

## Reflected W Beam

### model of a reflected W beam for 20m, 17m, 15m & 12m feeding from the bottom via low impedance line

Following data are used to create the the XYZ coordinates with the file: reflectedW-single-band-koordinaten.xls

20m

length of half reflector:	569 cm
length of half radiator:	525 cm
length of reflector insulator:	7 cm
length of radiator insulator:	9 cm

17m

length of half reflector:	441 cm
length of half radiator:	421 cm
length of reflector insulator:	9 cm
length of radiator insulator:	10 cm

15m

length of half reflector:	382 cm
length of half radiator:	374 cm
length of reflector insulator:	7 cm
length of radiator insulator:	10 cm

12m

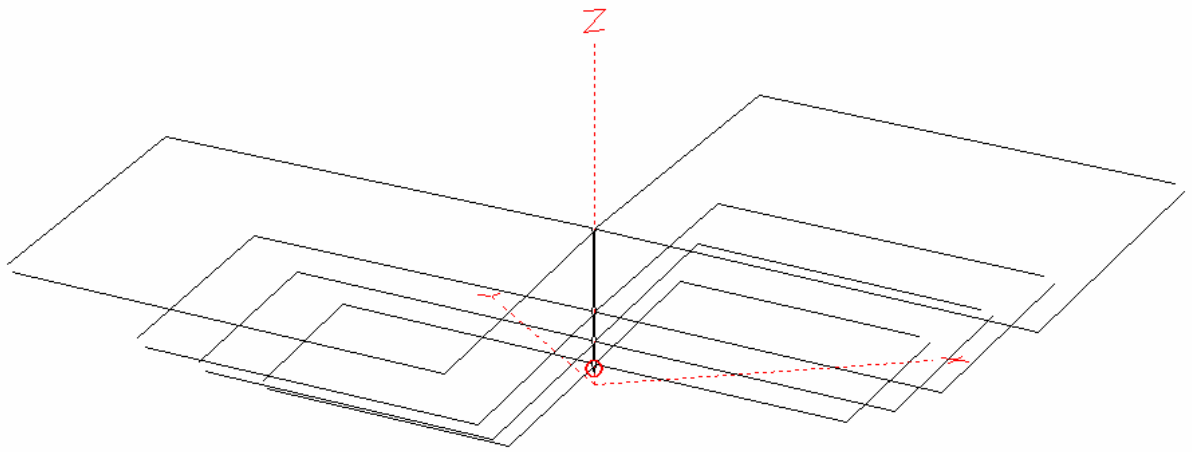
length of half reflector:	317 cm
length of half radiator:	321 cm
length of reflector insulator:	6 cm
length of radiator insulator:	9 cm

Distance between 20/17m elements:	40 cm
Distance between 17/15m elements:	14 cm
Distance between 15/12m elements:	11 cm

