Innovative Service Around the Globe YAGEO

Data Sheet

(EMC Use)

Product Type	**WLAN Antenna**
Notebook Model Number	**ASUS / EBOX**
Part No. / YAGEO / Main	**CAN4313748012501B**
Part No. / YAGEO / 2 END Cable	**CAN4313748032501B**

Yageo (Taiwan) Ltd.

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2.45/5GHz Multi Band and WWAN Antenna with Cable & Connector for IEEE802.11b, 11g, 11a, 11n UNII		**Yageo Corporation SPD Datasheet Current Revision: R01**		R01	Apr. 18, 08
BY /	Candy Lin	DATE /	Apr. 18, 2008		

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1. Specifications

1.1 Specifications for Antennas

Frequency Range (GHz)	**2.40 ~ 2.50 for 802.11b/g/n** **5.15 ~ 5.85 for 802.11a**
VSWR	**2.50 for 2.4GHz band For WL** **2.50 for 5GHz band For WL**
Peak Gain (dBi)	**-0.23dBi for 2.4GHz band**
MiniPCI Connector	**Ipex**
Impedance	**50Ω**
Operating Temperature	**-40~90℃**
Maximum Power	**1W**
Polarization	**Linear**
Radiation Pattern	**Omni-Directional**

1.2 Antenna Dimension / Cable Length

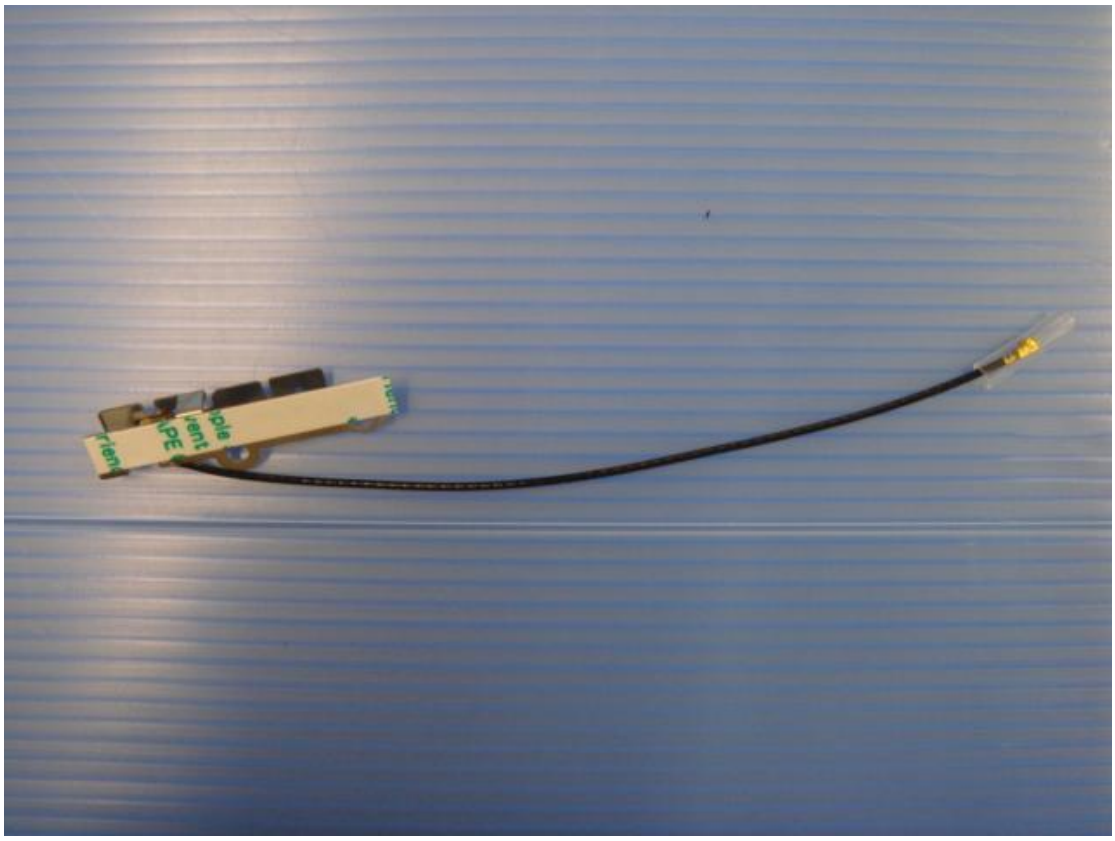
Product	**ASUS / EBOX**
Main antenna (LCD)	**38.65*7.6*0.3 mm /88.0 mm, Color Black**
2 nd cable (LCD)	**40.0 mm, Color Black**

1.3 Packing Spec.

Product	**For Example**
Inner tray	**60**
Carton box	**265*100**

Note: Real packing will base on current project type and samples quantity to definition.

1.4 Antenna Pictures



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 ~ 5.85GHz for WLAN

900 / 1800 / 1900 / 2100MHz for WWAN

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.

