

**Technical Data Sheet:      Antennas Direct V21 Antenna**

**Physical Data:**

Dimensions:      Length = 59 in..      Width = 110 in.  
Weight:            8.5 lbs  
Turning Radius:   55 in.

**Electrical Data:**

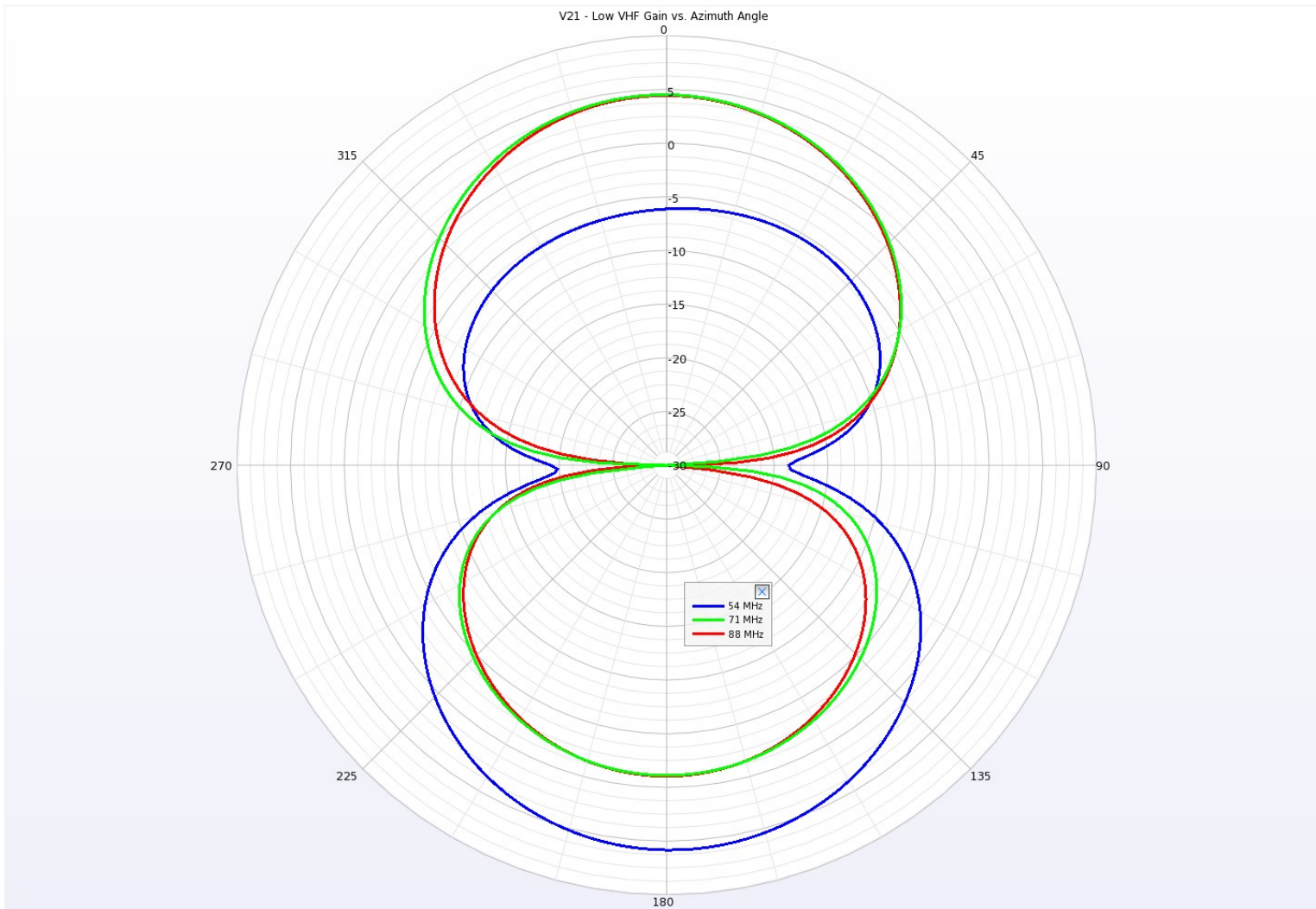
Bands:	Low VHF	54 MHz to 88 MHz	Ch. 2 to 6
	High VHF	174 MHz to 216 MHz	Ch. 7 to 13
	UHF	470 MHz to 806 MHz	Ch. 14 to 69
Impedance:	75 ohm		
Connector:	F-Female		
Balun:	Broadband Coaxial Ferrite Core		

**Performance Data:**

See curves.

