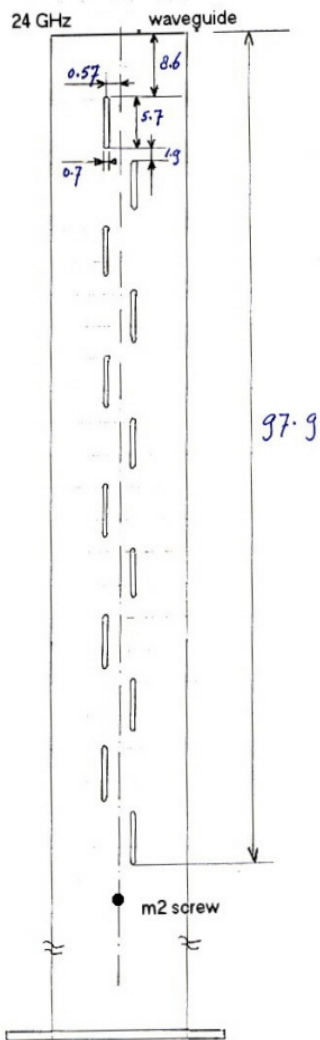


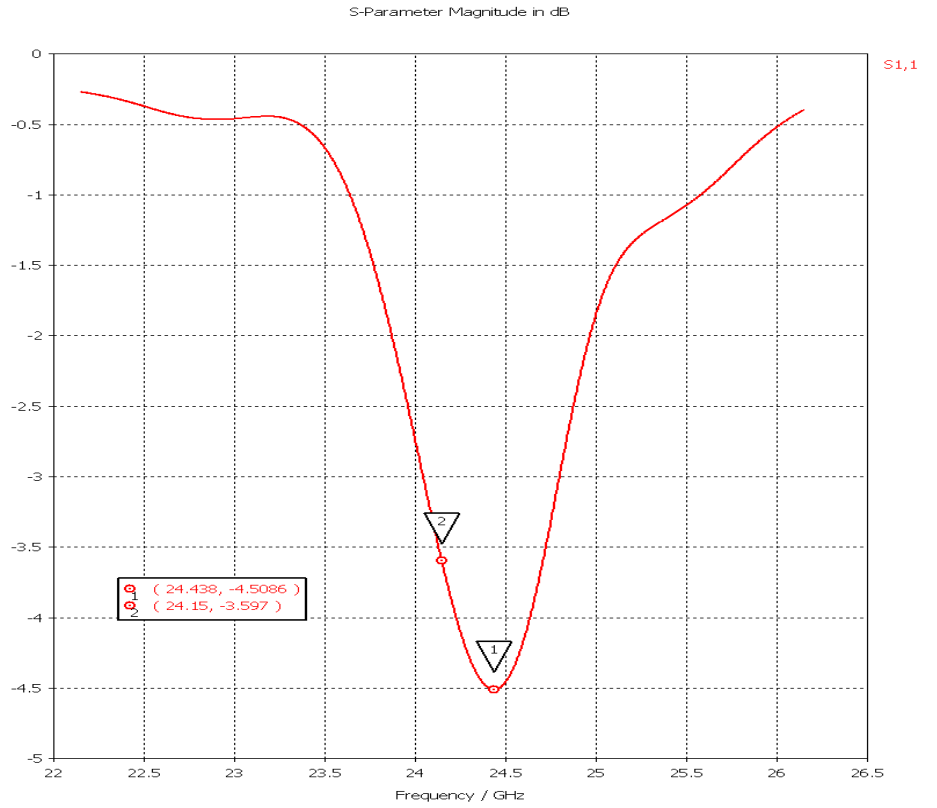
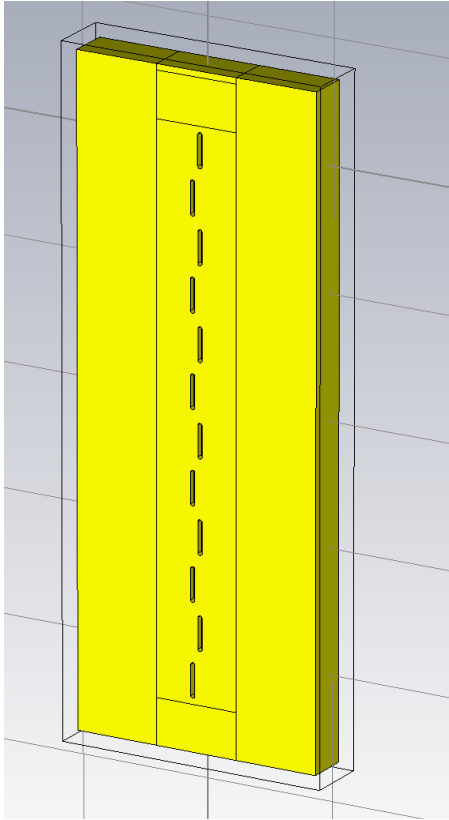
24 GHz Omni antenna PA0EHG



