

Dual-Band FlexPIFA

Datasheet

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Features and Benefits



- Dual band antenna – 2.4 GHz and 5.5 GHz
 - Quick and easy installation
 - Adhesive holds to surface during humidity exposure and hot/cold cycles
 - RoHS-compliant
- Can be installed in the following ways:
 - On different non-conductive surfaces and thicknesses
 - Near metals or the human body
 - On flat or curved surfaces

SPECIFICATIONS		
Frequency (MHz)	2400 - 2480	4900 - 5900
Peak Gain (dBi)	+2.5	+3.0
Average Gain (dBi)	> -2.5	> -3.4
VSWR (MHz)	<2.5:1	<3.0:1
Impedance (Ω)	50	
Antenna Type	Flexible Planar Inverted F (FlexPIFA)	
Polarization	Linear	

MECHANICAL SPECIFICATIONS			
Dimensions – mm (inches)	38.5 x 12.7 x 2.5 (1.52 x 0.5 x 0.098)		
Weight – g (oz.)	1.13 (0.040)		
Color	Clear yellow		
Adhesive	3M 100MP		
Connector Mating Height (max) – mm	MHF1 (U.FL)	2.5	
	MHF4L	1.4	

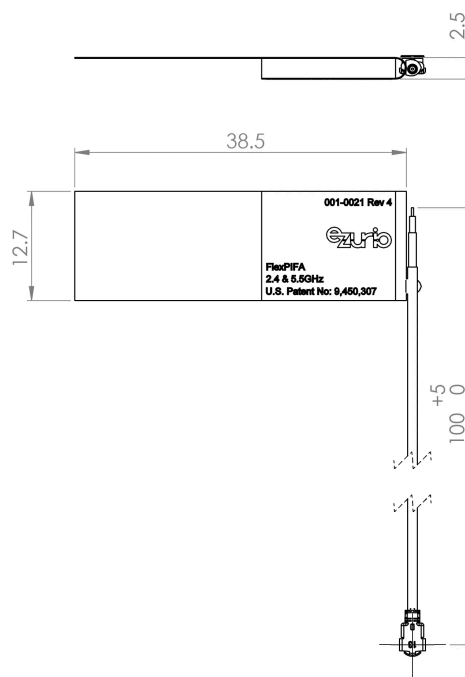
ENVIRONMENTAL SPECIFICATIONS			
Operating Temperature – °C (°F)	-40 to +85°C (-40 to +185°F)		
Material Substance Compliance	RoHS		

Configuration

PART NUMBER	CABLE LENGTH	CONNECTOR
001-0016	100 mm	U.FL
001-0021	100 mm	MHF4L
EFB2455A3S-15MH4L	150 mm	MHF4L
EFB2455A3S-16MHF1	160 mm	MHF1
EFB2455A3S-20MHF1	200 mm	MHF1
EFB2455A3S-25MHF1	250 mm	MHF1

Note: Specifications are based on the 100mm cable length, standard antenna version with MHF1 / U.FL connector. Varying the cable length or type or connector will cause variations in these antenna specifications.