*Notes:*

- 1. Unless stated otherwise, all performance data computed using Remcom, Inc. X-FDTD 7.0 simulator.*
- 2. Assumptions: PEC, free space, no balun. 300 Ohm transmission line reference.*
- 3. Gain is specified dBi (isotropic) per IEEE definition. Balun and mismatch losses not included.*
- 4. There are two common meanings for Front-to-Back Ratio (F/B). One specifies ratio as measured 180 degrees opposite boresight. The other, used by IEEE specifies the ratio of boresight gain to maximum gain in rear hemisphere. The IEEE definition is the most conservative. IEEE F/B values shown here are computed based on azimuth and elevation cuts provided in this document.*



*Illustration 1: V21 - Low VHF Gain vs. Azimuth Angle.*

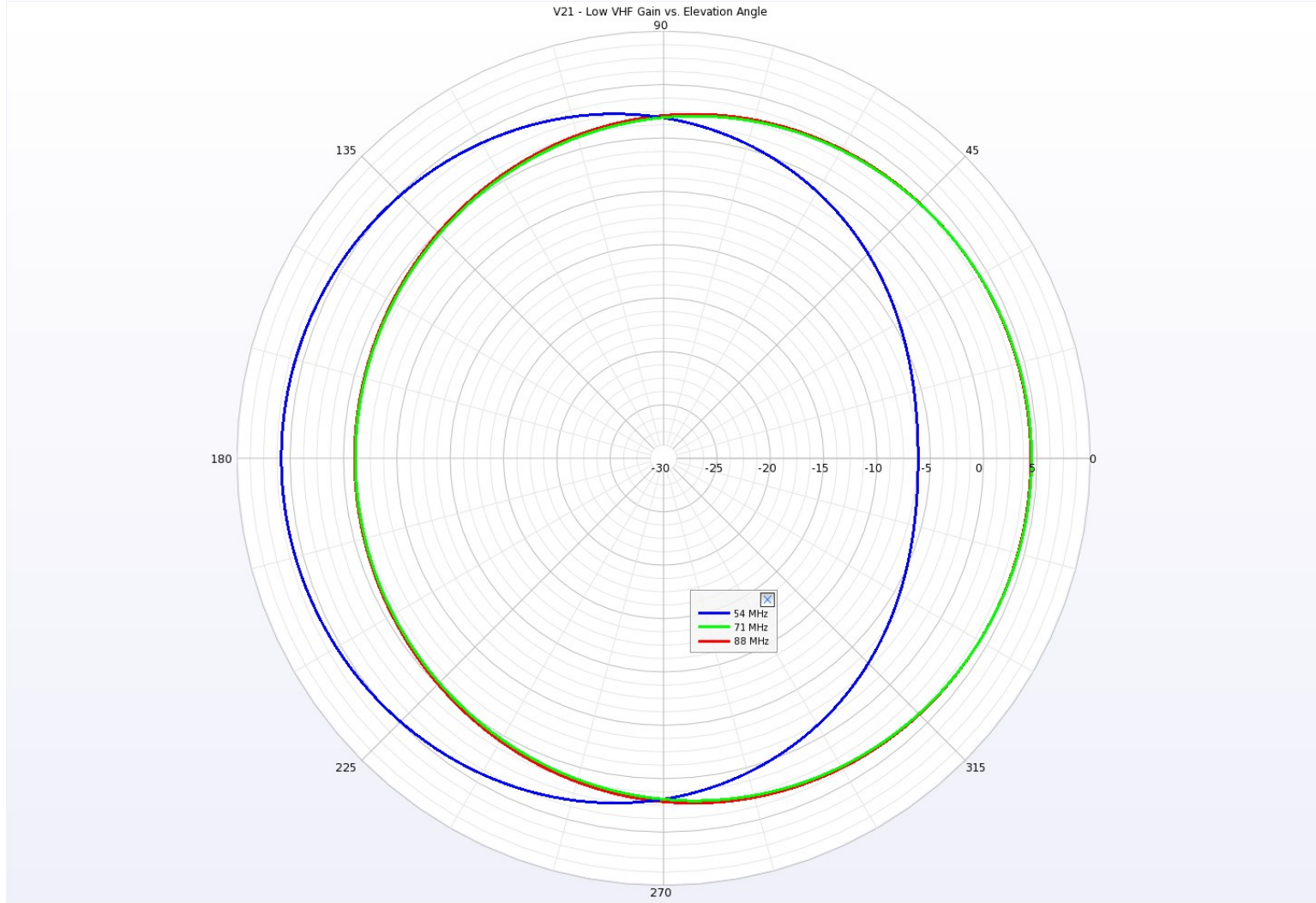


Illustration 2: V21 - Low VHF Gain vs. Elevation Angle.