An alternative wing construction adds a single thin plate on each edge of the waveguide. Figure 7-12 is a photo of a 24 GHz slot antenna by PA0EHG¹⁹. I have no data on how well this construction works.

Volgens de W1GHZ Waveguide Slot Antenna Calculator zijn de maten voor WR42 golfpijp:
Waveguide large dim: 10.668 mm Waveguide small dim: 4.318 mm
Number of slots total on two sides: 24
Slot Dimensions
Offset from centerline: 1.03 mm Length: 6.05 mm Width: 0.74 mm
Slot spacing center to center: 7.71 mm
End space = 3/4 wave: 11.57 mm

Ontwerp PA0EHG gesimuleerd in CST

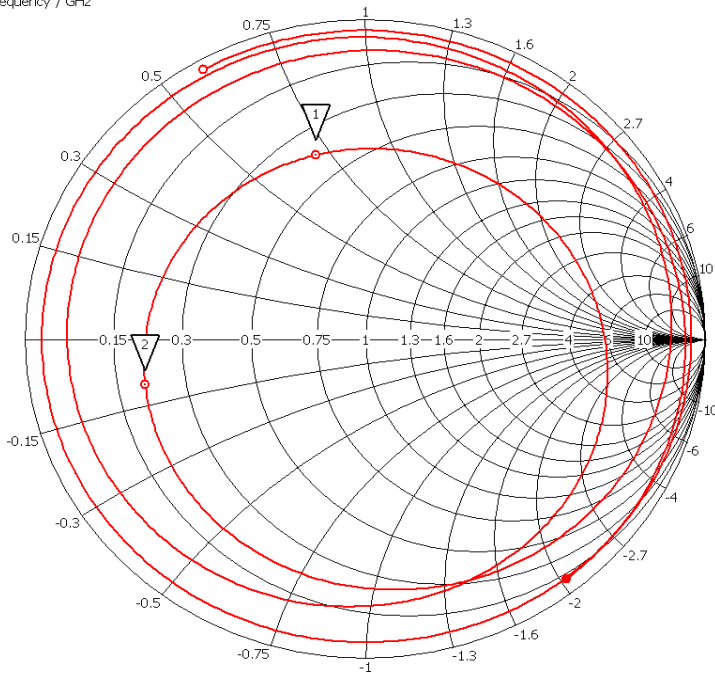


S-Parameter Impedance View

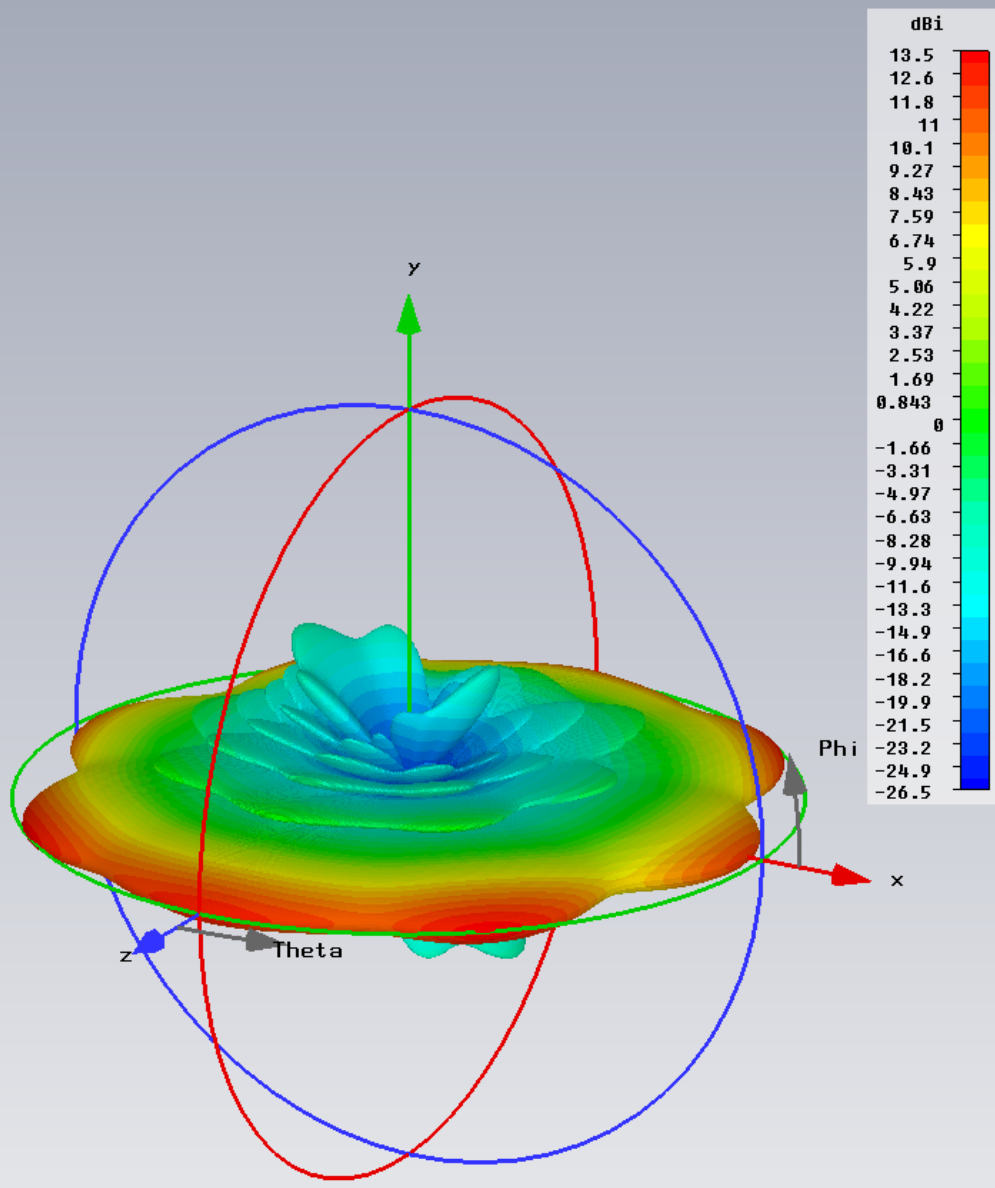
Dit is de aanpassing zonder afstemschroef.

