

Technical Data Sheet: Antennas Direct C2+VHF Antenna

Physical Data:

Dimensions: Width = 35.5 in. Height = 20 in. Depth = 6.5 in.
Weight: TBD
Turning Radius: 18 in.

Electrical Data:

Bands: VHF 174 MHz to 216 MHz Channels 7 - 13
 UHF 470 MHz to 806 MHz Channels 14 - 69
Impedance: 75 ohm
Connector: F-Female

Performance Data:

Peak Gain – UHF 10.4 dBi @ 670 MHz
Peak Gain – VHF 3.1 dBi @ 216 MHz
VSWR- VHF : 3.0 Max
VSWR – UHF: 3.0 Max

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.*

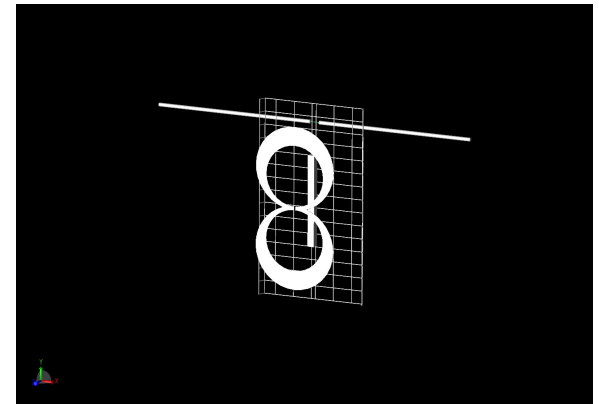


Illustration 1: C2 + VHF model geometry.

