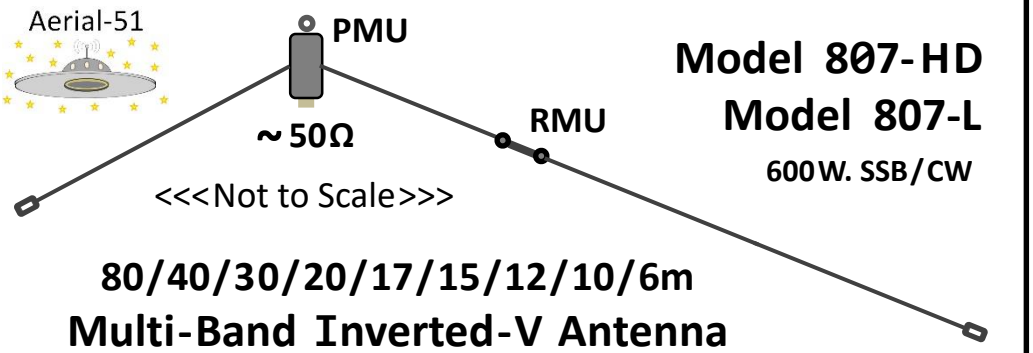
spiderbeam high performance lightweight antennas

<<<< ALL BANDS with ONE ANTENNA >>>>

Aerial-51

New Heavier-Duty *"Stealthy"* Multi-Band *Current-Sum Antenna**

A new flexible antenna with unique clever features for travelers, making it the perfect companion for One-Man Expeditions and/or Stealth installations!



UNIQUE FEATURES:

- New purpose-designed ***Hybrid Balun*** inside of the ***Primary Matching Unit – (Epoxy-potted).***
- **New** flexible and **Field-Interchangeable *Remote Matching Unit*** enables moving 80m resonance independent of the resonant frequency of the higher bands.
- **New *Half-Size-Deployment*** enables removal of the RMU plus outer 20m of wire, while losing only the 80m band. Although the antenna is then only half-size, it still operates great on 40, 20, 15, 10 & 6m, and with a tuner, its performance is also good on 17 & 12m (plus 30m with 150 Watts).
- **Low-Profile Stealthy** appearance makes it ideal for home use when a nearly invisible antenna is required to keep neighbors happy.
- **Light Weight** for an antenna with this many bands and features.

*Based on the concept Karl Hille, DL1VU (SK) suggested in his book entitled *Windom- und Stromsummen-Antennen.*

WARNING: The SWR on 60 & 30m is about 10:1 at the feedpoint of the antenna. MAX PWR: 150W on these bands.

With some lengths of coax, the SWR may look much better in the shack. However, "at the feedpoint" it is still 10:1 and the

~HIGH VOLTAGE~ caused by running high power on these bands may damage or totally destroy the PMU and/or RMU.

DJ0IP – 05-Sep-2018

MECHANICAL FEATURES:

Length:	**-L,:** 40,5m (133') / **-HD:** 40,8m (135') **-Half Size:** About 20,3m (66')
Weight:	**-L:** 450g (1 lb.) / **-HD**: **800g (28 oz.)**
PMU:	**HD version (only) Potted with Epoxy**
Wire:	**-L: CQ-534** (26-AWG) **/-HD: CQ-532** (18-AWG); insulated, stranded Copper-Weld wire (copper-coated steel strands)
SO-239:	Gold Contact, Teflon Insulation
Hardware:	Stainless Steel (V2A)

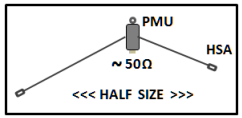
INFO: https://www.aerial-51.com/model-807-xx/

Model 807-xx SWR Curves Full-Size vs. Half-Size Configuration

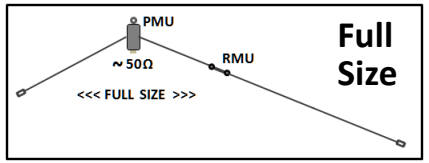
Measured with a RigExpert AA-54 Antenna Analyzer and 15m (49') of RG-174 HCU Coax.

The full-size configuration has better curves on the two WARC bands, but on the classical hf bands (40, 20, 15, & 10m, as well as 6m, the half-size has very good SWR curves. Performance *on the air* on ALL of these bands is very good.

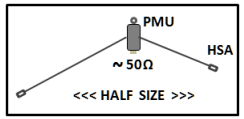
The yellow box in the graphs represents the Region One Ham Bands.