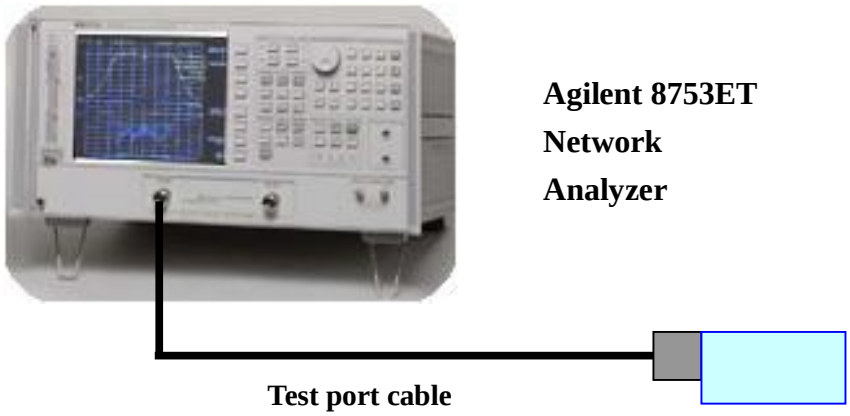


Figure 1. The schematic diagram for measuring VSWR

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.

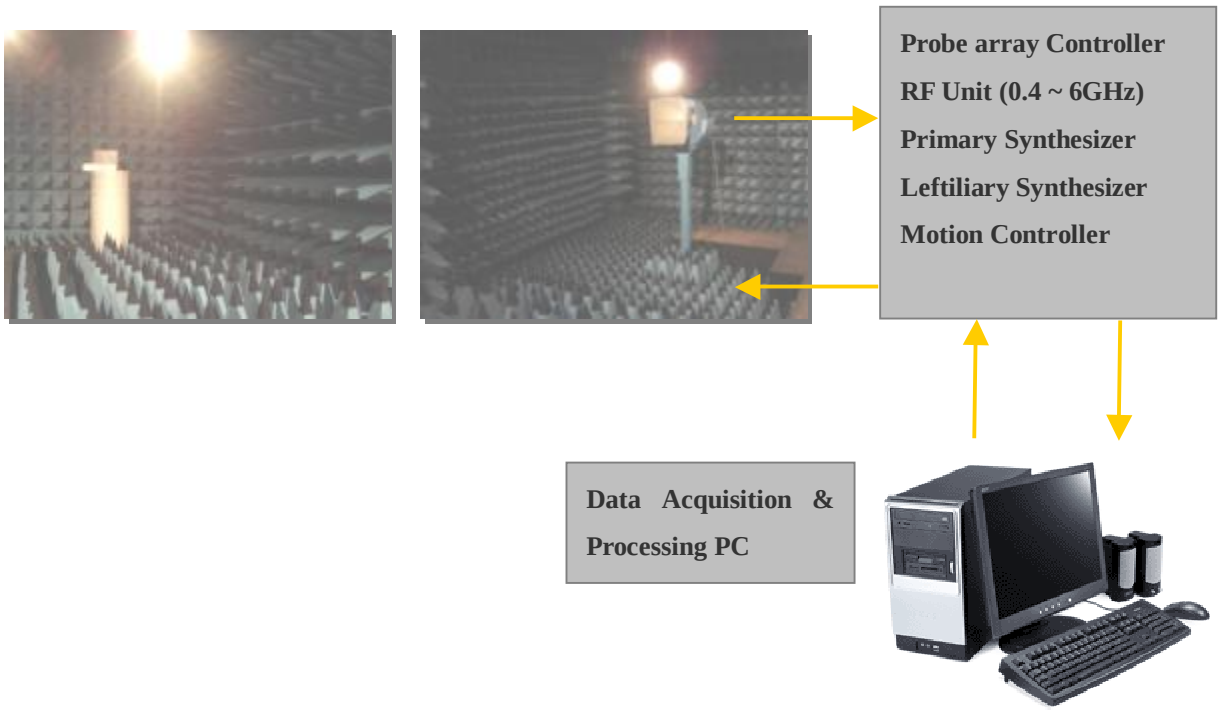


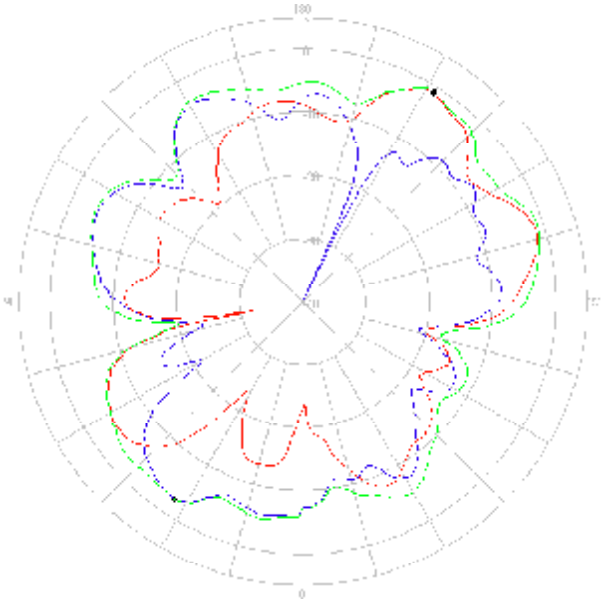
Figure 2. The schematic diagram for measuring radiation pattern and gain