○ 22.15 (10.2, 285) Ohm
 ● 26.15 (53.3, -916) Ohm
 Frequency / GHz

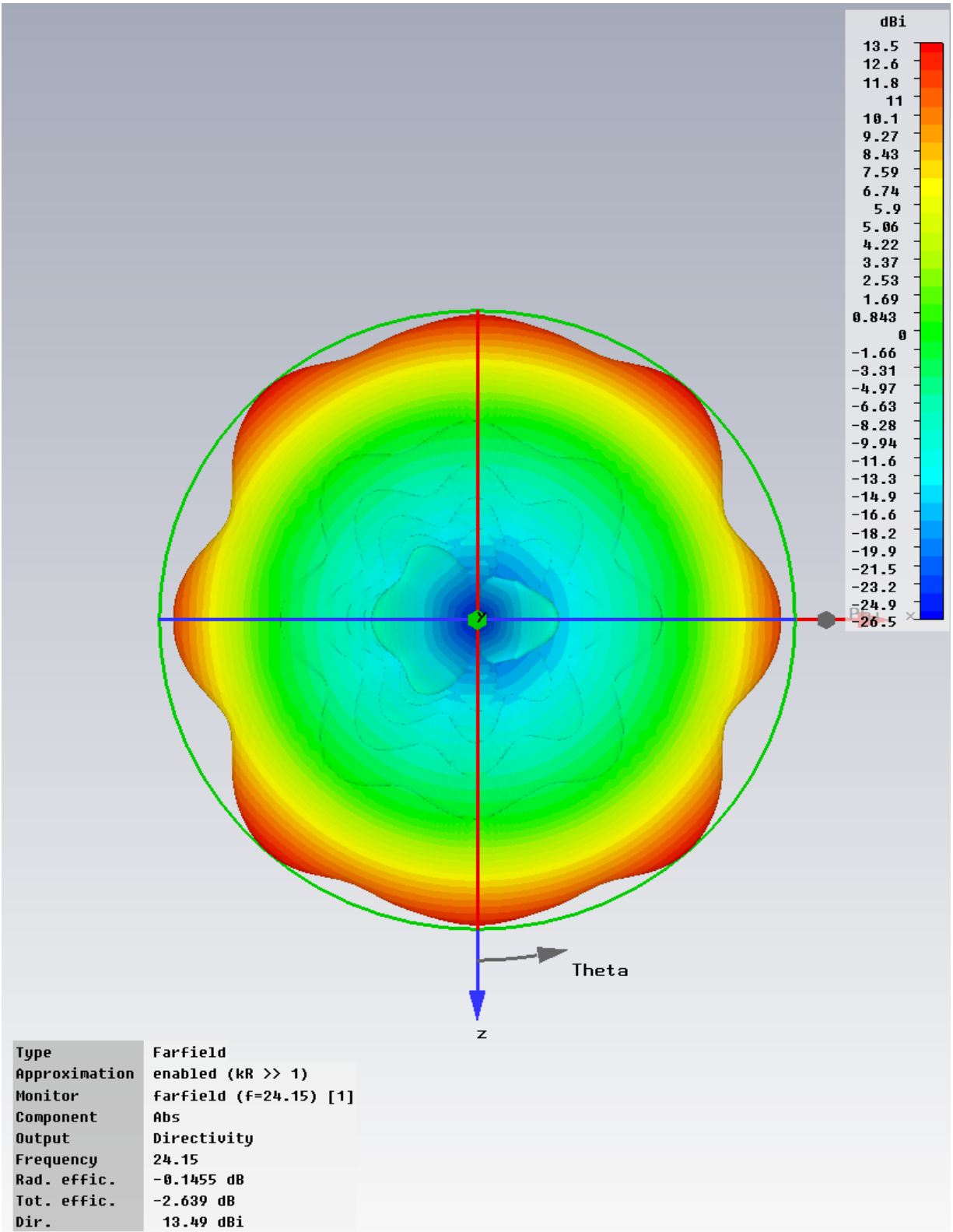
S_{1,1} (var. ref. imp.)



q₁ 24.438000 (180.710422, 322.857121) Ohm
 q₂ 24.150041 (95.624091, -48.344481) Ohm



