring 1.98 dBi

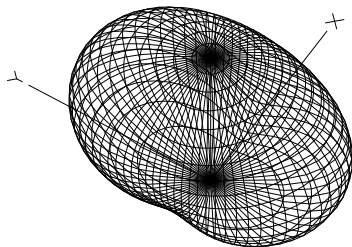
Cursor Elev 90.0 deg.
Gain 1.85 dBi
-0.13 dBmax

Slice Max Gain 1.98 dBi @ Elev Angle = 62.0 deg.
Beamwidth 131.5 deg.; -3dB @ 24.2, 155.7 deg.
Sidelobe Gain 1.98 dBi @ Elev Angle = 117.0 deg.
Front/Sidelobe 0.0 dB

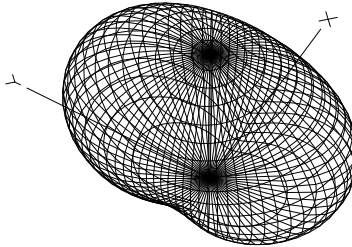
EZNEC+

EZNEC+

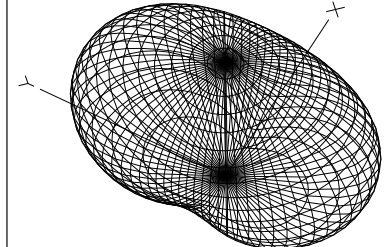
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

24 MHz

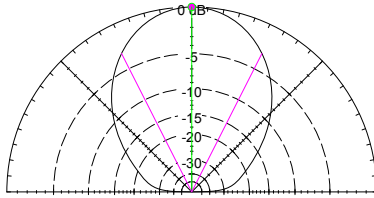
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Total Field EZNEC+

Looking East
at N-S Beam



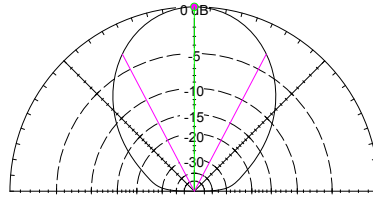
AJ4CO TFD 30' x 8" x 7'4"H 24 MHz

Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.27 dBi

Cursor Elev 90.0 deg.
Gain 1.27 dBi
0.0 dBmax

Slice Max Gain 1.27 dBi @ Elev Angle = 90.0 deg.
Beamwidth 53.8 deg.; -3dB @ 63.1, 116.9 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



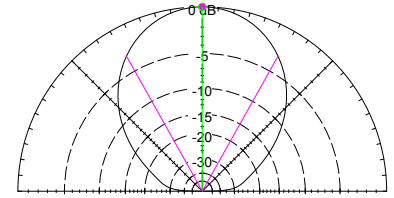
AJ4CO TFD 30' x 8" x 9'2"H 24 MHz

Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.81 dBi

Cursor Elev 90.0 deg.
Gain 1.81 dBi
0.0 dBmax

Slice Max Gain 1.81 dBi @ Elev Angle = 90.0 deg.
Beamwidth 55.4 deg.; -3dB @ 62.3, 117.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 24 MHz

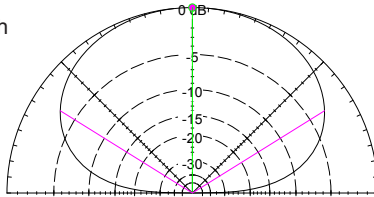
Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.77 dBi

Cursor Elev 90.0 deg.
Gain 1.77 dBi
0.0 dBmax

Slice Max Gain 1.77 dBi @ Elev Angle = 90.0 deg.
Beamwidth 58.6 deg.; -3dB @ 60.7, 119.3 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Looking South
at E-W Beam



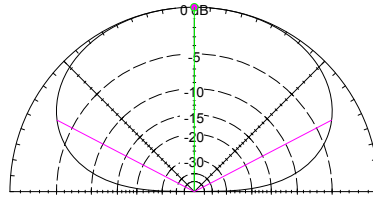
AJ4CO TFD 30' x 8" x 7'4"H 24 MHz

Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 1.27 dBi

Cursor Elev 90.0 deg.
Gain 1.27 dBi
0.0 dBmax

Slice Max Gain 1.27 dBi @ Elev Angle = 90.0 deg.
Beamwidth 116.2 deg.; -3dB @ 31.9, 148.1 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



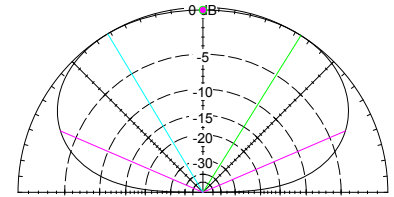
AJ4CO TFD 30' x 8" x 9'2"H 24 MHz

Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 1.81 dBi

Cursor Elev 90.0 deg.
Gain 1.81 dBi
0.0 dBmax

Slice Max Gain 1.81 dBi @ Elev Angle = 90.0 deg.
Beamwidth 125.0 deg.; -3dB @ 27.5, 152.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 24 MHz

Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 2.01 dBi

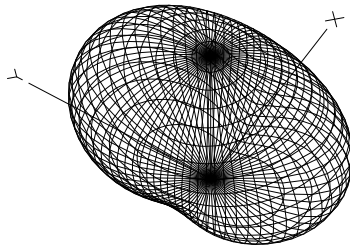
Cursor Elev 90.0 deg.
Gain 1.77 dBi
-0.24 dBmax

Slice Max Gain 2.01 dBi @ Elev Angle = 58.0 deg.
Beamwidth 133.4 deg.; -3dB @ 23.3, 156.7 deg.
Sidelobe Gain 2.01 dBi @ Elev Angle = 121.0 deg.
Front/Sidelobe 0.0 dB

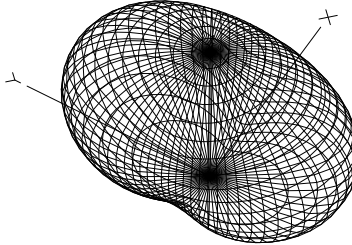
EZNEC+

EZNEC+

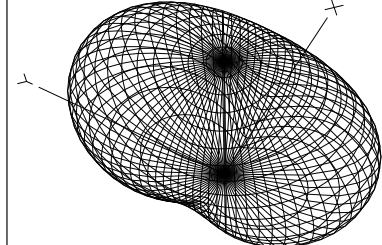
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

25 MHz

HEIGHT 7'4"

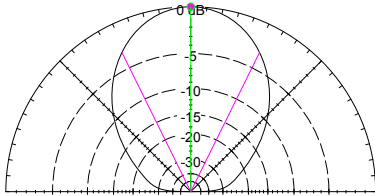
HEIGHT 9'2"

HEIGHT 11'0"

Total Field

EZNEC+

Looking East
at N-S Beam



AJ4CO TFD 30' x 8" x 7'4" 25 MHz

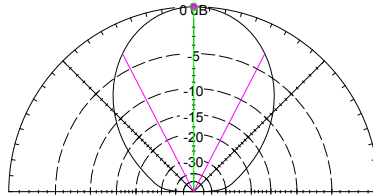
Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.38 dBi

Cursor Elev 90.0 deg.
Gain 1.38 dBi
0.0 dBmax

Slice Max Gain 1.38 dBi @ Elev Angle = 90.0 deg.
Beamwidth 54.6 deg.; -3dB @ 63.7, 116.3 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 25 MHz

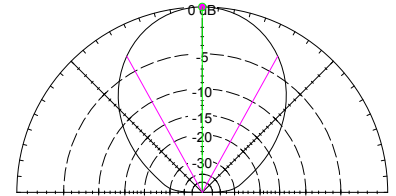
Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.83 dBi

Cursor Elev 90.0 deg.
Gain 1.83 dBi
0.0 dBmax

Slice Max Gain 1.83 dBi @ Elev Angle = 90.0 deg.
Beamwidth 54.6 deg.; -3dB @ 62.7, 117.3 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'0" 25 MHz

Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.69 dBi

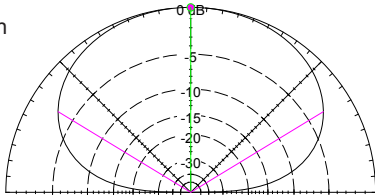
Cursor Elev 90.0 deg.
Gain 1.69 dBi
0.0 dBmax

Slice Max Gain 1.69 dBi @ Elev Angle = 90.0 deg.
Beamwidth 58.0 deg.; -3dB @ 61.0, 119.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+

Looking South
at E-W Beam



AJ4CO TFD 30' x 8" x 7'4" 25 MHz

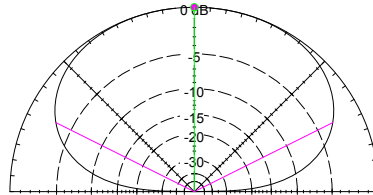
Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 1.38 dBi

Cursor Elev 90.0 deg.
Gain 1.38 dBi
0.0 dBmax

Slice Max Gain 1.38 dBi @ Elev Angle = 90.0 deg.
Beamwidth 117.4 deg.; -3dB @ 31.3, 148.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 25 MHz

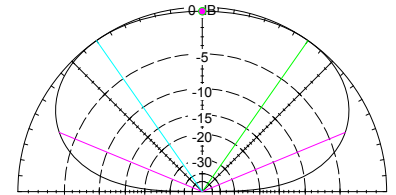
Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 1.83 dBi

Cursor Elev 90.0 deg.
Gain 1.83 dBi
-0.01 dBmax

Slice Max Gain 1.83 dBi @ Elev Angle = 90.0 deg.
Beamwidth 127.0 deg.; -3dB @ 26.5, 153.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'0" 25 MHz

Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 2.07 dBi

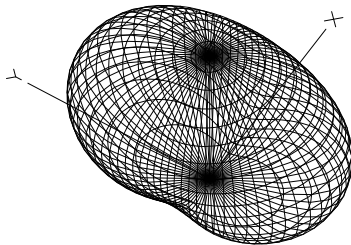
Cursor Elev 90.0 deg.
Gain 1.69 dBi
-0.38 dBmax

Slice Max Gain 2.07 dBi @ Elev Angle = 55.0 deg.
Beamwidth 135.0 deg.; -3dB @ 22.5, 157.5 deg.
Sidelobe Gain 2.07 dBi @ Elev Angle = 125.0 deg.
Front/Sidelobe 0.0 dB

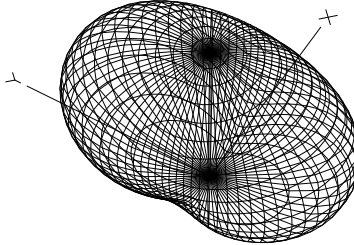
EZNEC+

EZNEC+

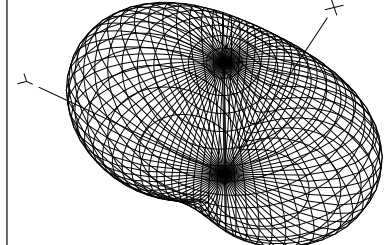
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"



AJ4CO TFD 30' x 8" x 9'2"



AJ4CO TFD 30' x 8" x 11'H

26 MHz

HEIGHT 7'4"

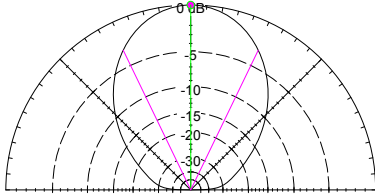
HEIGHT 9'2"

HEIGHT 11'0"

Total Field

EZNEC+

Looking East
at N-S Beam



AJ4CO TFD 30' x 8" x 7'4" 26 MHz

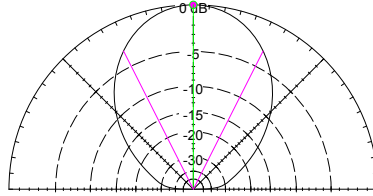
Elevation Plot 180.0 deg.
Azimuth Angle 1.45 dBi
Outer Ring 1.45 dBi

Cursor Elev 90.0 deg.
Gain 1.45 dBi
0.0 dBmax

Slice Max Gain 1.45 dBi @ Elev Angle = 90.0 deg.
Beamwidth 51.6 deg. : -3dB @ 64.2, 115.8 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 26 MHz

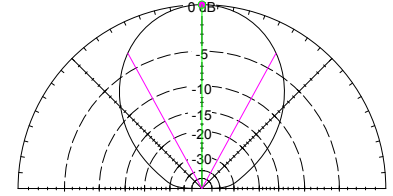
Elevation Plot 180.0 deg.
Azimuth Angle 1.81 dBi
Outer Ring 1.81 dBi

Cursor Elev 90.0 deg.
Gain 1.81 dBi
0.0 dBmax

Slice Max Gain 1.81 dBi @ Elev Angle = 90.0 deg.
Beamwidth 53.6 deg. : -3dB @ 63.2, 116.8 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 26 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.55 dBi
Outer Ring 1.55 dBi

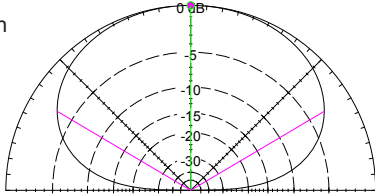
Cursor Elev 90.0 deg.
Gain 1.55 dBi
0.0 dBmax

Slice Max Gain 1.55 dBi @ Elev Angle = 90.0 deg.
Beamwidth 57.4 deg. : -3dB @ 61.3, 118.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+

Looking South
at E-W Beam



AJ4CO TFD 30' x 8" x 7'4" 26 MHz

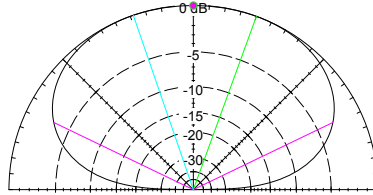
Elevation Plot 90.0 deg.
Azimuth Angle 1.45 dBi
Outer Ring 1.45 dBi

Cursor Elev 90.0 deg.
Gain 1.45 dBi
0.0 dBmax

Slice Max Gain 1.45 dBi @ Elev Angle = 90.0 deg.
Beamwidth 118.8 deg. : -3dB @ 30.6, 149.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 26 MHz

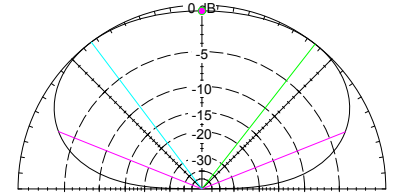
Elevation Plot 90.0 deg.
Azimuth Angle 1.84 dBi
Outer Ring 1.84 dBi

Cursor Elev 90.0 deg.
Gain 1.81 dBi
-0.03 dBmax

Slice Max Gain 1.84 dBi @ Elev Angle = 70.0 deg.
Beamwidth 128.6 deg. : -3dB @ 25.7, 154.3 deg.
Sidelobe Gain 1.84 dBi @ Elev Angle = 109.0 deg.
Front/Sidelobe 0.0 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 26 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 2.1 dBi
Outer Ring 2.1 dBi

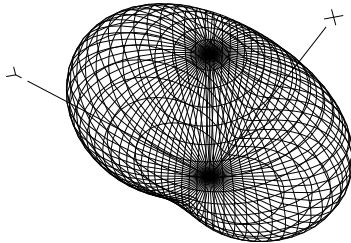
Cursor Elev 90.0 deg.
Gain 1.55 dBi
-0.55 dBmax

Slice Max Gain 2.1 dBi @ Elev Angle = 52.0 deg.
Beamwidth 136.5 deg. : -3dB @ 21.7, 158.2 deg.
Sidelobe Gain 2.1 dBi @ Elev Angle = 127.0 deg.
Front/Sidelobe 0.0 dB

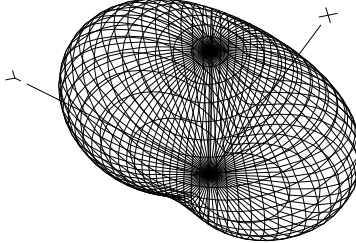
EZNEC+

EZNEC+

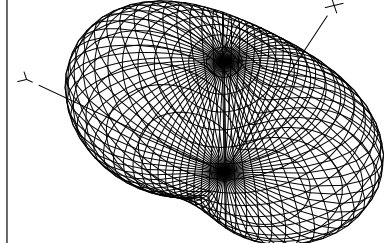
EZNEC+



AJ4CO TFD 30' x 8" x 7'4" H



AJ4CO TFD 30' x 8" x 9'2" H



AJ4CO TFD 30' x 8" x 11'H

27 MHz

HEIGHT 7'4"

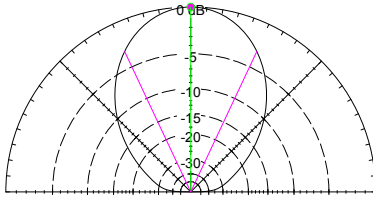
HEIGHT 9'2"

HEIGHT 11'0"

Total Field

EZNEC+

Looking East
at N-S Beam



AJ4CO TFD 30' x 8" x 7'4" 27 MHz

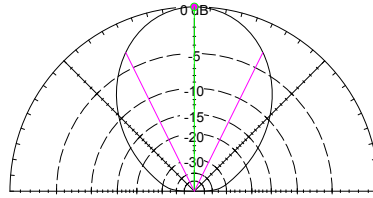
Elevation Plot 180.0 deg.
Azimuth Angle 1.51 dBi
Outer Ring 1.51 dBi

Cursor Elev 90.0 deg.
Gain 1.51 dBi
0.0 dBmax

Slice Max Gain 1.51 dBi @ Elev Angle = 90.0 deg.
Beamwidth 50.4 deg.; -3dB @ 64.8, 115.2 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 27 MHz

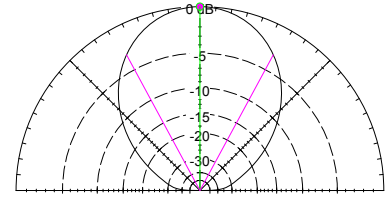
Elevation Plot 180.0 deg.
Azimuth Angle 1.78 dBi
Outer Ring 1.78 dBi

Cursor Elev 90.0 deg.
Gain 1.78 dBi
0.0 dBmax

Slice Max Gain 1.78 dBi @ Elev Angle = 90.0 deg.
Beamwidth 52.6 deg.; -3dB @ 63.7, 116.3 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 27 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.39 dBi
Outer Ring 1.39 dBi

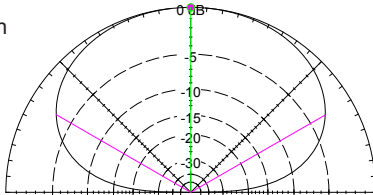
Cursor Elev 90.0 deg.
Gain 1.39 dBi
0.0 dBmax

Slice Max Gain 1.39 dBi @ Elev Angle = 90.0 deg.
Beamwidth 56.8 deg.; -3dB @ 61.6, 118.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+

Looking South
at E-W Beam



AJ4CO TFD 30' x 8" x 7'4" 27 MHz

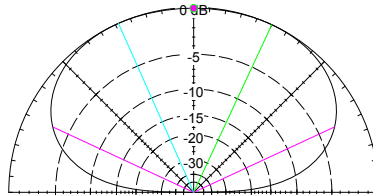
Elevation Plot 90.0 deg.
Azimuth Angle 1.51 dBi
Outer Ring 1.51 dBi

Cursor Elev 90.0 deg.
Gain 1.51 dBi
0.0 dBmax

Slice Max Gain 1.51 dBi @ Elev Angle = 90.0 deg.
Beamwidth 120.1 deg.; -3dB @ 29.9, 150.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 27 MHz

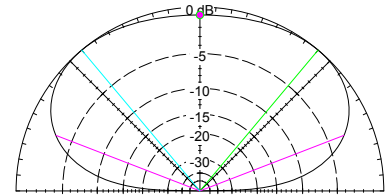
Elevation Plot 90.0 deg.
Azimuth Angle 1.86 dBi
Outer Ring 1.86 dBi

Cursor Elev 90.0 deg.
Gain 1.78 dBi
-0.08 dBmax

Slice Max Gain 1.86 dBi @ Elev Angle = 65.0 deg.
Beamwidth 130.2 deg.; -3dB @ 24.9, 155.1 deg.
Sidelobe Gain 1.86 dBi @ Elev Angle = 114.0 deg.
Front/Sidelobe 0.0 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 27 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 2.15 dBi
Outer Ring 2.15 dBi

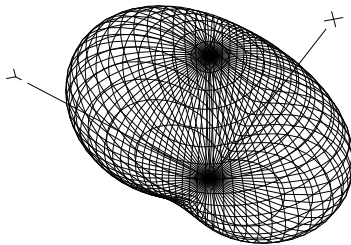
Cursor Elev 90.0 deg.
Gain 1.39 dBi
-0.75 dBmax

Slice Max Gain 2.15 dBi @ Elev Angle = 50.0 deg.
Beamwidth 137.8 deg.; -3dB @ 21.1, 158.9 deg.
Sidelobe Gain 2.15 dBi @ Elev Angle = 130.0 deg.
Front/Sidelobe 0.0 dB

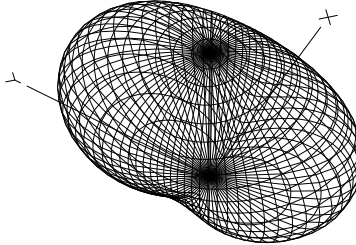
EZNEC+

EZNEC+

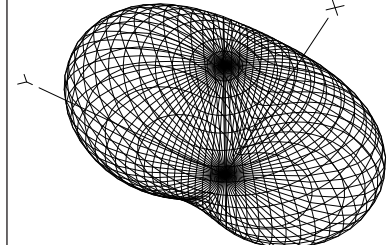
EZNEC+



AJ4CO TFD 30' x 8" x 7'4" H



AJ4CO TFD 30' x 8" x 9'2" H



AJ4CO TFD 30' x 8" x 11'H

28 MHz

HEIGHT 7'4"

HEIGHT 9'2"

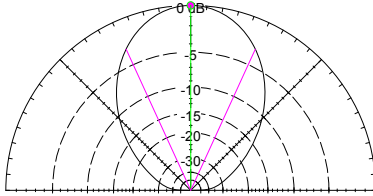
HEIGHT 11'0"

Total Field EZNEC+

Total Field EZNEC+

Total Field EZNEC+

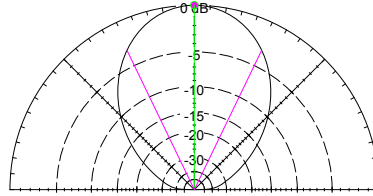
Looking East
at N-S Beam



AJ4CO TFD 30' x 8" x 7'4"H 28 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.56 dBi
Outer Ring 1.56 dBi
Cursor Elev 90.0 deg.
Gain 1.56 dBi
0.0 dBmax

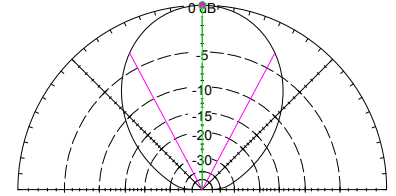
Slice Max Gain 1.56 dBi @ Elev Angle = 90.0 deg.
Beamwidth 49.2 deg., -3dB @ 65.4, 114.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 9'2"H 28 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.74 dBi
Outer Ring 1.74 dBi
Cursor Elev 90.0 deg.
Gain 1.74 dBi
0.0 dBmax

Slice Max Gain 1.74 dBi @ Elev Angle = 90.0 deg.
Beamwidth 51.6 deg., -3dB @ 64.2, 115.8 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 11'H 28 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.2 dBi
Outer Ring 1.2 dBi
Cursor Elev 90.0 deg.
Gain 1.2 dBi
0.0 dBmax

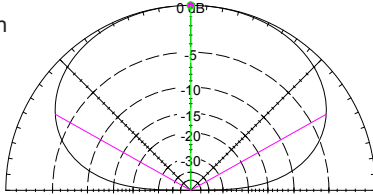
Slice Max Gain 1.2 dBi @ Elev Angle = 90.0 deg.
Beamwidth 56.0 deg., -3dB @ 62.0, 118.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Total Field EZNEC+

Total Field EZNEC+

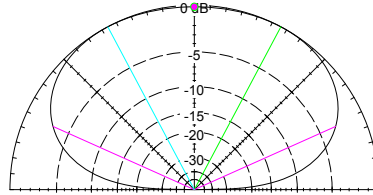
Looking South
at E-W Beam



AJ4CO TFD 30' x 8" x 7'4"H 28 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 1.56 dBi
Outer Ring 1.56 dBi
Cursor Elev 90.0 deg.
Gain 1.56 dBi
0.0 dBmax

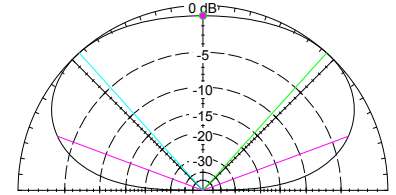
Slice Max Gain 1.56 dBi @ Elev Angle = 90.0 deg.
Beamwidth 121.4 deg., -3dB @ 29.3, 150.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 9'2"H 28 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 1.88 dBi
Outer Ring 1.88 dBi
Cursor Elev 90.0 deg.
Gain 1.74 dBi
-0.15 dBmax

Slice Max Gain 1.88 dBi @ Elev Angle = 62.0 deg.
Beamwidth 131.8 deg., -3dB @ 24.1, 155.9 deg.
Sidelobe Gain 1.88 dBi @ Elev Angle = 118.0 deg.
Front/Sidelobe 0.0 dB



AJ4CO TFD 30' x 8" x 11'H 28 MHz

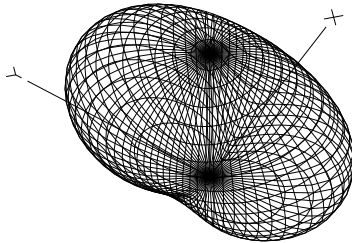
Elevation Plot 90.0 deg.
Azimuth Angle 2.19 dBi
Outer Ring 2.19 dBi
Cursor Elev 90.0 deg.
Gain 1.2 dBi
-0.99 dBmax

Slice Max Gain 2.19 dBi @ Elev Angle = 48.0 deg.
Beamwidth 139.2 deg., -3dB @ 20.4, 159.6 deg.
Sidelobe Gain 2.19 dBi @ Elev Angle = 132.0 deg.
Front/Sidelobe 0.0 dB

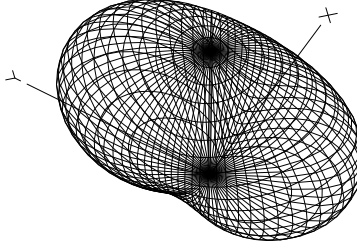
EZNEC+

EZNEC+

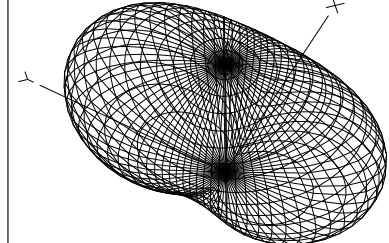
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

29 MHz

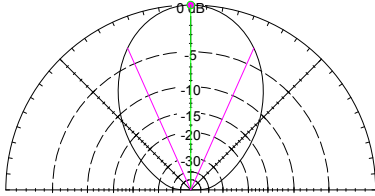
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Total Field EZNEC+

Looking East
at N-S Beam



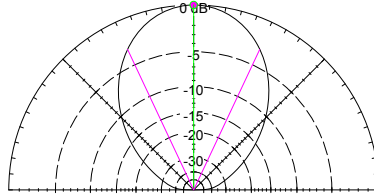
AJ4CO TFD 30' x 8" x 7'4"H 29 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.58 dBi
Outer Ring 1.58 dBi

Cursor Elev 90.0 deg.
Gain 1.58 dBi
0.0 dBmax

Slice Max Gain 1.58 dBi @ Elev Angle = 90.0 deg.
Beamwidth 48.0 deg.; -3dB @ 66.0, 114.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



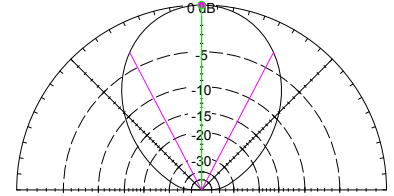
AJ4CO TFD 30' x 8" x 9'2"H 29 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.67 dBi
Outer Ring 1.67 dBi

Cursor Elev 90.0 deg.
Gain 1.67 dBi
0.0 dBmax

Slice Max Gain 1.67 dBi @ Elev Angle = 90.0 deg.
Beamwidth 50.4 deg.; -3dB @ 64.8, 115.2 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 29 MHz

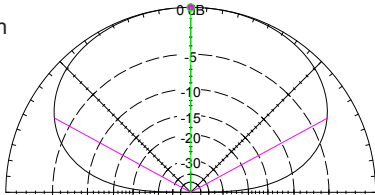
Elevation Plot 180.0 deg.
Azimuth Angle 0.99 dBi
Outer Ring 0.99 dBi

Cursor Elev 90.0 deg.
Gain 0.99 dBi
0.0 dBmax

Slice Max Gain 0.99 dBi @ Elev Angle = 90.0 deg.
Beamwidth 55.2 deg.; -3dB @ 62.4, 117.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Looking South
at E-W Beam



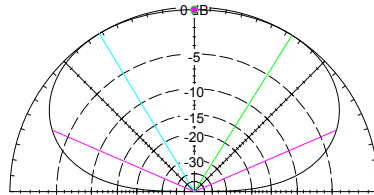
AJ4CO TFD 30' x 8" x 7'4"H 29 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 1.58 dBi
Outer Ring 1.58 dBi

Cursor Elev 90.0 deg.
Gain 1.58 dBi
0.0 dBmax

Slice Max Gain 1.58 dBi @ Elev Angle = 90.0 deg.
Beamwidth 122.9 deg.; -3dB @ 28.5, 151.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



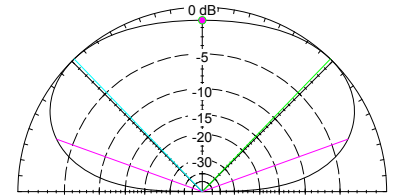
AJ4CO TFD 30' x 8" x 9'2"H 29 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 1.9 dBi
Outer Ring 1.9 dBi

Cursor Elev 90.0 deg.
Gain 1.67 dBi
-0.23 dBmax

Slice Max Gain 1.9 dBi @ Elev Angle = 58.0 deg.
Beamwidth 133.2 deg.; -3dB @ 23.4, 156.6 deg.
Sidelobe Gain 1.9 dBi @ Elev Angle = 121.0 deg.
Front/Sidelobe 0.0 dB

Total Field EZNEC+



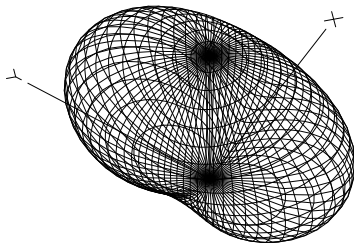
AJ4CO TFD 30' x 8" x 11'H 29 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 2.25 dBi
Outer Ring 2.25 dBi

Cursor Elev 90.0 deg.
Gain 0.99 dBi
-1.26 dBmax

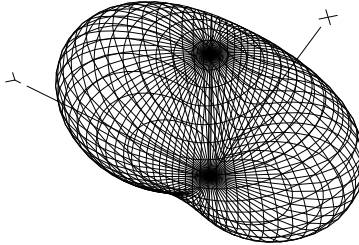
Slice Max Gain 2.25 dBi @ Elev Angle = 46.0 deg.
Beamwidth 140.4 deg.; -3dB @ 19.8, 160.2 deg.
Sidelobe Gain 2.25 dBi @ Elev Angle = 134.0 deg.
Front/Sidelobe 0.0 dB

EZNEC+



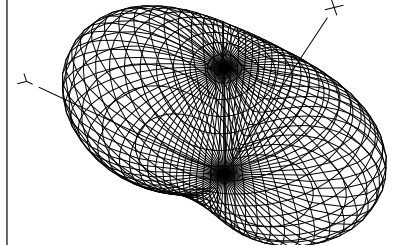
AJ4CO TFD 30' x 8" x 7'4"H

EZNEC+



AJ4CO TFD 30' x 8" x 9'2"H

EZNEC+



AJ4CO TFD 30' x 8" x 11'H

30 MHz

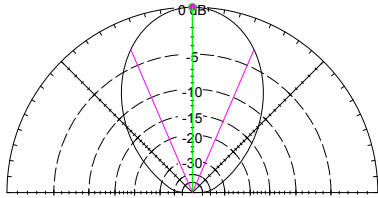
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Total Field EZNEC+

Looking East
at N-S Beam



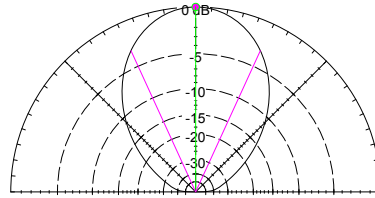
AJ4CO TFD 30' x 8" x 7'4"H 30 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.61 dBi
Outer Ring 1.61 dBi

Cursor Elev 90.0 deg.
Gain 1.61 dBi
0.0 dBmax

Slice Max Gain 1.61 dBi @ Elev Angle = 90.0 deg.
Beamwidth 46.6 deg., -3dB @ 66.7, 113.3 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



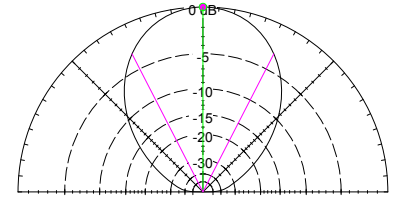
AJ4CO TFD 30' x 8" x 9'2"H 30 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.6 dBi
Outer Ring 1.6 dBi

Cursor Elev 90.0 deg.
Gain 1.6 dBi
0.0 dBmax

Slice Max Gain 1.6 dBi @ Elev Angle = 90.0 deg.
Beamwidth 49.2 deg., -3dB @ 65.4, 114.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 30 MHz

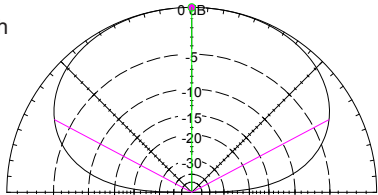
Elevation Plot 180.0 deg.
Azimuth Angle 0.76 dBi
Outer Ring 0.76 dBi

Cursor Elev 90.0 deg.
Gain 0.76 dBi
0.0 dBmax

Slice Max Gain 0.76 dBi @ Elev Angle = 90.0 deg.
Beamwidth 54.4 deg., -3dB @ 62.8, 117.2 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Looking South
at E-W Beam



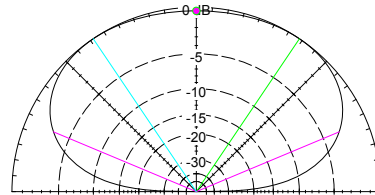
AJ4CO TFD 30' x 8" x 7'4"H 30 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 1.61 dBi
Outer Ring 1.61 dBi

Cursor Elev 90.0 deg.
Gain 1.61 dBi
0.0 dBmax

Slice Max Gain 1.61 dBi @ Elev Angle = 90.0 deg.
Beamwidth 124.2 deg., -3dB @ 27.9, 152.1 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



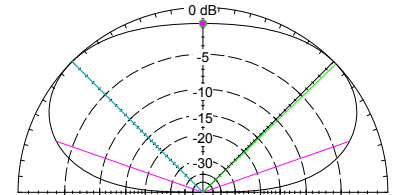
AJ4CO TFD 30' x 8" x 9'2"H 30 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 1.94 dBi
Outer Ring 1.94 dBi

Cursor Elev 90.0 deg.
Gain 1.6 dBi
-0.34 dBmax

Slice Max Gain 1.94 dBi @ Elev Angle = 56.0 deg.
Beamwidth 134.6 deg., -3dB @ 22.7, 157.3 deg.
Sidelobe Gain 1.94 dBi @ Elev Angle = 124.0 deg.
Front/Sidelobe 0.0 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 30 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 2.32 dBi
Outer Ring 2.32 dBi

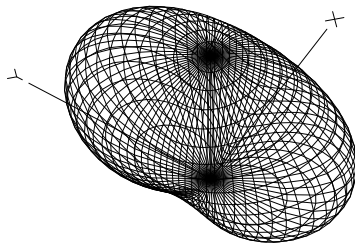
Cursor Elev 90.0 deg.
Gain 0.76 dBi
-1.56 dBmax

Slice Max Gain 2.32 dBi @ Elev Angle = 44.0 deg.
Beamwidth 141.6 deg., -3dB @ 19.2, 160.8 deg.
Sidelobe Gain 2.32 dBi @ Elev Angle = 135.0 deg.
Front/Sidelobe 0.0 dB

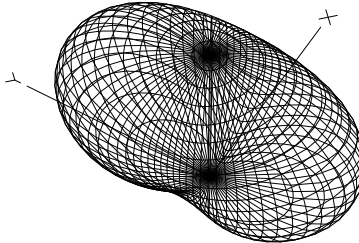
EZNEC+

EZNEC+

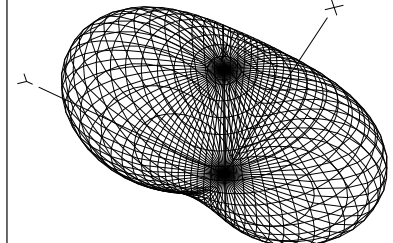
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

31 MHz

HEIGHT 7'4"

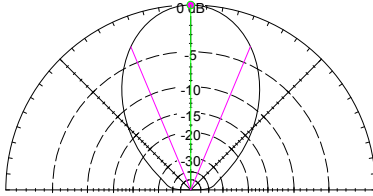
HEIGHT 9'2"

HEIGHT 11'0"

Total Field

EZNEC+

Looking East
at N-S Beam



AJ4CO TFD 30' x 8" x 7'4" 31 MHz

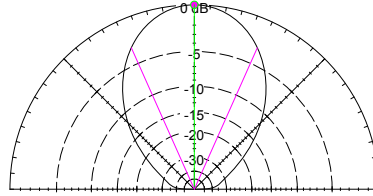
Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.64 dBi

Cursor Elev 90.0 deg.
Gain 1.64 dBi
0.0 dBmax

Slice Max Gain 1.64 dBi @ Elev Angle = 90.0 deg.
Beamwidth 45.3 deg.; -3dB @ 67.4, 112.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 31 MHz

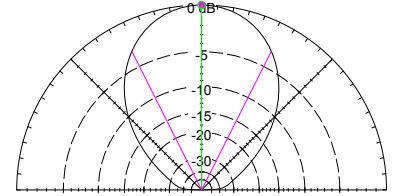
Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.51 dBi

Cursor Elev 90.0 deg.
Gain 1.51 dBi
0.0 dBmax

Slice Max Gain 1.51 dBi @ Elev Angle = 90.0 deg.
Beamwidth 48.0 deg.; -3dB @ 66.0, 114.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 31 MHz

Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 0.5 dBi

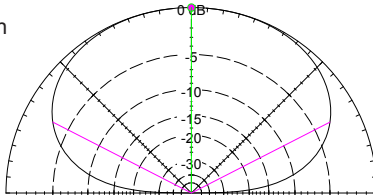
Cursor Elev 90.0 deg.
Gain 0.5 dBi
0.0 dBmax

Slice Max Gain 0.5 dBi @ Elev Angle = 90.0 deg.
Beamwidth 53.4 deg.; -3dB @ 63.3, 116.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+

Looking South
at E-W Beam



AJ4CO TFD 30' x 8" x 7'4" 31 MHz

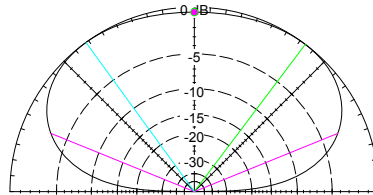
Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 1.64 dBi

Cursor Elev 90.0 deg.
Gain 1.64 dBi
0.0 dBmax

Slice Max Gain 1.64 dBi @ Elev Angle = 90.0 deg.
Beamwidth 125.8 deg.; -3dB @ 27.1, 152.9 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 31 MHz

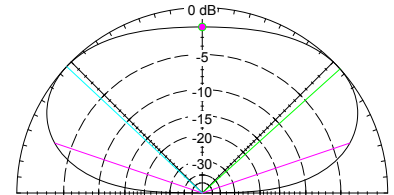
Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 1.97 dBi

Cursor Elev 90.0 deg.
Gain 1.51 dBi
-0.46 dBmax

Slice Max Gain 1.97 dBi @ Elev Angle = 53.0 deg.
Beamwidth 135.8 deg.; -3dB @ 22.1, 157.9 deg.
Sidelobe Gain 1.97 dBi @ Elev Angle = 126.0 deg.
Front/Sidelobe 0.0 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 31 MHz

Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 2.39 dBi

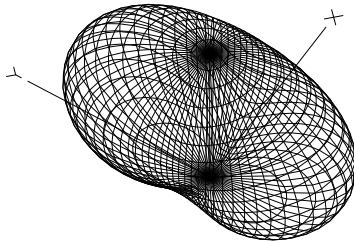
Cursor Elev 90.0 deg.
Gain 0.5 dBi
-1.9 dBmax

Slice Max Gain 2.39 dBi @ Elev Angle = 42.0 deg.
Beamwidth 142.6 deg.; -3dB @ 18.7, 161.3 deg.
Sidelobe Gain 2.39 dBi @ Elev Angle = 137.0 deg.
Front/Sidelobe 0.0 dB

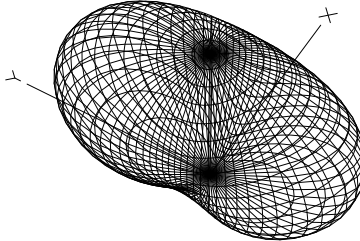
EZNEC+

EZNEC+

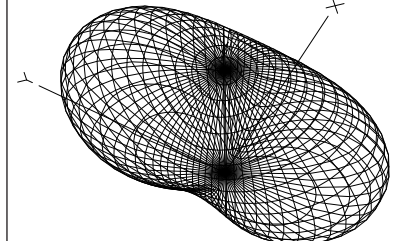
EZNEC+



AJ4CO TFD 30' x 8" x 7'4" H



AJ4CO TFD 30' x 8" x 9'2" H



AJ4CO TFD 30' x 8" x 11'H

32 MHz

HEIGHT 7'4"

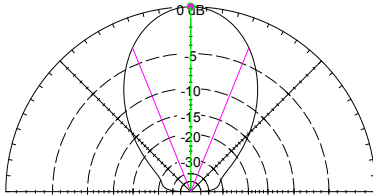
HEIGHT 9'2"

HEIGHT 11'0"

Total Field

EZNEC+

Looking East
at N-S Beam



AJ4CO TFD 30' x 8" x 7'4" 32 MHz

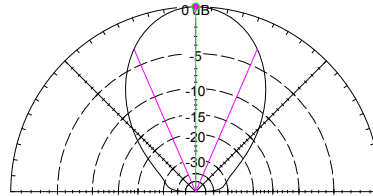
Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.65 dBi

Cursor Elev 90.0 deg.
Gain 1.65 dBi
0.0 dBmax

Slice Max Gain 1.65 dBi @ Elev Angle = 90.0 deg.
Beamwidth 44.0 deg. -3dB @ 68.0, 112.0 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 32 MHz

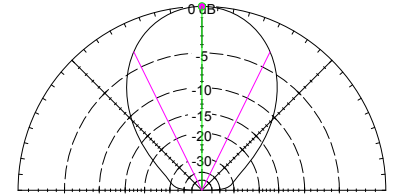
Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 1.41 dBi

Cursor Elev 90.0 deg.
Gain 1.41 dBi
0.0 dBmax

Slice Max Gain 1.41 dBi @ Elev Angle = 90.0 deg.
Beamwidth 46.8 deg. -3dB @ 66.6, 113.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 32 MHz

Elevation Plot
Azimuth Angle 180.0 deg.
Outer Ring 0.21 dBi

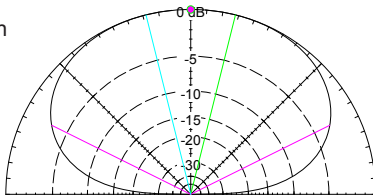
Cursor Elev 90.0 deg.
Gain 0.21 dBi
0.0 dBmax

Slice Max Gain 0.21 dBi @ Elev Angle = 90.0 deg.
Beamwidth 52.4 deg. -3dB @ 63.8, 116.2 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+

Looking South
at E-W Beam



AJ4CO TFD 30' x 8" x 7'4" 32 MHz

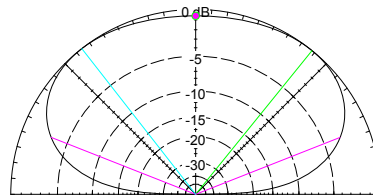
Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 1.66 dBi

Cursor Elev 90.0 deg.
Gain 1.65 dBi
-0.01 dBmax

Slice Max Gain 1.66 dBi @ Elev Angle = 76.0 deg.
Beamwidth 127.2 deg. -3dB @ 26.4, 153.6 deg.
Sidelobe Gain 1.66 dBi @ Elev Angle = 104.0 deg.
Front/Sidelobe 0.0 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2" 32 MHz

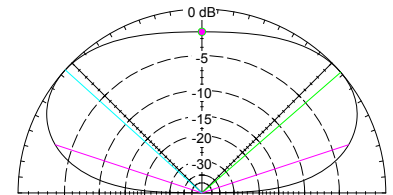
Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 2.02 dBi

Cursor Elev 90.0 deg.
Gain 1.41 dBi
-0.61 dBmax

Slice Max Gain 2.02 dBi @ Elev Angle = 51.0 deg.
Beamwidth 137.0 deg. -3dB @ 21.5, 158.5 deg.
Sidelobe Gain 2.02 dBi @ Elev Angle = 128.0 deg.
Front/Sidelobe 0.0 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 32 MHz

Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 2.48 dBi

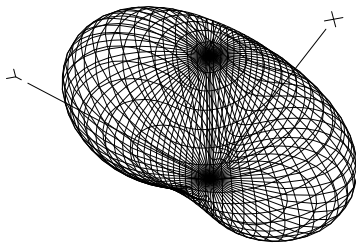
Cursor Elev 90.0 deg.
Gain 0.21 dBi
-2.27 dBmax

Slice Max Gain 2.48 dBi @ Elev Angle = 41.0 deg.
Beamwidth 143.6 deg. -3dB @ 18.2, 161.8 deg.
Sidelobe Gain 2.48 dBi @ Elev Angle = 138.0 deg.
Front/Sidelobe 0.0 dB

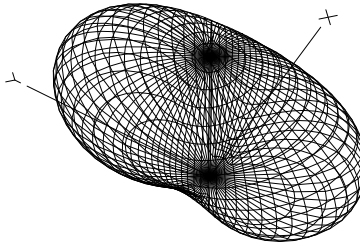
EZNEC+

EZNEC+

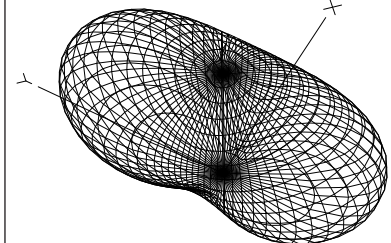
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"



AJ4CO TFD 30' x 8" x 9'2"



AJ4CO TFD 30' x 8" x 11'H

33 MHz

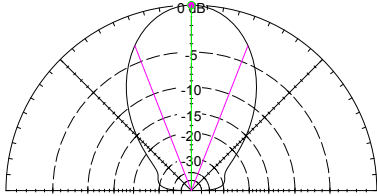
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Total Field EZNEC+

Looking East
at N-S Beam



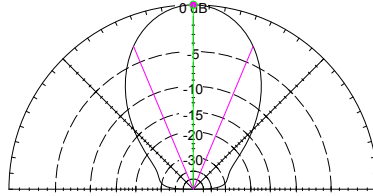
AJ4CO TFD 30' x 8" x 7'4"H 33 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.67 dBi
Outer Ring 1.67 dBi

Cursor Elev 90.0 deg.
Gain 1.67 dBi
0.0 dBmax

Slice Max Gain 1.67 dBi @ Elev Angle = 90.0 deg.
Beamwidth 42.6 deg; -3dB @ 68.7, 111.3 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



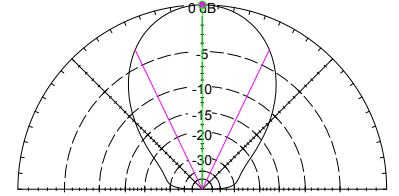
AJ4CO TFD 30' x 8" x 9'2"H 33 MHz

Elevation Plot 180.0 deg.
Azimuth Angle 1.32 dBi
Outer Ring 1.32 dBi

Cursor Elev 90.0 deg.
Gain 1.32 dBi
0.0 dBmax

Slice Max Gain 1.32 dBi @ Elev Angle = 90.0 deg.
Beamwidth 45.4 deg; -3dB @ 67.3, 112.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 33 MHz

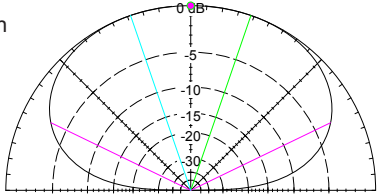
Elevation Plot 180.0 deg.
Azimuth Angle -0.1 dBi
Outer Ring -0.1 dBi

Cursor Elev 90.0 deg.
Gain -0.1 dBi
0.0 dBmax

Slice Max Gain -0.1 dBi @ Elev Angle = 90.0 deg.
Beamwidth 51.4 deg; -3dB @ 64.3, 115.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Looking South
at E-W Beam



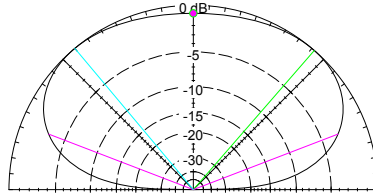
AJ4CO TFD 30' x 8" x 7'4"H 33 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 1.69 dBi
Outer Ring 1.69 dBi

Cursor Elev 90.0 deg.
Gain 1.67 dBi
-0.03 dBmax

Slice Max Gain 1.7 dBi @ Elev Angle = 71.0 deg.
Beamwidth 128.4 deg; -3dB @ 25.8, 154.2 deg.
Sidelobe Gain 1.7 dBi @ Elev Angle = 109.0 deg.
Front/Sidelobe 0.0 dB

Total Field EZNEC+



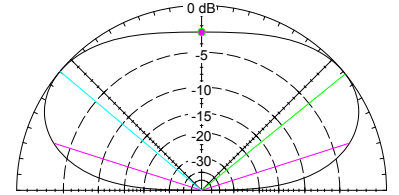
AJ4CO TFD 30' x 8" x 9'2"H 33 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 2.09 dBi
Outer Ring 2.09 dBi

Cursor Elev 90.0 deg.
Gain 1.32 dBi
-0.77 dBmax

Slice Max Gain 2.09 dBi @ Elev Angle = 49.0 deg.
Beamwidth 138.0 deg; -3dB @ 21.0, 159.0 deg.
Sidelobe Gain 2.09 dBi @ Elev Angle = 130.0 deg.
Front/Sidelobe 0.0 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 33 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 2.57 dBi
Outer Ring 2.57 dBi

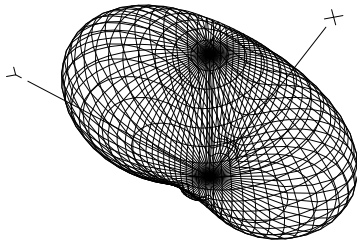
Cursor Elev 90.0 deg.
Gain -0.1 dBi
-2.67 dBmax

Slice Max Gain 2.57 dBi @ Elev Angle = 39.0 deg.
Beamwidth 144.8 deg; -3dB @ 17.7, 162.3 deg.
Sidelobe Gain 2.57 dBi @ Elev Angle = 140.0 deg.
Front/Sidelobe 0.0 dB

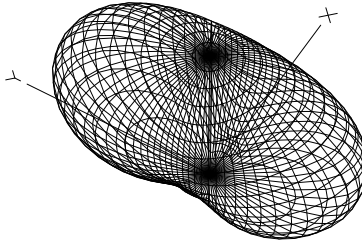
EZNEC+

EZNEC+

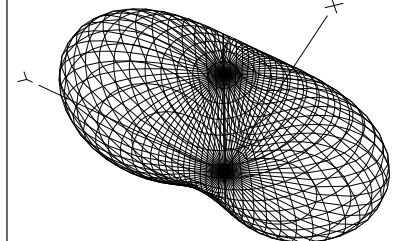
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

34 MHz

HEIGHT 7'4"

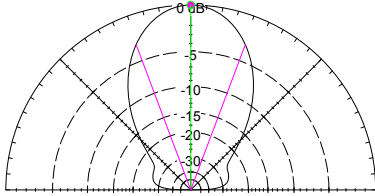
HEIGHT 9'2"

HEIGHT 11'0"

Total Field

EZNEC+

Looking East
at N-S Beam



AJ4CO TFD 30' x 8" x 7'4"H 34 MHz

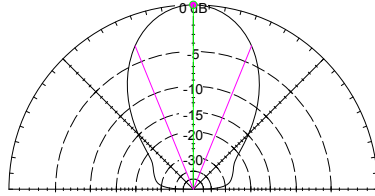
Elevation Plot 180.0 deg.
Azimuth Angle 1.68 dBi
Outer Ring 1.68 dBi

Cursor Elev 90.0 deg.
Gain 1.68 dBi
0.0 dBmax

Slice Max Gain 1.68 dBi @ Elev Angle = 90.0 deg.
Beamwidth 41.2 deg.; -3dB @ 69.4, 110.6 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2"H 34 MHz

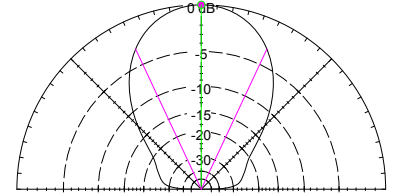
Elevation Plot 180.0 deg.
Azimuth Angle 1.2 dBi
Outer Ring 1.2 dBi

Cursor Elev 90.0 deg.
Gain 1.2 dBi
0.0 dBmax

Slice Max Gain 1.2 dBi @ Elev Angle = 90.0 deg.
Beamwidth 44.2 deg.; -3dB @ 67.9, 112.1 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 34 MHz

Elevation Plot 180.0 deg.
Azimuth Angle -0.43 dBi
Outer Ring -0.43 dBi

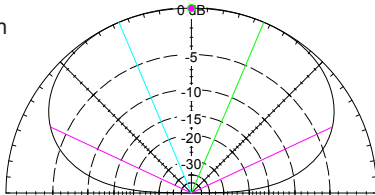
Cursor Elev 90.0 deg.
Gain -0.43 dBi
0.0 dBmax

Slice Max Gain -0.43 dBi @ Elev Angle = 90.0 deg.
Beamwidth 50.2 deg.; -3dB @ 64.9, 115.1 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field

EZNEC+

Looking South
at E-W Beam



AJ4CO TFD 30' x 8" x 7'4"H 34 MHz

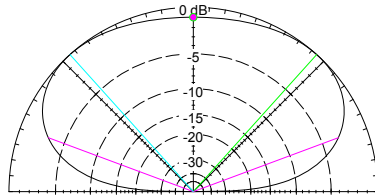
Elevation Plot 90.0 deg.
Azimuth Angle 1.74 dBi
Outer Ring 1.74 dBi

