

SPECIFICATION FOR APPROVAL

Customer:

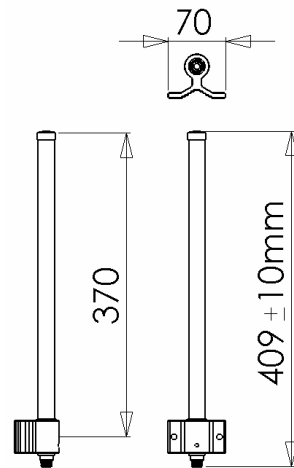
Model No. : OE-005

Description: 5.4~5.835 GHz OMNI ANTENNA

Date: 2009/03/25

Rev : 6

1. OVERVIEW & SPECIFICATIONS



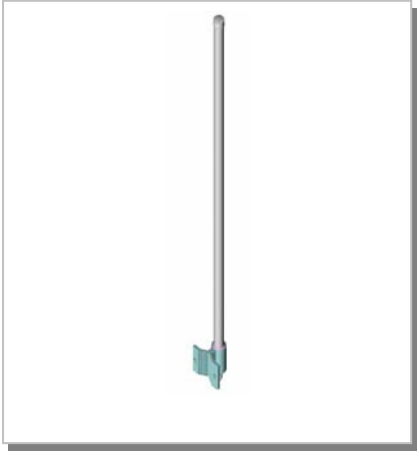
Electrical Specifications:

Frequency Range :	5.4~5.835GHz
VSWR :	≤ 2.0
Impedance :	50Ω ± 5Ω
Forward Gain :	10dBi
Polarization :	Vertical
Power Handling :	10 Watt

Mechanical Specifications:

Connector :	N Female
Operation Temp. :	-30°C ~ +60°C
Material :	Radome: Fiberglass Base: Aluminum Alloy Mount: Aluminum
Dimension (L*W*H) :	Ø30*409mm
Weight :	304g ±20g
Color :	White

3D Illustration



2. TESTING CONDITION

2.1 TEST SETUP

VSWR measurement (S11): Use ROHDE & SCHWARZ ZV8 Network Analyzer with Harbour RG-142 coaxial cable: 1000mm length in free space.

2.1.1 VSWR

The table as below summarizes concern about Return loss measurement according to The frequency band is based on PRO-CELL design. The detail be shown as appendix that is from ROHDE & SCHWARZ ZV8 Network Analyzer

	VSWR Performance				
Freq(MHz)	5400	5500	5600	5700	5800
Free space	1.1	1.0	1.4	1.5	1.2

3. GAIN MEASUREMENT

3.1 TEST SETUP

The gain of the antenna was measured by **PROCELL** Chamber. The chamber provides less than -30 dB reflectivity from 800 MHz through 6 GHz and a 60cm diameter spherical quiet zone. The measurement results are calibrated using both **SCHWARZBECK** horn standards. A decoupling sleeve is used to reduce feed line radiation

3.2 TEST RESULT

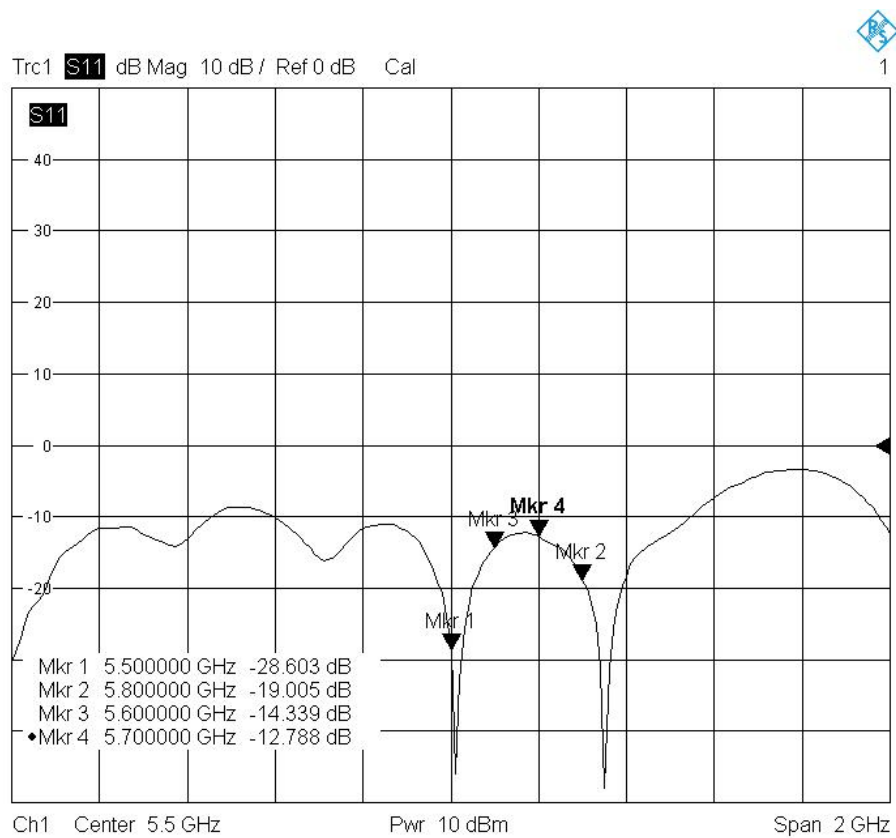
The peak gain is picked up as table list from Network analyzer in Chamber room, the completely gain plots also be shown as appendix.

	Peak Gain(dbi)					
Freq(MHz)	5400	5500	5600	5700	5800	5900
H PLANE Peak Gain	8.8	9.54	11	9.8	13.7	11.42
E PLANE Peak Gain	9.64	9.63	10.29	7.89	13.25	9.42

