

DATA SHEET

Customer :

Model No. : AR-5020

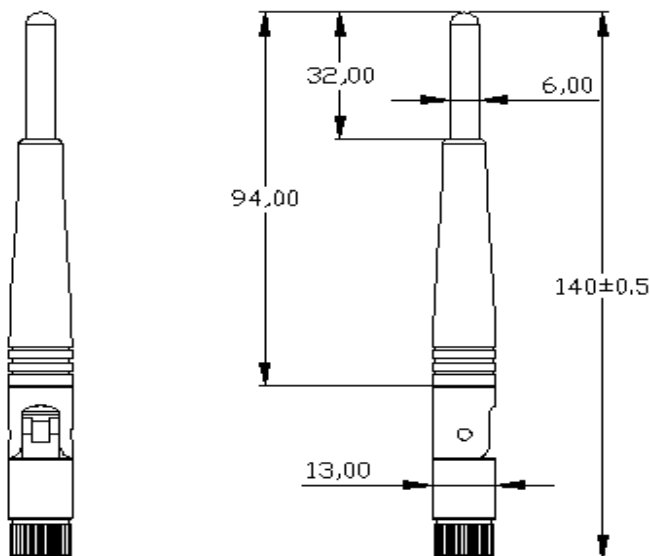
Description : 824 - 896 / 1850 - 2100 MHz

RUBBER ANTENNA

Date : 2011/01/20

Rev : 2

1. OVERVIEW & SPECIFICATIONS



Electrical Specifications:

Frequency Range :	824 - 896 / 1850 - 2100 MHz
VSWR :	≤ 3
Impedance :	50Ω ± 5Ω
Gain :	1 / 3dBi
Polarization :	Vertical
Power Handling :	1 Watt
Beam Width:	(824MHz) H: 360°/ E: 51° (1850MHz) H: 360°/ E: 38.5°

Mechanical Specifications:

Connector :	SMA MALE
Operation Temp. :	-30°C ~ +60°C
Material :	Radome:PC
Dimension (L*W*H) :	Ø13*140±0.5mm
Weight :	22.8g±5g
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)	824	860	896
Free space	2.913	1.123	2.543

VSWR Performance			
Freq(MHz)	1850	1990	2100
Free space	1.669	1.274	1.261

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.

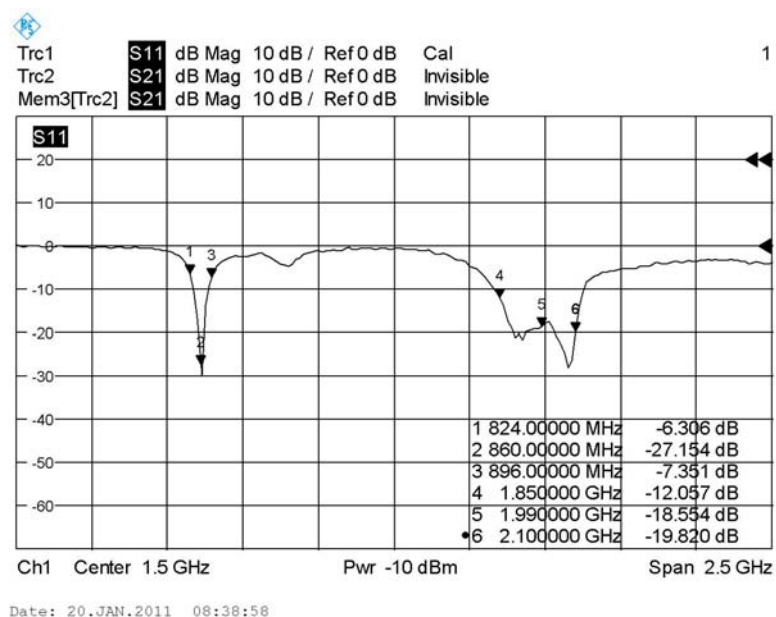
Peak Gain (dBi) / Beam width(°)			
Freq(MHz)	824	860	896
H PLANE	1.1 / 360	0.48/360	0.32/360
E PLANE	0.74 / 51	1.08 /43.5	0.87 / 43.2

Peak Gain (dBi) / Beam width(°)			
Freq(MHz)	1850	1990	2100
H PLANE	3.22 / 360	2.9/360	1.08/360
E PLANE	1.94 / 38.5	2.47 / 58.2	1.42 / 63

