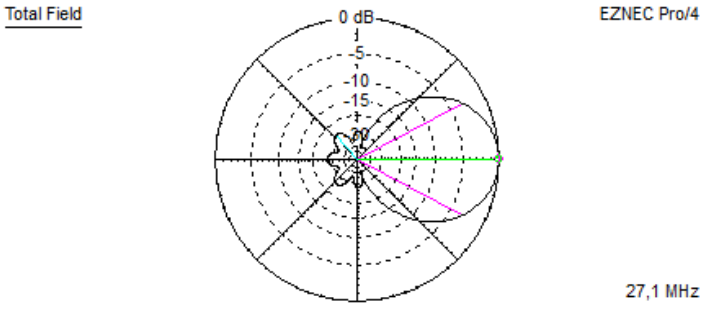
5,90 M 5el V-Yagi 9,71dBI

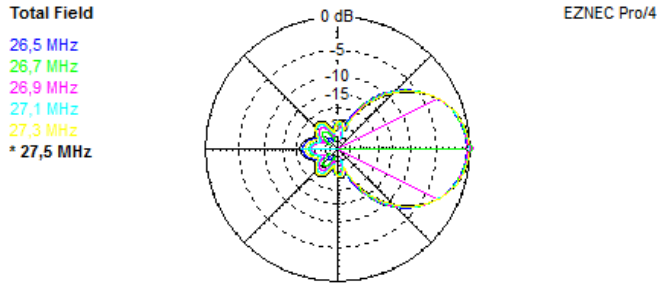
For:	CB channels 11 meter band
Antenna Type:	5 elements V-Yagi
	Bend Radiator (k6STI)
Designed by:	HPSD version 1.01 feb 2014
Boom length:	5,9 Meter
Gain:	9,71 dBI (@27,100 MHz, Peak gain: 9,9dBI @27,7MHz)
FB	<26 dB
FR	<25 dB
Impedance:	50 ohms, direct fed
SWR below	1:1.1 > 950 Khz.
SWR below	2:1 > 2200 Khz



Azimuth Plot		Cursor Az	0,0 deg.
Elevation Angle	0,0 deg.	Gain	9,71 dBi
Outer Ring	9,71 dBi		0,0 dBmax

Slice Max Gain	9,71 dBi @ Az Angle = 0,0 deg.
Front/Back	26,53 dB
Beamwidth	56,2 deg.; -3dB @ 331,9, 28,1 deg.
Sidelobe Gain	-15,65 dBi @ Az Angle = 130,0 deg.
Front/Sidelobe	25,36 dB

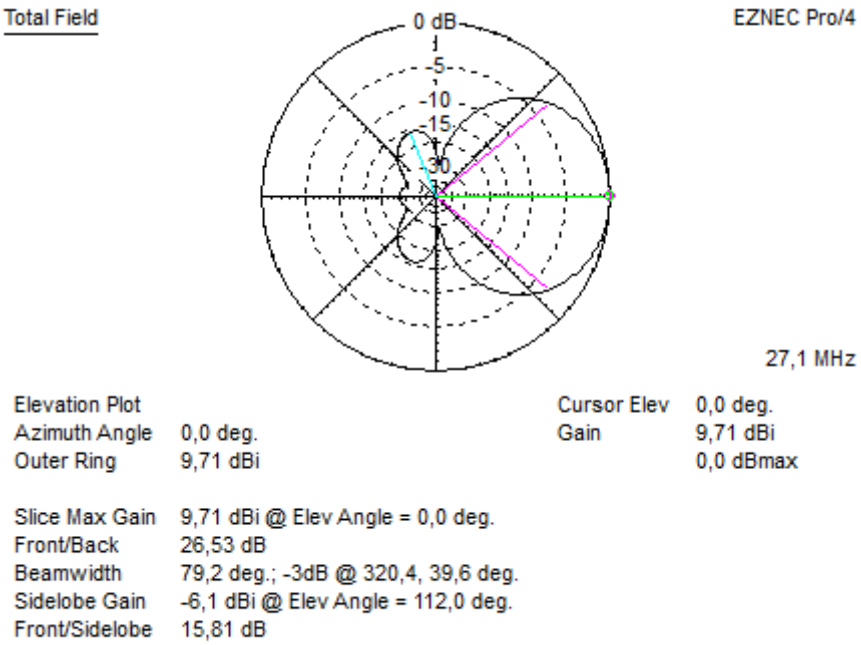
Above “freespace” azimuth plot at 27,1 MHz.