Cursor Elev 90.0 deg.
Gain 1.68 dBi
-0.06 dBmax

Slice Max Gain 1.74 dBi @ Elev Angle = 67.0 deg.
Beamwidth 129.8 deg.; -3dB @ 25.1, 154.9 deg.
Sidelobe Gain 1.74 dBi @ Elev Angle = 113.0 deg.
Front/Sidelobe 0.0 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 9'2"H 34 MHz

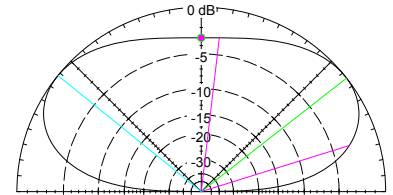
Elevation Plot 90.0 deg.
Azimuth Angle 2.15 dBi
Outer Ring 2.15 dBi

Cursor Elev 90.0 deg.
Gain 1.2 dBi
-0.95 dBmax

Slice Max Gain 2.15 dBi @ Elev Angle = 48.0 deg.
Beamwidth 139.2 deg.; -3dB @ 20.4, 159.8 deg.
Sidelobe Gain 2.15 dBi @ Elev Angle = 132.0 deg.
Front/Sidelobe 0.0 dB

Total Field

EZNEC+



AJ4CO TFD 30' x 8" x 11'H 34 MHz

Elevation Plot 90.0 deg.
Azimuth Angle 2.68 dBi
Outer Ring 2.68 dBi

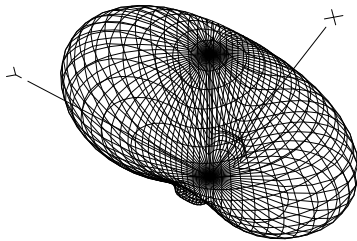
Cursor Elev 90.0 deg.
Gain -0.43 dBi
-3.11 dBmax

Slice Max Gain 2.68 dBi @ Elev Angle = 38.0 deg.
Beamwidth 66.0 deg.; -3dB @ 17.3, 83.3 deg.
Sidelobe Gain 2.68 dBi @ Elev Angle = 141.0 deg.
Front/Sidelobe 0.0 dB

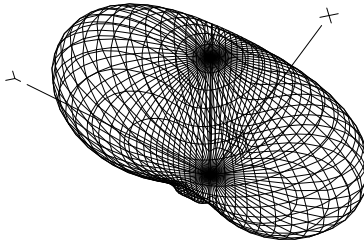
EZNEC+

EZNEC+

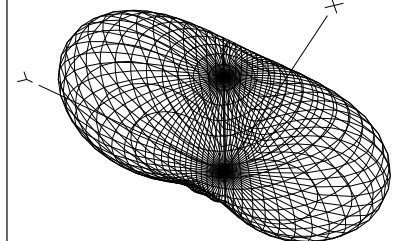
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H



AJ4CO TFD 30' x 8" x 11'H

35 MHz

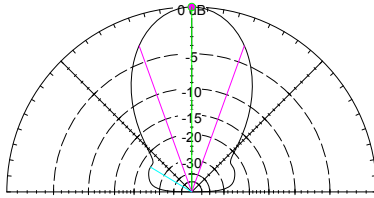
HEIGHT 7'4"

HEIGHT 9'2"

HEIGHT 11'0"

Total Field EZNEC+

Looking East
at N-S Beam

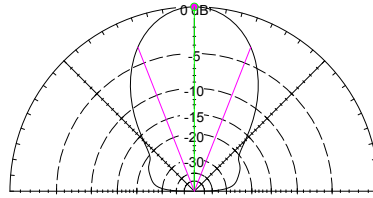


AJ4CO TFD 30' x 8" x 7'4"H 35 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 1.67 dBi Gain 1.67 dBi
Outer Ring 1.67 dBi 0.0 dBmax

Slice Max Gain 1.67 dBi @ Elev Angle = 90.0 deg.
Beamwidth 39.5 deg.; -3dB @ 70.2, 109.8 deg.
Sidelobe Gain -21.42 dBi @ Elev Angle = 149.0 deg.
Front/Sidelobe 23.09 dB

Total Field EZNEC+

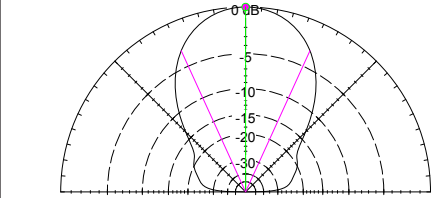


AJ4CO TFD 30' x 8" x 9'2"H 35 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 1.07 dBi Gain 1.07 dBi
Outer Ring 1.07 dBi 0.0 dBmax

Slice Max Gain 1.07 dBi @ Elev Angle = 90.0 deg.
Beamwidth 42.8 deg.; -3dB @ 68.6, 111.4 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+



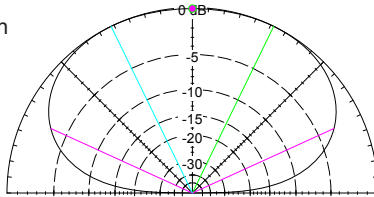
AJ4CO TFD 30' x 8" x 11'H 35 MHz

Elevation Plot 180.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle -0.8 dBi Gain -0.8 dBi
Outer Ring -0.8 dBi 0.0 dBmax

Slice Max Gain -0.8 dBi @ Elev Angle = 90.0 deg.
Beamwidth 49.0 deg.; -3dB @ 65.5, 114.5 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Total Field EZNEC+

Looking South
at E-W Beam

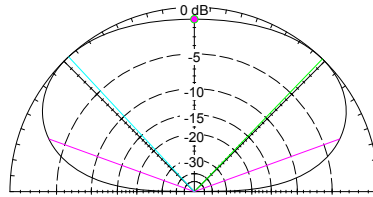


AJ4CO TFD 30' x 8" x 7'4"H 35 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 1.77 dBi Gain 1.67 dBi
Outer Ring 1.77 dBi -0.1 dBmax

Slice Max Gain 1.77 dBi @ Elev Angle = 64.0 deg.
Beamwidth 131.0 deg.; -3dB @ 24.5, 165.5 deg.
Sidelobe Gain 1.77 dBi @ Elev Angle = 116.0 deg.
Front/Sidelobe 0.0 dB

Total Field EZNEC+

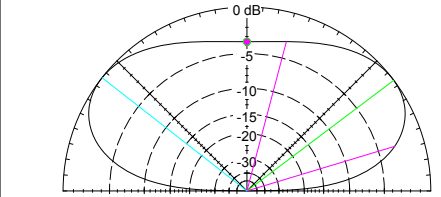


AJ4CO TFD 30' x 8" x 9'2"H 35 MHz

Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 2.22 dBi Gain 1.07 dBi
Outer Ring 2.22 dBi -1.15 dBmax

Slice Max Gain 2.22 dBi @ Elev Angle = 46.0 deg.
Beamwidth 140.2 deg.; -3dB @ 19.9, 160.1 deg.
Sidelobe Gain 2.22 dBi @ Elev Angle = 133.0 deg.
Front/Sidelobe 0.0 dB

Total Field EZNEC+



AJ4CO TFD 30' x 8" x 11'H 35 MHz

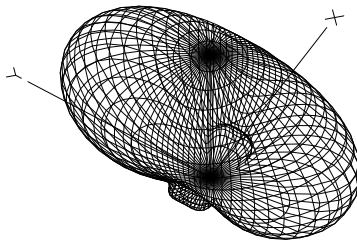
Elevation Plot 90.0 deg. Cursor Elev 90.0 deg.
Azimuth Angle 2.79 dBi Gain -0.8 dBi
Outer Ring 2.79 dBi -3.58 dBmax

Slice Max Gain 2.79 dBi @ Elev Angle = 37.0 deg.
Beamwidth 58.4 deg.; -3dB @ 16.8, 75.2 deg.
Sidelobe Gain 2.79 dBi @ Elev Angle = 142.0 deg.
Front/Sidelobe 0.0 dB

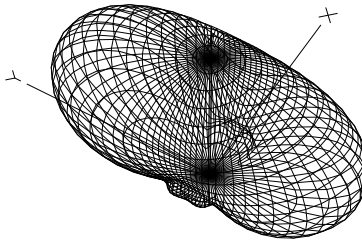
EZNEC+

EZNEC+

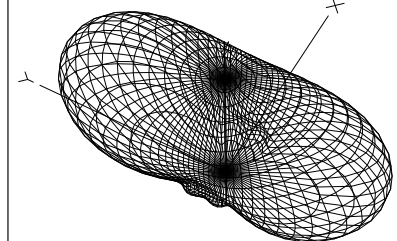
EZNEC+



AJ4CO TFD 30' x 8" x 7'4"H



AJ4CO TFD 30' x 8" x 9'2"H

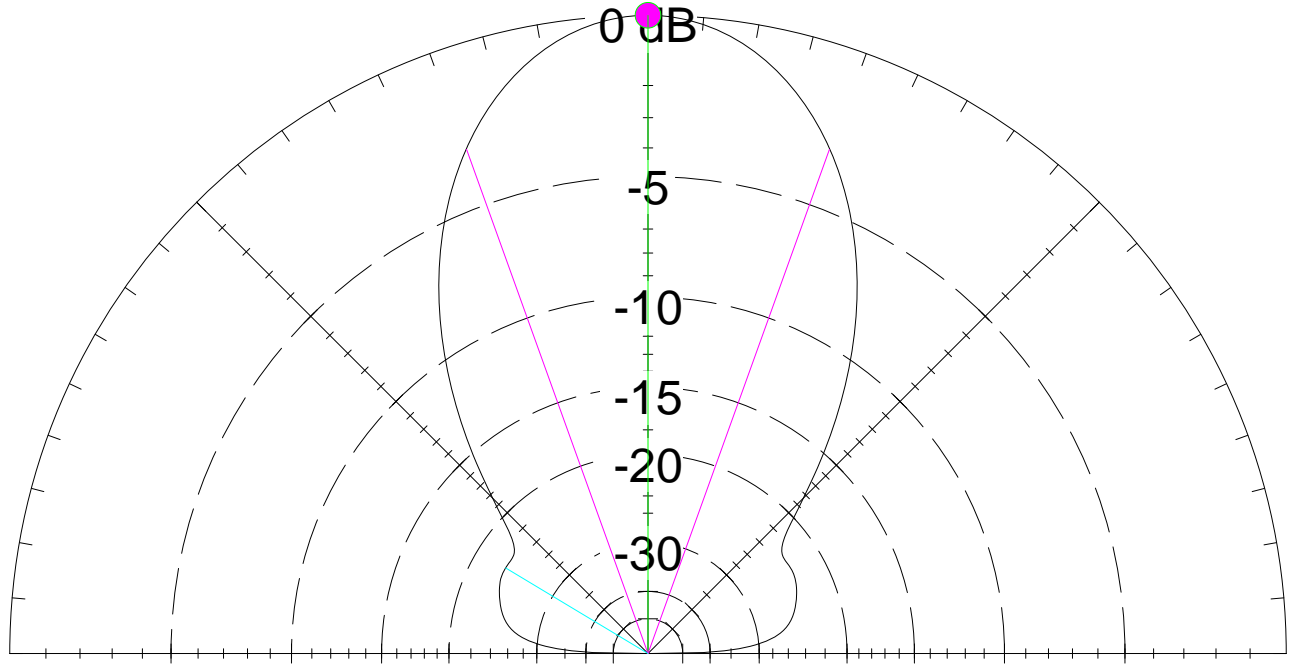


AJ4CO TFD 30' x 8" x 11'H

Alt Z0:		800			
Freq MHz	Src #	R	X	SWR (50 ohms)	SWR (alt. Z0)
15	1	61.1825	12.29401	1.348988	13.07874
16	1	68.38049	14.59025	1.489879	11.70316
17	1	78.29816	13.08235	1.637624	10.22011
18	1	88.39996	5.300566	1.777323	9.05018
19	1	94.45222	-8.46699	1.910045	8.470853
20	1	91.17024	-23.75449	1.994147	8.782631
21	1	82.69083	-35.62044	2.085966	9.693978
22	1	71.06361	-41.08216	2.130486	11.28744
23	1	60.37172	-41.73082	2.146723	13.2875
24	1	51.73228	-39.45959	2.134672	15.50201
25	1	45.40055	-36.37561	2.120662	17.65748
26	1	40.63015	-32.55085	2.085211	19.72249
27	1	37.1729	-28.64258	2.039635	21.5487
28	1	34.67487	-24.78562	1.986368	23.09365
29	1	32.91089	-21.1564	1.931831	24.32509
30	1	31.75012	-17.65591	1.871968	25.20904
31	1	31.04809	-14.30875	1.811103	25.77473
32	1	30.7238	-11.07258	1.750385	26.04344
33	1	30.74149	-7.976535	1.691498	26.02605
34	1	31.18188	-5.00596	1.629534	25.65693
35	1	31.92849	-2.129216	1.570785	25.05617

Alt Z0:		800					
Freq MHz	Src #	R	X	SWR (50 ohms)	SWR (alt. Z0)		
15	1	60.22311	11.53983	1.323175	13.28672		
16	1	66.50927	14.01696	1.452641	12.03212		
17	1	75.73386	13.46435	1.596317	10.56633		
18	1	85.74593	7.305952	1.733679	9.330676		
19	1	92.85186	-4.775221	1.863944	8.616186		
20	1	92.44252	-19.88036	1.966793	8.659443		
21	1	84.98175	-32.46537	2.047696	9.429466		
22	1	73.94061	-39.28542	2.095206	10.84581		
23	1	63.13434	-41.21367	2.121325	12.70523		
24	1	54.22757	-39.97591	2.125512	14.78965		
25	1	47.35151	-37.14354	2.11226	16.93147		
26	1	42.18196	-33.57136	2.083354	18.99894		
27	1	38.34498	-29.69902	2.040929	20.89205		
28	1	35.58647	-26.03558	1.996956	22.50431		
29	1	33.55965	-22.33889	1.944096	23.85677		
30	1	32.18487	-18.84662	1.888394	24.87022		
31	1	31.26683	-15.43781	1.830676	25.59576		
32	1	30.7752	-12.18331	1.772465	26.00099		
33	1	30.70172	-9.052197	1.711811	26.06052		
34	1	30.91774	-6.021383	1.654643	25.87658		
35	1	31.4657	-3.033777	1.59868	25.42488		

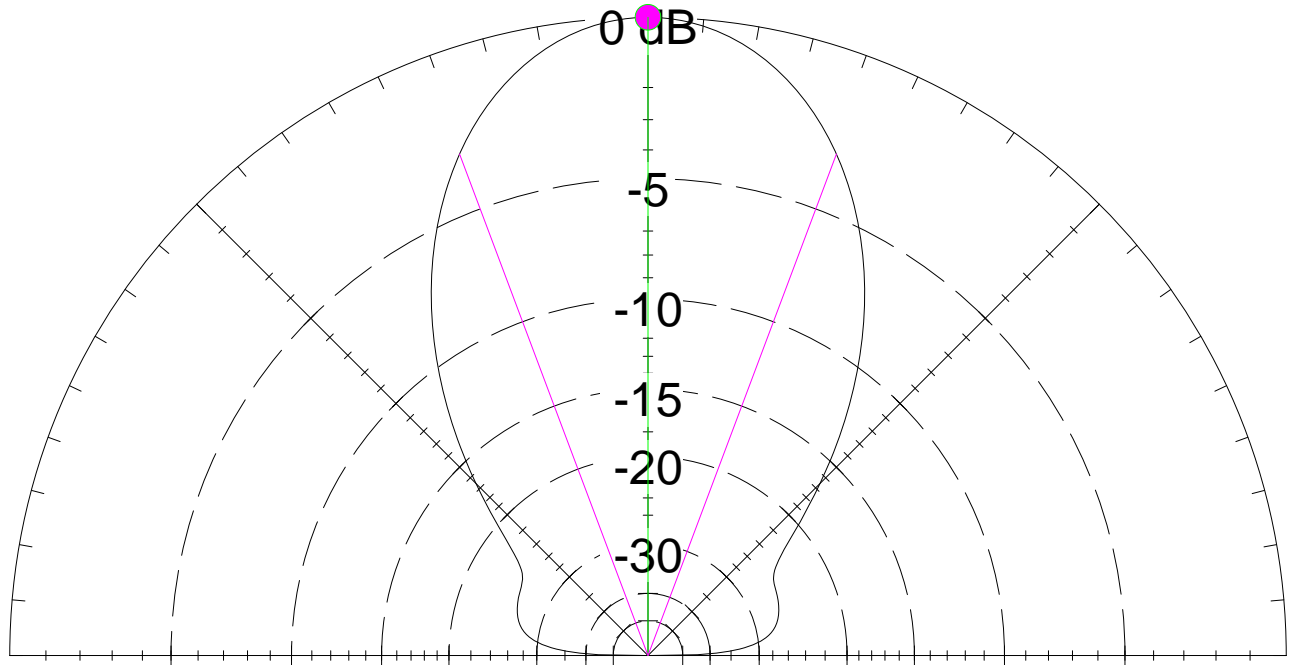
Alt Z0:		800			
Freq MHz	Src #	R	X	SWR (50 ohms)	SWR (alt. Z0)
15	1	59.45369	10.7288	1.29891	13.45829
16	1	65.12814	12.94483	1.415049	12.28671
17	1	73.14256	12.62277	1.541149	10.94029
18	1	82.38892	8.10626	1.672812	9.71105
19	1	89.37077	-1.895221	1.788585	8.951524
20	1	90.69814	-15.46489	1.888444	8.823806
21	1	85.79508	-27.89781	1.973367	9.336015
22	1	76.2858	-36.03379	2.028611	10.50835
23	1	66.01035	-39.13953	2.055244	12.14852
24	1	57.0637	-38.98479	2.066174	14.05288
25	1	49.9455	-36.9581	2.061989	16.05178
26	1	44.39654	-33.7489	2.03611	18.05159
27	1	40.23466	-30.2153	2.00163	19.91179
28	1	37.15745	-26.67796	1.96223	21.554
29	1	34.89286	-23.08638	1.913786	22.94646
30	1	33.24872	-19.65921	1.865111	24.07563
31	1	32.18853	-16.41026	1.812816	24.86405
32	1	31.49525	-13.15391	1.758727	25.40753
33	1	31.24764	-10.0941	1.703137	25.60602
34	1	31.36576	-7.060526	1.645467	25.50751
35	1	31.67622	-4.11678	1.596214	25.25621



AJ4CO TFD 30' x 8" x 7'4"H

35 MHz

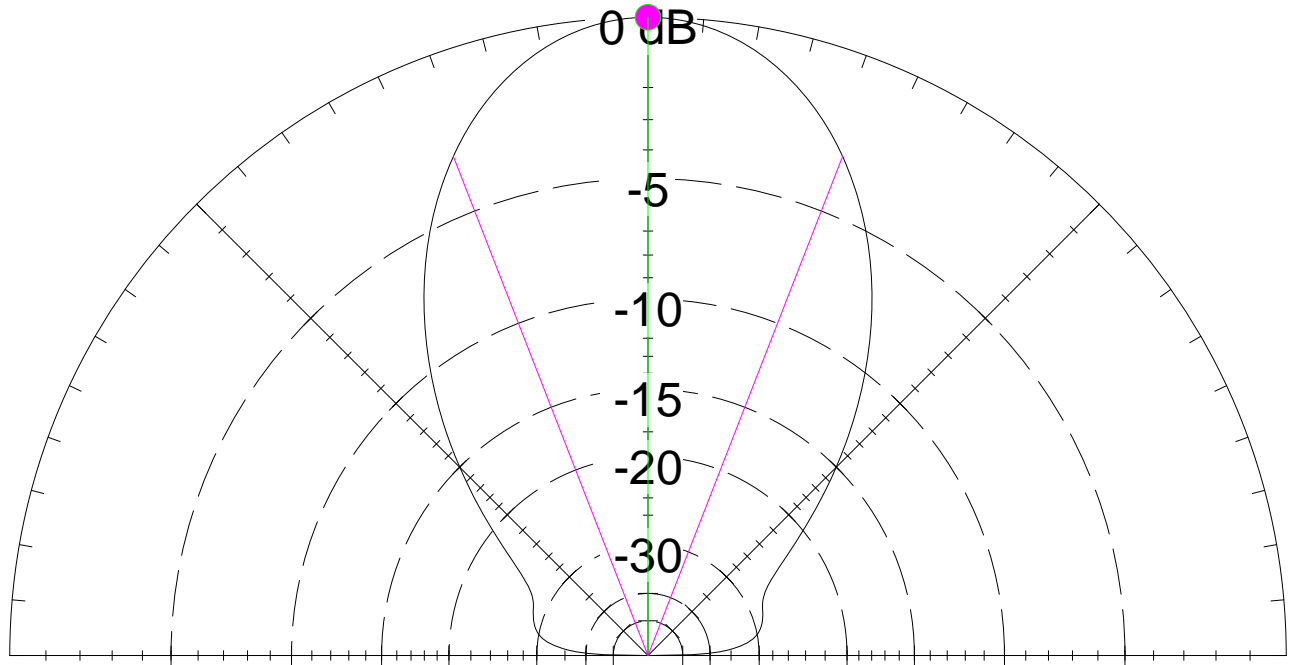
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.67 dBi
Outer Ring	1.67 dBi		0.0 dBmax
Slice Max Gain	1.67 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	39.6 deg.; -3dB @ 70.2, 109.8 deg.		
Sidelobe Gain	-21.42 dBi @ Elev Angle = 149.0 deg.		
Front/Sidelobe	23.09 dB		



AJ4CO TFD 30' x 8" x 7'4"H

34 MHz

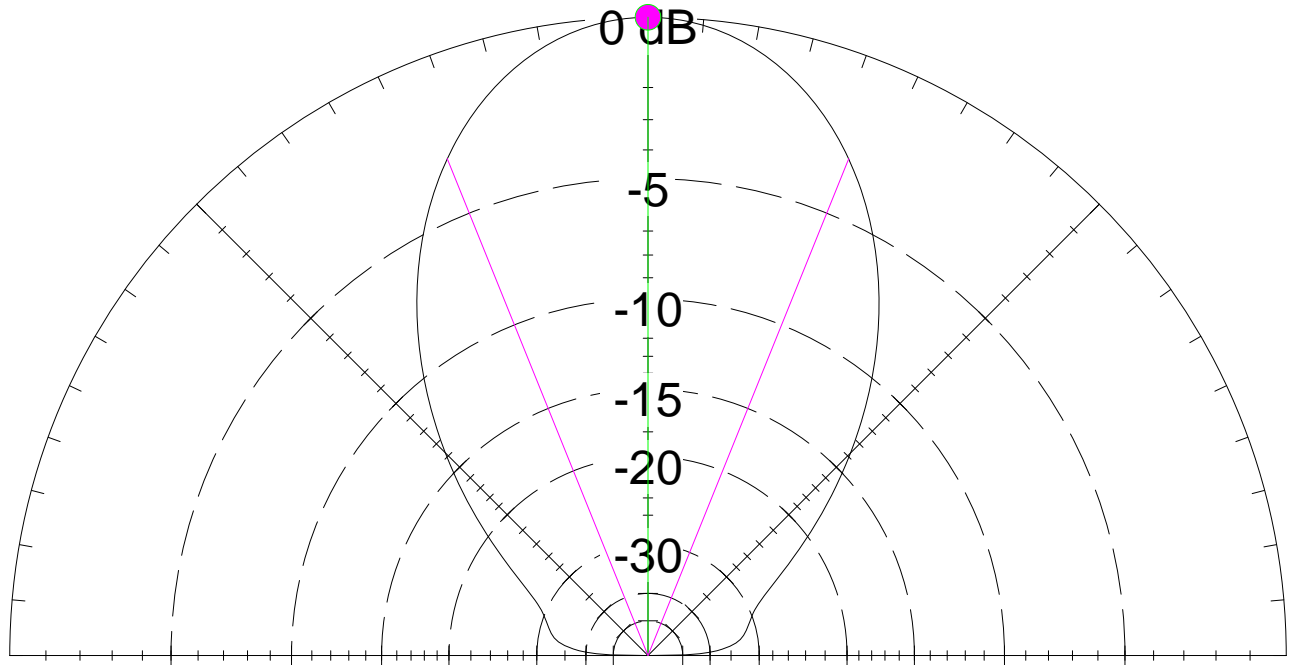
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.68 dBi
Outer Ring	1.68 dBi		0.0 dBmax
Slice Max Gain	1.68 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	41.2 deg.; -3dB @ 69.4, 110.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

33 MHz

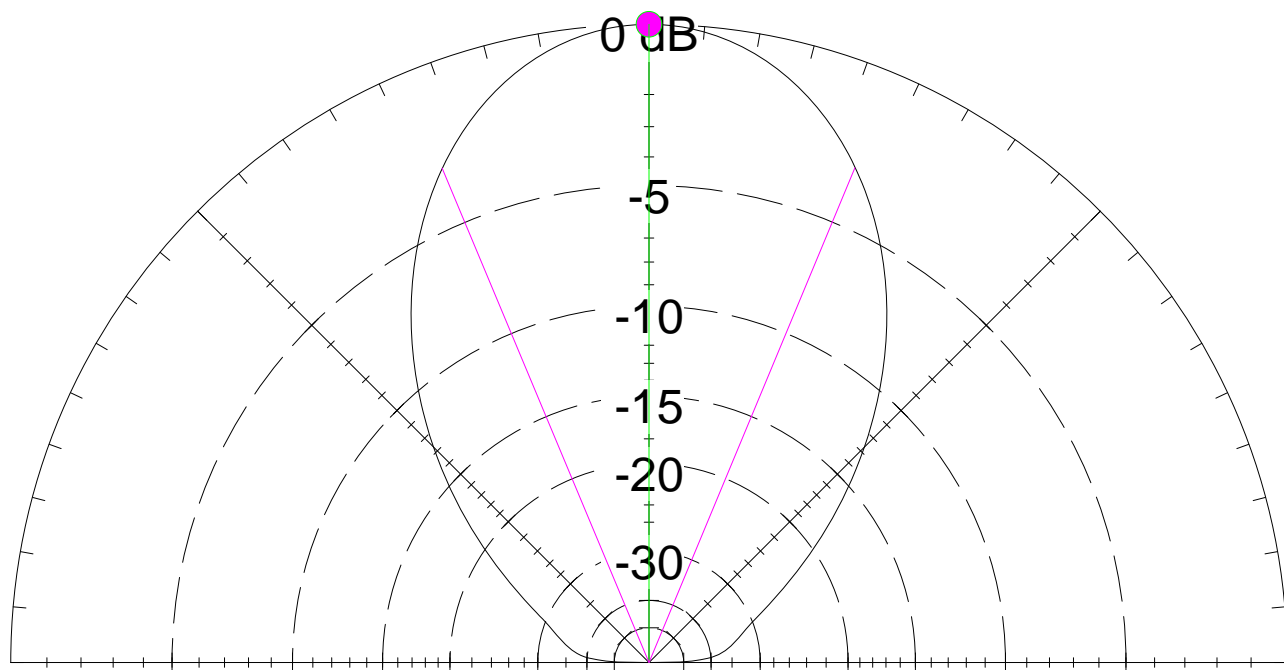
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.67 dBi
Outer Ring	1.67 dBi		0.0 dBmax
Slice Max Gain	1.67 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	42.6 deg.; -3dB @ 68.7, 111.3 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

32 MHz

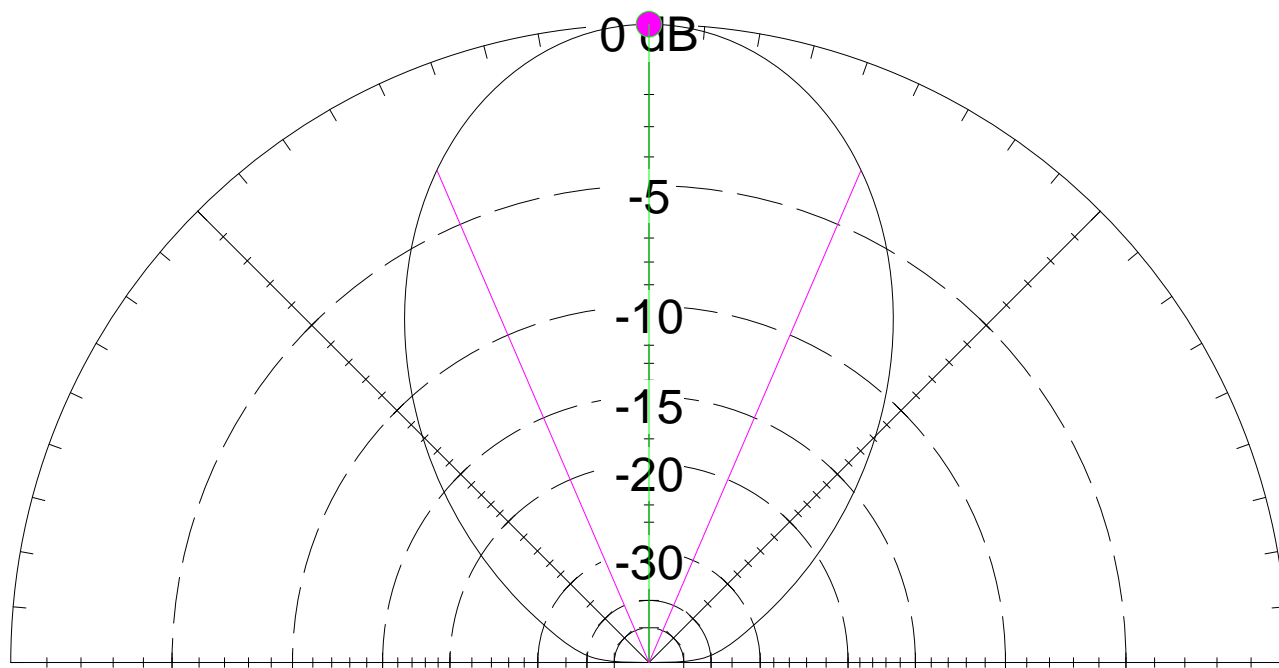
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.65 dBi
Outer Ring	1.65 dBi		0.0 dBmax
Slice Max Gain	1.65 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	44.0 deg.; -3dB @ 68.0, 112.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

31 MHz

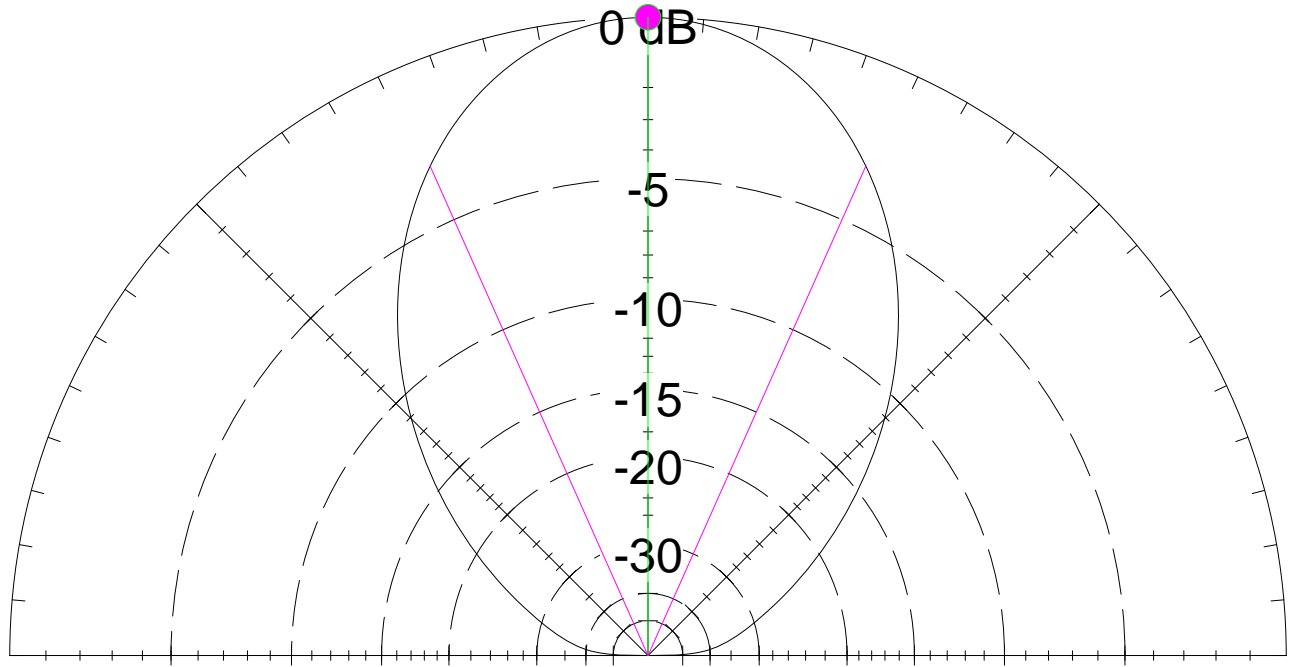
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.64 dBi
Outer Ring	1.64 dBi		0.0 dBmax
Slice Max Gain	1.64 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	45.3 deg.; -3dB @ 67.4, 112.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

30 MHz

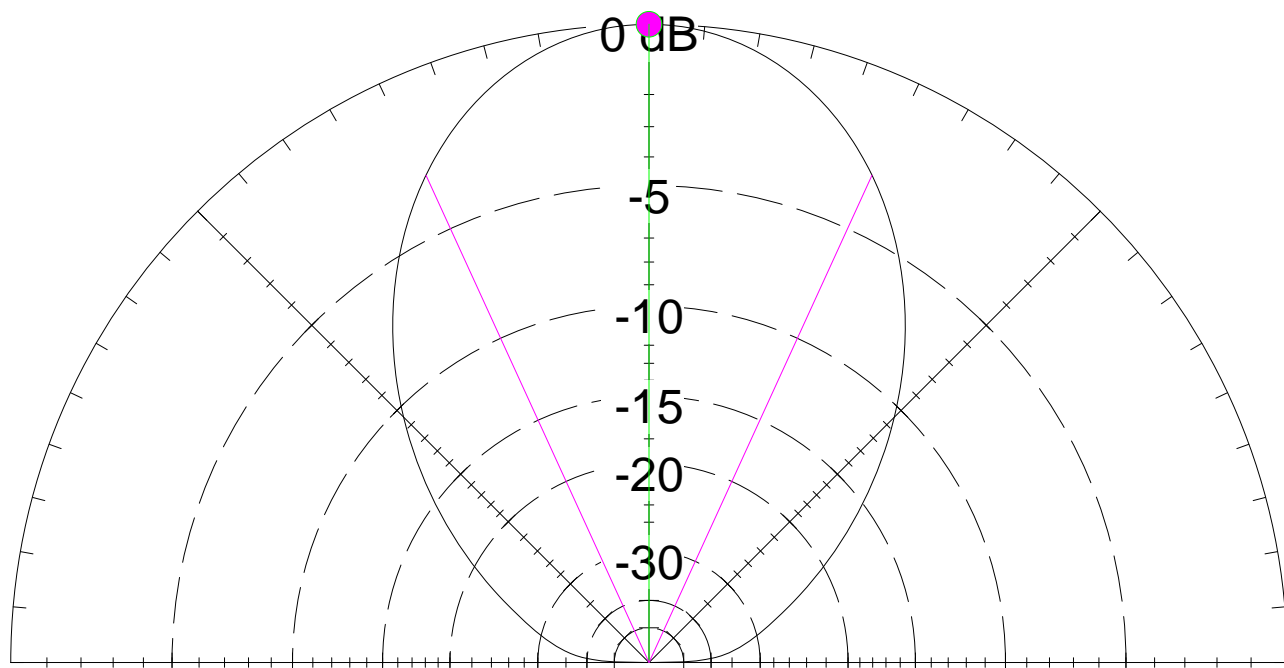
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.61 dBi
Outer Ring	1.61 dBi		0.0 dBmax
Slice Max Gain	1.61 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	46.6 deg.; -3dB @ 66.7, 113.3 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

29 MHz

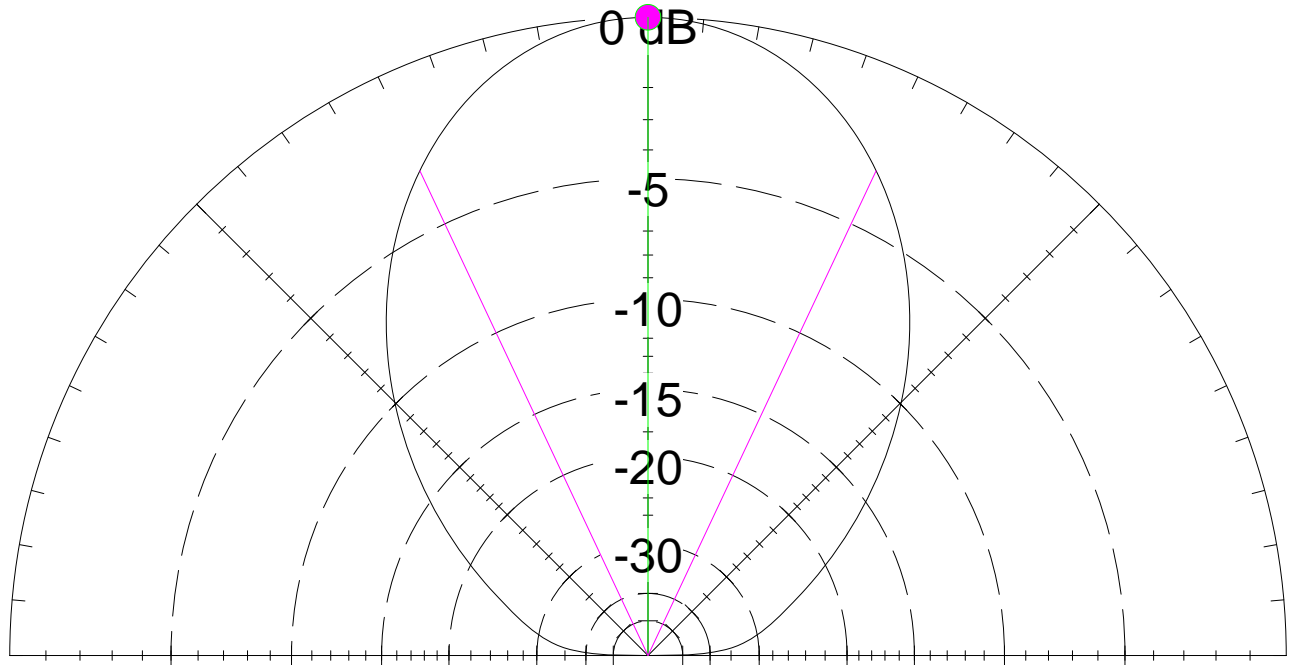
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.58 dBi
Outer Ring	1.58 dBi		0.0 dBmax
Slice Max Gain	1.58 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	48.0 deg.; -3dB @ 66.0, 114.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

28 MHz

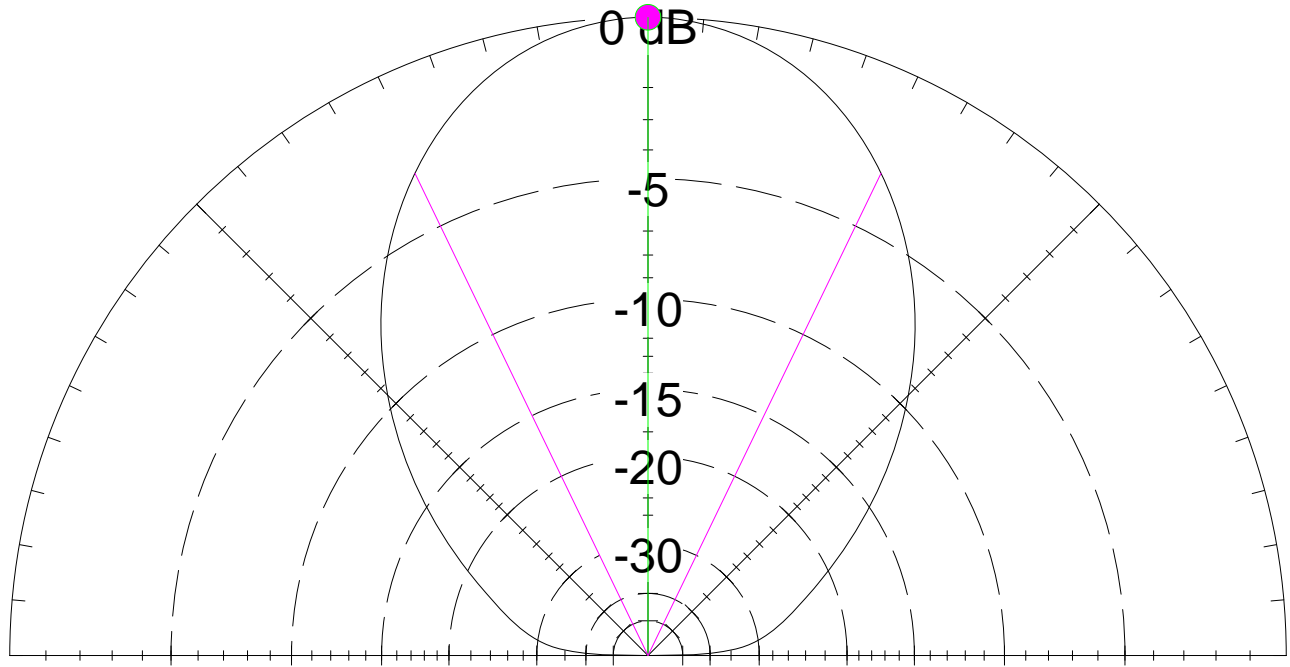
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.56 dBi
Outer Ring	1.56 dBi		0.0 dBmax
Slice Max Gain	1.56 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	49.2 deg.; -3dB @ 65.4, 114.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

27 MHz

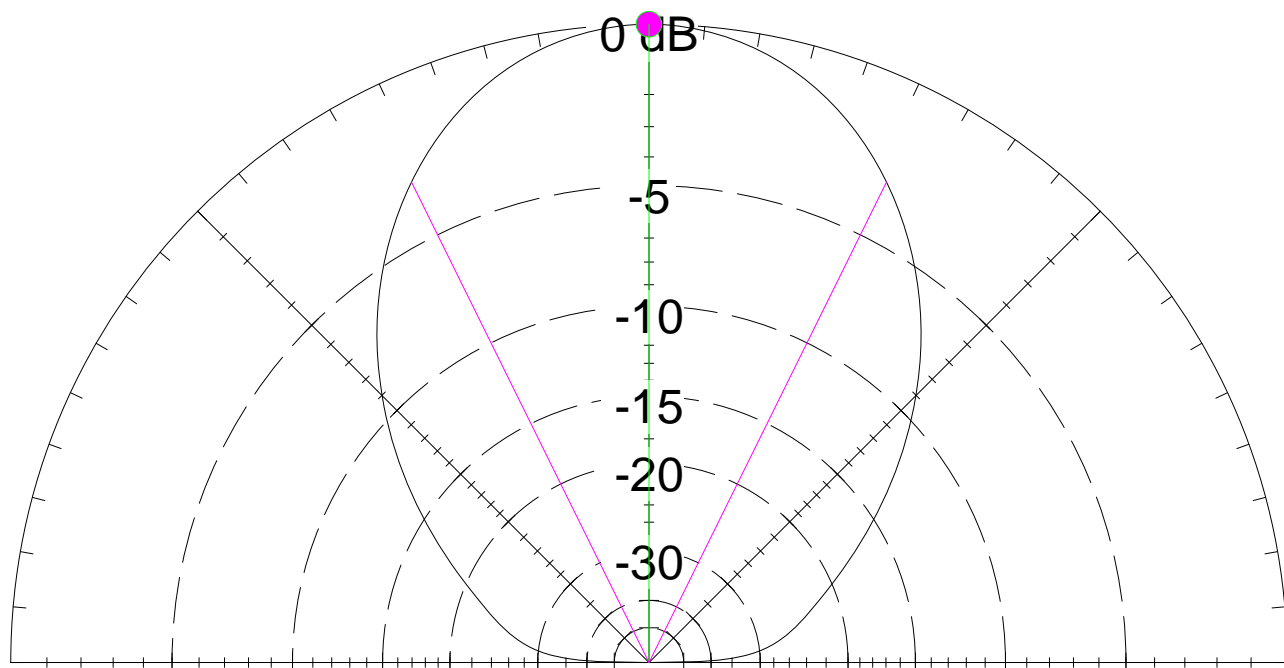
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.51 dBi
Outer Ring	1.51 dBi		0.0 dBmax
Slice Max Gain	1.51 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	50.4 deg.; -3dB @ 64.8, 115.2 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

26 MHz

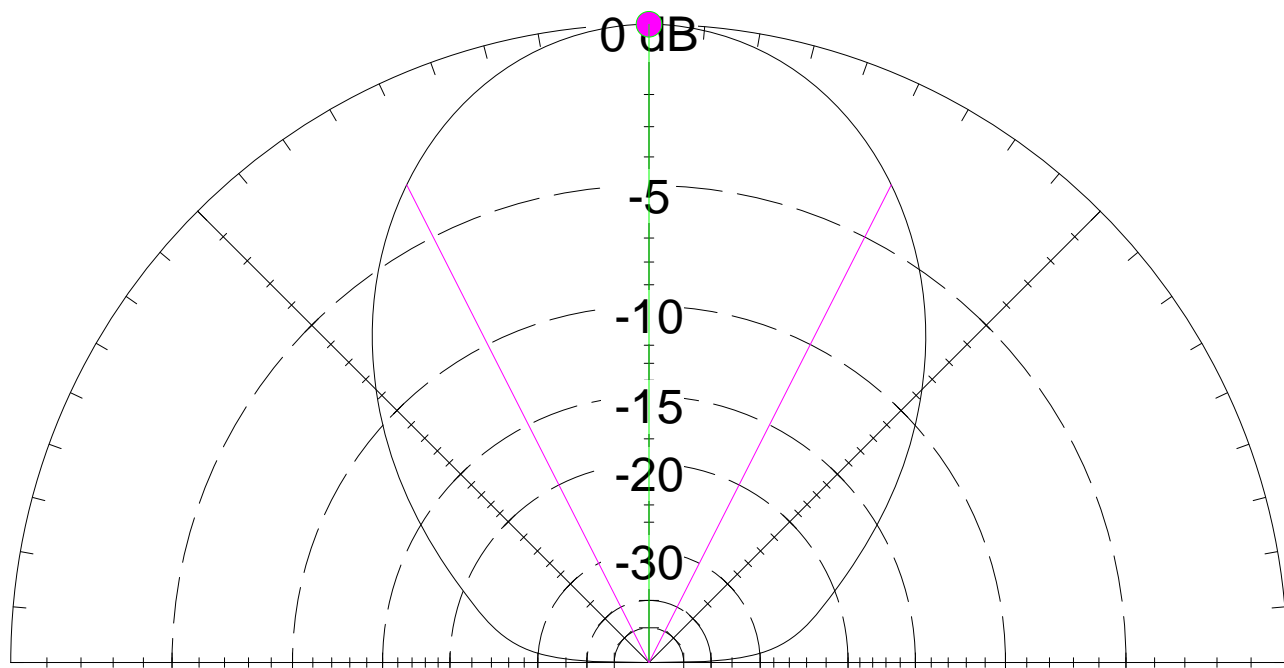
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.45 dBi
Outer Ring	1.45 dBi		0.0 dBmax
Slice Max Gain	1.45 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	51.6 deg.; -3dB @ 64.2, 115.8 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

25 MHz

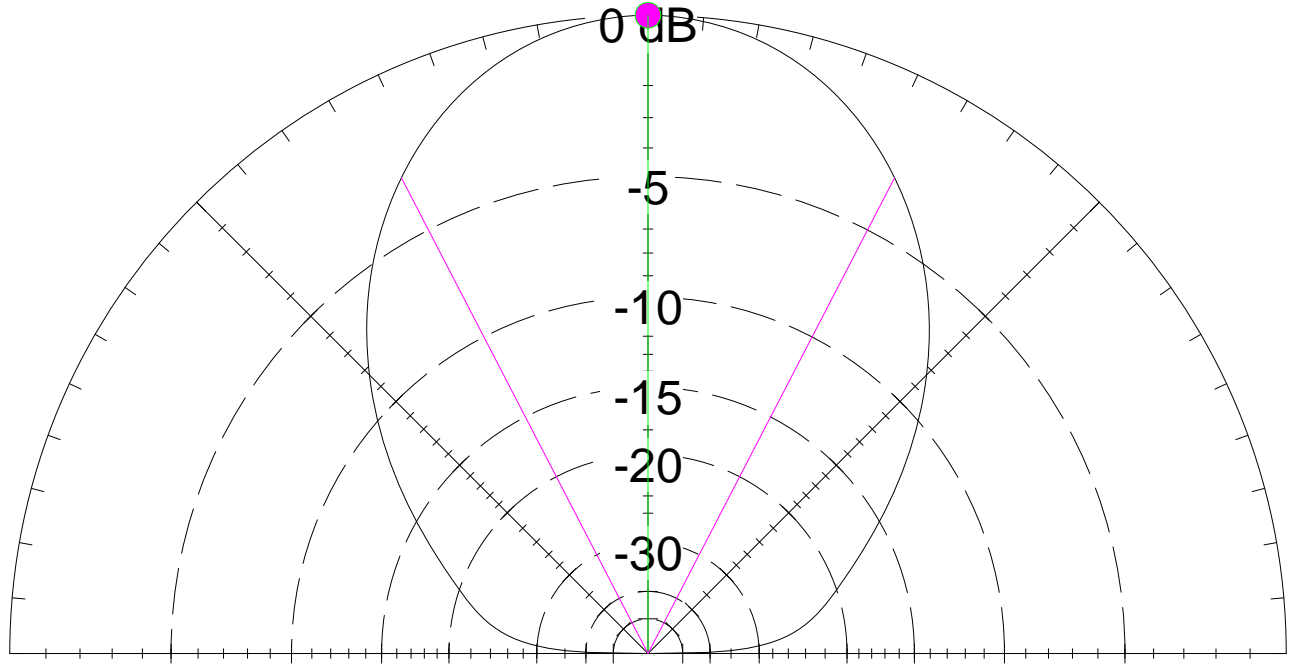
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.38 dBi
Outer Ring	1.38 dBi		0.0 dBmax
Slice Max Gain	1.38 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	52.6 deg.; -3dB @ 63.7, 116.3 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

24 MHz

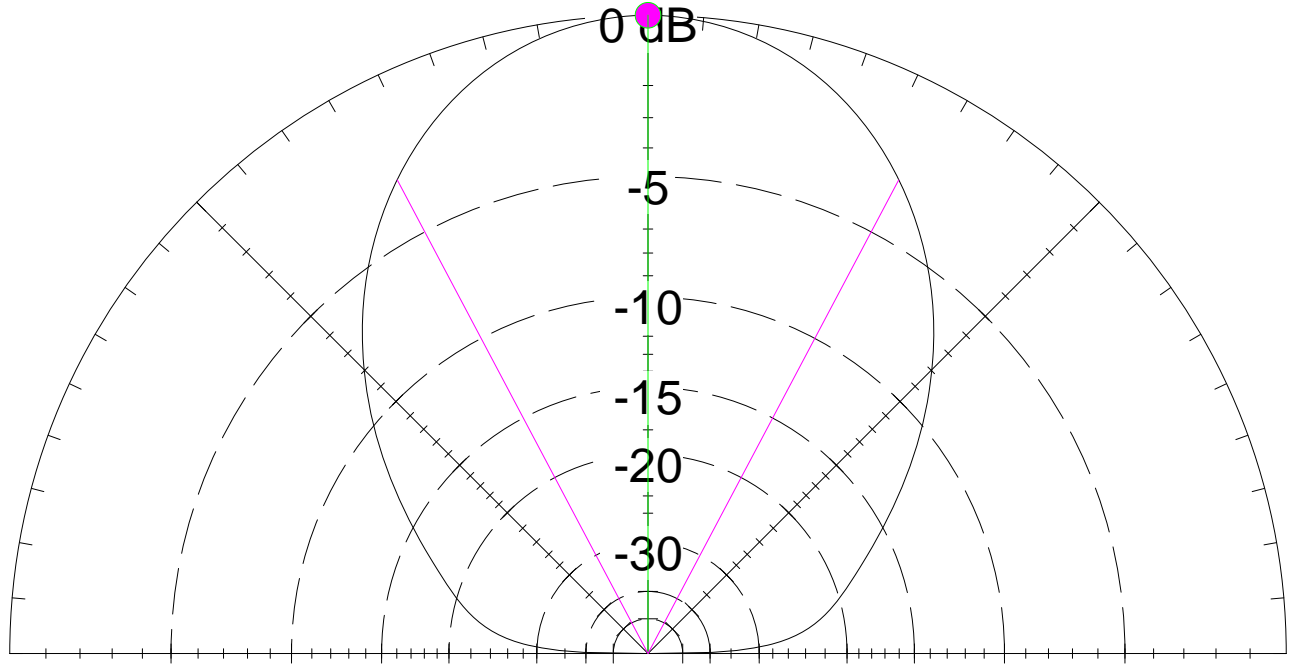
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.27 dBi
Outer Ring	1.27 dBi		0.0 dBmax
Slice Max Gain	1.27 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	53.8 deg.; -3dB @ 63.1, 116.9 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

23 MHz

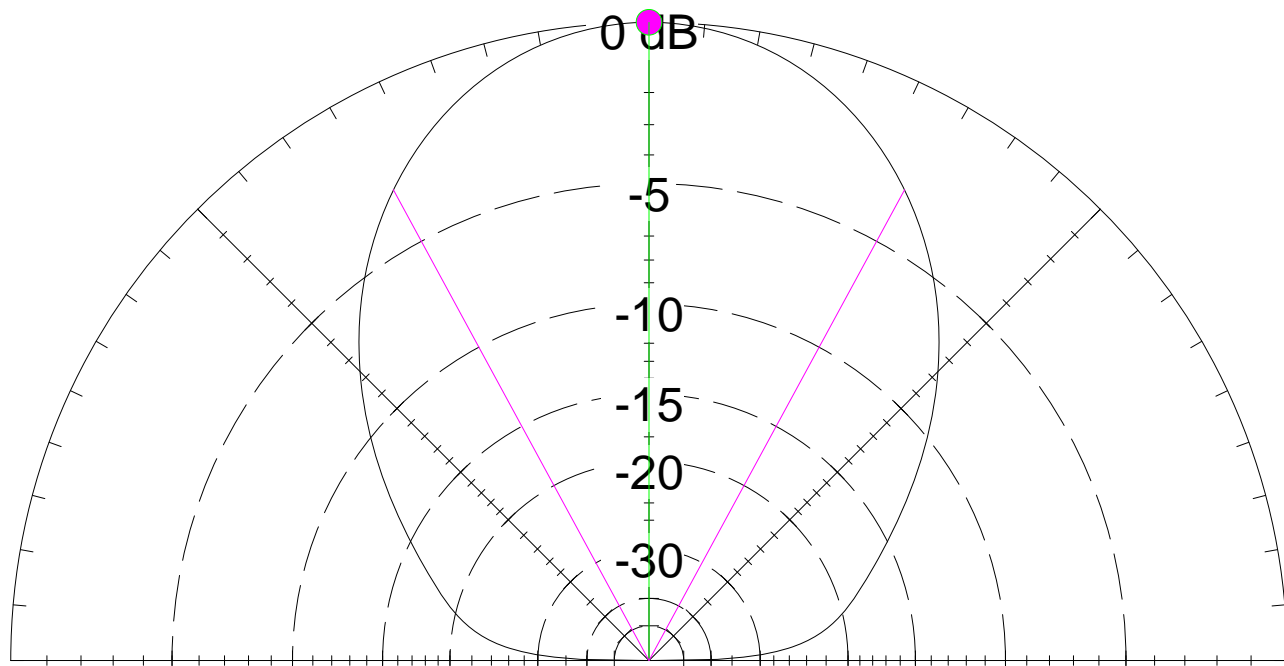
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.12 dBi
Outer Ring	1.12 dBi		0.0 dBmax
Slice Max Gain	1.12 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	54.8 deg.; -3dB @ 62.6, 117.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