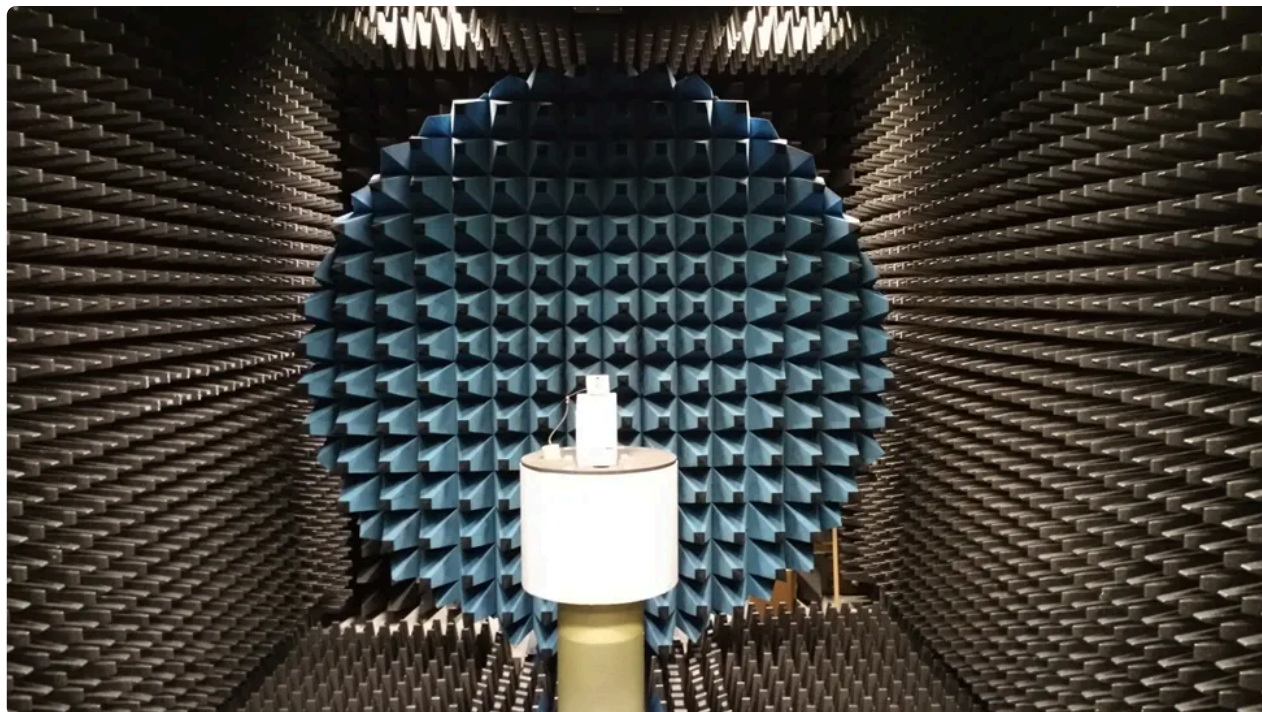
Mechanical Drawing



Test Setup

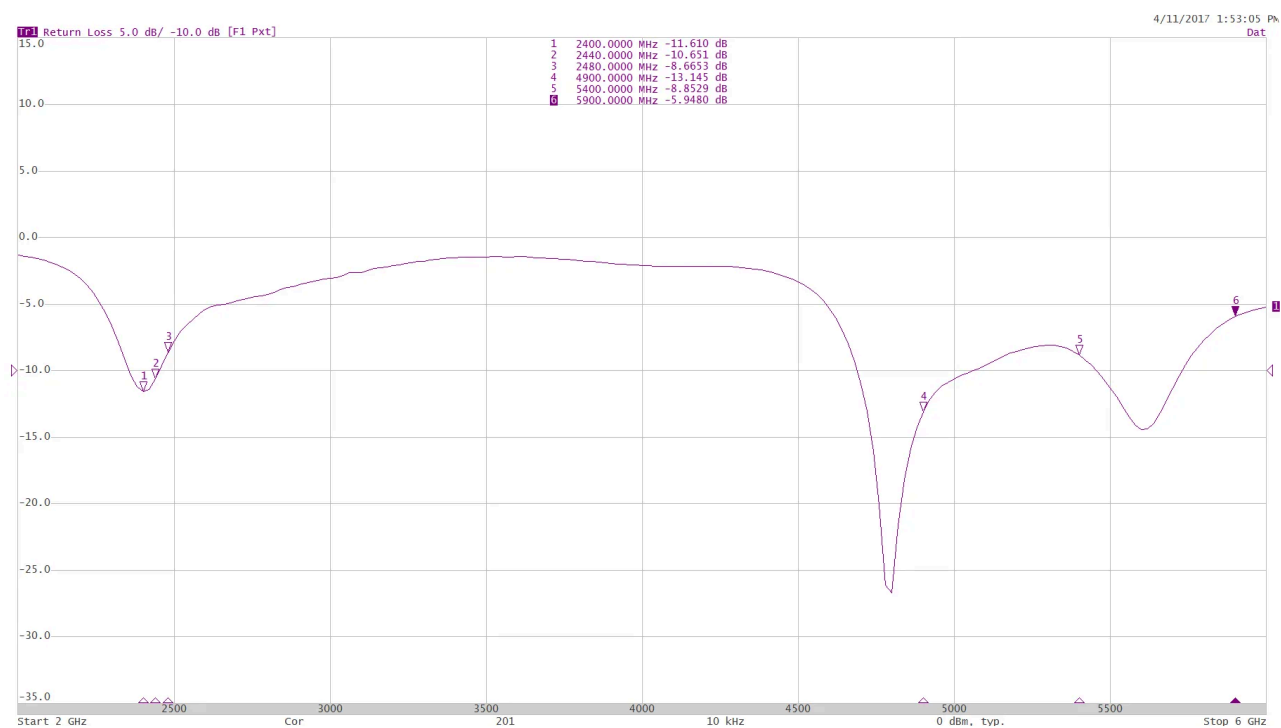
Antenna measurements such as VSWR were measured with an Agilent E5071C vector network analyzer. Radiation patterns were measured with a CMT Planar 804/1 vector network analyzer in a Howland Company 3100 chamber equivalent. Phase center is nine inches above the Phi positioner.