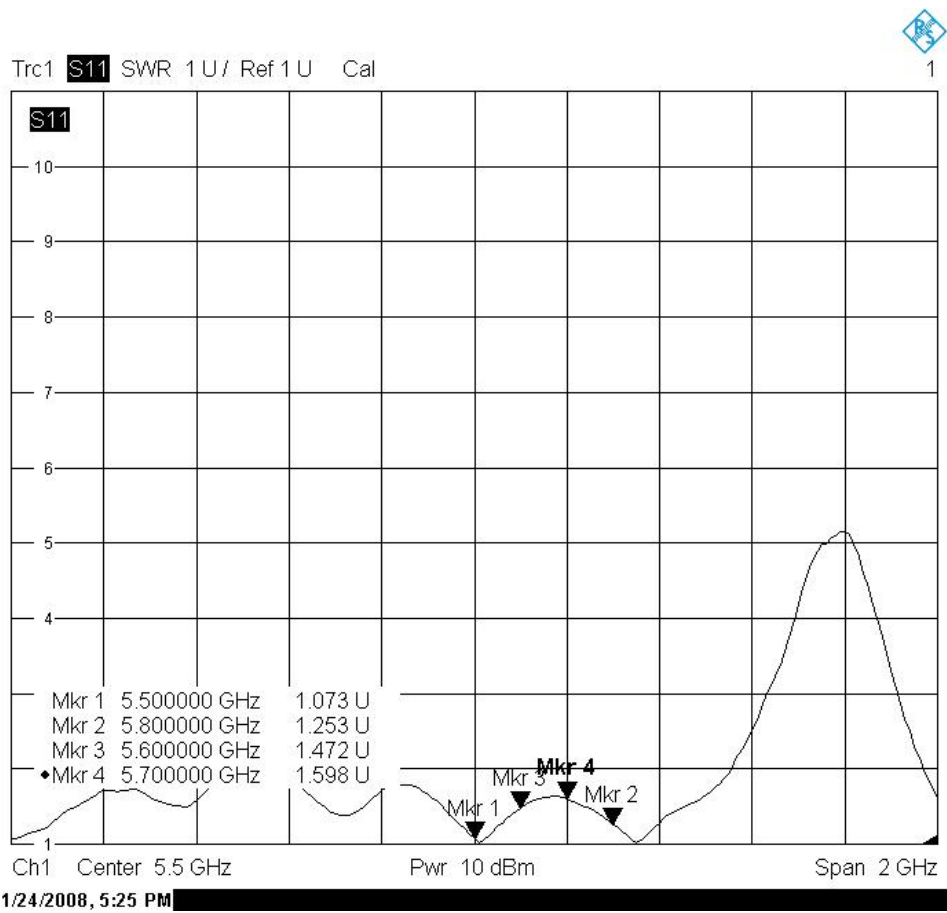
4. APPENDIX

4.1 RETURN LOSS & VSWR

RETURN LOSS

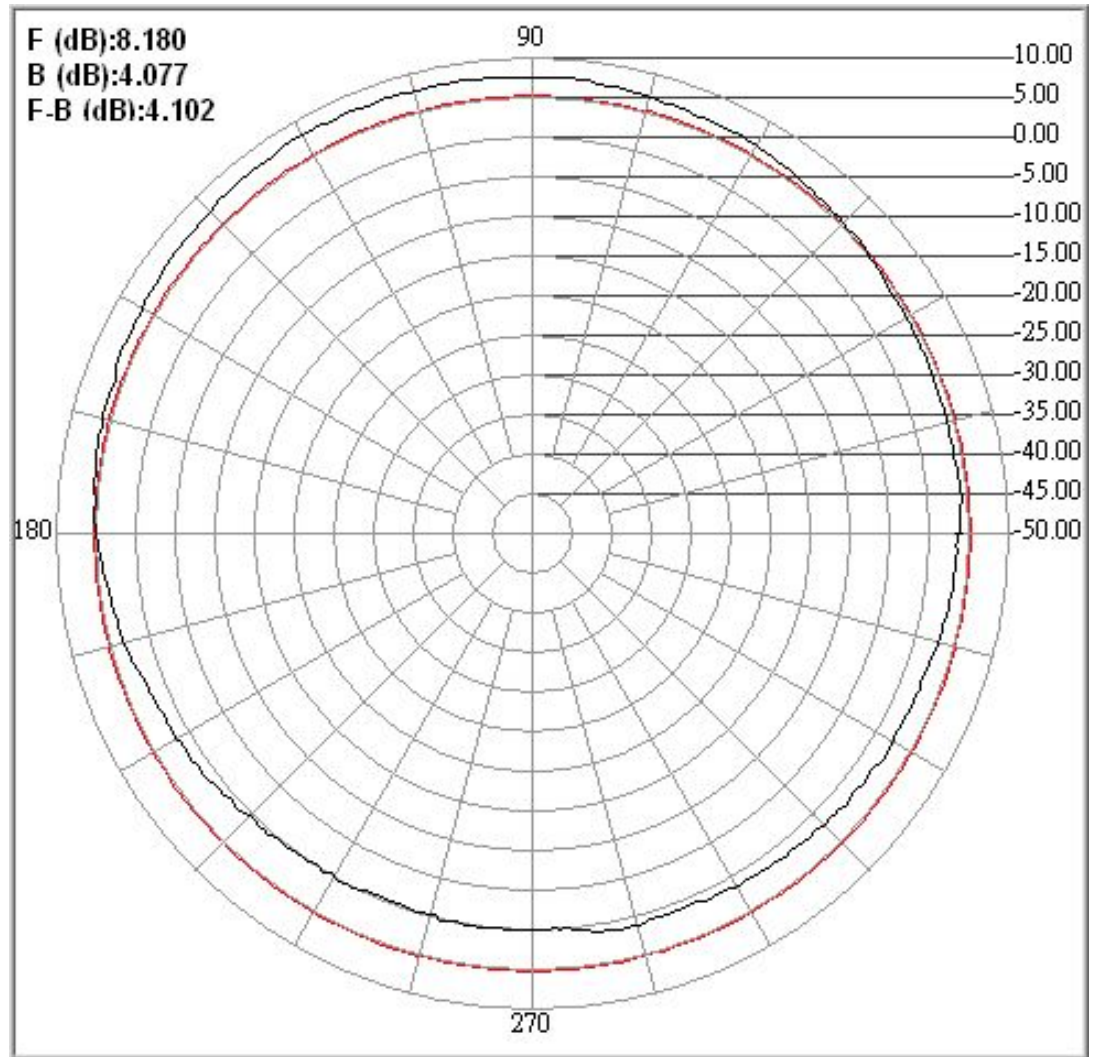


SWR

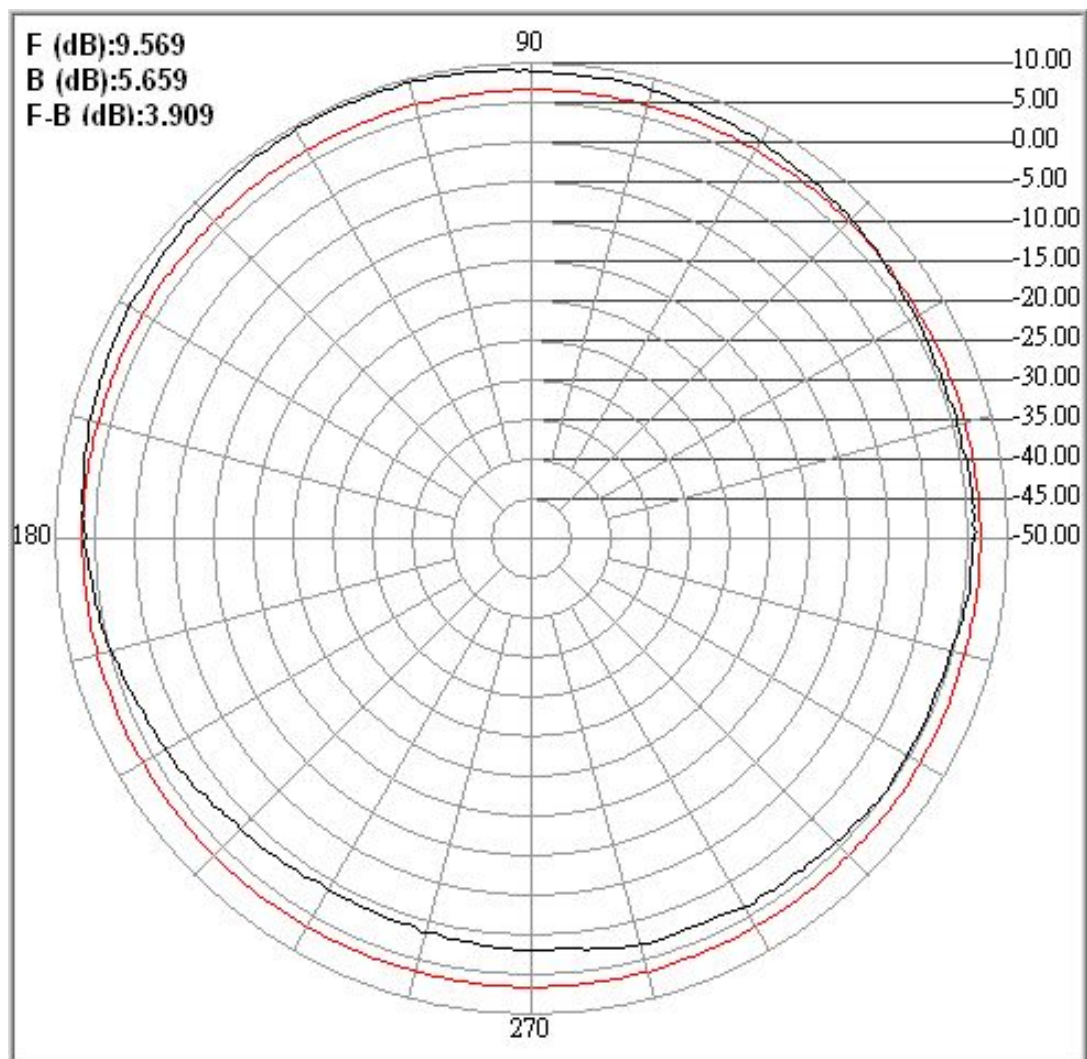


4.2 RADIATION PATTERN

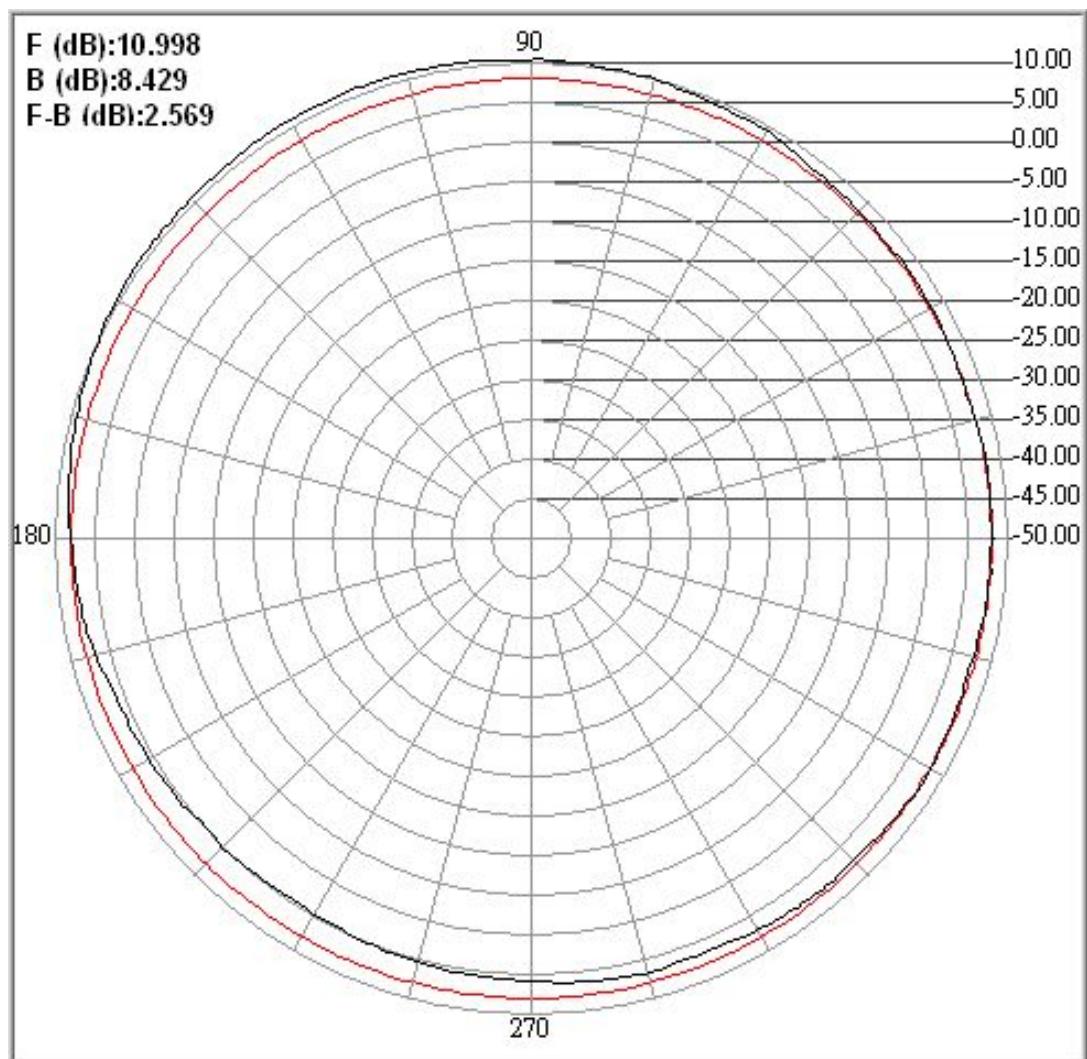
H-PLANE