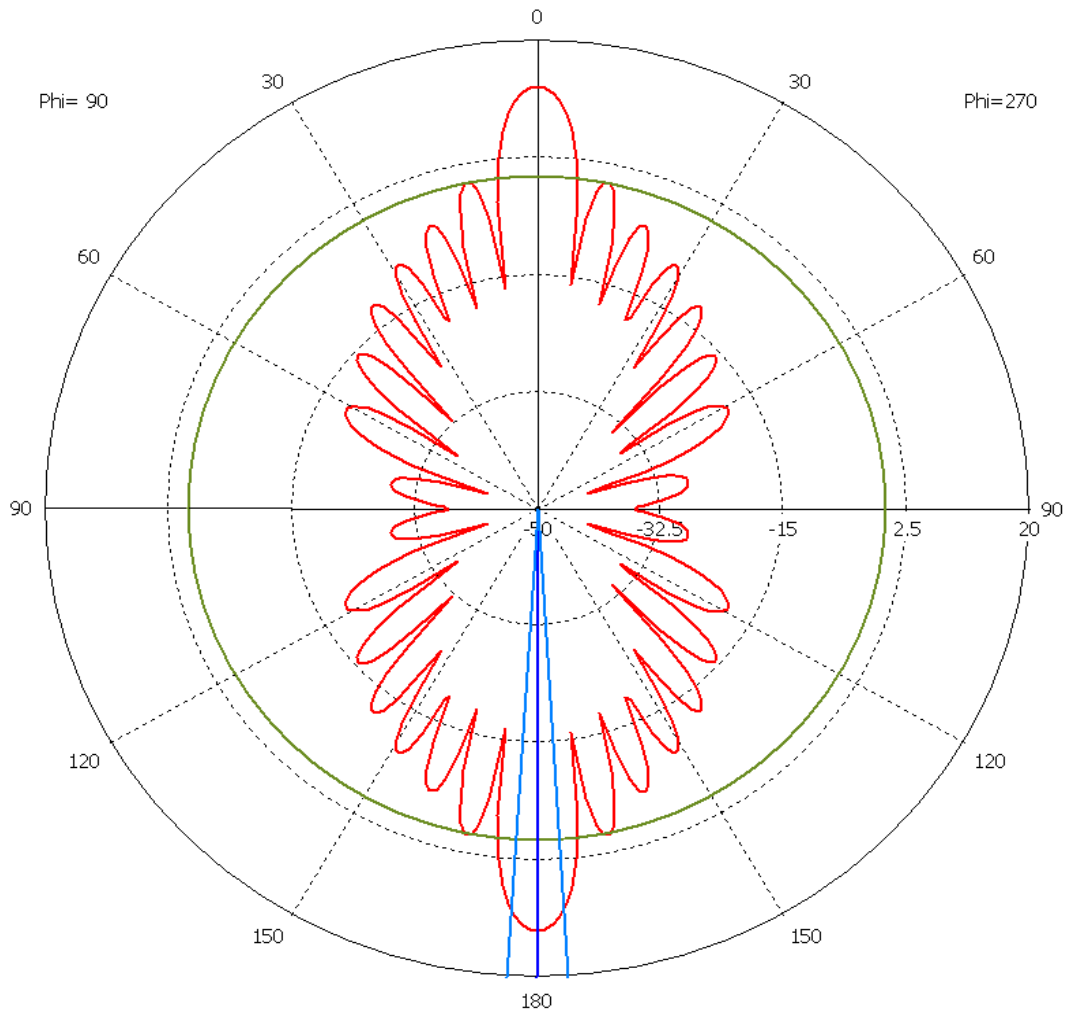
Type	Farfield
Approximation	enabled ($kR \gg 1$)
Monitor	Farfield (f=24.15) [1]
Component	Abs
Output	Directivity
Frequency	24.15
Rad. effic.	-0.1455 dB
Tot. effic.	-2.639 dB
Dir.	13.49 dBi



TOPVIEW

Farfield Directivity Abs (Phi=90)

farfield (f=24.15) [1]