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.



Flat Surface Antenna Measurements

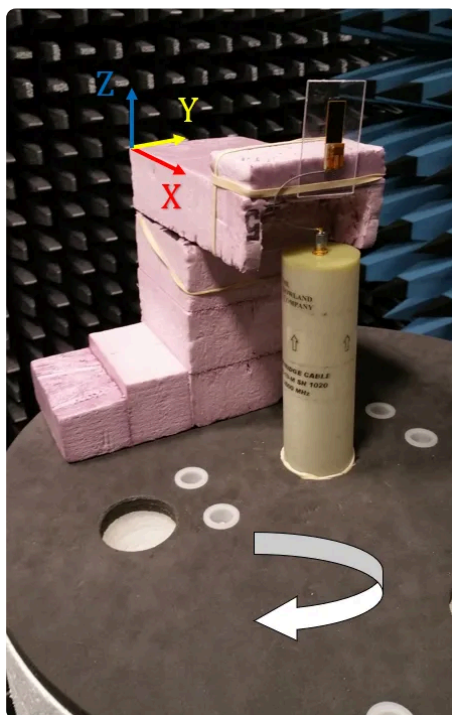
Return Loss



Flat surface Antenna Radiation Performance

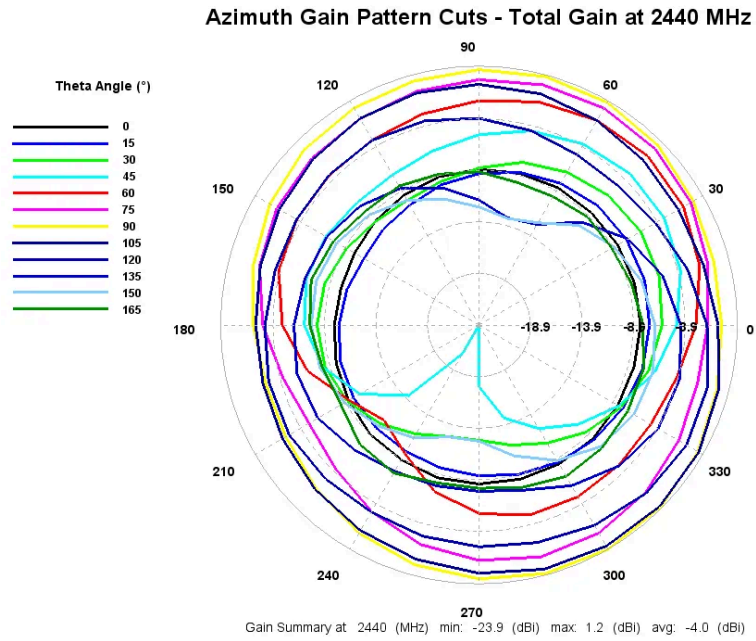
FlexPIFA centered on a 1.5 mm-thick plate of polycarbonate

