

SPECIFICATION FOR APPROVAL

Customer:

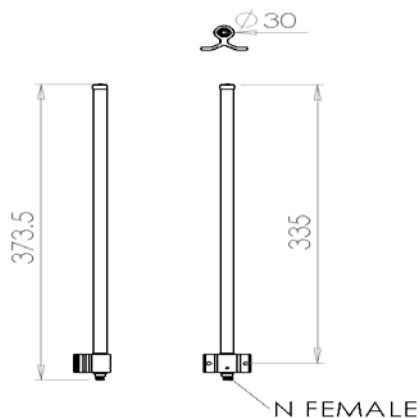
Model No. : 2,4-O-5

Description: 2.4~2.4835 GHz OMEI ANTENNA

Date: 2009/03/10

Rev : 2

1. OVERVIEW & SPECIFICATIONS



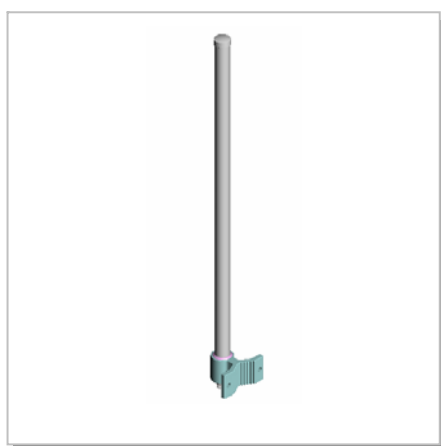
Electrical Specifications:

Frequency Range :	2.4~2.4835GHz
VSWR :	≤ 2.0
Impedance :	$50\Omega \pm 5\Omega$
Forward Gain :	5dBi
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) :	373.5* $\varnothing$ 30 mm
Weight :	354g $\pm$ 20g

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	2500
Free space	1.4	1.1	1.4

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

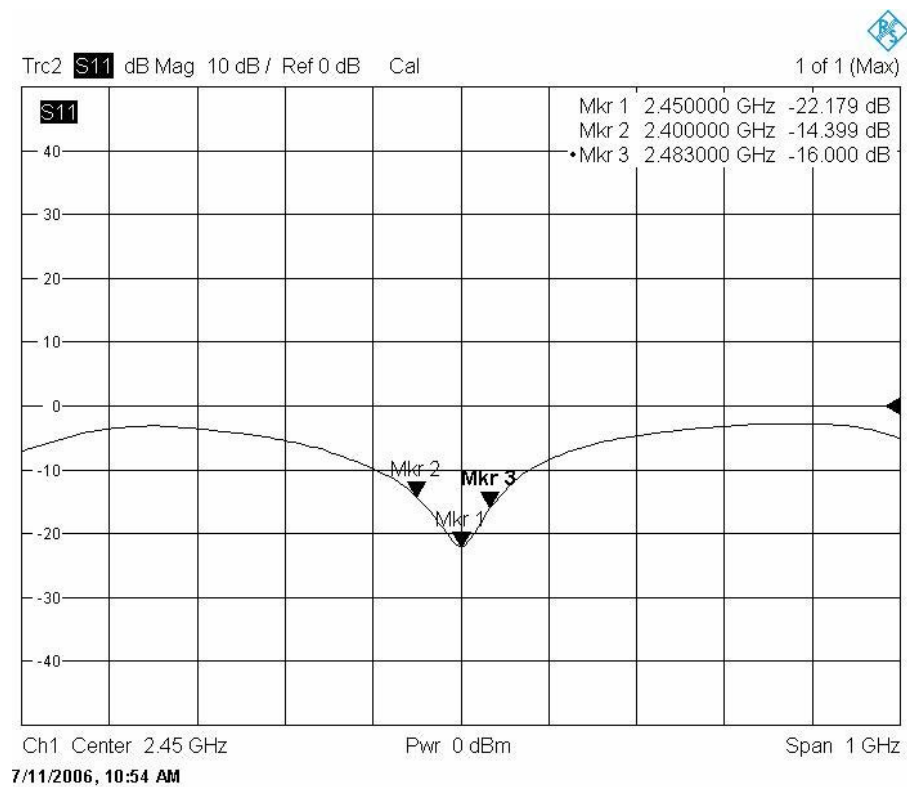
The peak gain is picked up as table list from Network analyzer in Chamber room, the completely gain plots also be shown as appendix.