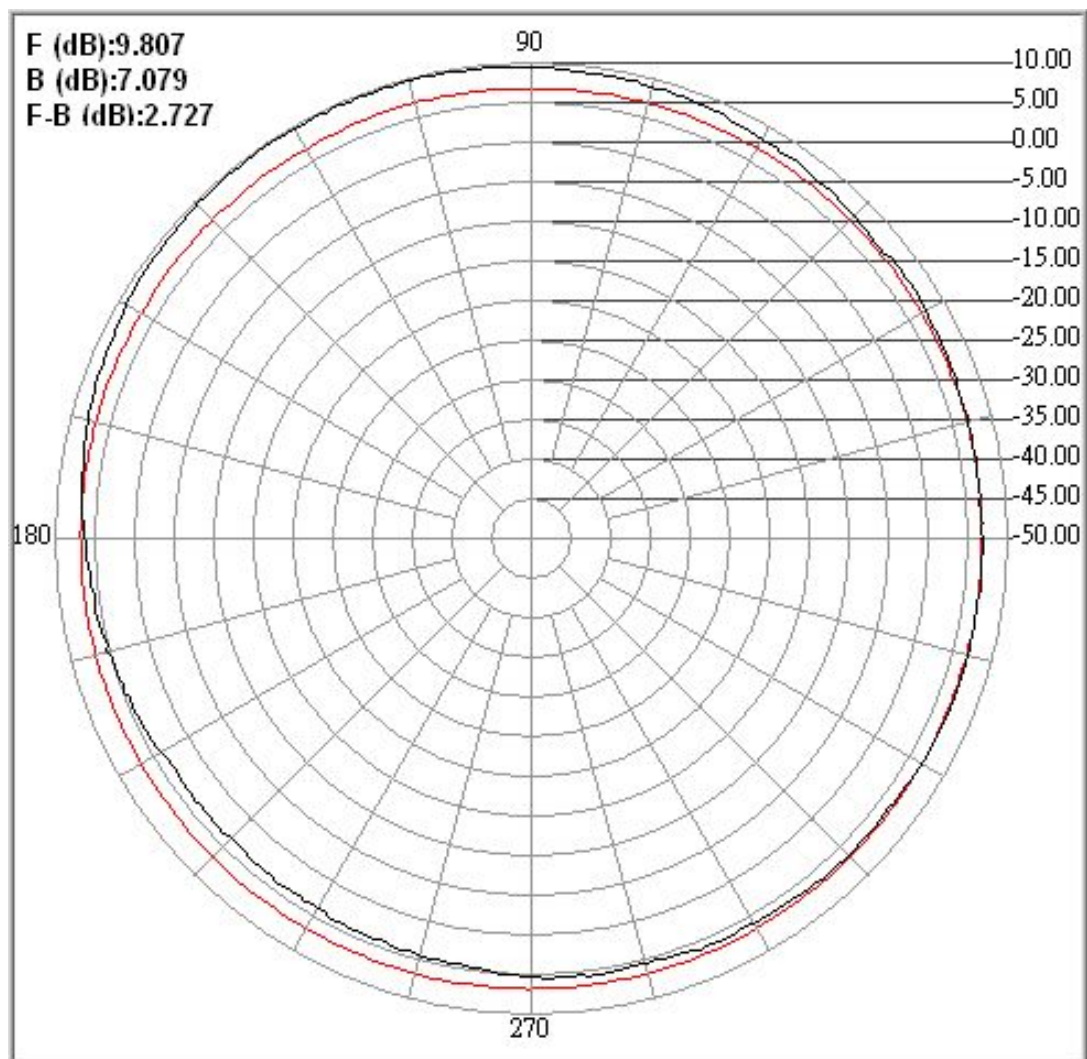
Center freq.(MHz): 5400	Plane : H Plane	
Max gain(dBi) : 8.18	Min gain(dBi) : -0.43	Avg gain(dBi) : 4.72
-3dB1(°) : 179.20	-3dB2(°) : 40.20	HPB(°) : 139.00
Front (dB) : 8.180	Back (dB) : 4.077	F B Ratio (dB) : 4.102