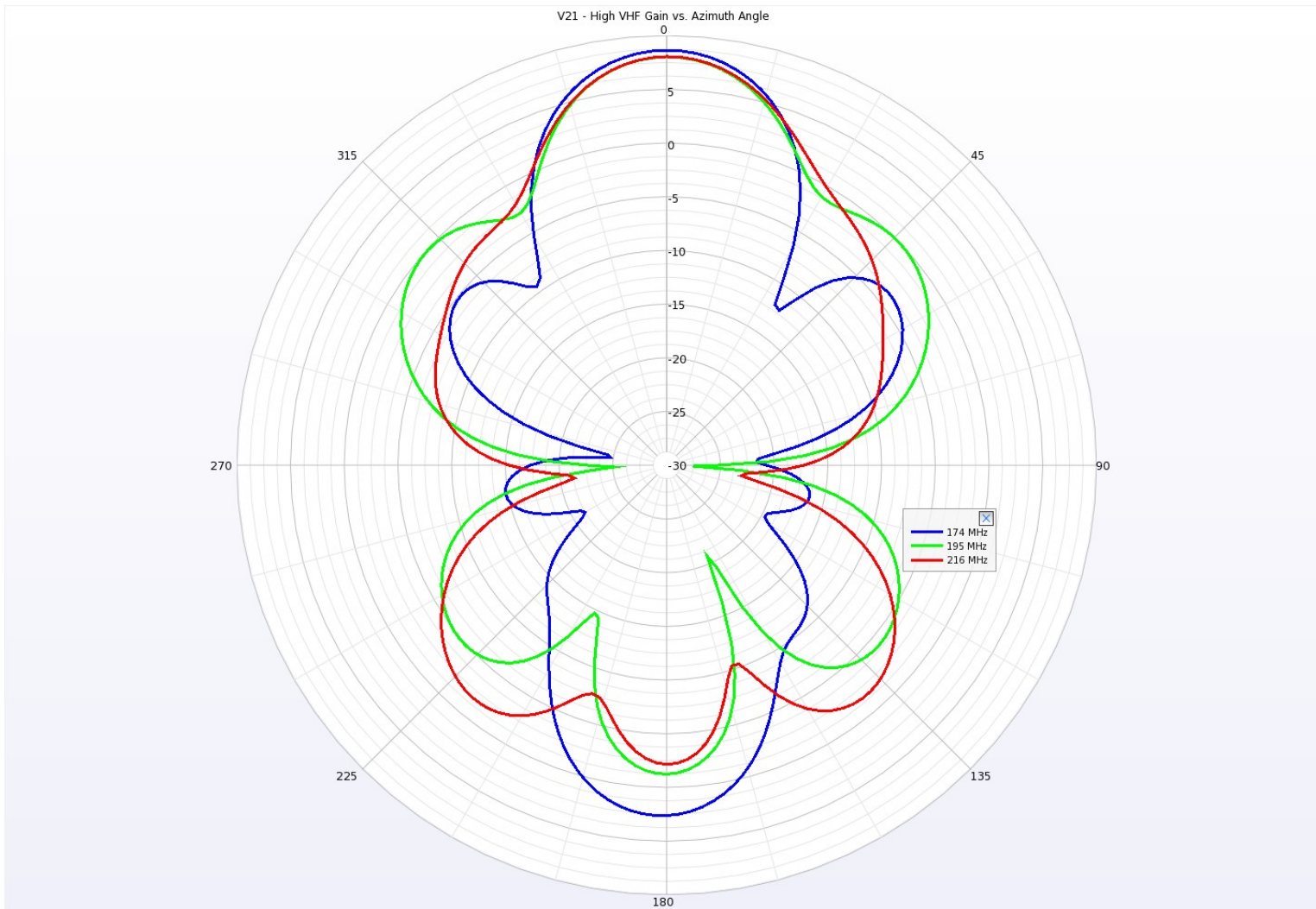


Illustration 3: V21 - High VHF Gain vs Azimuth Angle.