22 MHz

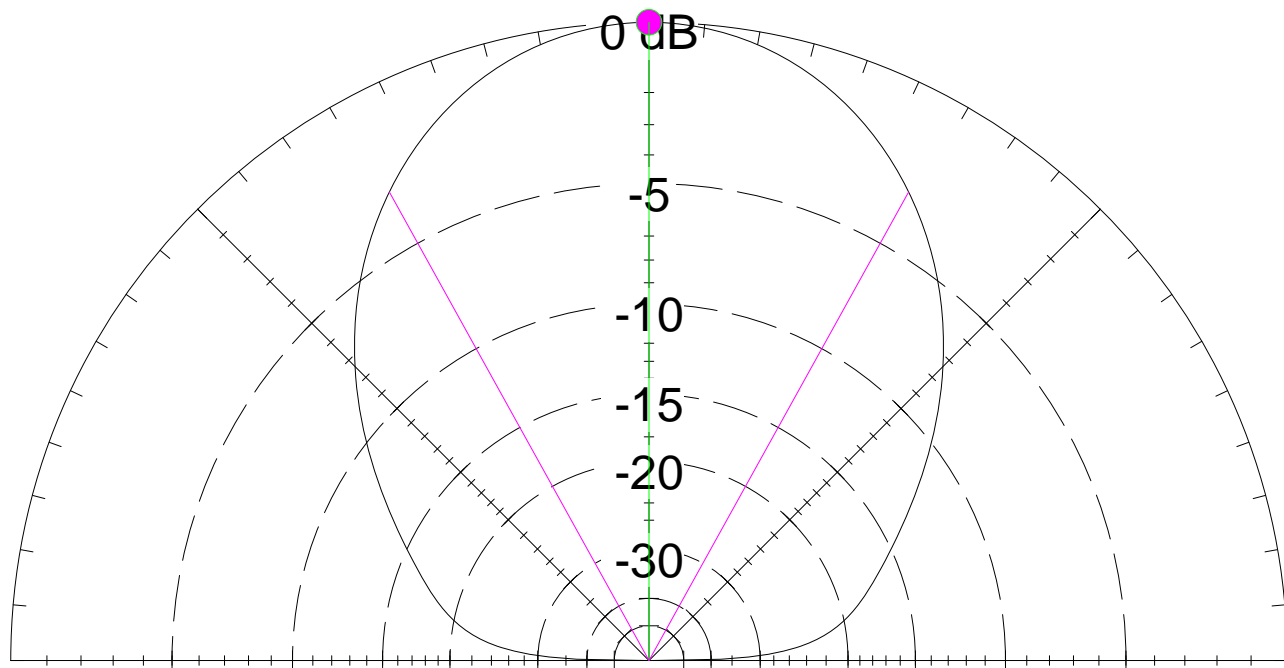
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.94 dBi
Outer Ring	0.94 dBi		0.0 dBmax
Slice Max Gain	0.94 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	55.8 deg.; -3dB @ 62.1, 117.9 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

21 MHz

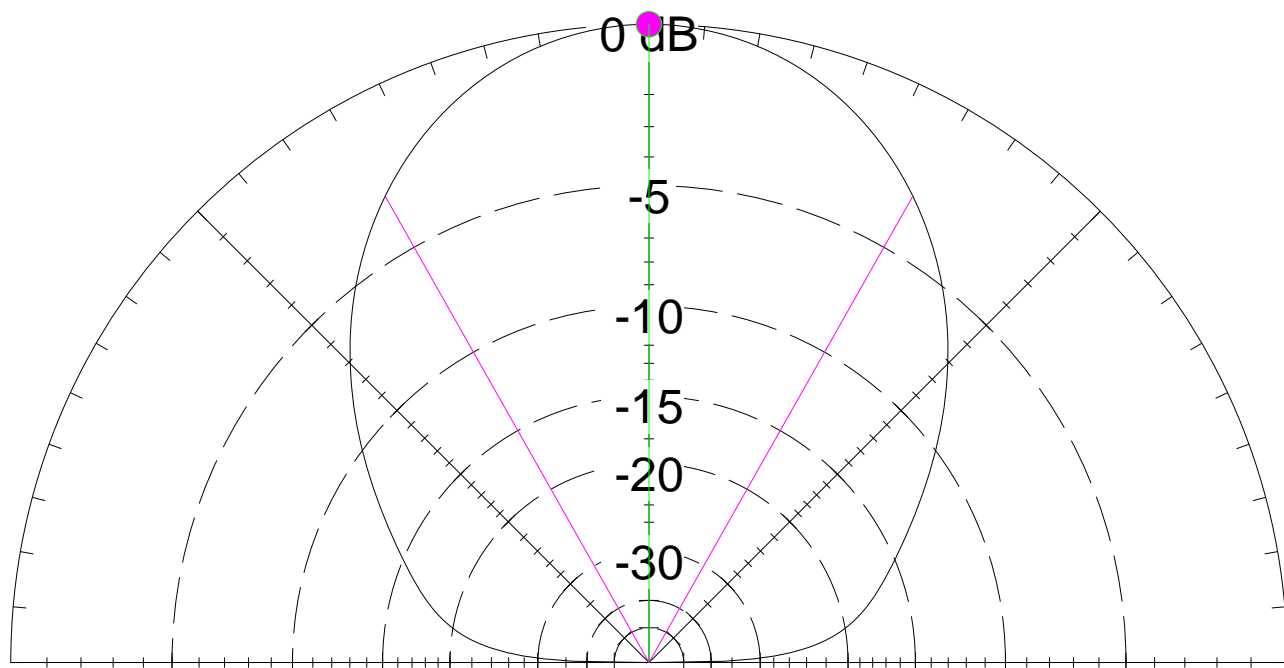
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.67 dBi
Outer Ring	0.67 dBi		0.0 dBmax
Slice Max Gain	0.67 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	57.0 deg.; -3dB @ 61.5, 118.5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

20 MHz

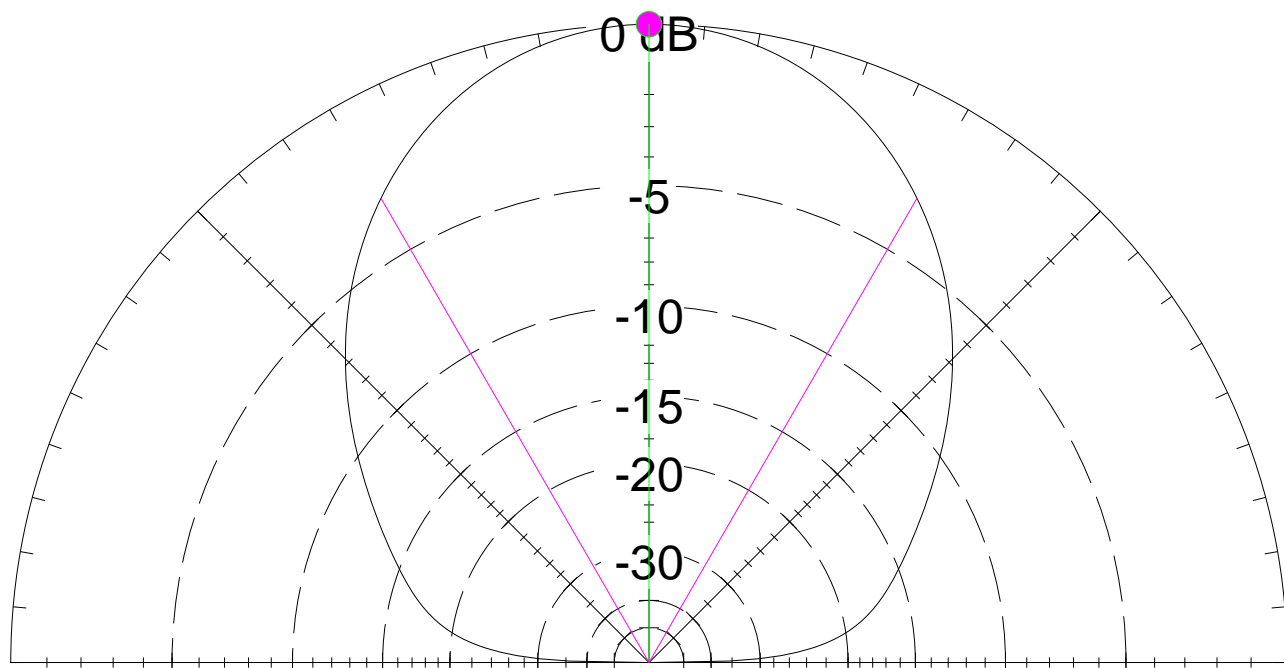
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.32 dBi
Outer Ring	0.32 dBi		0.0 dBmax
Slice Max Gain	0.32 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	58.0 deg.; -3dB @ 61.0, 119.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

19 MHz

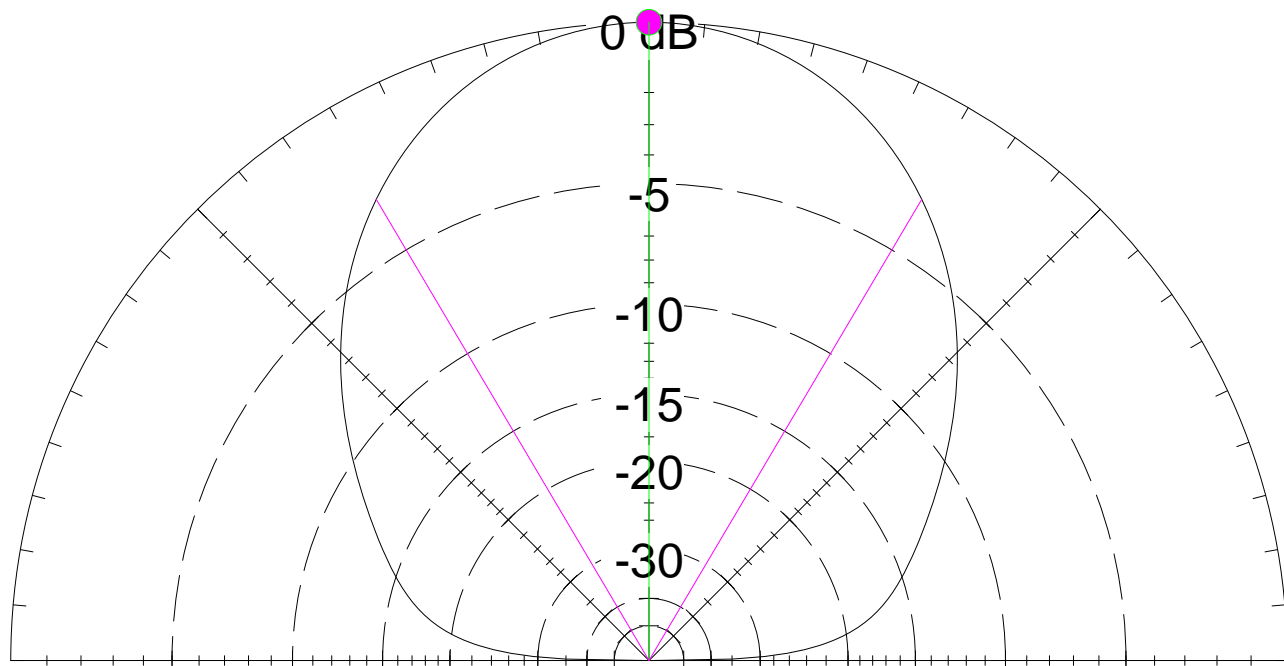
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-0.13 dBi
Outer Ring	-0.13 dBi		0.0 dBmax
Slice Max Gain	-0.13 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	59.0 deg.; -3dB @ 60.5, 119.5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

18 MHz

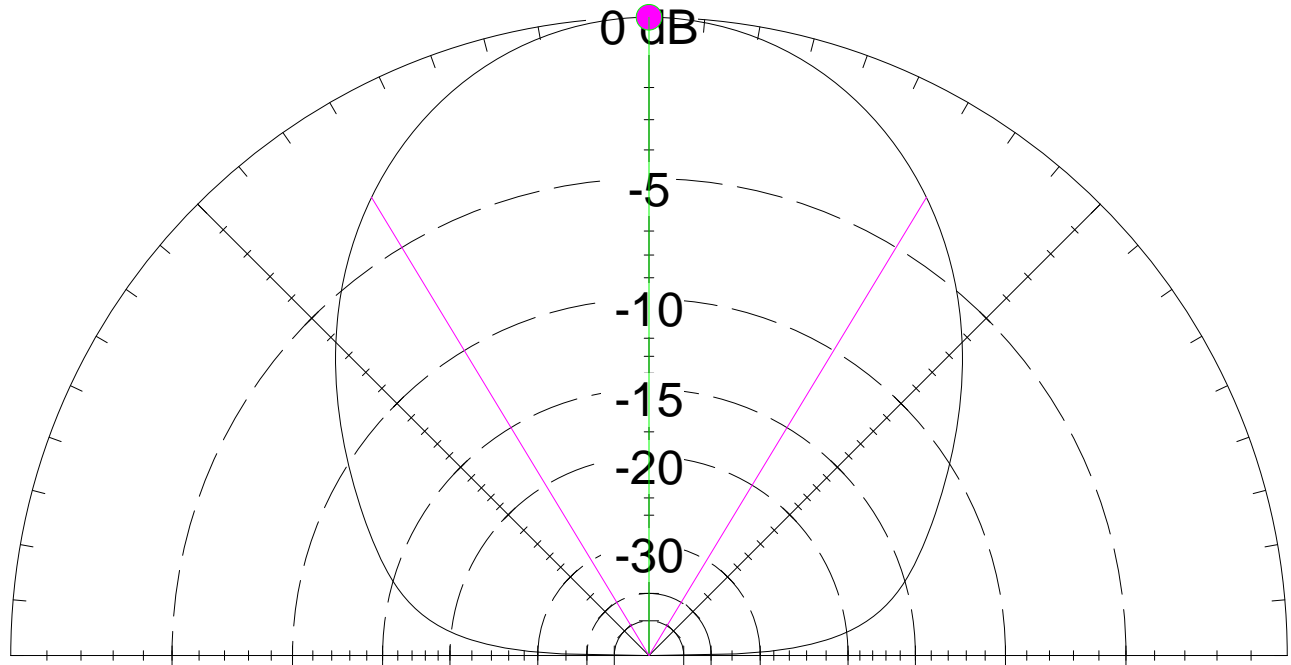
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-0.7 dBi
Outer Ring	-0.7 dBi		0.0 dBmax
Slice Max Gain	-0.7 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	60.0 deg.; -3dB @ 60.0, 120.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

17 MHz

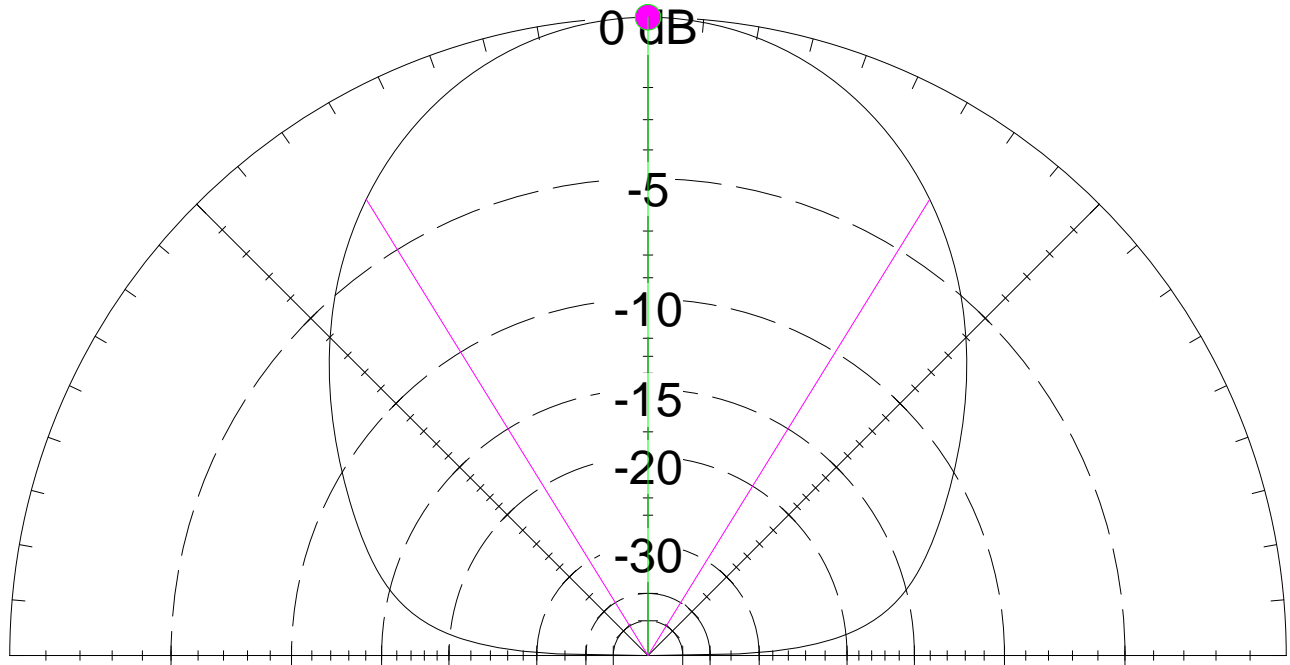
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-1.44 dBi
Outer Ring	-1.44 dBi		0.0 dBmax
Slice Max Gain	-1.44 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	61.2 deg.; -3dB @ 59.4, 120.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

16 MHz

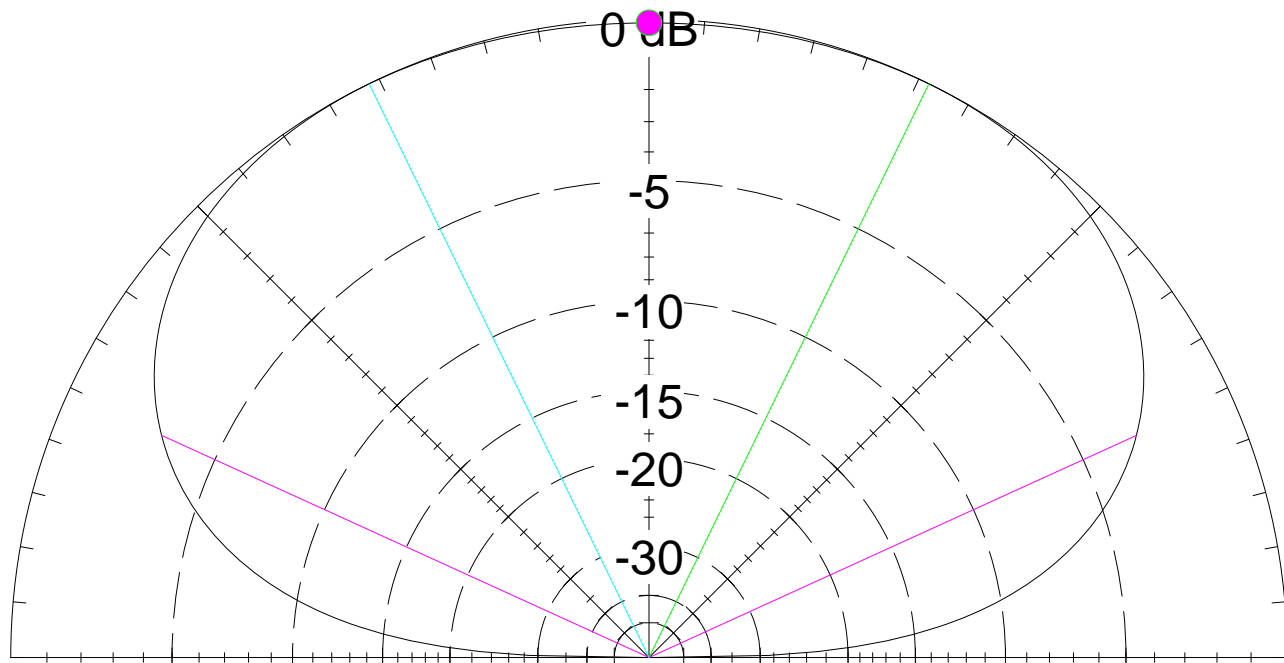
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-2.36 dBi
Outer Ring	-2.36 dBi		0.0 dBmax
Slice Max Gain	-2.36 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	62.4 deg.; -3dB @ 58.8, 121.2 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

15 MHz

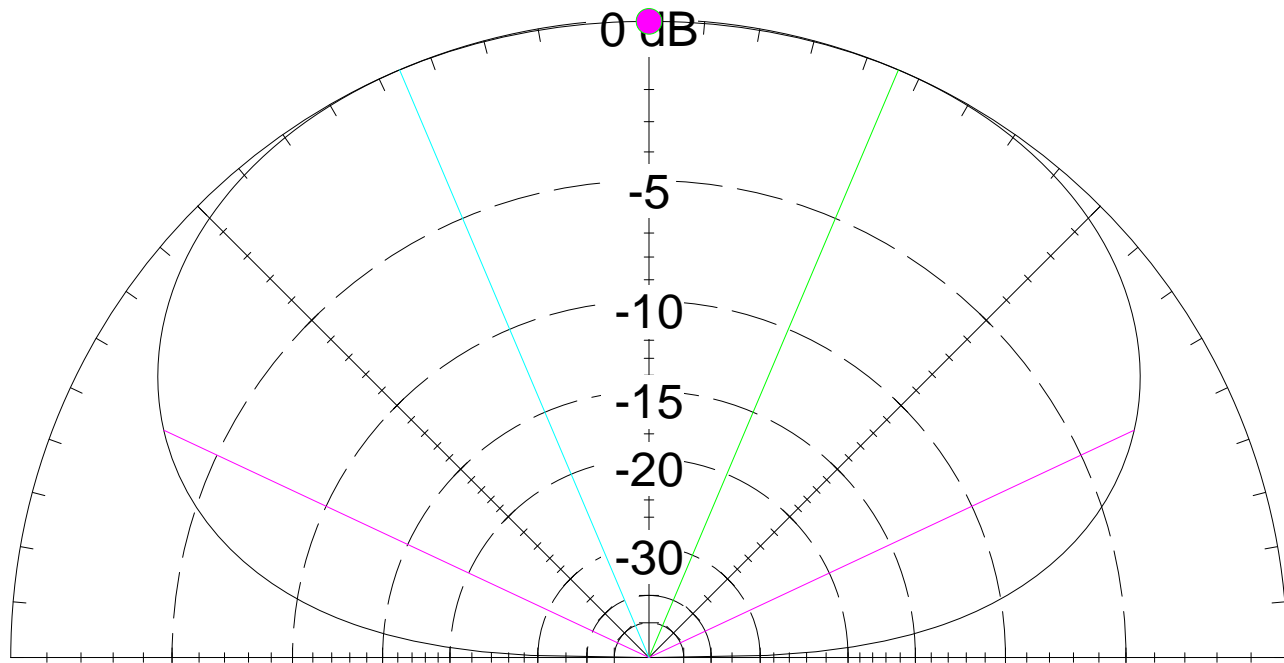
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-3.48 dBi
Outer Ring	-3.48 dBi		0.0 dBmax
Slice Max Gain	-3.48 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	63.4 deg.; -3dB @ 58.3, 121.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

35 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.67 dBi
Outer Ring	1.77 dBi		-0.1 dBmax
Slice Max Gain	1.77 dBi @ Elev Angle = 64.0 deg.		
Beamwidth	131.0 deg.; -3dB @ 24.5, 155.5 deg.		
Sidelobe Gain	1.77 dBi @ Elev Angle = 116.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 7'4"H

34 MHz

Elevation Plot

Azimuth Angle 90.0 deg.

Outer Ring 1.74 dBi

Cursor Elev 90.0 deg.

Gain 1.68 dBi

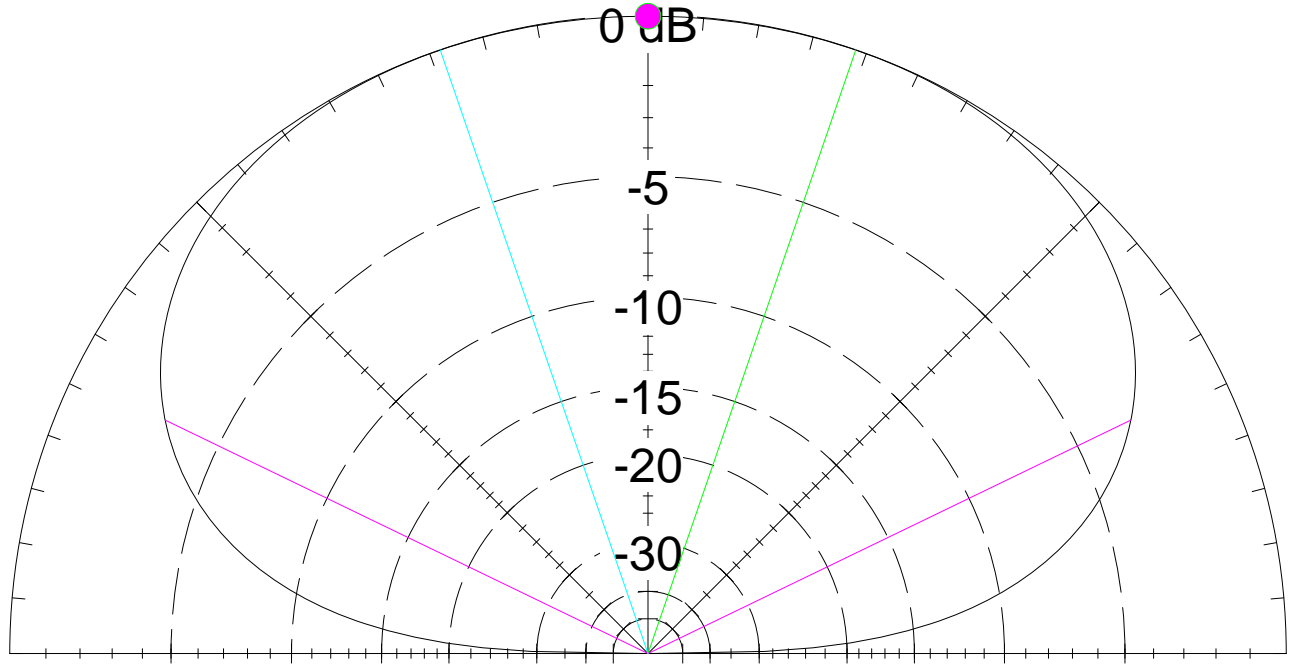
-0.06 dBmax

Slice Max Gain 1.74 dBi @ Elev Angle = 67.0 deg.

Beamwidth 129.8 deg.; -3dB @ 25.1, 154.9 deg.

Sidelobe Gain 1.74 dBi @ Elev Angle = 113.0 deg.

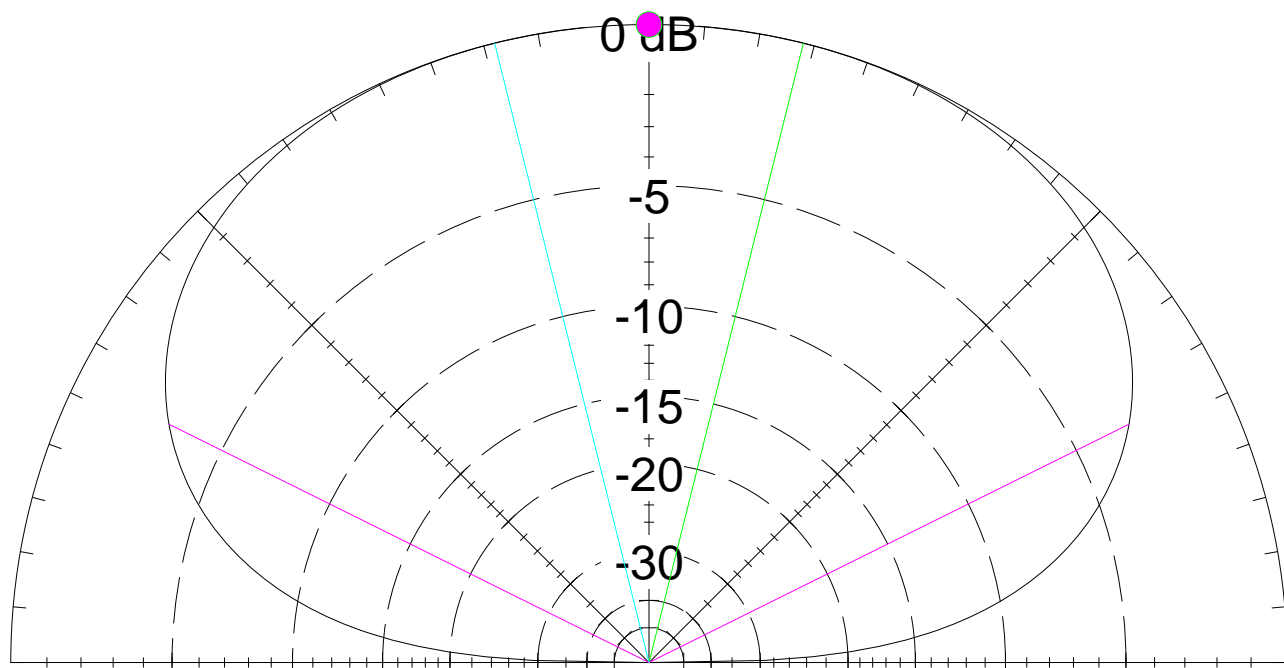
Front/Sidelobe 0.0 dB



AJ4CO TFD 30' x 8" x 7'4"H

33 MHz

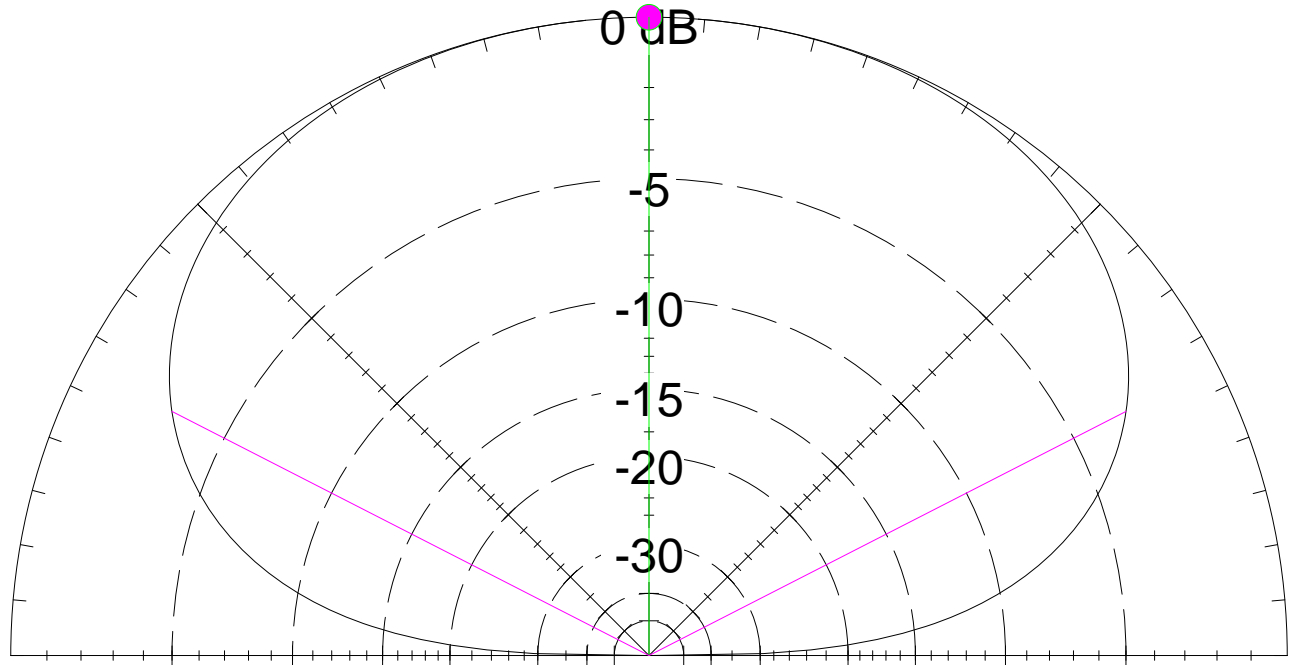
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.67 dBi
Outer Ring	1.69 dBi		-0.03 dBmax
Slice Max Gain	1.7 dBi @ Elev Angle = 71.0 deg.		
Beamwidth	128.4 deg.; -3dB @ 25.8, 154.2 deg.		
Sidelobe Gain	1.7 dBi @ Elev Angle = 109.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 7'4"H

32 MHz

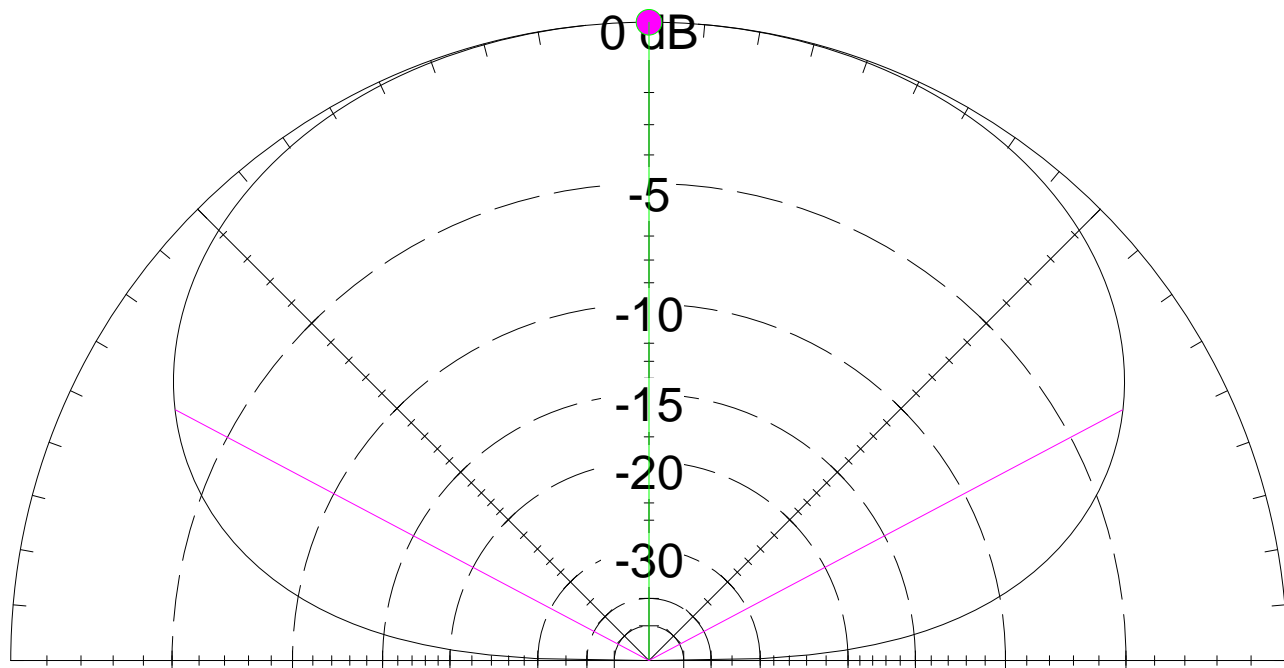
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.65 dBi
Outer Ring	1.66 dBi		-0.01 dBmax
Slice Max Gain	1.66 dBi @ Elev Angle = 76.0 deg.		
Beamwidth	127.2 deg.; -3dB @ 26.4, 153.6 deg.		
Sidelobe Gain	1.66 dBi @ Elev Angle = 104.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 7'4"H

31 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.64 dBi
Outer Ring	1.64 dBi		0.0 dBmax
Slice Max Gain	1.64 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	125.8 deg.; -3dB @ 27.1, 152.9 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

30 MHz

Elevation Plot

Azimuth Angle 90.0 deg.

Outer Ring 1.61 dBi

Cursor Elev

90.0 deg.

Gain

1.61 dBi

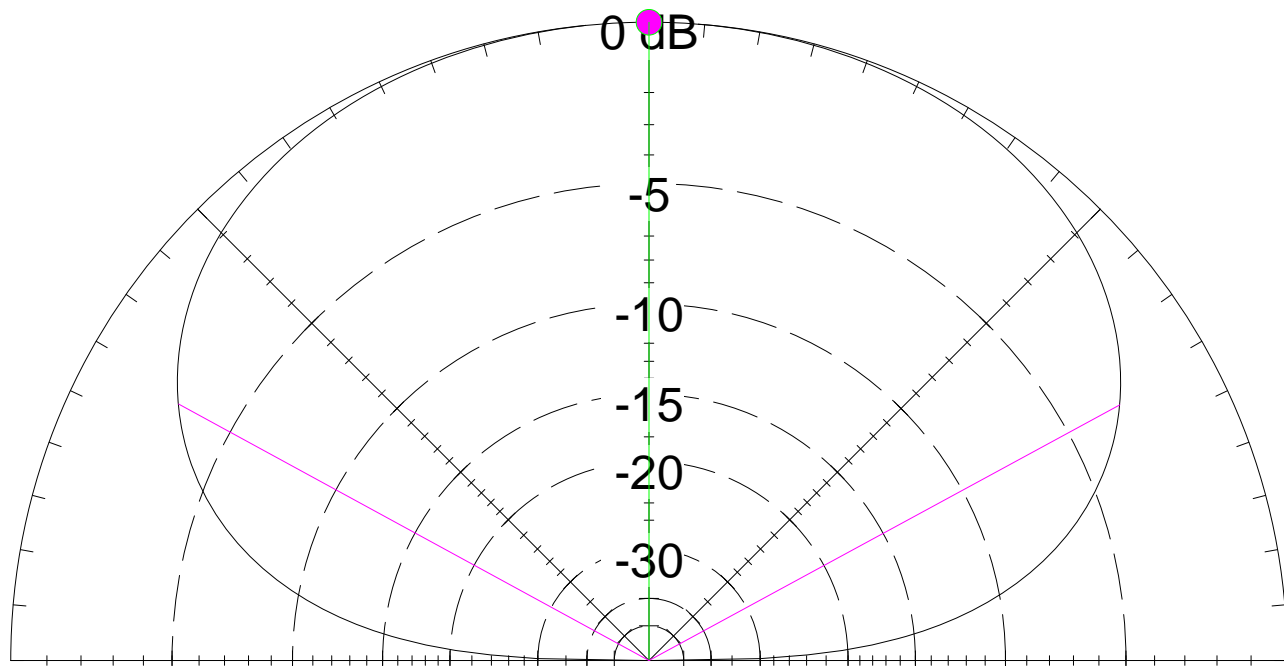
0.0 dBmax

Slice Max Gain 1.61 dBi @ Elev Angle = 90.0 deg.

Beamwidth 124.2 deg.; -3dB @ 27.9, 152.1 deg.

Sidelobe Gain < -100 dBi

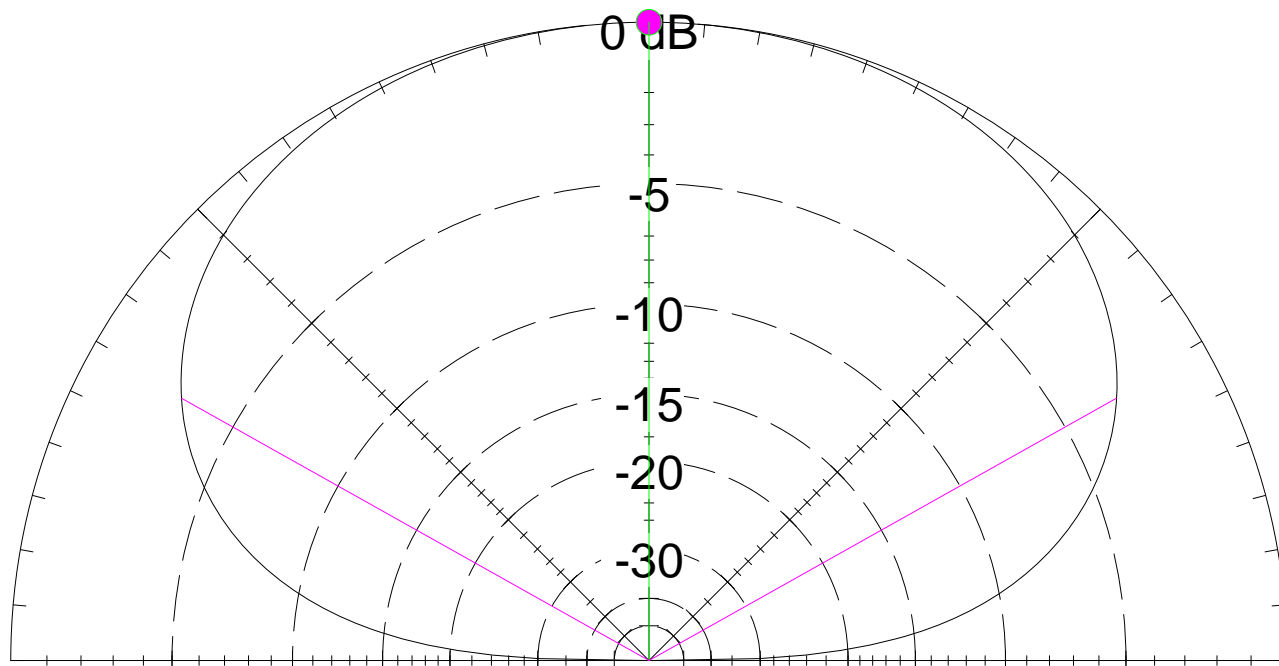
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 7'4"H

29 MHz

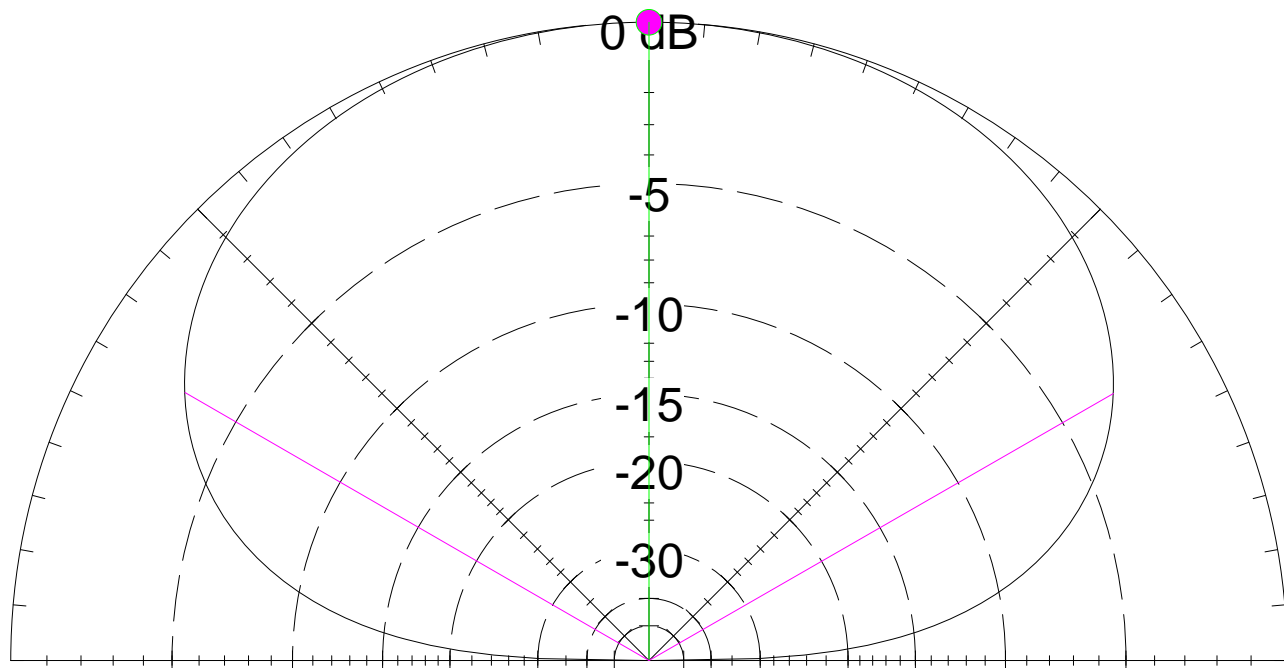
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.58 dBi
Outer Ring	1.58 dBi		0.0 dBmax
Slice Max Gain	1.58 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	122.9 deg.; -3dB @ 28.5, 151.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

28 MHz

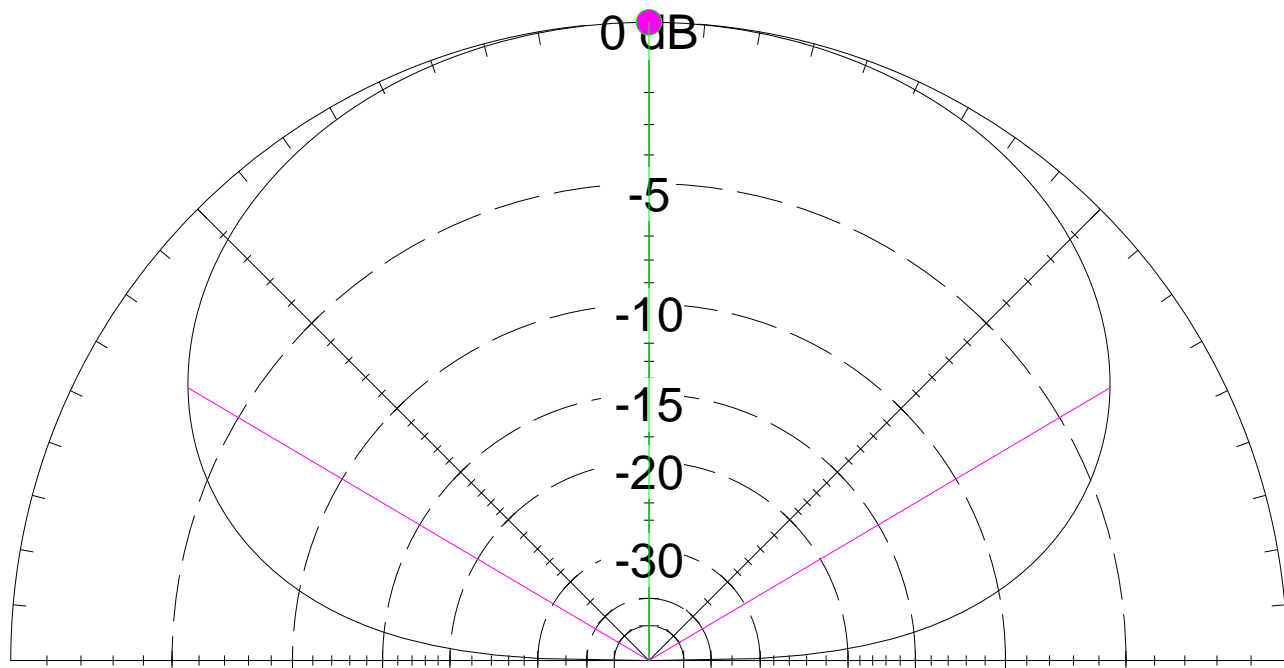
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.56 dBi
Outer Ring	1.56 dBi		0.0 dBmax
Slice Max Gain	1.56 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	121.4 deg.; -3dB @ 29.3, 150.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

27 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.51 dBi
Outer Ring	1.51 dBi		0.0 dBmax
Slice Max Gain	1.51 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	120.1 deg.; -3dB @ 29.9, 150.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		

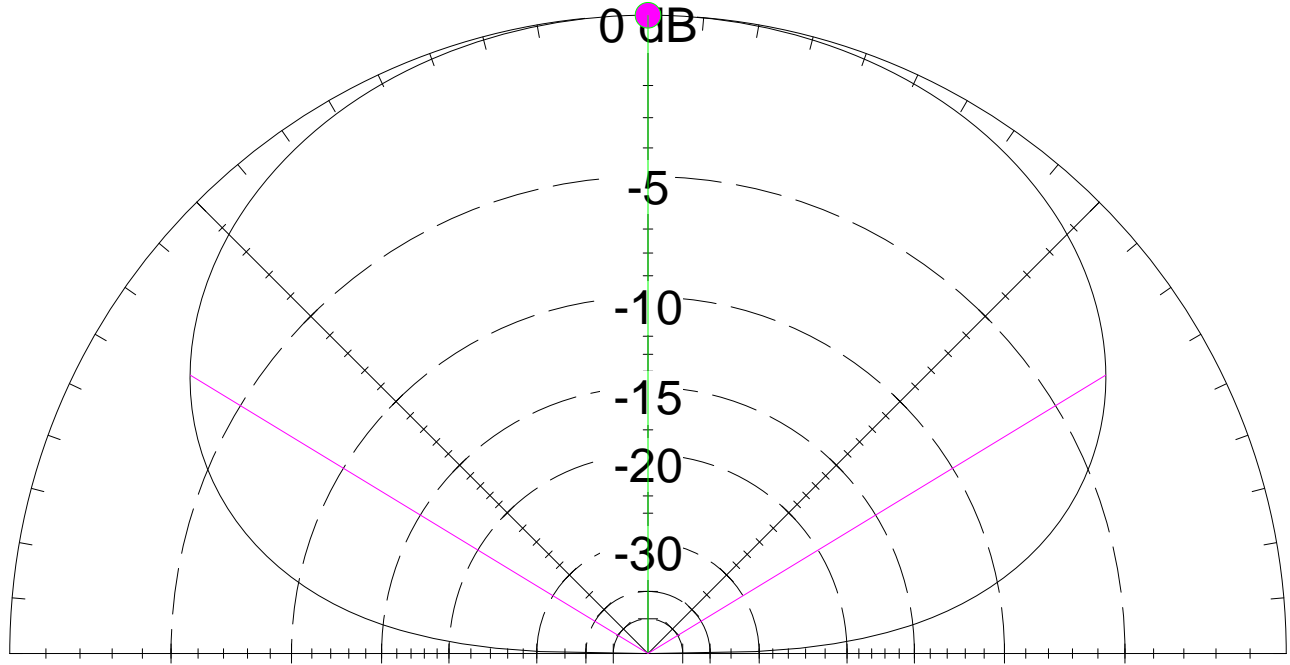


AJ4CO TFD 30' x 8" x 7'4"H

26 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.45 dBi
Outer Ring	1.45 dBi		0.0 dBmax

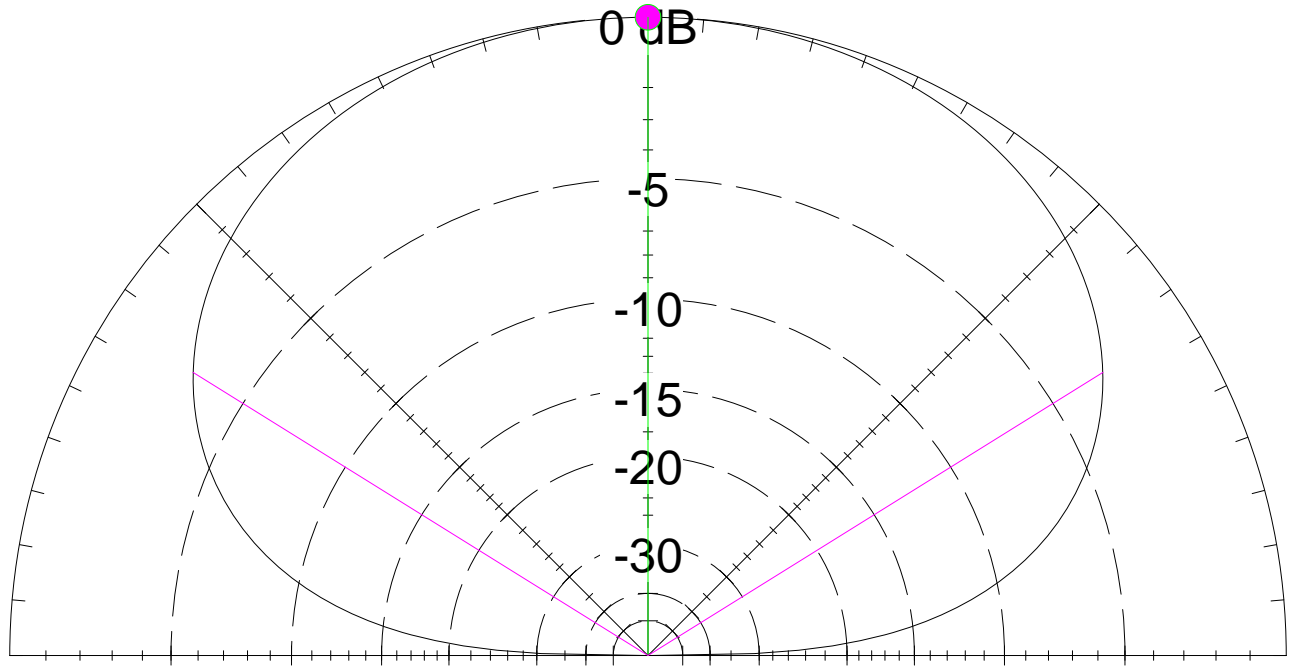
Slice Max Gain	1.45 dBi @ Elev Angle = 90.0 deg.
Beamwidth	118.8 deg.; -3dB @ 30.6, 149.4 deg.
Sidelobe Gain	< -100 dBi
Front/Sidelobe	> 100 dB