	Peak Gain		
Freq(MHz)	2400	2450	2500
Peak Gain	4.7	5.2	4.2

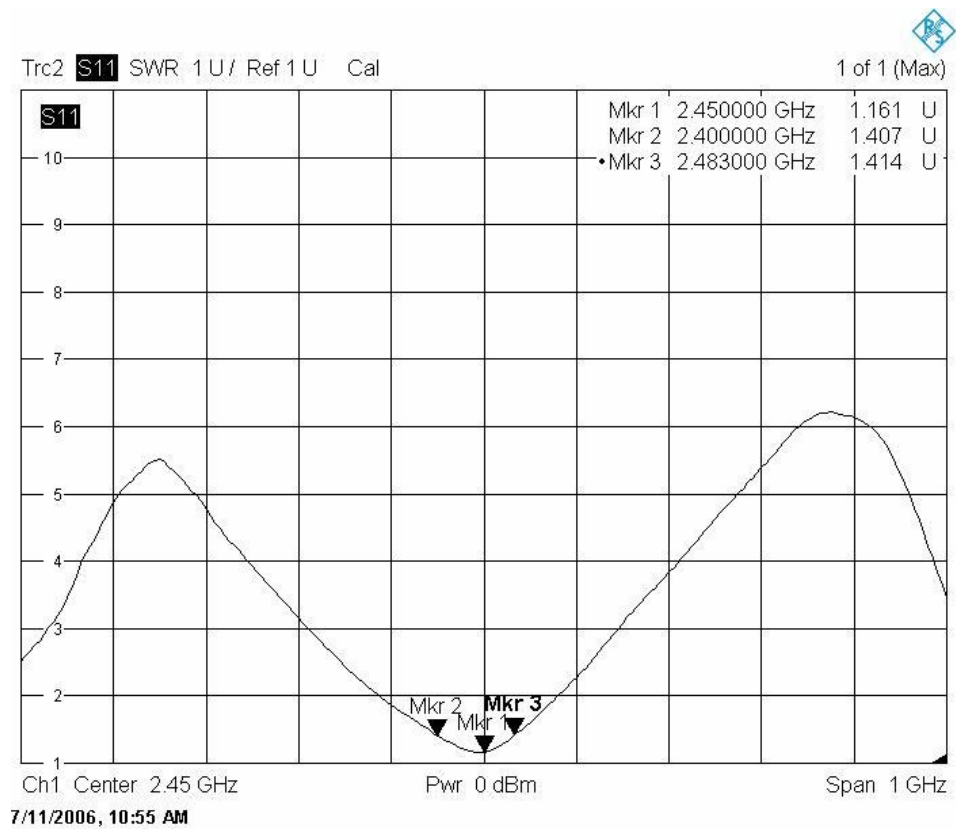
4. APPENDIX

4.1 RETURN LOSS & VSWR