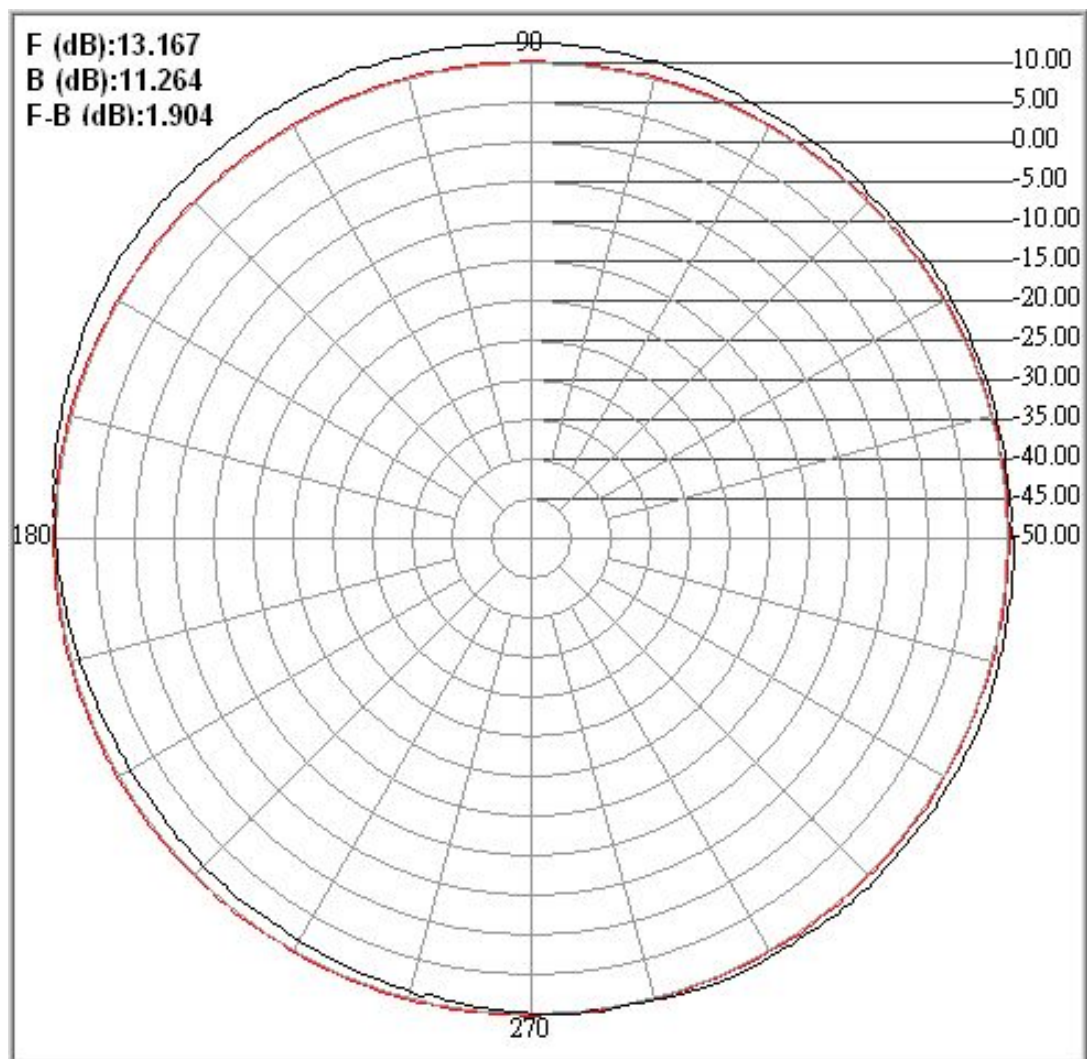
Center freq.(MHz): 5500	Plane : H Plane	
Max gain(dBi) : 9.57	Min gain(dBi) : 0.95	Avg gain(dBi) : 6.32
-3dB1(°) : 178.00	-3dB2(°) : 38.00	HPB(°) : 140.00
Front (dB) : 9.569	Back (dB) : 5.659	F B Ratio (dB) : 3.909