wire: 1,5 mm<sup>2</sup> noninsulated

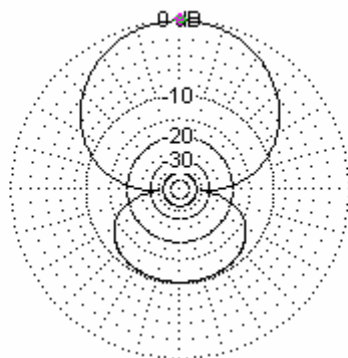
all results in free space, no losses

EZNEC+



**^ Total Field**

EZNEC+

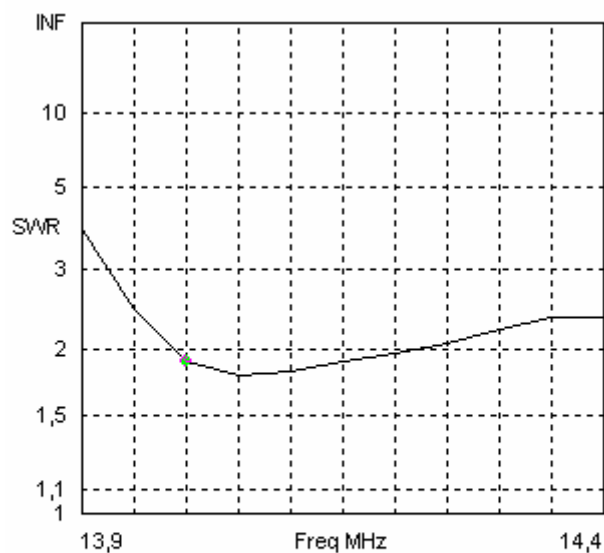


14 MHz

Azimuth Plot  
Elevation Angle 0,0 deg.  
Outer Ring 6,22 dBi

Cursor Az 90,0 deg.  
Gain 6,22 dBi  
0,0 dBmax

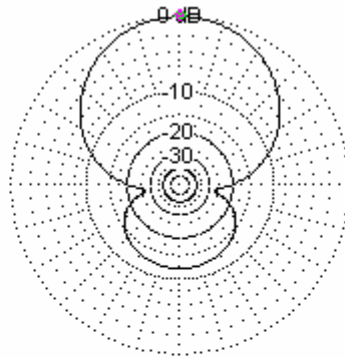
Slice Max Gain 6,22 dBi @ Az Angle = 90,0 deg.  
Front/Back 10,3 dB  
Beamwidth 82,4 deg.; -3dB @ 48,8, 131,2 deg.  
Sidelobe Gain -4,08 dBi @ Az Angle = 270,0 deg.  
Front/Sidelobe 10,3 dB



Freq 14 MHz Source # 1  
SWR 1,9 Z0 50 ohms  
Z 26,68 + j 4,51 ohms  
Refl Coeff 0,3093 at 165,69 deg.

**^ Total Field**

EZNEC+

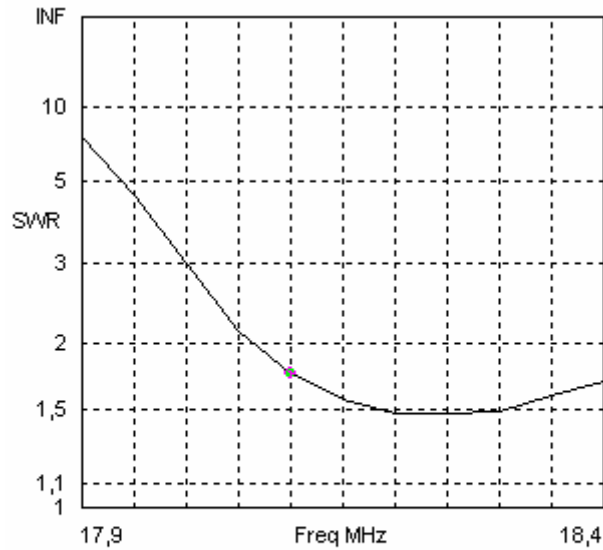


18,068 MHz

Azimuth Plot  
 Elevation Angle 0,0 deg.  
 Outer Ring 6,14 dBi

Cursor Az 90,0 deg.  
 Gain 6,14 dBi  
 0,0 dBmax

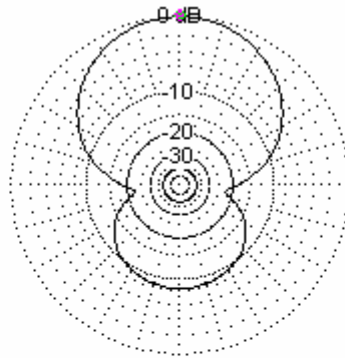
Slice Max Gain 6,14 dBi @ Az Angle = 90,0 deg.  
 Front/Back 12,06 dB  
 Beamwidth 82,6 deg.; -3dB @ 48,7, 131,3 deg.  
 Sidelobe Gain -5,92 dBi @ Az Angle = 270,0 deg.  
 Front/Sidelobe 12,06 dB



Freq 18,1 MHz      Source # 1  
 SWR 1,75      Z0 50 ohms  
 Z 30,36 + j 10,16 ohms  
 Refl Coeff 0,2729 at 145,45 deg.