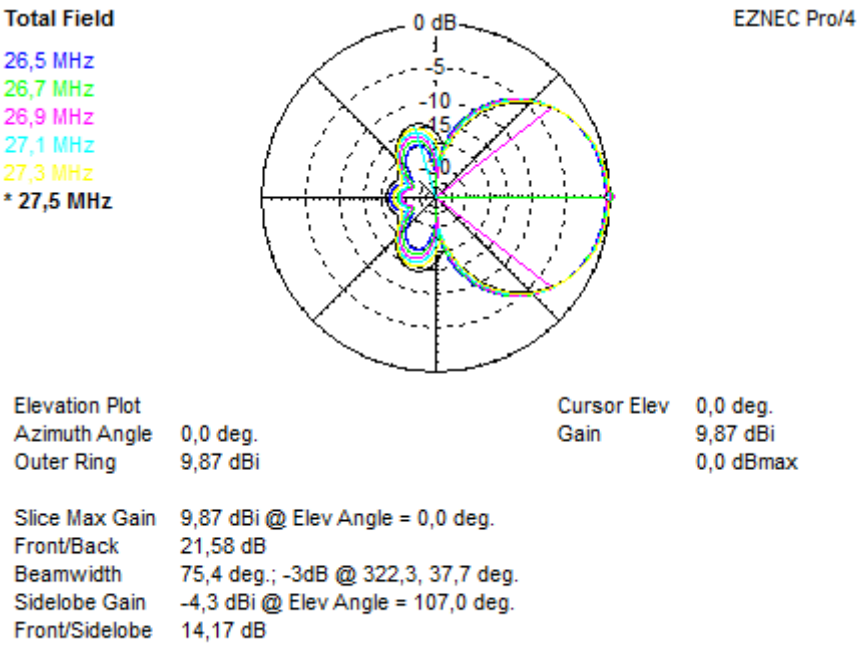
Azimuth Plot		Cursor Az	0,0 deg.
Elevation Angle	0,0 deg.	Gain	9,87 dBi
Outer Ring	9,87 dBi		0,0 dBmax

Slice Max Gain	9,87 dBi @ Az Angle = 0,0 deg.
Front/Back	21,58 dB
Beamwidth	54,4 deg.; -3dB @ 332,8, 27,2 deg.
Sidelobe Gain	-11,71 dBi @ Az Angle = 180,0 deg.
Front/Sidelobe	21,58 dB

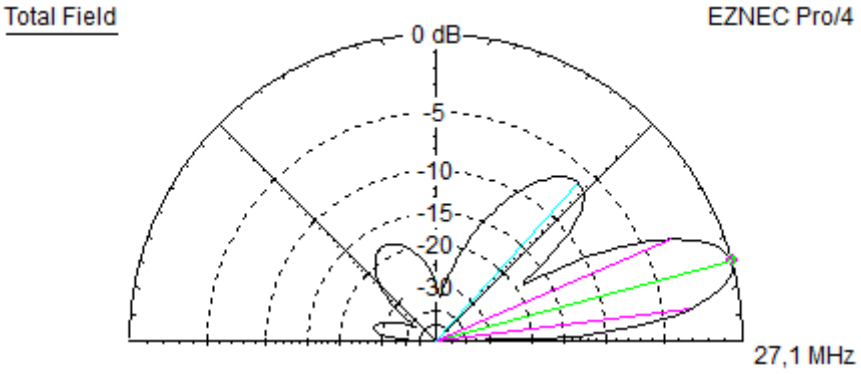
The freespace azimuth plots at different frequencies



Above the freespace elevation plots at 27,1 MHz



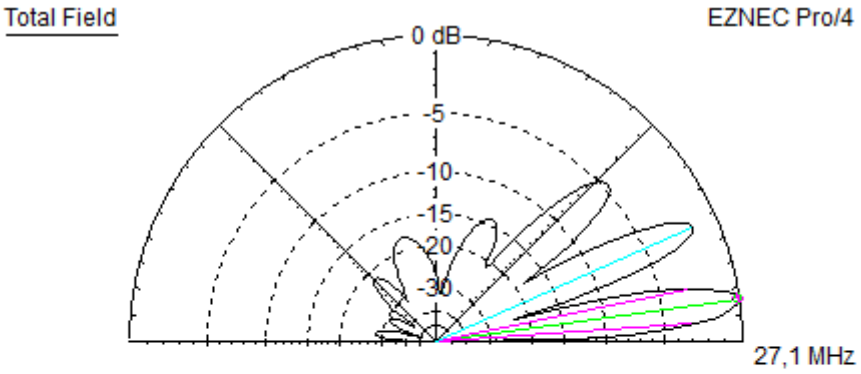
Above the “free space” elevation plots at different frequencies.



