



Formosa Wireless Systems corp.

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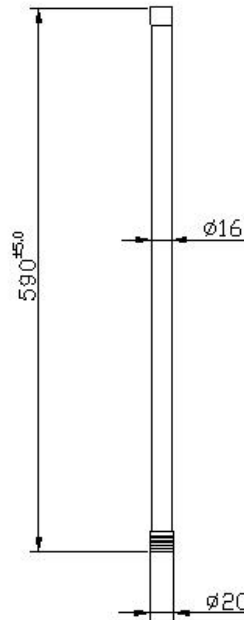
3F.-13, No.36, Taiyuan St., Chubei City, Hsinchu County 30265, Taiwan

DATA SHEET

Model No. : ANT07-0302AP
Description : 760~800MHz OMNI ANTENNA
Date : 2009/08/31
Rev : 1



1. OVERVIEW & SPECIFICATIONS



Electrical Specifications:

Frequency Range	760~800MHz
VSWR	≤ 2.0
Impedance	$50\Omega \pm 5\Omega$
Gain	3 dBi
Polarization	Vertical
Power Handling	10 Watt

Mechanical Specifications:

Connector	N MALE
Operation Temp	-30°C ~ +60°C
Material	Radome: Fiberglass Base: Copper
Dimension (L*W*H)	Ø20*590 mm
Weight	155g $\pm$ 10g
Color	WHITE



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3D Illustration



TOUCH AND CONNECT!^{3/9}_{TM}

WNet
Green NetworkTM



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 FWS design. The detail be shown as appendix that is from ROHDE & SCHWARZ ZV8 Network Analyzer

	VSWR Performance		
Freq(MHz)	760	780	800
Free space	1.7770	1.1715	1.4819



3. GAIN MEASUREMENT

3.1 TEST SETUP

The gain of the antenna was measured by **FWS** 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.

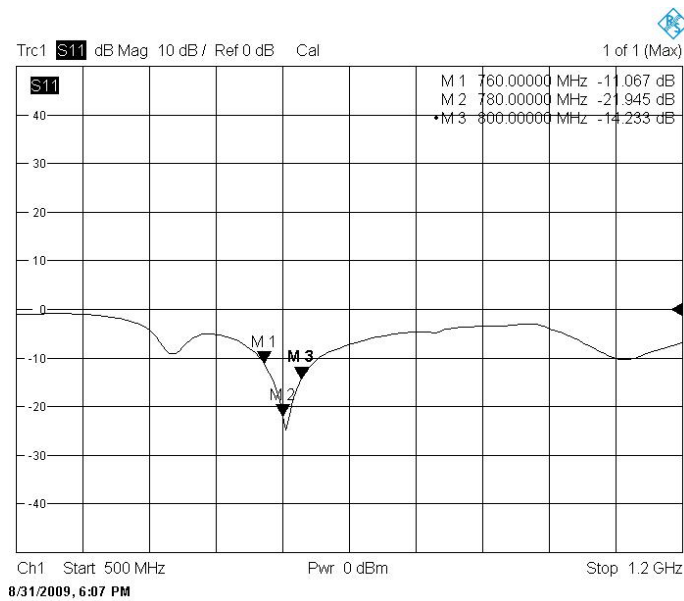
	Peak Gain (dBi) / Beam Width(°)		
Freq(MHz)	760	780	800
H PLANE	3.53 / 360°	3.63 / 360°	4.13 / 360°
E PLANE	3.46 / 49.7°	3.79 / 42°	3.12 / 37.2°