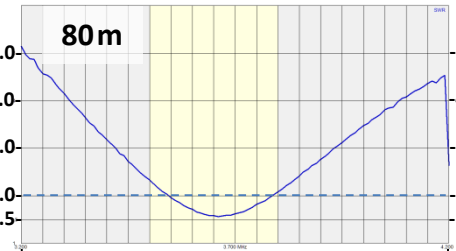
Half Size



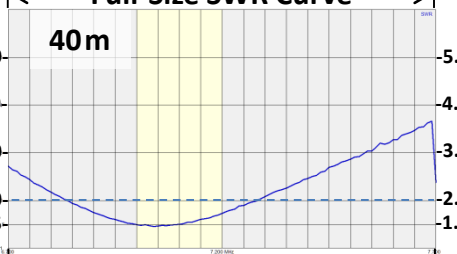
Full Size



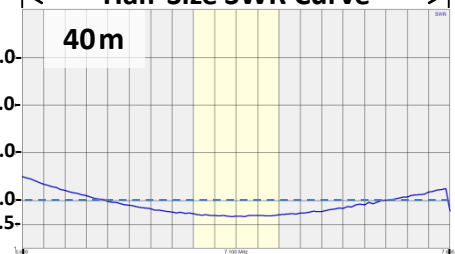
Half Size



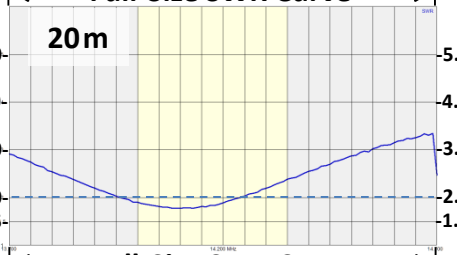
Full-Size SWR Curve



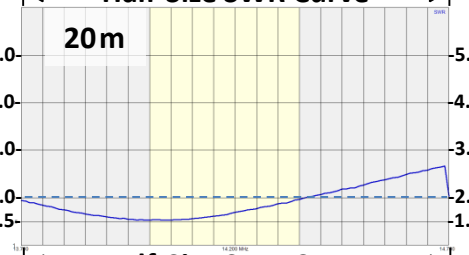
Full-Size SWR Curve



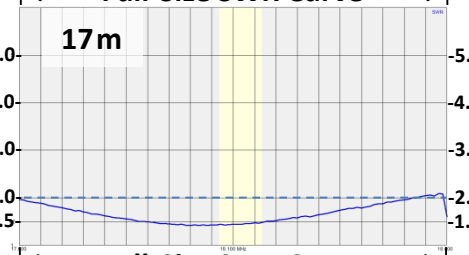
Half-Size SWR Curve



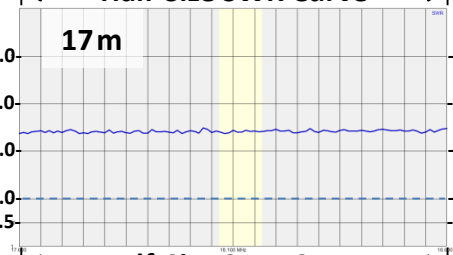
Full-Size SWR Curve



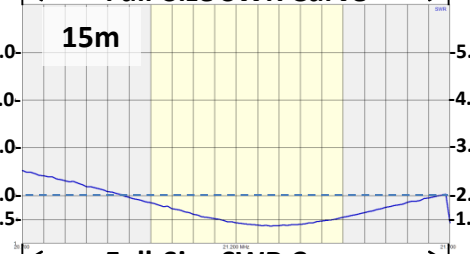
Half-Size SWR Curve



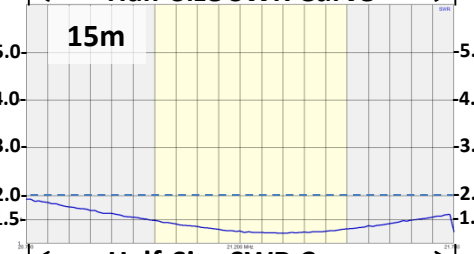
Full-Size SWR Curve



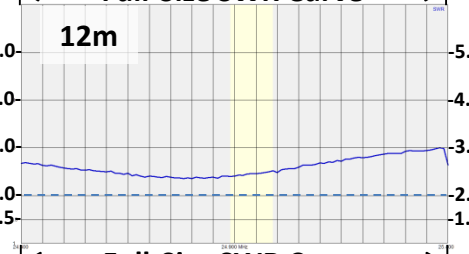
Half-Size SWR Curve



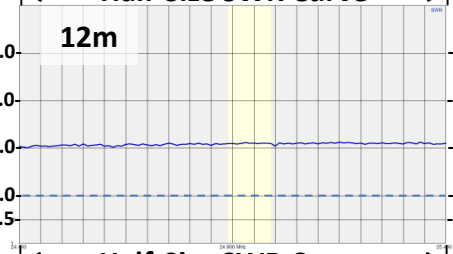
Full-Size SWR Curve



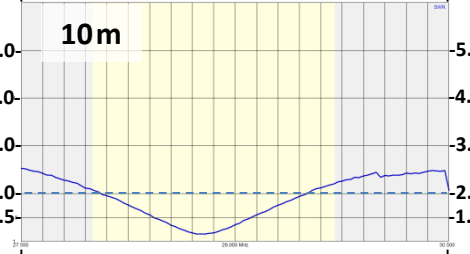
Half-Size SWR Curve



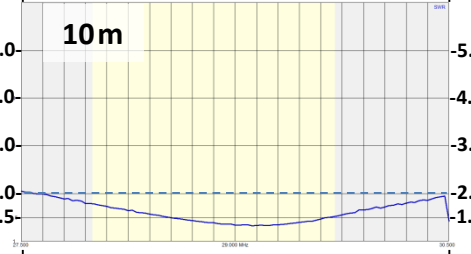
Full-Size SWR Curve



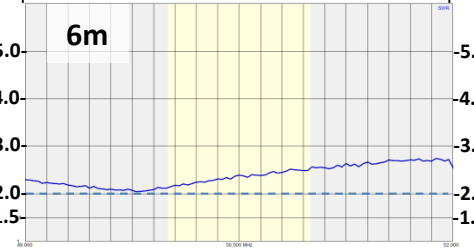
Half-Size SWR Curve



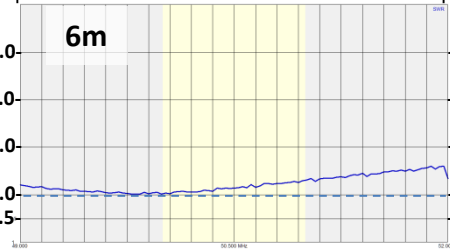
Full-Size SWR Curve



Half-Size SWR Curve



Full-Size SWR Curve

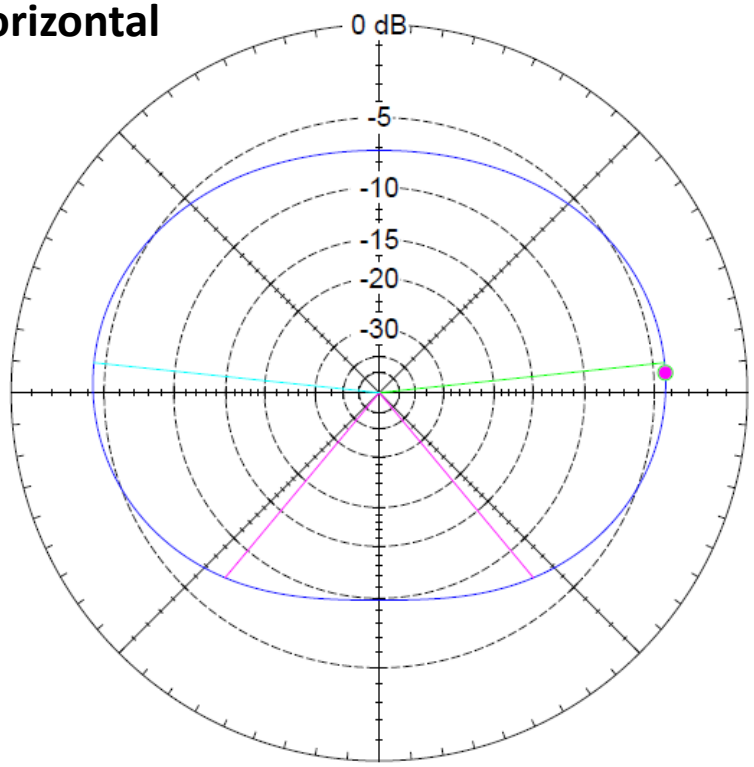


Half-Size SWR Curve

Aerial-51 Model 807-xx – 80m

Total Field EZNEC+

Horizontal

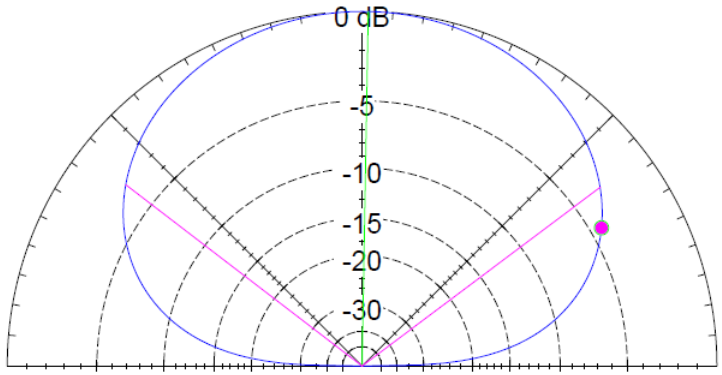


OCF-Dp 807L H12,5 InvV 8/6m 3,68 MHz

Azimuth Plot		Cursor Az	4,0 deg.
Elevation Angle	30,0 deg.	Gain	0,44 dBi
Outer Ring	4,72 dBi		0,0 dBmax
			-4,28 dBmax3D
3D Max Gain	4,72 dBi		
Slice Max Gain	0,44 dBi @ Az Angle = 6,0 deg.		
Front/Back	0,15 dB		
Beamwidth	280,4 deg.; -3dB @ 309,8, 230,2 deg.		
Sidelobe Gain	0,44 dBi @ Az Angle = 174,0 deg.		
Front/Sidelobe	0,0 dB		

