

Data Sheet

Product Type	WLAN Antenna
Model Number	Inventec Picasso
Revision	X00
Part No. / Yageo	CAN4313 568 012501B
Part No. / Inventec	TBD

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2.45/5GHz Multi Band Antenna with Cable & Connector for IEEE802.11b, 11g, 11a, UNII		Yageo Part Number: CAN4313 568 012501B		R00	Sept. 15, 06
BY /	Ethan Huang	DATE /	Sept. 15, 2006		

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1. Specifications

1.1 Specifications for Antennas

Frequency Range (GHz)	2.40 ~ 2.50 for 802.11b/g 5.15 ~ 5.875 for 802.11a
VSWR	2.50or 2.4GHz band 2.85or 5.0GHz band
Peak Gain (dBi)	-1.54dBi for 2.4GHz band 0.52dBi for 5.0GHz band
MiniPCI Connector	IPex or Hirose
Impedance	50Ω
Operating Temperature	-40~90℃
Maximum Power	1W
Polarization	Linear
Radiation Pattern	Omni-directional

1.2 Cable Length / Cable Diameter

Product	Inventec / Picasso
Main Antenna Cable	34.8*6.7*0.5mm / 120.0 mm, Color Gray

1.3 Packing Spec.

Product	For Example
Inner Tray	60
Carton Box	265*100



1.4 Antenna Picture



2. Test Methodology

2.1 Test Equipment

The equipment for the antenna measurement we used is as follows.

- A. Agilent 8753ET / 8719D Network Analyzer to measure the VSWR and input impedance.
- B. Three-dimensional anechoic chamber to measure the Gain
(Standard dipole and horn were used to calibrate the chamber)
- C. Digital caliper to measure the dimensions.
- D. Climatic chamber for mechanical tests.

2.2 Test Setup

2.2.1 Frequency Range

2.40 ~ 2.50GHz, 5.15 ~ 5.875GHz

2.2.2 Antenna Configuration

The antenna basically has two parts; the stamping and the cable assembly with the connector on one side. The detailed drawing is attached.

2.2.3 VSWR

The VSWR is measured with Agilent 8753ET / 8719D network analyzer. All the measurements are performed with the customer provided fixture. Figure 1 shows the schematic diagram for measuring VSWR.

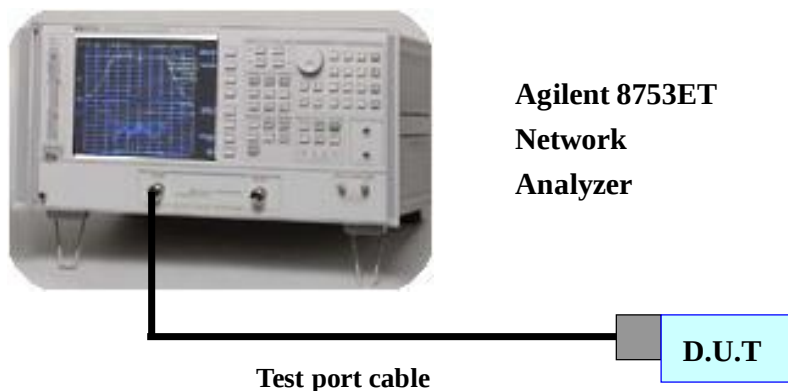


Figure 1. The schematic diagram for measuring VSWR

2.2.4 Radiation Pattern and Gain

The radiation pattern must have the omni-directional characteristic in both positions. The radiation pattern measurements are performed in the three-dimensional anechoic chamber. The chamber provides less than -30dB reflectivity from 800MHz through 8GHz . The chamber is calibrated using both standard dipole and horn antenna. The Gain here is expressed as dBi that standardizes the isotropic antenna. The Gain measurements are also performed in the same chamber described previously. Figure 2 shows the schematic diagram for measuring radiation pattern and Gain.