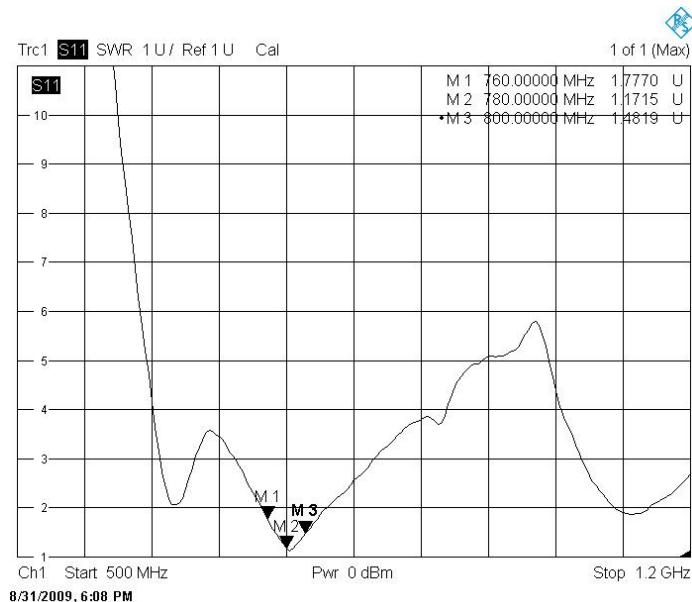
4. APPENDIX

4.1 RETURN LOSS & VSWR

RETURN LOSS



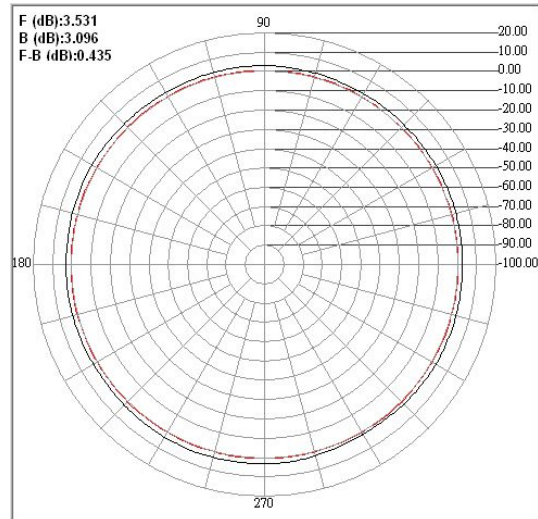
SWR





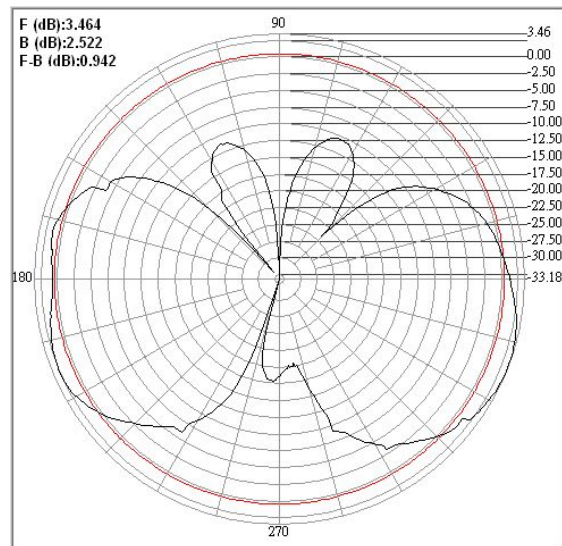
4.2 RADIATION PATTERN

H-PLANE-760MHz



Center freq.(MHz): 760	Plane : H Plane	
Max gain(dBi) : 3.53	Min gain(dBi) : 1.66	Avg gain(dBi) : 2.81
-3dB1(°) : 0.00	-3dB2(°) : 0.00	HPB(°) : 360.00
Front (dB) : 3.531	Back (dB) : 3.096	F B Ratio (dB) : 0.435

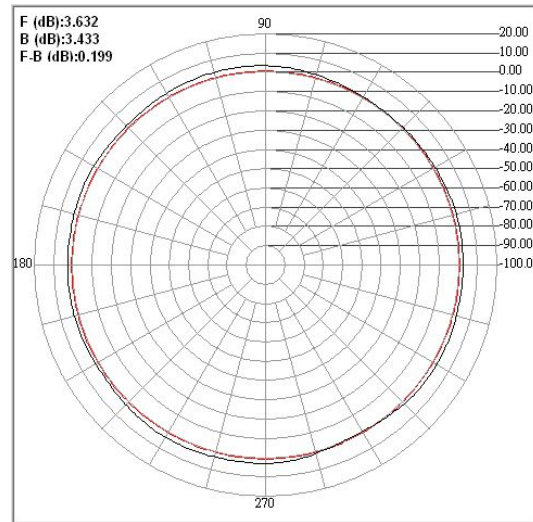
E-PLANE-760MHz



Center freq.(MHz): 760	Plane : E Plane	
Max gain(dBi) : 3.46	Min gain(dBi) : -33.18	Avg gain(dBi) : -1.89
-3dB1(°) : 365.70	-3dB2(°) : 316.00	HPB(°) : 49.70
Front (dB) : 3.464	Back (dB) : 2.522	F B Ratio (dB) : 0.942