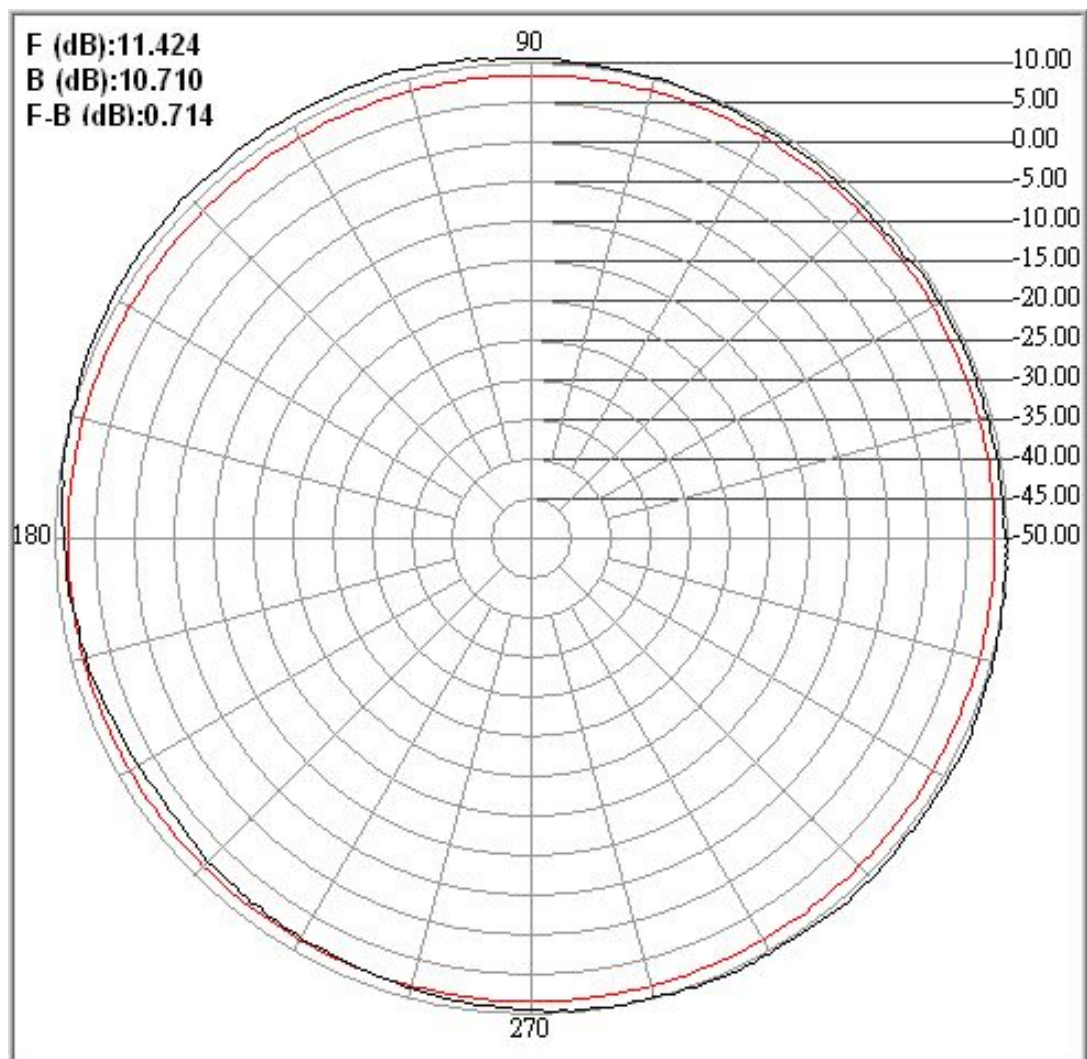
Center freq.(MHz): 5600	Plane : H Plane	
Max gain(dBi) : 11.00	Min gain(dBi) : 4.58	Avg gain(dBi) : 8.38
-3dB1(°) : 181.10	-3dB2(°) : 23.90	HPB(°) : 157.20
Front (dB) : 10.998	Back (dB) : 8.429	F B Ratio (dB) : 2.569



Center freq.(MHz): 5700	Plane : H Plane	
Max gain(dBi) : 9.81	Min gain(dBi) : 3.44	Avg gain(dBi) : 7.27
-3dB1(°) : 175.80	-3dB2(°) : 5.50	HPB(°) : 170.30
Front (dB) : 9.807	Back (dB) : 7.079	F B Ratio (dB) : 2.727

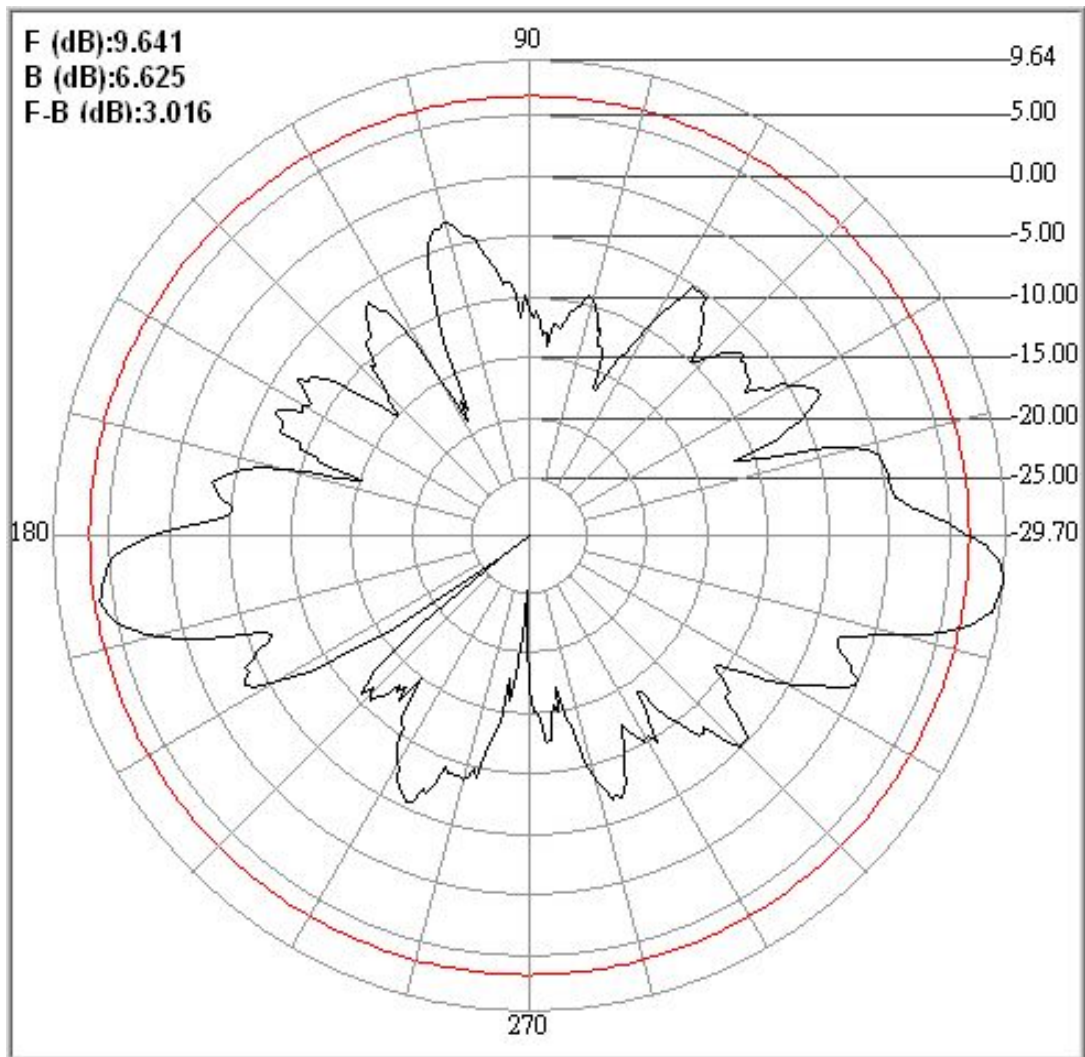


Center freq.(MHz): 5800	Plane : H Plane	
Max gain(dBi) : 13.17	Min gain(dBi) : 8.16	Avg gain(dBi) : 11.03
-3dB1(°) : 177.90	-3dB2(°) : -77.50	HPB(°) : 255.40
Front (dB) : 13.167	Back (dB) : 11.264	F B Ratio (dB) : 1.904