2D Anechoic Chamber

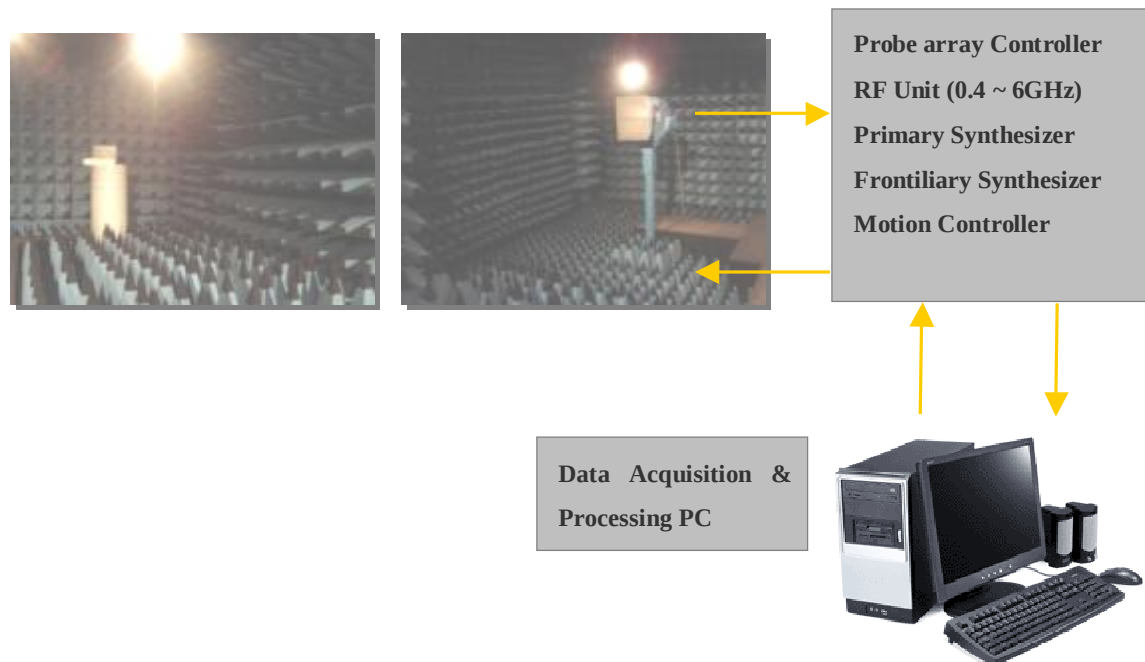
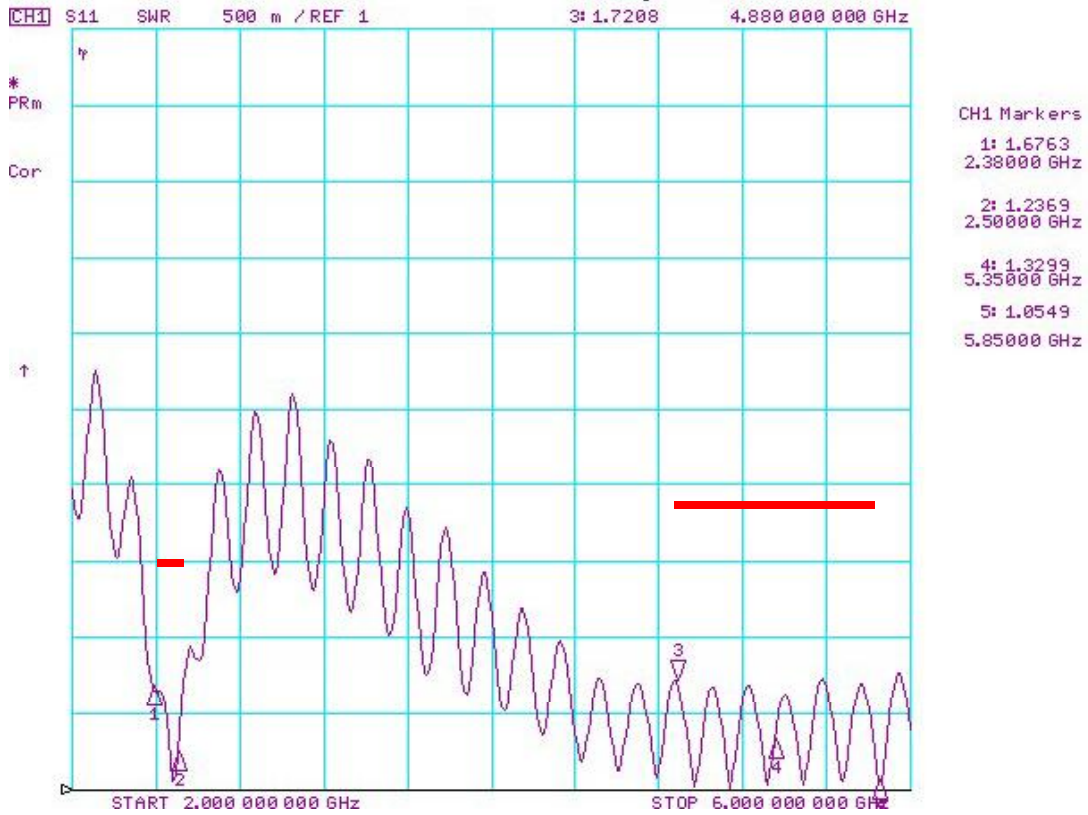


