

DATA SHEET

Customer :

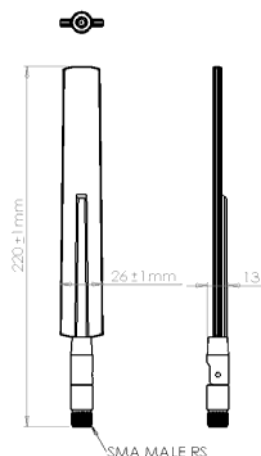
Model No. : 2,4-5,7-RO-3-5-RPSMA

**Description : 2.4~2.4835/5.2~5.8 GHz
SWIVEL ANTENNA**

Date : 2009/09/15

Rev : 2

1. OVERVIEW & SPECIFICATIONS



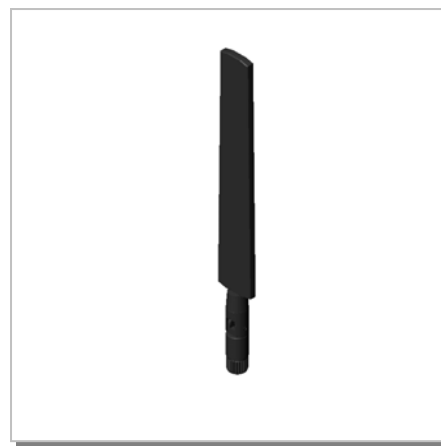
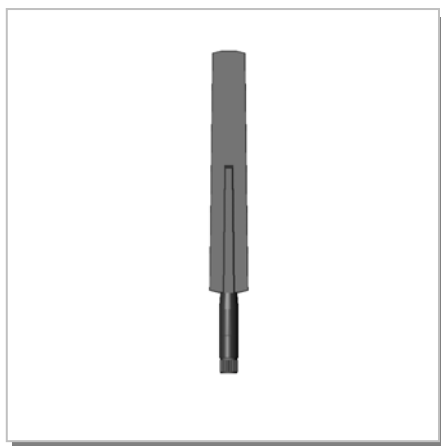
Electrical Specifications:

Frequency Range :	2.4~2.4835/5.2~5.8GHz
VSWR :	≤ 2.0
Impedance :	$50\Omega \pm 5\Omega$
Gain :	3/5dBi
Polarization :	Vertical
Power Handling :	10 Watt

Mechanical Specifications:

Connector :	SMA Male RS
Operation Temp. :	-30°C ~ +60°C
Material :	Radome: ABS
Dimension (L*W*H) :	220*26*Ø13 mm
Weight :	30g ± 2g (w/ base)
Color :	Black

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)	2400	2450	2483	5200
Free space	1.39	1.41	1.57	1.64
Freq(MHz)	5300	5400	5500	5600
Free space	1.25	1.13	1.18	1.22
Freq(MHz)	5700	5800	-	-
Free space	1.23	1.22	-	-

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

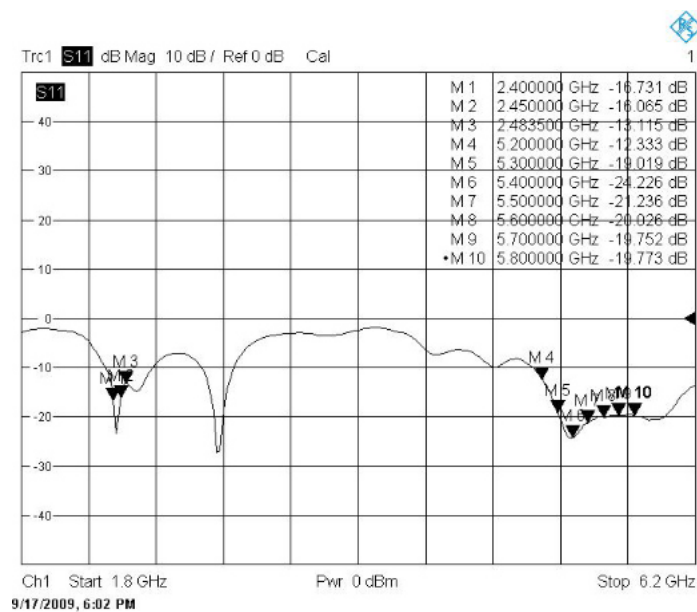
The peak gain is picked up as table list from Network analyzer in Chamber room, the completely gain plots also be shown as appendix.