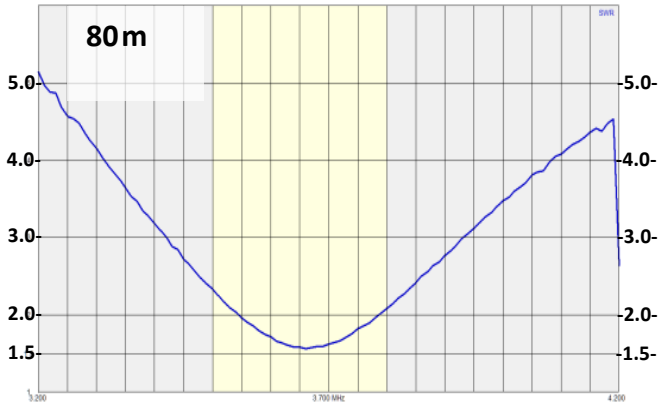
Total Field EZNEC+

Vertical



OCF-Dp 807L H12,5 InvV 8/6m 3,68 MHz

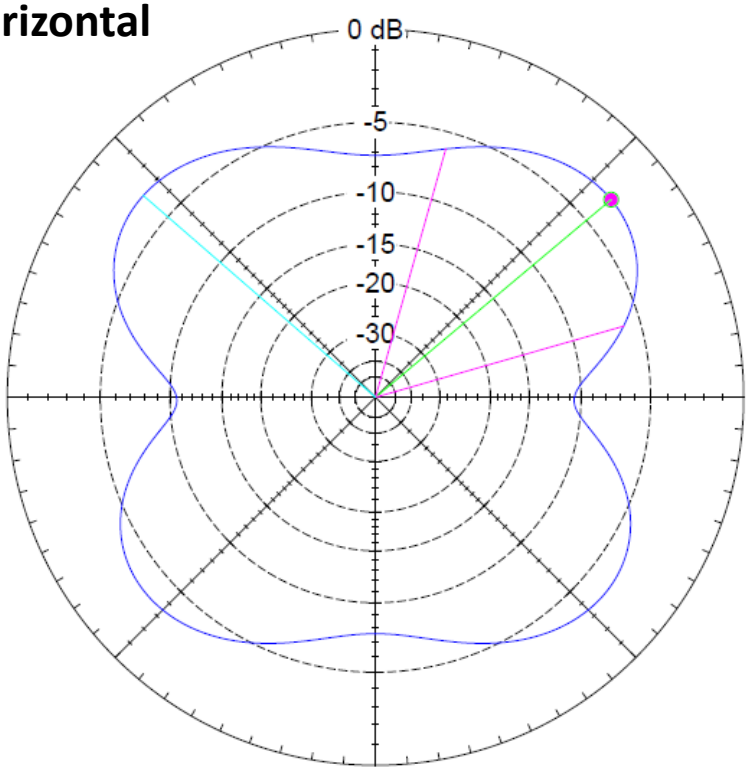
Elevation Plot		Cursor Elev	30,0 deg.
Azimuth Angle	4,0 deg.	Gain	0,44 dBi
Outer Ring	4,72 dBi		-4,27 dBmax
			-4,28 dBmax3D
3D Max Gain	4,72 dBi		
Slice Max Gain	4,71 dBi @ Elev Angle = 89,0 deg.		
Beamwidth	105,6 deg.; -3dB @ 36,9, 142,5 deg.		
Sidelobe Gain	< -100 dBi		
Front/Sidelobe	> 100 dB		



Aerial-51 Model 807-xx – 40m

Total Field EZNEC+

Horizontal

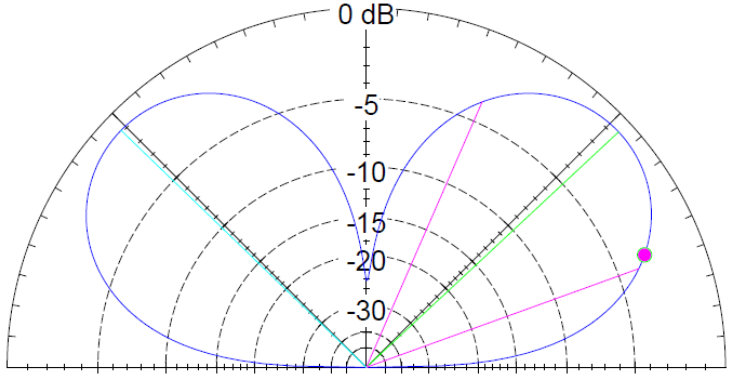


OCF-Dp 807L H12,5 InvV 8/6m 7,06 MHz

Azimuth Plot		Cursor Az	40,0 deg.
Elevation Angle	22,0 deg.	Gain	1,64 dBi
Outer Ring	4,72 dBi		0,0 dBmax
			-3,08 dBmax3D
3D Max Gain	4,72 dBi		
Slice Max Gain	1,64 dBi @ Az Angle = 40,0 deg.		
Front/Back	0,32 dB		
Beamwidth	58,2 deg.; -3dB @ 16,0, 74,2 deg.		
Sidelobe Gain	1,64 dBi @ Az Angle = 139,0 deg.		
Front/Sidelobe	0,0 dB		