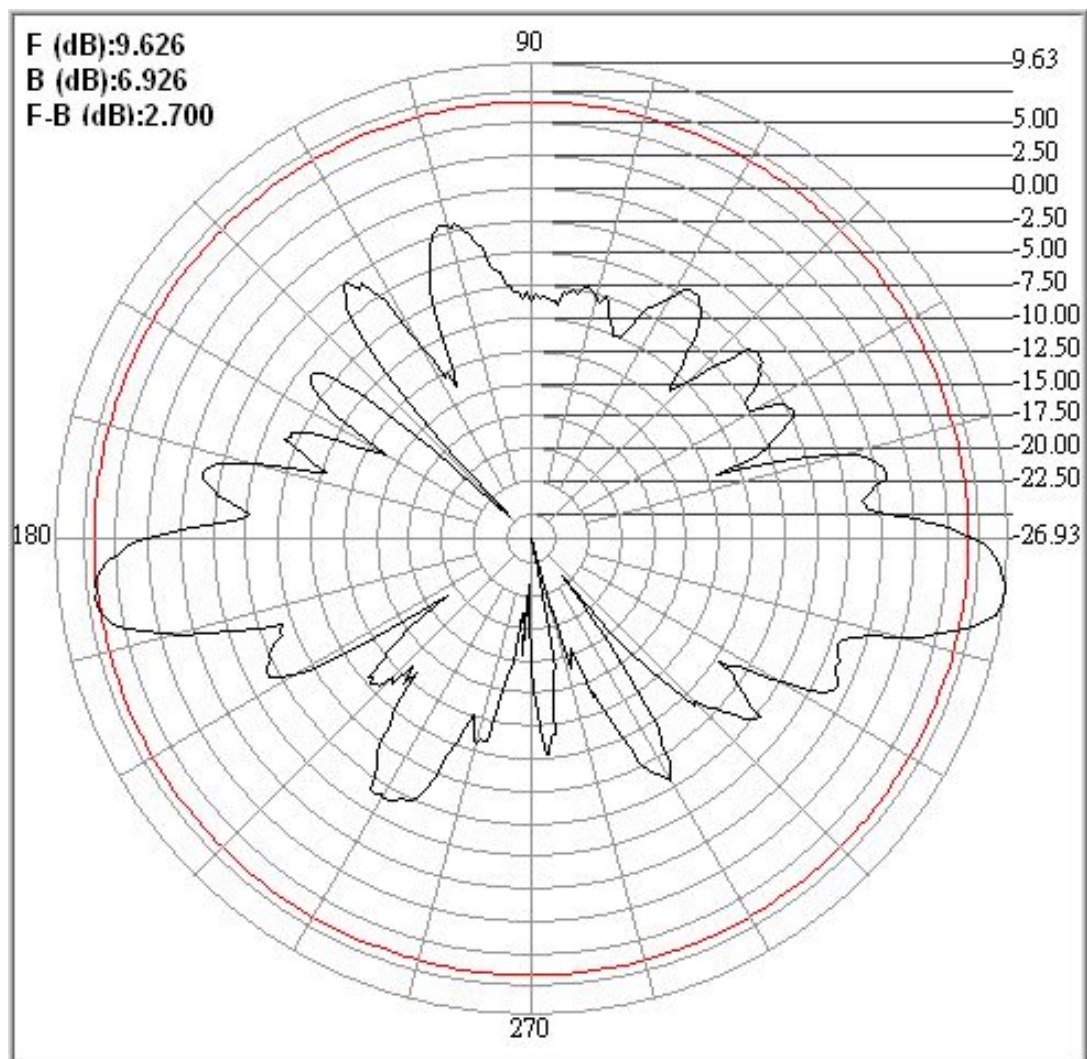
Center freq.(MHz): 5900	Plane : H Plane	
Max gain(dBi) : 11.42	Min gain(dBi) : 6.93	Avg gain(dBi) : 9.82
-3dB1(°) : 188.60	-3dB2(°) : -111.20	HPB(°) : 299.80
Front (dB) : 11.424	Back (dB) : 10.710	F B Ratio (dB) : 0.714