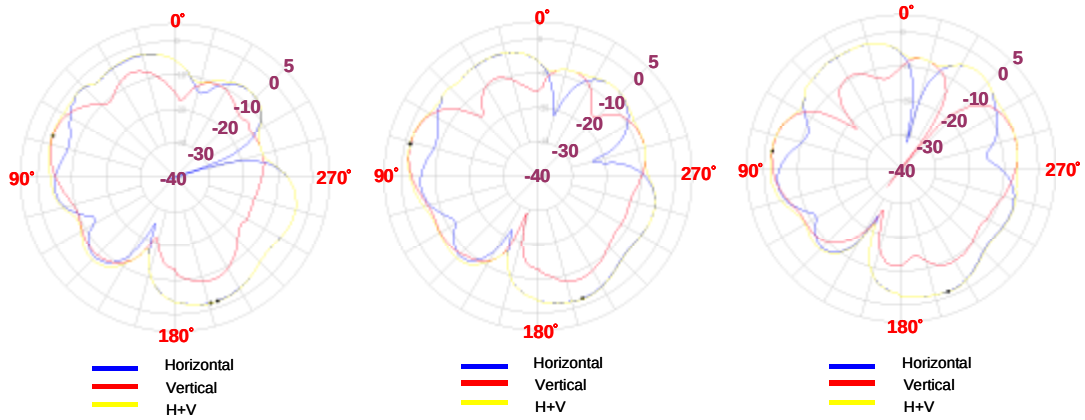
Figure 2. The schematic diagram for measuring radiation pattern and Gain

3. Performance Data

3.1 VSWR Measurement of Antenna



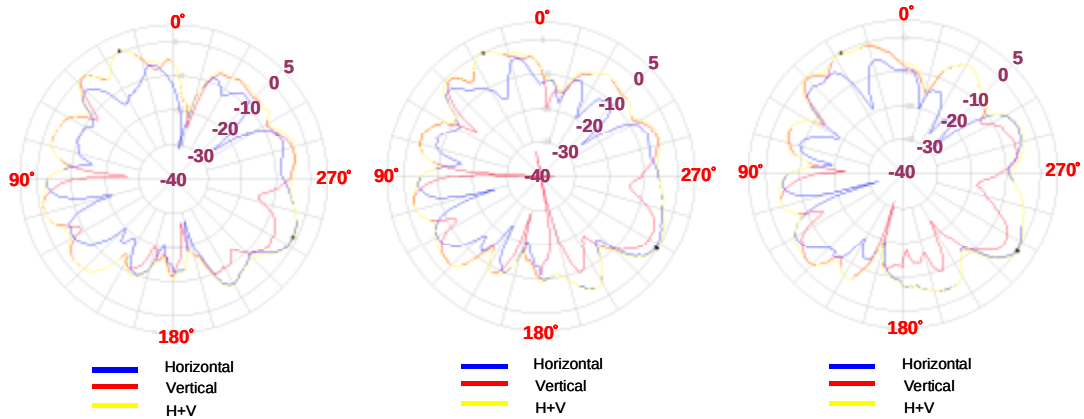
3.2 Radiation Pattern and Gain of Antenna



