

SagemcomF5295 Charter Batman Antenna Performance Report

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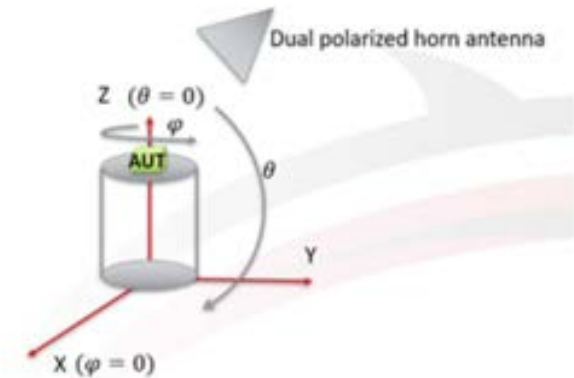
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Antenna Description

Antenna	Model Name	Frequency	Material	Antenna type	Peak Gain	(θ , ϕ)	Average efficiency
1	6G3	2.400 – 2.500	FR4	PIFA	4.078 dBi	91°, 337°	69.2%
2	6G4	2.400 – 2.500	FR4	PIFA	5.064 dBi	125°, 324°	70.4%

Measurement Method

The measurement setup is a spherical near-field scanner. The scanner system is housed in an integral/shielded anechoic chamber. The antenna under test (AUT) is mounted at the center of the chamber on an entirely foam pedestal. The pedestal rotates horizontally in the Azimuth (Phi). A wideband dual polarized horn antenna (probe) is mounted at a fixed distance away from the center of the chamber of 1.7 meters. The probe rotates along the elevation angle (Theta) and measures the radiation from the AUT. The measurement in the azimuth plane provides 360-degree of rotation whereas in the elevation plane it provides 180-degree of rotation. A software is used for post processing the measured data and calculate the far-field parameters including gain, directivity and efficiency of the antenna.



Measurement Environment

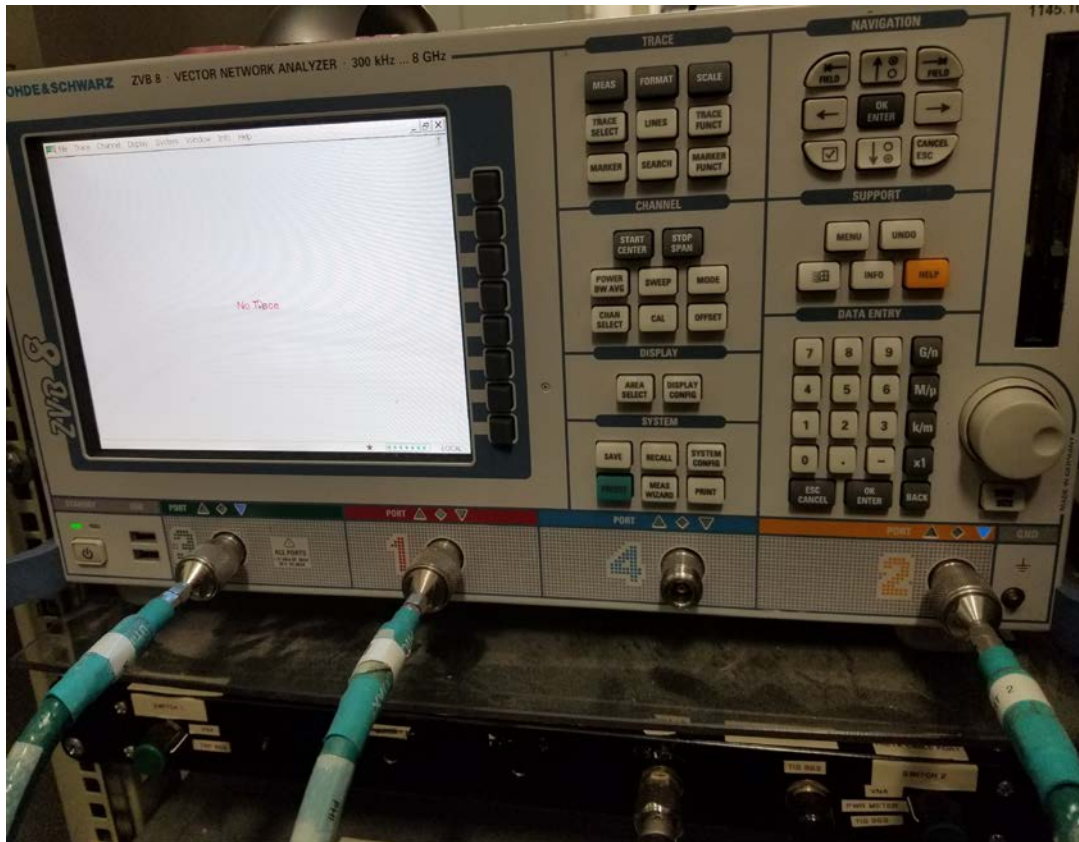
Galtronics, USA uses a Howland 7200S Near Field anechoic chamber designed to interface with the Howland Wireless Test Lab (WTL) which is used to control the chamber hardware for antenna pattern measurements. Processing measurement scan results and generation of 'Far Field' and 'Gain & Directivity' files are done using Howland Spherical N2F software. The anechoic Chamber is 14'W x 16'H x 16'D without absorbers.