Antenna Measurement Set-Up

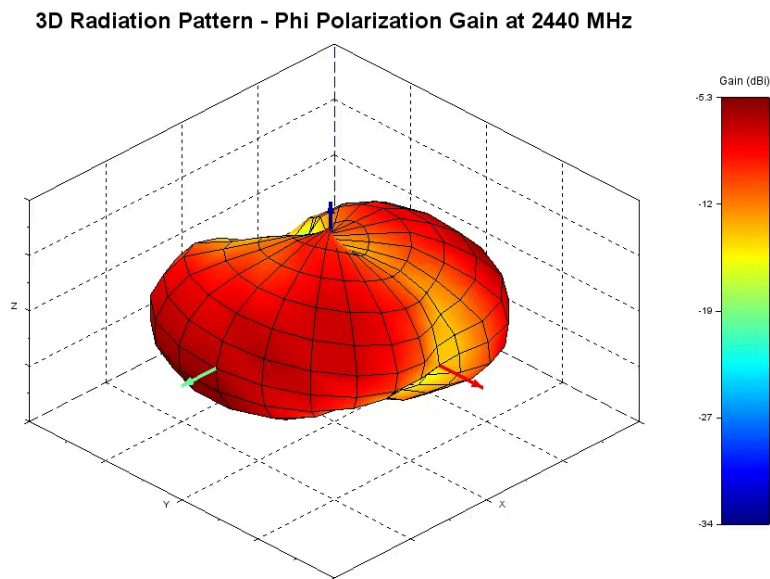


2.4 GHz Band

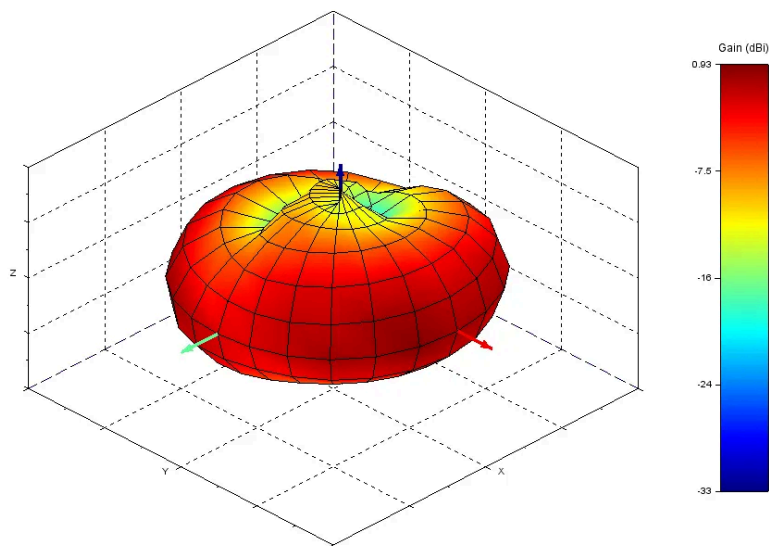
Azimuthal Conical Cuts at 2440 MHz



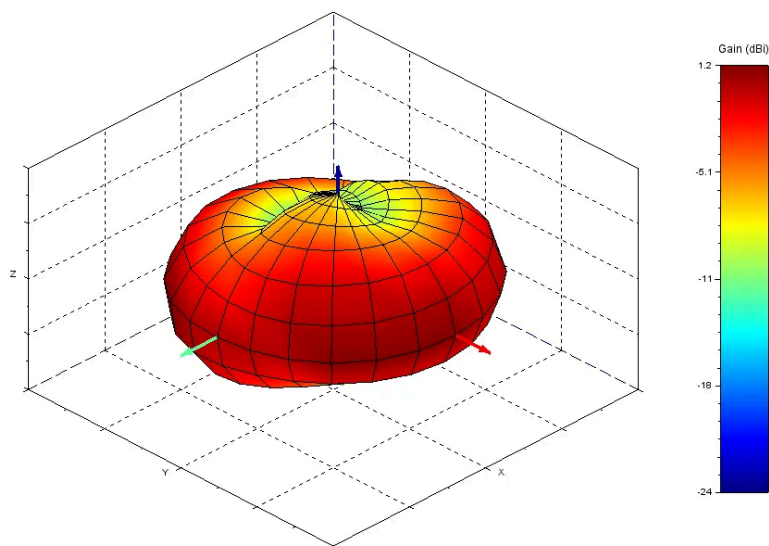
3D Plots at 2440 MHz