RETURN LOSS

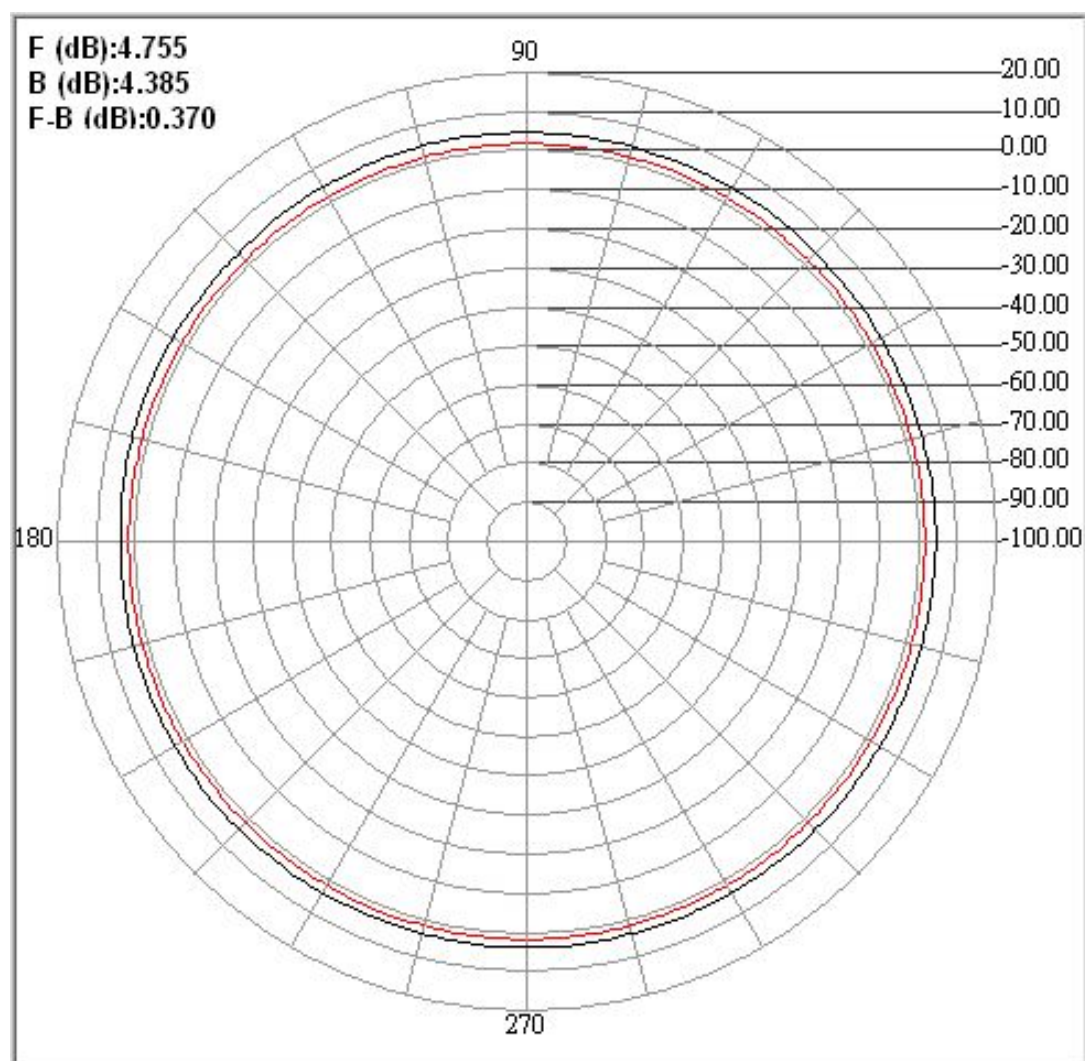


SWR

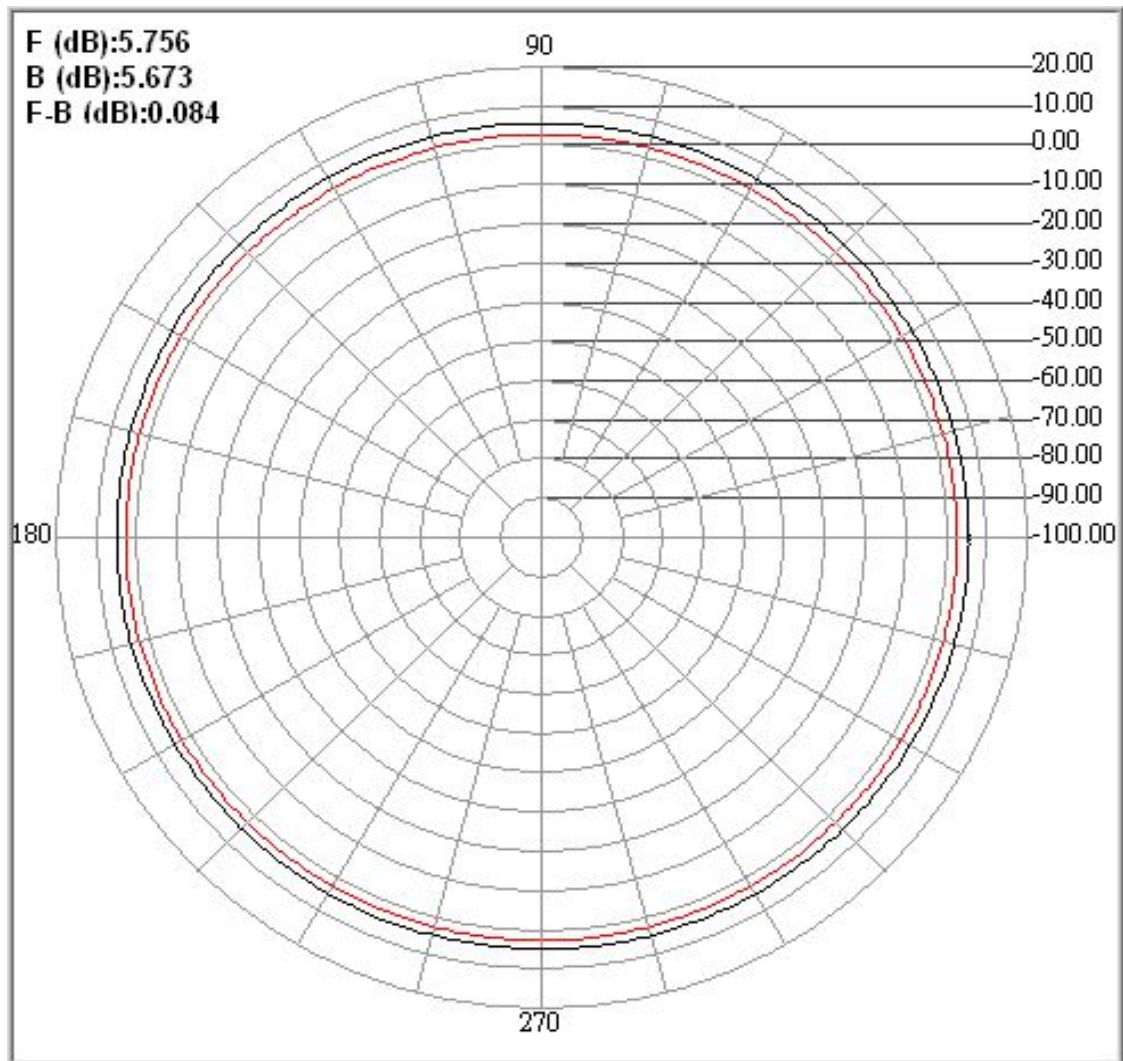


4.2 RADIATION PATTERN