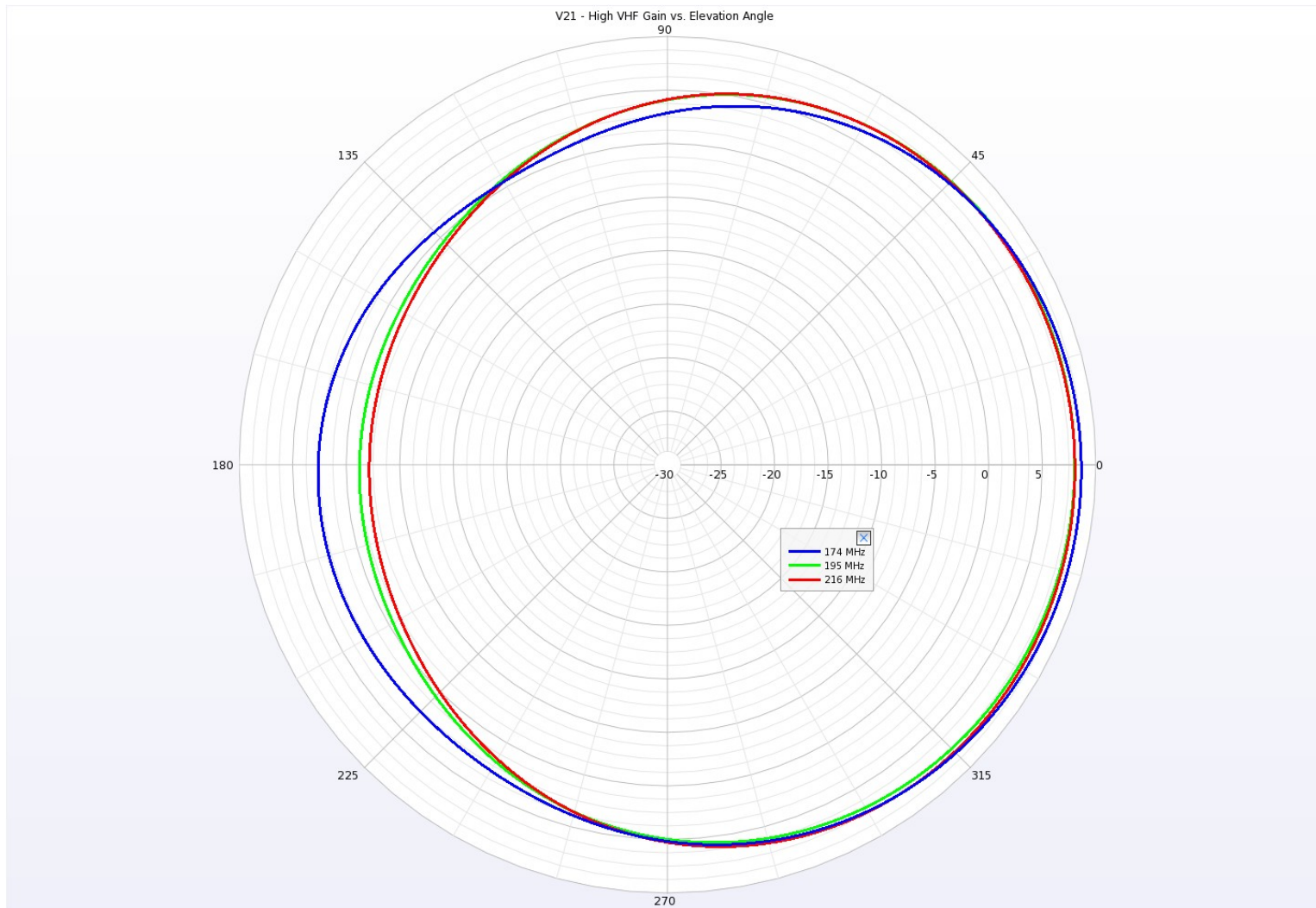