3D Radiation Pattern - Theta Polarization Gain at 2440 MHz

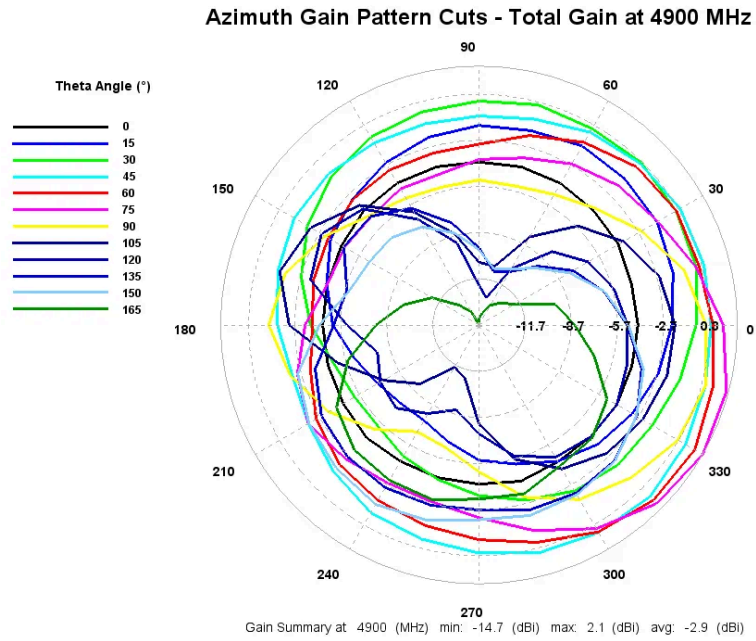


3D Radiation Pattern - Total Gain at 2440 MHz

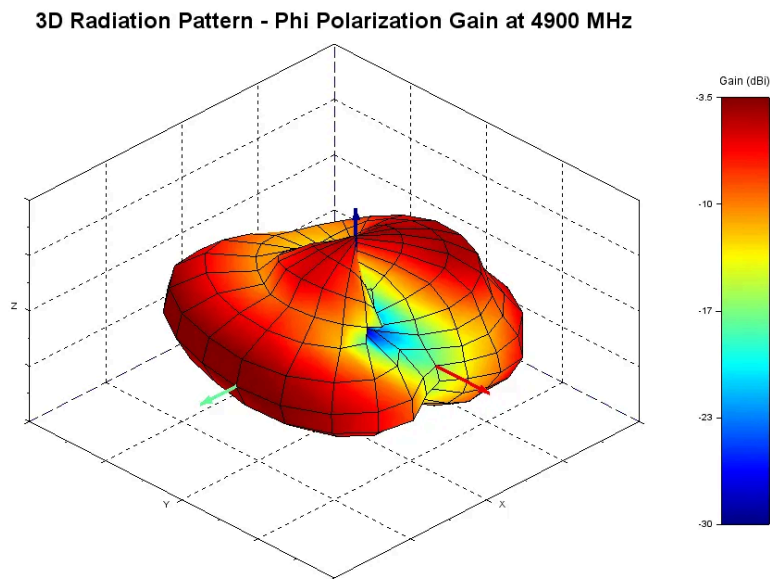


5 GHz Band

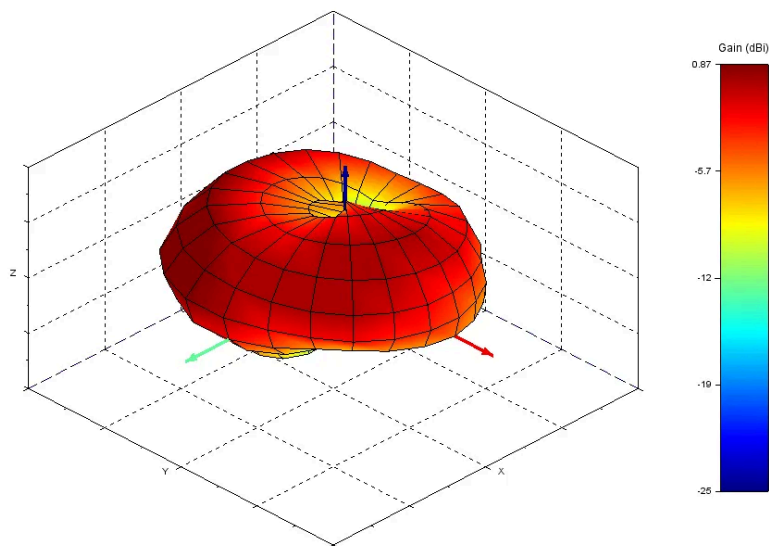
Azimuthal Conical Cuts at 4900 MHz