AJ4CO TFD 30' x 8" x 7'4"H

25 MHz

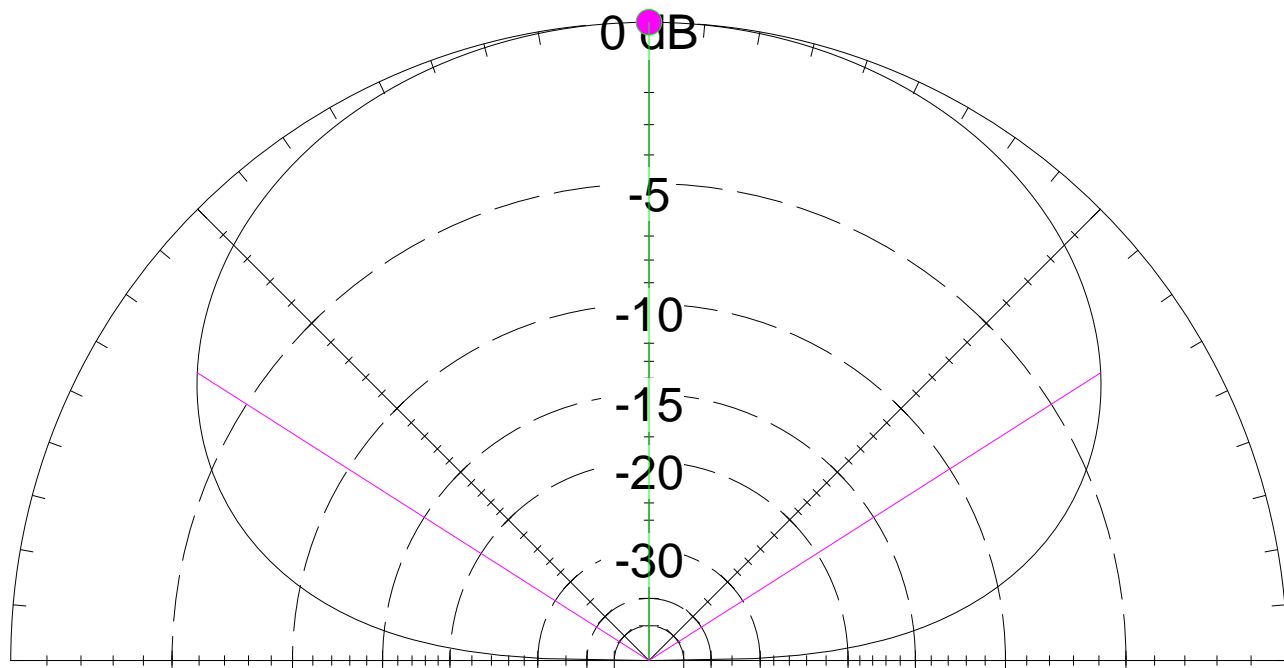
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.38 dBi
Outer Ring	1.38 dBi		0.0 dBmax
Slice Max Gain	1.38 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	117.4 deg.; -3dB @ 31.3, 148.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

24 MHz

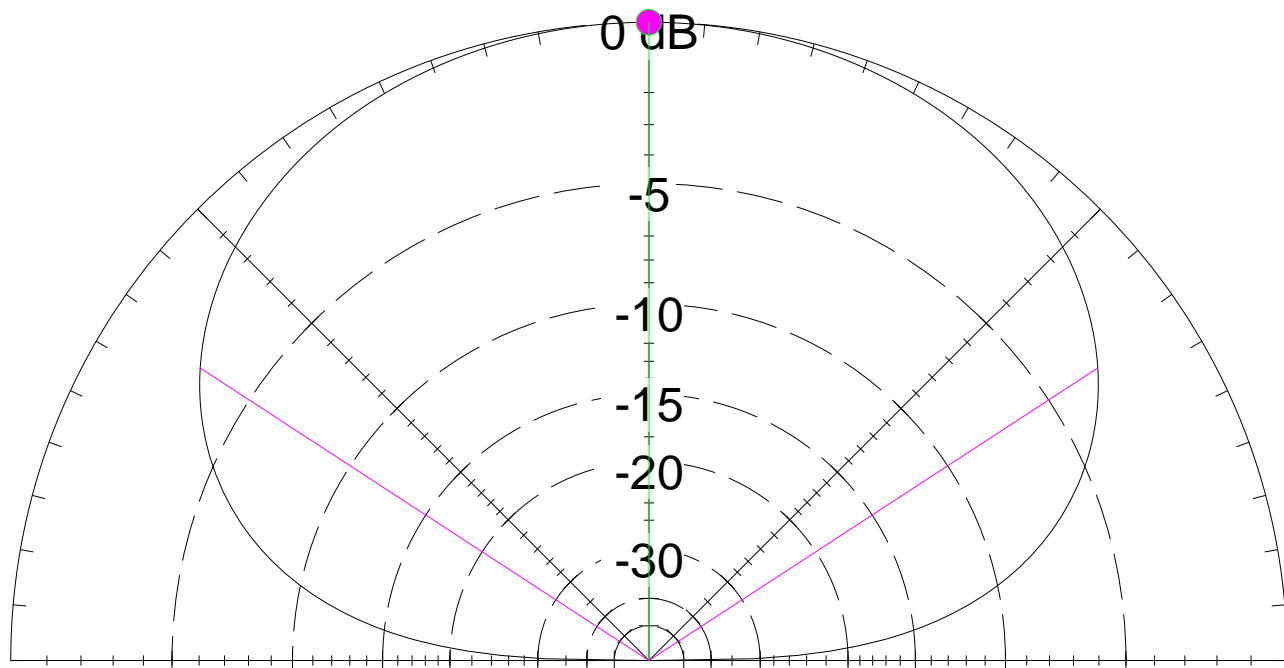
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.27 dBi
Outer Ring	1.27 dBi		0.0 dBmax
Slice Max Gain	1.27 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	116.2 deg.; -3dB @ 31.9, 148.1 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

23 MHz

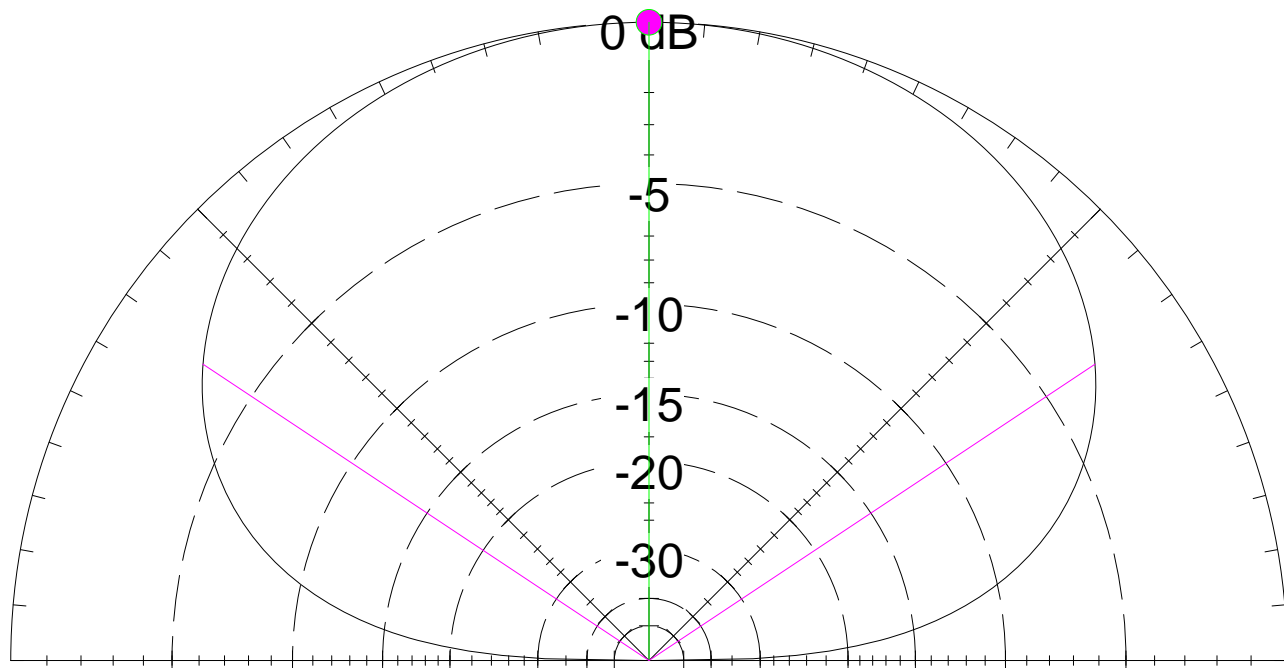
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.12 dBi
Outer Ring	1.12 dBi		0.0 dBmax
Slice Max Gain	1.12 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	115.0 deg.; -3dB @ 32.5, 147.5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

22 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	0.94 dBi
Outer Ring	0.94 dBi		0.0 dBmax
Slice Max Gain	0.94 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	113.8 deg.; -3dB @ 33.1, 146.9 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

21 MHz

Elevation Plot

Azimuth Angle 90.0 deg.

Outer Ring 0.67 dBi

Cursor Elev

90.0 deg.

Gain

0.67 dBi

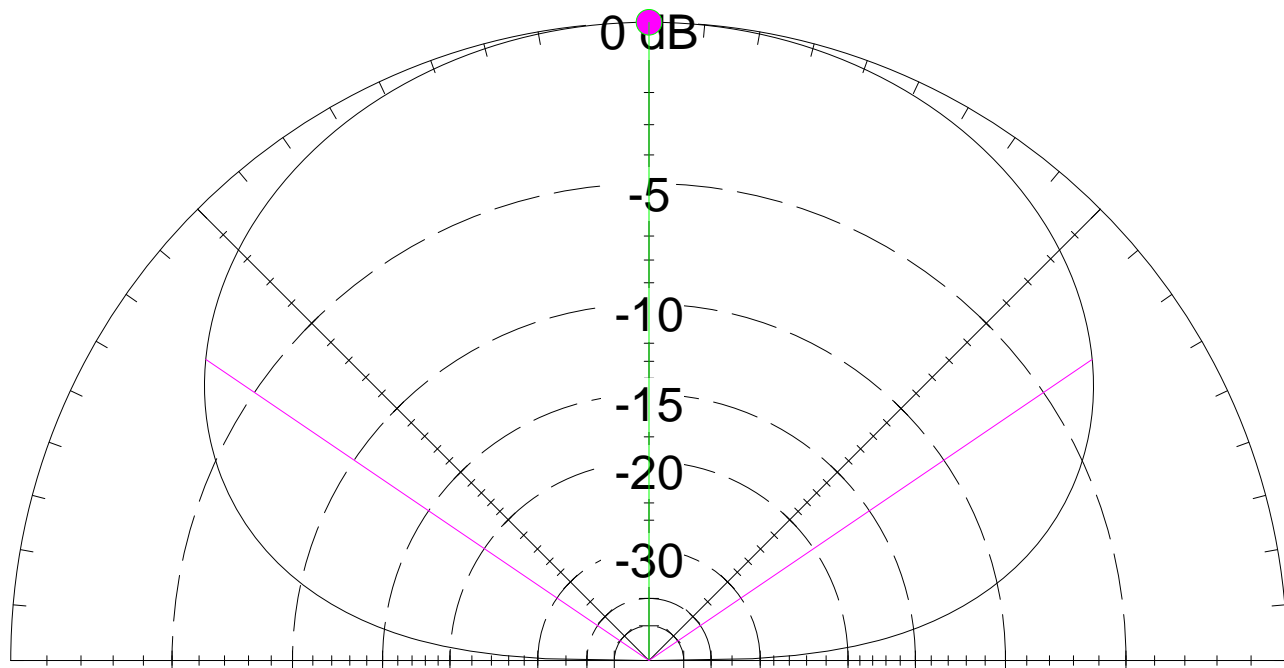
0.0 dBmax

Slice Max Gain 0.67 dBi @ Elev Angle = 90.0 deg.

Beamwidth 112.8 deg.; -3dB @ 33.6, 146.4 deg.

Sidelobe Gain < -100 dBi

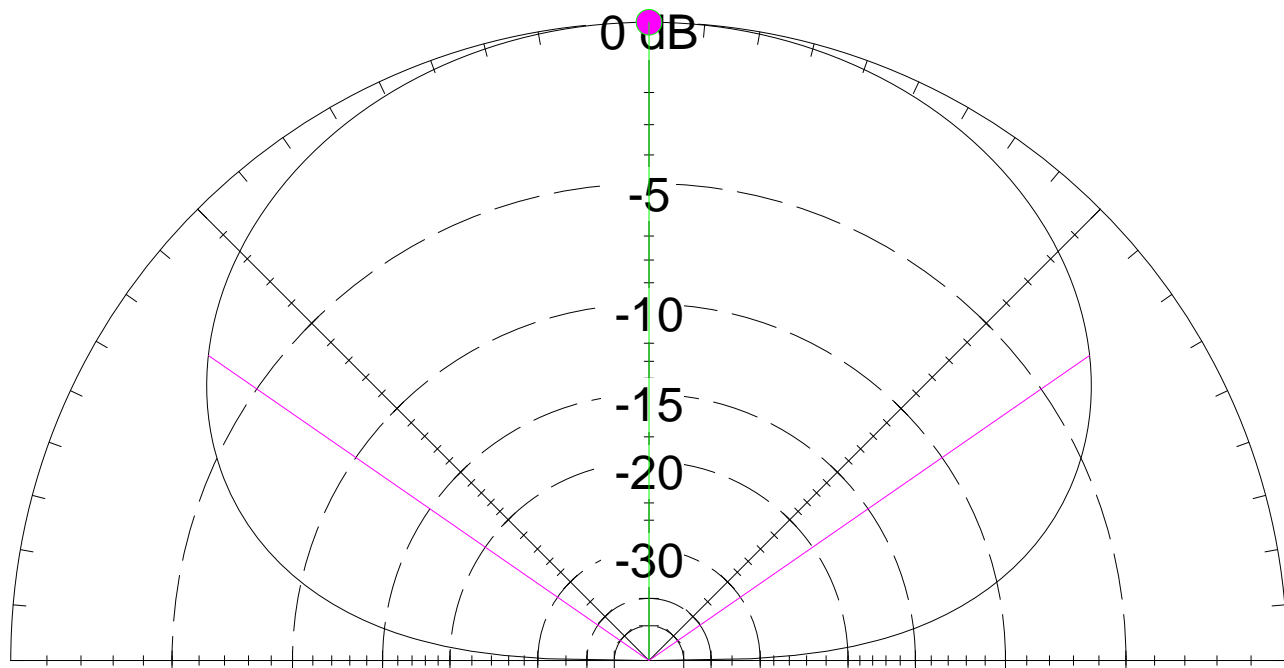
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 7'4"H

20 MHz

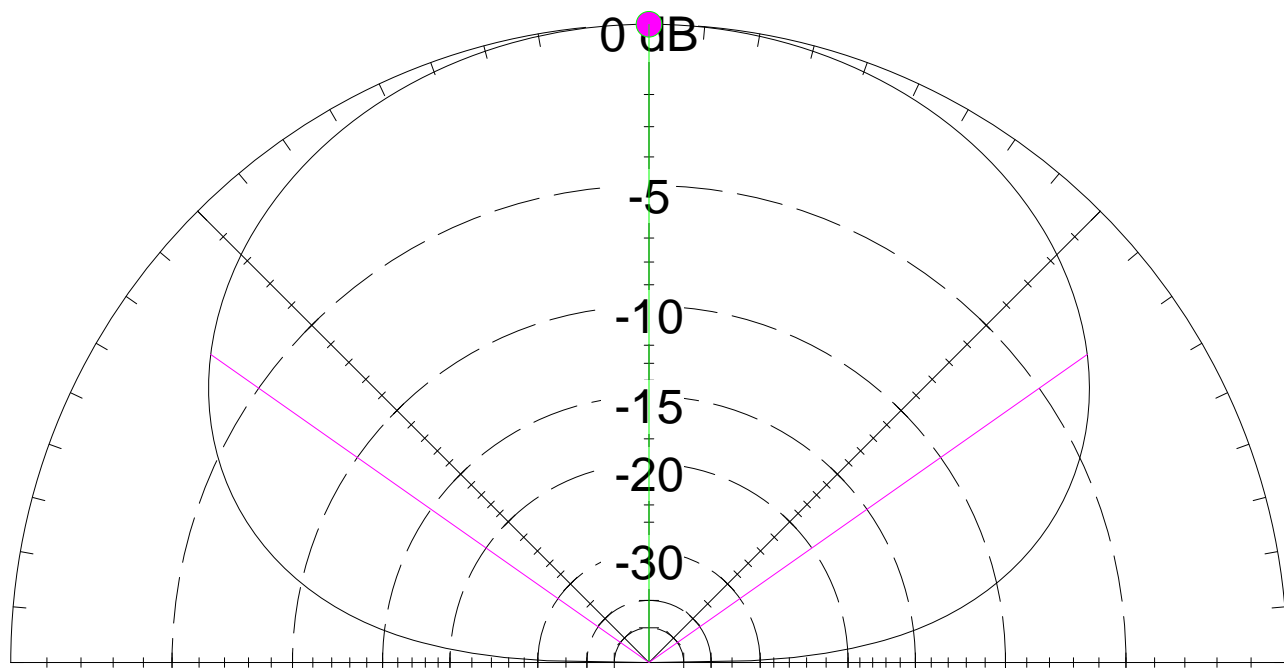
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	0.32 dBi
Outer Ring	0.32 dBi		0.0 dBmax
Slice Max Gain	0.32 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	111.6 deg.; -3dB @ 34.2, 145.8 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

19 MHz

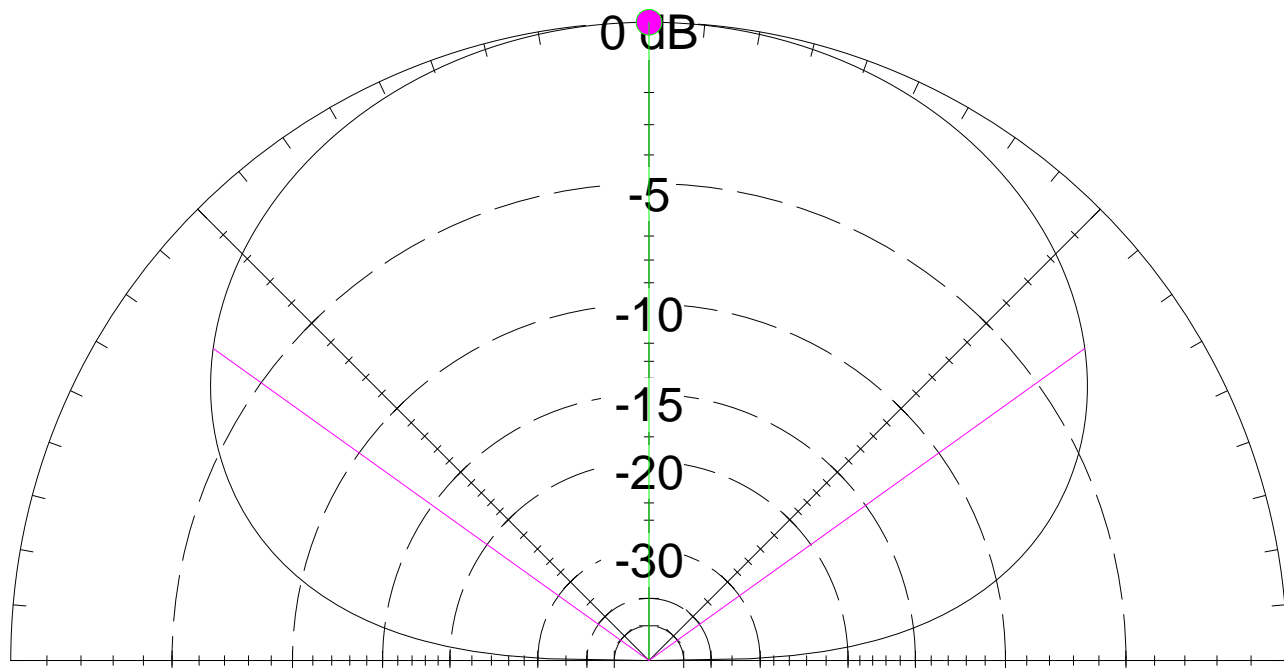
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-0.13 dBi
Outer Ring	-0.13 dBi		0.0 dBmax
Slice Max Gain	-0.13 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	110.6 deg.; -3dB @ 34.7, 145.3 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

18 MHz

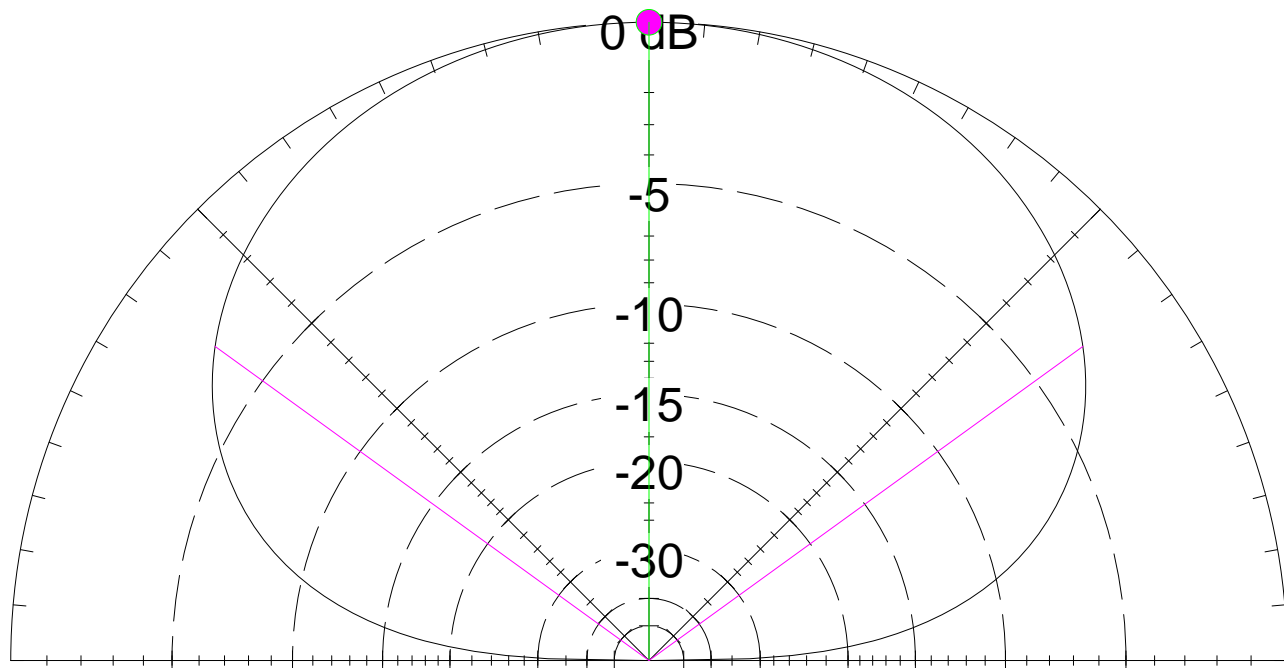
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-0.7 dBi
Outer Ring	-0.7 dBi		0.0 dBmax
Slice Max Gain	-0.7 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	109.8 deg.; -3dB @ 35.1, 144.9 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

17 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-1.44 dBi
Outer Ring	-1.44 dBi		0.0 dBmax
Slice Max Gain	-1.44 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	108.8 deg.; -3dB @ 35.6, 144.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 7'4"H

16 MHz

Elevation Plot

Azimuth Angle 90.0 deg.

Outer Ring -2.36 dBi

Cursor Elev

90.0 deg.

Gain

-2.36 dBi

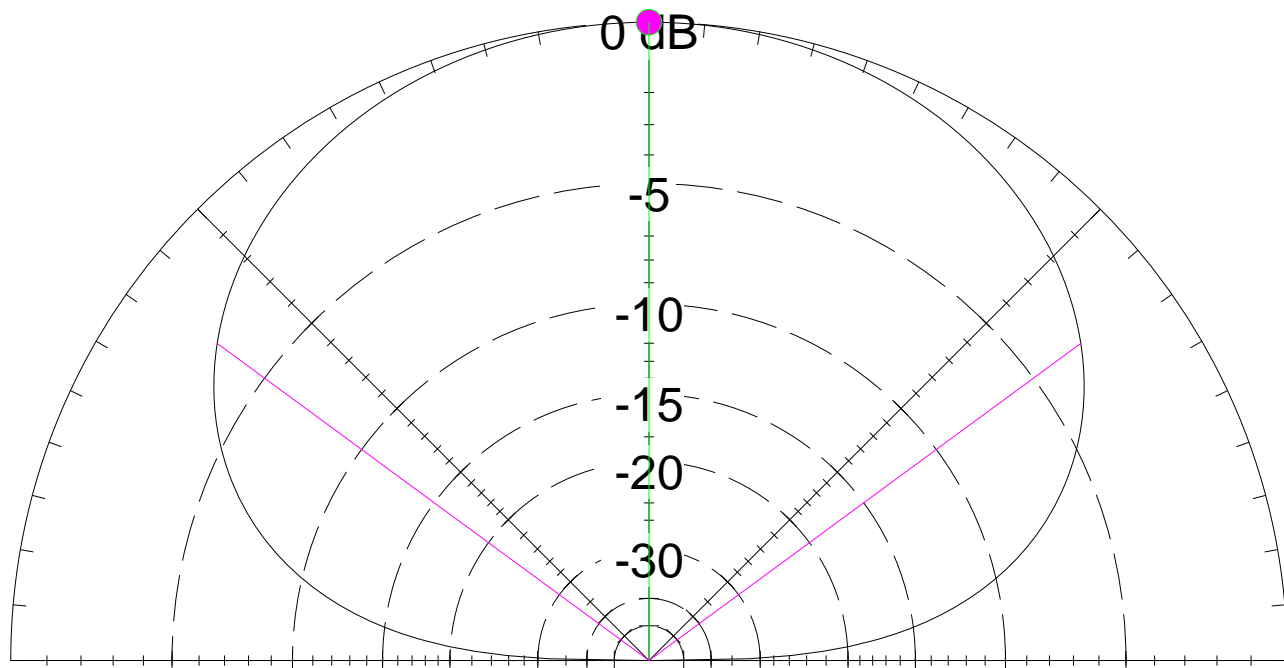
0.0 dBmax

Slice Max Gain -2.36 dBi @ Elev Angle = 90.0 deg.

Beamwidth 108.2 deg.; -3dB @ 35.9, 144.1 deg.

Sidelobe Gain < -100 dBi

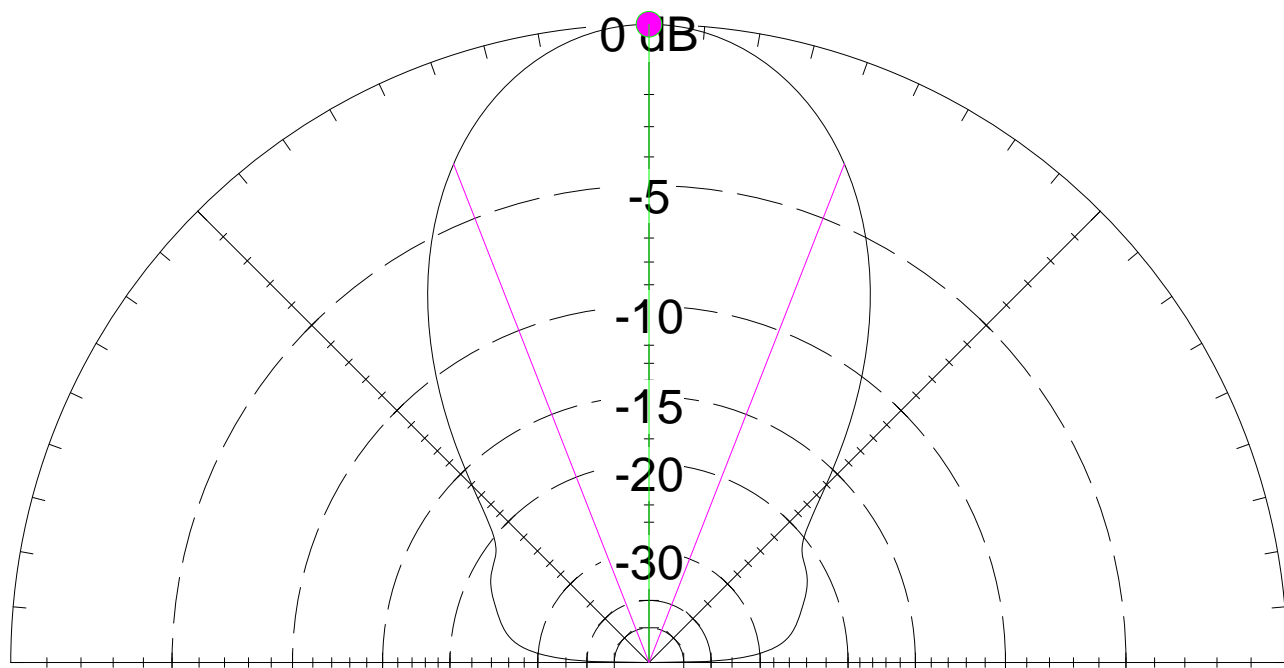
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 7'4"H

15 MHz

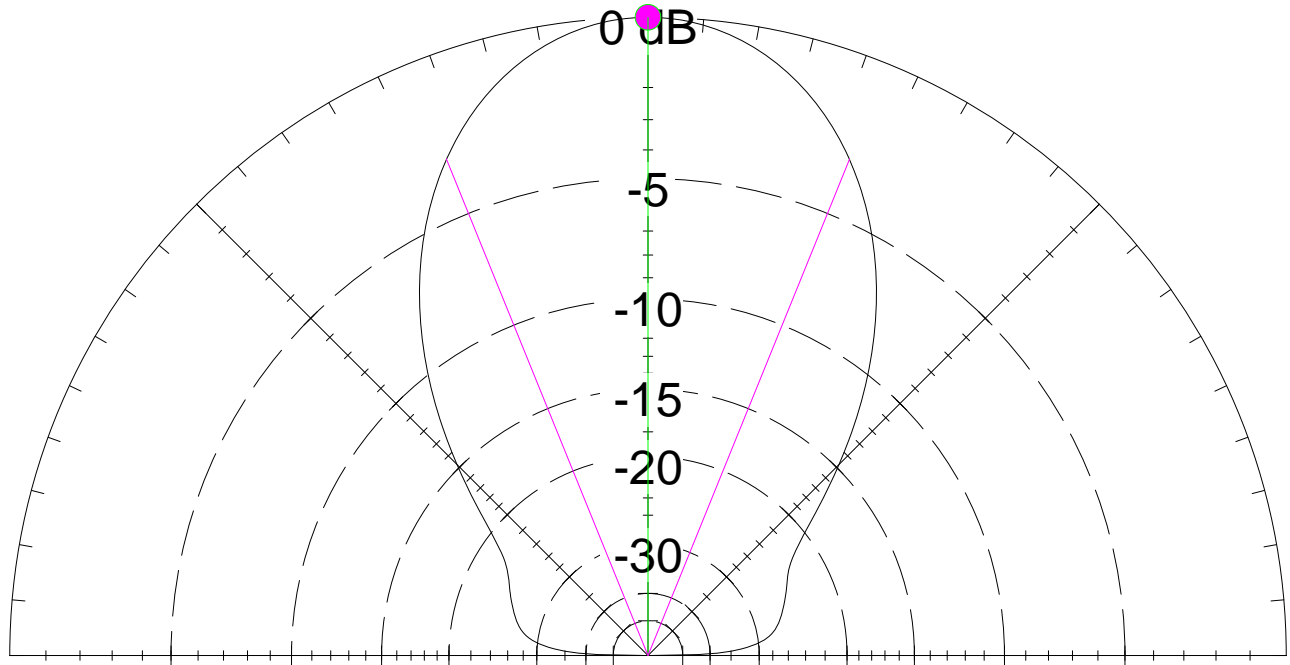
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-3.48 dBi
Outer Ring	-3.48 dBi		0.0 dBmax
Slice Max Gain	-3.48 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	107.4 deg.; -3dB @ 36.3, 143.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

35 MHz

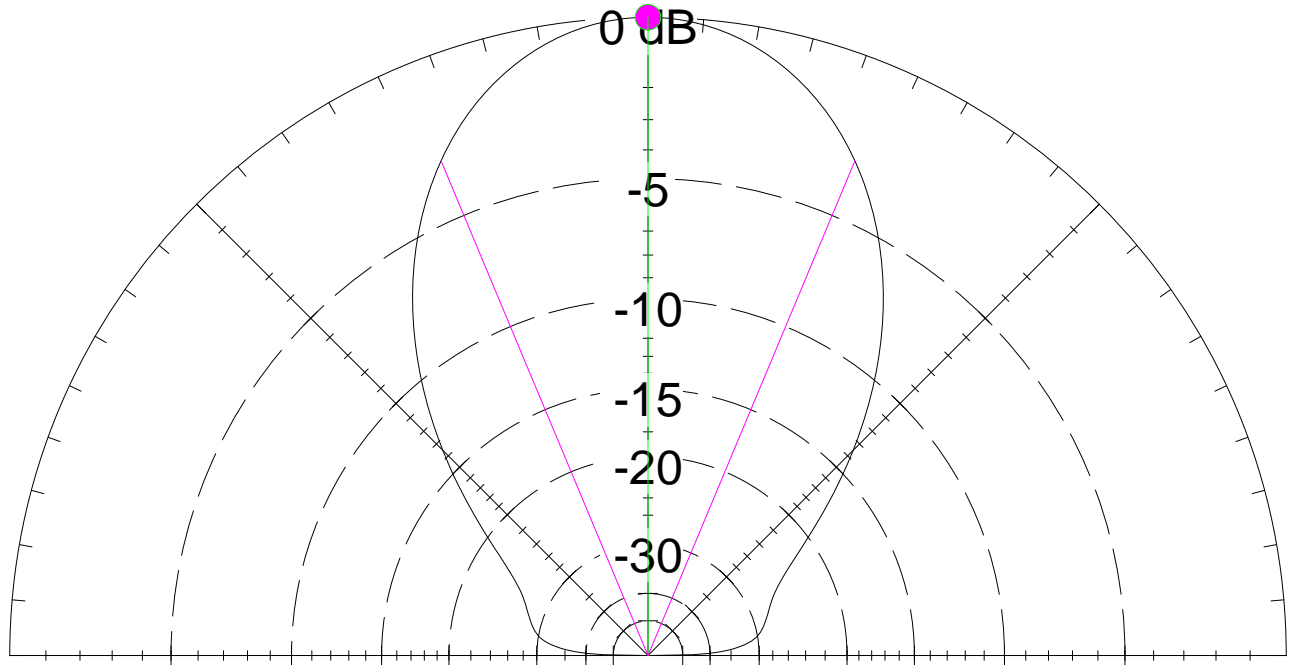
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.07 dBi
Outer Ring	1.07 dBi		0.0 dBmax
Slice Max Gain	1.07 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	42.8 deg.; -3dB @ 68.6, 111.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

34 MHz

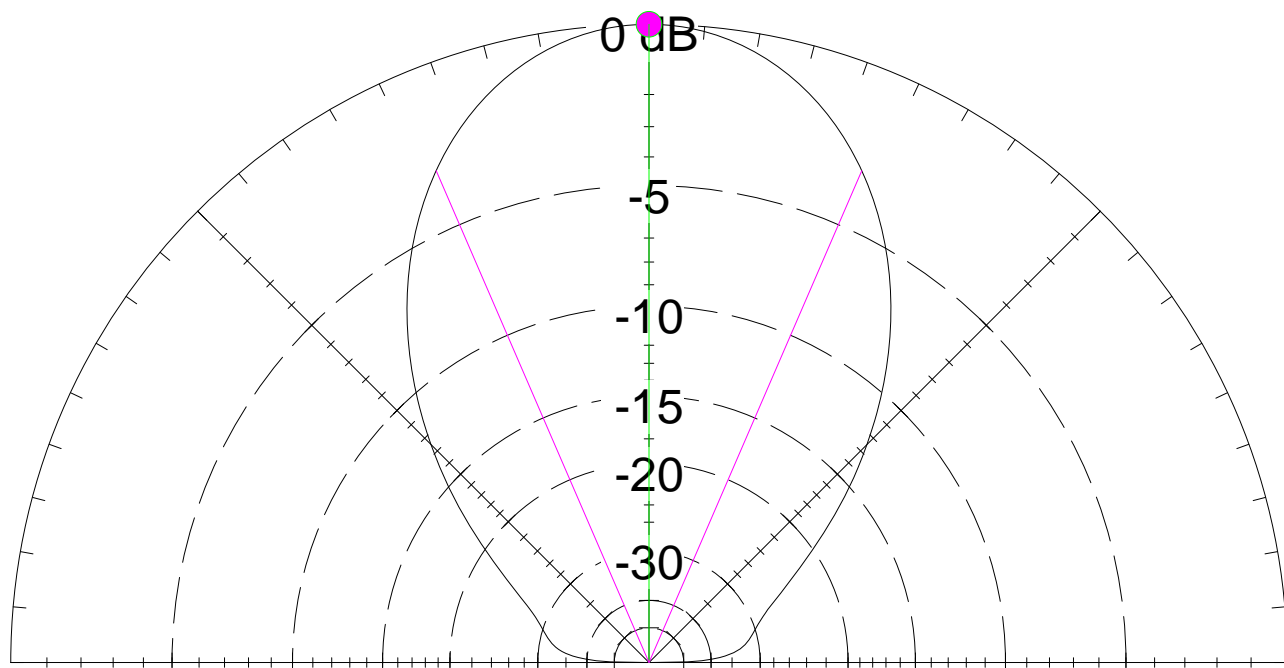
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.2 dBi
Outer Ring	1.2 dBi		0.0 dBmax
Slice Max Gain	1.2 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	44.2 deg.; -3dB @ 67.9, 112.1 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

33 MHz

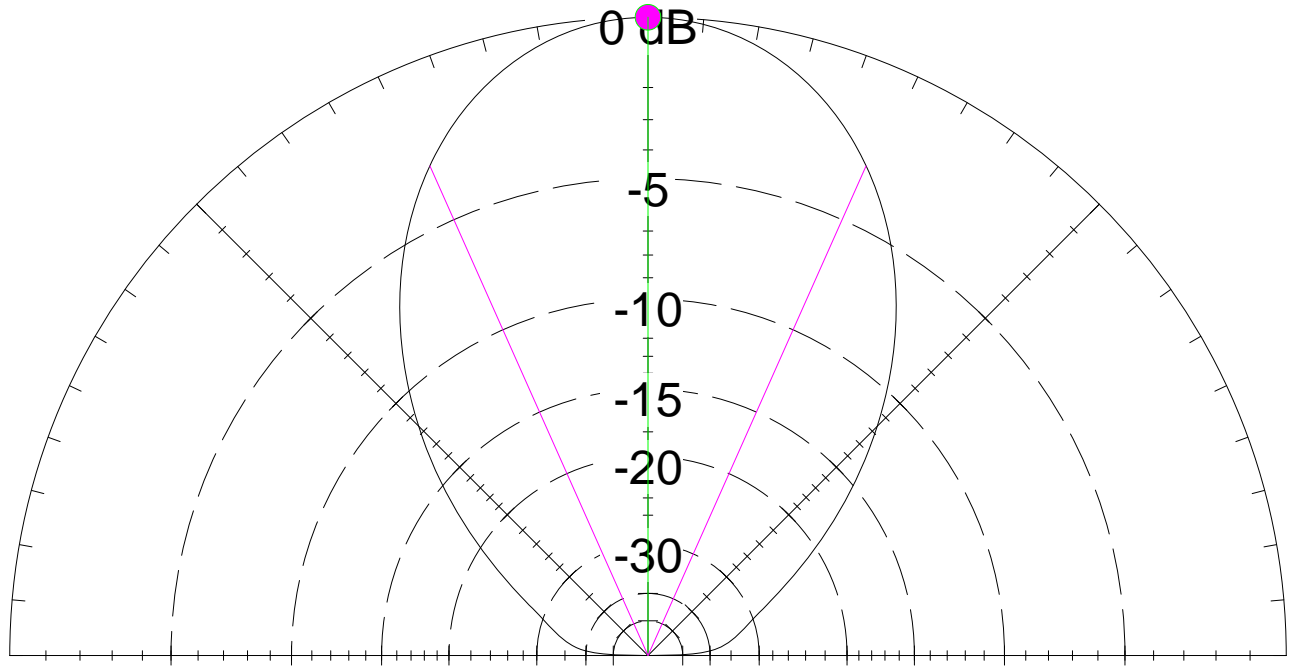
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.32 dBi
Outer Ring	1.32 dBi		0.0 dBmax
Slice Max Gain	1.32 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	45.4 deg.; -3dB @ 67.3, 112.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

32 MHz

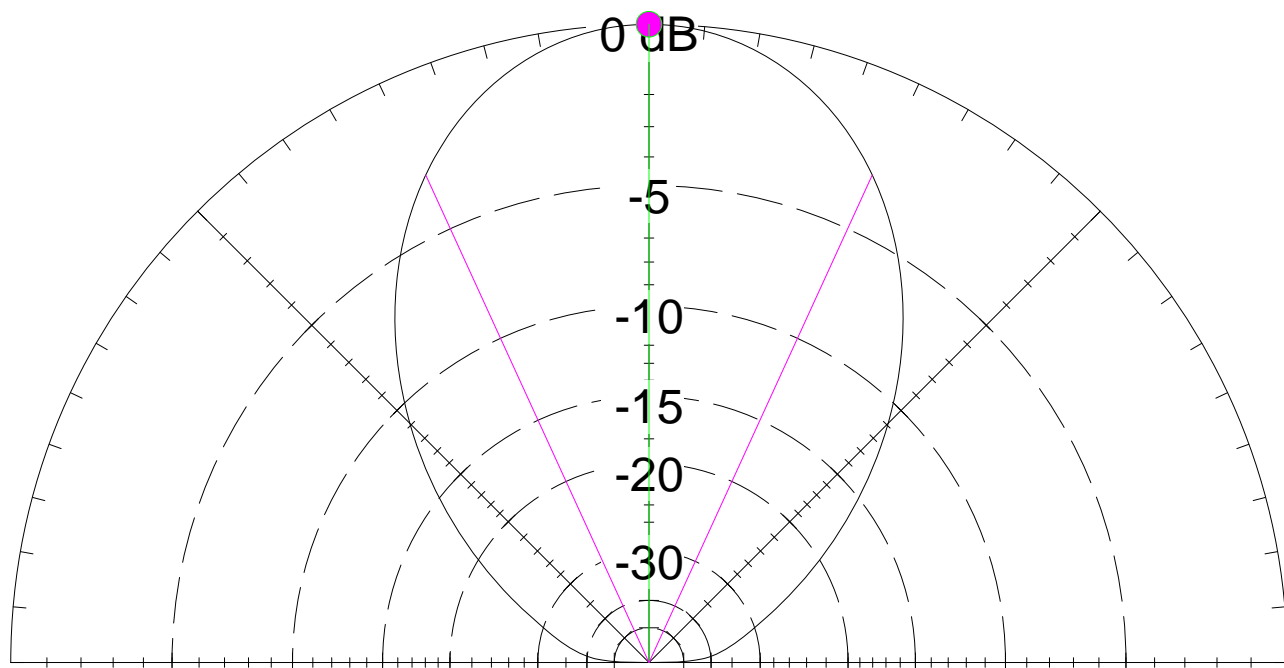
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.41 dBi
Outer Ring	1.41 dBi		0.0 dBmax
Slice Max Gain	1.41 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	46.8 deg.; -3dB @ 66.6, 113.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

31 MHz

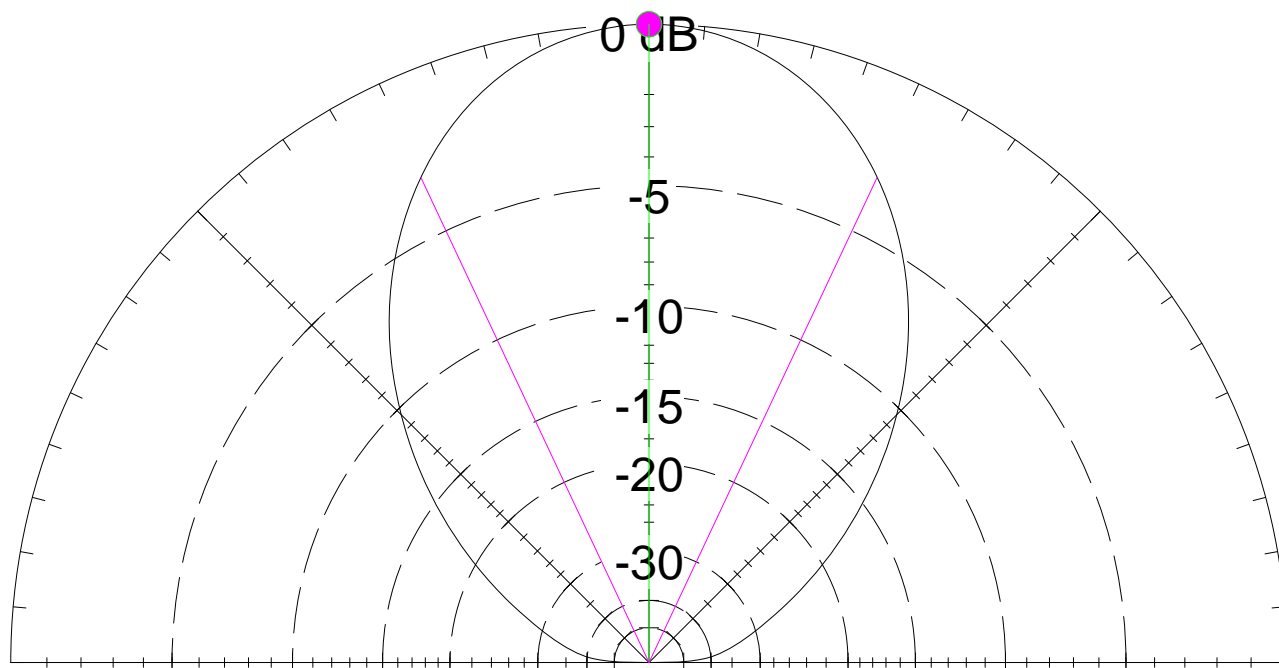
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.51 dBi
Outer Ring	1.51 dBi		0.0 dBmax
Slice Max Gain	1.51 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	48.0 deg.; -3dB @ 66.0, 114.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

30 MHz

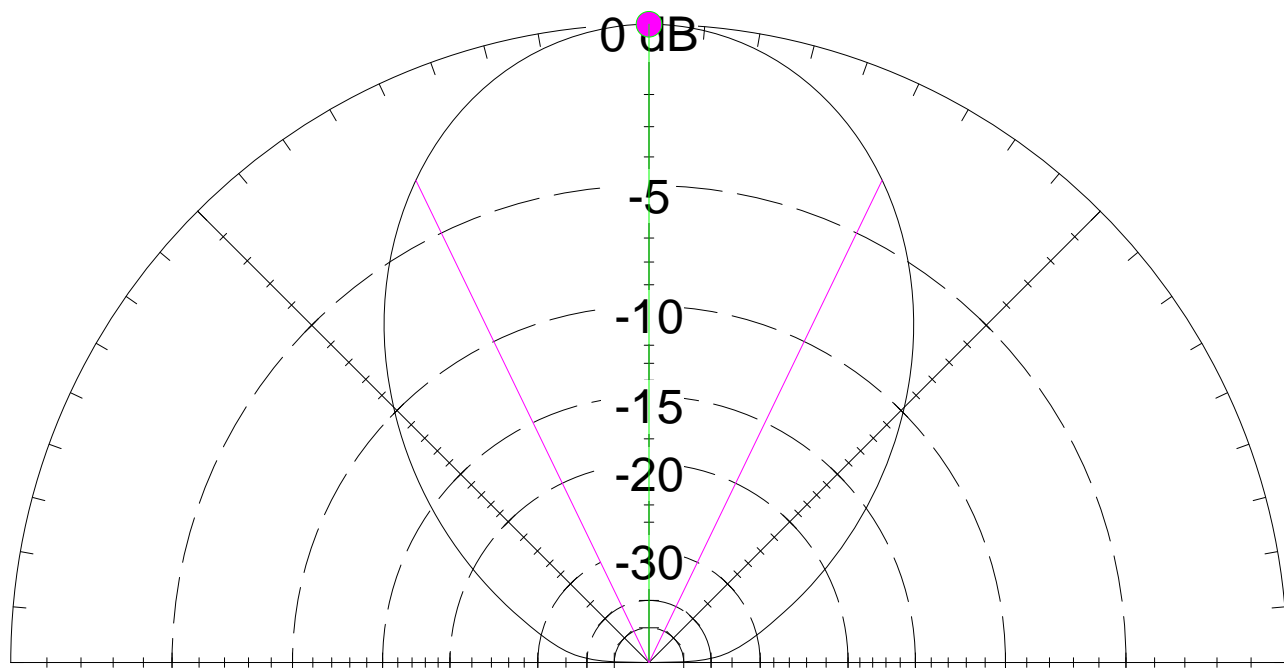
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.6 dBi
Outer Ring	1.6 dBi		0.0 dBmax
Slice Max Gain	1.6 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	49.2 deg.; -3dB @ 65.4, 114.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

29 MHz

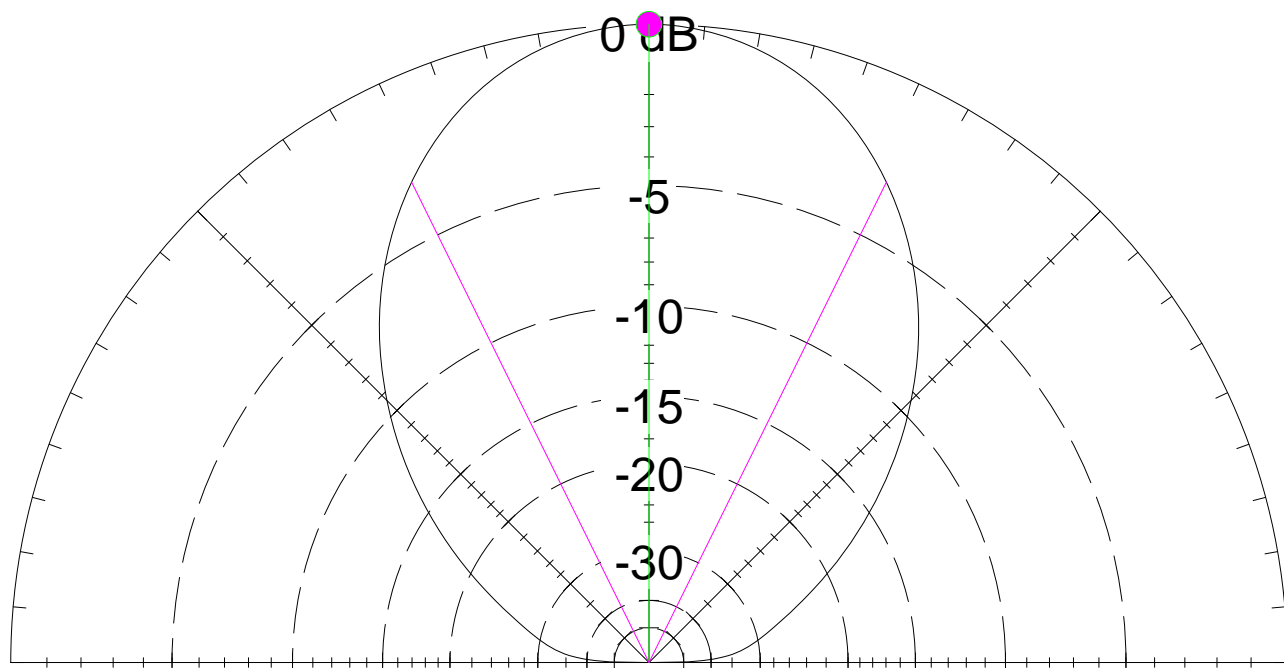
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.67 dBi
Outer Ring	1.67 dBi		0.0 dBmax
Slice Max Gain	1.67 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	50.4 deg.; -3dB @ 64.8, 115.2 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

28 MHz

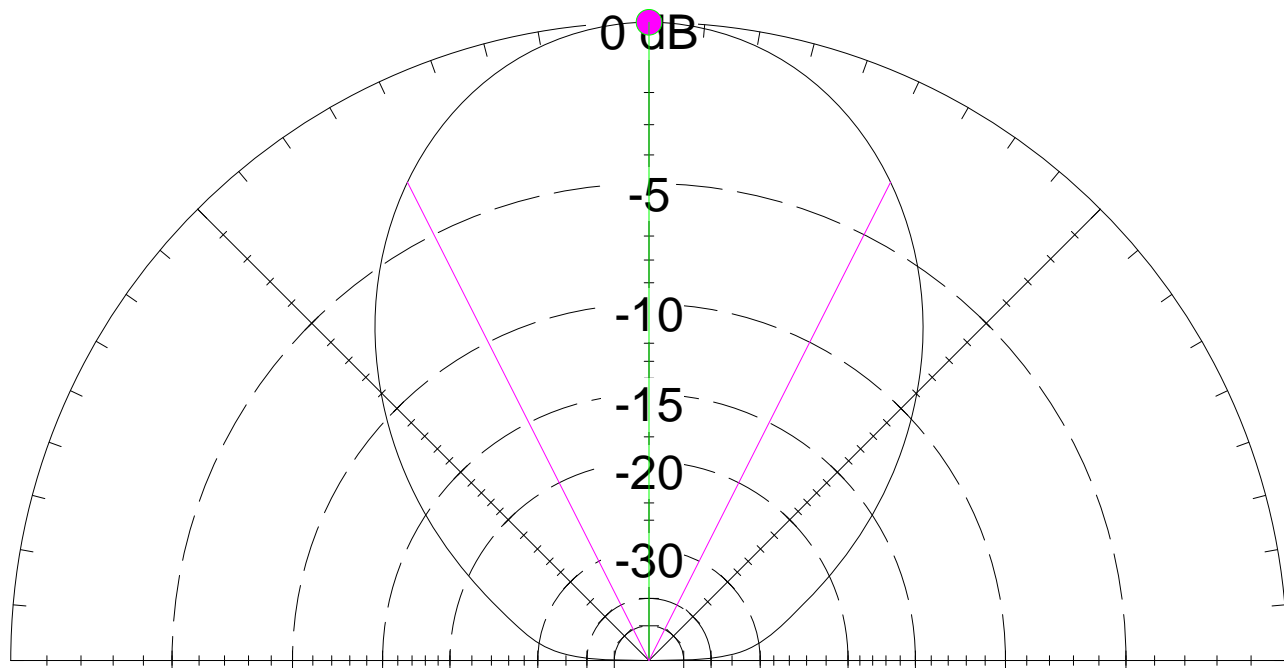
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.74 dBi
Outer Ring	1.74 dBi		0.0 dBmax
Slice Max Gain	1.74 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	51.6 deg.; -3dB @ 64.2, 115.8 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

27 MHz

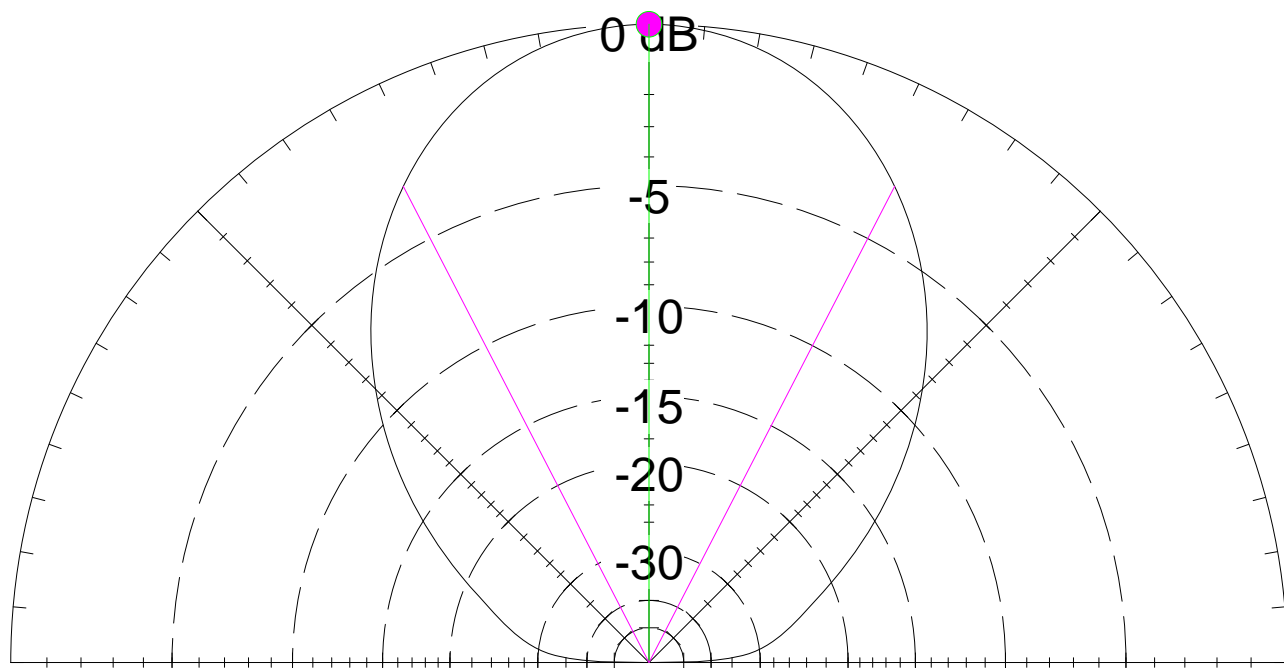
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.78 dBi
Outer Ring	1.78 dBi		0.0 dBmax
Slice Max Gain	1.78 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	52.6 deg.; -3dB @ 63.7, 116.3 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

26 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.81 dBi
Outer Ring	1.81 dBi		0.0 dBmax
Slice Max Gain	1.81 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	53.6 deg.; -3dB @ 63.2, 116.8 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

25 MHz

Elevation Plot

Azimuth Angle 180.0 deg.