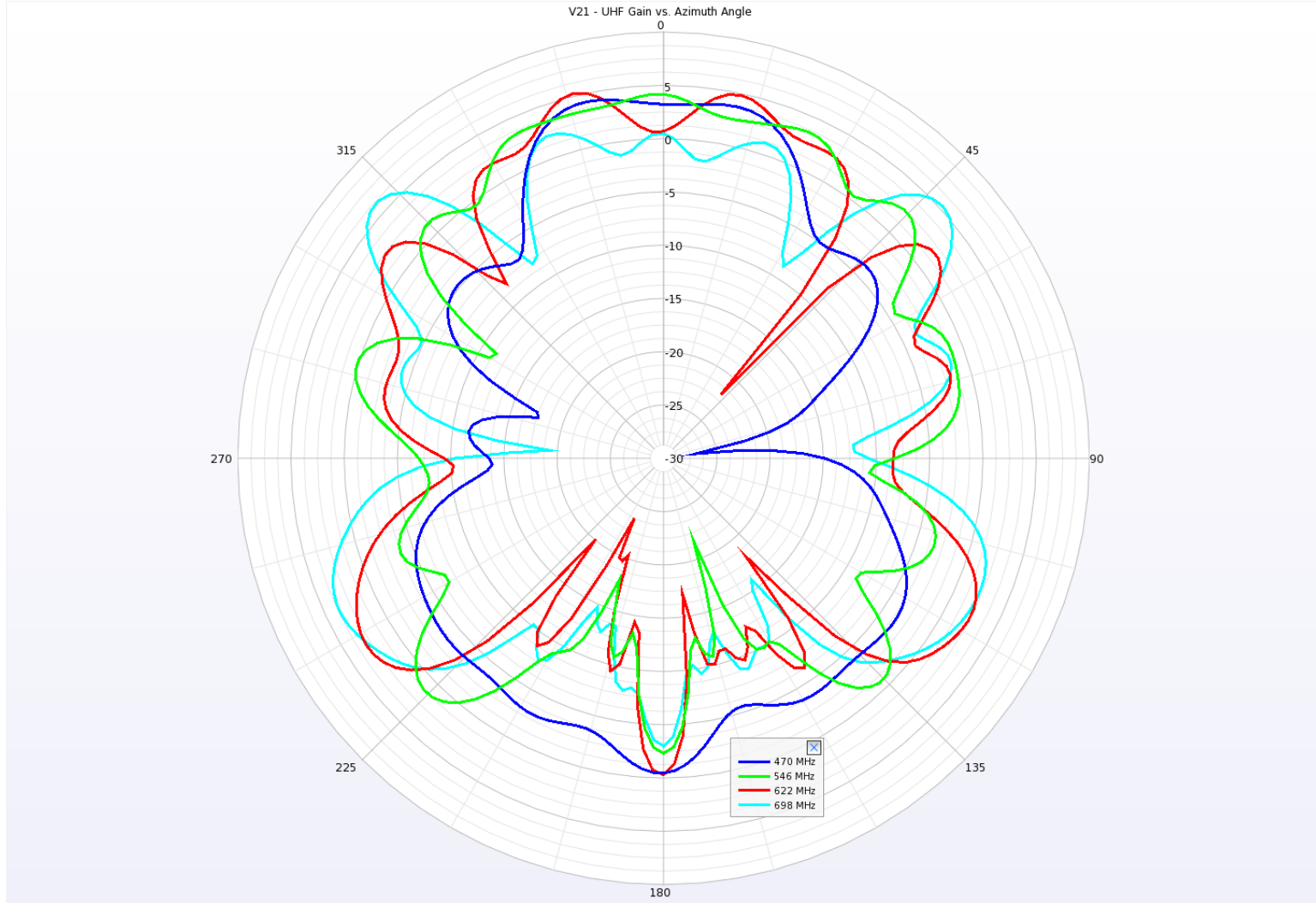