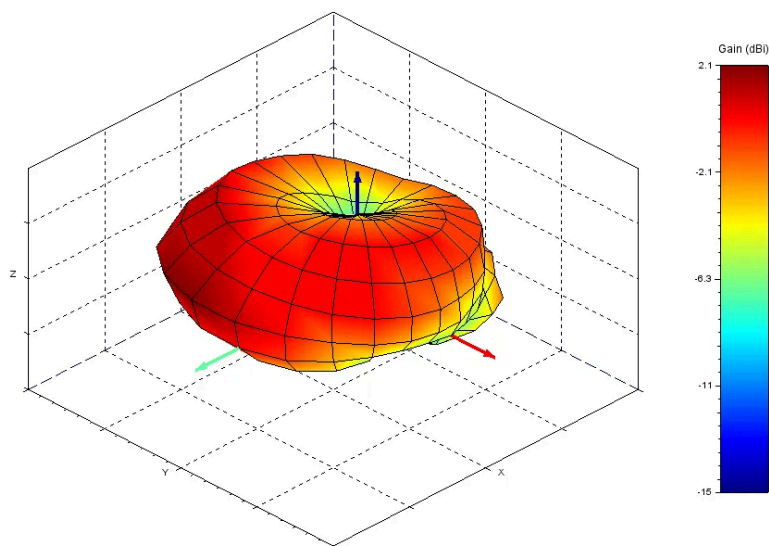
3D Plots at 4900 MHz



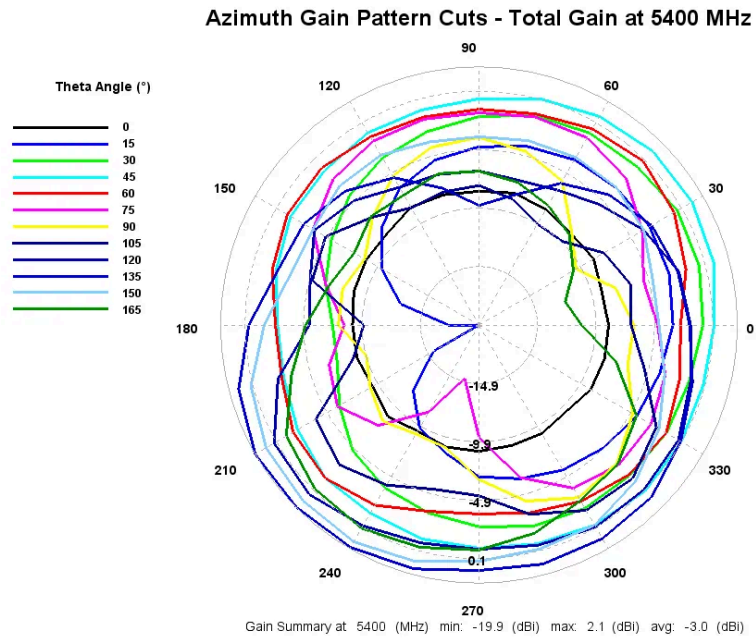
3D Radiation Pattern - Theta Polarization Gain at 4900 MHz



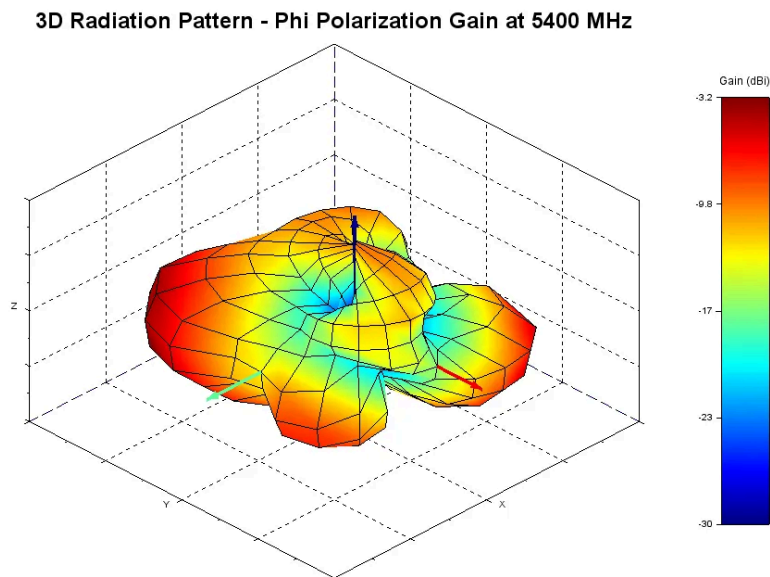
3D Radiation Pattern - Total Gain at 4900 MHz