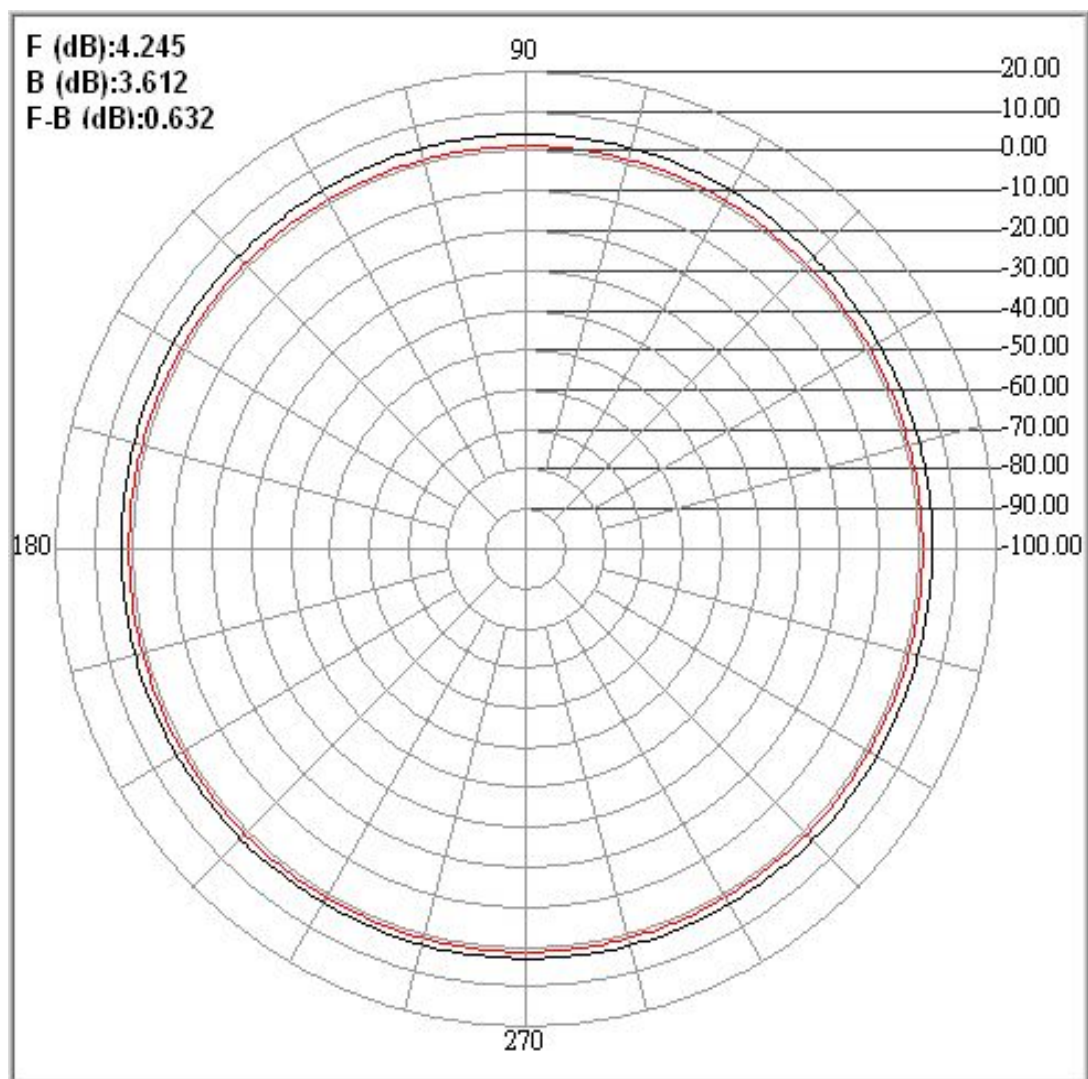
H-PLANE



Center freq.(MHz): 2400	Plane : H Plane	
Max gain(dBi) : 4.76	Min gain(dBi) : 3.79	Avg gain(dBi) : 4.29
-3dB1(°) : 0.00	-3dB2(°) : 0.00	HPB(°) : 360.00
Front (dB) : 4.755	Back (dB) : 4.385	F B Ratio (dB) : 0.370