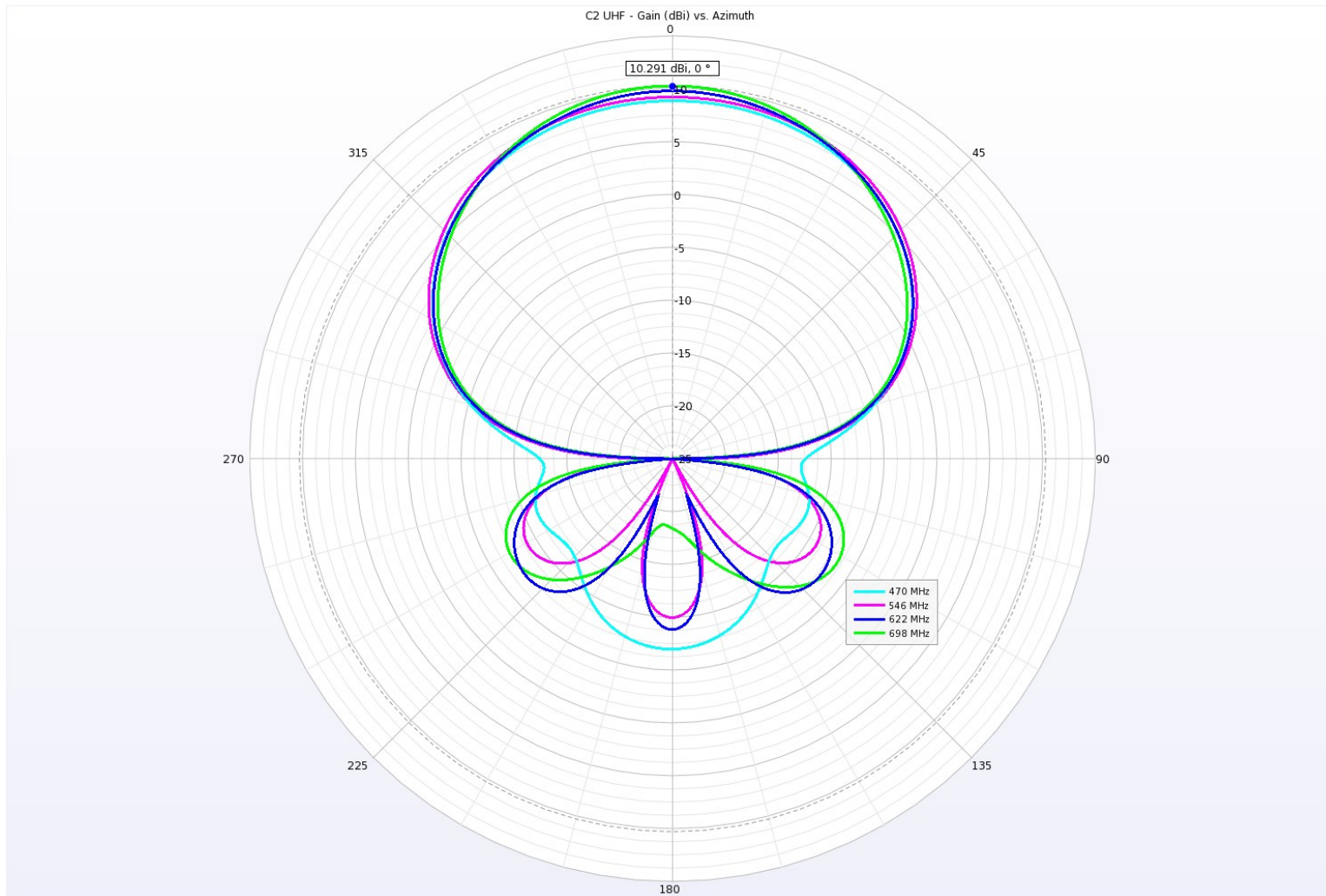


Illustration 2: C2 – UHF Gain versus Azimuth Angle.

