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2.4 / 5.5 GHz FlexPIFA 3 dBi Antenna w/U.FL Cable, 100mm



ORDERING INFORMATION

Order Number	Description
001-0016	2.4 / 5.5 GHz FlexPIFA Antenna w/U.FL cable, 100mm
001-0021	2.4 / 5.5 GHz FlexPIFA Antenna w/MHF4L cable, 100mm

Table 1 Orderable Part Numbers

KEY FEATURES

- Can be installed on different non-conductive surfaces and thicknesses.
- Can be installed near metals or the human body.
- Dual Band Antenna: 2.4 GHz and 5 GHz
- Can be installed on flat or curved surfaces.
- Quick and easy Installation
- Adhesive holds to surface during humidity exposure and hot/cold cycles.
- RoHS Compliant

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SPECIFICATIONS

Specification	Value
2.4 GHz Band Peak Gain	+2.0 dBi
5 GHz Band Peak Gain	+2.5 dBi
2.4 GHz Average Gain	> -2.5 dBi
5 GHz Average Gain	> -3.4 dBi
Impedance	50 ohms
Type	Flexible Planar Inverted F Antenna (FlexPIFA)
Polarization	Linear
VSWR	<2.5:1, 2400 – 2480 MHz
	<3.0:1, 4900 – 5900 MHz
Frequency	2400 - 2480 MHz, 4900 - 5900 MHz
Weight	1.13g
Size	38.6mm × 12.7mm × 2.5mm
Antenna Color	Clear Yellow
Adhesive	3M 100MP
Operating Temp	-40°C to +85°C
Connector Mating Height	U.FL: 2.5mm Max
	MHF4L: 1.4mm Max

Table 2 Specifications

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PHYSICAL DIMENSIONS (MM)

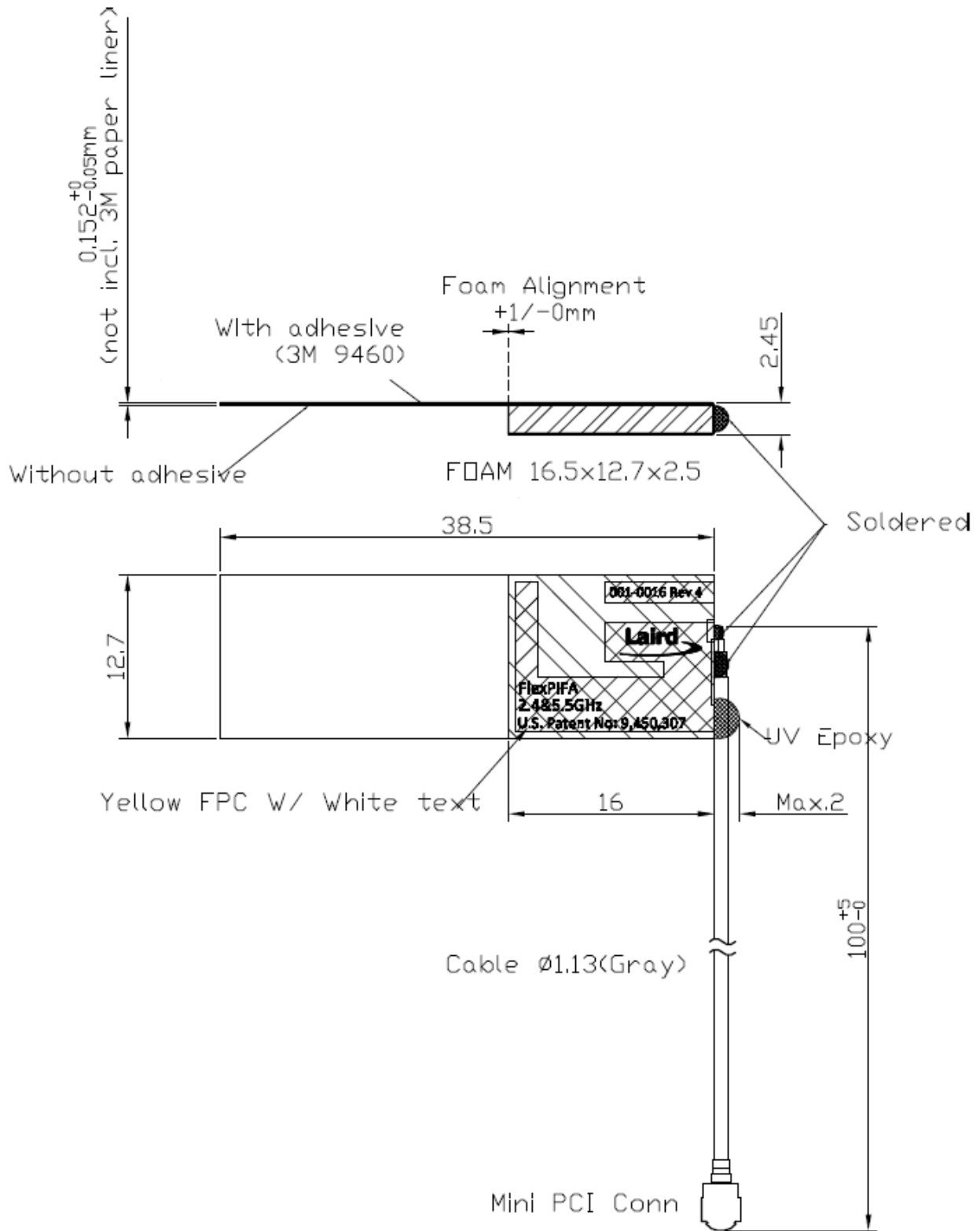


Figure 1 Physical Dimensions

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TEST SETUP

Antenna measurements such as VSWR were measured with an Agilent E5071C Vector Network Analyzer. Radiation patterns were measured with a CMT Planar 804/1 Vector Network Analyzer in a Howland Company 3100 Chamber equivalent. Phase center is 9 inches above the Phi positioner.

Flat surface measurements were done with the antenna centered on a 1.5 mm thick plate of Polycarbonate. Curved surface measurements were taken by placing the antenna on the inside and outside of different diameter PVC tubing.