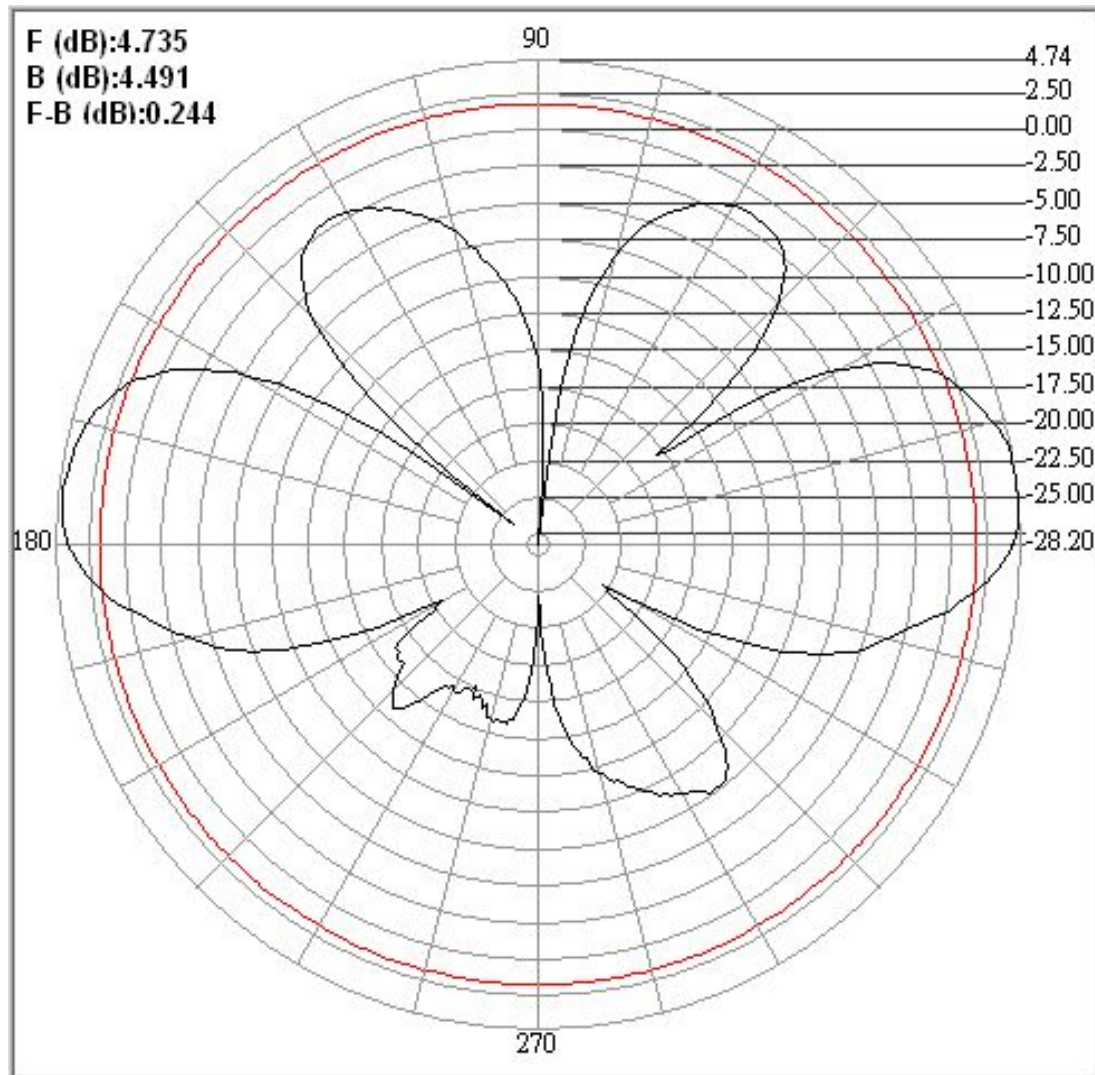


Center freq.(MHz): 2450	Plane : H Plane	
Max gain(dBi) : 5.76	Min gain(dBi) : 4.65	Avg gain(dBi) : 5.32
-3dB1(°) : 0.00	-3dB2(°) : 0.00	HPB(°) : 360.00
Front (dB) : 5.756	Back (dB) : 5.673	F B Ratio (dB) : 0.084