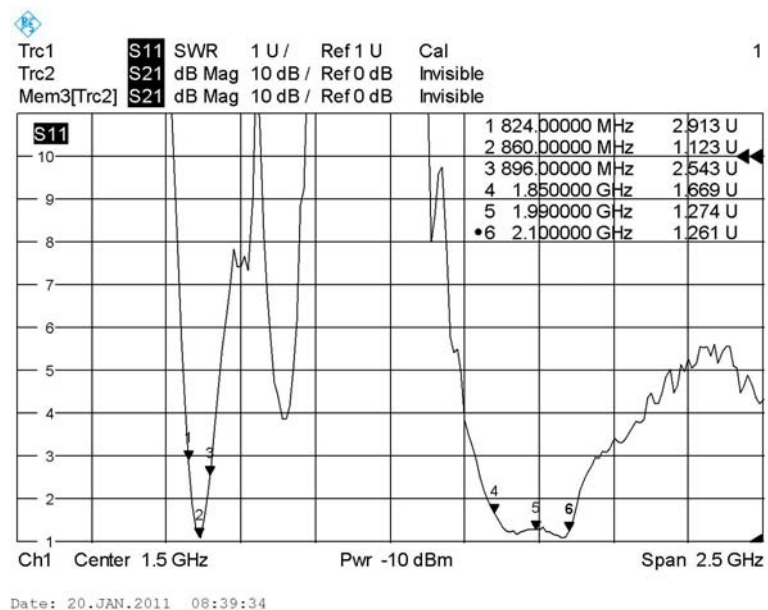
4. APPENDIX

4.1 RETURN LOSS & VSWR

RETURN LOSS

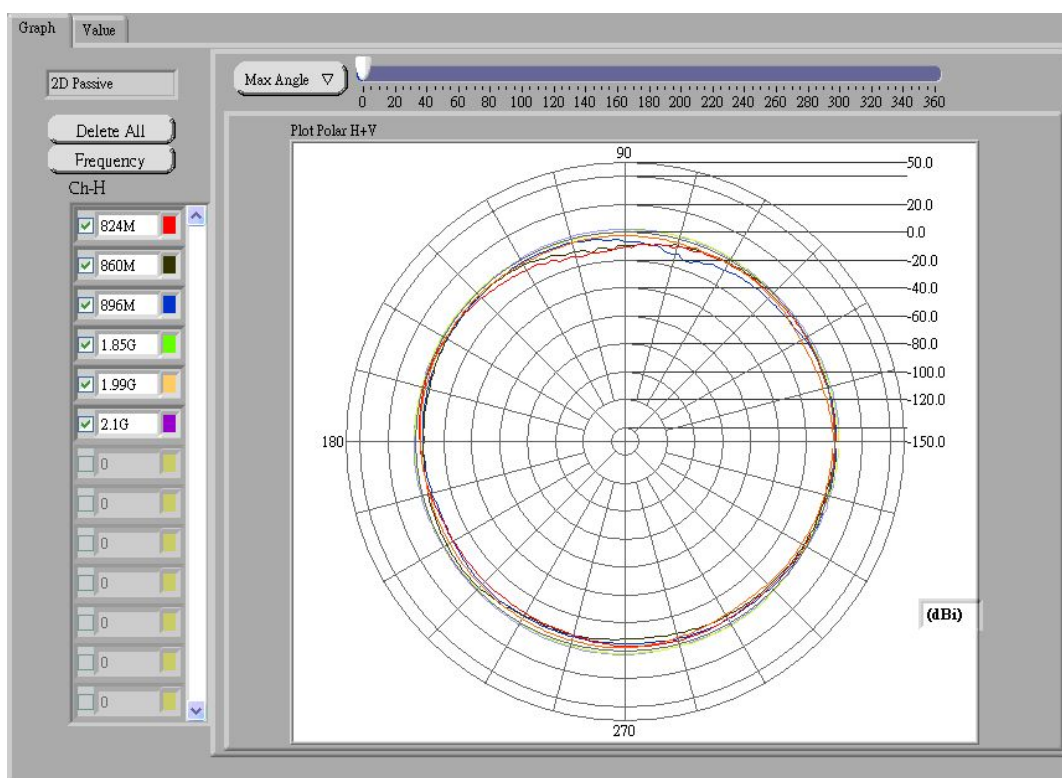


SWR



4.2 RADIATION PATTERN

H-PLANE



E-PLANE