E-PLANE

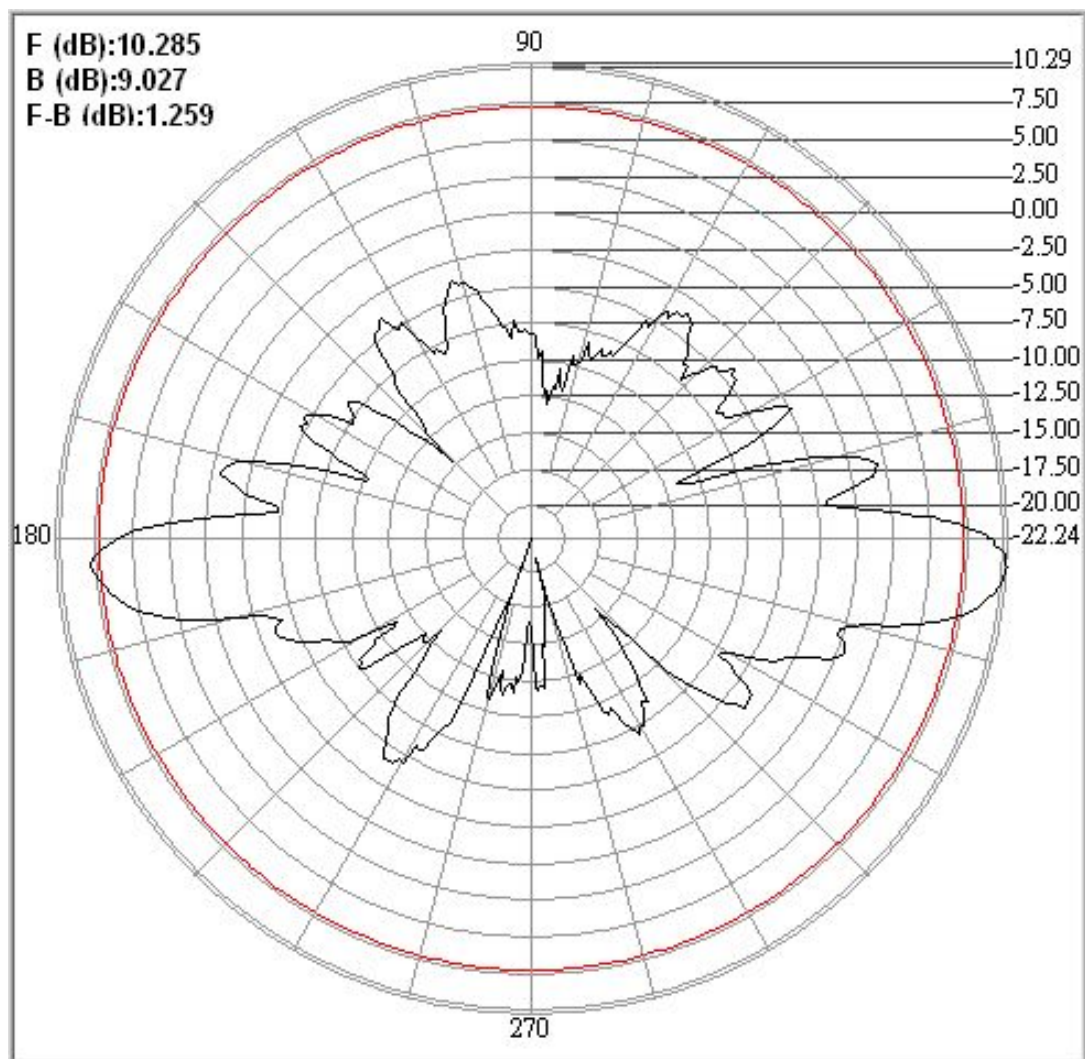


Center freq.(MHz): 5400	Plane : E Plane	
Max gain(dBi) : 9.64	Min gain(dBi) : -29.70	Avg gain(dBi) : -0.85
-3dB1(°) : 360.00	-3dB2(°) : 346.70	HPB(°) : 13.30
Front (dB) : 9.641	Back (dB) : 6.625	F B Ratio (dB) : 3.016

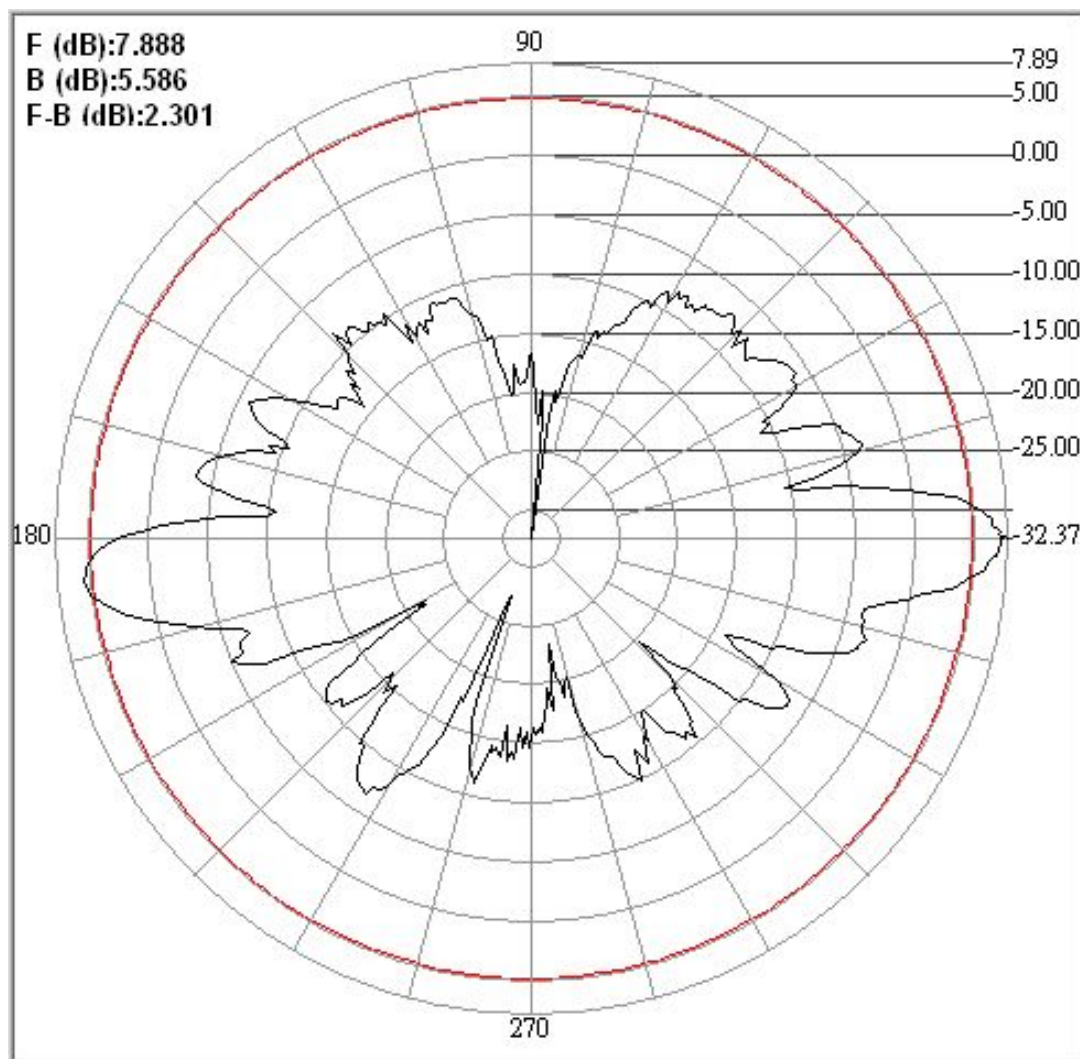




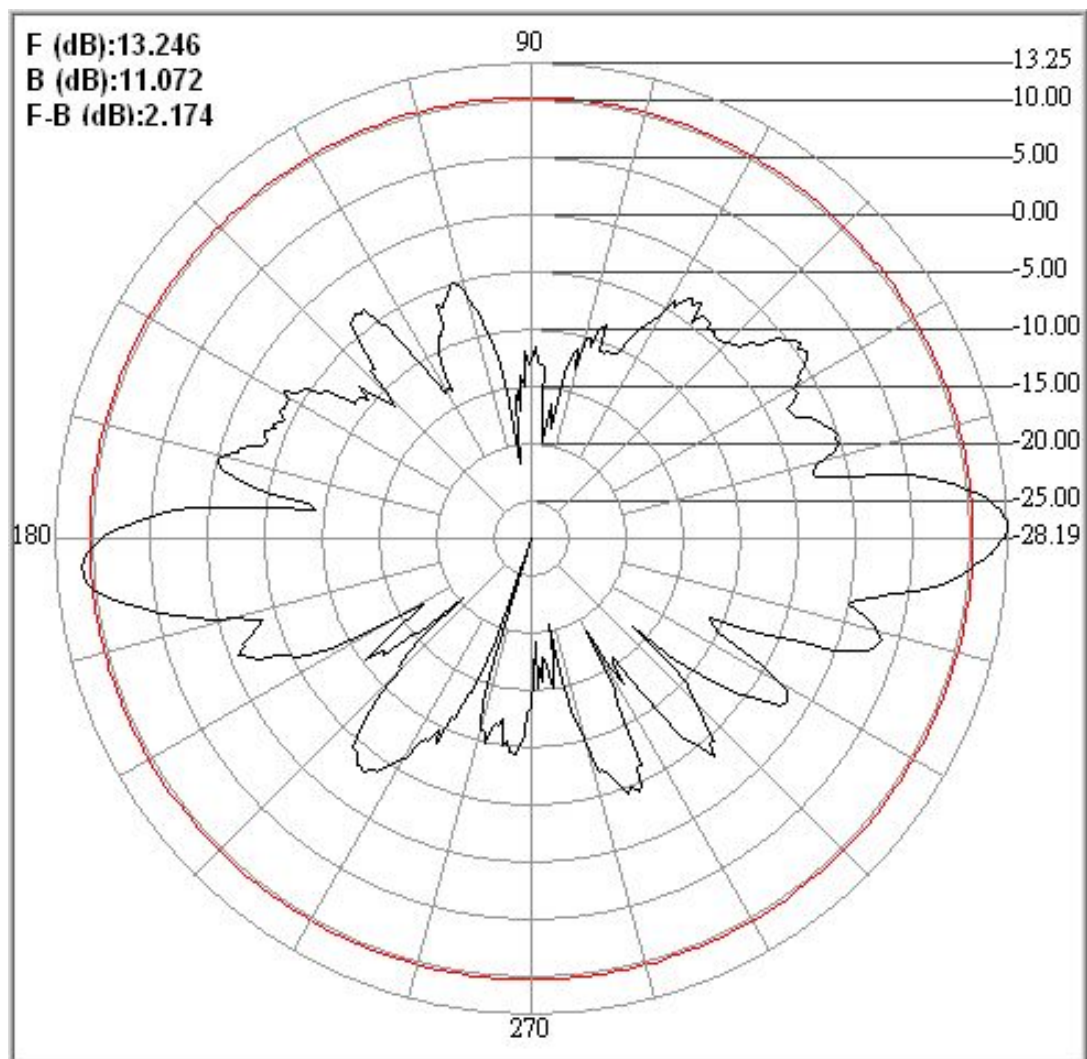
Center freq.(MHz): 5500	Plane : E Plane	
Max gain(dBi) : 9.63	Min gain(dBi) : -26.93	Avg gain(dBi) : -0.54
-3dB1(°) : 360.40	-3dB2(°) : 347.80	HPB(°) : 12.60
Front (dB) : 9.626	Back (dB) : 6.926	F B Ratio (dB) : 2.700