Outer Ring 1.83 dBi

Cursor Elev 90.0 deg.

Gain 1.83 dBi

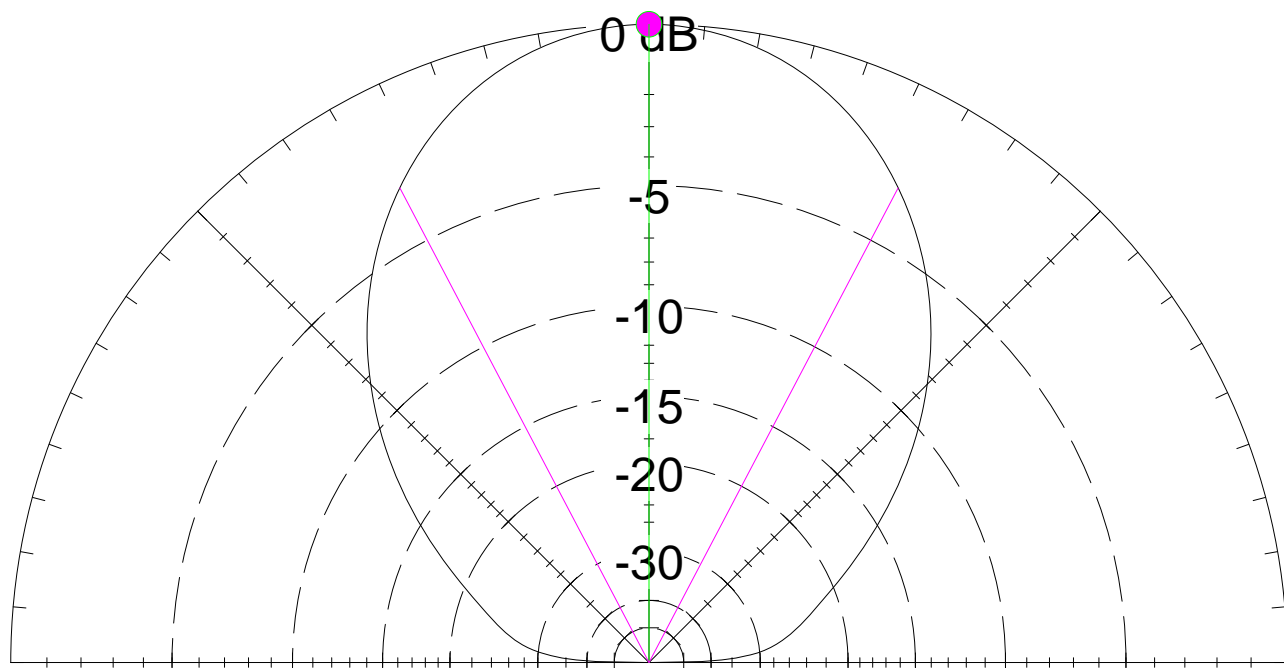
0.0 dBmax

Slice Max Gain 1.83 dBi @ Elev Angle = 90.0 deg.

Beamwidth 54.6 deg.; -3dB @ 62.7, 117.3 deg.

Sidelobe Gain < -100 dBi

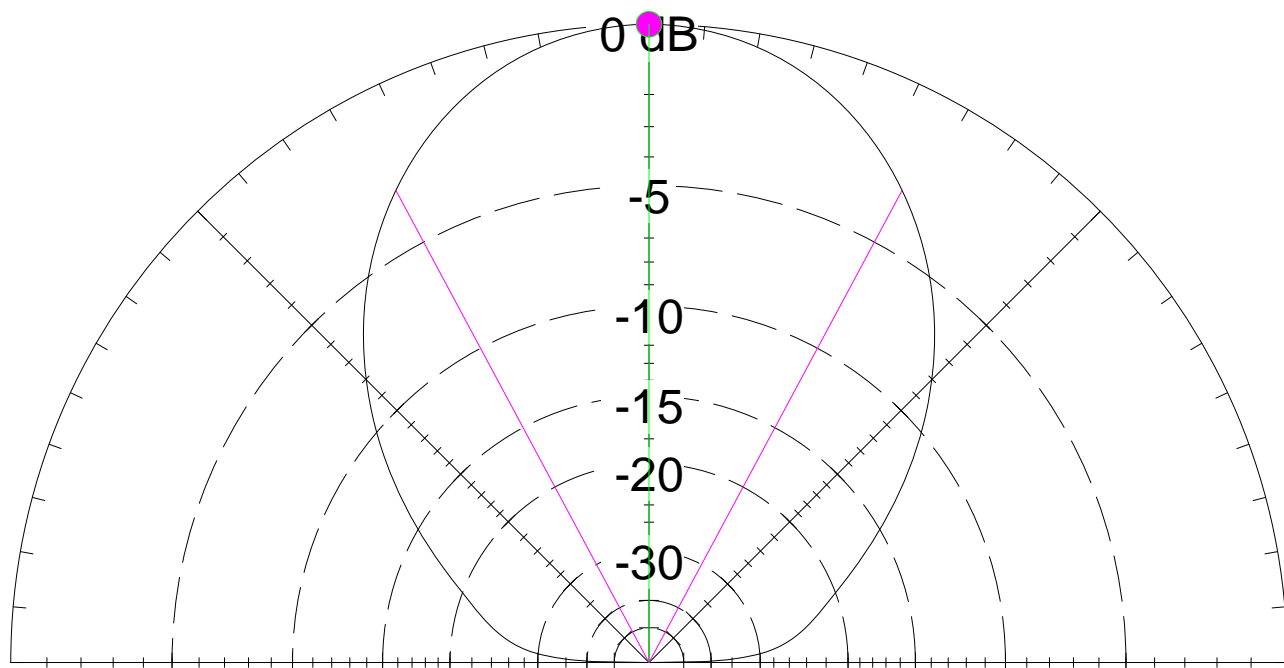
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 9'2"H

24 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.81 dBi
Outer Ring	1.81 dBi		0.0 dBmax
Slice Max Gain	1.81 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	55.4 deg.; -3dB @ 62.3, 117.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		

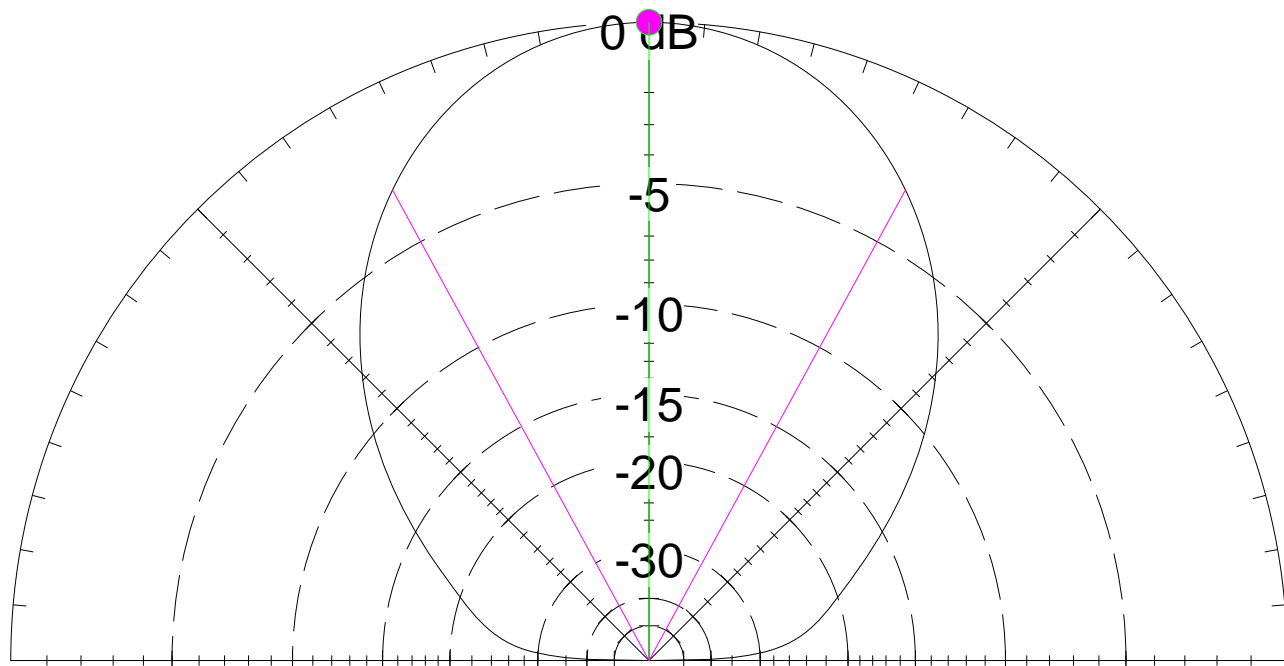


AJ4CO TFD 30' x 8" x 9'2"H

23 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.76 dBi
Outer Ring	1.76 dBi		0.0 dBmax

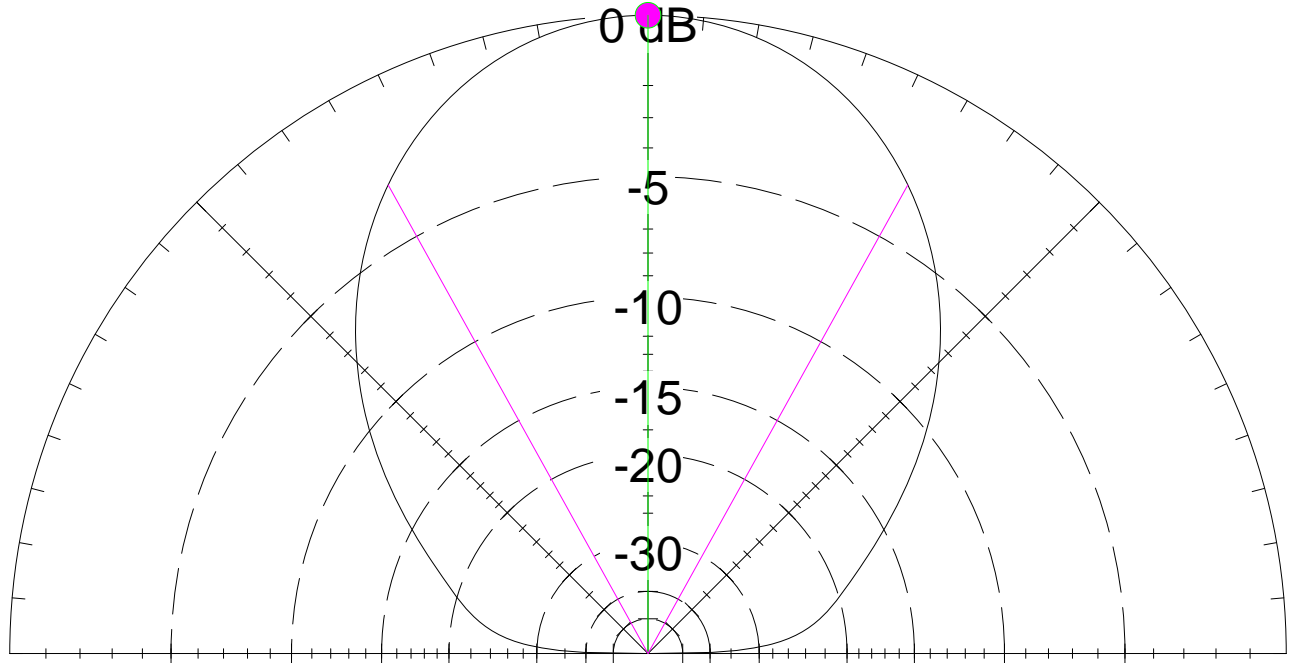
Slice Max Gain	1.76 dBi @ Elev Angle = 90.0 deg.
Beamwidth	56.4 deg.; -3dB @ 61.8, 118.2 deg.
Sidelobe Gain	< -100 dBi
Front/Sidelobe	> 100 dB



AJ4CO TFD 30' x 8" x 9'2"H

22 MHz

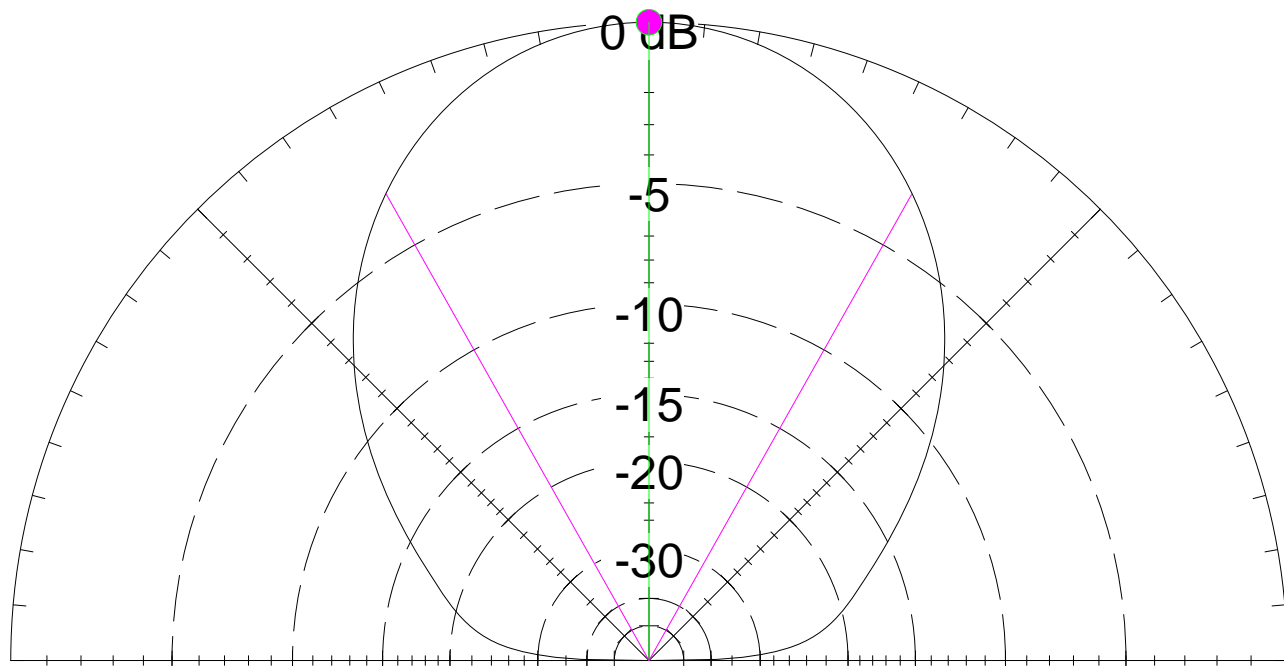
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.65 dBi
Outer Ring	1.65 dBi		0.0 dBmax
Slice Max Gain	1.65 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	57.2 deg.; -3dB @ 61.4, 118.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

21 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.49 dBi
Outer Ring	1.49 dBi		0.0 dBmax
Slice Max Gain	1.49 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	58.0 deg.; -3dB @ 61.0, 119.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

20 MHz

Elevation Plot

Azimuth Angle 180.0 deg.

Outer Ring 1.24 dBi

Cursor Elev

90.0 deg.

Gain

1.24 dBi

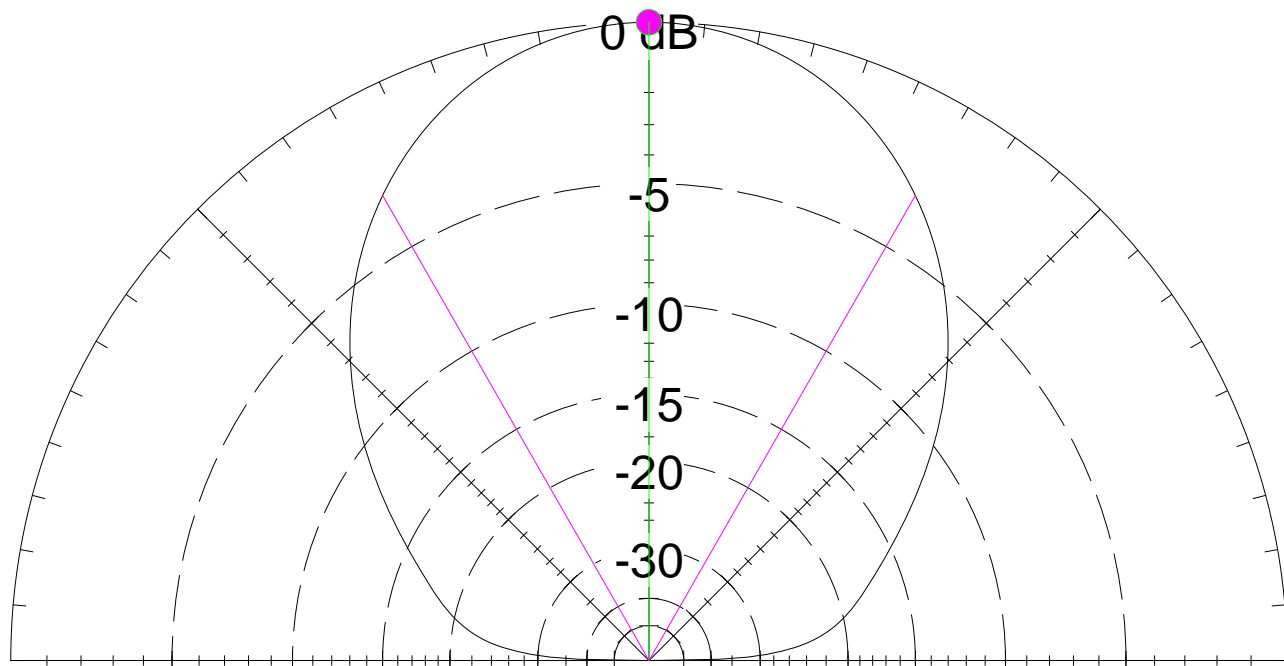
0.0 dBmax

Slice Max Gain 1.24 dBi @ Elev Angle = 90.0 deg.

Beamwidth 58.8 deg.; -3dB @ 60.6, 119.4 deg.

Sidelobe Gain < -100 dBi

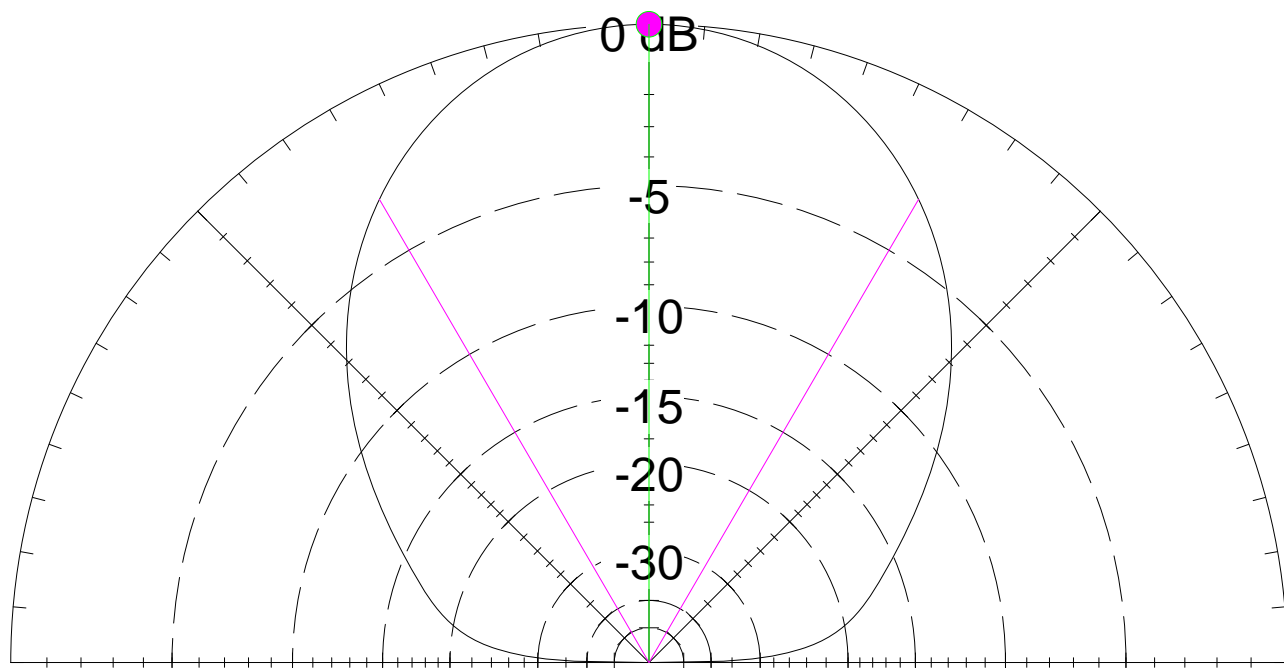
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 9'2"H

19 MHz

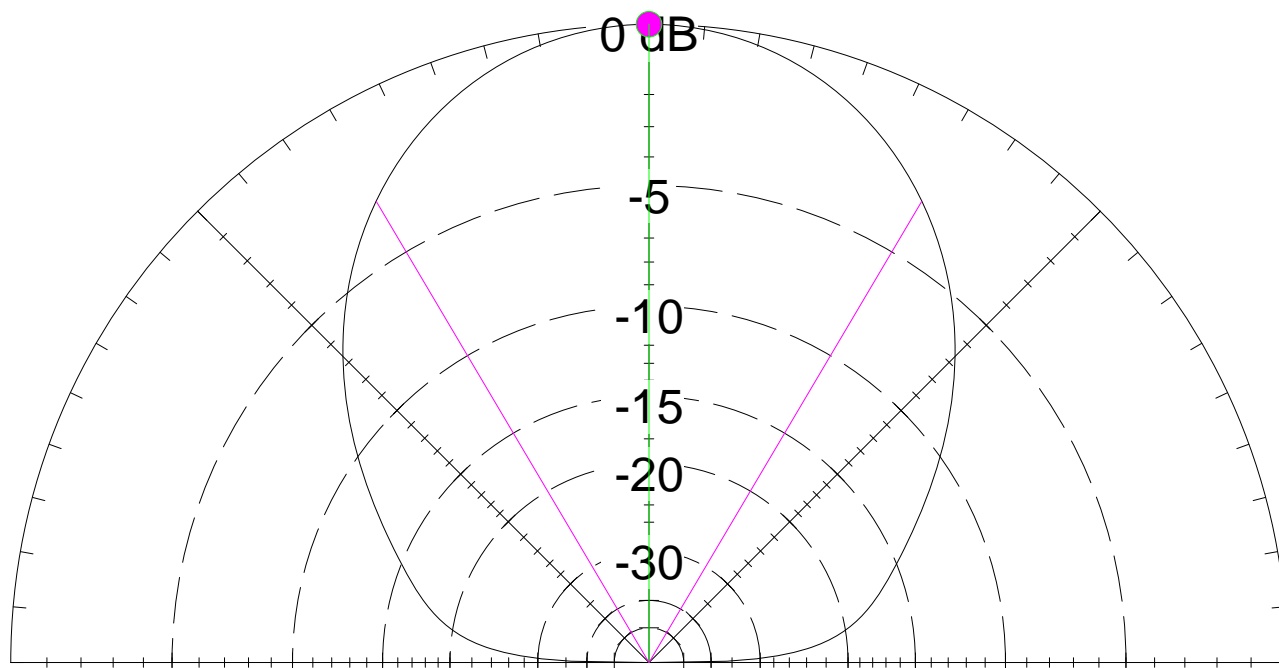
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.89 dBi
Outer Ring	0.89 dBi		0.0 dBmax
Slice Max Gain	0.89 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	59.6 deg.; -3dB @ 60.2, 119.8 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

18 MHz

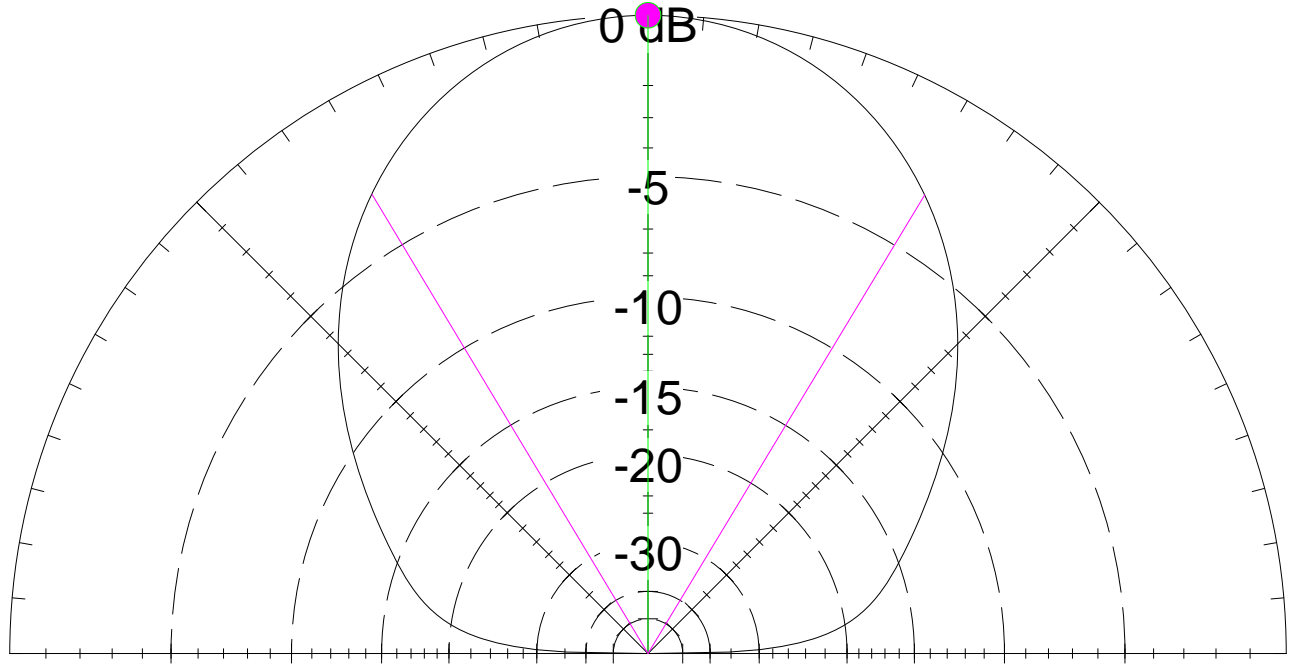
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.39 dBi
Outer Ring	0.39 dBi		0.0 dBmax
Slice Max Gain	0.39 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	60.4 deg.; -3dB @ 59.8, 120.2 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

17 MHz

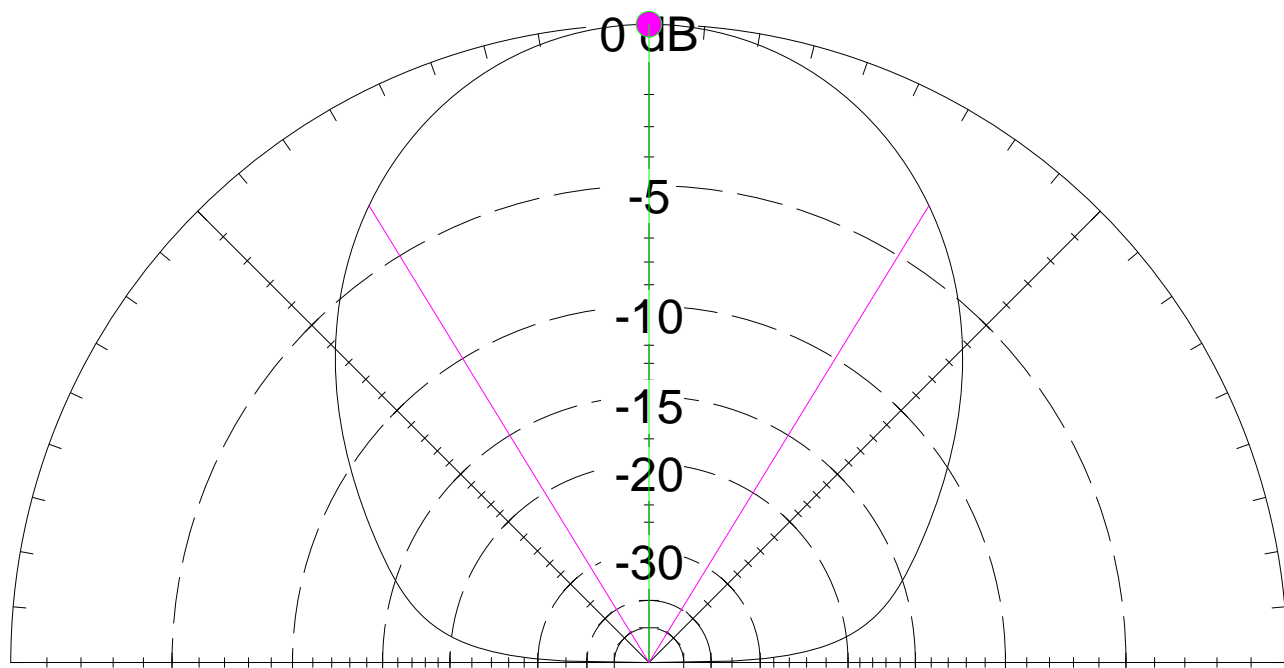
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-0.26 dBi
Outer Ring	-0.26 dBi		0.0 dBmax
Slice Max Gain	-0.26 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	61.2 deg.; -3dB @ 59.4, 120.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

16 MHz

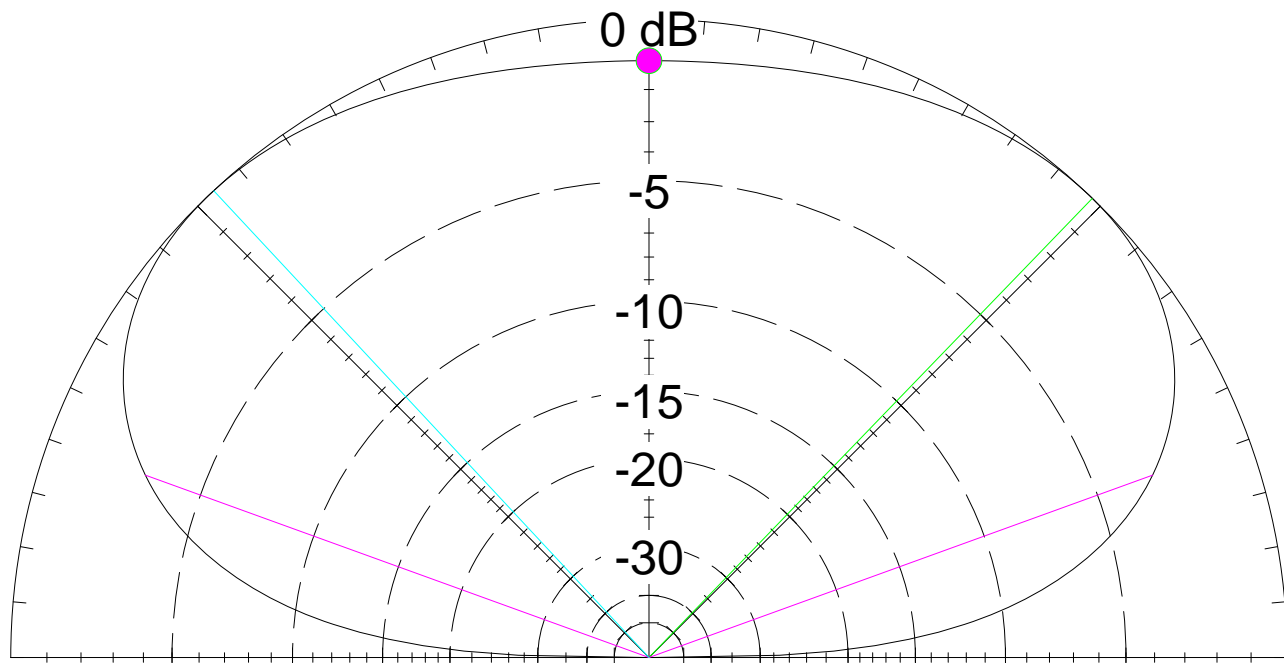
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-1.12 dBi
Outer Ring	-1.12 dBi		0.0 dBmax
Slice Max Gain	-1.12 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	62.1 deg.; -3dB @ 58.9, 121.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

15 MHz

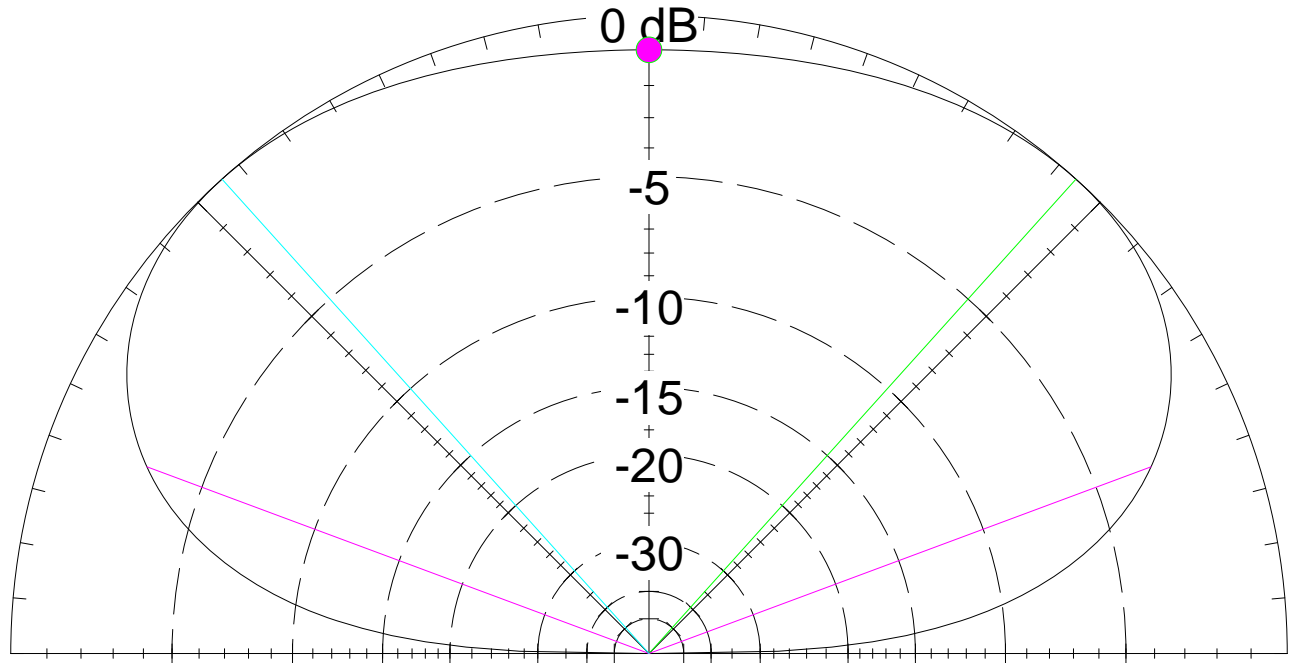
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-2.18 dBi
Outer Ring	-2.18 dBi		0.0 dBmax
Slice Max Gain	-2.18 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	63.0 deg.; -3dB @ 58.5, 121.5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

35 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.07 dBi
Outer Ring	2.22 dBi		-1.15 dBmax
Slice Max Gain	2.22 dBi @ Elev Angle = 46.0 deg.		
Beamwidth	140.2 deg.; -3dB @ 19.9, 160.1 deg.		
Sidelobe Gain	2.22 dBi @ Elev Angle = 133.0 deg.		
Front/Sidelobe	0.0 dB		



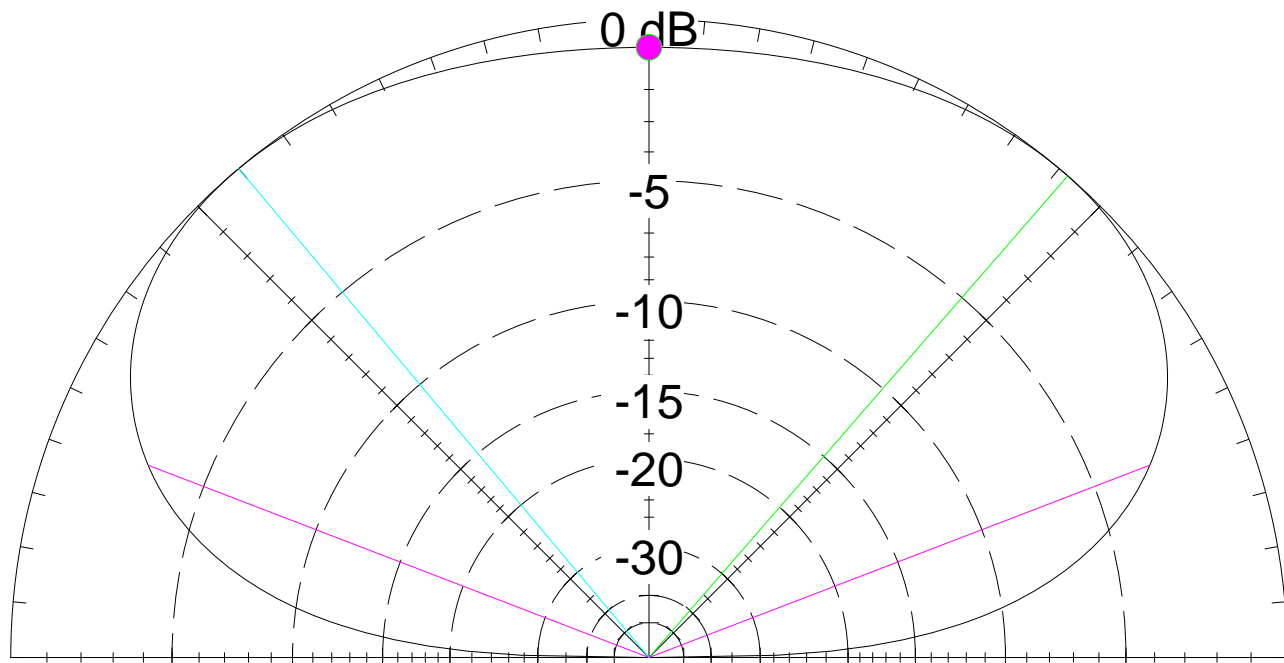
AJ4CO TFD 30' x 8" x 9'2"H

34 MHz

Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 2.15 dBi

Cursor Elev 90.0 deg.
Gain 1.2 dBi
-0.95 dBmax

Slice Max Gain 2.15 dBi @ Elev Angle = 48.0 deg.
Beamwidth 139.2 deg.; -3dB @ 20.4, 159.6 deg.
Sidelobe Gain 2.15 dBi @ Elev Angle = 132.0 deg.
Front/Sidelobe 0.0 dB



AJ4CO TFD 30' x 8" x 9'2"H

33 MHz

Elevation Plot

Azimuth Angle 90.0 deg.

Outer Ring 2.09 dBi

Cursor Elev

90.0 deg.

Gain

1.32 dBi

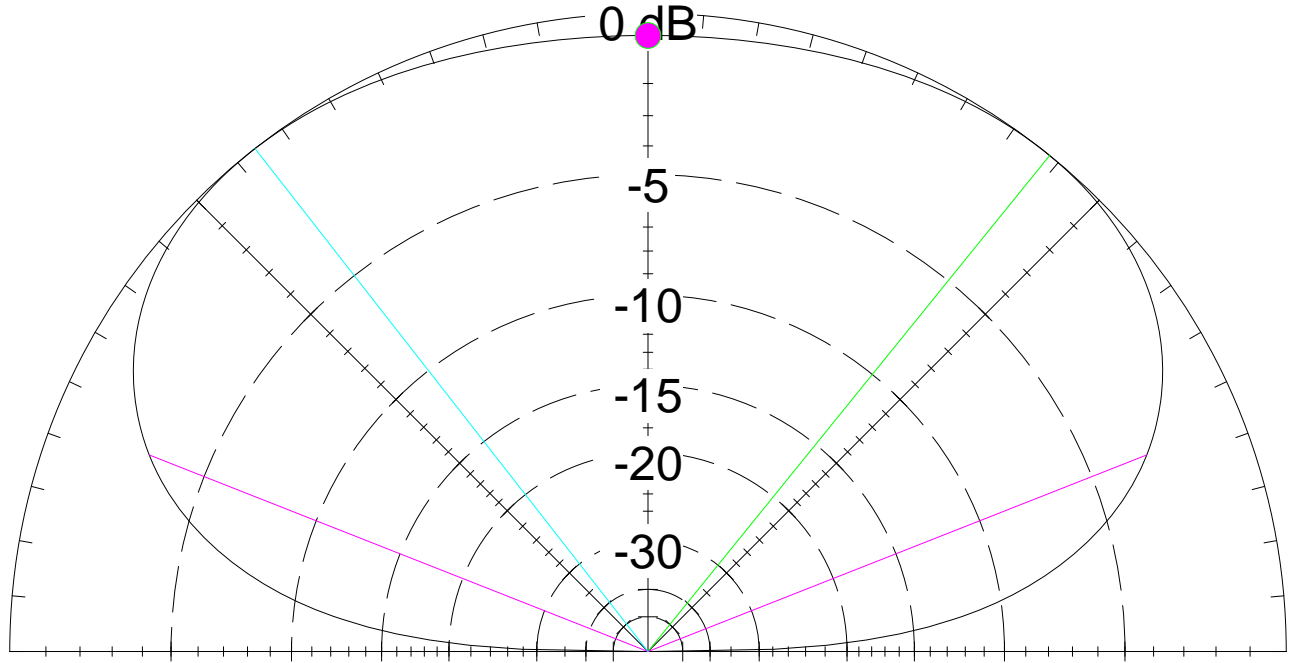
-0.77 dBmax

Slice Max Gain 2.09 dBi @ Elev Angle = 49.0 deg.

Beamwidth 138.0 deg.; -3dB @ 21.0, 159.0 deg.

Sidelobe Gain 2.09 dBi @ Elev Angle = 130.0 deg.

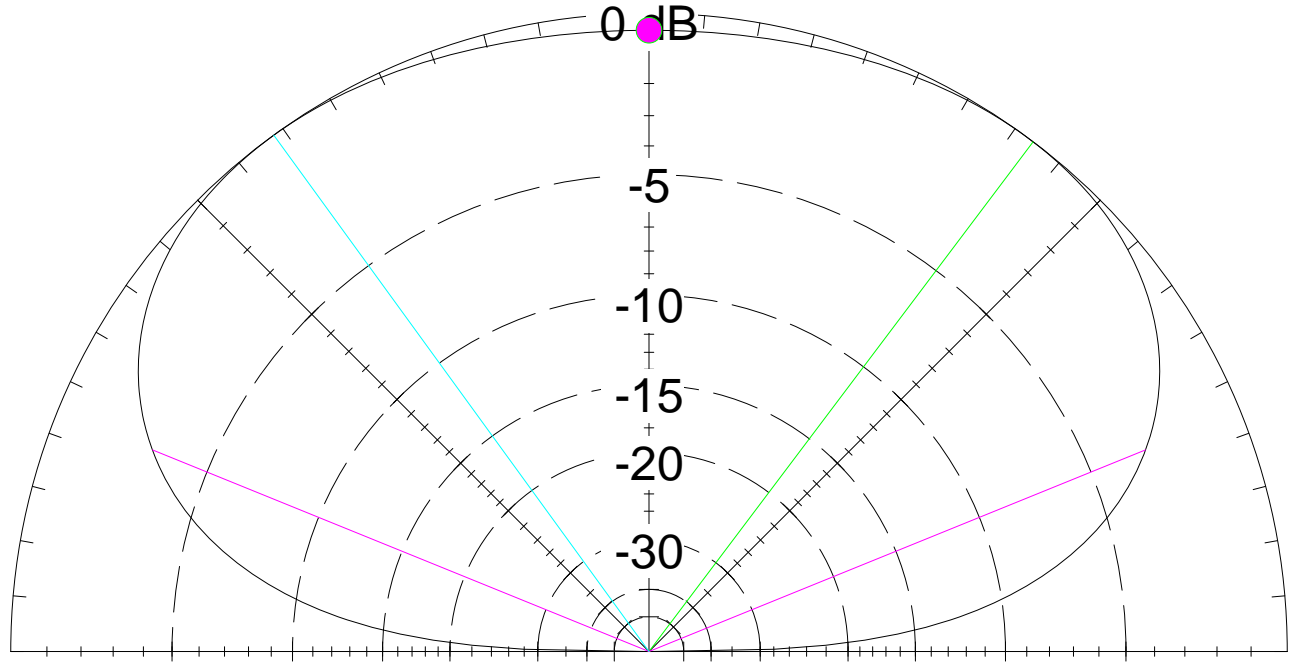
Front/Sidelobe 0.0 dB



AJ4CO TFD 30' x 8" x 9'2"H

32 MHz

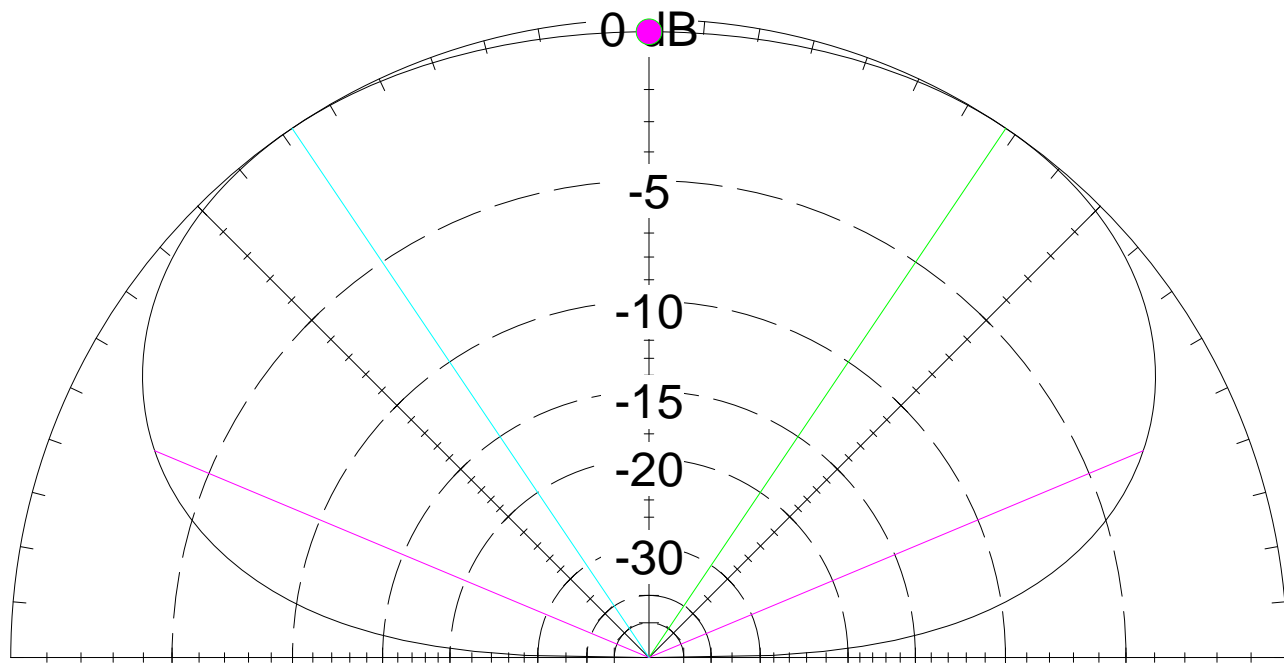
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.41 dBi
Outer Ring	2.02 dBi		-0.61 dBmax
Slice Max Gain	2.02 dBi @ Elev Angle = 51.0 deg.		
Beamwidth	137.0 deg.; -3dB @ 21.5, 158.5 deg.		
Sidelobe Gain	2.02 dBi @ Elev Angle = 128.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 9'2"H

31 MHz

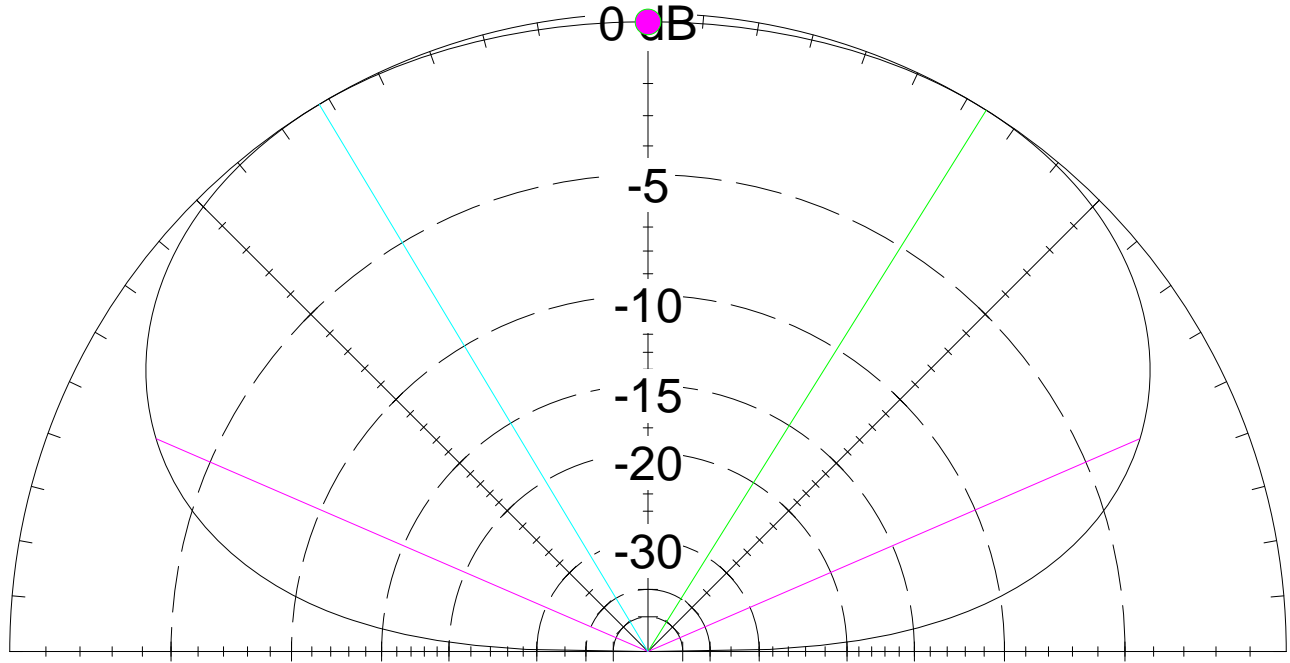
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.51 dBi
Outer Ring	1.97 dBi		-0.46 dBmax
Slice Max Gain	1.97 dBi @ Elev Angle = 53.0 deg.		
Beamwidth	135.8 deg.; -3dB @ 22.1, 157.9 deg.		
Sidelobe Gain	1.97 dBi @ Elev Angle = 126.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 9'2"H