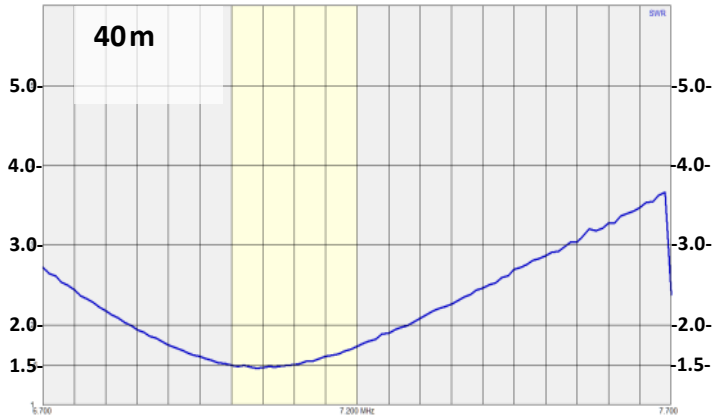
Total Field EZNEC+

Vertical



OCF-Dp 807L H12,5 InvV 8/6m 7,06 MHz

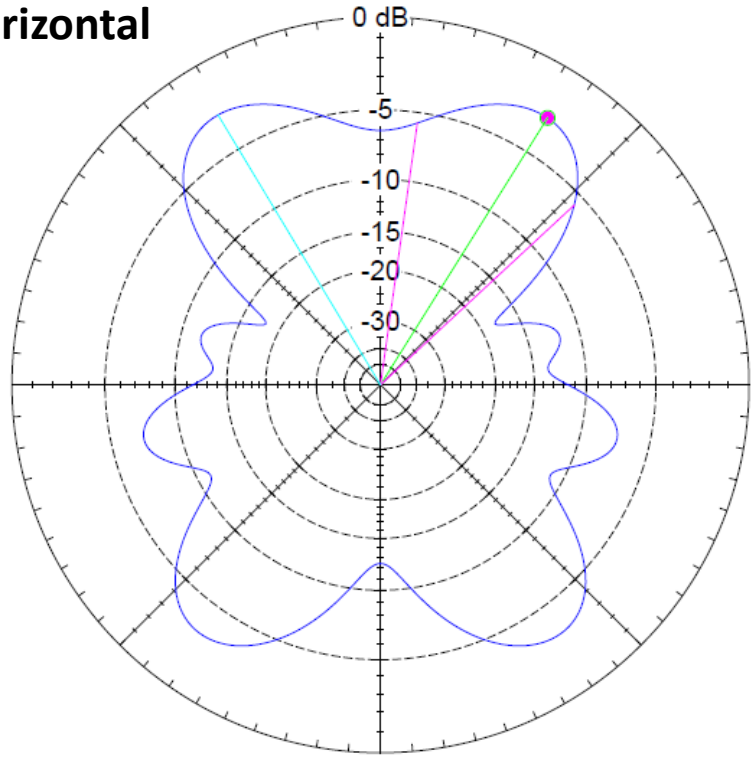
Elevation Plot		Cursor Elev	22,0 deg.
Azimuth Angle	40,0 deg.	Gain	1,64 dBi
Outer Ring	4,72 dBi		-2,39 dBmax
			-3,08 dBmax3D
3D Max Gain	4,72 dBi		
Slice Max Gain	4,03 dBi @ Elev Angle = 43,0 deg.		
Beamwidth	46,5 deg.; -3dB @ 19,9, 66,4 deg.		
Sidelobe Gain	3,83 dBi @ Elev Angle = 136,0 deg.		
Front/Sidelobe	0,2 dB		



Aerial-51 Model 807-xx – 20m

Total Field EZNEC+

Horizontal

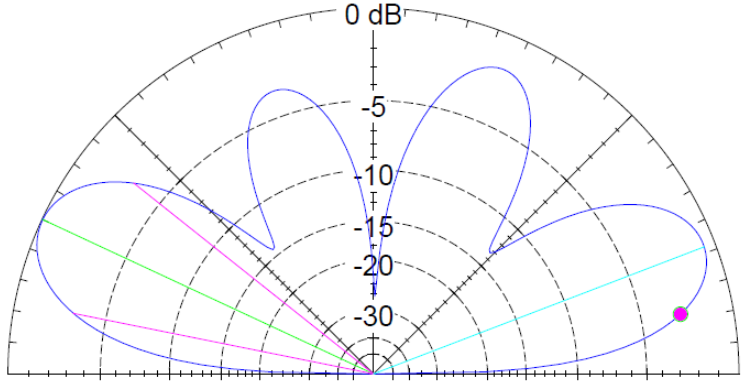


OCF-Dp 807L H12,5 InvV 8/6m 14,2 MHz

Azimuth Plot		Cursor Az	58,0 deg.
Elevation Angle	11,0 deg.	Gain	3,02 dBi
Outer Ring	5,69 dBi		0,0 dBmax
			-2,67 dBmax3D
3D Max Gain	5,69 dBi		
Slice Max Gain	3,02 dBi @ Az Angle = 58,0 deg.		
Front/Back	0,59 dB		
Beamwidth	39,1 deg.; -3dB @ 42,9, 82,0 deg.		
Sidelobe Gain	3,02 dBi @ Az Angle = 121,0 deg.		
Front/Sidelobe	0,0 dB		

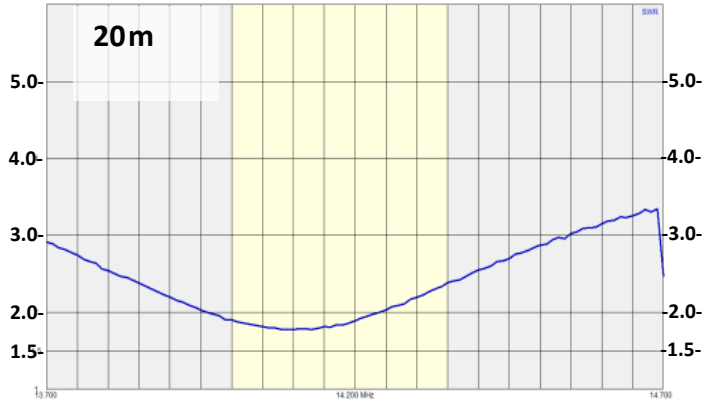
Total Field EZNEC+

Vertical



OCF-Dp 807L H12,5 InvV 8/6m 14,2 MHz

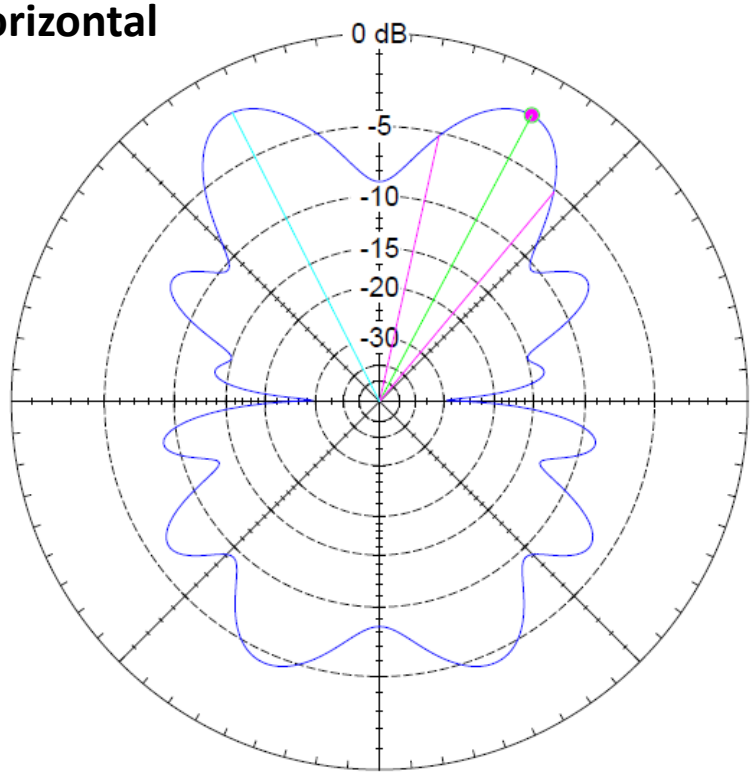
Elevation Plot		Cursor Elev	11,0 deg.
Azimuth Angle	58,0 deg.	Gain	3,02 dBi
Outer Ring	5,69 dBi		-2,64 dBmax
			-2,67 dBmax3D
3D Max Gain	5,69 dBi		
Slice Max Gain	5,66 dBi @ Elev Angle = 155,0 deg.		
Beamwidth	27,1 deg.; -3dB @ 141,5, 168,6 deg.		
Sidelobe Gain	5,16 dBi @ Elev Angle = 21,0 deg.		
Front/Sidelobe	0,5 dB		