Elevation Plot		Cursor Elev	15,0 deg.
Azimuth Angle	0,0 deg.	Gain	14,7 dBi
Outer Ring	14,7 dBi		0,0 dBmax

Slice Max Gain	14,7 dBi @ Elev Angle = 15,0 deg.
Beamwidth	16,0 deg.; -3dB @ 7,2, 23,2 deg.
Sidelobe Gain	8,44 dBi @ Elev Angle = 48,0 deg.
Front/Sidelobe	6,26 dB

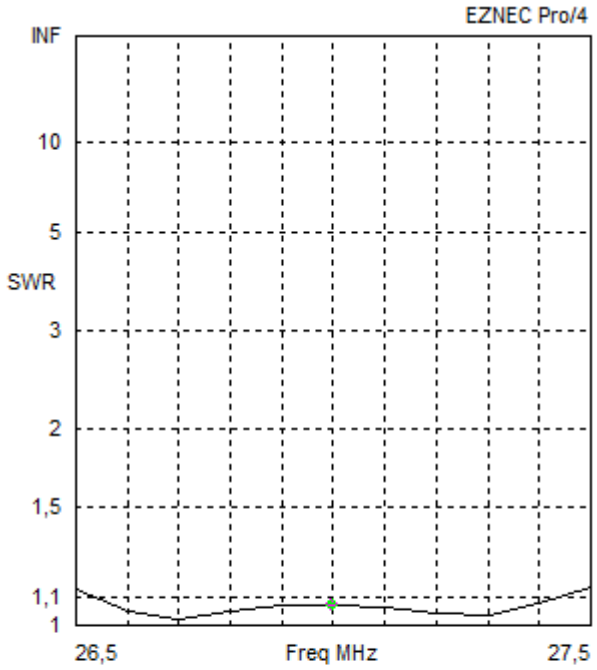
Above the elevation plot at 10 meters height (average ground conditions).



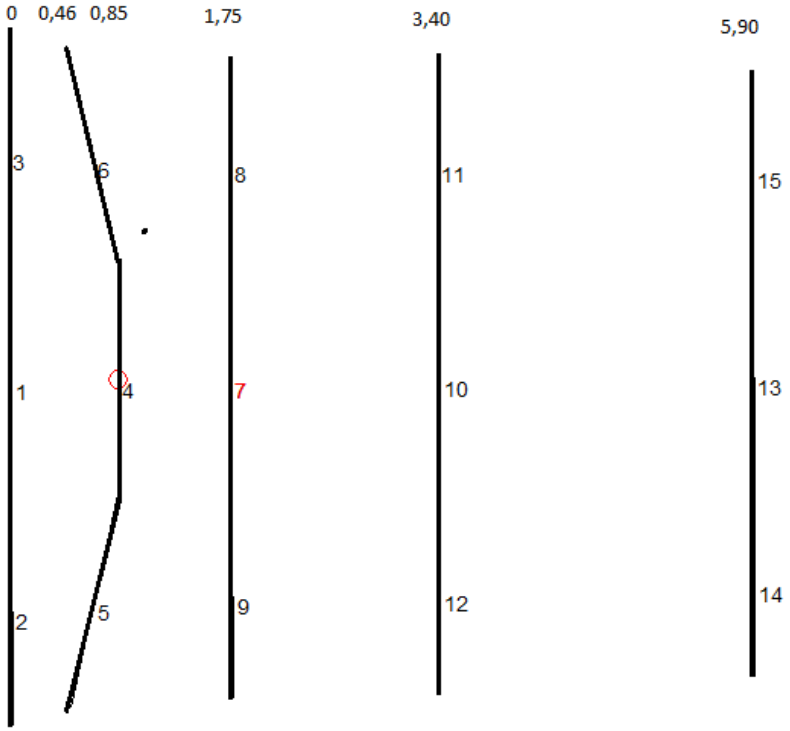
Elevation Plot		Cursor Elev	8,0 deg.
Azimuth Angle	0,0 deg.	Gain	15,29 dBi
Outer Ring	15,29 dBi		0,0 dBmax

Slice Max Gain	15,29 dBi @ Elev Angle = 8,0 deg.
Beamwidth	7,9 deg.; -3dB @ 3,8, 11,7 deg.
Sidelobe Gain	13,77 dBi @ Elev Angle = 24,0 deg.
Front/Sidelobe	1,52 dB

Above the elevation plot at 18 meters heigth (average ground conditions)



Freq	27 MHz	Source #	1
SWR	**1,072**	Z0	50 ohms
Z	53,17 at -1,85 deg.		
	= 53,15 - j 1,714 ohms		
Refl Coeff	0,03472 at -27,64 deg.		
	= 0,03076 - j 0,01611		
Ret Loss	29,2 dB		



All elements are made out of “maco” tubing.

All sizes here provided in Meters unless otherwise specified.

The center of each element (1,4,7,10,13) is made from 15,875mm tubing and is 1,8288 Meter long.

The “tips” of each element is made from 12,7mm (1/2 inch) tubing consistent with Maco.

The element distance is described above(0 / 0,46/ 0,85/ 1,75/3,40/5,90 M)

Element lengths:

Reflector 5,570 M

Radiator: 5,250 M

Director 1: 5,130 M

Director 2: 5,090 M

Director 3: 4,820 M