**^ Total Field**

EZNEC+

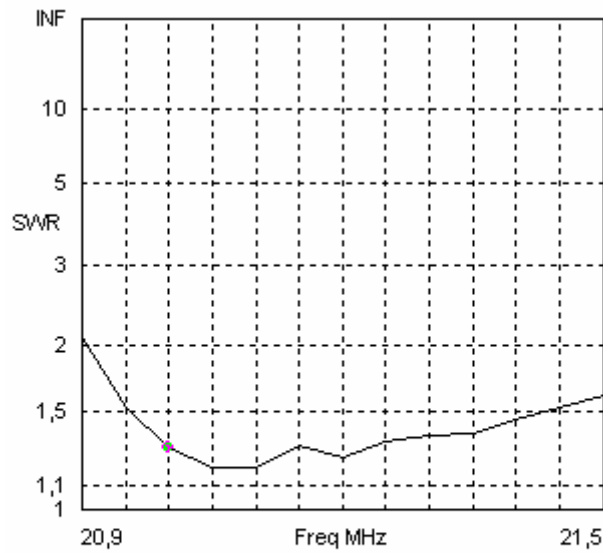


21 MHz

Azimuth Plot  
 Elevation Angle 0,0 deg.  
 Outer Ring 6,4 dBi

Cursor Az 90,0 deg.  
 Gain 6,4 dBi  
 0,0 dBmax

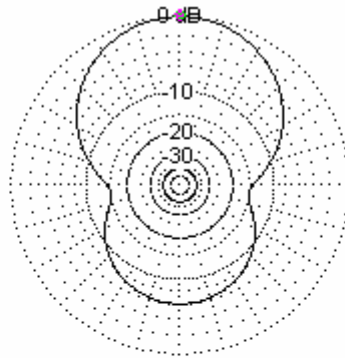
Slice Max Gain 6,4 dBi @ Az Angle = 90,0 deg.  
 Front/Back 8,41 dB  
 Beamwidth 85,8 deg.; -3dB @ 47,1, 132,9 deg.  
 Sidelobe Gain -2,01 dBi @ Az Angle = 270,0 deg.  
 Front/Sidelobe 8,41 dB



Freq 21 MHz Source # 1  
 SWR 1,29 Z0 50 ohms  
 Z 39,3 - j 3,593 ohms  
 Refl Coeff 0,1262 at -159,13 deg.

**^ Total Field**

EZNEC+

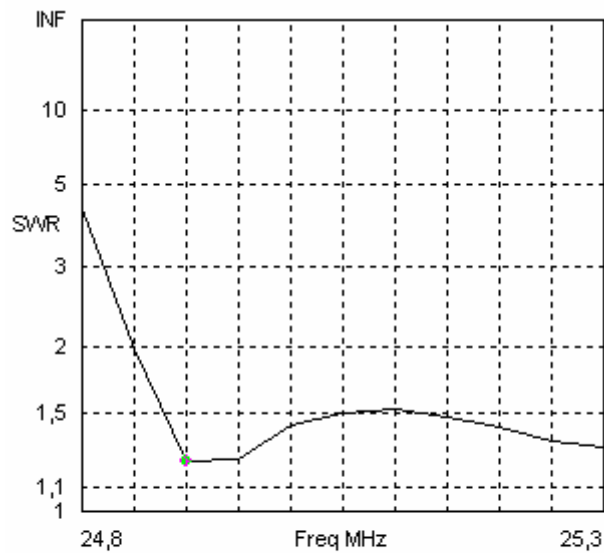


24,89 MHz

Azimuth Plot  
Elevation Angle 0,0 deg.  
Outer Ring 6,02 dBi

Cursor Az 90,0 deg.  
Gain 6,02 dBi  
0,0 dBmax

Slice Max Gain 6,02 dBi @ Az Angle = 90,0 deg.  
Front/Back 6,06 dB  
Beamwidth 86,0 deg.; -3dB @ 47,0, 133,0 deg.  
Sidelobe Gain -0,03 dBi @ Az Angle = 270,0 deg.  
Front/Sidelobe 6,06 dB



Freq 24,9 MHz Source # 1  
SWR 1,23 Z0 50 ohms  
Z 45,29 + j 8,595 ohms  
Refl Coeff 0,1024 at 113,57 deg.