Aerial-51 Model 807-xx – 15m

Total Field EZNEC+

Horizontal

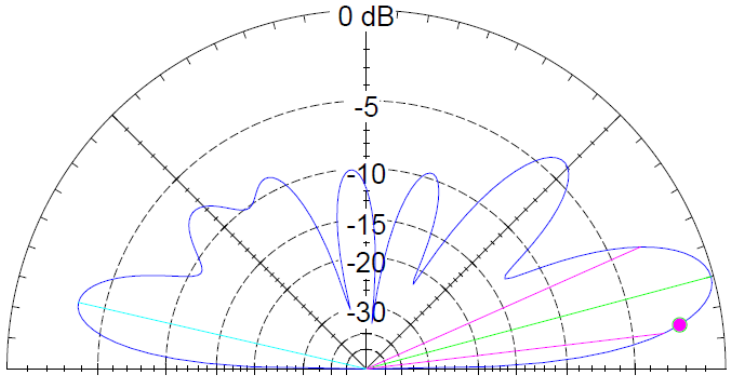


OCF-Dp 807L H12,5 InvV 8/6m 21,3 MHz

Azimuth Plot		Cursor Az	62,0 deg.
Elevation Angle	8,0 deg.	Gain	5,26 dBi
Outer Ring	7,44 dBi		0,0 dBmax
			-2,18 dBmax3D
3D Max Gain	7,44 dBi		
Slice Max Gain	5,26 dBi @ Az Angle = 62,0 deg.		
Front/Back	2,42 dB		
Beamwidth	27,2 deg.; -3dB @ 50,2, 77,4 deg.		
Sidelobe Gain	5,26 dBi @ Az Angle = 117,0 deg.		
Front/Sidelobe	0,0 dB		

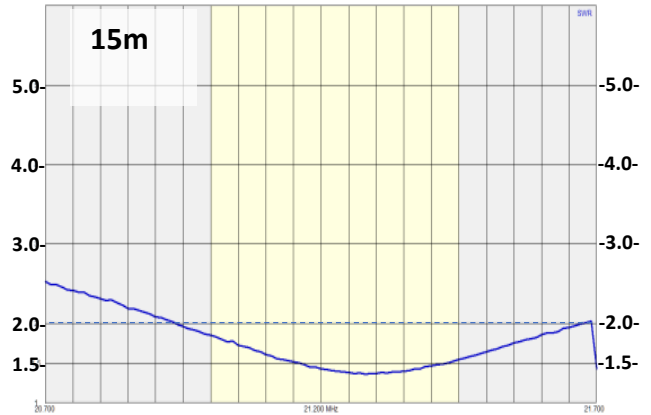
Total Field EZNEC+

Vertical



OCF-Dp 807L H12,5 InvV 8/6m 21,3 MHz

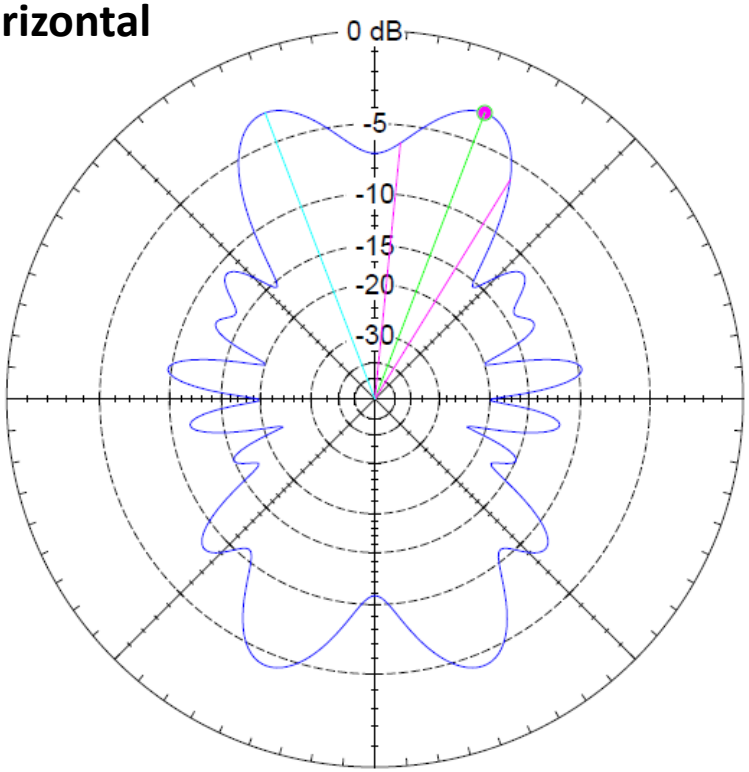
Elevation Plot		Cursor Elev	8,0 deg.
Azimuth Angle	62,0 deg.	Gain	5,26 dBi
Outer Ring	7,44 dBi		-2,07 dBmax
			-2,18 dBmax3D
3D Max Gain	7,44 dBi		
Slice Max Gain	7,33 dBi @ Elev Angle = 15,0 deg.		
Beamwidth	17,2 deg.; -3dB @ 6,8, 24,0 deg.		
Sidelobe Gain	4,08 dBi @ Elev Angle = 167,0 deg.		
Front/Sidelobe	3,25 dB		



Aerial-51 Model 807-xx – 10m

Total Field EZNEC+

Horizontal

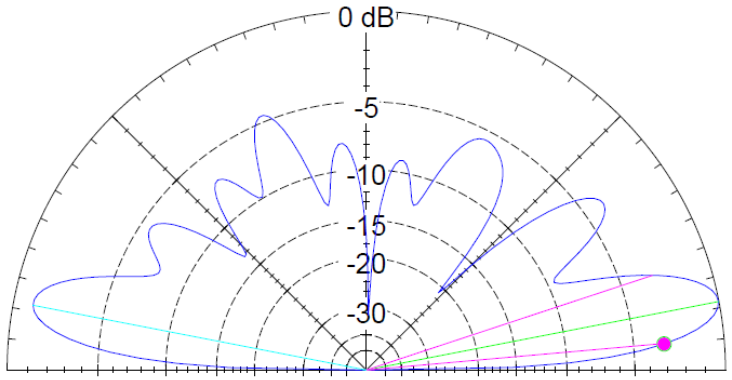


OCF-Dp 807L H12,5 InvV 8/6m 28,5 MHz

Azimuth Plot		Cursor Az	69,0 deg.
Elevation Angle	5,0 deg.	Gain	4,7 dBi
Outer Ring	7,85 dBi		0,0 dBmax
			-3,15 dBmax3D
3D Max Gain	7,85 dBi		
Slice Max Gain	4,7 dBi @ Az Angle = 69,0 deg.		
Front/Back	1,09 dB		
Beamwidth	26,0 deg.; -3dB @ 58,3, 84,3 deg.		
Sidelobe Gain	4,7 dBi @ Az Angle = 111,0 deg.		
Front/Sidelobe	0,0 dB		