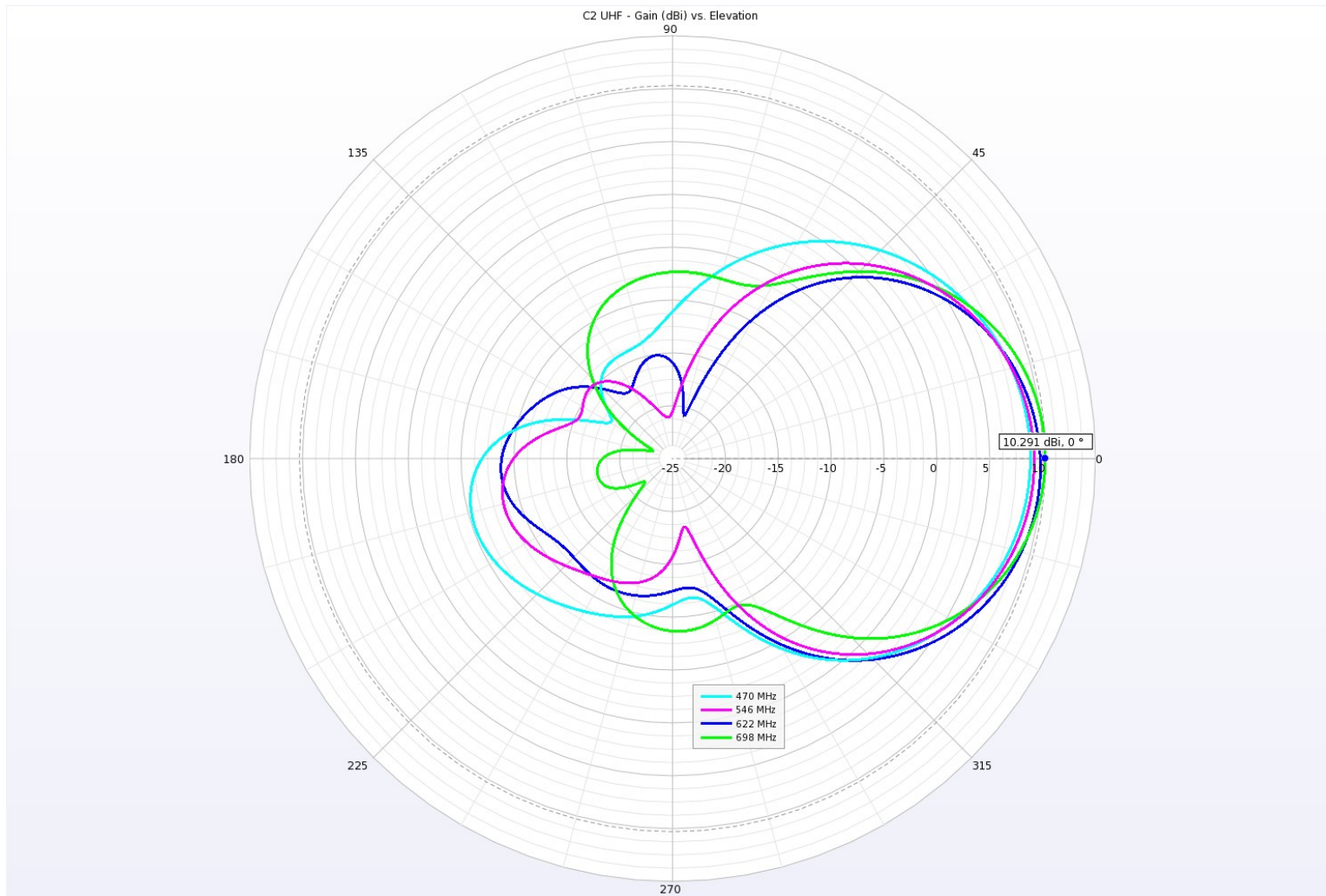


Illustration 3: C2 – UHF Gain versus Elevation Angle.