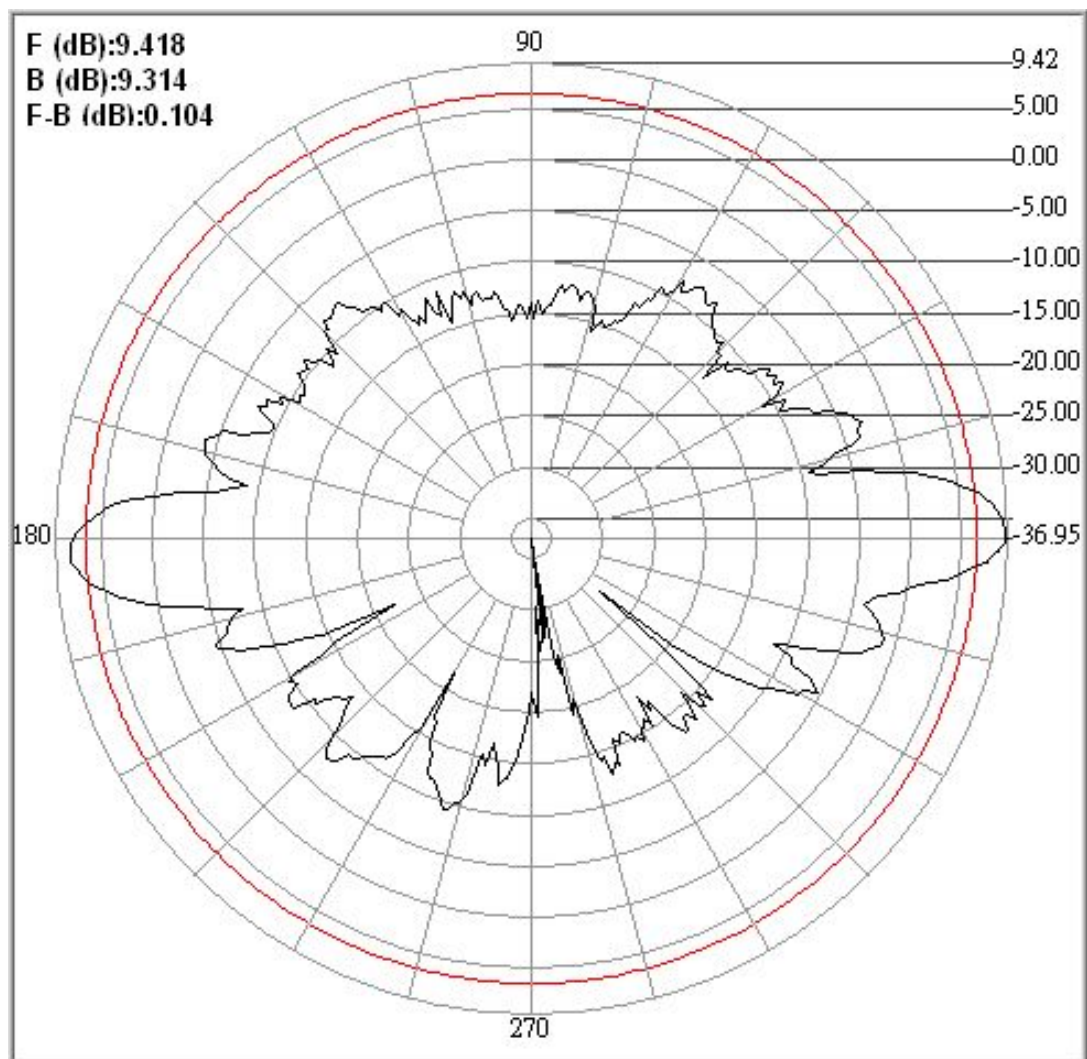
Center freq.(MHz): 5600	Plane : E Plane	
Max gain(dBi) : 10.29	Min gain(dBi) : -22.24	Avg gain(dBi) : 0.26
-3dB1(°) : 362.00	-3dB2(°) : 349.40	HPB(°) : 12.60
Front (dB) : 10.285	Back (dB) : 9.027	F B Ratio (dB) : 1.259



Center freq.(MHz): 5700	Plane : E Plane	
Max gain(dBi) : 7.89	Min gain(dBi) : -32.37	Avg gain(dBi) : -2.40
-3dB1(°) : 4.80	-3dB2(°) : -5.30	HPB(°) : 10.10
Front (dB) : 7.888	Back (dB) : 5.586	F B Ratio (dB) : 2.301



Center freq.(MHz): 5800	Plane : E Plane	
Max gain(dBi) : 13.25	Min gain(dBi) : -28.19	Avg gain(dBi) : 3.00
-3dB1(°) : 6.40	-3dB2(°) : -4.10	HPB(°) : 10.50
Front (dB) : 13.246	Back (dB) : 11.072	F B Ratio (dB) : 2.174



Center freq.(MHz): 5900	Plane : E Plane	
Max gain(dBi) : 9.42	Min gain(dBi) : -36.95	Avg gain(dBi) : -0.76
-3dB1(°) : 366.70	-3dB2(°) : 355.90	HPB(°) : 10.80
Front (dB) : 9.418	Back (dB) : 9.314	F B Ratio (dB) : 0.104