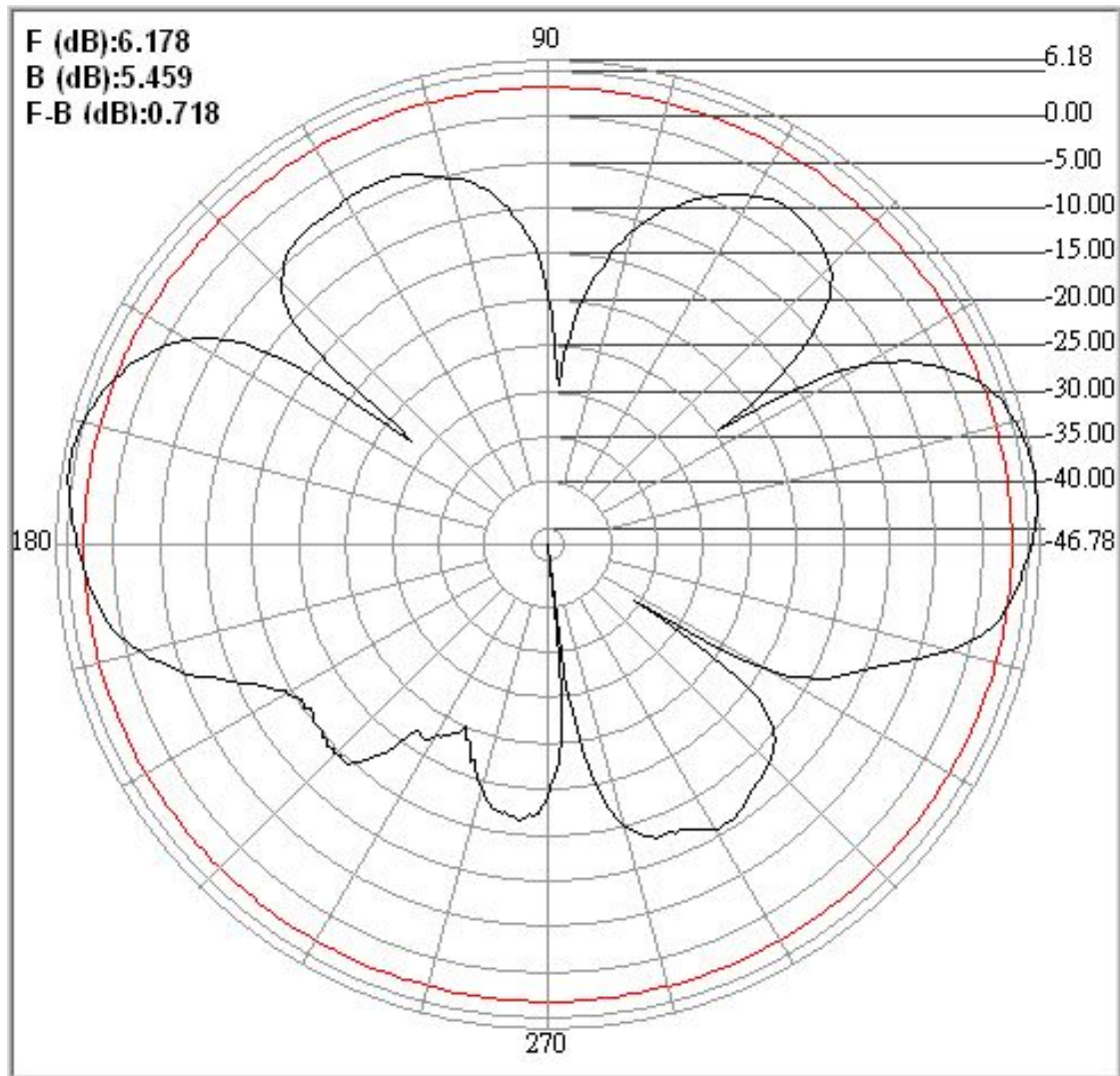


Center freq.(MHz): 2500	Plane : H Plane	
Max gain(dBi) : 4.24	Min gain(dBi) : 2.73	Avg gain(dBi) : 3.55
-3dB1(°) : 0.00	-3dB2(°) : 0.00	HPB(°) : 360.00
Front (dB) : 4.245	Back (dB) : 3.612	F B Ratio (dB) : 0.632