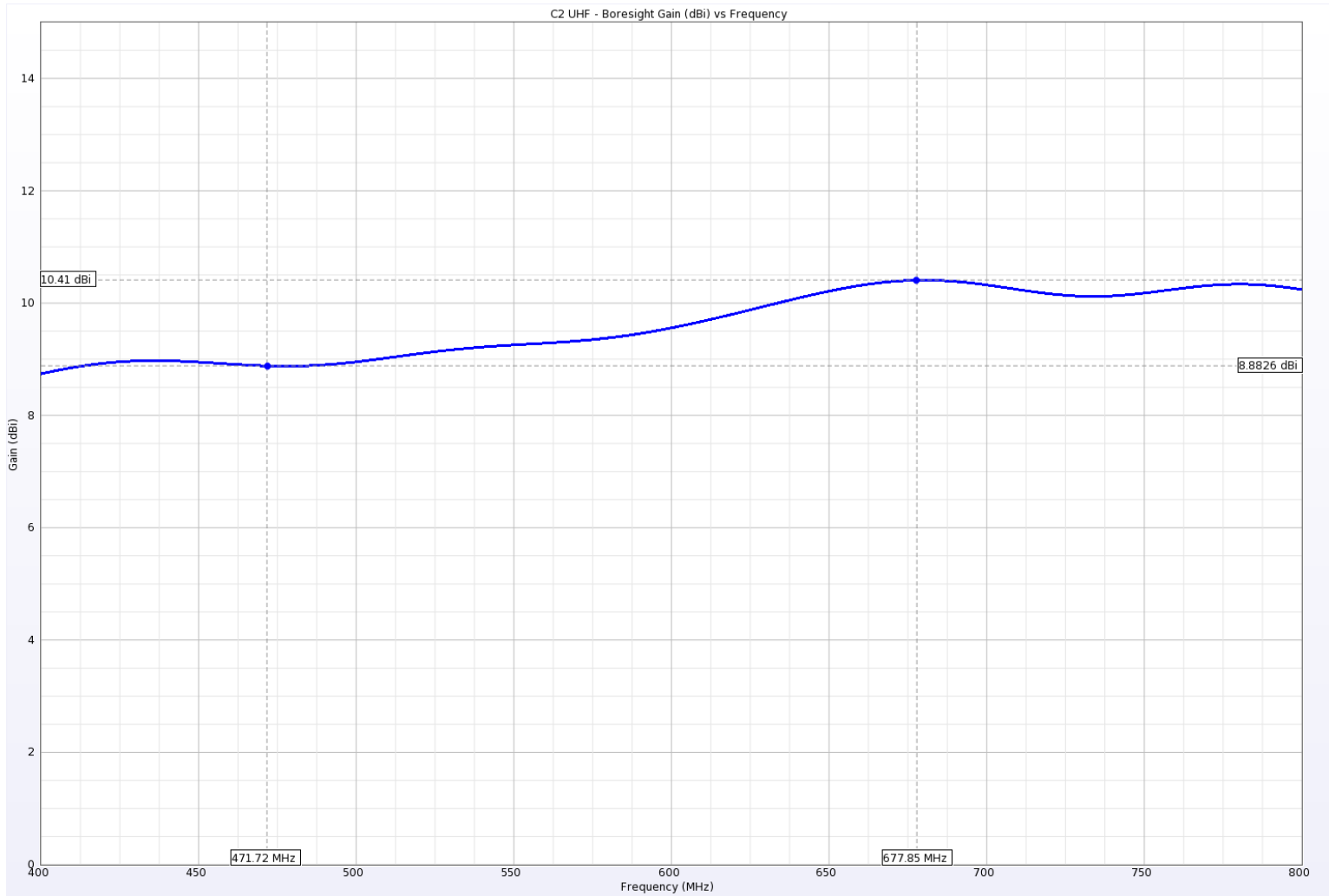


Illustration 4: C2 – UHF Boresight Gain versus Frequency.