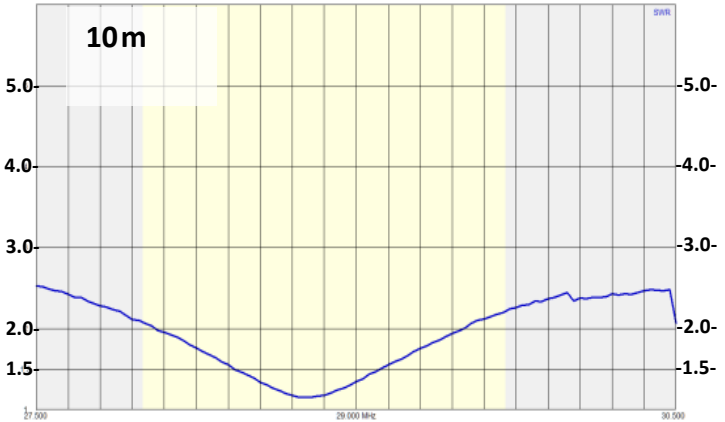
Total Field EZNEC+

Vertical



OCF-Dp 807L H12,5 InvV 8/6m 28,5 MHz

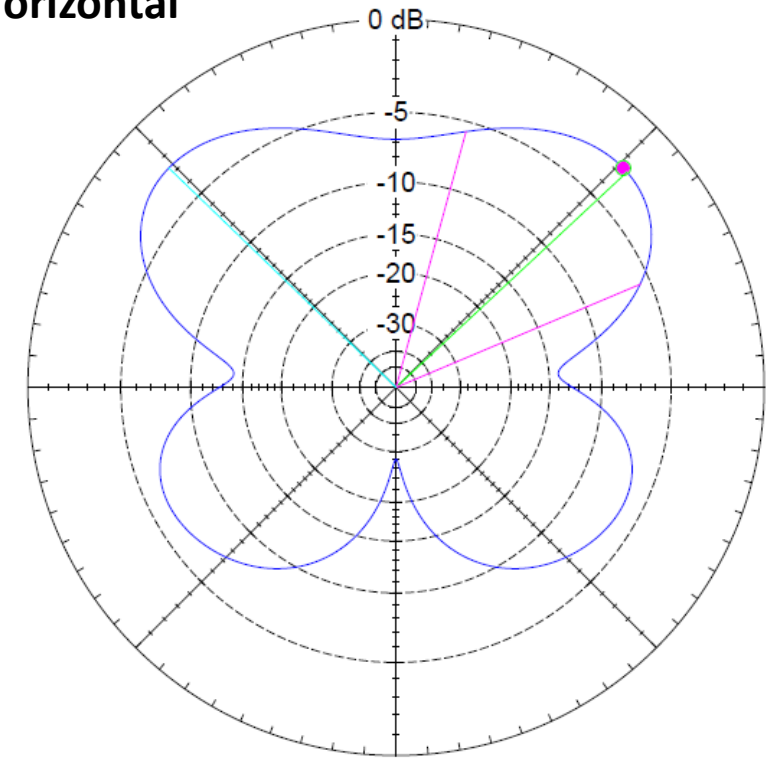
Elevation Plot		Cursor Elev	5,0 deg.
Azimuth Angle	69,0 deg.	Gain	4,7 dBi
Outer Ring	7,85 dBi		-3,13 dBmax
			-3,15 dBmax3D
3D Max Gain	7,85 dBi		
Slice Max Gain	7,83 dBi @ Elev Angle = 11,0 deg.		
Beamwidth	13,2 deg.; -3dB @ 5,1, 18,3 deg.		
Sidelobe Gain	6,89 dBi @ Elev Angle = 169,0 deg.		
Front/Sidelobe	0,94 dB		



Aerial-51 Model 807-xx – 30m

Total Field EZNEC+

Horizontal

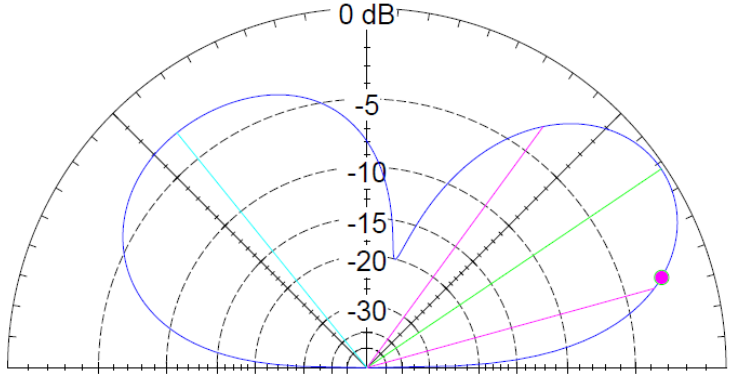


OCF-Dp 807L H12,5 InvV 8/6m 10,125 MHz

Azimuth Plot		Cursor Az	44,0 deg.
Elevation Angle	17,0 deg.	Gain	3,51 dBi
Outer Ring	6,14 dBi		0,0 dBmax
			-2,63 dBmax3D
3D Max Gain	6,14 dBi		
Slice Max Gain	3,51 dBi @ Az Angle = 43,0 deg.		
Front/Back	4,48 dB		
Beamwidth	51,8 deg.; -3dB @ 22,9, 74,7 deg.		
Sidelobe Gain	3,51 dBi @ Az Angle = 136,0 deg.		
Front/Sidelobe	0,0 dB		