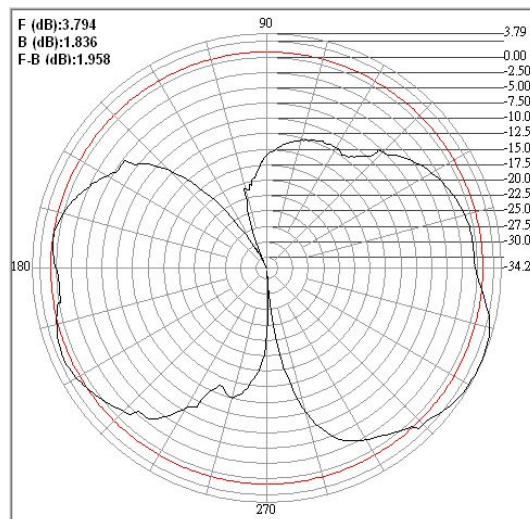


H-PLANE-780MHz



Center freq.(MHz): 780	Plane : H Plane	
Max gain(dBi) : 3.63	Min gain(dBi) : -0.11	Avg gain(dBi) : 2.41
-3dB1(°) : 0.00	-3dB2(°) : 0.00	HPB(°) : 360.00
Front (dB) : 3.632	Back (dB) : 3.433	F B Ratio (dB) : 0.199

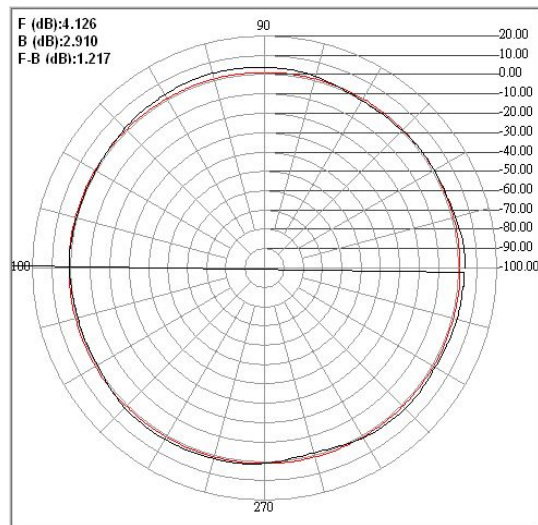
E-PLANE-780MHz



Center freq.(MHz): 780	Plane : E Plane	
Max gain(dBi) : 3.79	Min gain(dBi) : -34.28	Avg gain(dBi) : -1.98
-3dB1(°) : 354.30	-3dB2(°) : 312.30	HPB(°) : 42.00
Front (dB) : 3.794	Back (dB) : 1.836	F B Ratio (dB) : 1.958

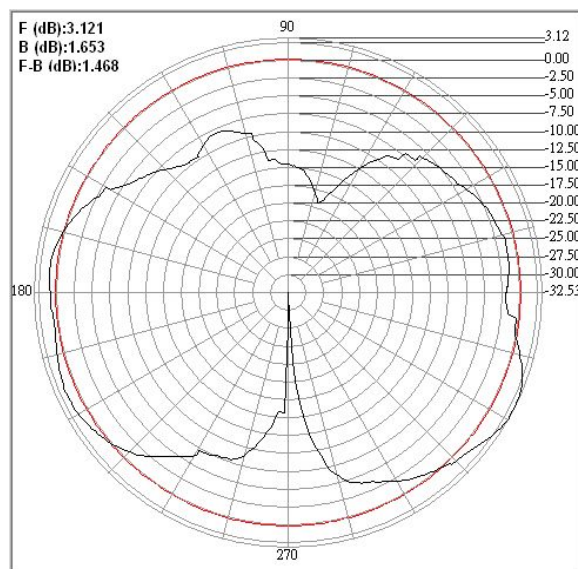


H-PLANE-800MHz



Center freq.(MHz): 800	Plane : H Plane	
Max gain(dBi) : 4.13	Min gain(dBi) : -959.33	Avg gain(dBi) : 1.96
-3dB1(°) : 0.00	-3dB2(°) : 0.00	HPB(°) : 360.00
Front (dB) : 4.126	Back (dB) : 2.910	F B Ratio (dB) : 1.217

E-PLANE-800MHz



Center freq.(MHz): 800	Plane : E Plane	
Max gain(dBi) : 3.12	Min gain(dBi) : -32.53	Avg gain(dBi) : -2.18
-3dB1(°) : 348.60	-3dB2(°) : 311.40	HPB(°) : 37.20
Front (dB) : 3.121	Back (dB) : 1.653	F B Ratio (dB) : 1.468