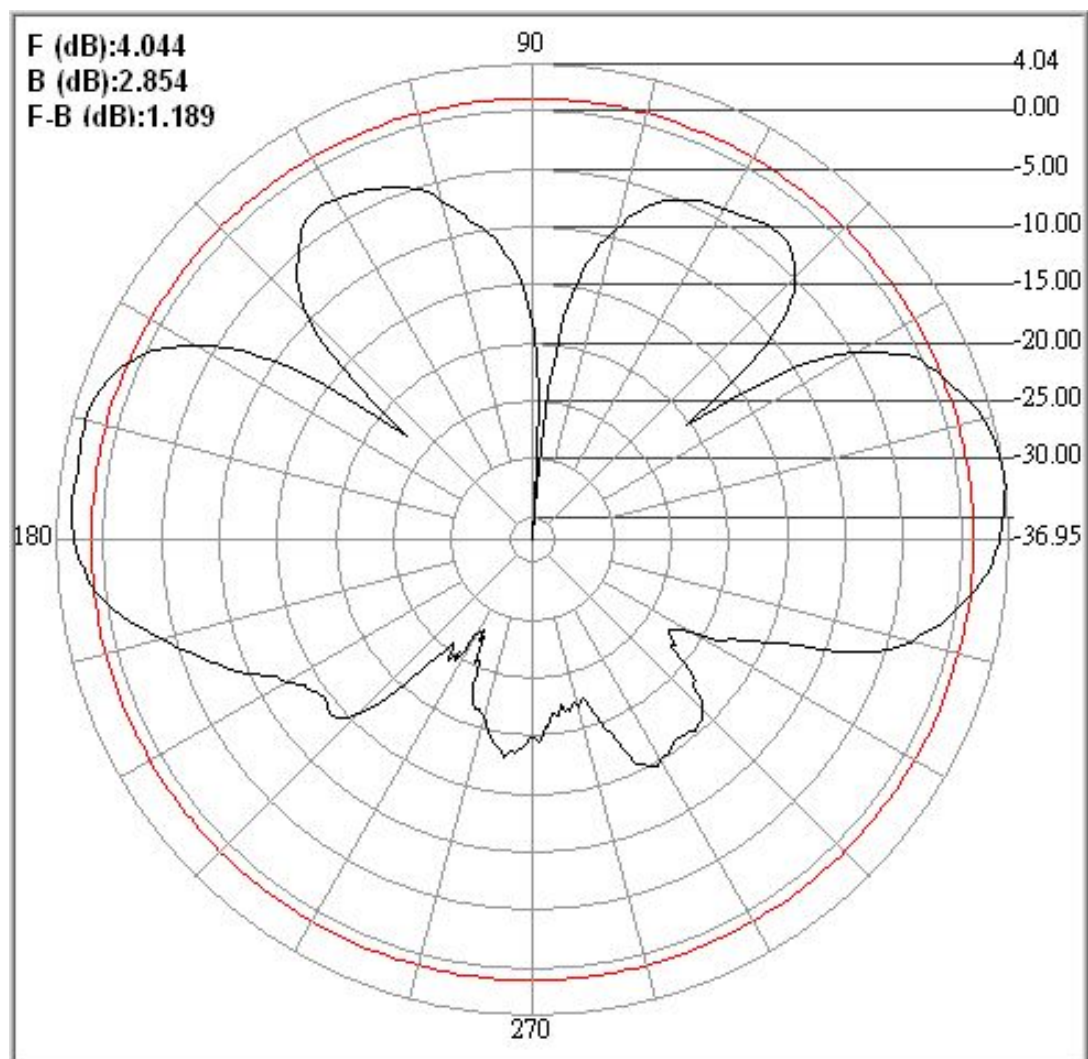
E-PLANE



Center freq.(MHz): 2400	Plane : E Plane	
Max gain(dBi) : 4.74	Min gain(dBi) : -28.20	Avg gain(dBi) : -1.82
-3dB1(°) : 23.40	-3dB2(°) : -7.20	HPB(°) : 30.60
Front (dB) : 4.735	Back (dB) : 4.491	F B Ratio (dB) : 0.244



Center freq.(MHz): 2450	Plane : E Plane	
Max gain(dBi) : 6.18	Min gain(dBi) : -46.78	Avg gain(dBi) : -0.91
-3dB1(°) : 20.80	-3dB2(°) : -7.70	HPB(°) : 28.50
Front (dB) : 6.178	Back (dB) : 5.459	F B Ratio (dB) : 0.718



Center freq.(MHz): 2500	Plane : E Plane	
Max gain(dBi) : 4.04	Min gain(dBi) : -36.95	Avg gain(dBi) : -2.76
-3dB1(°) : 22.40	-3dB2(°) : -7.40	HPB(°) : 29.80
Front (dB) : 4.044	Back (dB) : 2.854	F B Ratio (dB) : 1.189