Total Field EZNEC+

Vertical



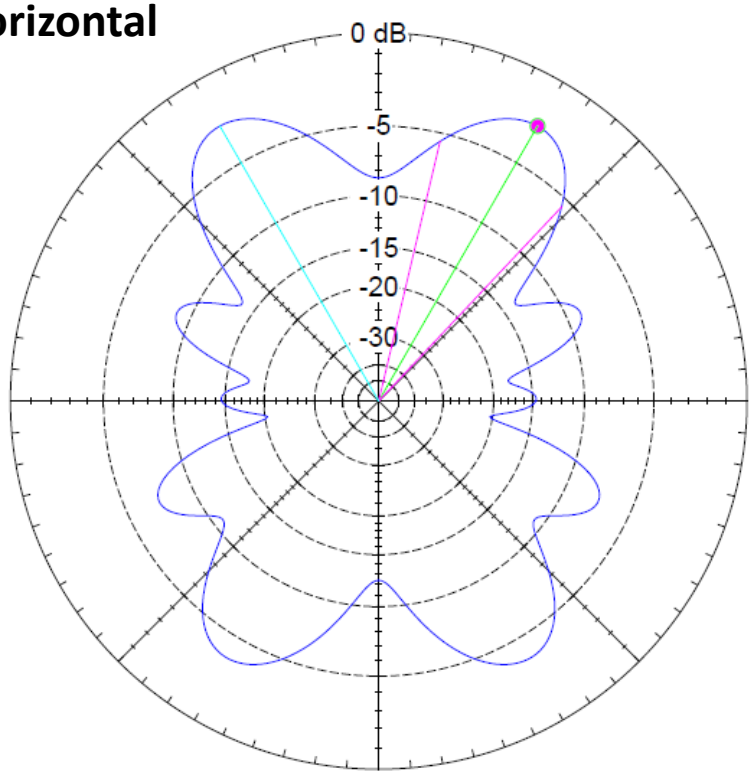
OCF-Dp 807L H12,5 InvV 8/6m 10,125 MHz

Elevation Plot		Cursor Elev	17,0 deg.
Azimuth Angle	44,0 deg.	Gain	3,51 dBi
Outer Ring	6,14 dBi		-2,43 dBmax
			-2,63 dBmax3D
3D Max Gain	6,14 dBi		
Slice Max Gain	5,94 dBi @ Elev Angle = 34,0 deg.		
Beamwidth	38,4 deg.; -3dB @ 15,4, 53,8 deg.		
Sidelobe Gain	3,16 dBi @ Elev Angle = 129,0 deg.		
Front/Sidelobe	2,78 dB		

Aerial-51 Model 807-xx – 17m

Total Field EZNEC+

Horizontal

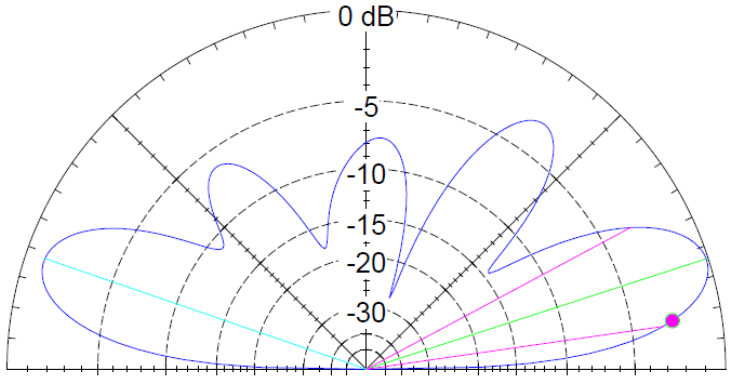


OCF-Dp 807L H12,5 InvV 8/6m 18,07 MHz

Azimuth Plot		Cursor Az	60,0 deg.
Elevation Angle	9,0 deg.	Gain	4,35 dBi
Outer Ring	6,88 dBi		0,0 dBmax
			-2,54 dBmax3D
3D Max Gain	6,88 dBi		
Slice Max Gain	4,35 dBi @ Az Angle = 60,0 deg.		
Front/Back	1,08 dB		
Beamwidth	30,0 deg.; -3dB @ 46,7, 76,7 deg.		
Sidelobe Gain	4,35 dBi @ Az Angle = 120,0 deg.		
Front/Sidelobe	0,0 dB		

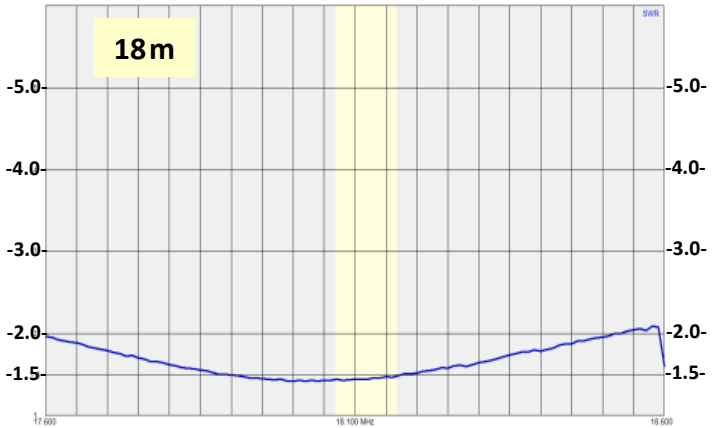
Total Field EZNEC+

Vertical



OCF-Dp 807L H12,5 InvV 8/6m 18,07 MHz

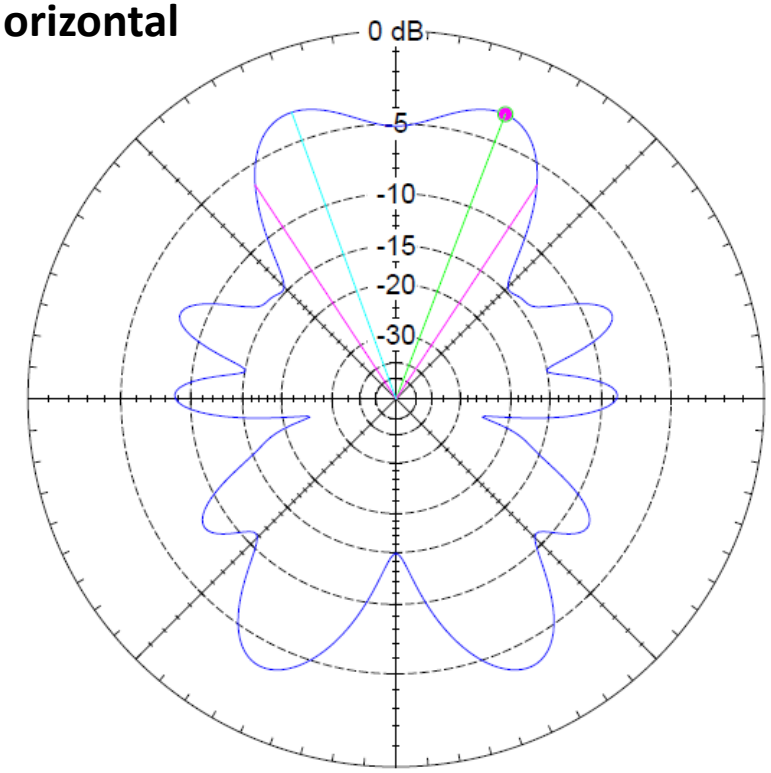
Elevation Plot		Cursor Elev	9,0 deg.
Azimuth Angle	60,0 deg.	Gain	4,35 dBi
Outer Ring	6,88 dBi		-2,45 dBmax
			-2,54 dBmax3D
3D Max Gain	6,88 dBi		
Slice Max Gain	6,79 dBi @ Elev Angle = 18,0 deg.		
Beamwidth	20,0 deg.; -3dB @ 8,2, 28,2 deg.		
Sidelobe Gain	5,93 dBi @ Elev Angle = 161,0 deg.		
Front/Sidelobe	0,86 dB		