Illustration 4: V21 - High VHF Gain vs. Elevation Angle.



*Illustration 5: V21 - UHF Gain vs. Azimuth Angle.*

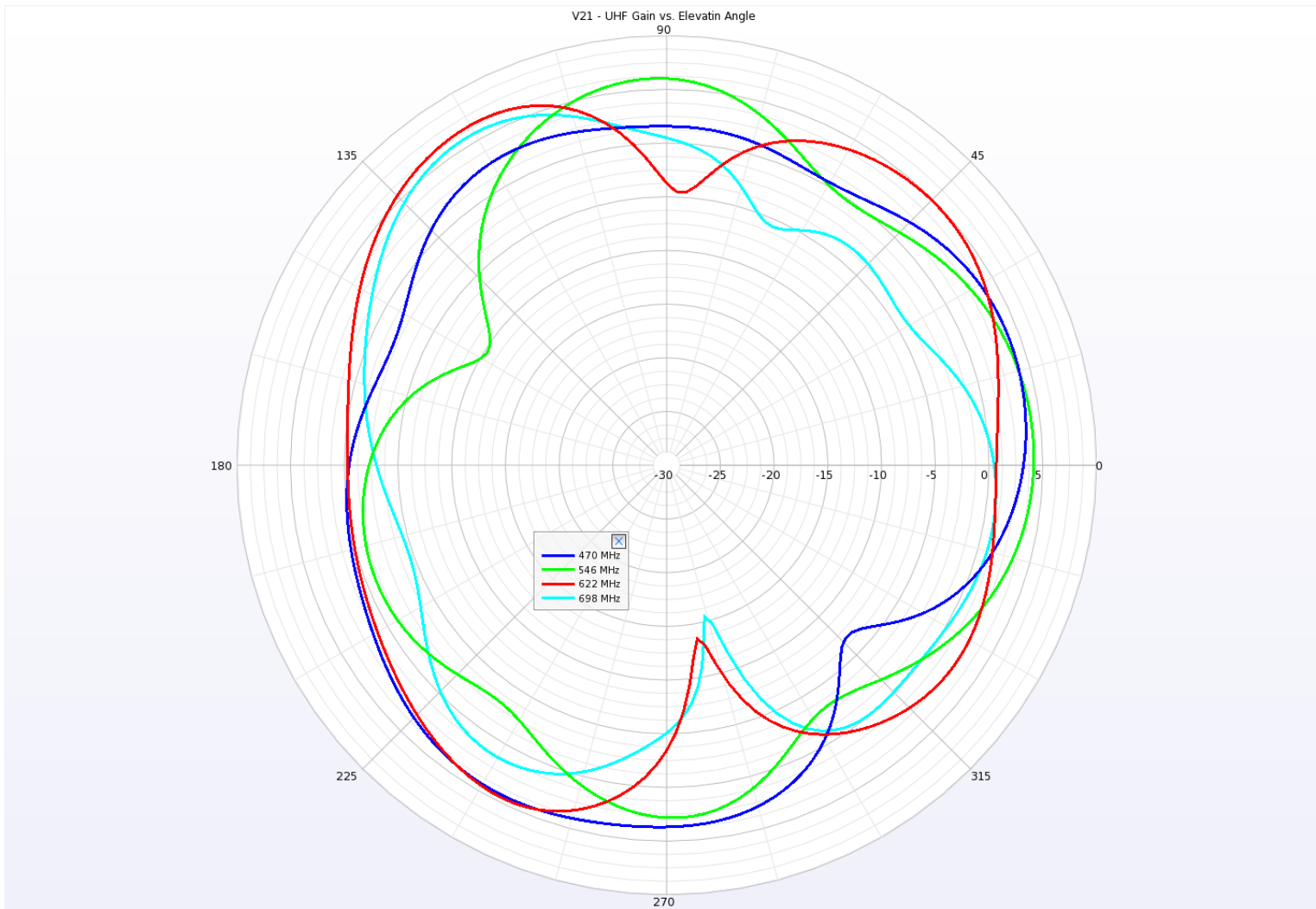
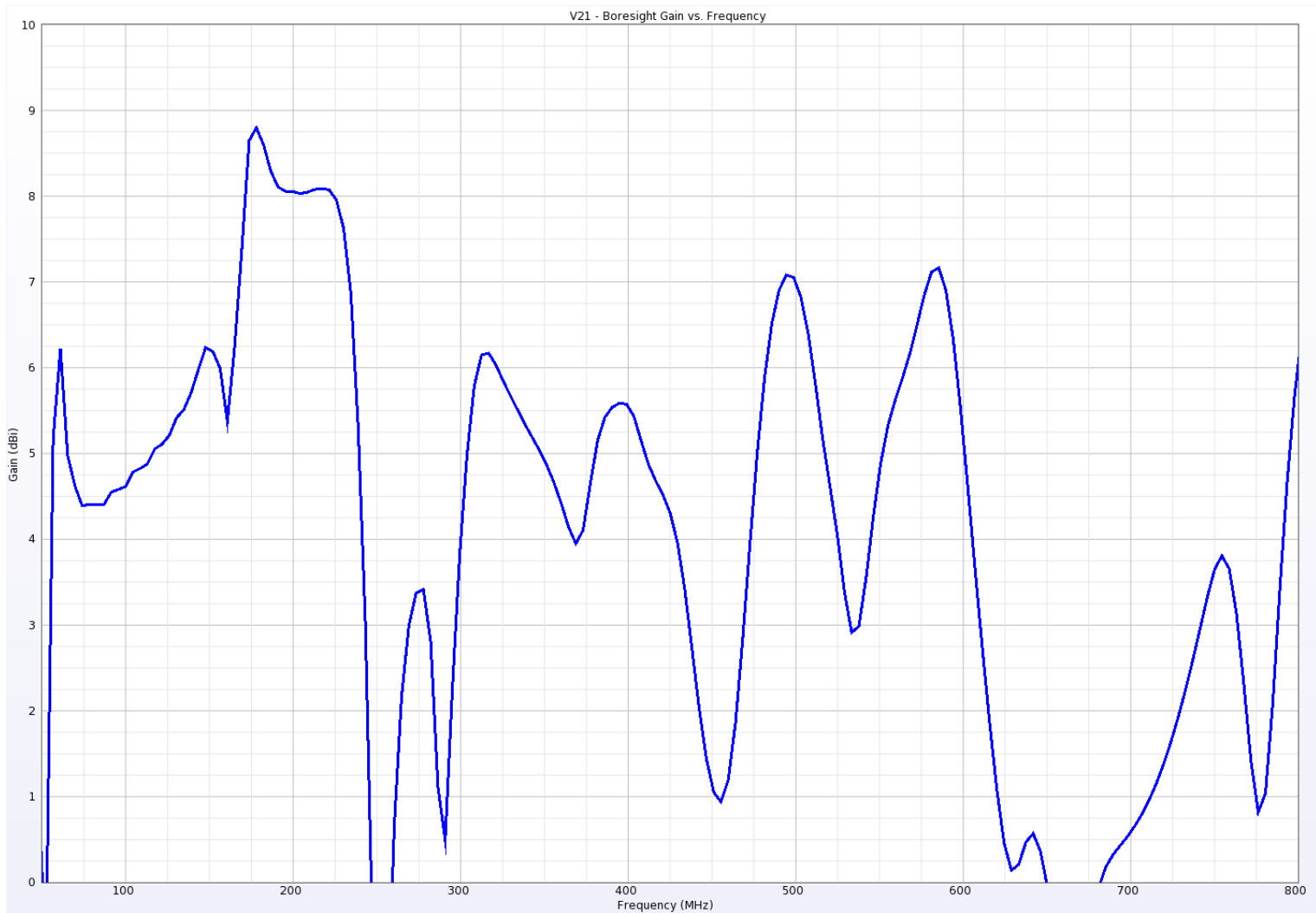
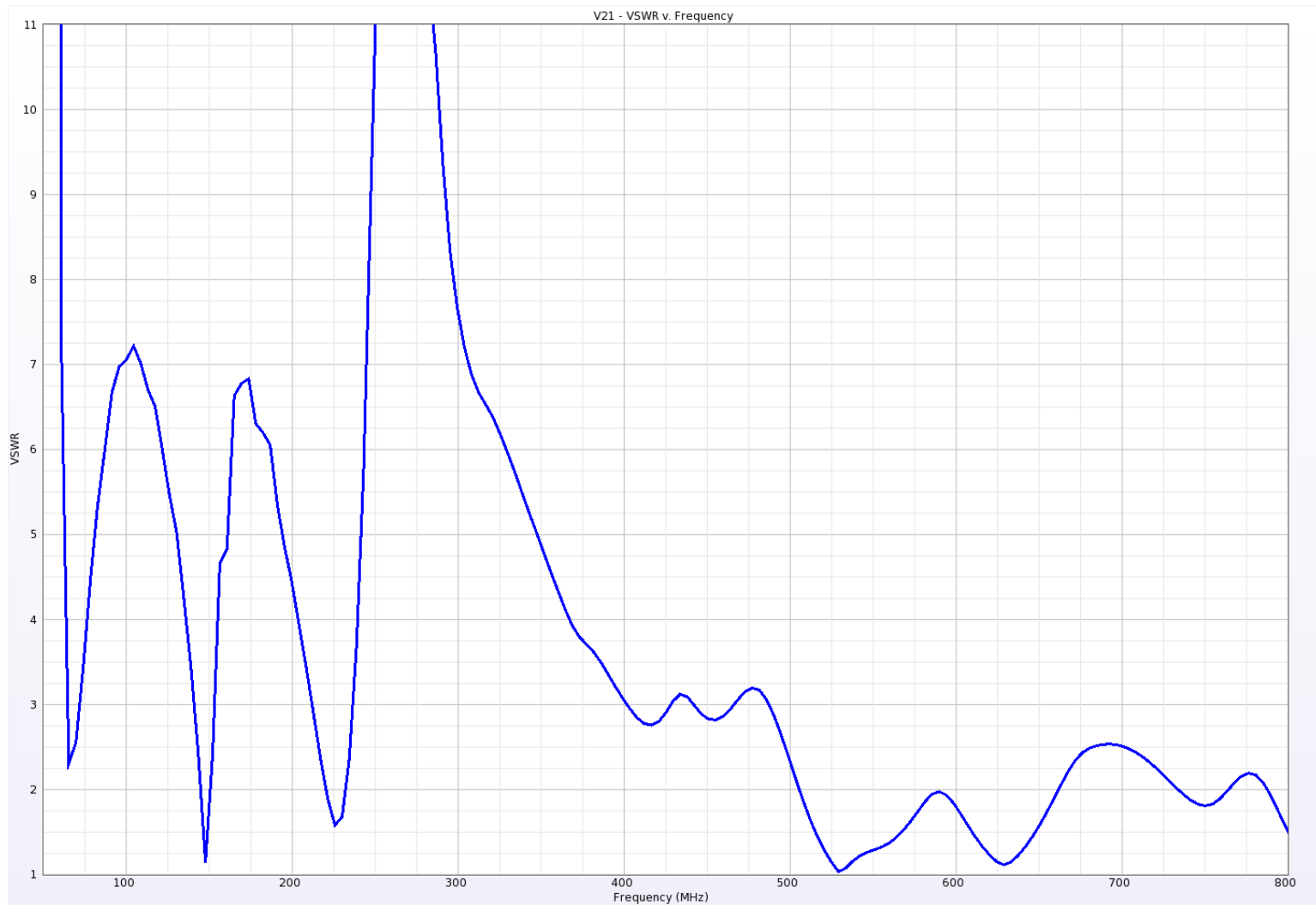