The DUT is placed on an NSI turntable (Phi Axis) in the center of the anechoic Chamber and 96" from the chamber floor. A probe is mounted on the theta axis. The probe used by Galtronics, USA is a Howland QR1, broadband, dual-polarization horn antenna operating in 700MHz to 10GHz. Theta and Phi axis are controlled by the Motion Control Unit from The Howland Company. The Chamber operates from 698MHz-7.5GHz. A Rohde & Schwarz ZVB8 Vector network analyzer (VNA) is used to generate and measure the RF signal fed through the DUT and the Probe antenna. The VNA is controlled by Howland WTL software in remote control mode.

The Chamber is validated periodically to ensure accuracy in antenna pattern measurements.



Test Equipment

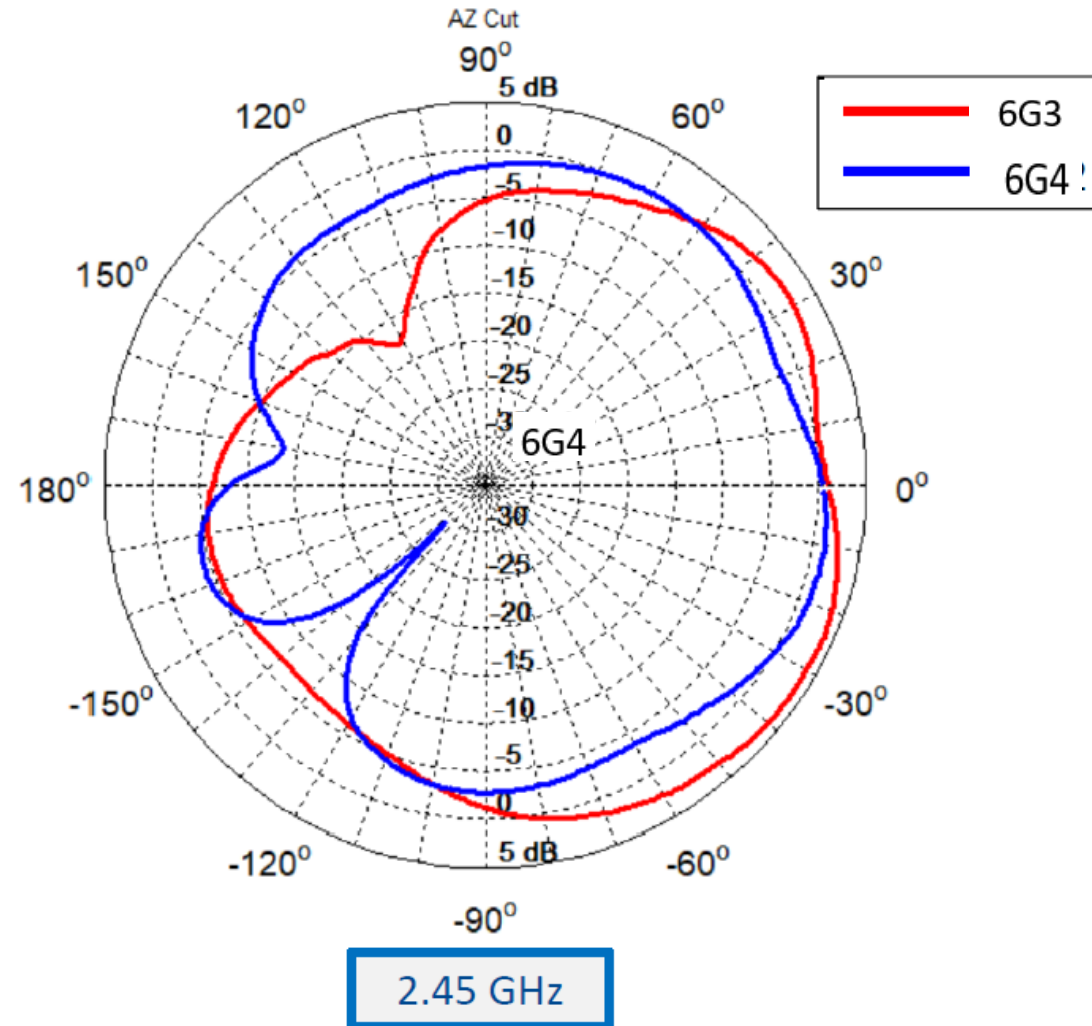


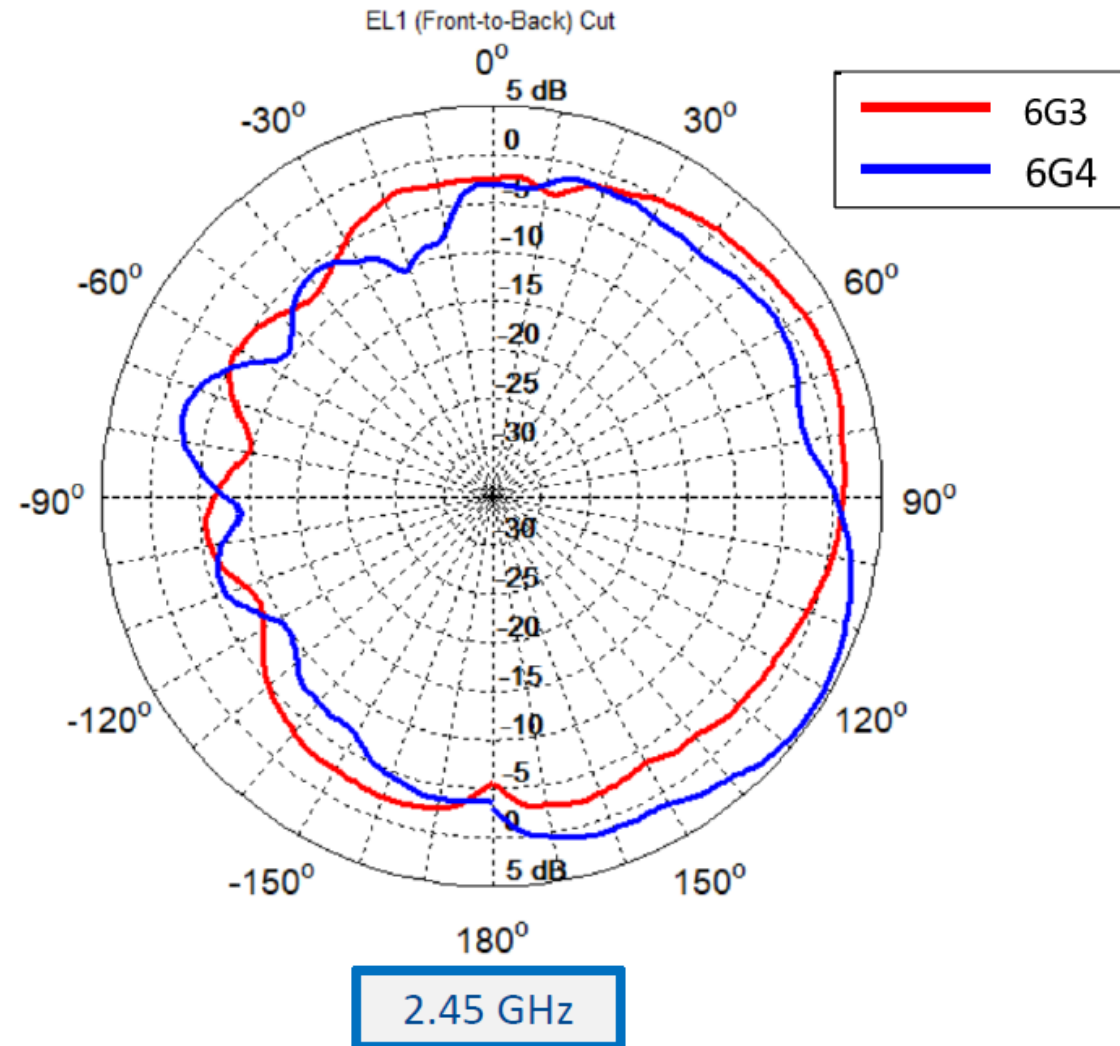
Rhode and Schwarz ZVB 8 VNA

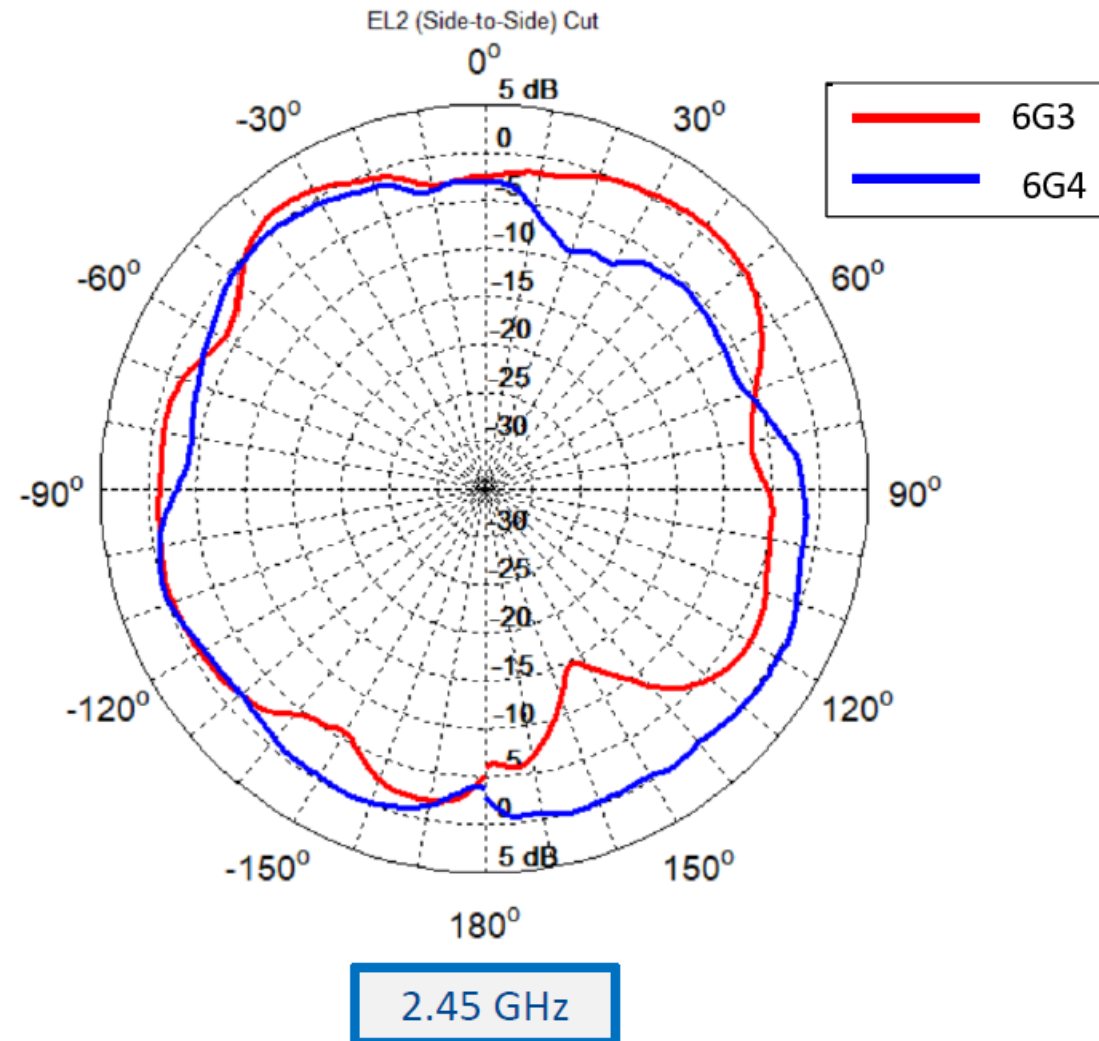


Howland anechoic chamber

Antenna Pattern







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