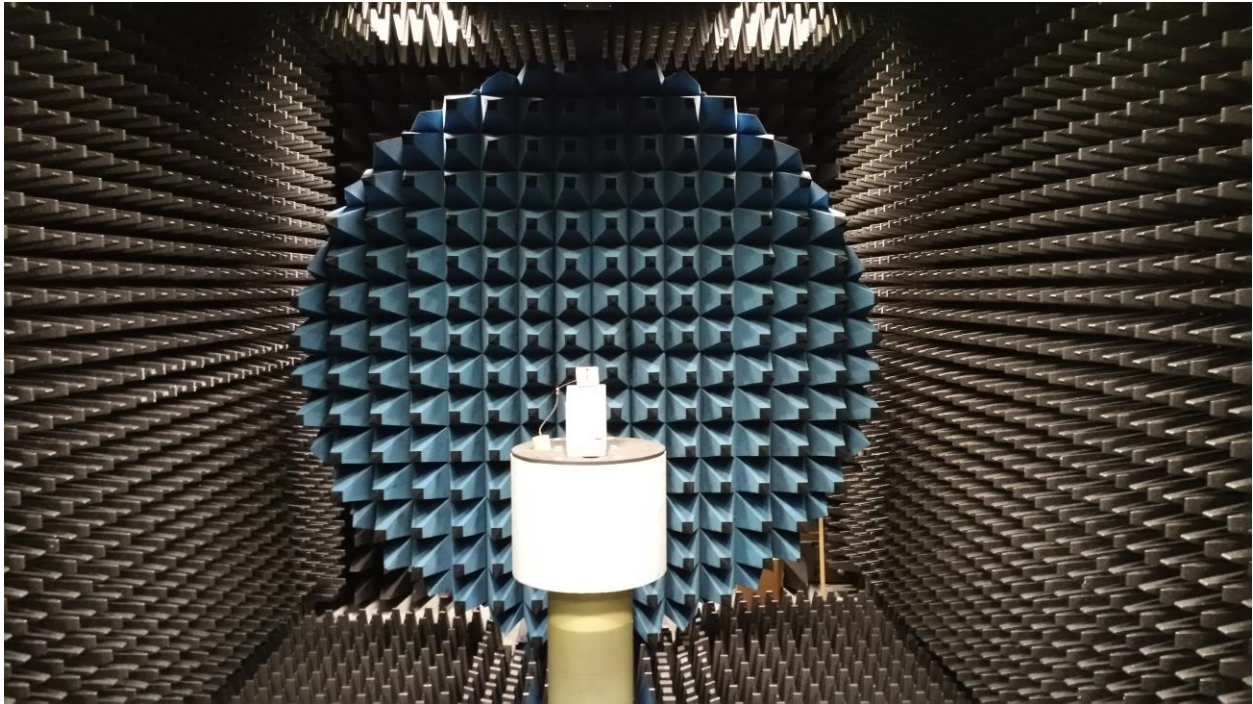


Figure 2 Antenna Chamber

FLAT SURFACE ANTENNA MEASUREMENTS

Return Loss

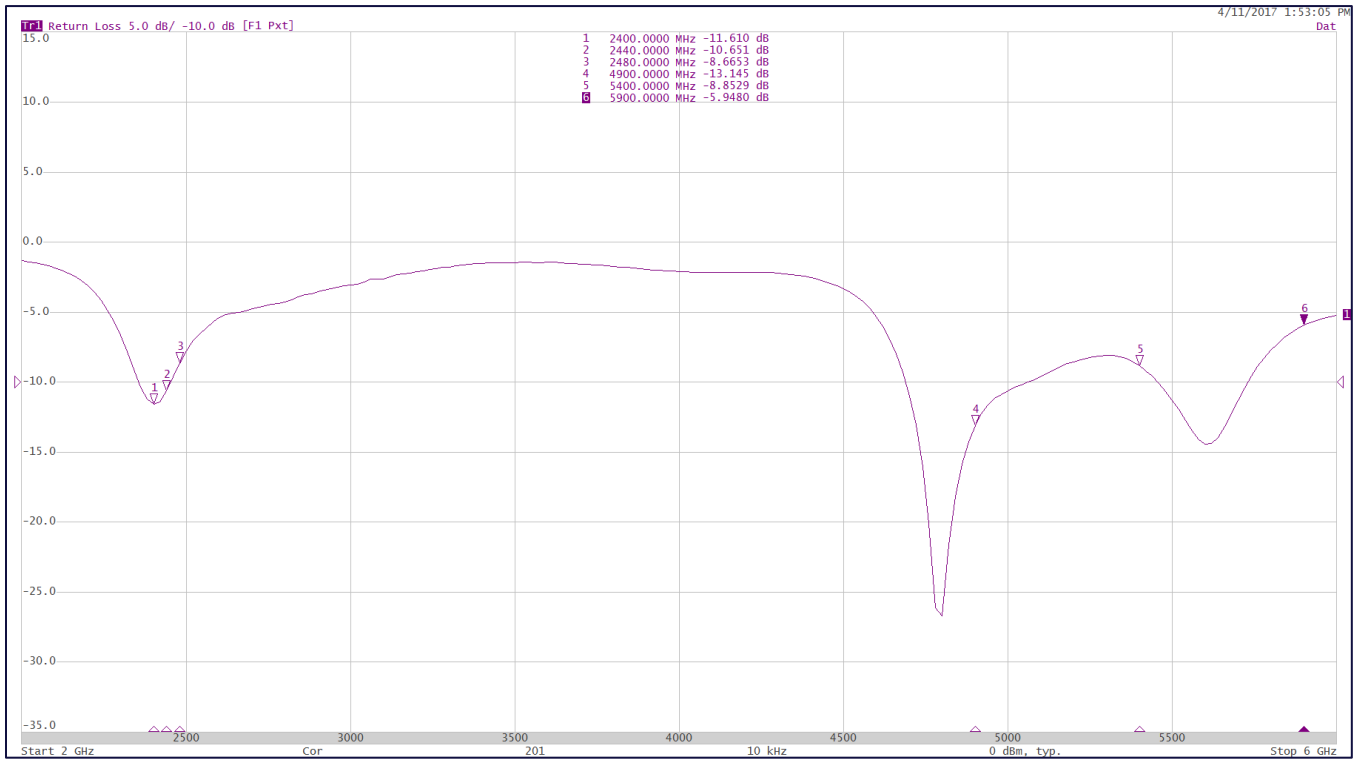


Figure 3 Antenna RL measured on a 1.5 mm thick plate of Polycarbonate

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FLAT SURFACE ANTENNA RADIATION PERFORMANCE

FlexPIFA centred on a 1.5 mm thick plate of Polycarbonate

Antenna Measurement Set-Up:

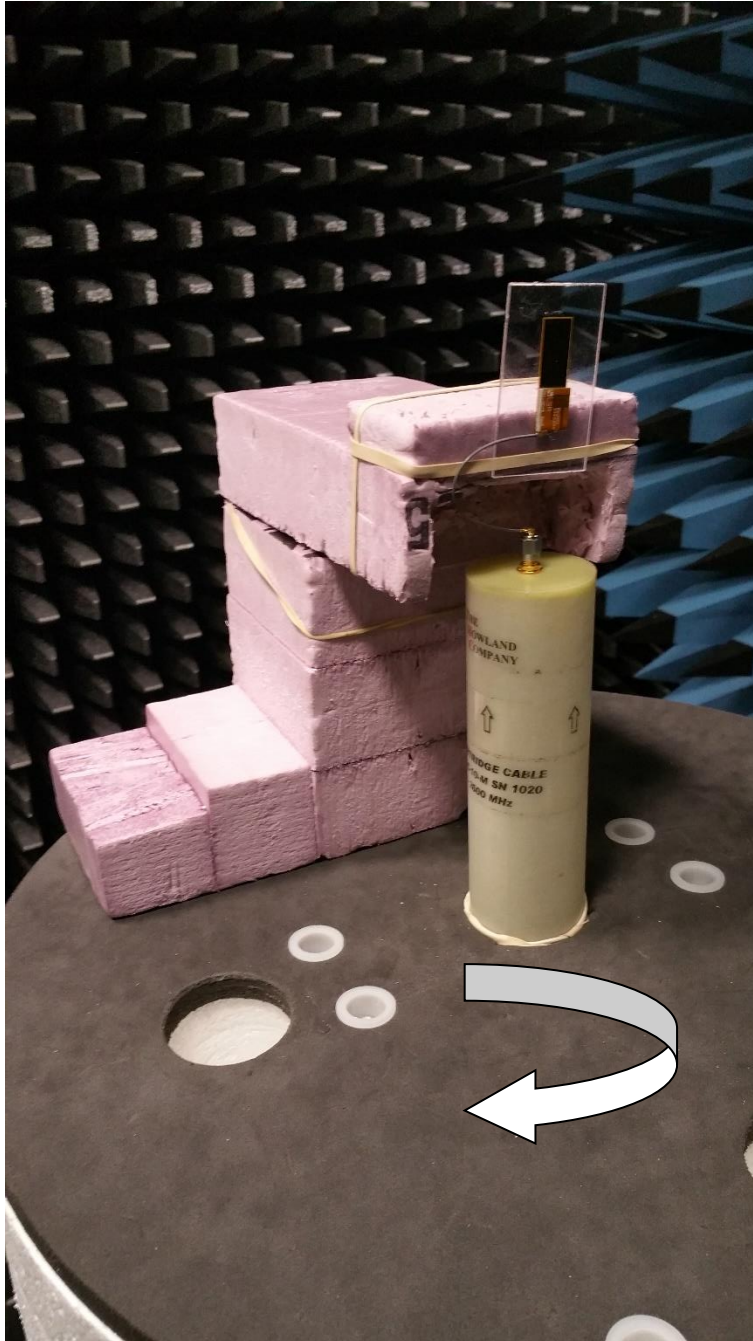


Figure 4 Flat Surface Set-Up

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2.4 GHz Band

Azimuthal Conical Cuts at 2440 MHz:

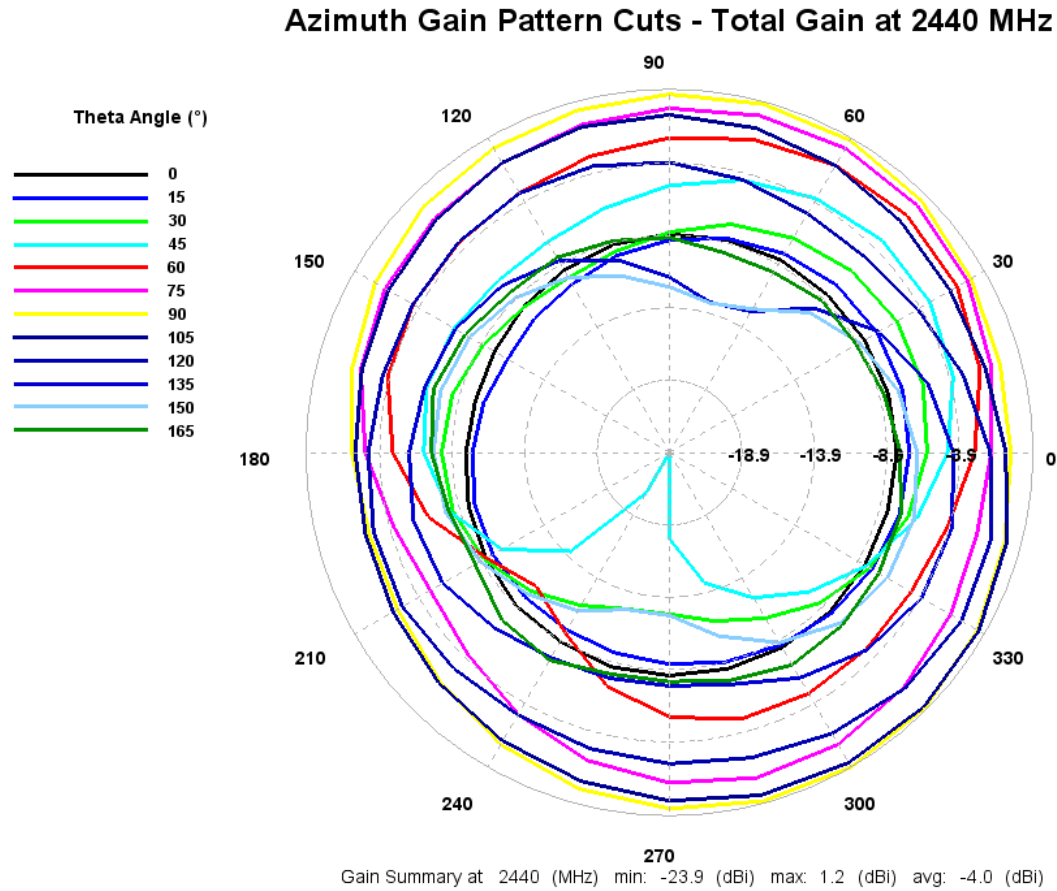


Figure 5 Total Gain Pattern

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3D Plots at 2440 MHz:

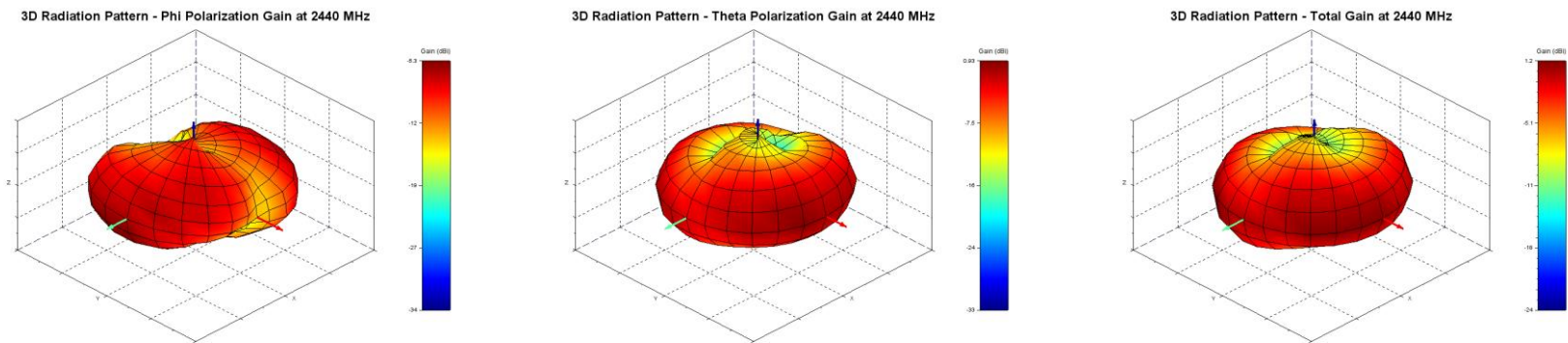


Figure 6 Phi, Theta, and Total Gain Plots

5 GHz Band

Azimuthal Conical Cuts at 4900 MHz:

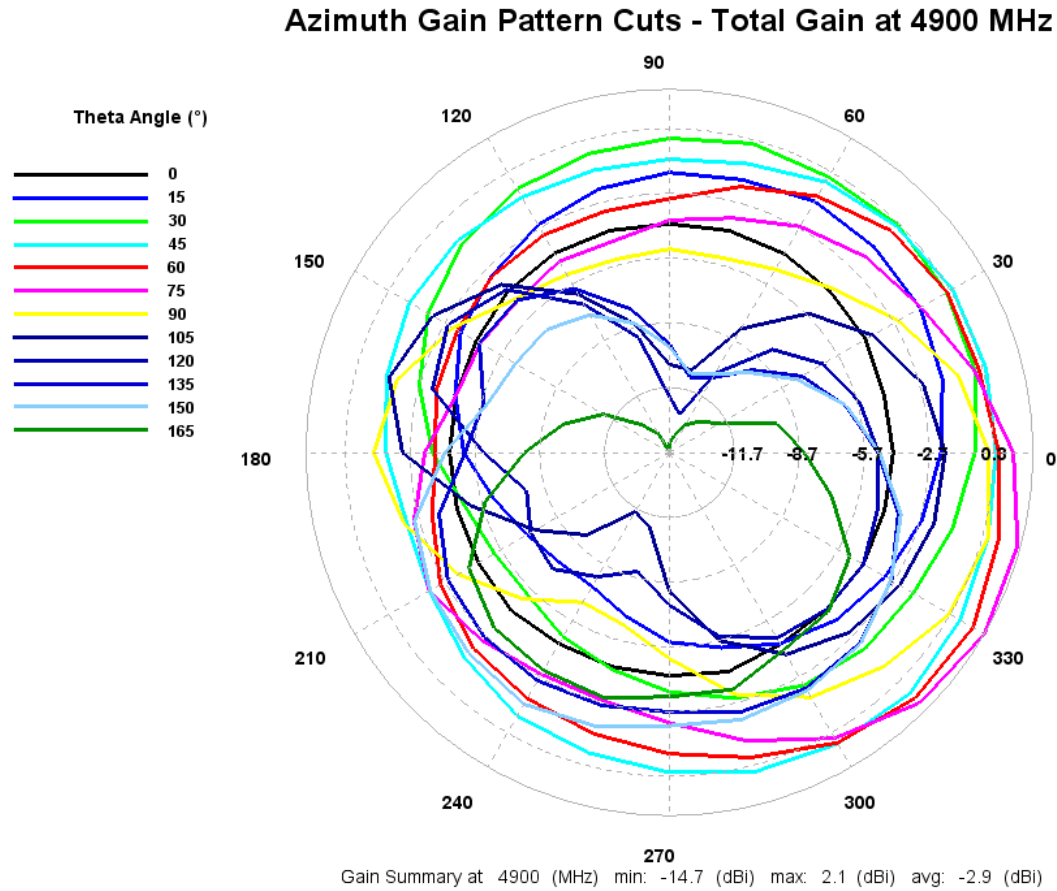


Figure 7 Total Gain Pattern

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3D Plots at 4900 MHz:

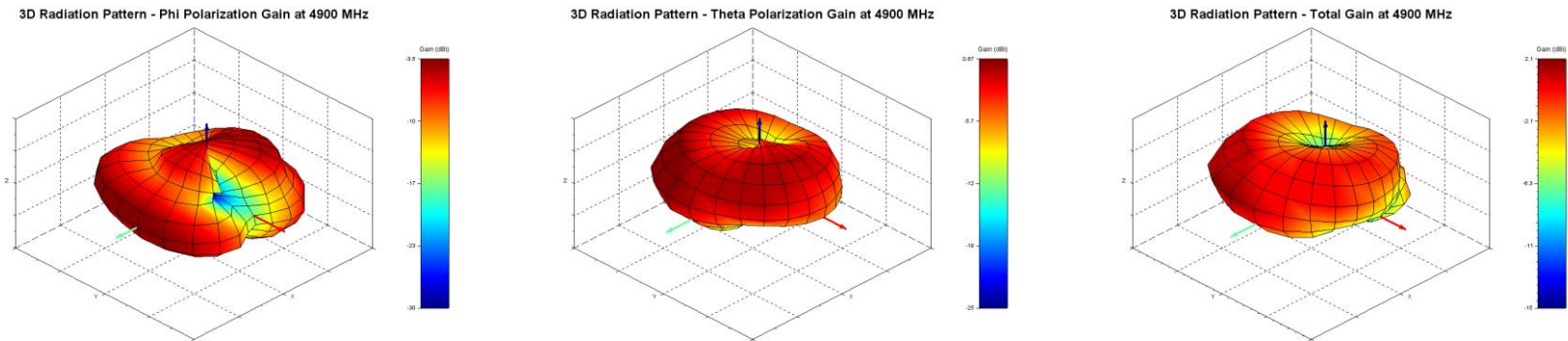


Figure 8 Phi, Theta, and Total Gain Plots

Azimuthal Conical Cuts at 5400 MHz:

Azimuth Gain Pattern Cuts - Total Gain at 5400 MHz

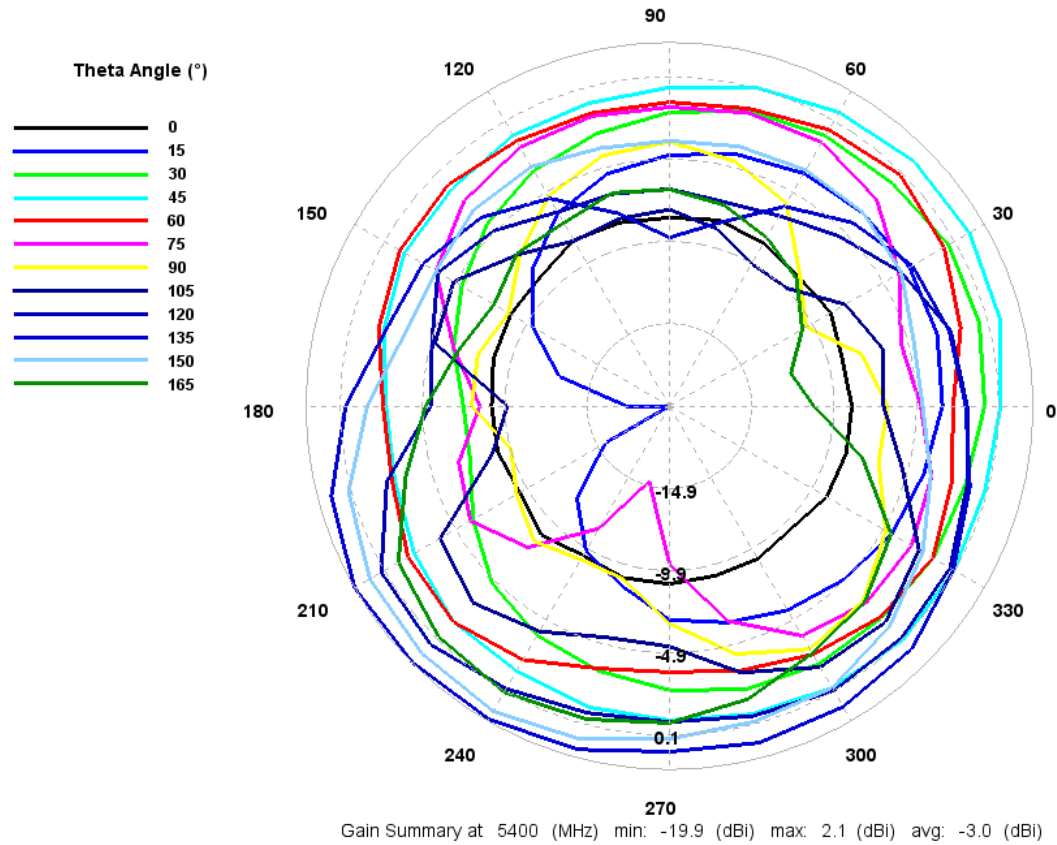


Figure 9 Total Gain Pattern

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3D Plots at 5400 MHz:

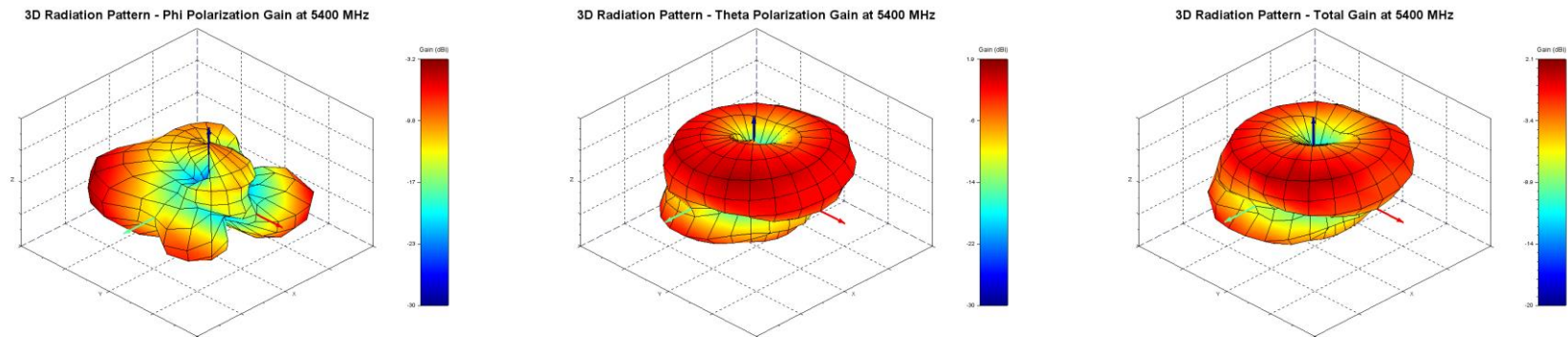


Figure 10 Phi, Theta, and Total Gain Plots

Azimuthal Conical Cuts at 5900 MHz:

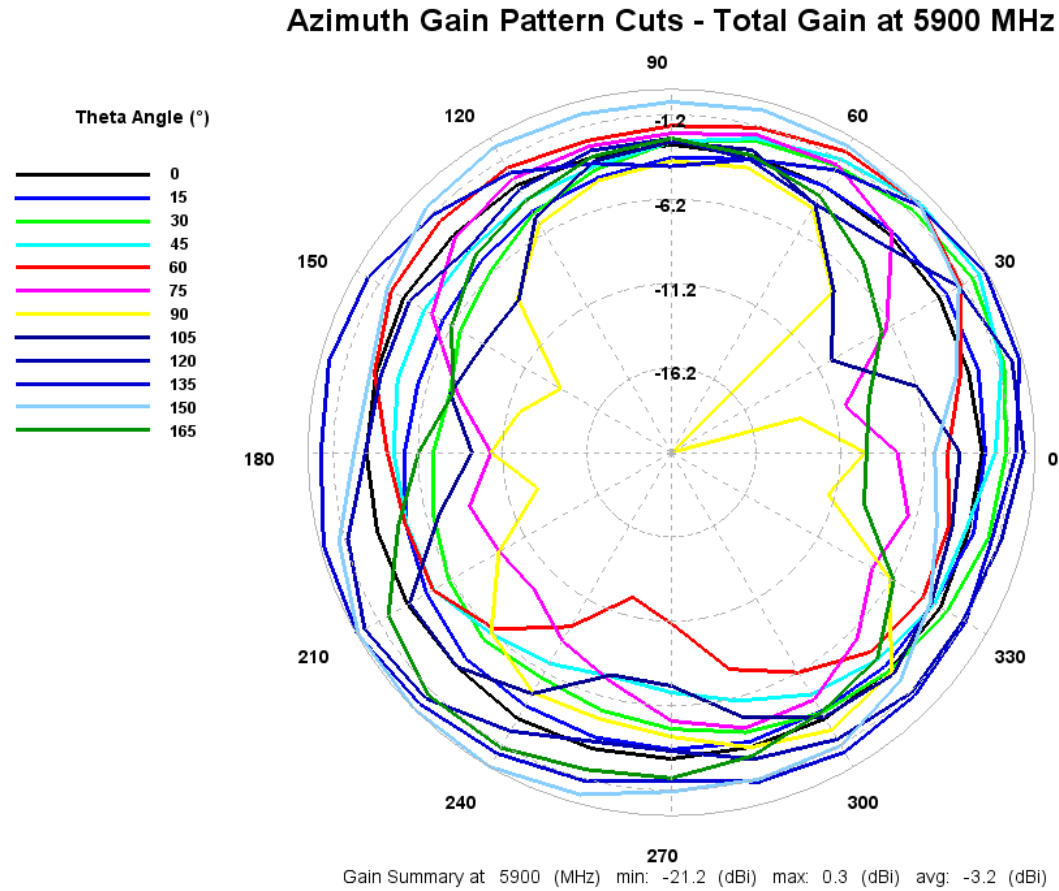


Figure 11 Total Gain Pattern

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3D Plots at 5900 MHz:

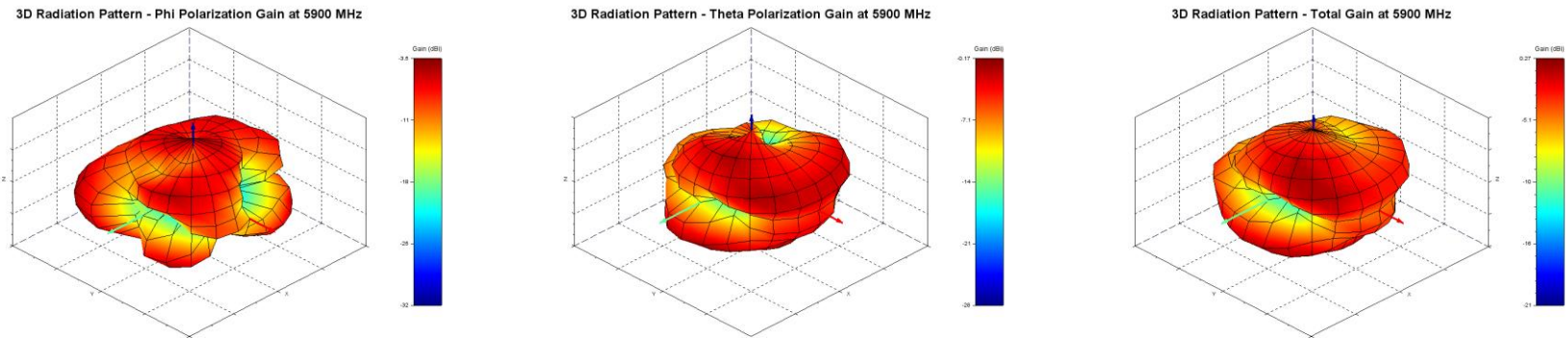


Figure 12 Phi, Theta, and Total Gain Plots

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CURVED SURFACE ANTENNA RADIATION PERFORMANCE

FlexPIFA outside 60 mm Outer Diameter PVC tube.

Antenna Measurement Set-Up:



Figure 13 Outer Diameter Setup

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2.4 GHz Band

Azimuthal Conical Cuts at 2440 MHz:

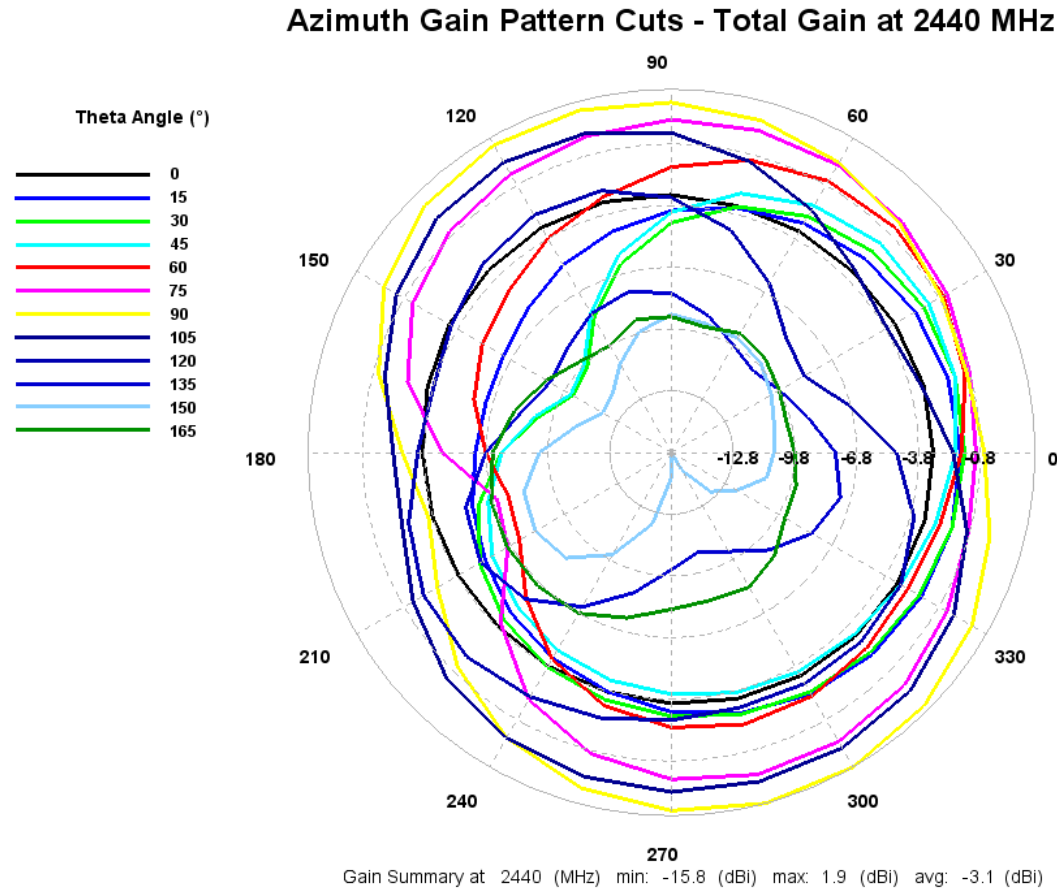
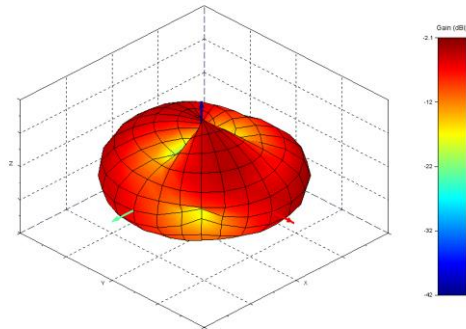