	Peak Gain (dBi) / Beam width(°)			
Freq(MHz)	2400	2450	2483	5200
H PLANE	1.7/360°	2.69/360°	3.3/360°	3.59/360°
E PLANE	0.19/34.6°	3.41/28.5°	2.15/28.8°	6.4/16.2°
Freq(MHz)	5300	5400	5500	5600
H PLANE	6.46/360°	6.71/360°	3.34/360°	3.4/360°
E PLANE	6.46/57.6°	4.5/52.6°	0.66/79.6°	3.13/62.2°
Freq(MHz)	5700	5800	-	-
H PLANE	4.2/360°	6.72/360°	-	-
E PLANE	0.97/34.6°	4.3/61.2°	-	-

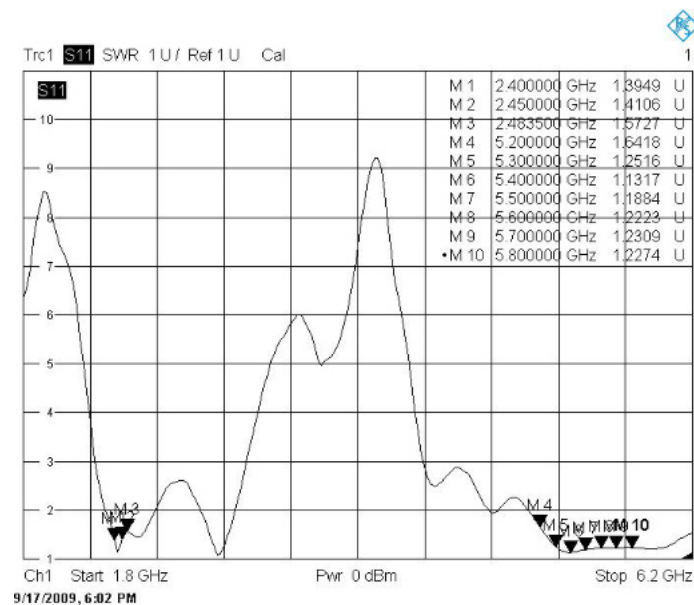
4. APPENDIX

4.1 RETURN LOSS & VSWR

RETURN LOSS

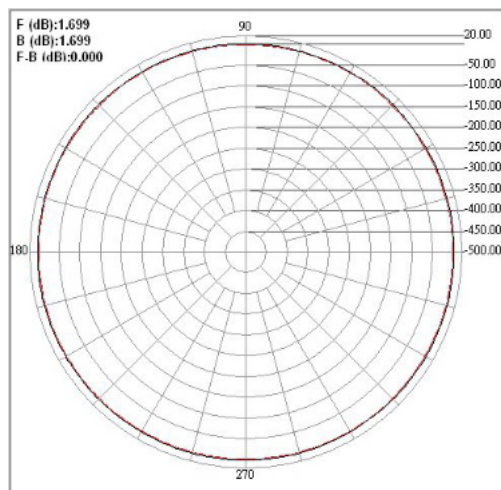


SWR

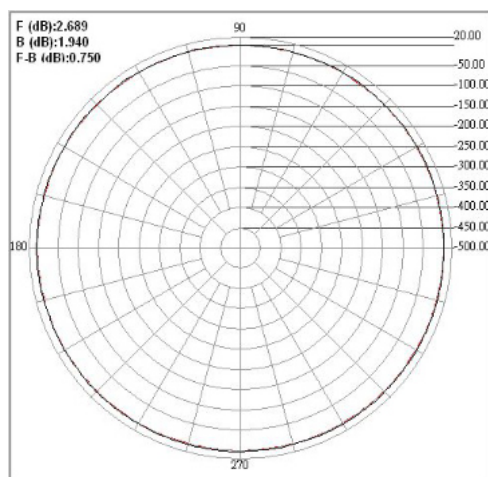


4.2 RADIATION PATTERN