Center Frequency	2400 MHz
Horizontal Peak Gain (dBi)	-1.88
Vertical Peak Gain (dBi)	-2.47
Hori + Vert Peak Gain (dBi)	-1.77
Hori + Vert Avg. Gain (dBi)	-4.99

Center Frequency	2450 MHz
Horizontal Peak Gain (dBi)	-1.93
Vertical Peak Gain (dBi)	-1.54
Hori + Vert Peak Gain (dBi)	-1.45
Hori + Vert Avg. Gain (dBi)	-4.80

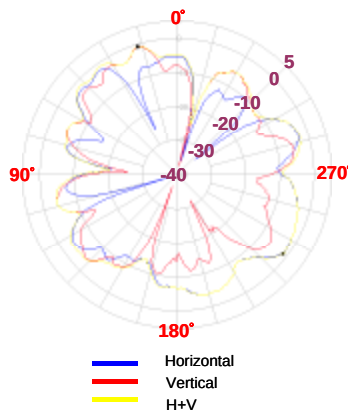
Center Frequency	2500 MHz
Horizontal Peak Gain (dBi)	-1.54
Vertical Peak Gain (dBi)	-2.21
Hori + Vert Peak Gain (dBi)	-1.49
Hori + Vert Avg. Gain (dBi)	-4.47



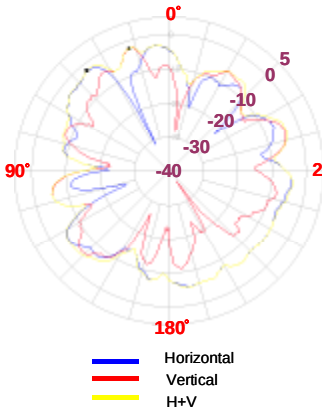
Center Frequency	5150 MHz
Horizontal Peak Gain (dBi)	-1.10
Vertical Peak Gain (dBi)	0.52
Hori + Vert Peak Gain (dBi)	0.53
Hori + Vert Avg. Gain (dBi)	-4.69

Center Frequency	5250 MHz
Horizontal Peak Gain (dBi)	-0.54
Vertical Peak Gain (dBi)	-0.10
Hori + Vert Peak Gain (dBi)	-0.07
Hori + Vert Avg. Gain (dBi)	-4.47

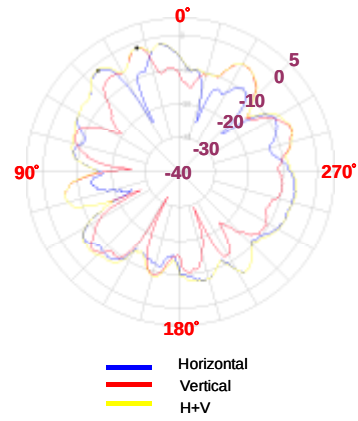
Center Frequency	5350 MHz
Horizontal Peak Gain (dBi)	-0.02
Vertical Peak Gain (dBi)	-0.35
Hori + Vert Peak Gain (dBi)	-0.25
Hori + Vert Avg. Gain (dBi)	-4.48



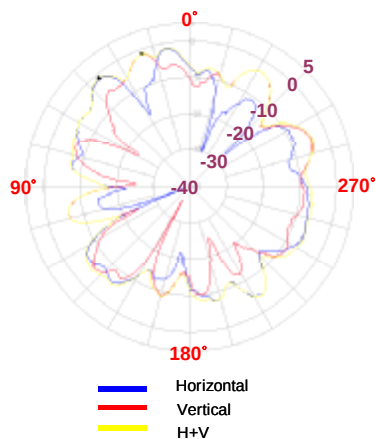
Center Frequency	5470 MHz
Horizontal Peak Gain (dBi)	-1.47
Vertical Peak Gain (dBi)	-0.87
Hori + Vert Peak Gain (dBi)	-0.73
Hori + Vert Avg. Gain (dBi)	-5.06