Figure 14 Total Gain Pattern

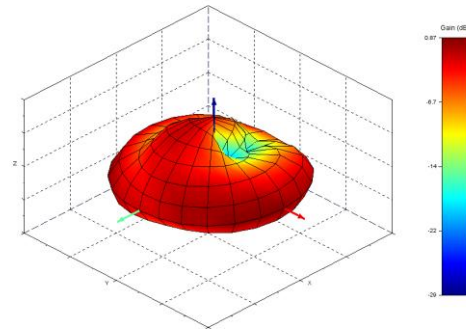
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3D Plots at 2440 MHz:

3D Radiation Pattern - Phi Polarization Gain at 2440 MHz



3D Radiation Pattern - Theta Polarization Gain at 2440 MHz



3D Radiation Pattern - Total Gain at 2440 MHz

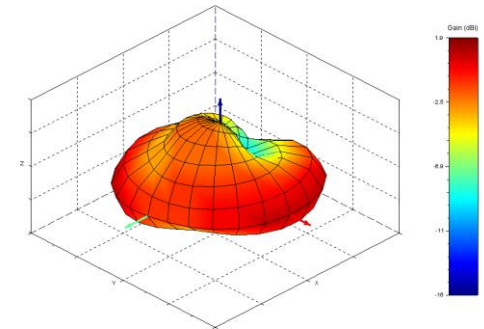


Figure 15 Phi, Theta, and Total Gain Plots

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5 GHz Band

Azimuthal Conical Cuts at 4900 MHz:

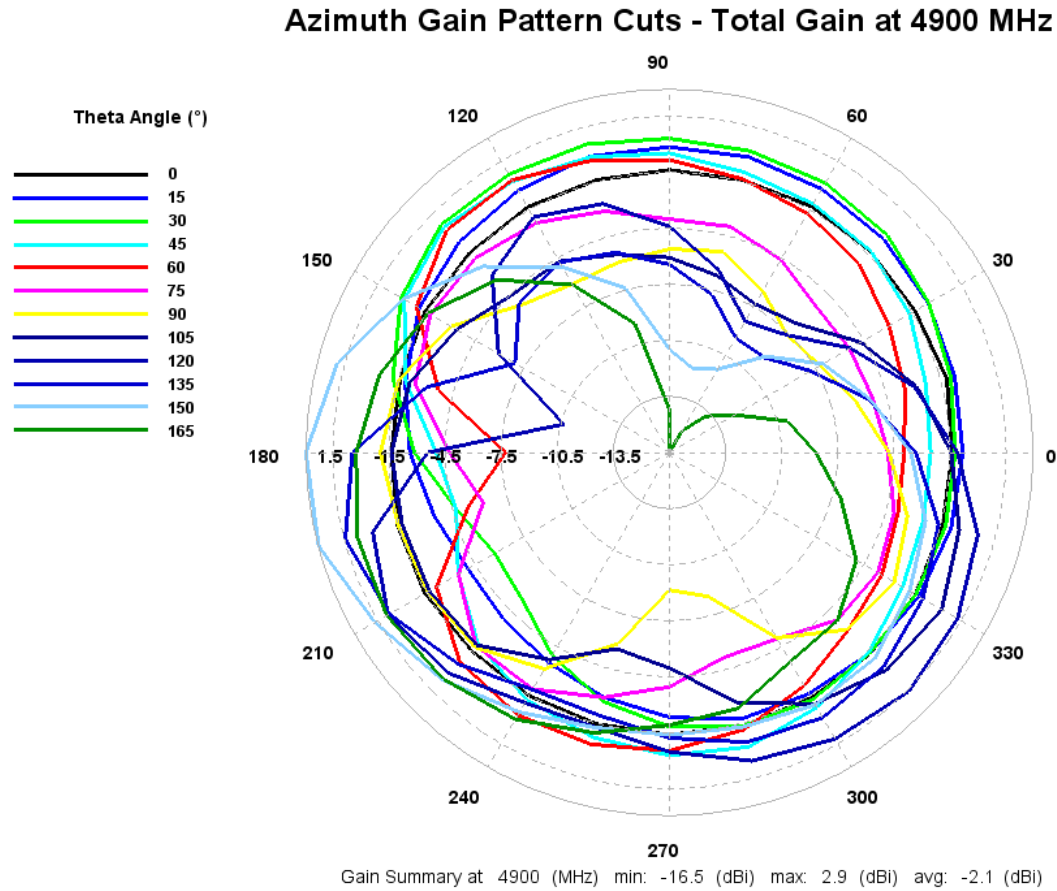


Figure 16 Total Gain Pattern

The information in this document is subject to change without notice.

3D Plots at 4900 MHz:

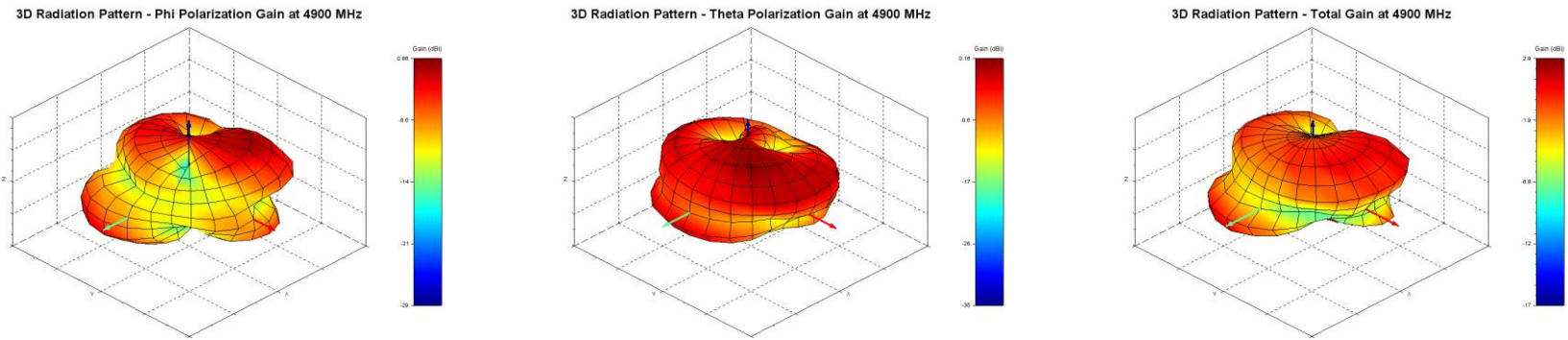


Figure 17 Phi, Theta, and Total Gain Plots

Azimuthal Conical Cuts at 5400 MHz:

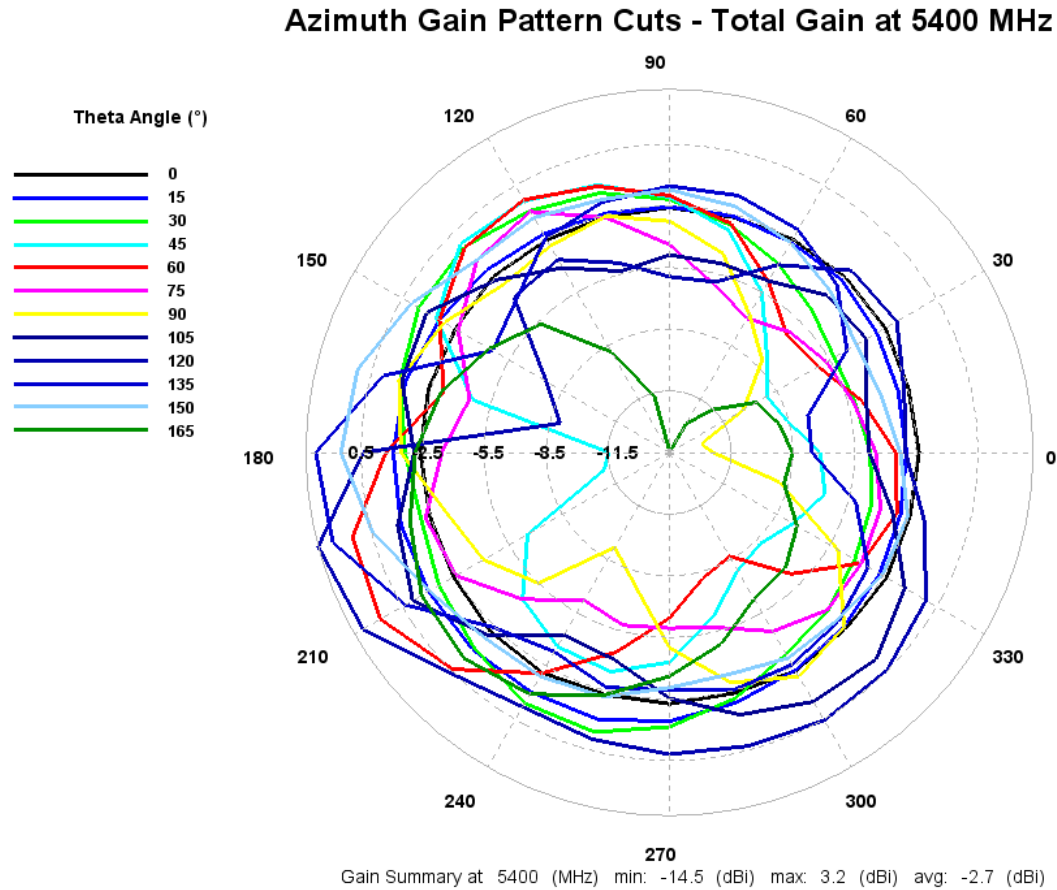


Figure 18 Total Gain Pattern

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3D Plots at 5400 MHz:

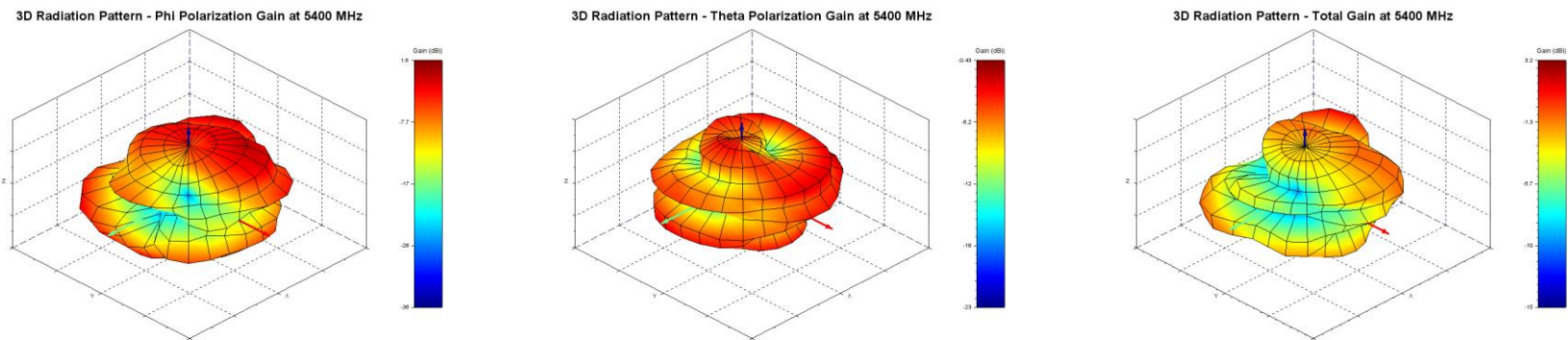


Figure 19 Phi, Theta, and Total Gain Plots

Azimuthal Conical Cuts at 5900 MHz:

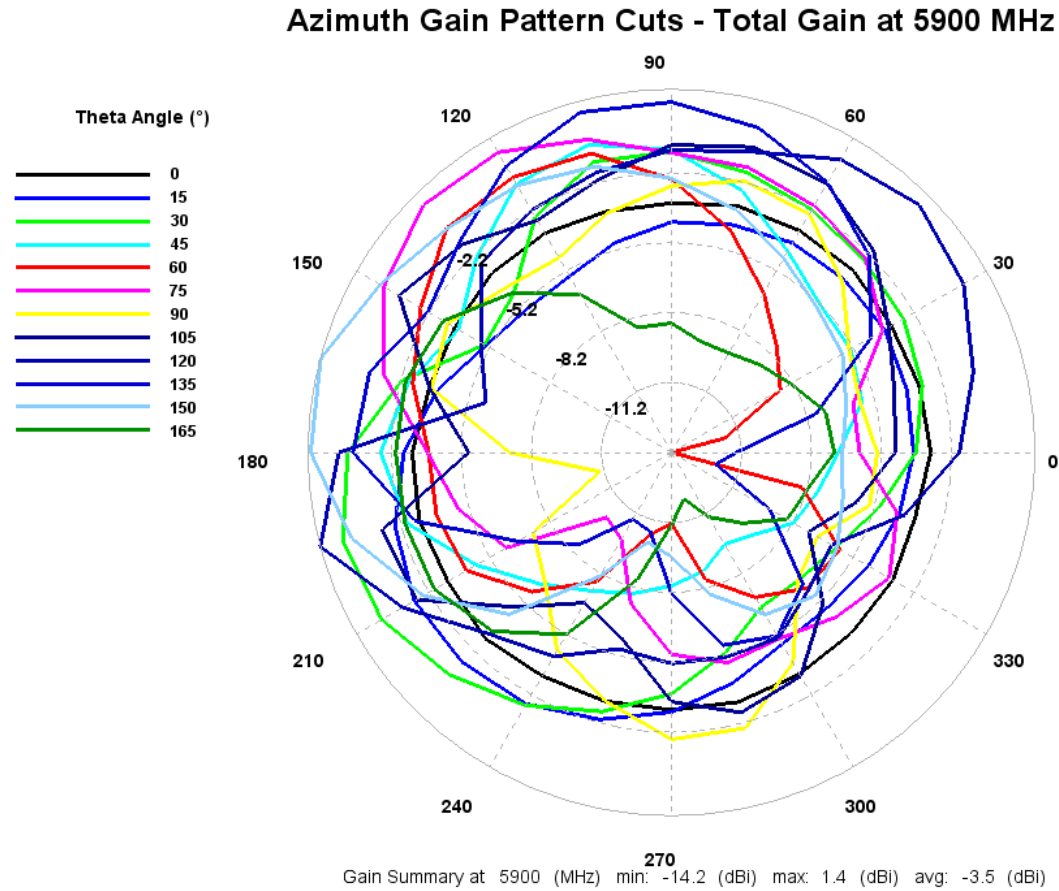
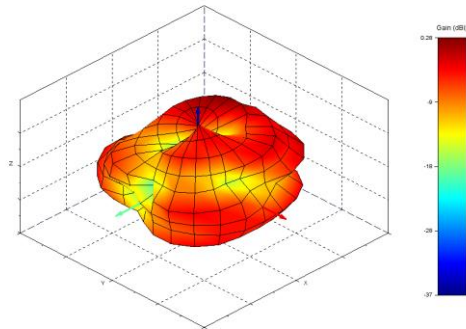


Figure 20 Total Gain Pattern

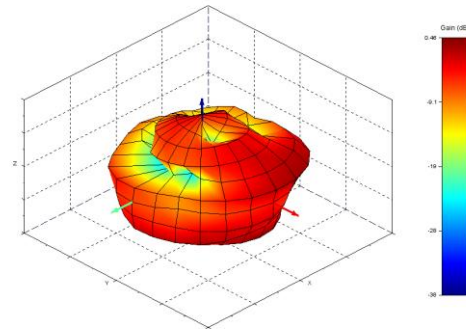
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3D Plots at 5900 MHz:

3D Radiation Pattern - Phi Polarization Gain at 5900 MHz



3D Radiation Pattern - Theta Polarization Gain at 5900 MHz



3D Radiation Pattern - Total Gain at 5900 MHz

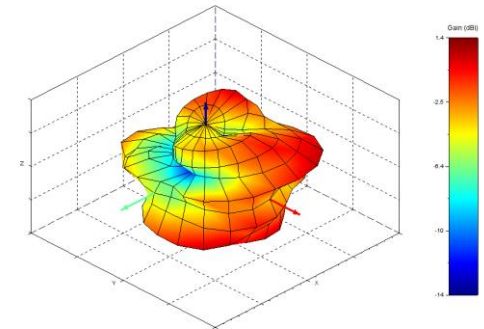


Figure 21 Phi, Theta, and Total Gain Plots

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FlexPIFA inside 52 mm Inner Diameter PVC tube.