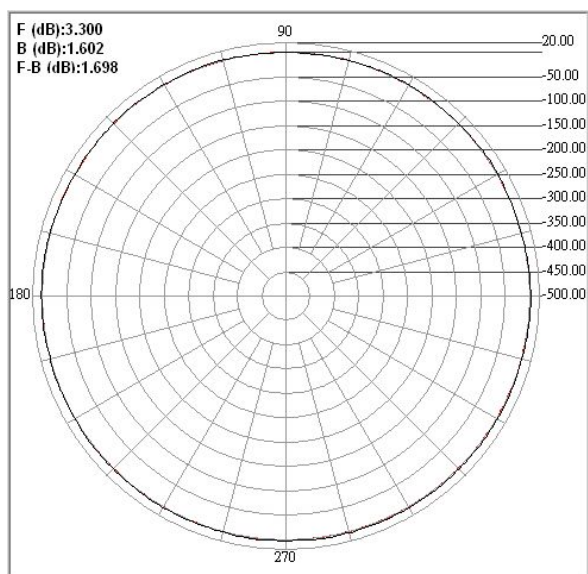
H-PLANE



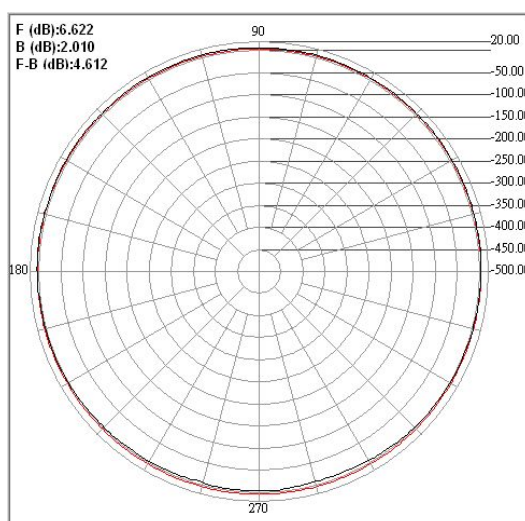
Center freq.(MHz): 2400	Plane : H Plane	
Max gain(dBi) : 1.70	Min gain(dBi) : -0.12	Avg gain(dBi) : 0.91
-3dB1(°) : 0.00	-3dB2(°) : 0.00	HPB(°) : 360.00
Front (dB) : 1.699	Back (dB) : 1.699	F B Ratio (dB) : 0.000



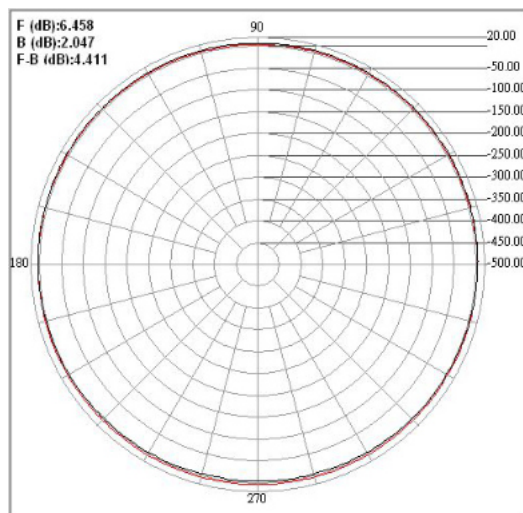
Center freq.(MHz): 2450	Plane : H Plane	
Max gain(dBi) : 2.69	Min gain(dBi) : -0.57	Avg gain(dBi) : 1.10
-3dB1(°) : 426.70	-3dB2(°) : 199.10	HPB(°) : 360.00
Front (dB) : 2.689	Back (dB) : 1.940	F B Ratio (dB) : 0.750