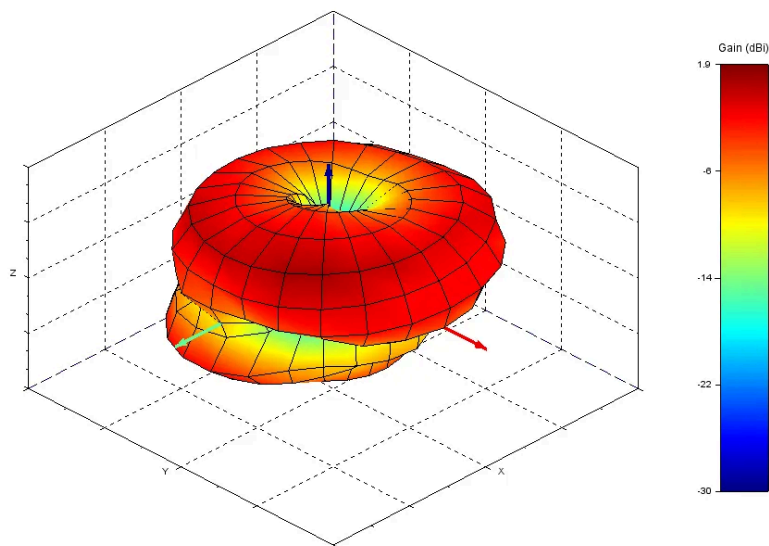
Azimuthal Conical Cuts at 5400 MHz



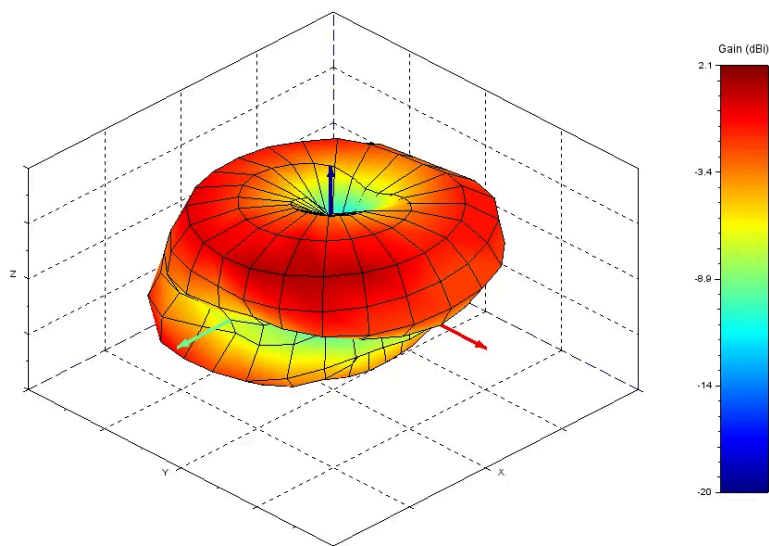
3D Plots at 5400 MHz



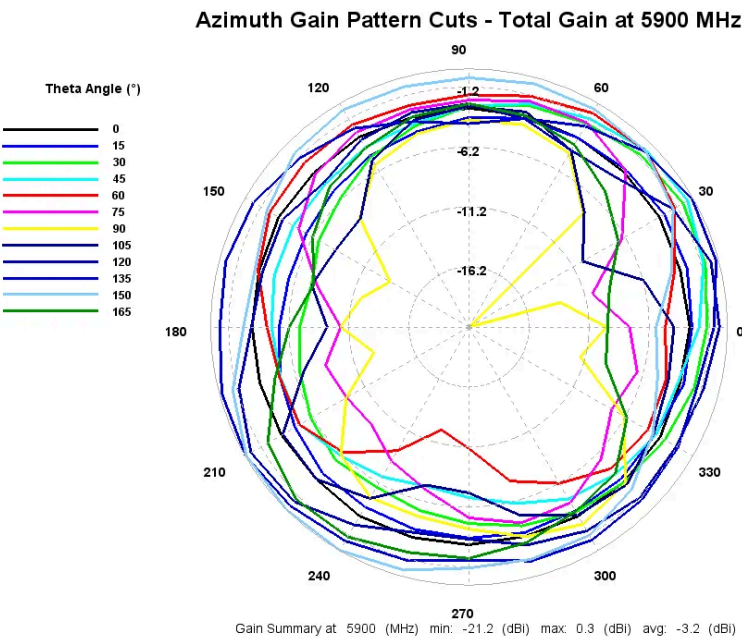
3D Radiation Pattern - Theta Polarization Gain at 5400 MHz



3D Radiation Pattern - Total Gain at 5400 MHz



Azimuthal Conical Cuts at 5900 MHz



3D Plots at 5900 MHz