Antenna Measurement Set-Up:

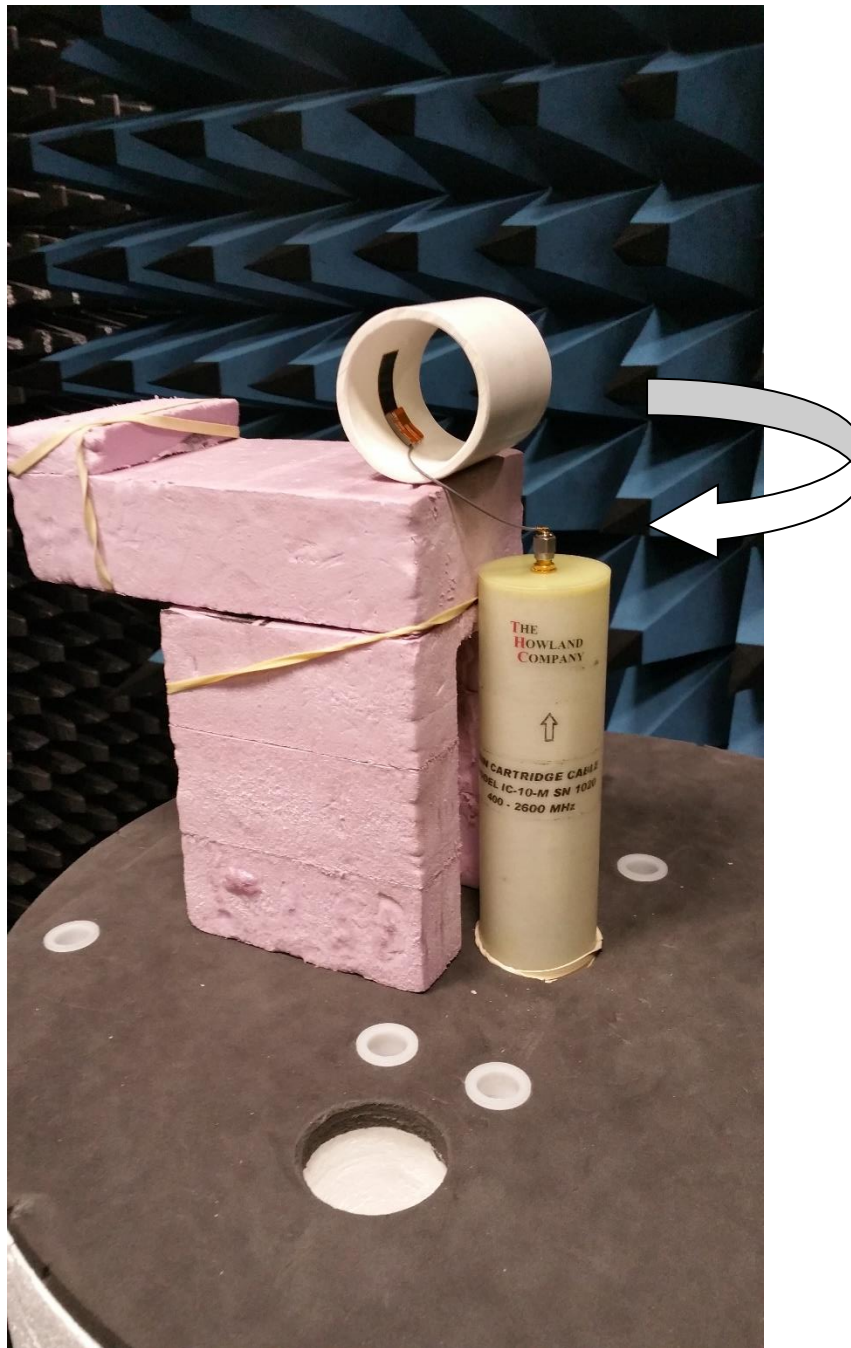


Figure 22 Inner Diameter Setup

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2.4 GHz Band

Azimuthal Conical Cuts at 2440 MHz:

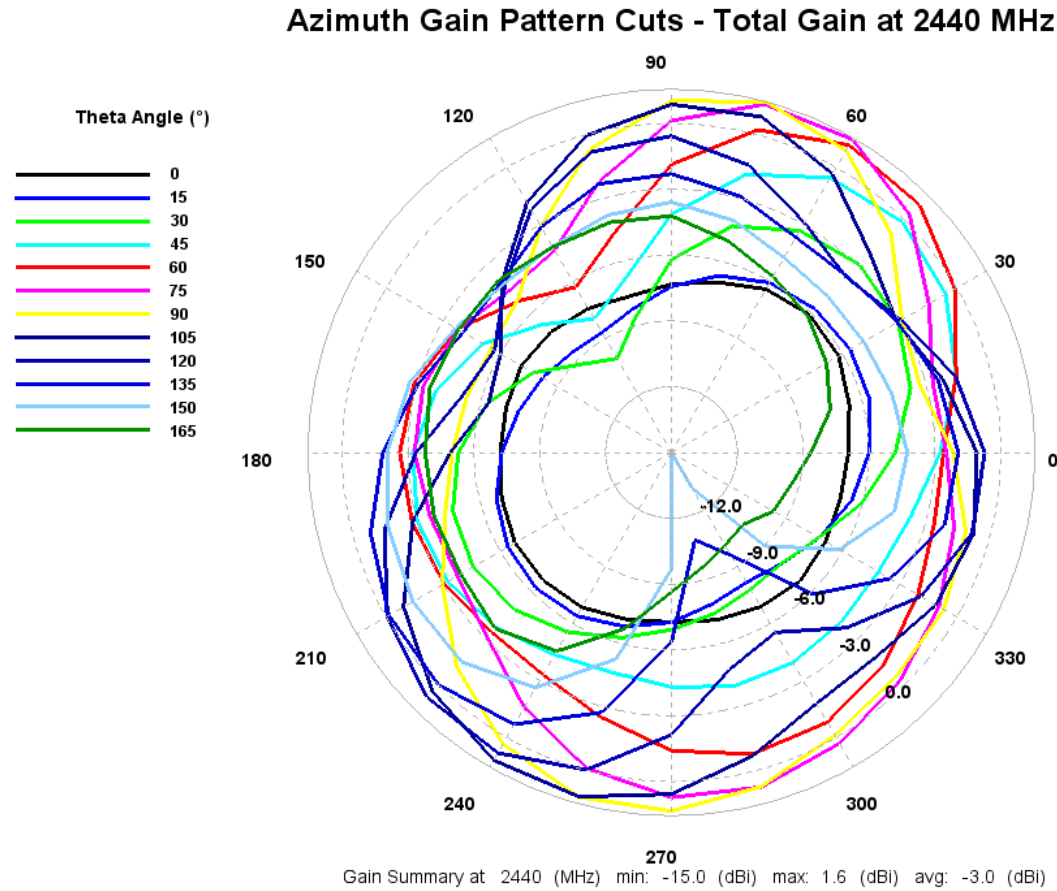


Figure 23 Total Gain Pattern

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