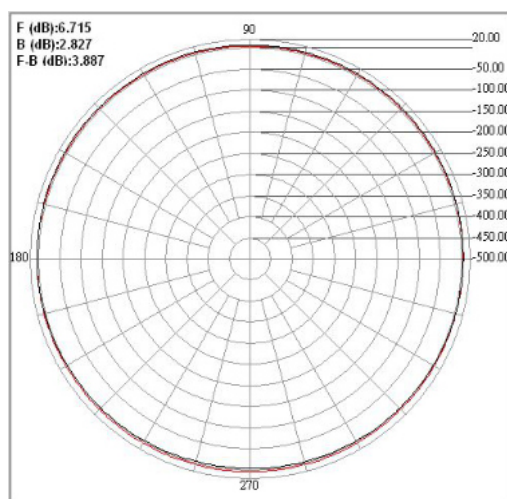
Center freq.(MHz): 2483	Plane : H Plane	
Max gain(dBi) : 3.30	Min gain(dBi) : -0.32	Avg gain(dBi) : 1.38
-3dB1(°) : 370.90	-3dB2(°) : 196.40	HPB(°) : 360.00
Front (dB) : 3.300	Back (dB) : 1.602	F B Ratio (dB) : 1.698



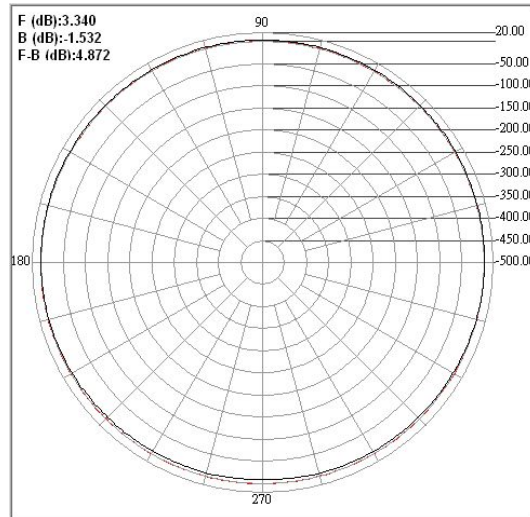
Center freq.(MHz): 5200	Plane : H Plane	
Max gain(dBi) : 6.62	Min gain(dBi) : -8.82	Avg gain(dBi) : 3.59
-3dB1(°) : 186.80	-3dB2(°) : 2.10	HPB(°) : 360.00
Front (dB) : 6.622	Back (dB) : 2.010	F B Ratio (dB) : 4.612



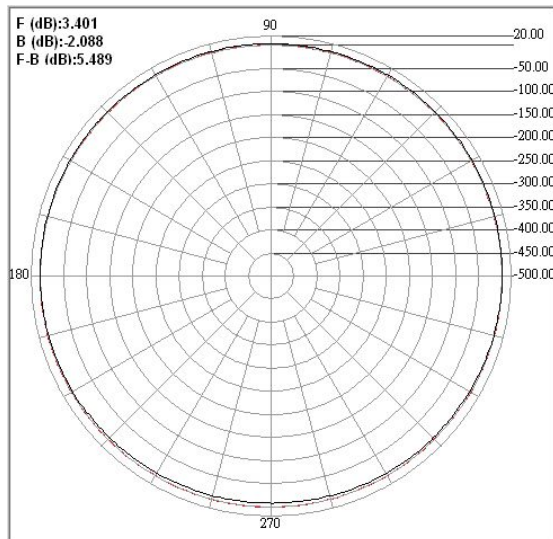
Center freq.(MHz): 5300	Plane : H Plane	
Max gain(dBi) : 6.46	Min gain(dBi) : -4.98	Avg gain(dBi) : 3.66
-3dB1(°) : 180.80	-3dB2(°) : -9.50	HPB(°) : 360.00
Front (dB) : 6.458	Back (dB) : 2.047	F B Ratio (dB) : 4.411



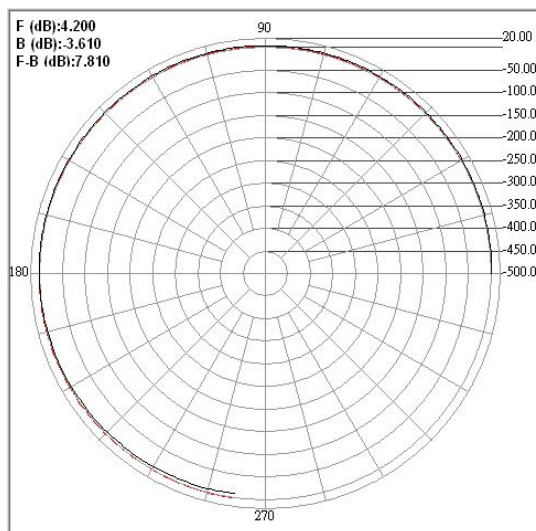
Center freq.(MHz): 5400	Plane : H Plane	
Max gain(dBi) : 6.71	Min gain(dBi) : -4.62	Avg gain(dBi) : 3.85
-3dB1(°) : 176.50	-3dB2(°) : -6.40	HPB(°) : 360.00
Front (dB) : 6.715	Back (dB) : 2.827	F B Ratio (dB) : 3.887