Aerial-51 Model 807-xx – 12m

Total Field EZNEC+

Horizontal

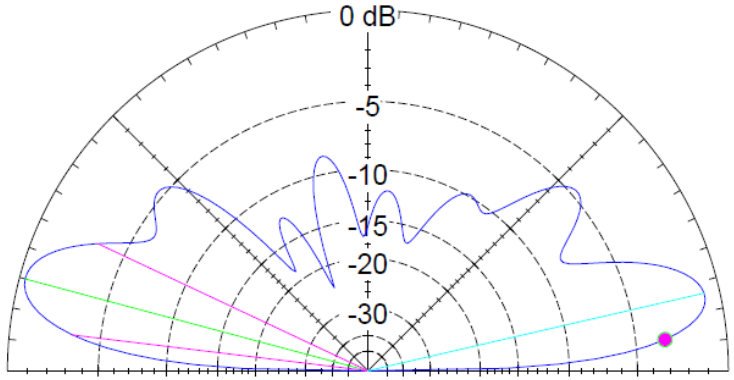


OCF-Dp 807L H12,5 InvV 8/6m 24,89 MHz

Azimuth Plot		Cursor Az	69,0 deg.
Elevation Angle	6,0 deg.	Gain	4,31 dBi
Outer Ring	7,54 dBi		0,0 dBmax
			-3,23 dBmax3D
3D Max Gain	7,54 dBi		
Slice Max Gain	4,31 dBi @ Az Angle = 69,0 deg.		
Front/Back	0,98 dB		
Beamwidth	66,8 deg.; -3dB @ 56,6, 123,4 deg.		
Sidelobe Gain	4,31 dBi @ Az Angle = 110,0 deg.		
Front/Sidelobe	0,0 dB		

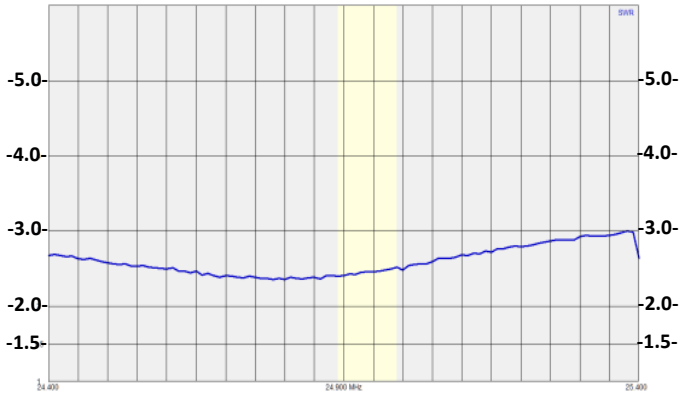
Total Field EZNEC+

Vertical



OCF-Dp 807L H12,5 InvV 8/6m 24,89 MHz

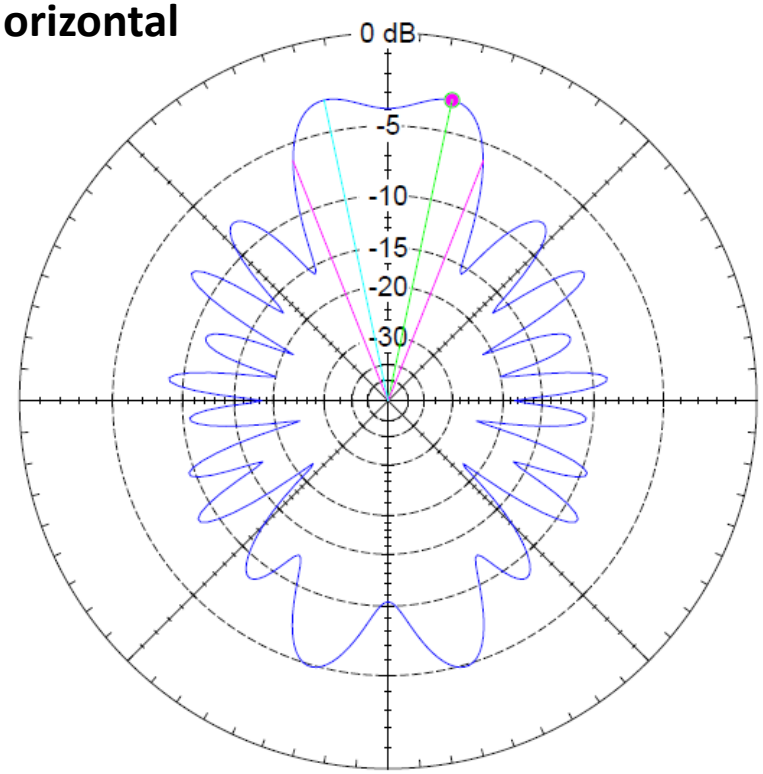
Elevation Plot		Cursor Elev	6,0 deg.
Azimuth Angle	69,0 deg.	Gain	4,31 dBi
Outer Ring	7,54 dBi		-2,96 dBmax
			-3,23 dBmax3D
3D Max Gain	7,54 dBi		
Slice Max Gain	7,27 dBi @ Elev Angle = 165,0 deg.		
Beamwidth	18,3 deg.; -3dB @ 154,8, 173,1 deg.		
Sidelobe Gain	6,79 dBi @ Elev Angle = 13,0 deg.		
Front/Sidelobe	0,48 dB		



Aerial-51 Model 807-xx – 6m

Total Field EZNEC+

Horizontal

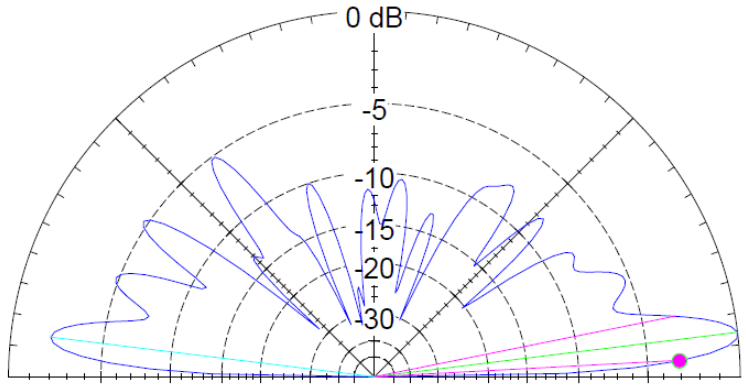


OCF-Dp 807L H12,5 InvV 8/6m 50,15 MHz

Azimuth Plot		Cursor Az	78,0 deg.
Elevation Angle	3,0 deg.	Gain	5,84 dBi
Outer Ring	8,93 dBi		0,0 dBmax
			-3,09 dBmax3D
3D Max Gain	8,93 dBi		
Slice Max Gain	5,84 dBi @ Az Angle = 78,0 deg.		
Front/Back	2,44 dB		
Beamwidth	43,2 deg.; -3dB @ 68,4, 111,6 deg.		
Sidelobe Gain	5,84 dBi @ Az Angle = 102,0 deg.		
Front/Sidelobe	0,0 dB		

Total Field EZNEC+

Vertical



OCF-Dp 807L H12,5 InvV 8/6m 50,15 MHz

Elevation Plot		Cursor Elev	3,0 deg.
Azimuth Angle	78,0 deg.	Gain	5,84 dBi
Outer Ring	8,93 dBi		-3,09 dBmax
			-3,09 dBmax3D
3D Max Gain	8,93 dBi		
Slice Max Gain	8,93 dBi @ Elev Angle = 7,0 deg.		
Beamwidth	8,3 deg.; -3dB @ 3,1, 11,4 deg.		
Sidelobe Gain	6,94 dBi @ Elev Angle = 173,0 deg.		
Front/Sidelobe	1,99 dB