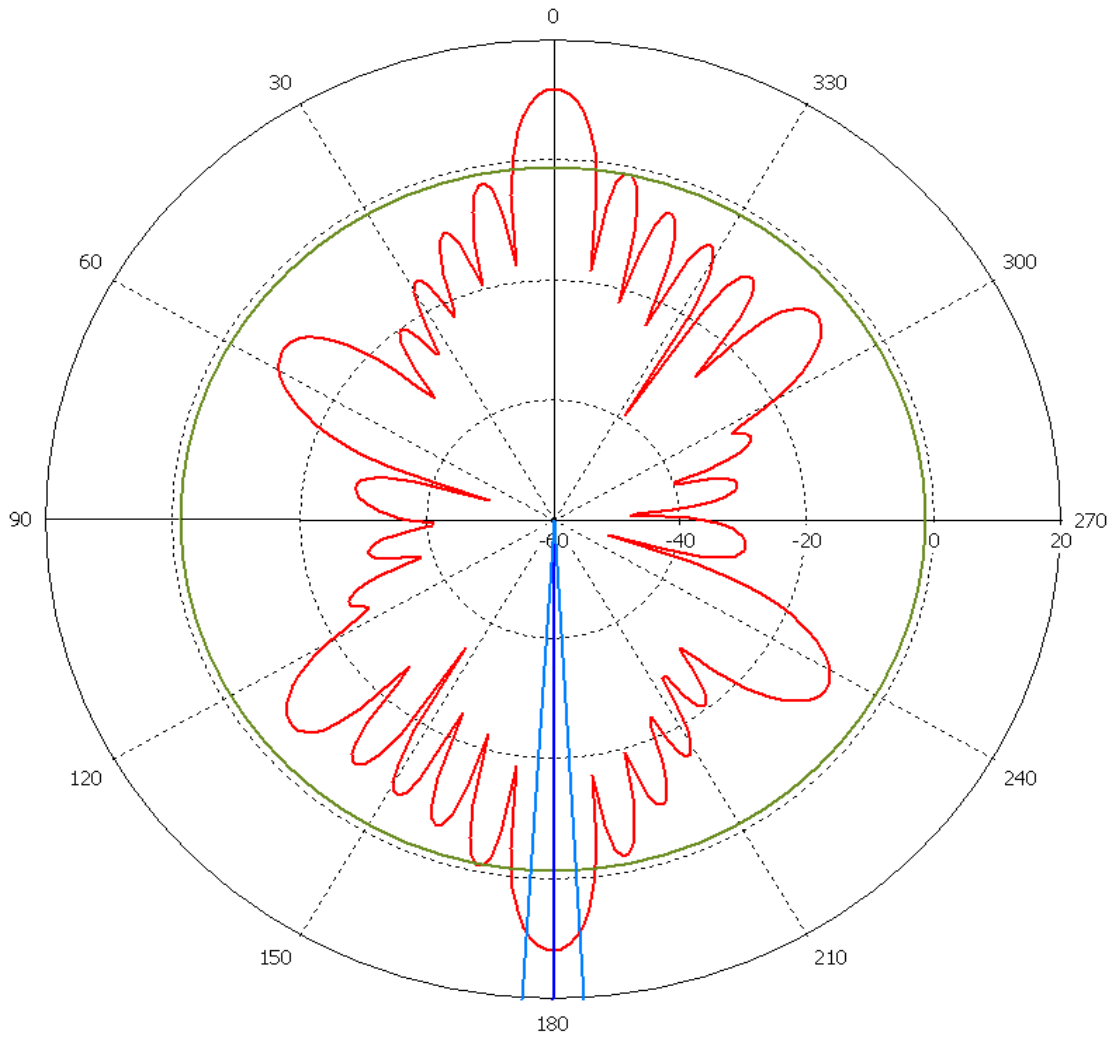
Frequency = 24.15
Main lobe magnitude = 13.0 dBi
Main lobe direction = 180.0 deg.
Angular width (3 dB) = 7.0 deg.
Side lobe level = -13.4 dB

Theta / Degree vs. dBi

VERTICAAL DIAGRAM Theta

Farfield Directivity Abs (Theta=90)

farfield (f=24.15) [1]



Frequency = 24.15
Main lobe magnitude = 11.8 dBi
Main lobe direction = 180.0 deg.
Angular width (3 dB) = 6.9 deg.
Side lobe level = -13.2 dB

Phi / Degree vs. dBi

VERTICAAL DIAGRAM Phi