30 MHz

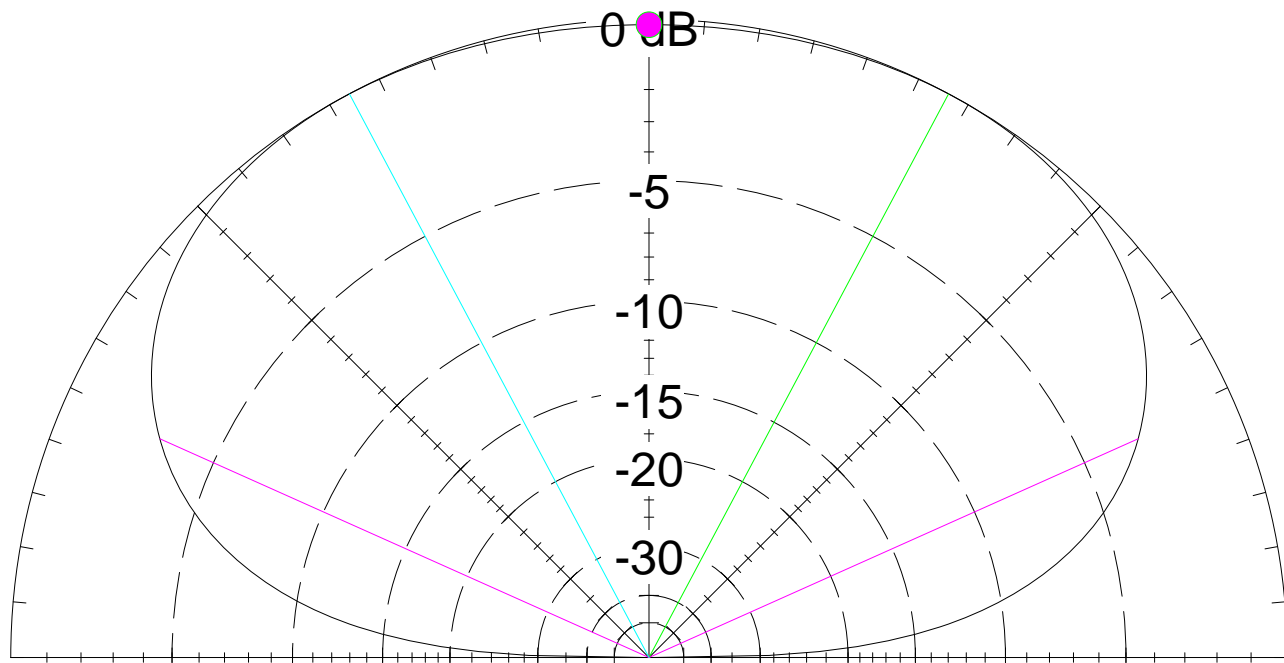
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.6 dBi
Outer Ring	1.94 dBi		-0.34 dBmax
Slice Max Gain	1.94 dBi @ Elev Angle = 56.0 deg.		
Beamwidth	134.6 deg.; -3dB @ 22.7, 157.3 deg.		
Sidelobe Gain	1.94 dBi @ Elev Angle = 124.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 9'2"H

29 MHz

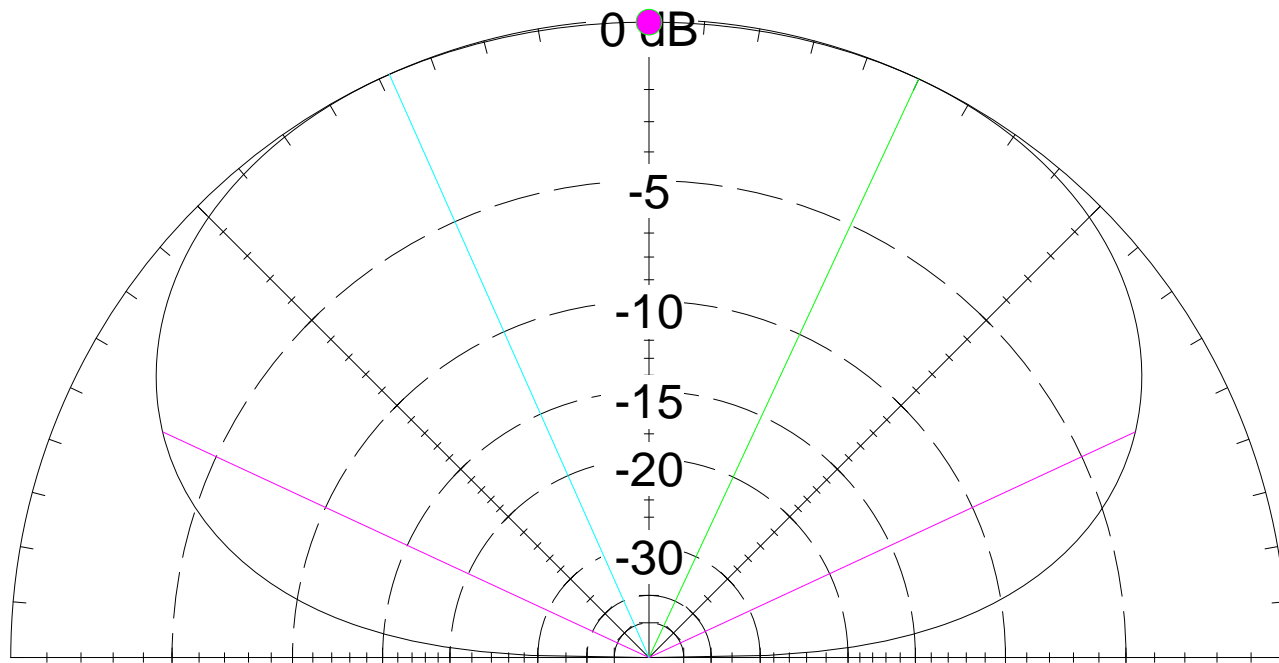
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.67 dBi
Outer Ring	1.9 dBi		-0.23 dBmax
Slice Max Gain	1.9 dBi @ Elev Angle = 58.0 deg.		
Beamwidth	133.2 deg.; -3dB @ 23.4, 156.6 deg.		
Sidelobe Gain	1.9 dBi @ Elev Angle = 121.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 9'2"H

28 MHz

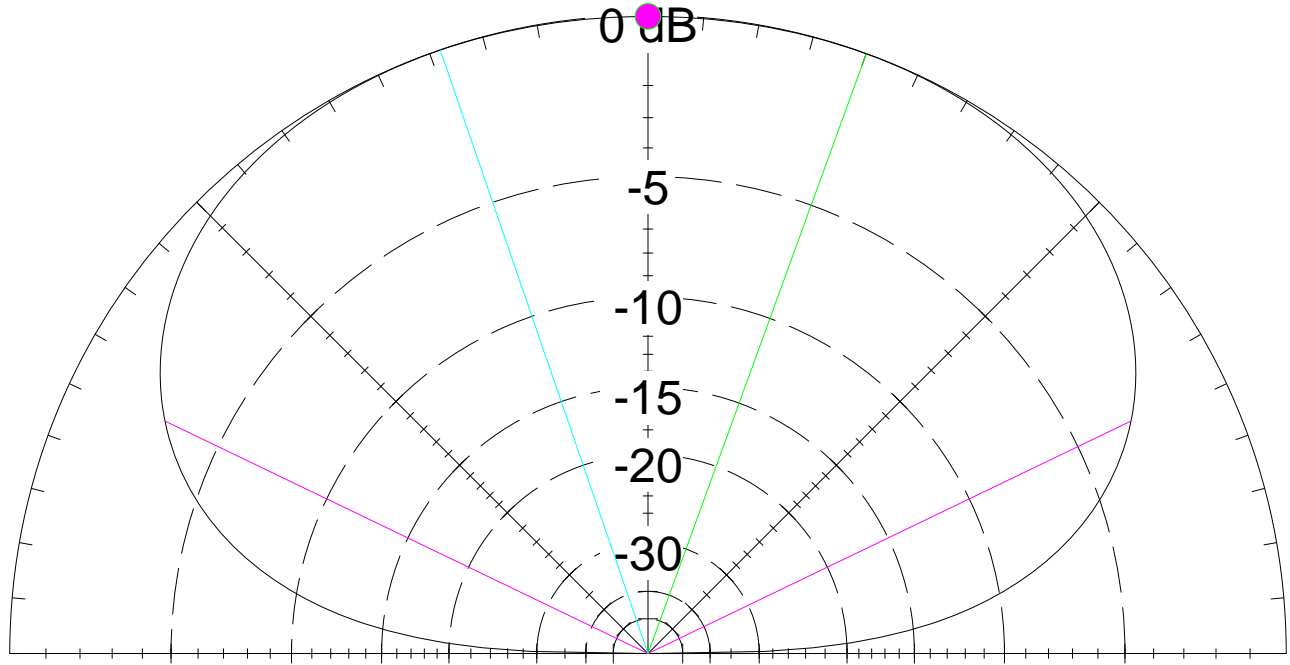
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.74 dBi
Outer Ring	1.88 dBi		-0.15 dBmax
Slice Max Gain	1.88 dBi @ Elev Angle = 62.0 deg.		
Beamwidth	131.8 deg.; -3dB @ 24.1, 155.9 deg.		
Sidelobe Gain	1.88 dBi @ Elev Angle = 118.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 9'2"H

27 MHz

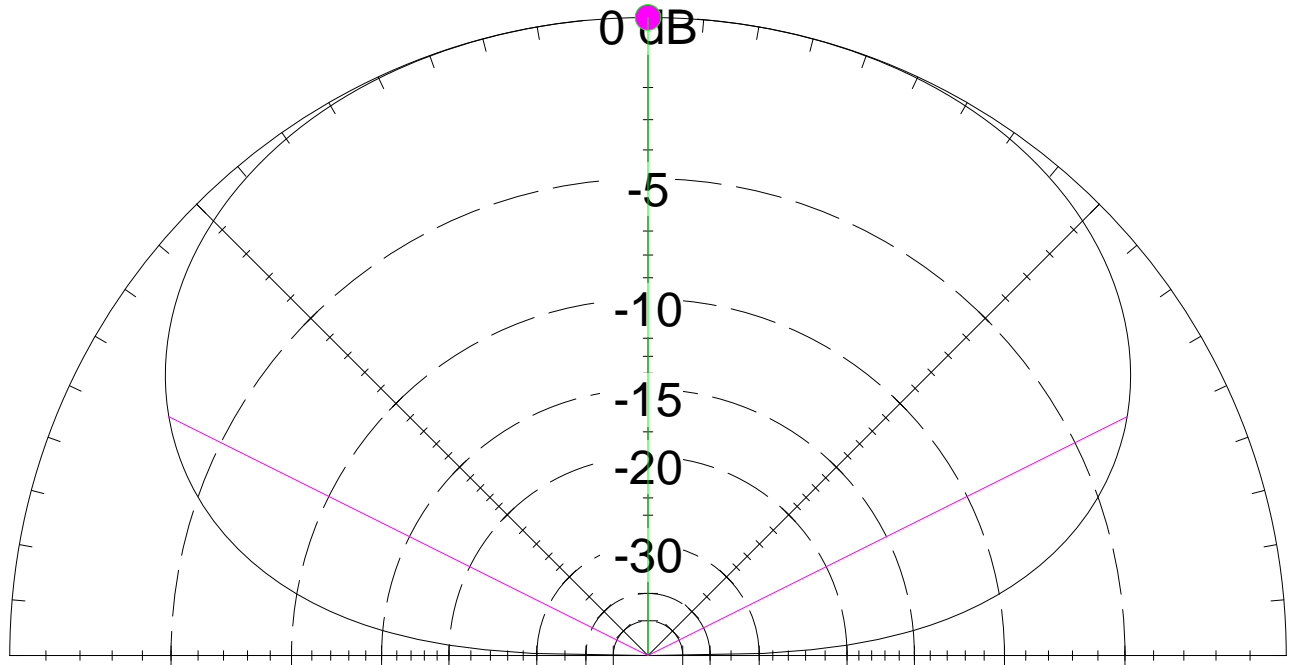
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.78 dBi
Outer Ring	1.86 dBi		-0.08 dBmax
Slice Max Gain	1.86 dBi @ Elev Angle = 65.0 deg.		
Beamwidth	130.2 deg.; -3dB @ 24.9, 155.1 deg.		
Sidelobe Gain	1.86 dBi @ Elev Angle = 114.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 9'2"H

26 MHz

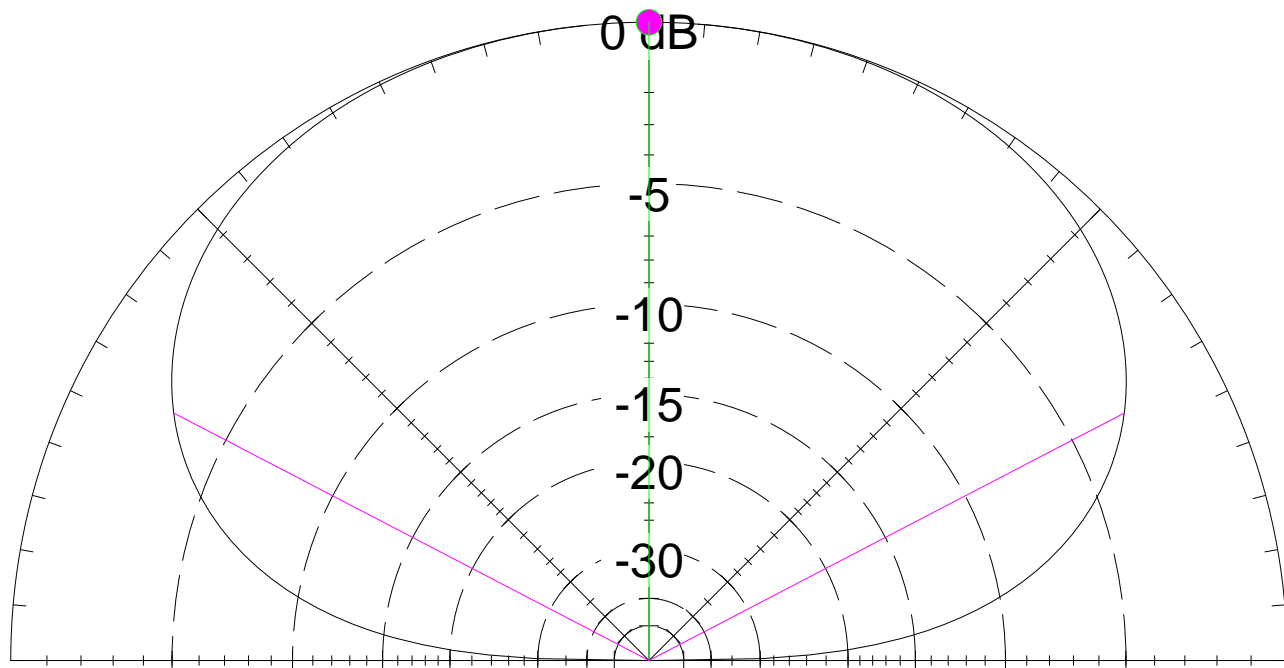
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.81 dBi
Outer Ring	1.84 dBi		-0.03 dBmax
Slice Max Gain	1.84 dBi @ Elev Angle = 70.0 deg.		
Beamwidth	128.6 deg.; -3dB @ 25.7, 154.3 deg.		
Sidelobe Gain	1.84 dBi @ Elev Angle = 109.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 9'2"H

25 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.83 dBi
Outer Ring	1.83 dBi		-0.01 dBmax
Slice Max Gain	1.83 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	127.0 deg.; -3dB @ 26.5, 153.5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

24 MHz

Elevation Plot

Azimuth Angle 90.0 deg.

Outer Ring 1.81 dBi

Cursor Elev 90.0 deg.

Gain 1.81 dBi

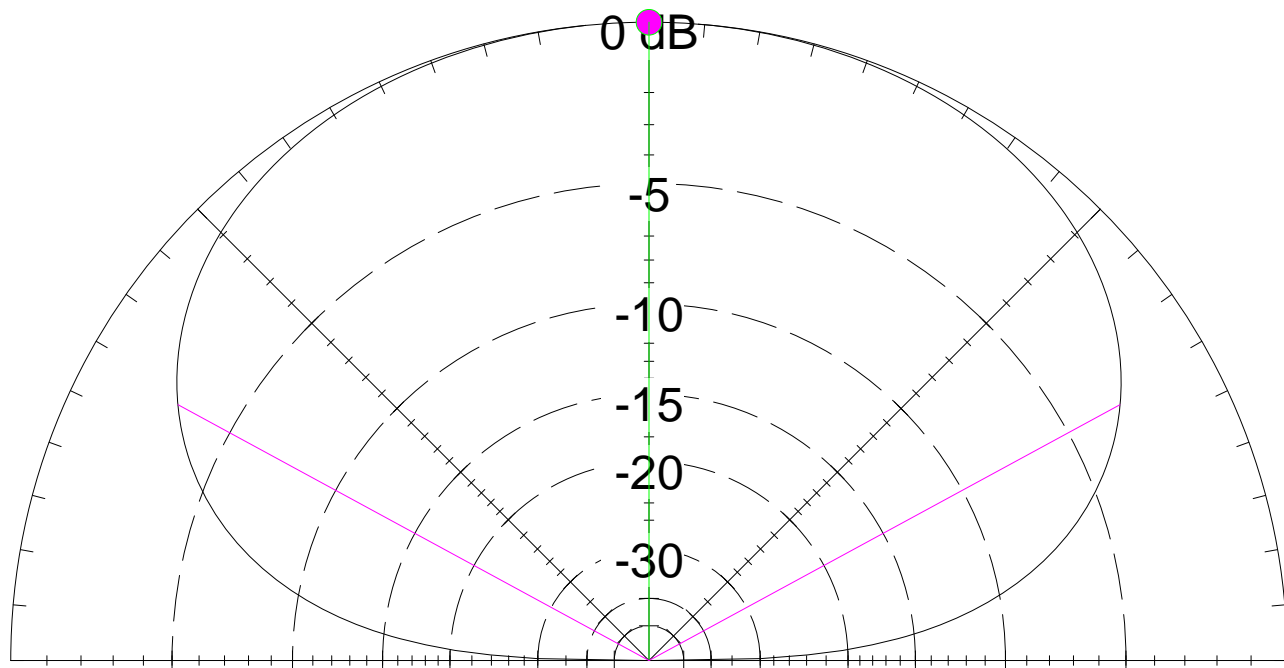
0.0 dBmax

Slice Max Gain 1.81 dBi @ Elev Angle = 90.0 deg.

Beamwidth 125.0 deg.; -3dB @ 27.5, 152.5 deg.

Sidelobe Gain < -100 dBi

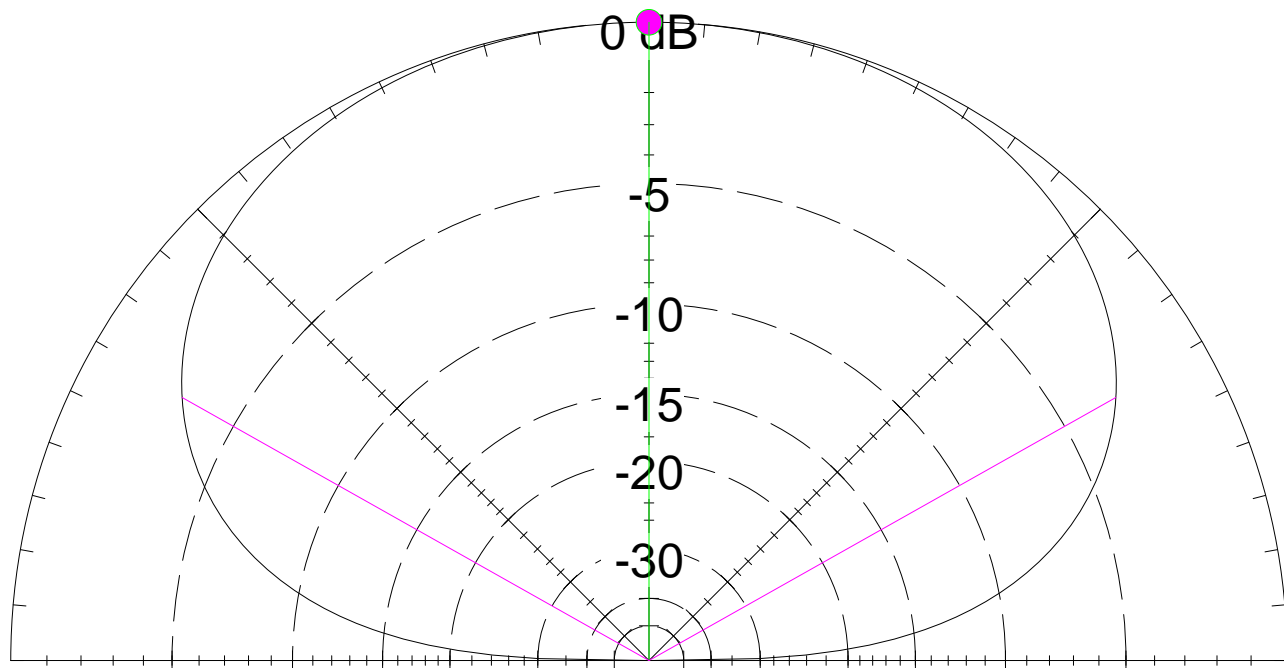
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 9'2"H

23 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.76 dBi
Outer Ring	1.75 dBi		0.0 dBmax
Slice Max Gain	1.76 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	123.0 deg.; -3dB @ 28.5, 151.5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

22 MHz

Elevation Plot

Azimuth Angle 90.0 deg.

Outer Ring 1.65 dBi

Cursor Elev 90.0 deg.

Gain 1.65 dBi

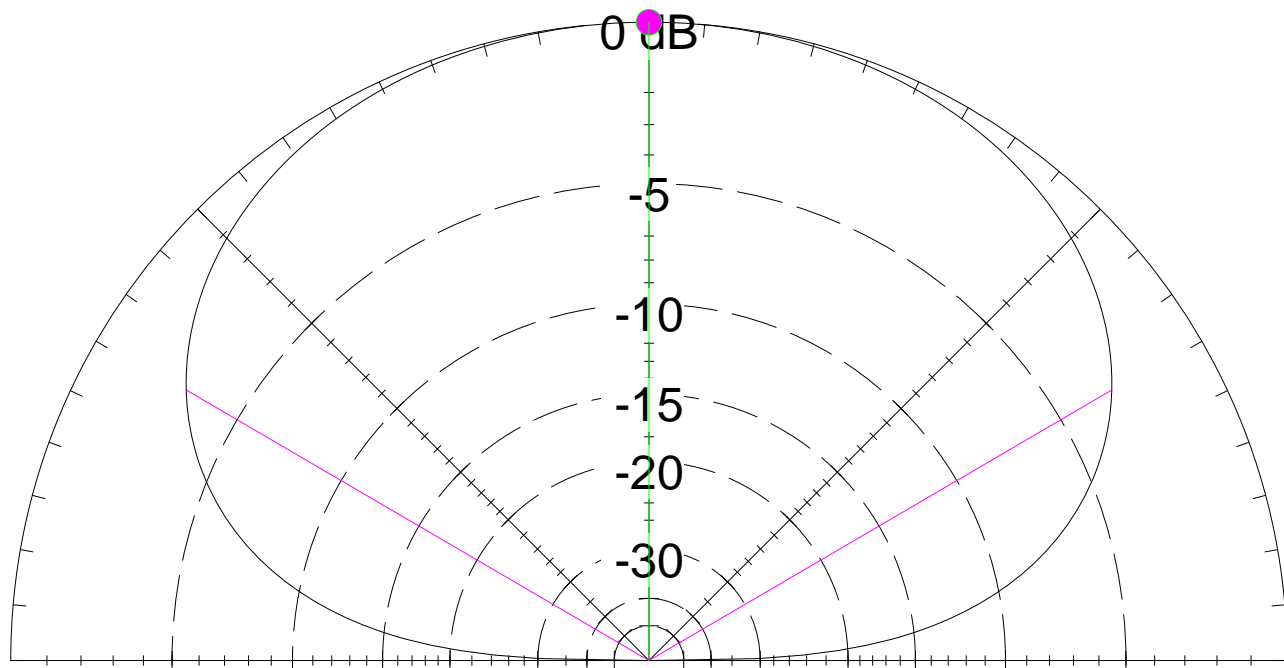
0.0 dBmax

Slice Max Gain 1.65 dBi @ Elev Angle = 90.0 deg.

Beamwidth 121.2 deg.; -3dB @ 29.4, 150.6 deg.

Sidelobe Gain < -100 dBi

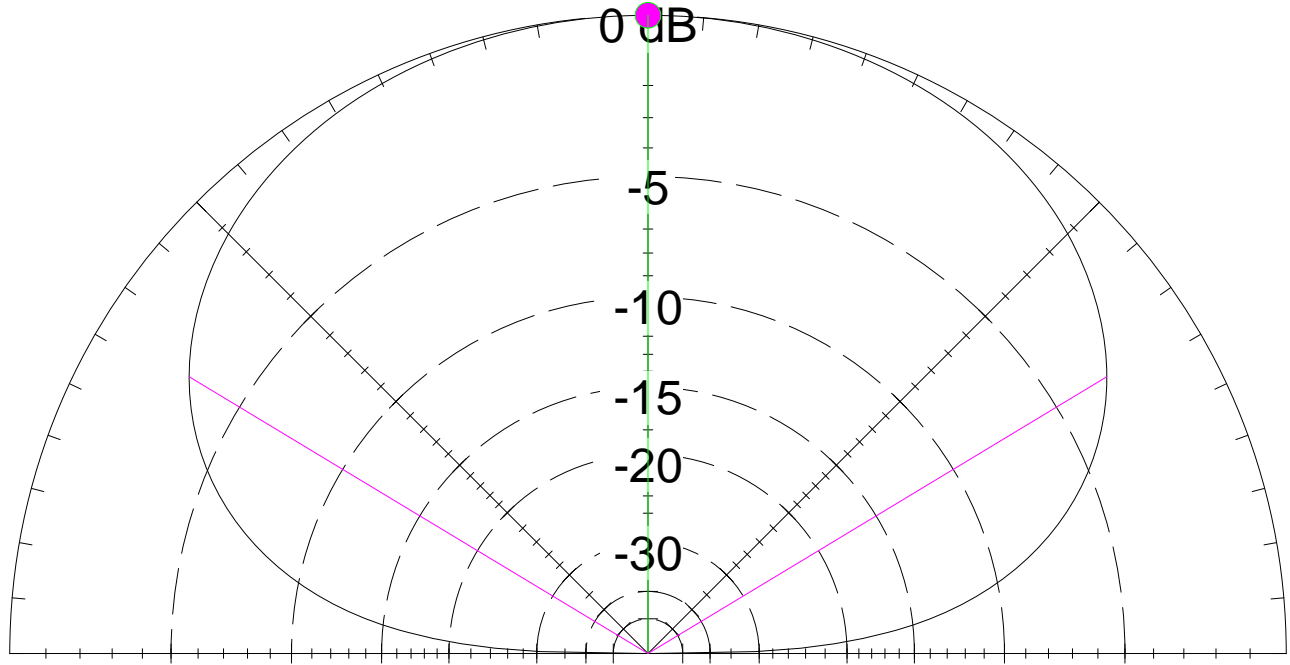
Front/Sidelobe > 100 dB



AJ4CO TFD 30' x 8" x 9'2"H

21 MHz

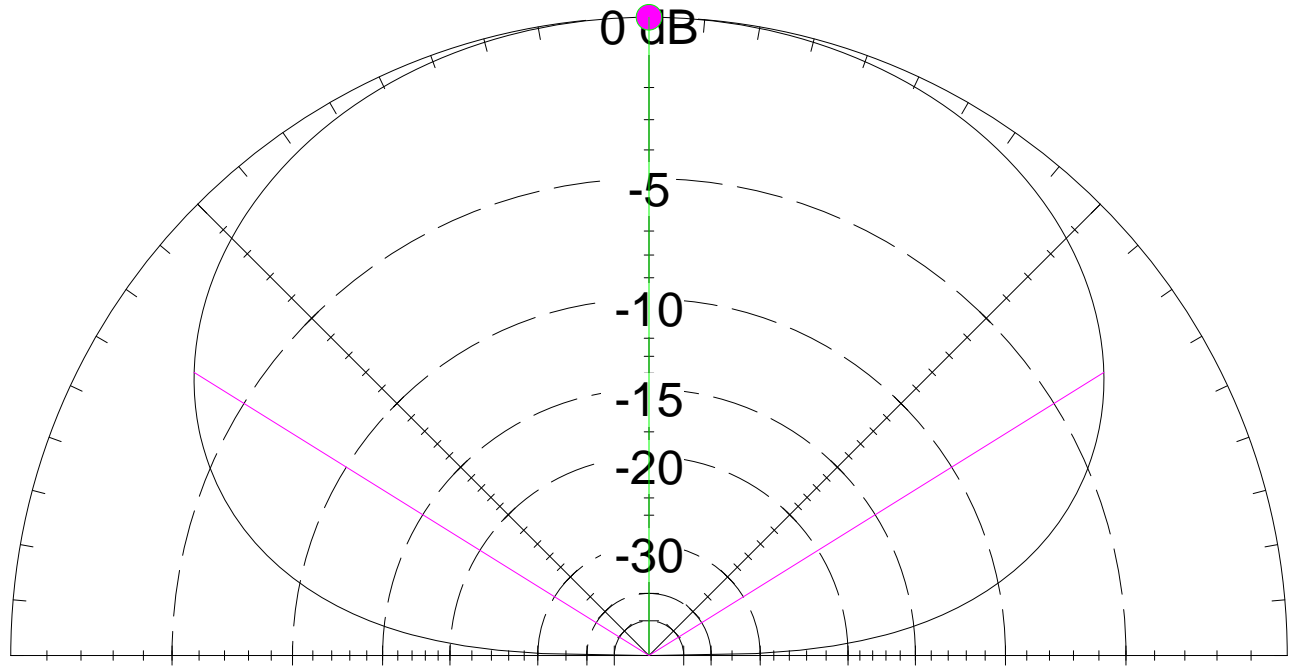
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.49 dBi
Outer Ring	1.49 dBi		0.0 dBmax
Slice Max Gain	1.49 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	119.4 deg.; -3dB @ 30.3, 149.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

20 MHz

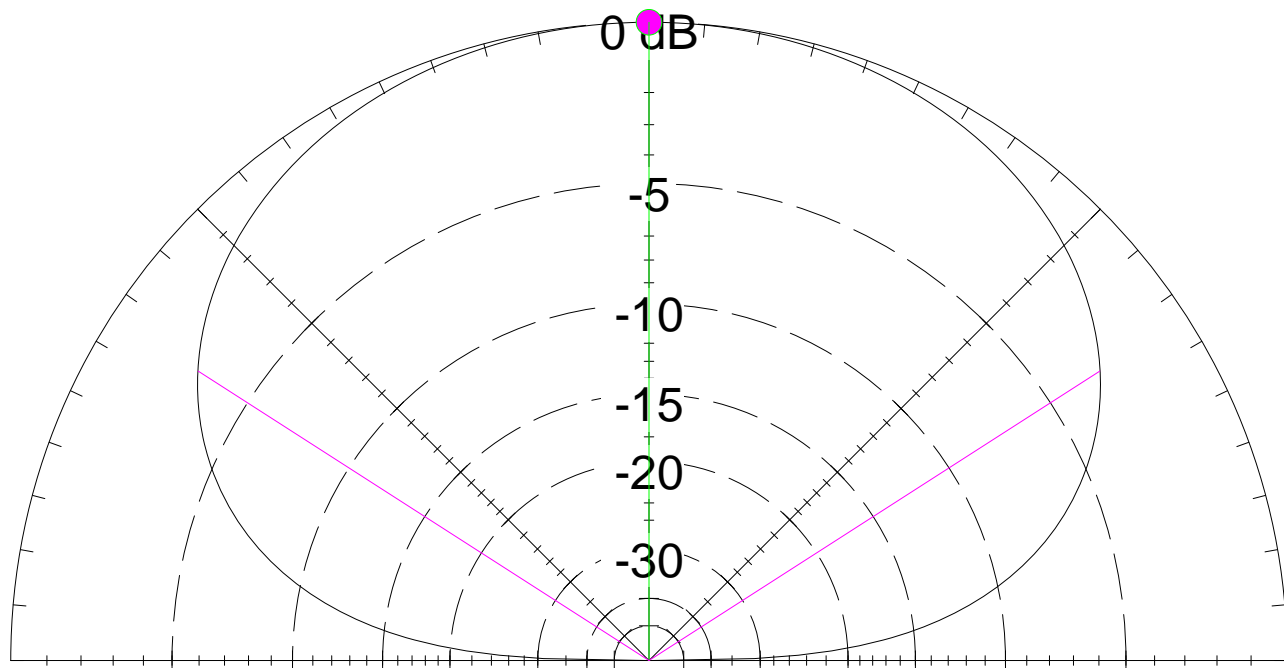
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.24 dBi
Outer Ring	1.24 dBi		0.0 dBmax
Slice Max Gain	1.24 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	117.8 deg.; -3dB @ 31.1, 148.9 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

19 MHz

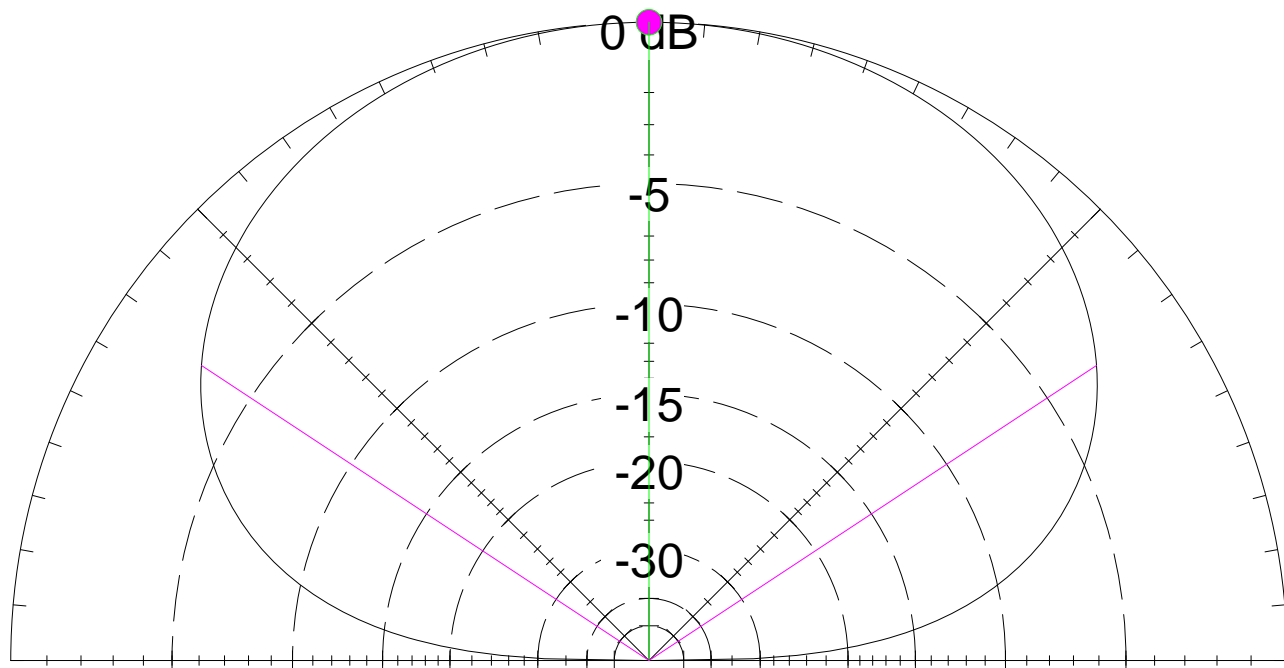
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	0.89 dBi
Outer Ring	0.89 dBi		0.0 dBmax
Slice Max Gain	0.89 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	116.2 deg.; -3dB @ 31.9, 148.1 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

18 MHz

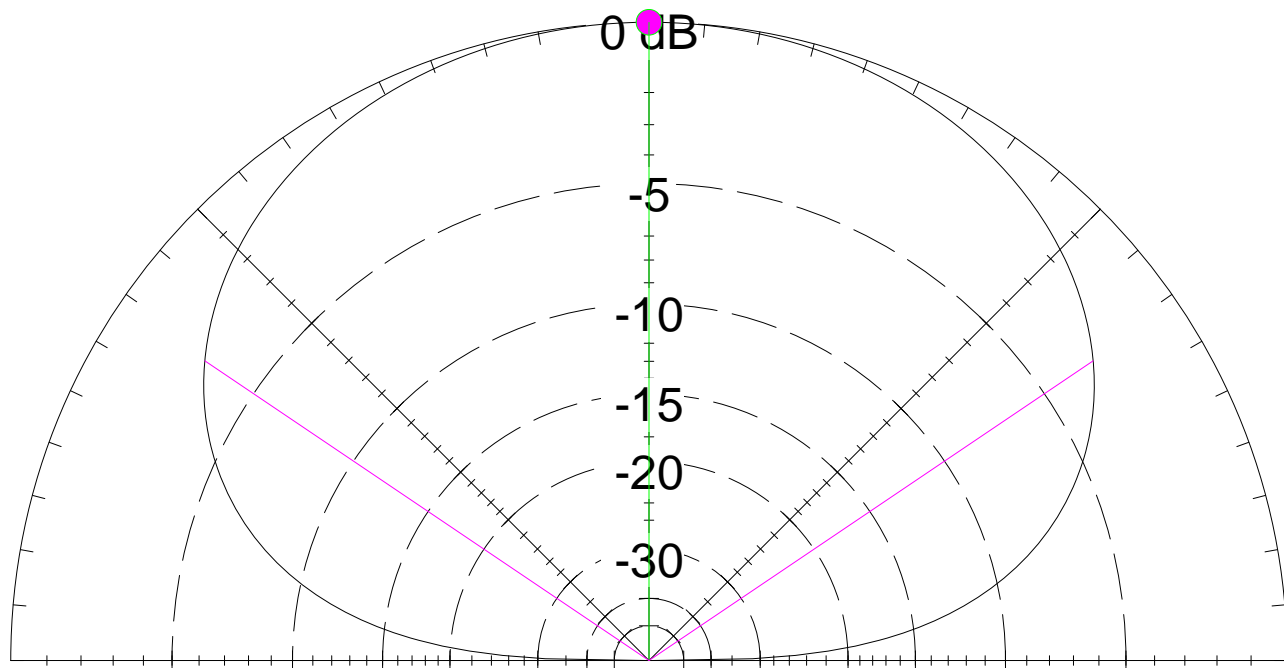
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	0.39 dBi
Outer Ring	0.39 dBi		0.0 dBmax
Slice Max Gain	0.39 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	114.6 deg.; -3dB @ 32.7, 147.3 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

17 MHz

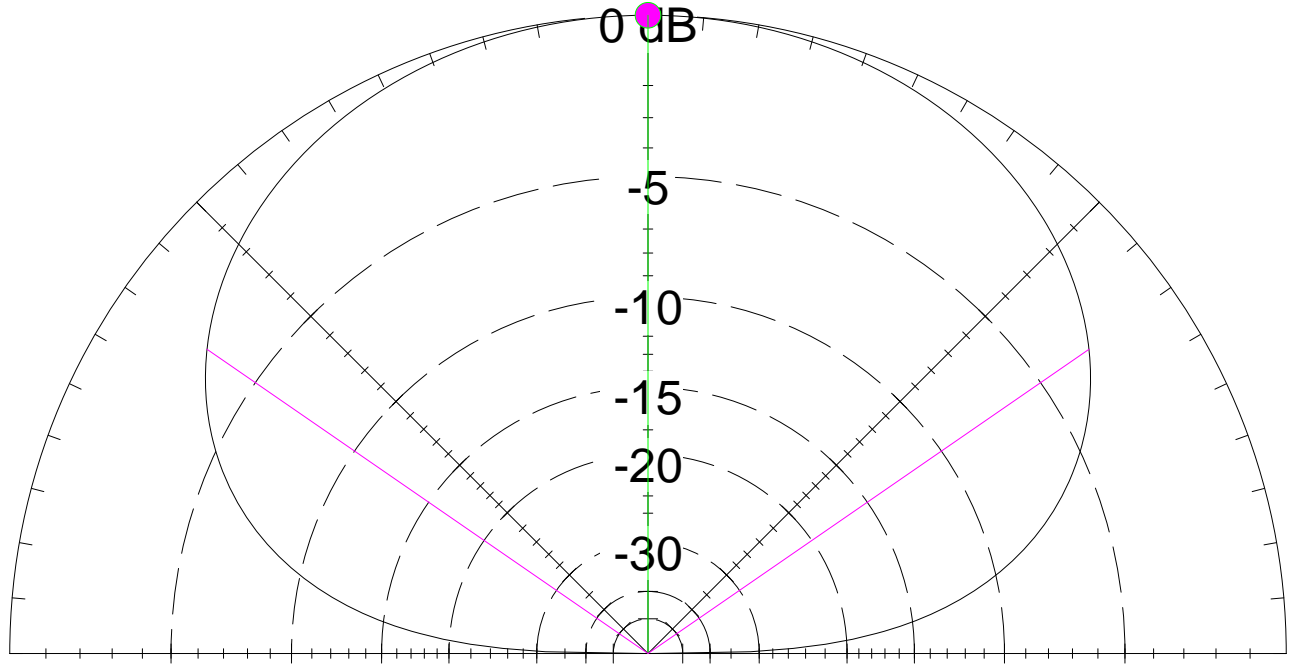
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-0.26 dBi
Outer Ring	-0.26 dBi		0.0 dBmax
Slice Max Gain	-0.26 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	113.2 deg.; -3dB @ 33.4, 146.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

16 MHz

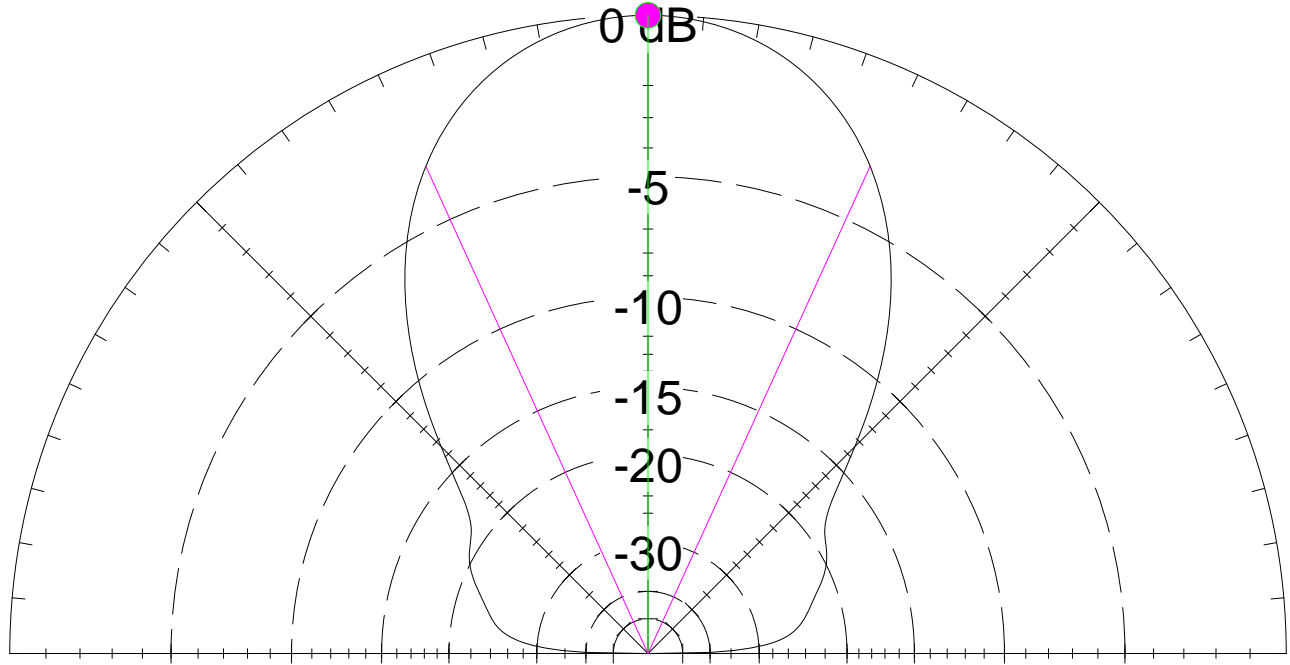
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-1.12 dBi
Outer Ring	-1.12 dBi		0.0 dBmax
Slice Max Gain	-1.12 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	112.0 deg.; -3dB @ 34.0, 146.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 9'2"H

15 MHz

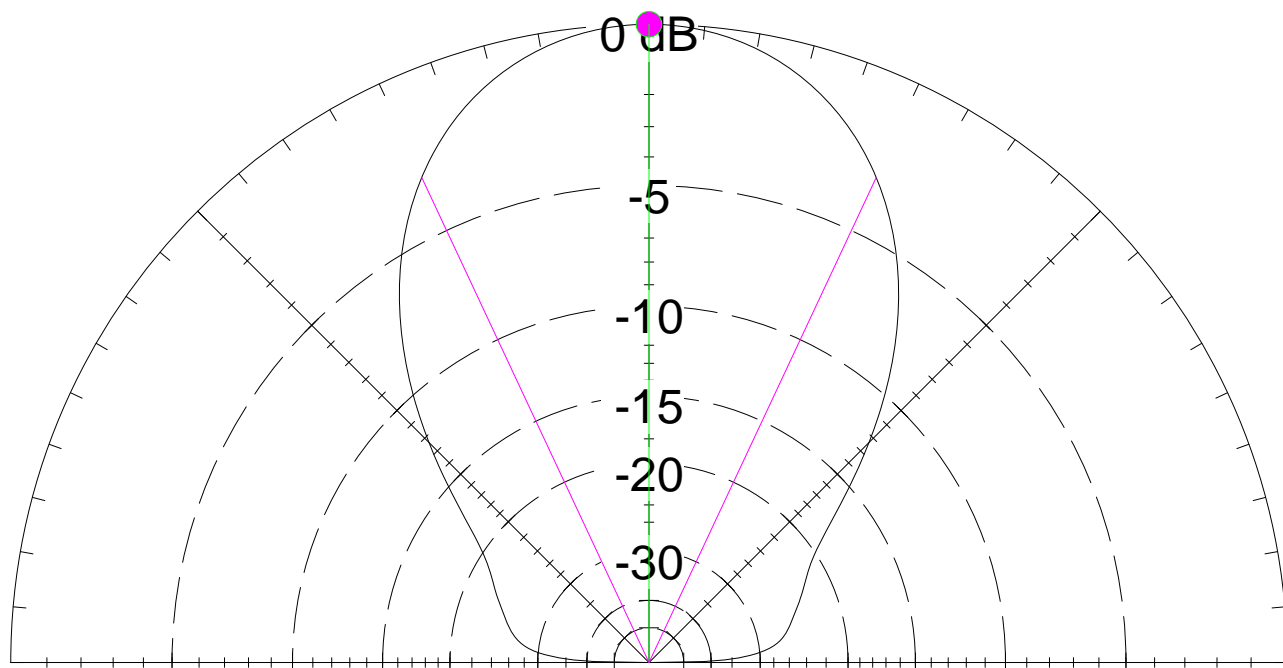
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-2.18 dBi
Outer Ring	-2.18 dBi		0.0 dBmax
Slice Max Gain	-2.18 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	110.8 deg.; -3dB @ 34.6, 145.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

35 MHz

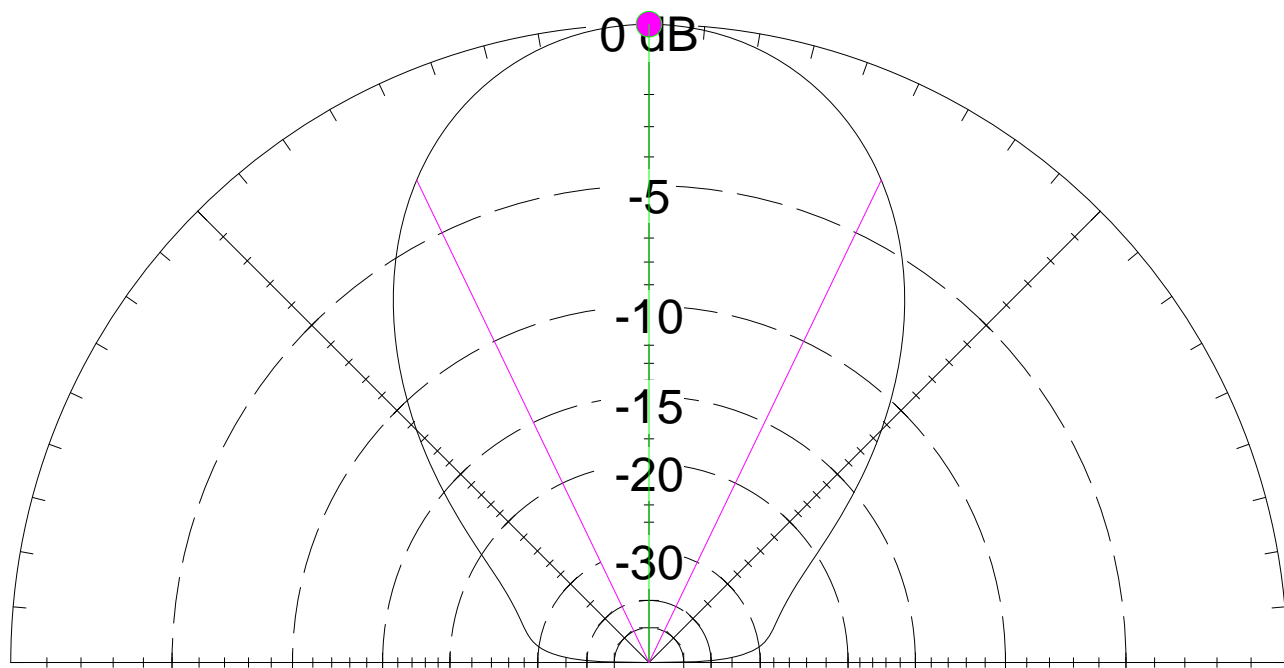
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-0.8 dBi
Outer Ring	-0.8 dBi		0.0 dBmax
Slice Max Gain	-0.8 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	49.0 deg.; -3dB @ 65.5, 114.5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

34 MHz

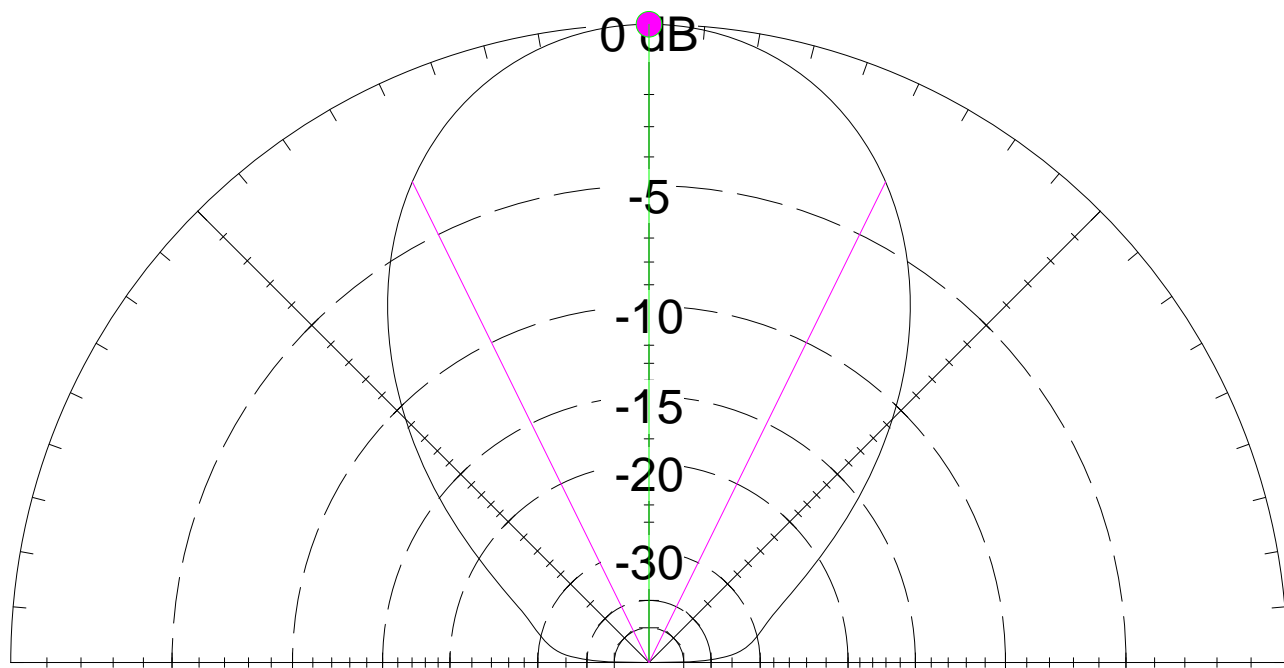
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-0.43 dBi
Outer Ring	-0.43 dBi		0.0 dBmax
Slice Max Gain	-0.43 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	50.2 deg.; -3dB @ 64.9, 115.1 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

33 MHz

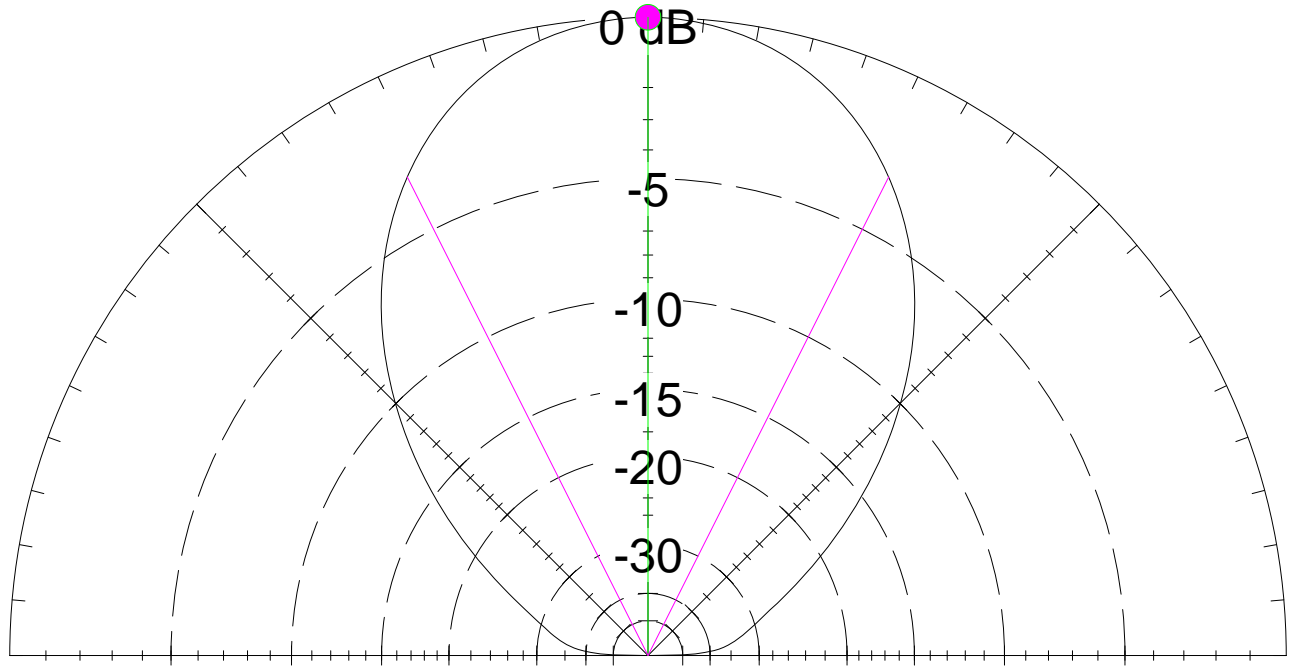
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-0.1 dBi
Outer Ring	-0.1 dBi		0.0 dBmax
Slice Max Gain	-0.1 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	51.4 deg.; -3dB @ 64.3, 115.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