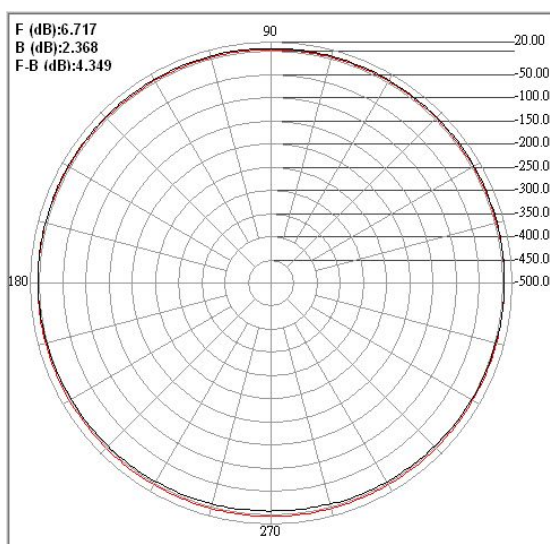
Center freq.(MHz): 5500	Plane : H Plane	
Max gain(dBi) : 3.34	Min gain(dBi) : -8.73	Avg gain(dBi) : 0.45
-3dB1(°) : 178.20	-3dB2(°) : -6.40	HPB(°) : 360.00
Front (dB) : 3.340	Back (dB) : -1.532	F B Ratio (dB) : 4.872



Center freq.(MHz): 5600	Plane : H Plane	
Max gain(dBi) : 3.40	Min gain(dBi) : -8.80	Avg gain(dBi) : 0.46
-3dB1(°) : 177.20	-3dB2(°) : -6.40	HPB(°) : 360.00
Front (dB) : 3.401	Back (dB) : -2.088	F B Ratio (dB) : 5.489

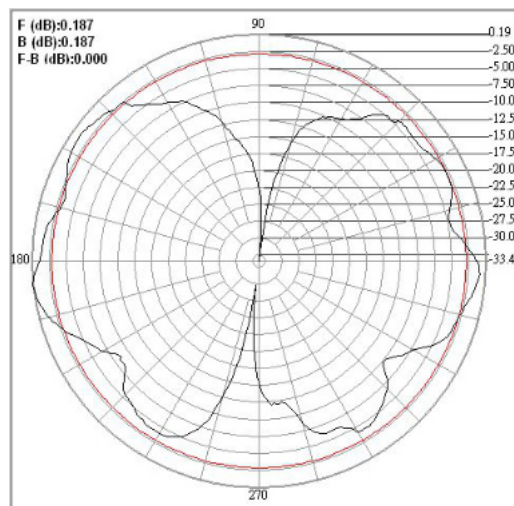


Center freq.(MHz): 5700	Plane : H Plane	
Max gain(dBi) : 4.20	Min gain(dBi) : -9.73	Avg gain(dBi) : 1.84
-3dB1(°) : 176.00	-3dB2(°) : -98.10	HPB(°) : 360.00
Front (dB) : 4.200	Back (dB) : -3.610	F B Ratio (dB) : 7.810