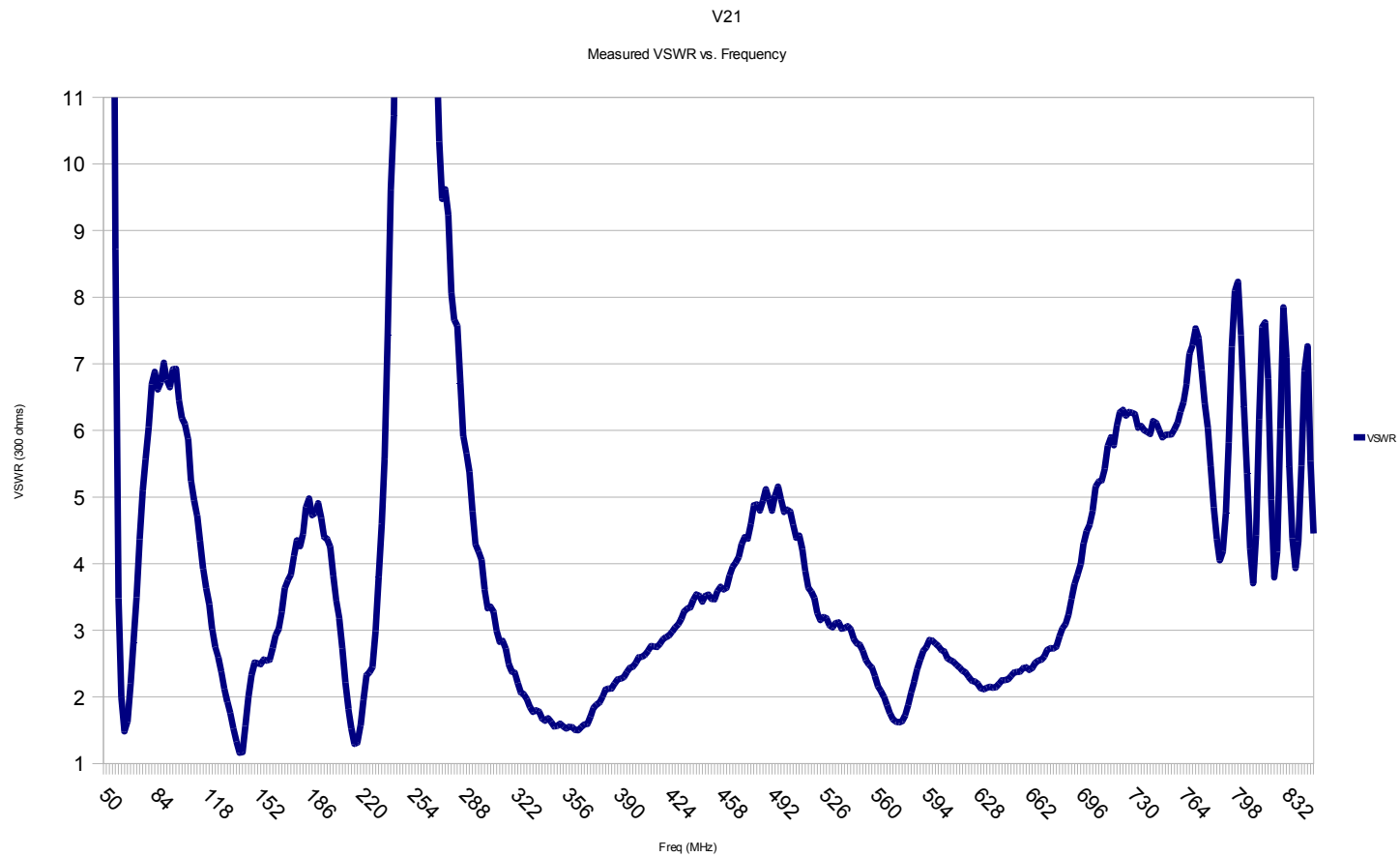
Illustration 6: V21 - UHF Gain vs. Elevation Angle.



*Illustration 7: V21 - Boresight Gain vs. Frequency. Note peak gain is off boresight at some frequencies. Refer to polar curves.*



*Illustration 8: V21 - Computed VSWR vs. Frequency. No balun. 300 ohm line reference.*



*Illustration 9: V21 - VSWR versus Frequency measured with HP/Agilent 8510C VNA. Antenna on mast 10 ft above dry concrete slab.*