32 MHz

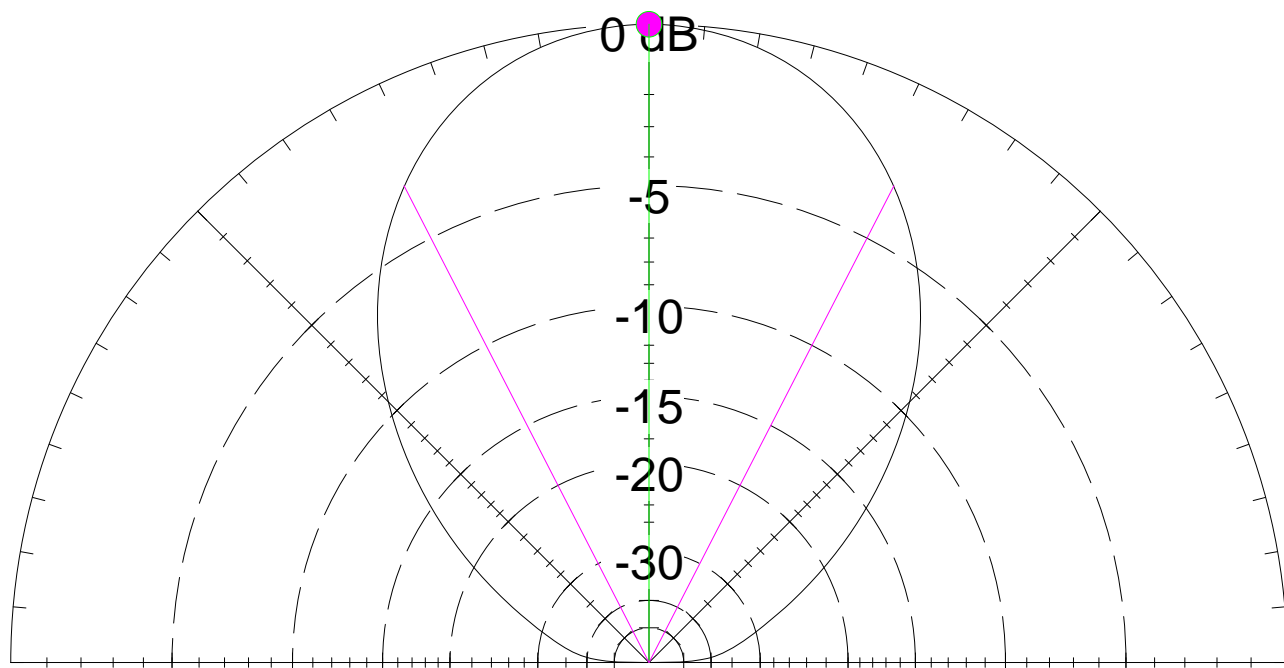
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.21 dBi
Outer Ring	0.21 dBi		0.0 dBmax
Slice Max Gain	0.21 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	52.4 deg.; -3dB @ 63.8, 116.2 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

31 MHz

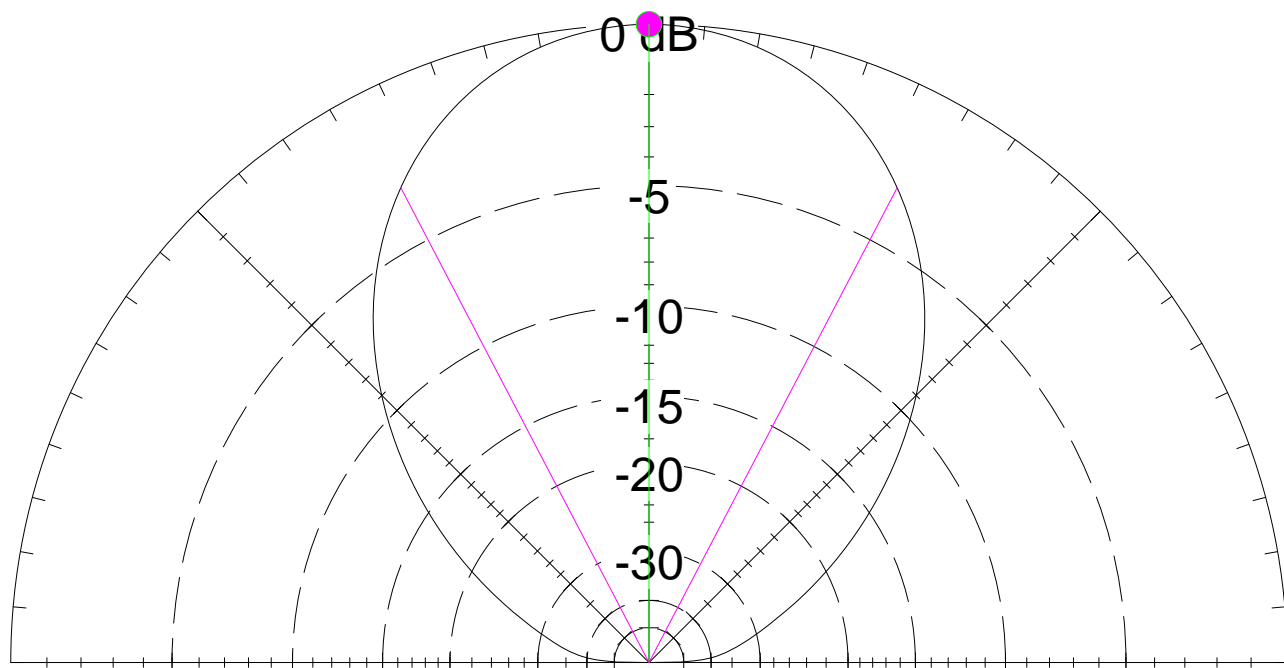
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.5 dBi
Outer Ring	0.5 dBi		0.0 dBmax
Slice Max Gain	0.5 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	53.4 deg.; -3dB @ 63.3, 116.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

30 MHz

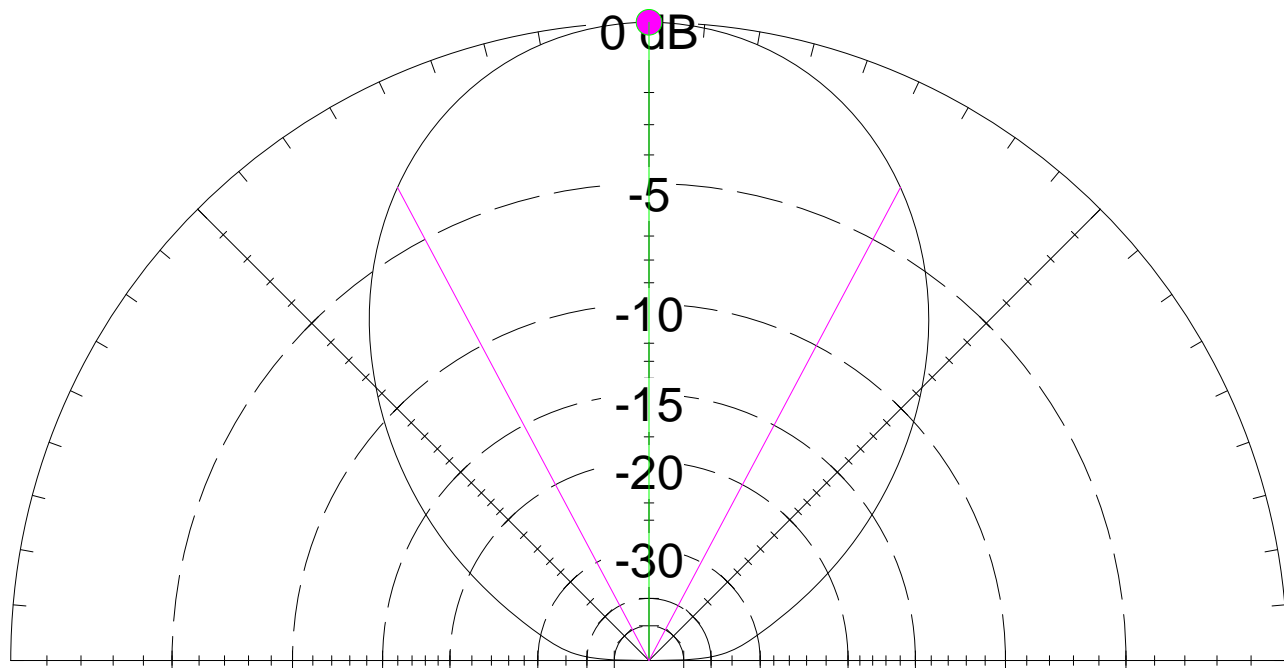
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.76 dBi
Outer Ring	0.76 dBi		0.0 dBmax
Slice Max Gain	0.76 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	54.4 deg.; -3dB @ 62.8, 117.2 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

29 MHz

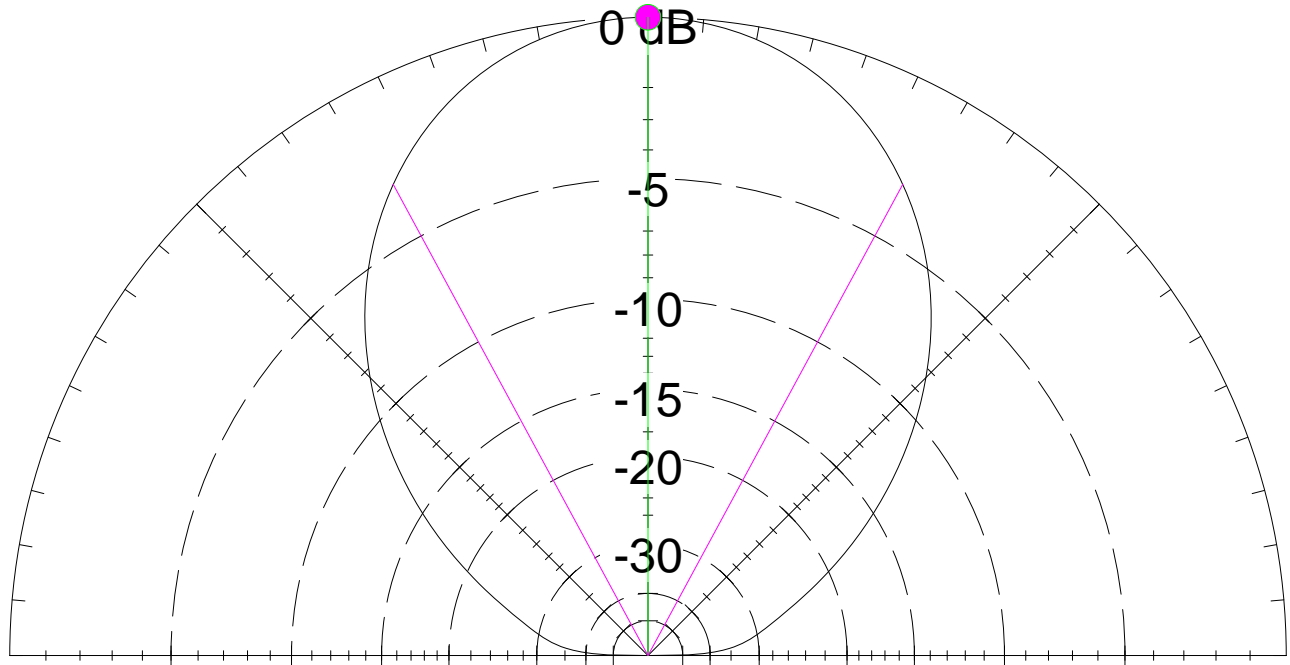
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.99 dBi
Outer Ring	0.99 dBi		0.0 dBmax
Slice Max Gain	0.99 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	55.2 deg.; -3dB @ 62.4, 117.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

28 MHz

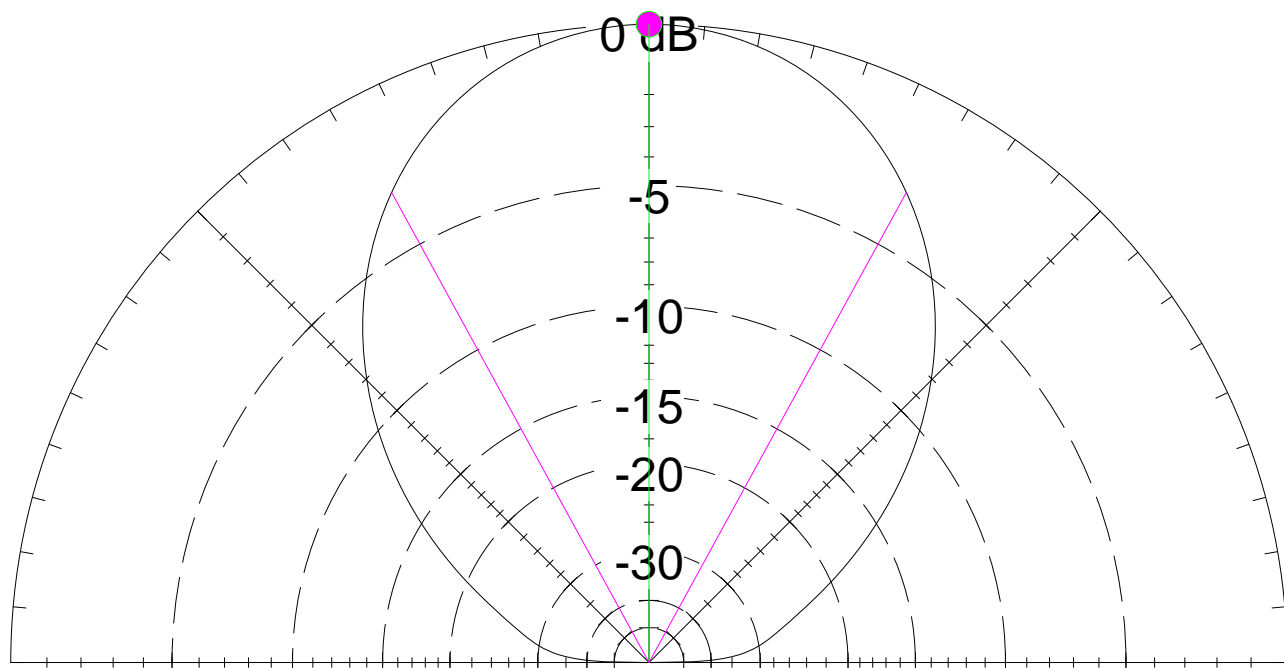
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.2 dBi
Outer Ring	1.2 dBi		0.0 dBmax
Slice Max Gain	1.2 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	56.0 deg.; -3dB @ 62.0, 118.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

27 MHz

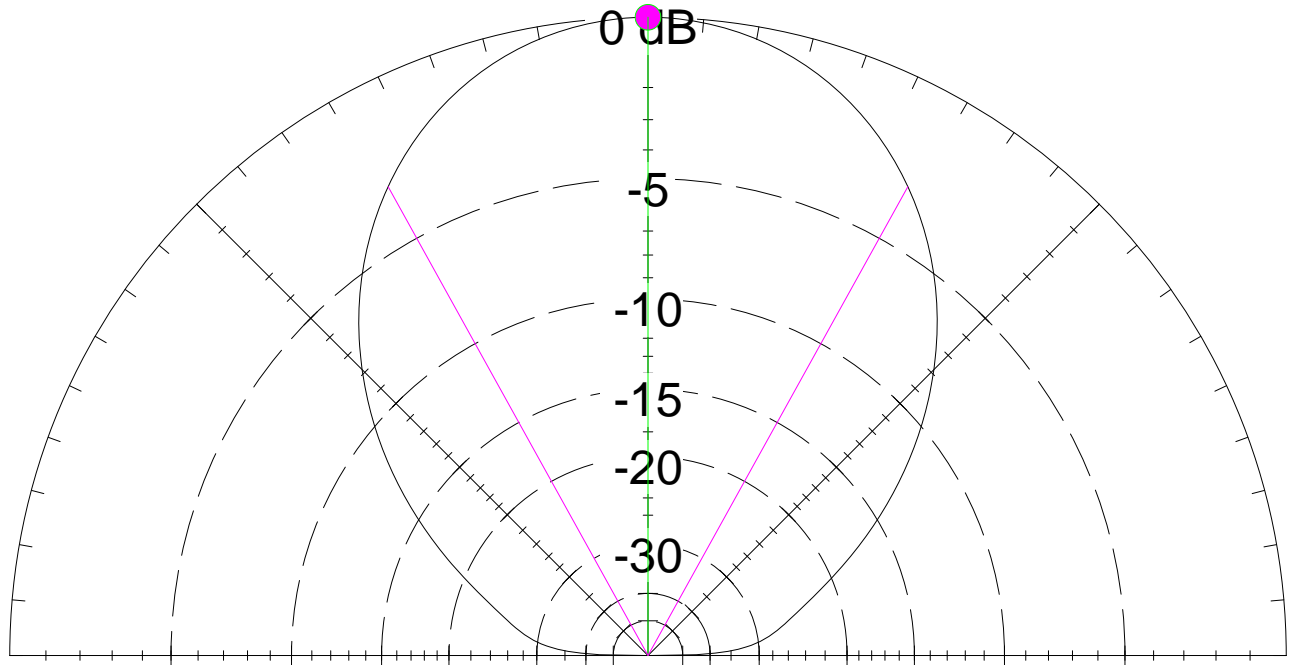
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.39 dBi
Outer Ring	1.39 dBi		0.0 dBmax
Slice Max Gain	1.39 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	56.8 deg.; -3dB @ 61.6, 118.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

26 MHz

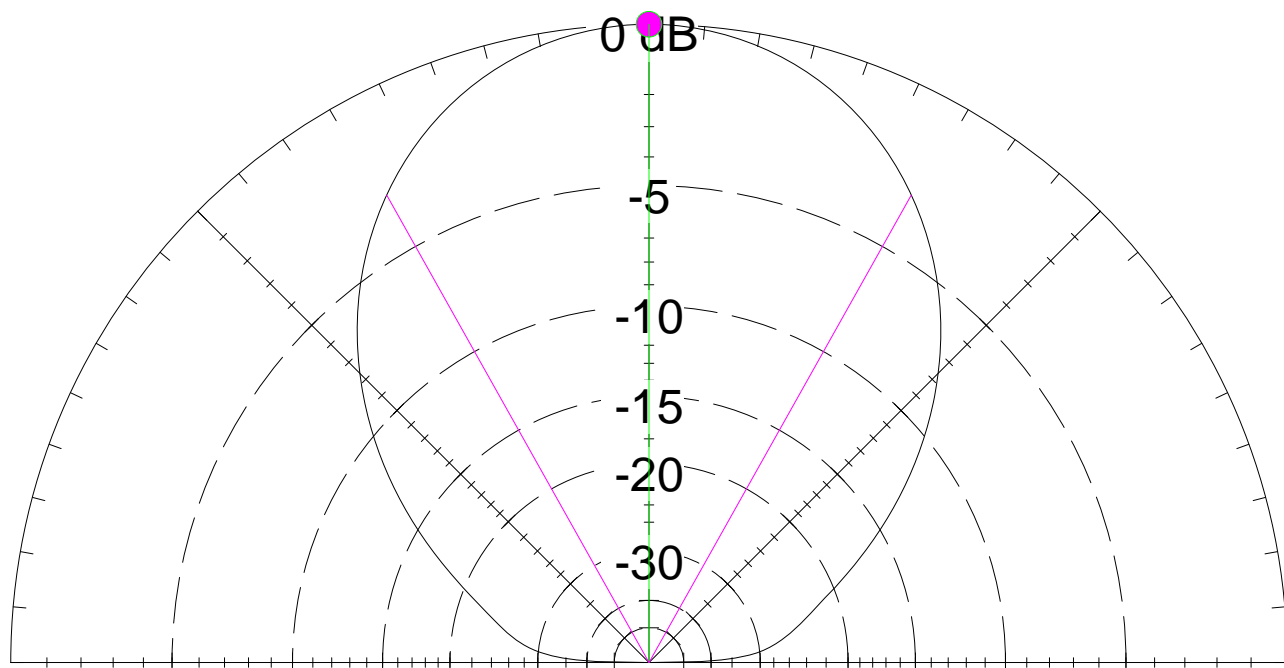
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.55 dBi
Outer Ring	1.55 dBi		0.0 dBmax
Slice Max Gain	1.55 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	57.4 deg.; -3dB @ 61.3, 118.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

25 MHz

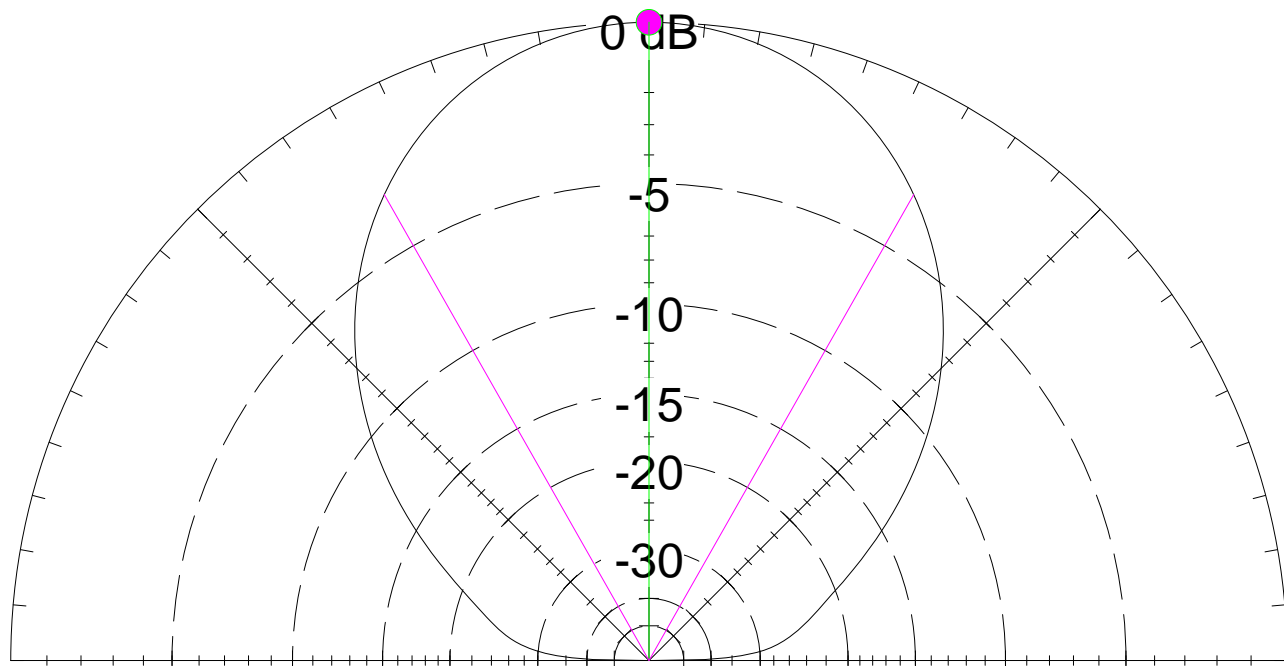
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.69 dBi
Outer Ring	1.69 dBi		0.0 dBmax
Slice Max Gain	1.69 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	58.0 deg.; -3dB @ 61.0, 119.0 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

24 MHz

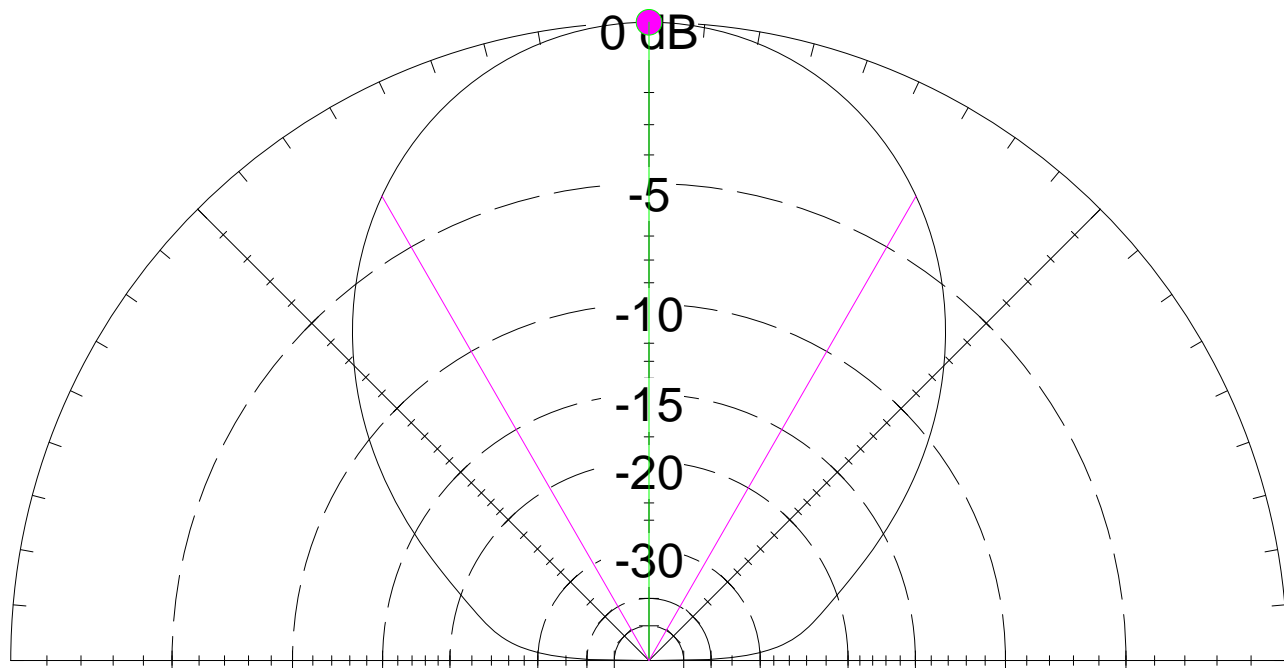
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.77 dBi
Outer Ring	1.77 dBi		0.0 dBmax
Slice Max Gain	1.77 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	58.6 deg.; -3dB @ 60.7, 119.3 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

23 MHz

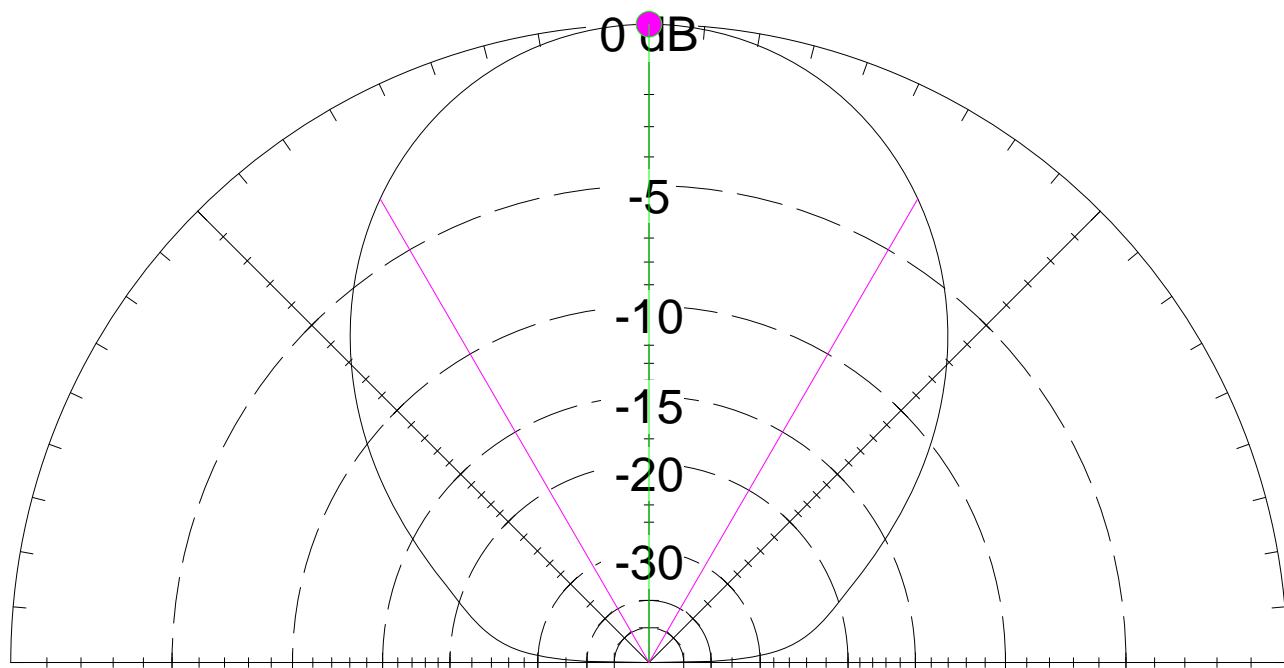
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.85 dBi
Outer Ring	1.85 dBi		0.0 dBmax
Slice Max Gain	1.85 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	59.2 deg.; -3dB @ 60.4, 119.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

22 MHz

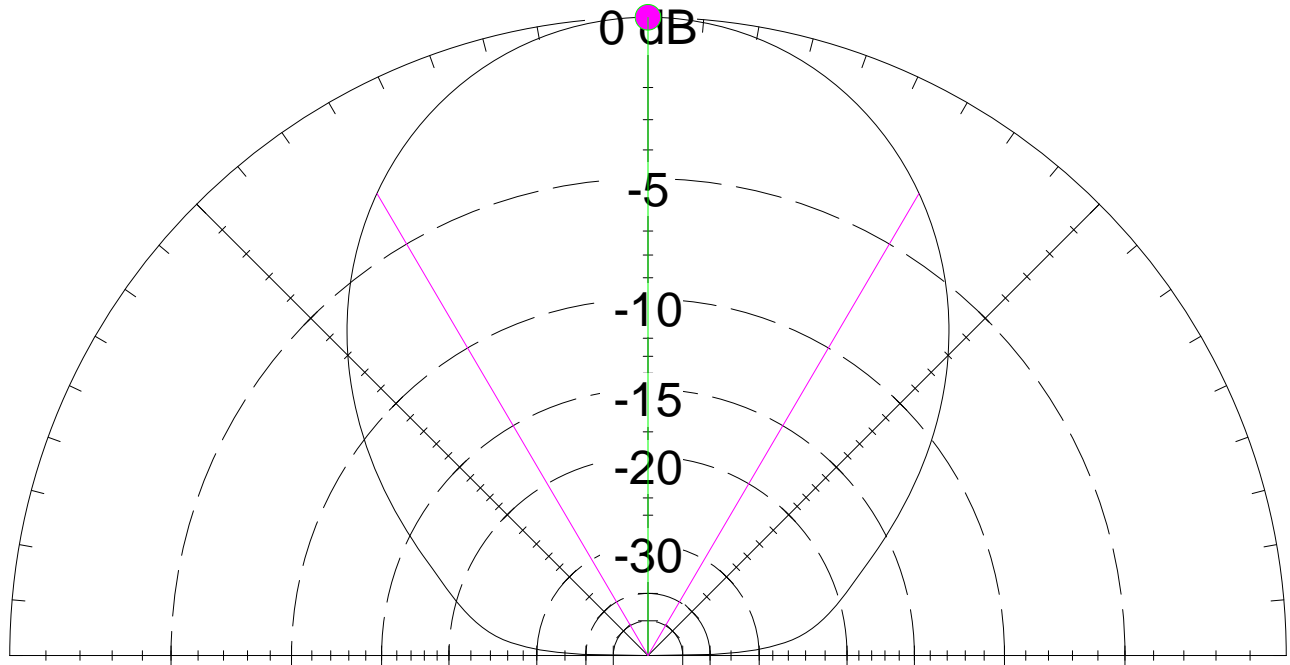
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.86 dBi
Outer Ring	1.86 dBi		0.0 dBmax
Slice Max Gain	1.86 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	59.8 deg.; -3dB @ 60.1, 119.9 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

21 MHz

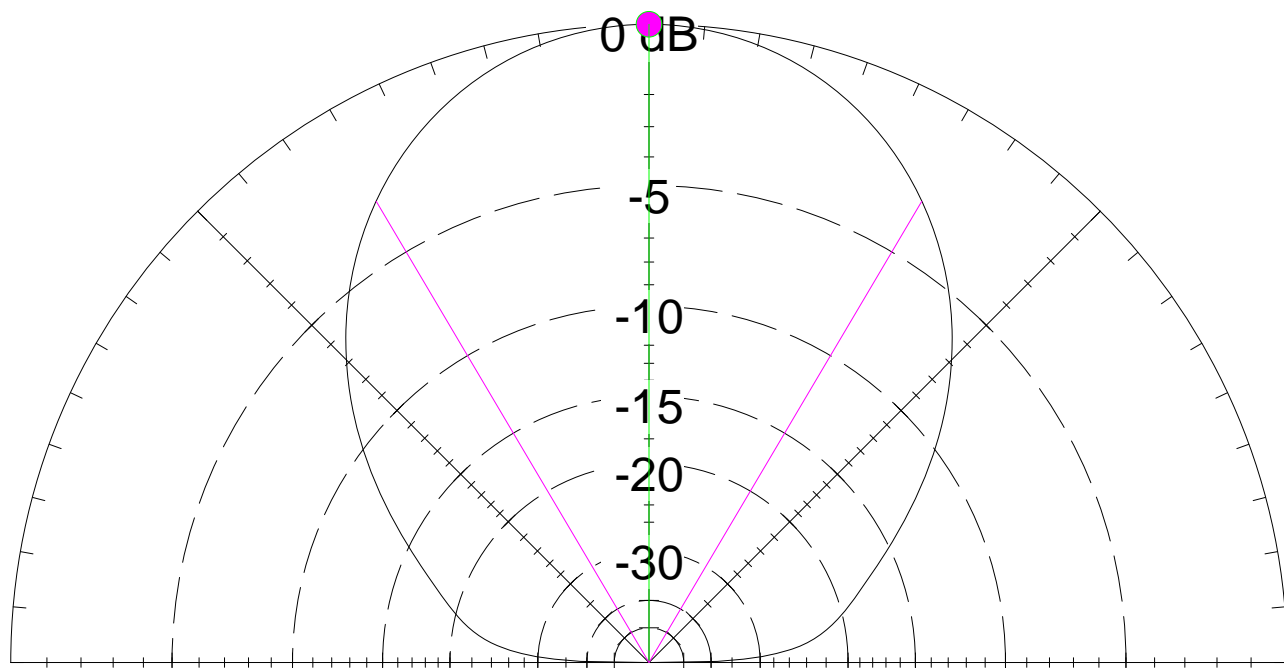
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.8 dBi
Outer Ring	1.8 dBi		0.0 dBmax
Slice Max Gain	1.8 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	60.2 deg.; -3dB @ 59.9, 120.1 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

20 MHz

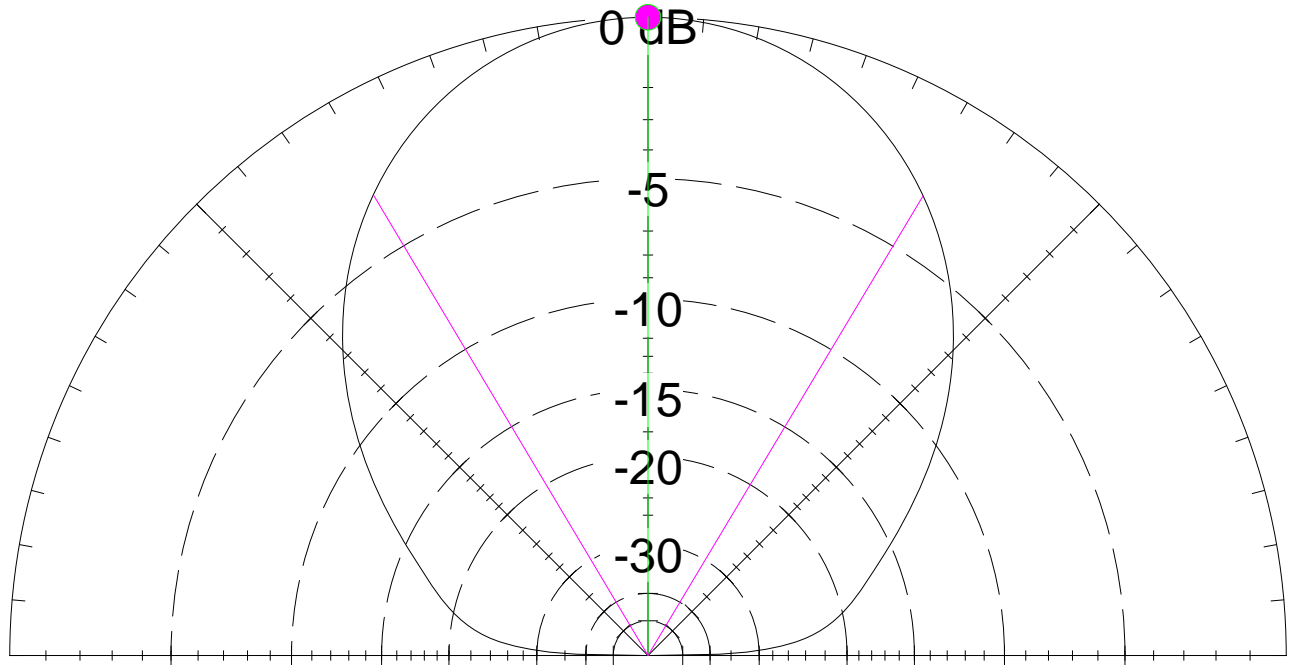
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.61 dBi
Outer Ring	1.61 dBi		0.0 dBmax
Slice Max Gain	1.61 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	60.8 deg.; -3dB @ 59.6, 120.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

19 MHz

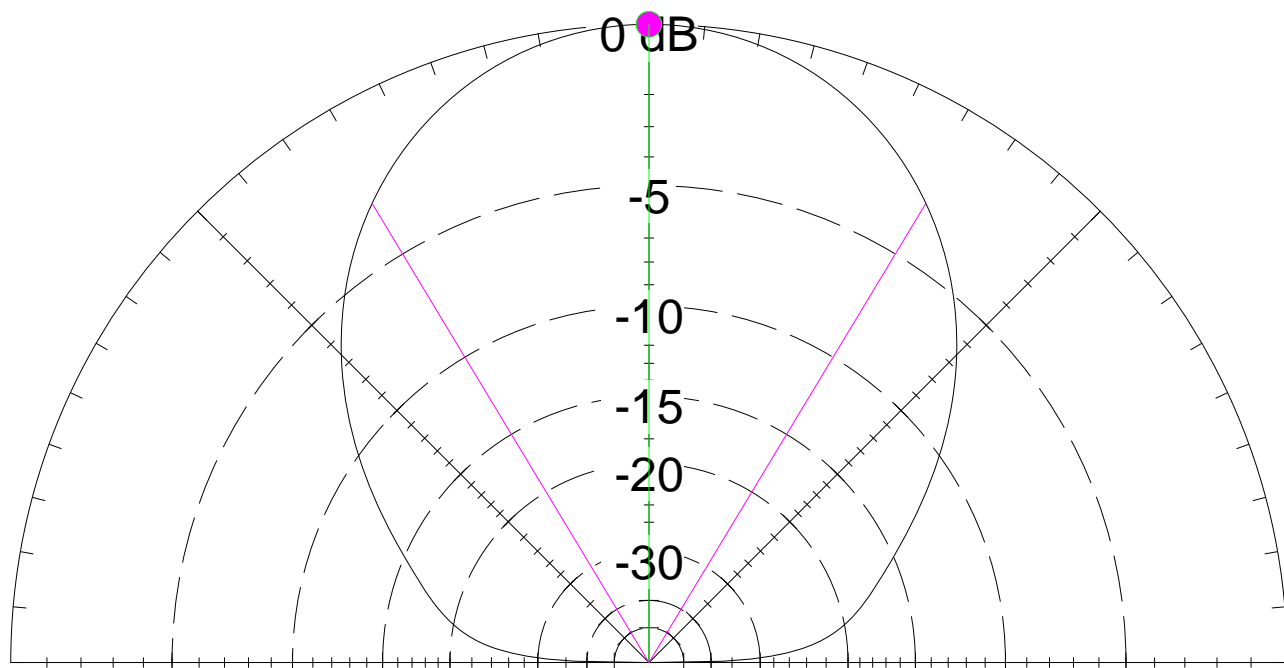
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.4 dBi
Outer Ring	1.4 dBi		0.0 dBmax
Slice Max Gain	1.4 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	61.2 deg.; -3dB @ 59.4, 120.6 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

18 MHz

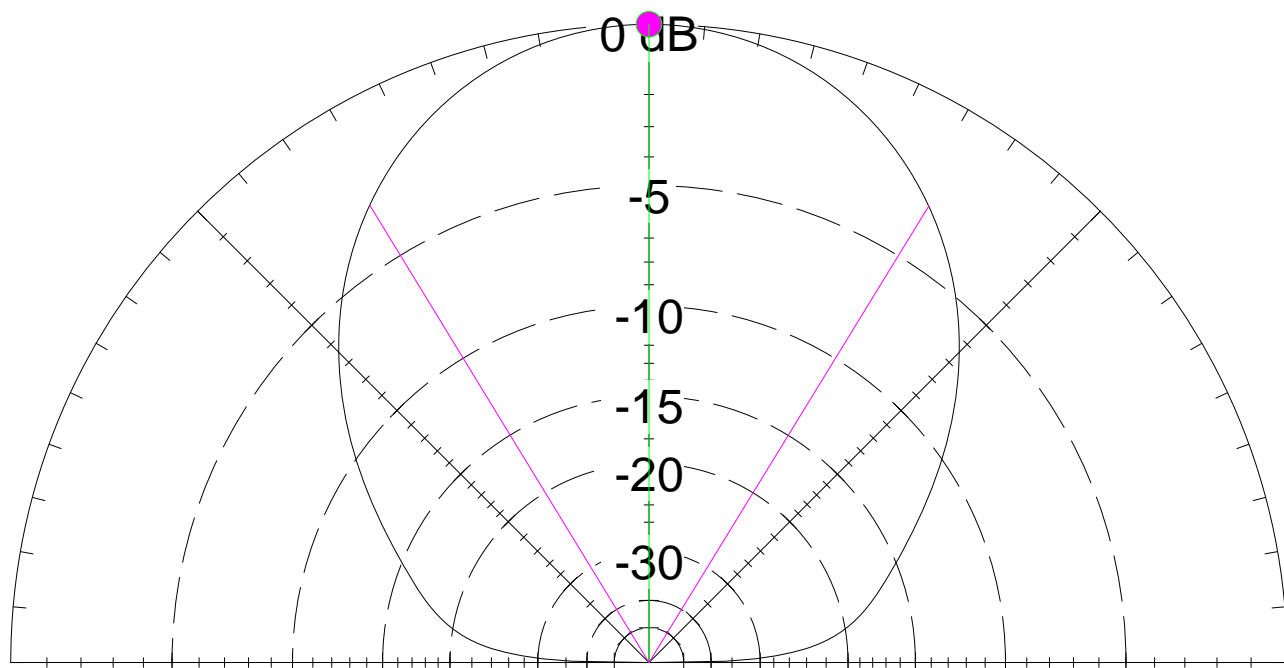
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	1.0 dBi
Outer Ring	1.0 dBi		0.0 dBmax
Slice Max Gain	1.0 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	61.7 deg.; -3dB @ 59.1, 120.8 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

17 MHz

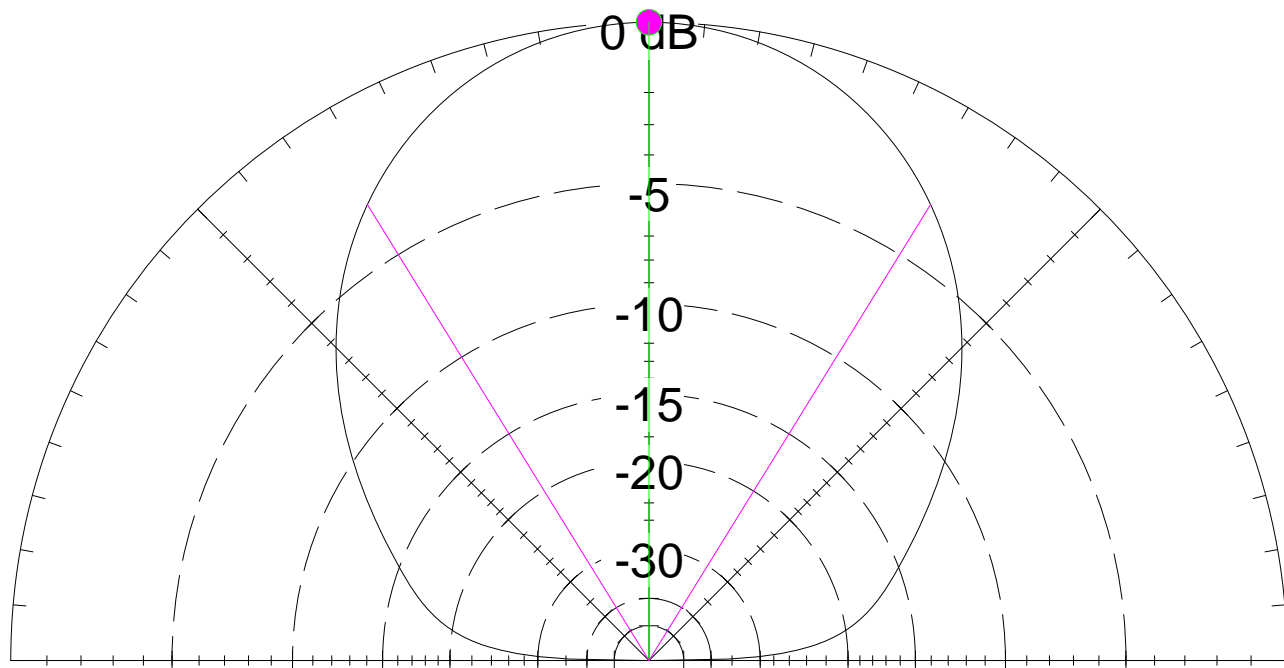
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	0.45 dBi
Outer Ring	0.45 dBi		0.0 dBmax
Slice Max Gain	0.45 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	62.2 deg.; -3dB @ 58.9, 121.1 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

16 MHz

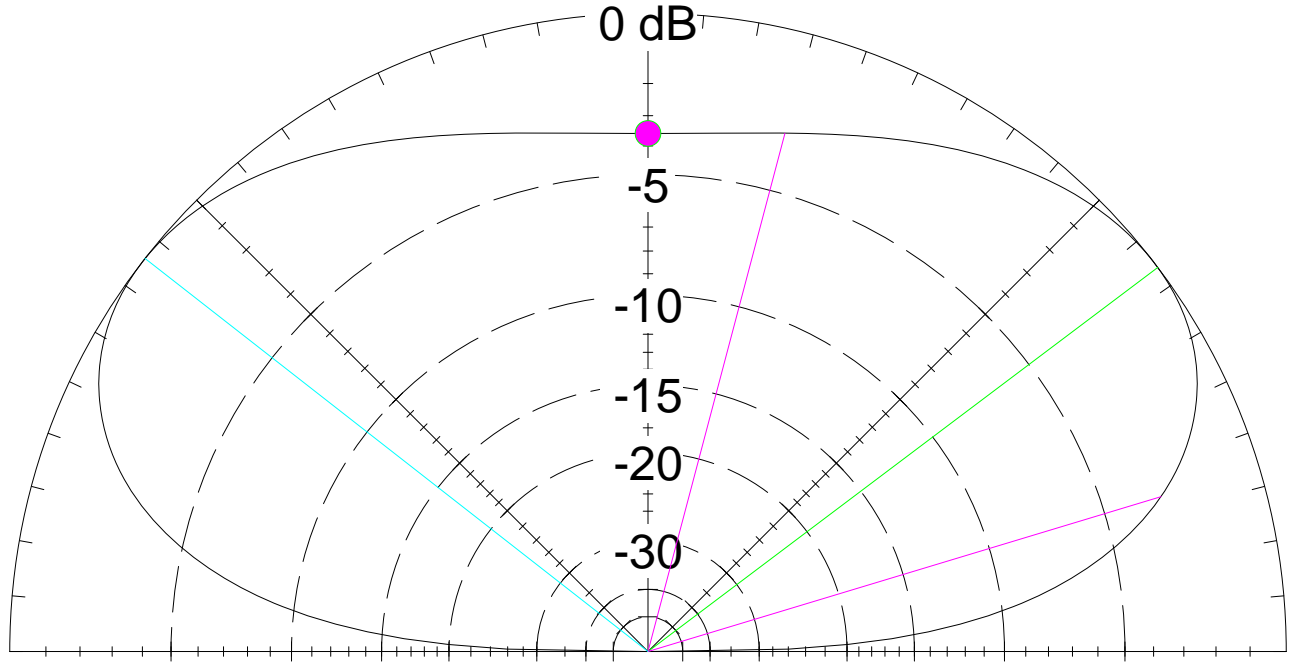
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-0.31 dBi
Outer Ring	-0.31 dBi		0.0 dBmax
Slice Max Gain	-0.31 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	62.9 deg.; -3dB @ 58.5, 121.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

15 MHz

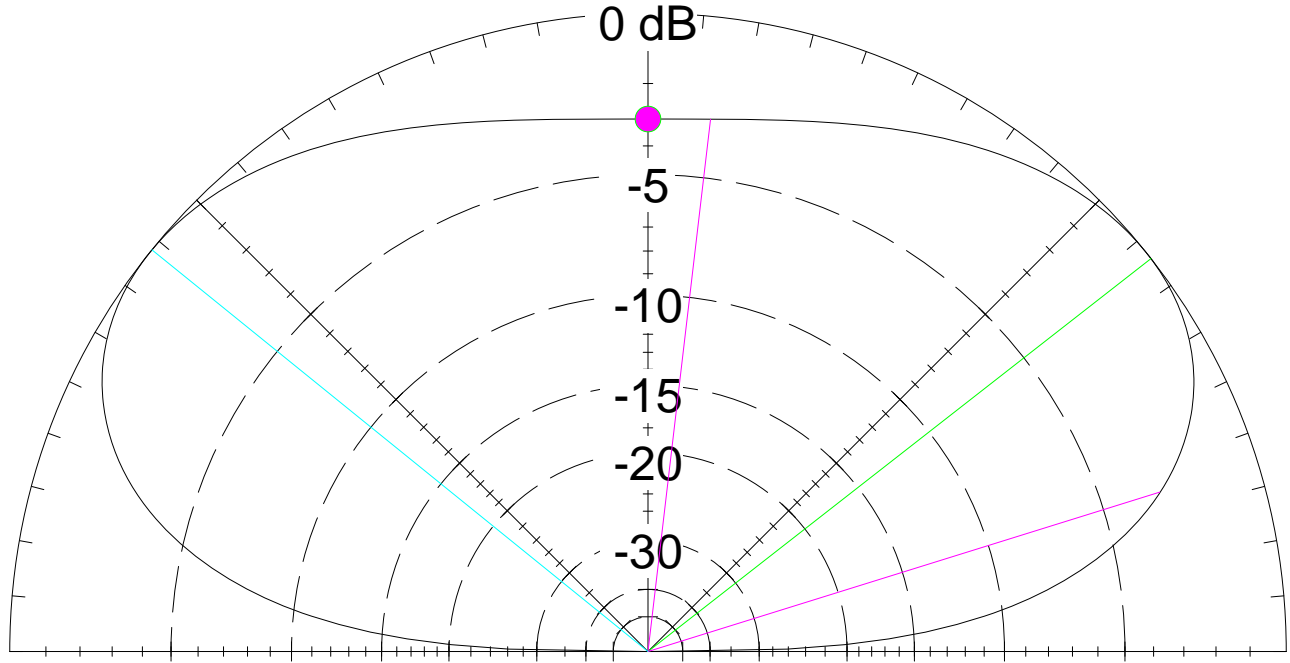
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	180.0 deg.	Gain	-1.29 dBi
Outer Ring	-1.29 dBi		0.0 dBmax
Slice Max Gain	-1.29 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	63.4 deg.; -3dB @ 58.3, 121.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

35 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-0.8 dBi
Outer Ring	2.79 dBi		-3.58 dBmax
Slice Max Gain	2.79 dBi @ Elev Angle = 37.0 deg.		
Beamwidth	58.4 deg.; -3dB @ 16.8, 75.2 deg.		
Sidelobe Gain	2.79 dBi @ Elev Angle = 142.0 deg.		
Front/Sidelobe	0.0 dB		