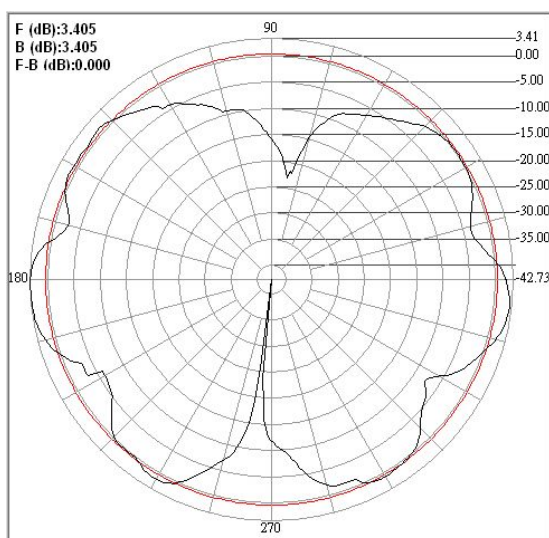


Center freq.(MHz): 5800	Plane : H Plane	
Max gain(dBi) : 6.72	Min gain(dBi) : -8.89	Avg gain(dBi) : 3.64
-3dB1(°) : 177.10	-3dB2(°) : 1.20	HPB(°) : 360.00
Front (dB) : 6.717	Back (dB) : 2.368	F B Ratio (dB) : 4.349

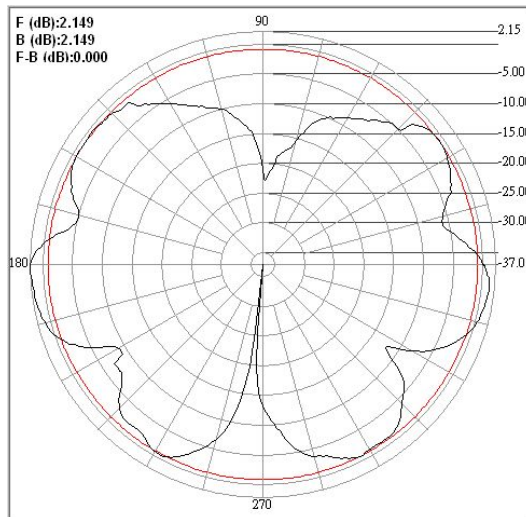
E-PLANE



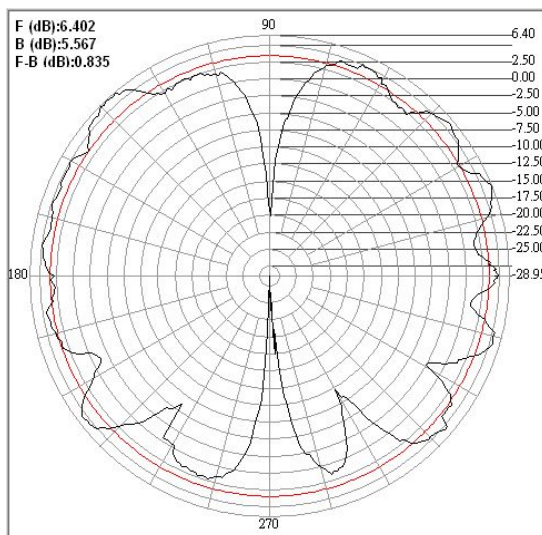
Center freq.(MHz): 2400	Plane : E Plane	
Max gain(dBi) : 0.19	Min gain(dBi) : -33.41	Avg gain(dBi) : -4.43
-3dB1(°) : 200.30	-3dB2(°) : 165.70	HPB(°) : 34.60
Front (dB) : 0.187	Back (dB) : 0.187	F B Ratio (dB) : 0.000



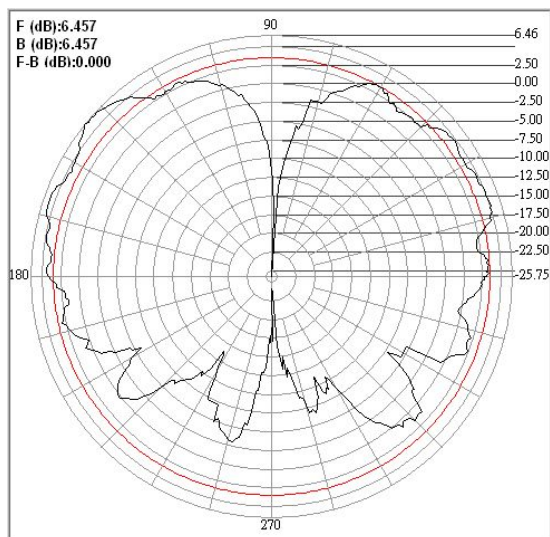
Center freq.(MHz): 2450	Plane : E Plane	
Max gain(dBi) : 3.41	Min gain(dBi) : -42.73	Avg gain(dBi) : -1.09
-3dB1(°) : 198.90	-3dB2(°) : 170.40	HPB(°) : 28.50
Front (dB) : 3.405	Back (dB) : 3.405	F B Ratio (dB) : 0.000