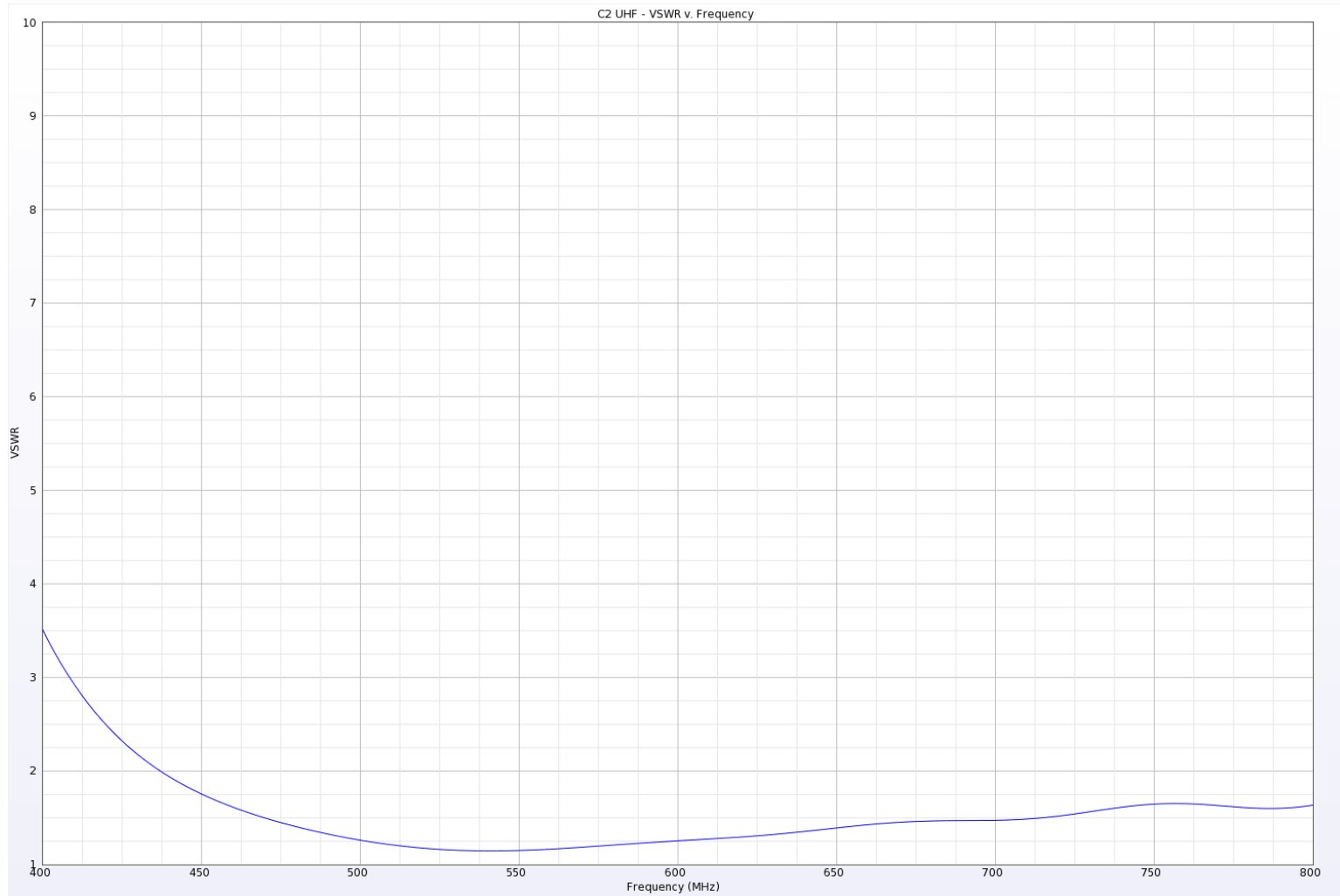


Illustration 5: C2 – UHF Computed VSWR versus Frequency. No Balun. 300 ohm line reference.

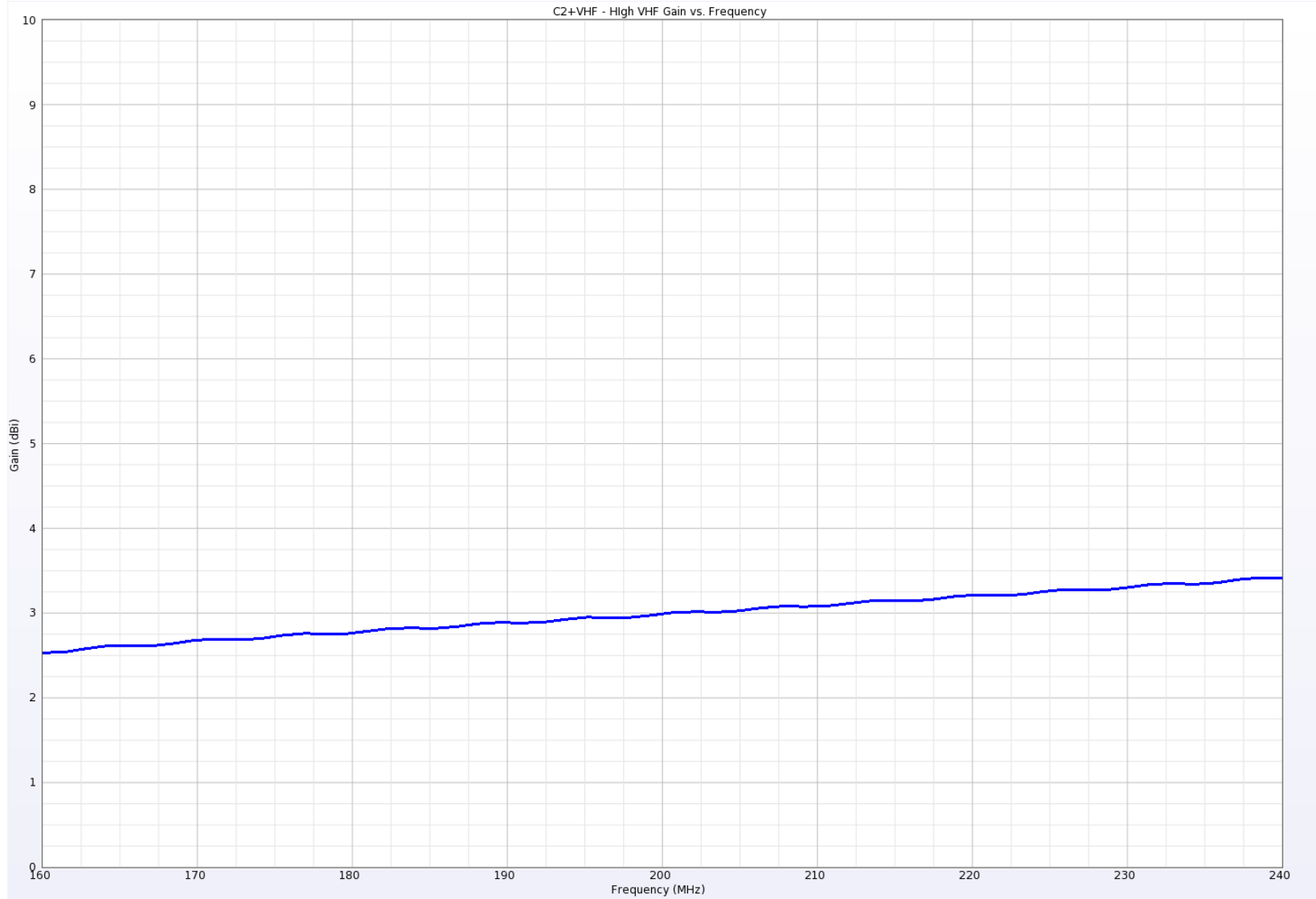


Illustration 6: C2+VHF - High VHF gain versus frequency.