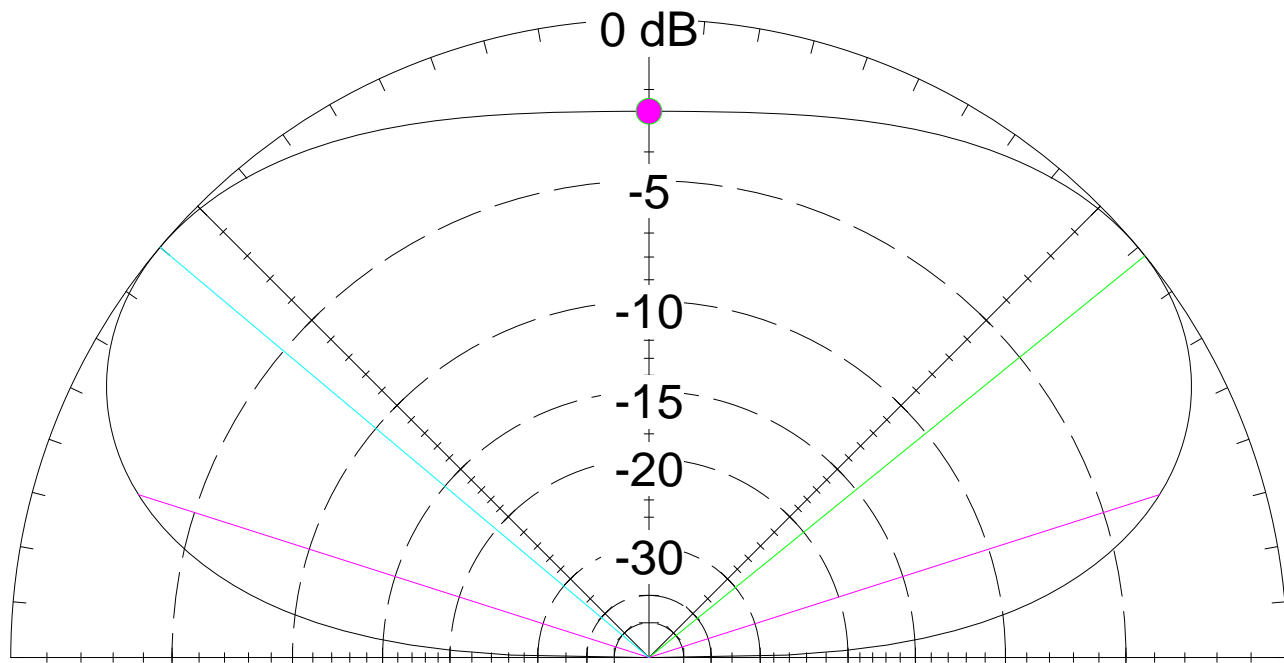
AJ4CO TFD 30' x 8" x 11'H

34 MHz

Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 2.68 dBi

Cursor Elev 90.0 deg.
Gain -0.43 dBi
-3.11 dBmax

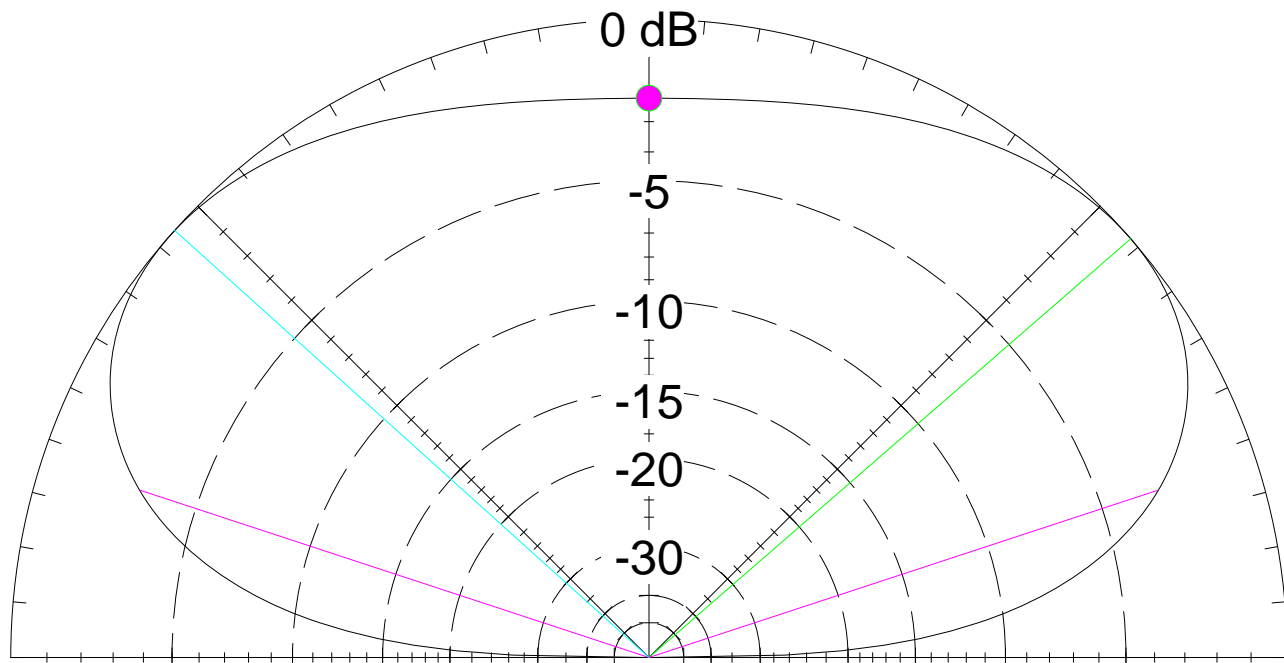
Slice Max Gain 2.68 dBi @ Elev Angle = 38.0 deg.
Beamwidth 66.0 deg.; -3dB @ 17.3, 83.3 deg.
Sidelobe Gain 2.68 dBi @ Elev Angle = 141.0 deg.
Front/Sidelobe 0.0 dB



AJ4CO TFD 30' x 8" x 11'H

33 MHz

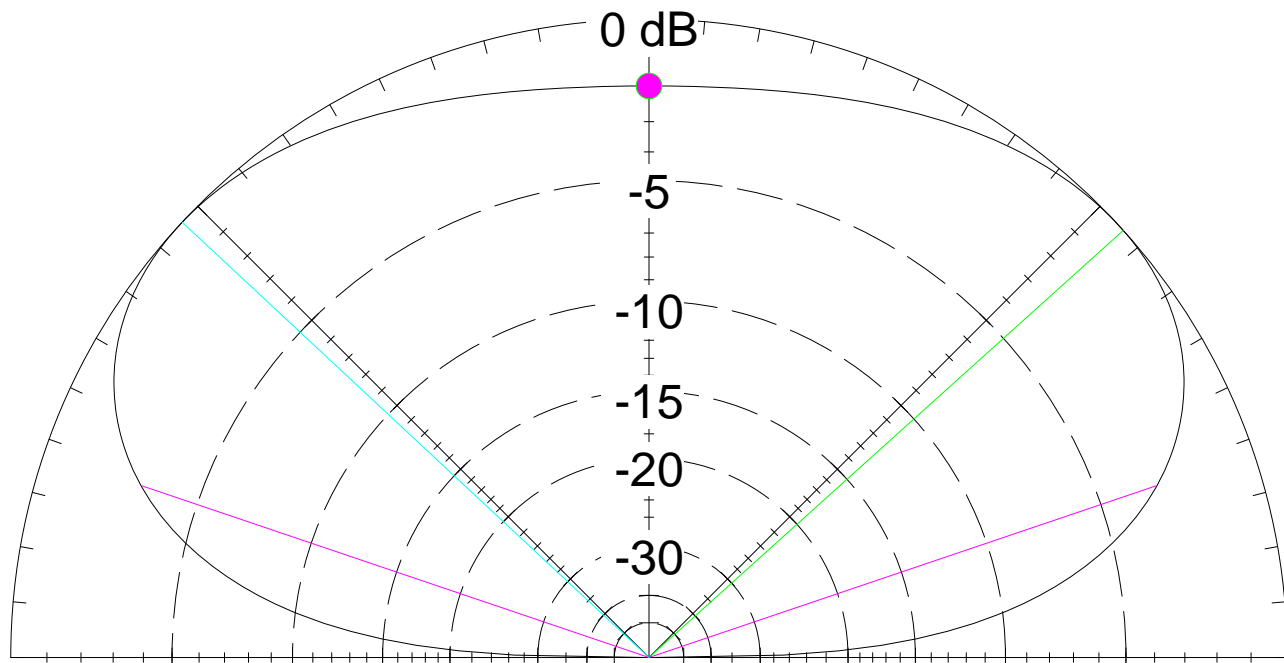
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-0.1 dBi
Outer Ring	2.57 dBi		-2.67 dBmax
Slice Max Gain	2.57 dBi @ Elev Angle = 39.0 deg.		
Beamwidth	144.6 deg.; -3dB @ 17.7, 162.3 deg.		
Sidelobe Gain	2.57 dBi @ Elev Angle = 140.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

32 MHz

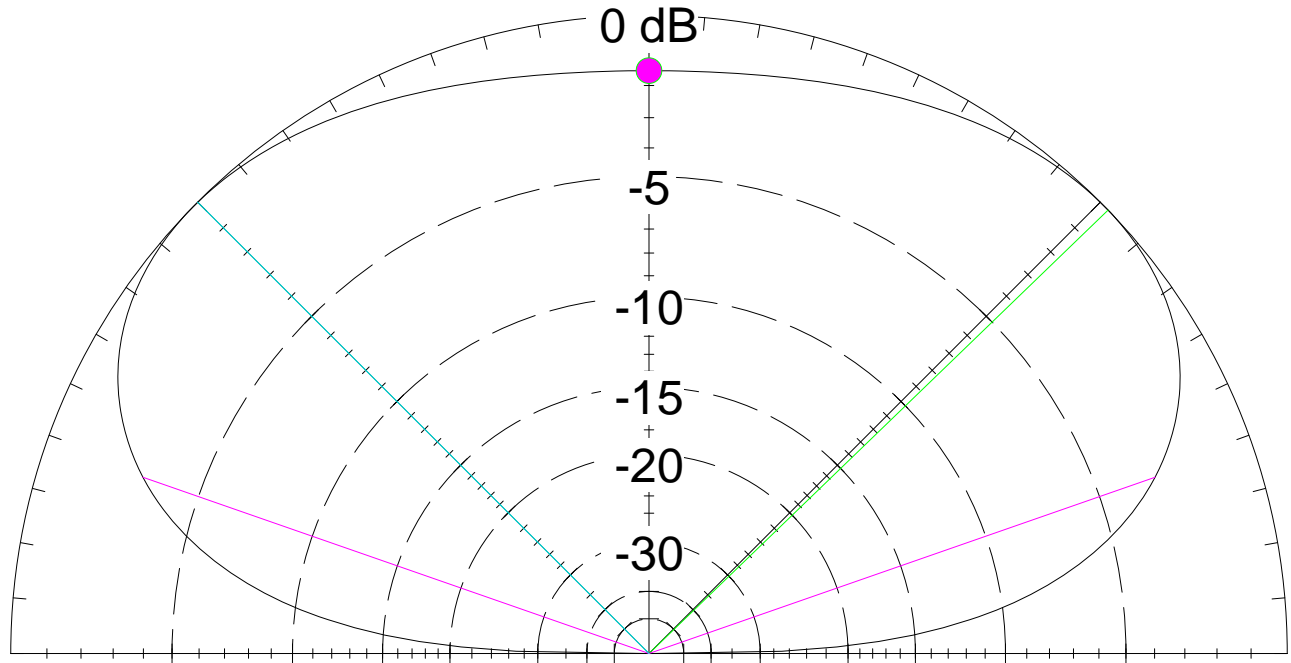
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	0.21 dBi
Outer Ring	2.48 dBi		-2.27 dBmax
Slice Max Gain	2.48 dBi @ Elev Angle = 41.0 deg.		
Beamwidth	143.6 deg.; -3dB @ 18.2, 161.8 deg.		
Sidelobe Gain	2.48 dBi @ Elev Angle = 138.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

31 MHz

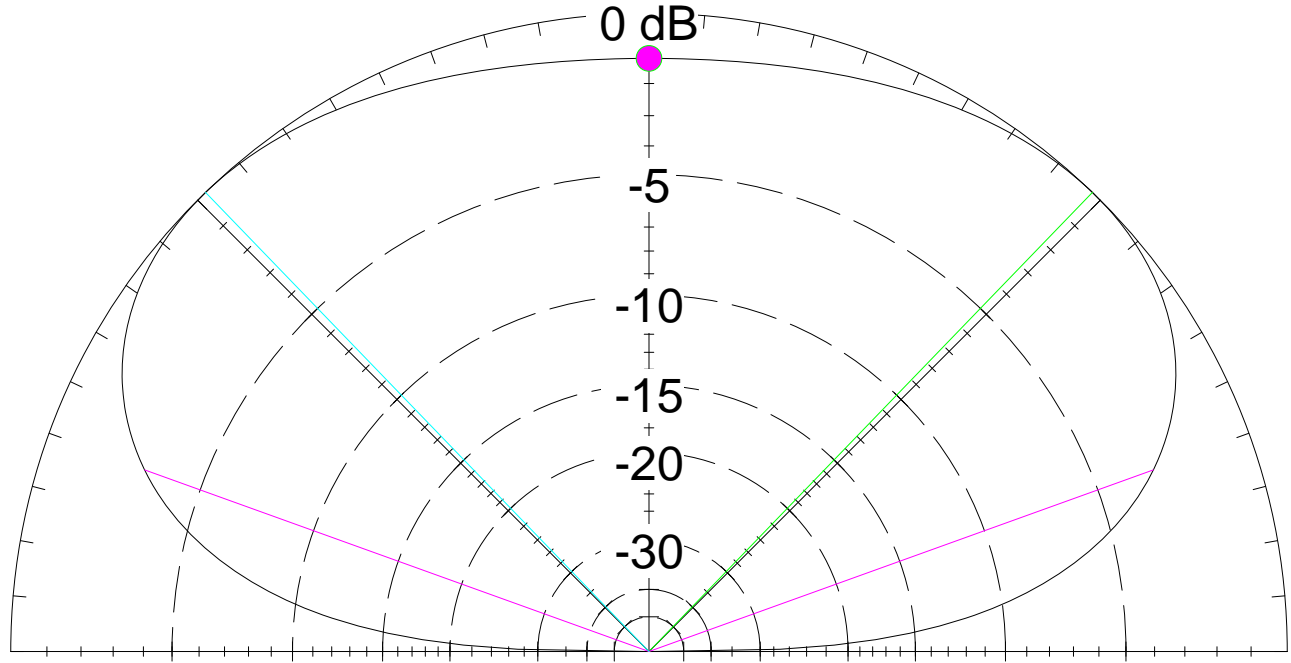
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	0.5 dBi
Outer Ring	2.39 dBi		-1.9 dBmax
Slice Max Gain	2.39 dBi @ Elev Angle = 42.0 deg.		
Beamwidth	142.6 deg.; -3dB @ 18.7, 161.3 deg.		
Sidelobe Gain	2.39 dBi @ Elev Angle = 137.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

30 MHz

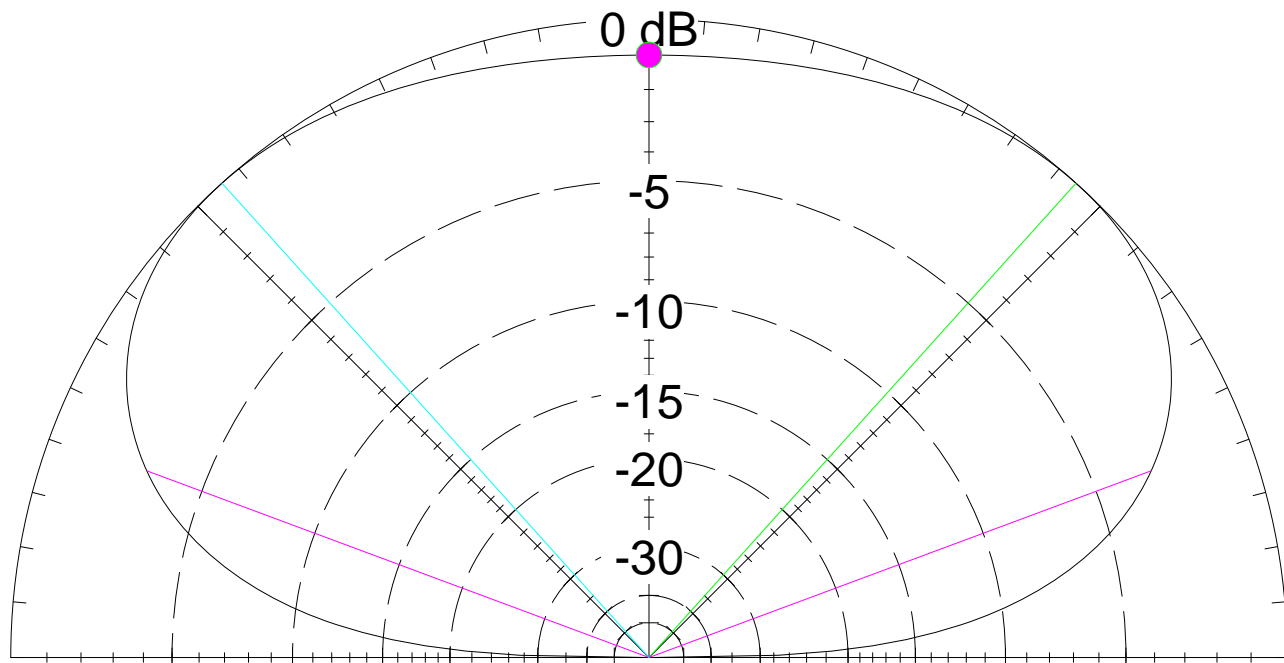
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	0.76 dBi
Outer Ring	2.32 dBi		-1.56 dBmax
Slice Max Gain	2.32 dBi @ Elev Angle = 44.0 deg.		
Beamwidth	141.6 deg.; -3dB @ 19.2, 160.8 deg.		
Sidelobe Gain	2.32 dBi @ Elev Angle = 135.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

29 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	0.99 dBi
Outer Ring	2.25 dBi		-1.26 dBmax
Slice Max Gain	2.25 dBi @ Elev Angle = 46.0 deg.		
Beamwidth	140.4 deg.; -3dB @ 19.8, 160.2 deg.		
Sidelobe Gain	2.25 dBi @ Elev Angle = 134.0 deg.		
Front/Sidelobe	0.0 dB		



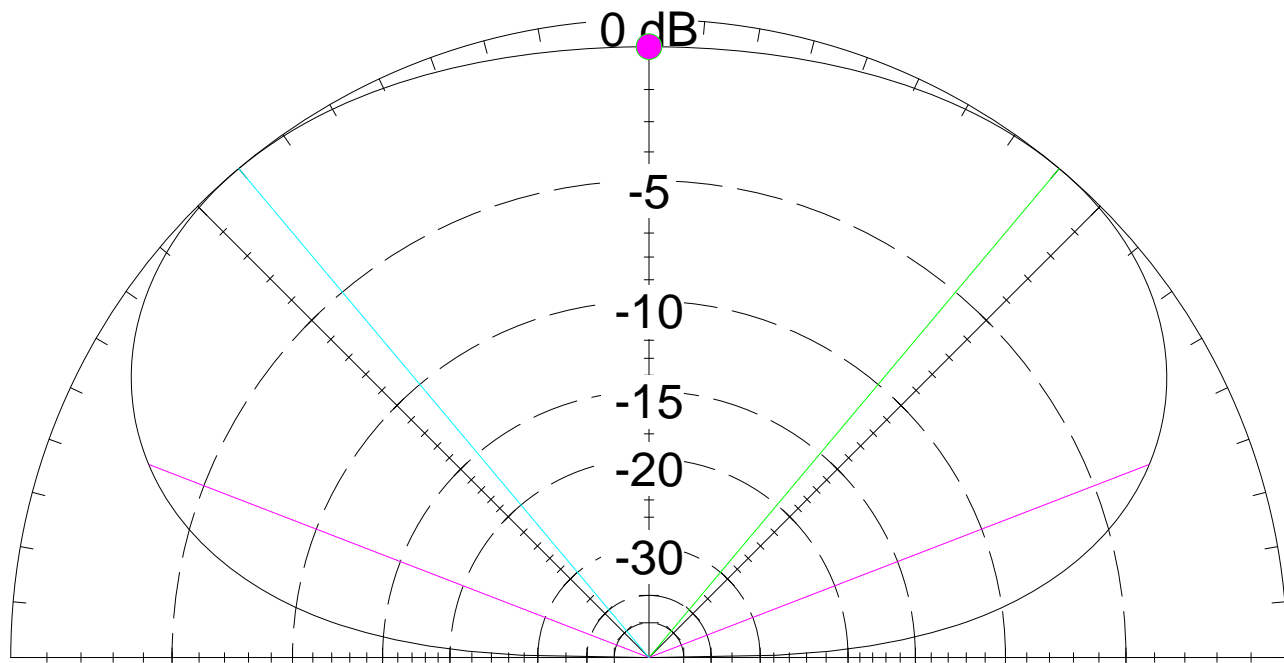
AJ4CO TFD 30' x 8" x 11'H

28 MHz

Elevation Plot
 Azimuth Angle 90.0 deg.
 Outer Ring 2.19 dBi

Cursor Elev 90.0 deg.
 Gain 1.2 dBi
 -0.99 dBmax

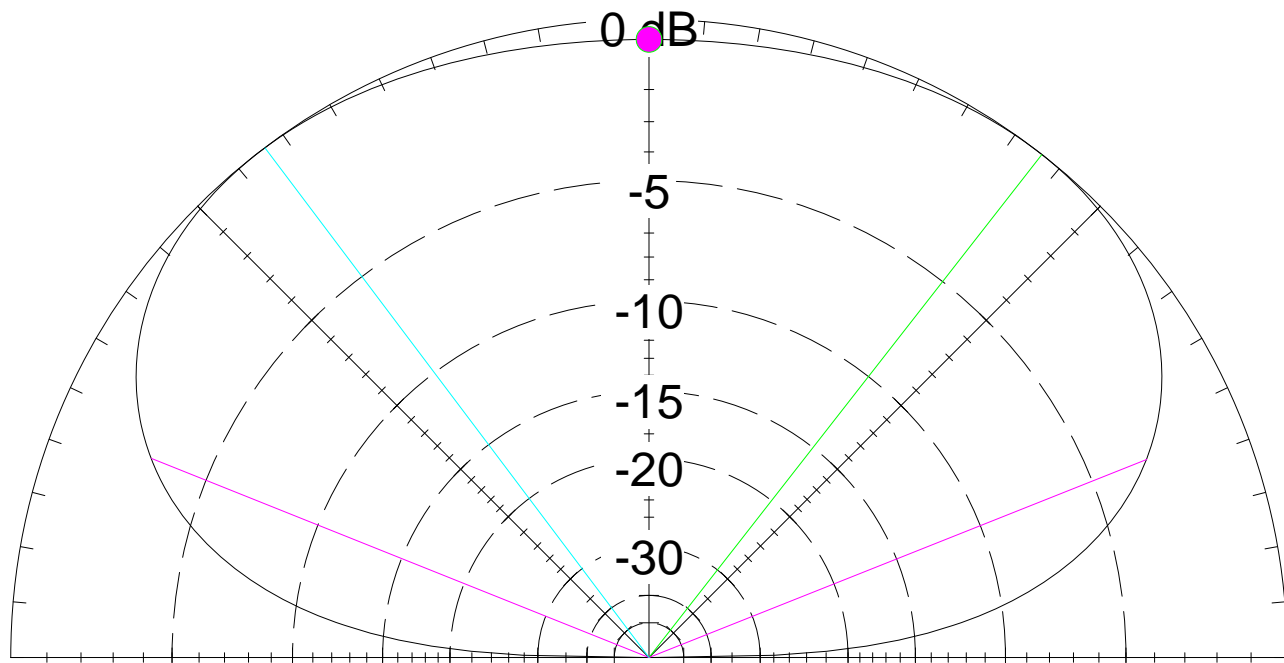
Slice Max Gain 2.19 dBi @ Elev Angle = 48.0 deg.
 Beamwidth 139.2 deg.; -3dB @ 20.4, 159.6 deg.
 Sidelobe Gain 2.19 dBi @ Elev Angle = 132.0 deg.
 Front/Sidelobe 0.0 dB



AJ4CO TFD 30' x 8" x 11'H

27 MHz

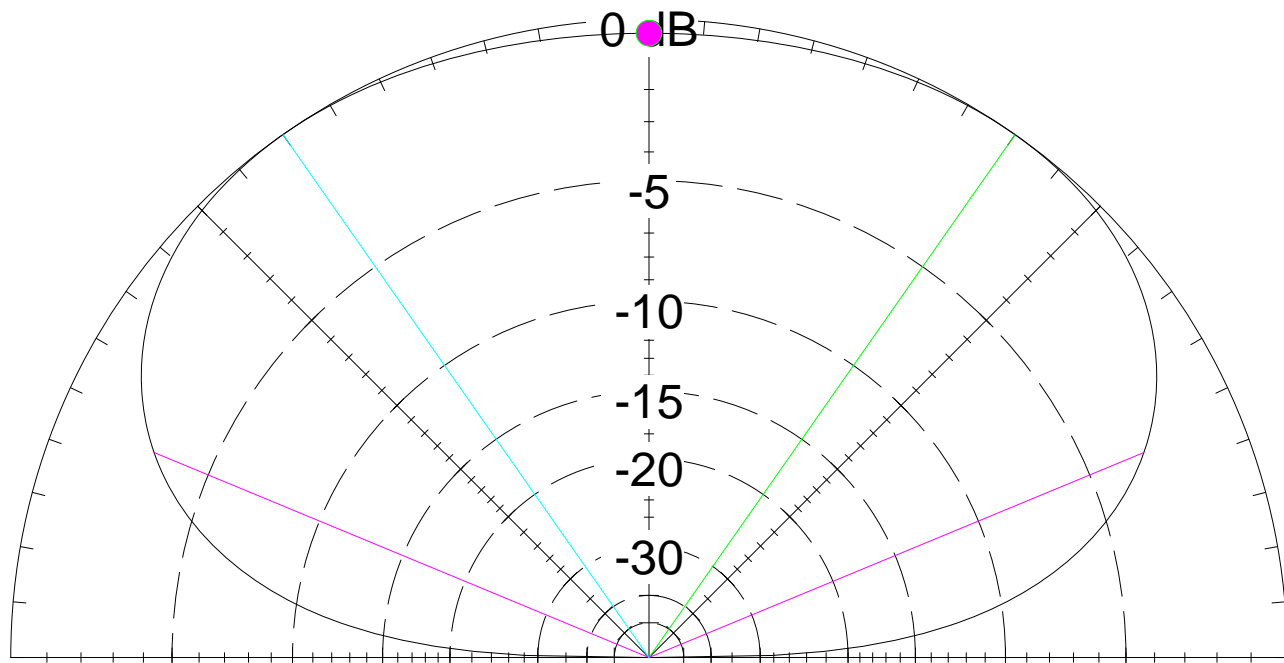
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.39 dBi
Outer Ring	2.15 dBi		-0.75 dBmax
Slice Max Gain	2.15 dBi @ Elev Angle = 50.0 deg.		
Beamwidth	137.8 deg.; -3dB @ 21.1, 158.9 deg.		
Sidelobe Gain	2.15 dBi @ Elev Angle = 130.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

26 MHz

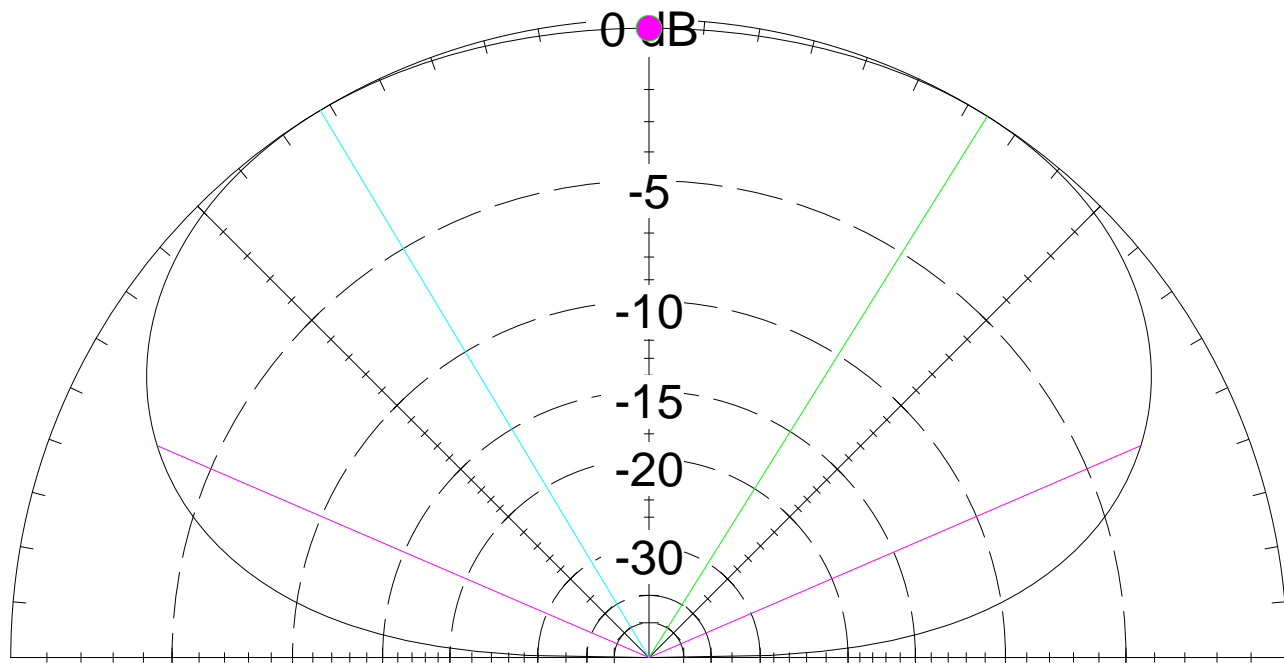
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.55 dBi
Outer Ring	2.1 dBi		-0.55 dBmax
Slice Max Gain	2.1 dBi @ Elev Angle = 52.0 deg.		
Beamwidth	136.5 deg.; -3dB @ 21.7, 158.2 deg.		
Sidelobe Gain	2.1 dBi @ Elev Angle = 127.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

25 MHz

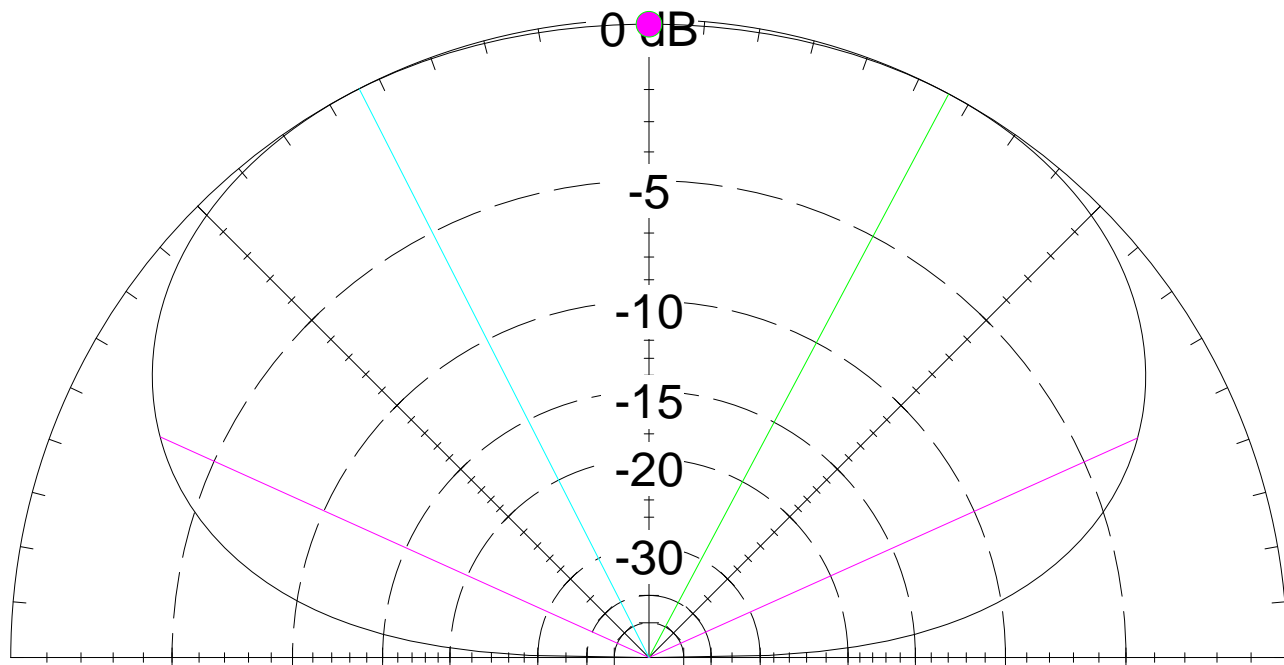
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.69 dBi
Outer Ring	2.07 dBi		-0.38 dBmax
Slice Max Gain	2.07 dBi @ Elev Angle = 55.0 deg.		
Beamwidth	135.0 deg.; -3dB @ 22.5, 157.5 deg.		
Sidelobe Gain	2.07 dBi @ Elev Angle = 125.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

24 MHz

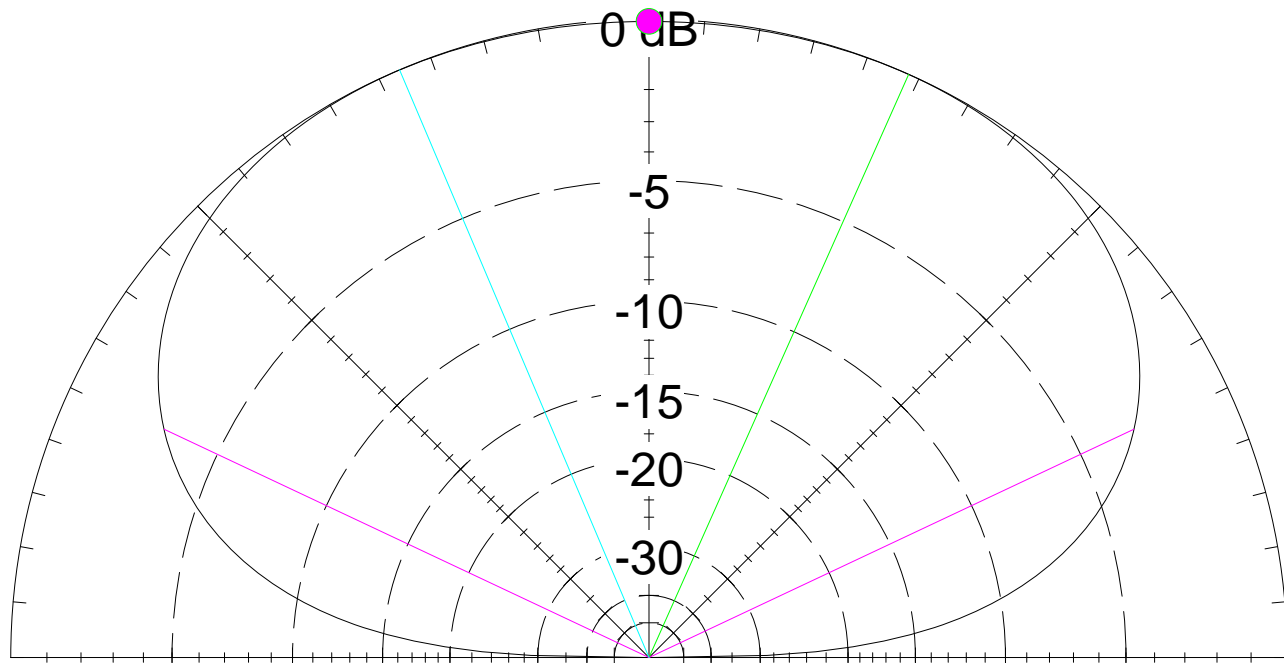
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.77 dBi
Outer Ring	2.01 dBi		-0.24 dBmax
Slice Max Gain	2.01 dBi @ Elev Angle = 58.0 deg.		
Beamwidth	133.4 deg.; -3dB @ 23.3, 156.7 deg.		
Sidelobe Gain	2.01 dBi @ Elev Angle = 121.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

23 MHz

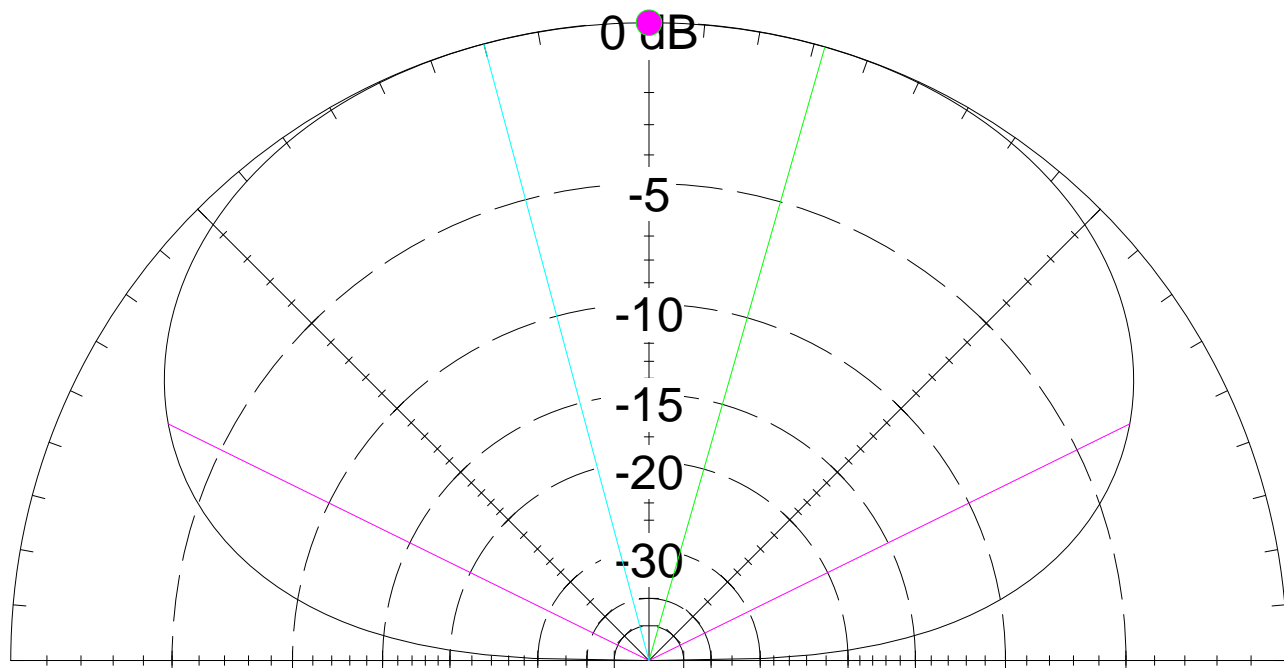
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.85 dBi
Outer Ring	1.98 dBi		-0.13 dBmax
Slice Max Gain	1.98 dBi @ Elev Angle = 62.0 deg.		
Beamwidth	131.5 deg.; -3dB @ 24.2, 155.7 deg.		
Sidelobe Gain	1.98 dBi @ Elev Angle = 117.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

22 MHz

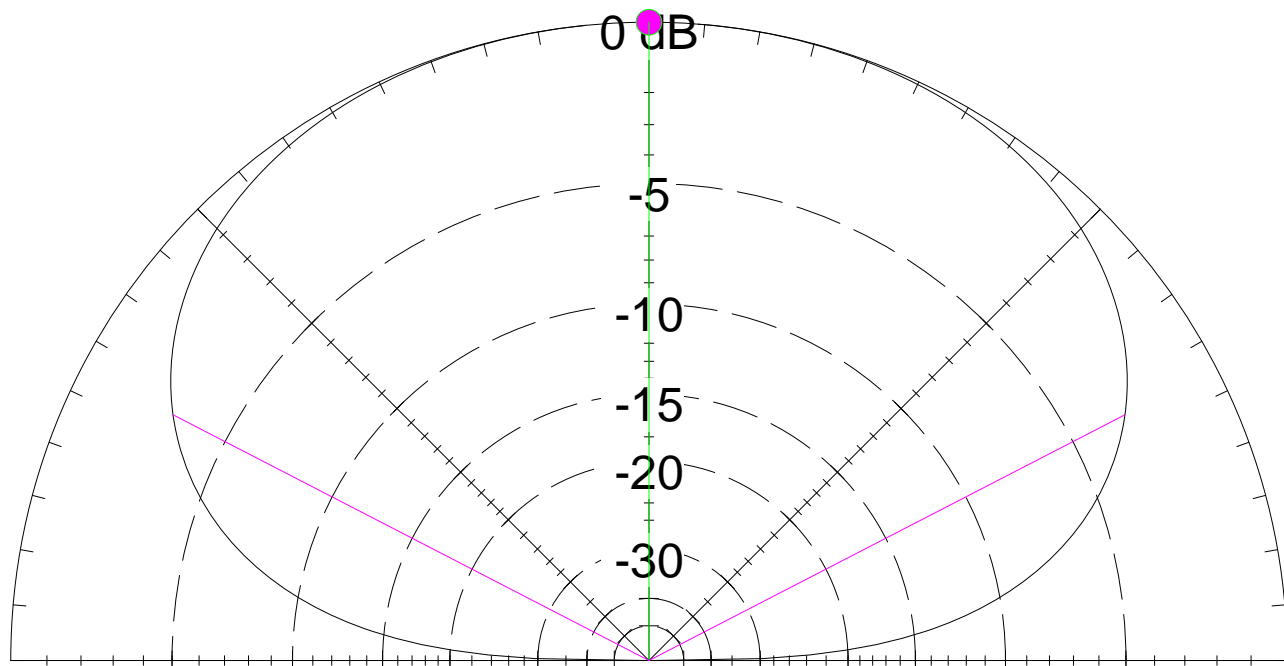
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.86 dBi
Outer Ring	1.92 dBi		-0.06 dBmax
Slice Max Gain	1.92 dBi @ Elev Angle = 66.0 deg.		
Beamwidth	129.6 deg.; -3dB @ 25.2, 154.8 deg.		
Sidelobe Gain	1.92 dBi @ Elev Angle = 113.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

21 MHz

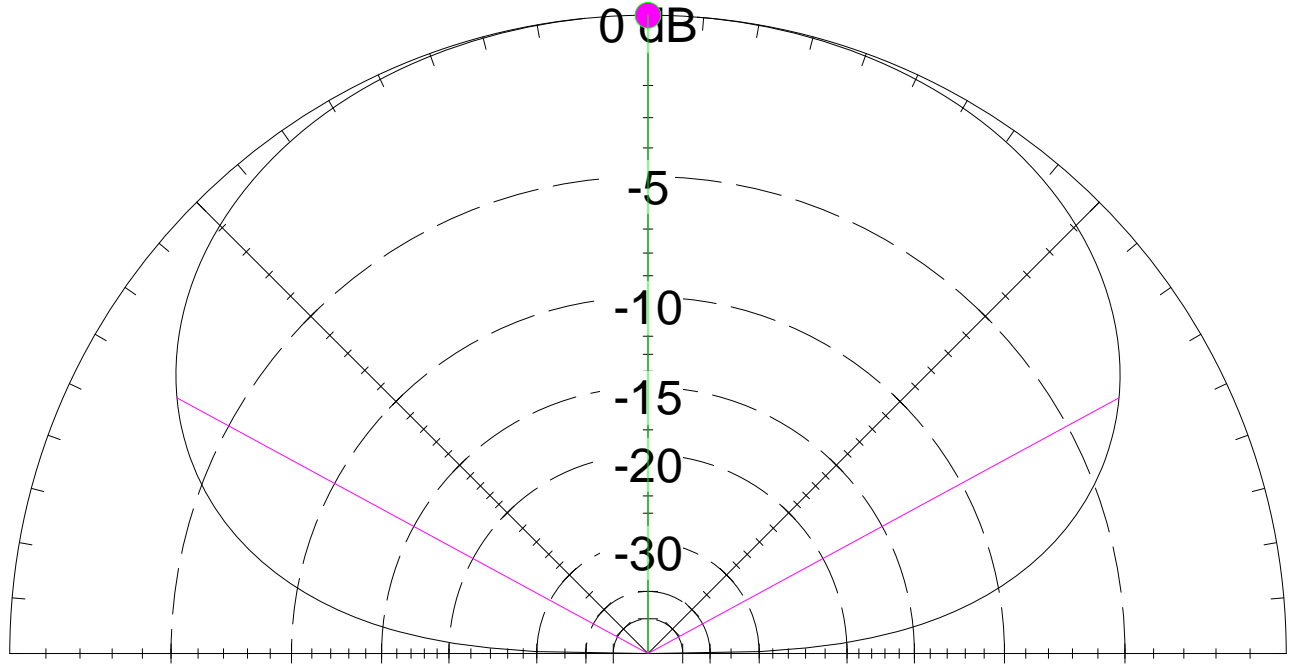
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.8 dBi
Outer Ring	1.81 dBi		-0.01 dBmax
Slice Max Gain	1.81 dBi @ Elev Angle = 74.0 deg.		
Beamwidth	127.6 deg.; -3dB @ 26.2, 153.8 deg.		
Sidelobe Gain	1.81 dBi @ Elev Angle = 105.0 deg.		
Front/Sidelobe	0.0 dB		



AJ4CO TFD 30' x 8" x 11'H

20 MHz

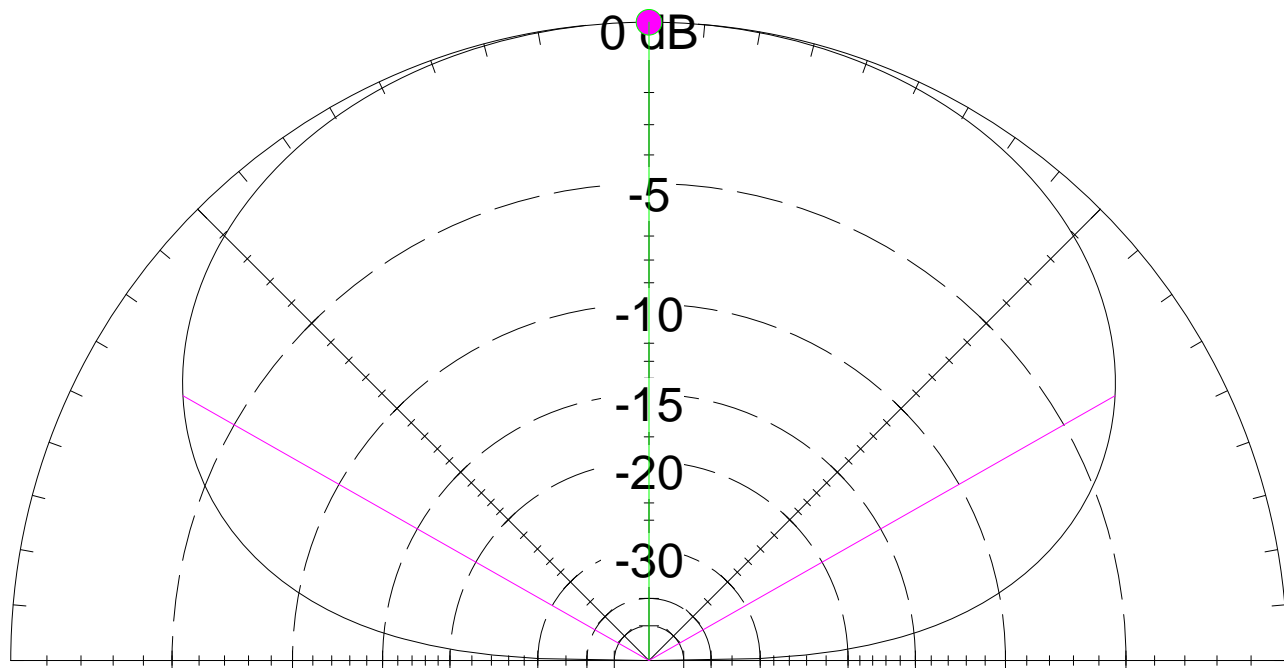
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.61 dBi
Outer Ring	1.61 dBi		0.0 dBmax
Slice Max Gain	1.61 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	125.4 deg.; -3dB @ 27.3, 152.7 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

19 MHz

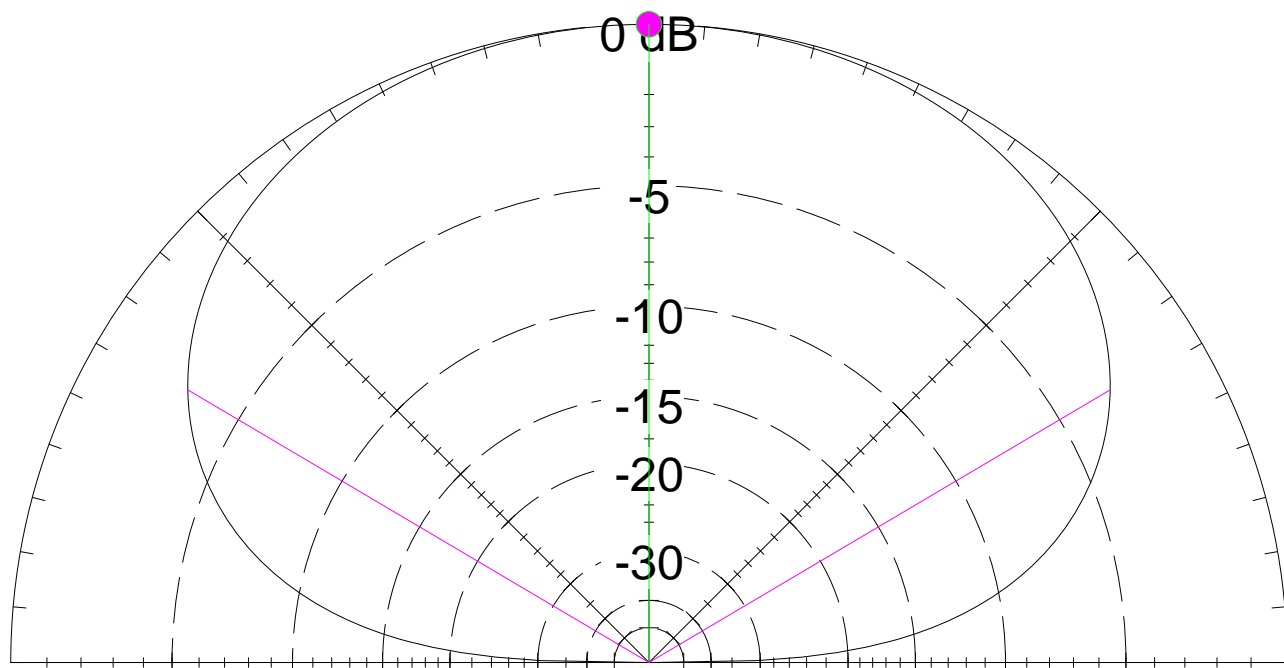
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.4 dBi
Outer Ring	1.4 dBi		0.0 dBmax
Slice Max Gain	1.4 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	123.0 deg.; -3dB @ 28.5, 151.5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

18 MHz

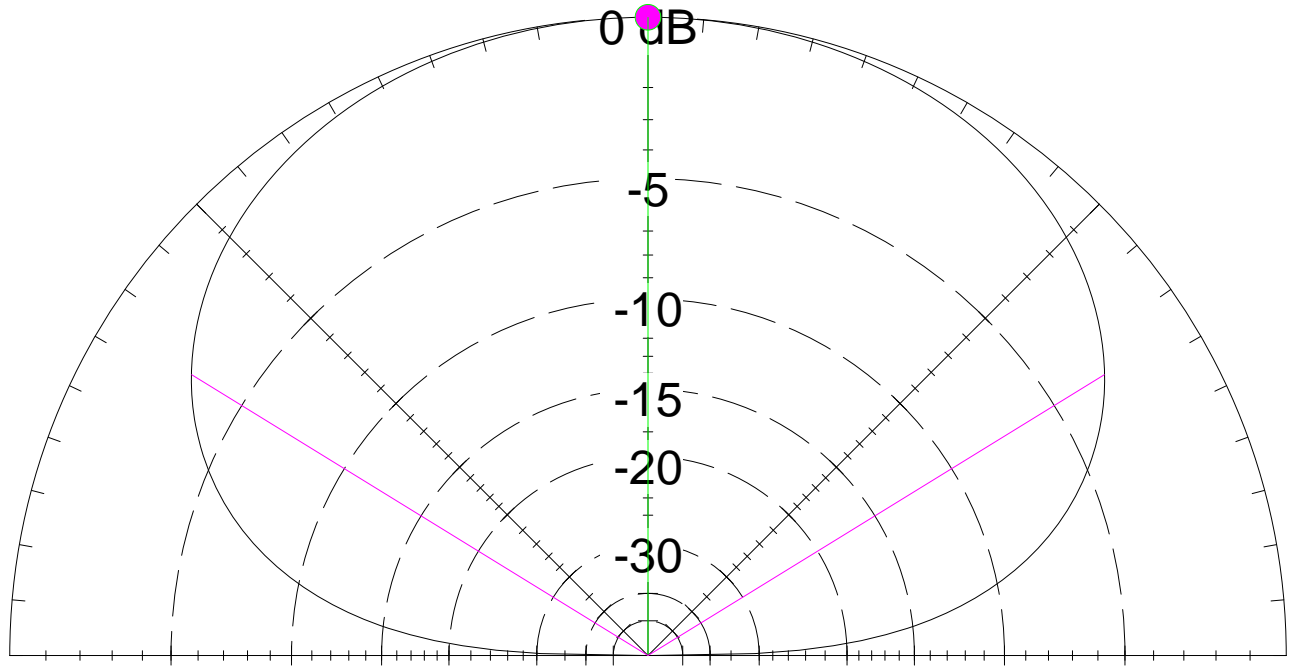
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	1.0 dBi
Outer Ring	1.0 dBi		0.0 dBmax
Slice Max Gain	1.0 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	120.8 deg.; -3dB @ 29.6, 150.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

17 MHz

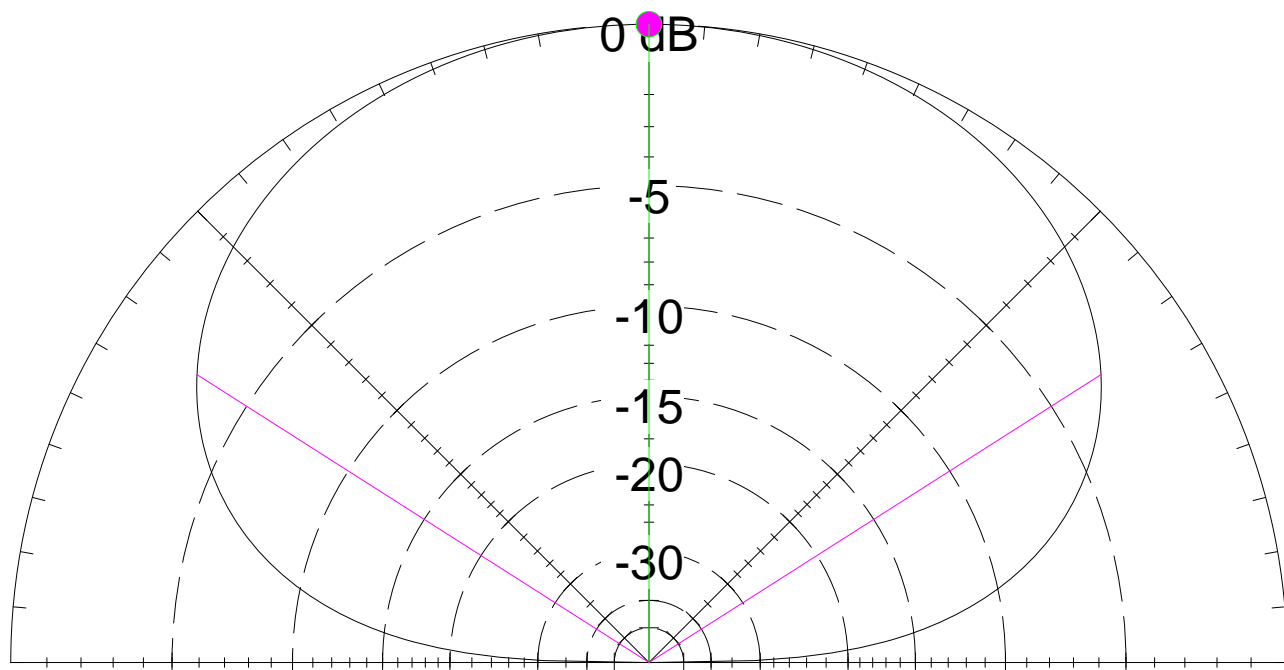
Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	0.45 dBi
Outer Ring	0.45 dBi		0.0 dBmax
Slice Max Gain	0.45 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	118.8 deg.; -3dB @ 30.6, 149.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

16 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-0.31 dBi
Outer Ring	-0.31 dBi		0.0 dBmax
Slice Max Gain	-0.31 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	116.8 deg.; -3dB @ 31.6, 148.4 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



AJ4CO TFD 30' x 8" x 11'H

15 MHz

Elevation Plot		Cursor Elev	90.0 deg.
Azimuth Angle	90.0 deg.	Gain	-1.29 dBi
Outer Ring	-1.29 dBi		0.0 dBmax
Slice Max Gain	-1.29 dBi @ Elev Angle = 90.0 deg.		
Beamwidth	115.0 deg.; -3dB @ 32.5, 147.5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		