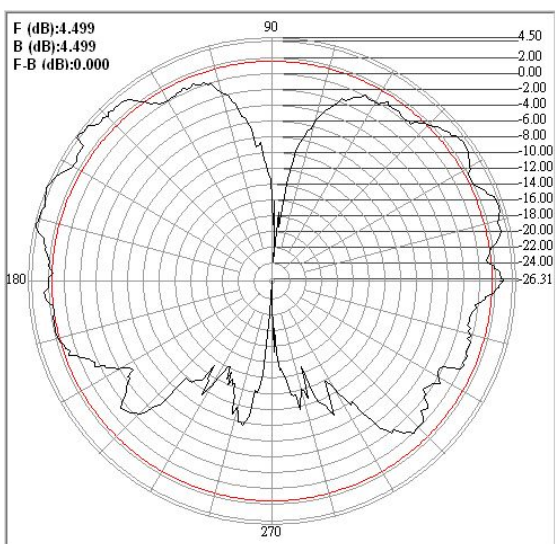
Center freq.(MHz): 2483	Plane : E Plane	
Max gain(dBi) : 2.15	Min gain(dBi) : -37.01	Avg gain(dBi) : -2.75
-3dB1(°) : 201.20	-3dB2(°) : 172.40	HPB(°) : 28.80
Front (dB) : 2.149	Back (dB) : 2.149	F B Ratio (dB) : 0.000



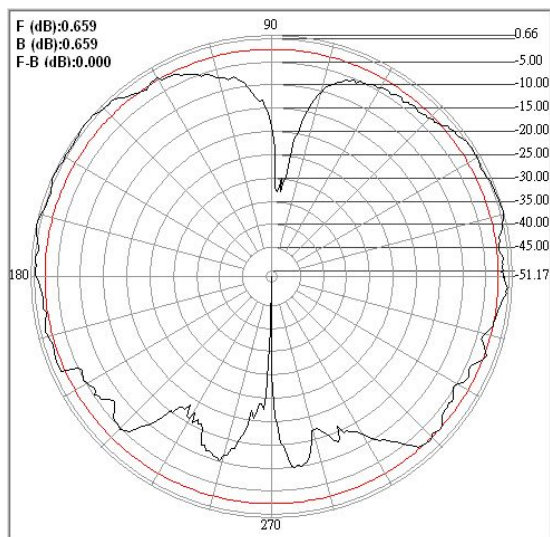
Center freq.(MHz): 5200	Plane : E Plane	
Max gain(dBi) : 6.40	Min gain(dBi) : -28.95	Avg gain(dBi) : 2.91
-3dB1(°) : 29.70	-3dB2(°) : 13.50	HPB(°) : 16.20
Front (dB) : 6.402	Back (dB) : 5.567	F B Ratio (dB) : 0.835



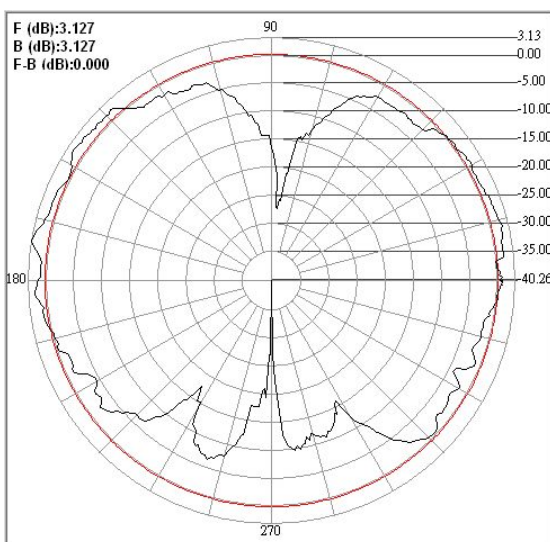
Center freq.(MHz): 5300	Plane : E Plane	
Max gain(dBi) : 6.46	Min gain(dBi) : -25.75	Avg gain(dBi) : 1.61
-3dB1(°) : 182.10	-3dB2(°) : 124.50	HPB(°) : 57.60
Front (dB) : 6.457	Back (dB) : 6.457	F B Ratio (dB) : 0.000