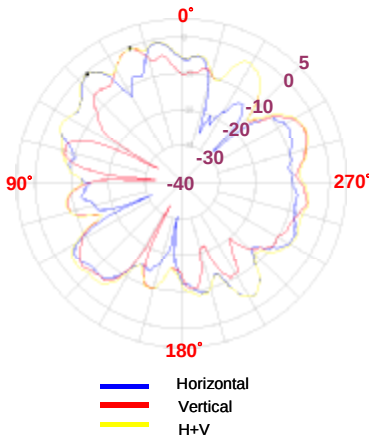
Center Frequency	5598 MHz
Horizontal Peak Gain (dBi)	-2.09
Vertical Peak Gain (dBi)	-2.28
Hori + Vert Peak Gain (dBi)	-1.91
Hori + Vert Avg. Gain (dBi)	-6.12



Center Frequency	5725 MHz
Horizontal Peak Gain (dBi)	-1.88
Vertical Peak Gain (dBi)	-1.62
Hori + Vert Peak Gain (dBi)	-1.54
Hori + Vert Avg. Gain (dBi)	-6.61

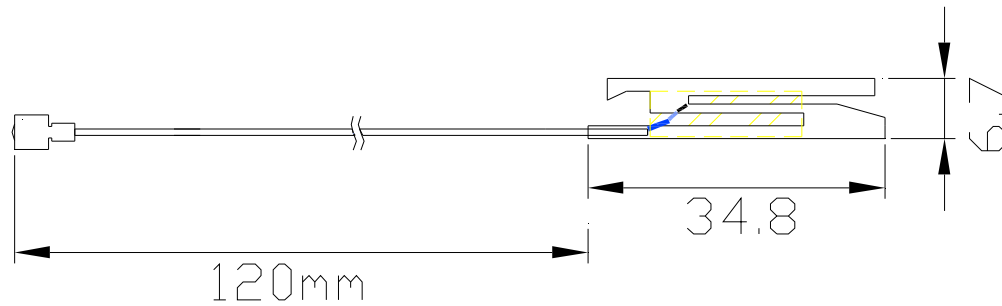


Center Frequency	5785 MHz
Horizontal Peak Gain (dBi)	-1.36
Vertical Peak Gain (dBi)	-1.27
Hori + Vert Peak Gain (dBi)	-1.08
Hori + Vert Avg. Gain (dBi)	-6.24



Center Frequency	5850 MHz
Horizontal Peak Gain (dBi)	-0.73
Vertical Peak Gain (dBi)	-0.60
Hori + Vert Peak Gain (dBi)	-0.55
Hori + Vert Avg. Gain (dBi)	-5.61

4. Antenna Drawing



5. Reliability Data For Antenna Patch (Reference To IEC)

IEC 384-10/ CECC 32 100 CLAUSE	IEC 60068-2 TEST METHOD	TEST	PROCEDURE	REQUIREMENTS
4.12	4(Na)	Rapid change of temperature	-40 °C (30 minutes) to +90 °C (30 minutes); 5 cycles	No visible damage Central Freq. Change ± 6%
4.14	3(Ca)	Damp heat	500 ± 12 hours at 40 °C; 90 to 95 % RH	No visible damage 2 hours recovery Central Freq. Change ± 6%
4.15		Endurance	500 ± 12 hours at 90 °C;	No visible damage 2 hours recovery Central Freq. Change ± 6%

6. Ordering Information: Yageo Ordering P/N Code

The antennas may be ordered by using the Yageo P/N ordering code. These code numbers can be determined by the following rules:

CAN4313 5 68 01 250 1B
F C M S T A P

F. Family Code

CAN43 = Antenna

C. Packing Type Code

13 = Bulk (1000 pcs)

M. Materials Code

5 = High Frequency Material

S. Size/Series Code

68 = Picasso Antenna

T. Tolerance/Cable

01 = Cable 1

A. Working Frequency

250 = 2.45/5 GHz Dual Band

P. Packing

1B = 1000 pcs packing

7. Revision Control

Document Revision	Date	Content	Remark
R00	Sept 15, 2006	New issued	N/A