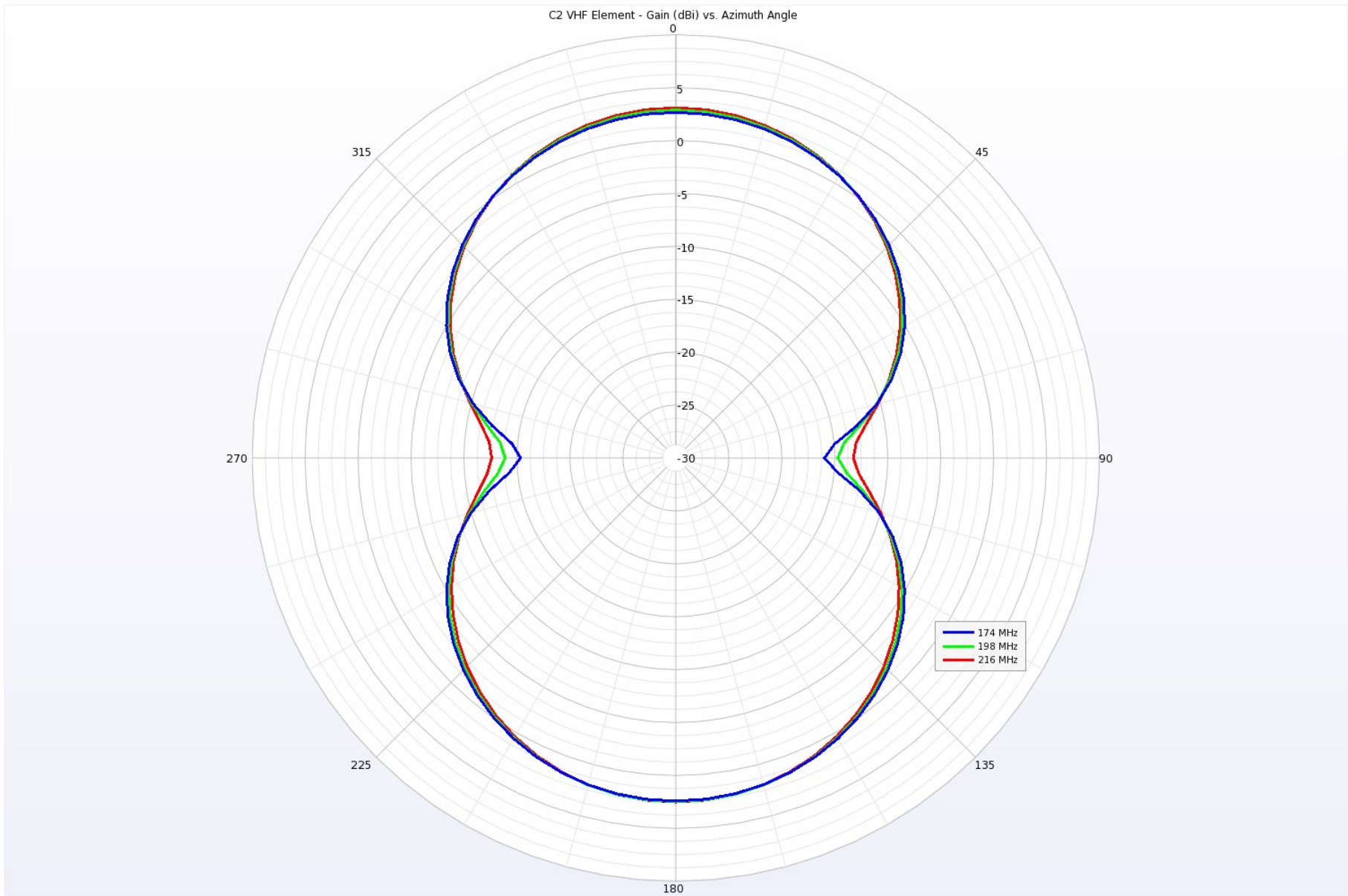


Illustration 7: C2 - VHF Element Gain versus Azimuth angle.