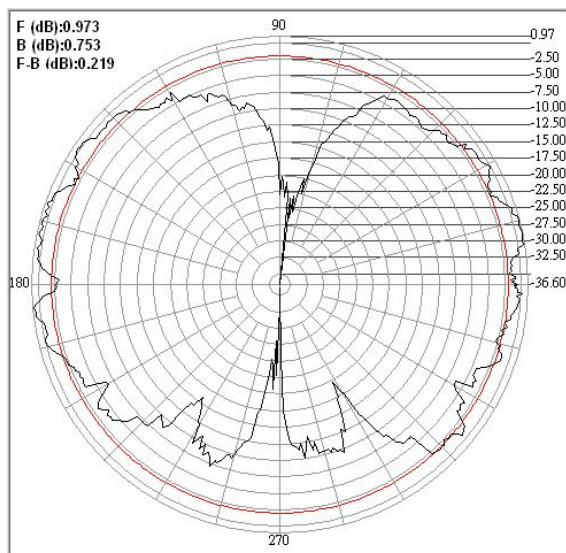
Center freq.(MHz): 5400	Plane : E Plane	
Max gain(dBi) : 4.50	Min gain(dBi) : -26.31	Avg gain(dBi) : 0.09
-3dB1(°) : 178.00	-3dB2(°) : 125.40	HPB(°) : 52.60
Front (dB) : 4.499	Back (dB) : 4.499	F B Ratio (dB) : 0.000



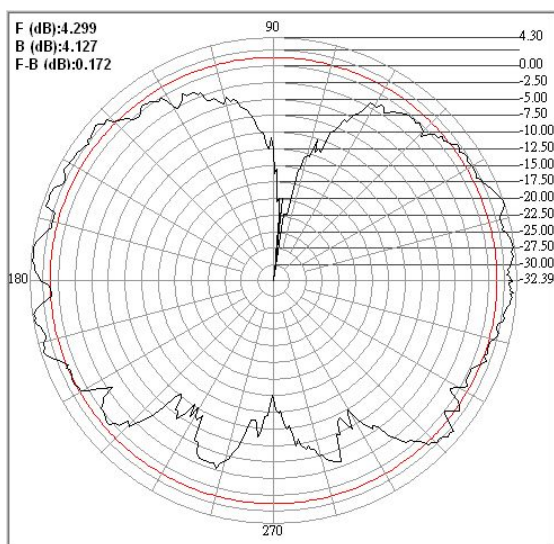
Center freq.(MHz): 5500	Plane : E Plane	
Max gain(dBi) : 0.66	Min gain(dBi) : -51.17	Avg gain(dBi) : -3.13
-3dB1(°) : 205.20	-3dB2(°) : 125.60	HPB(°) : 79.60
Front (dB) : 0.659	Back (dB) : 0.659	F B Ratio (dB) : 0.000



Center freq.(MHz): 5600	Plane : E Plane	
Max gain(dBi) : 3.13	Min gain(dBi) : -40.26	Avg gain(dBi) : -1.74
-3dB1(°) : 192.60	-3dB2(°) : 130.40	HPB(°) : 62.20
Front (dB) : 3.127	Back (dB) : 3.127	F B Ratio (dB) : 0.000



Center freq.(MHz): 5700	Plane : E Plane	
Max gain(dBi) : 0.97	Min gain(dBi) : -36.60	Avg gain(dBi) : -3.29
-3dB1(°) : 22.90	-3dB2(°) : -11.70	HPB(°) : 34.60
Front (dB) : 0.973	Back (dB) : 0.753	F B Ratio (dB) : 0.219



Center freq.(MHz): 5800	Plane : E Plane	
Max gain(dBi) : 4.30	Min gain(dBi) : -32.39	Avg gain(dBi) : 0.47
-3dB1(°) : 38.40	-3dB2(°) : -22.80	HPB(°) : 61.20
Front (dB) : 4.299	Back (dB) : 4.127	F B Ratio (dB) : 0.172