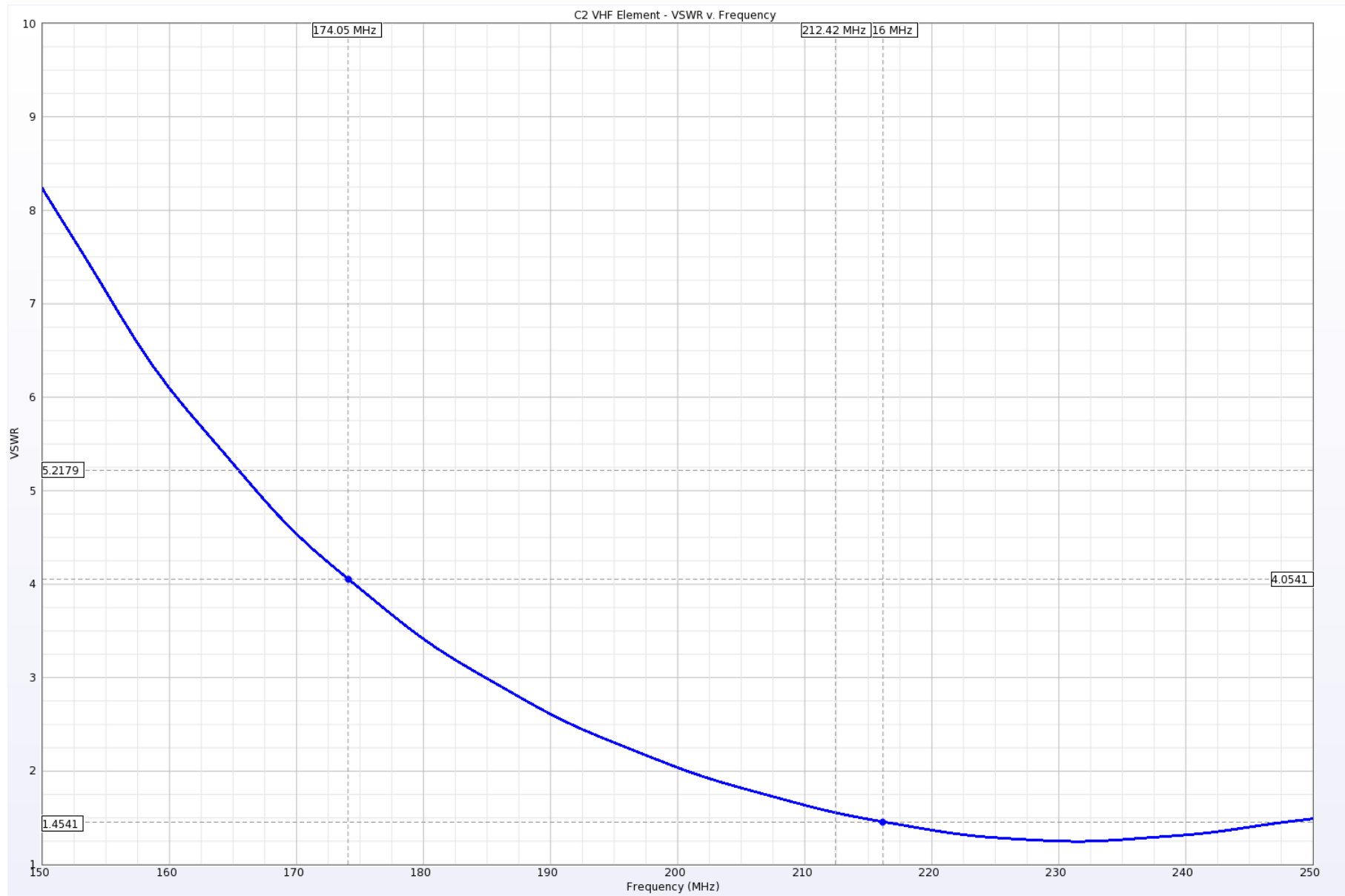


Illustration 8: C2 VHF Element - Computed VSWR versus frequency. No balun. 300 ohm reference. Measured better. See next plot.

Measured VSWR versus Frequency

C2 VHF Element

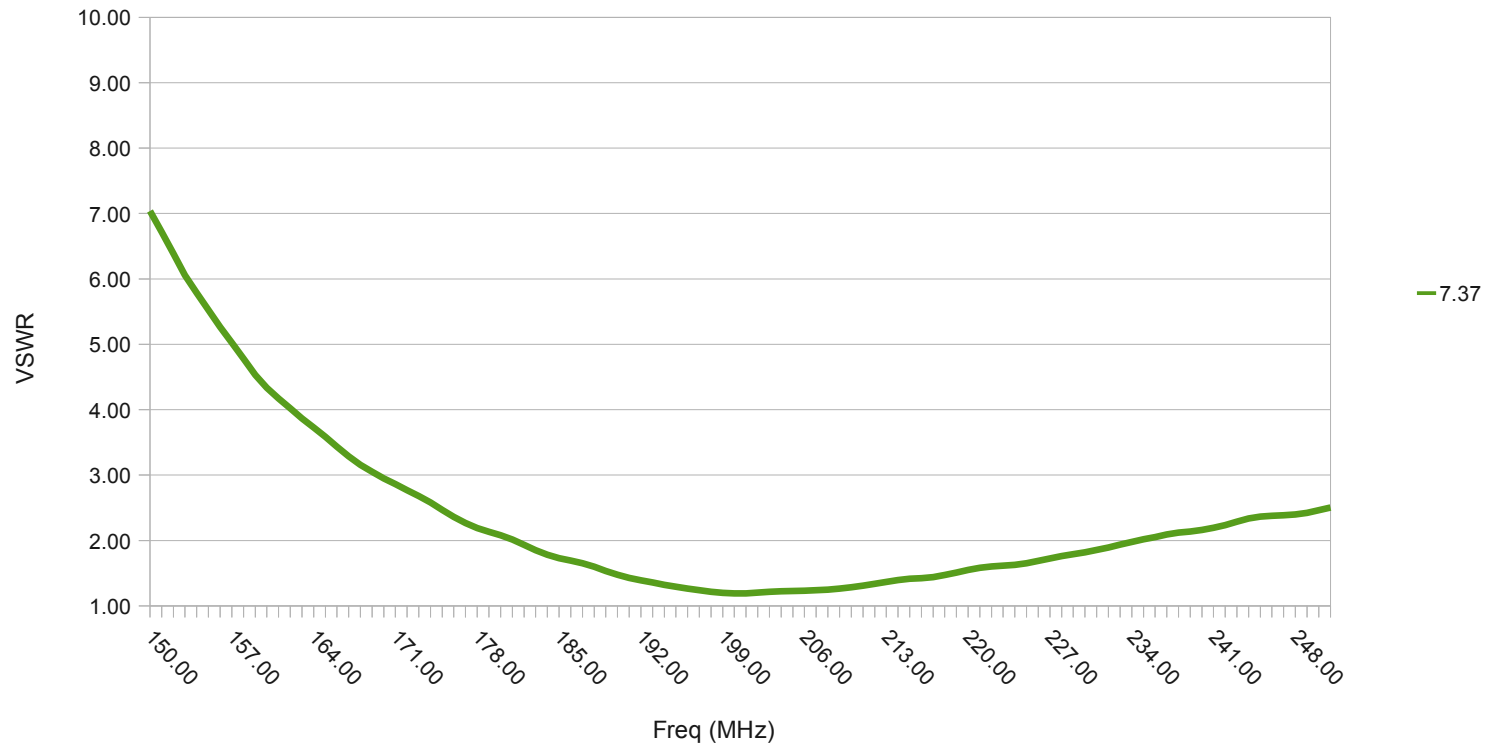


Illustration 9: C2 VHF Element - VSWR versus frequency measured outdoors with HP8510C VNA.