3. Performance Data

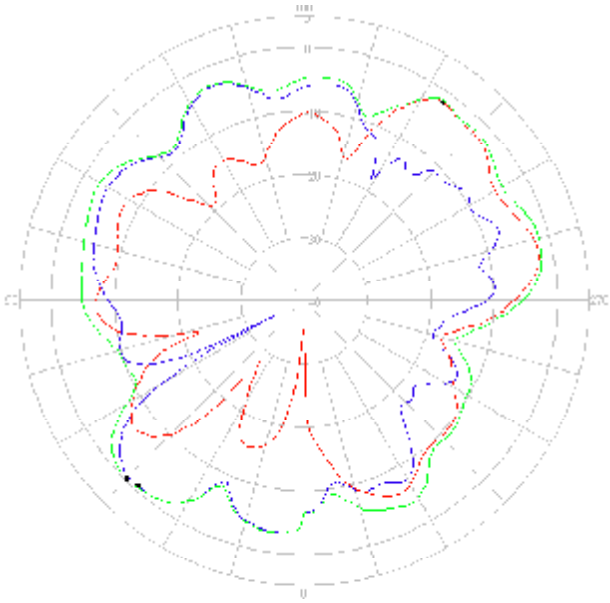
3.1 VSWR in the fixture (Main antenna)

3.2 Radiation Pattern and Gain

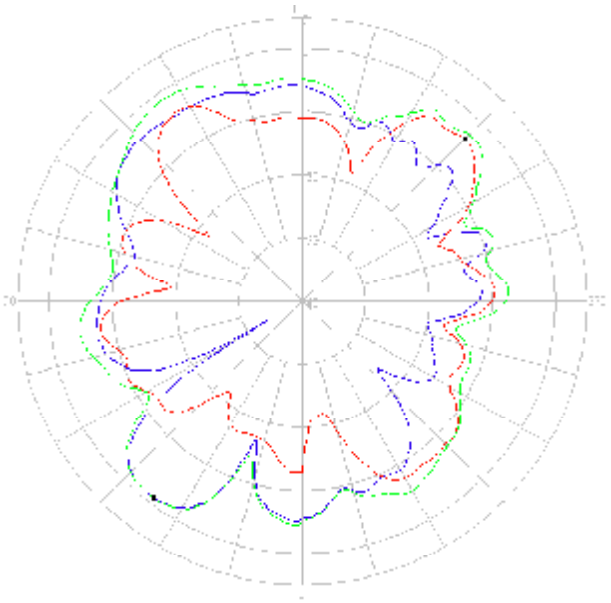
3.2.1 Low Frequency (2.40GHz~2.50GHz) / Main Antenna



2.4GHz



2.45GHz



2.5GHz

Horizontal

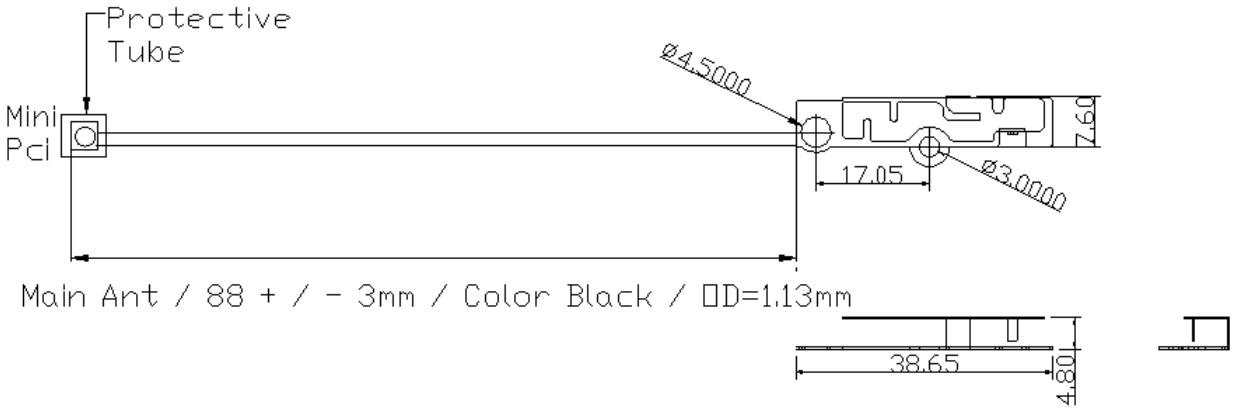
Vertical

H+V

3.2.10 Average Gain (dBi) Summary

Frequency	Peak (dBi)			Average (dBi)		
	H-pol	V-pol	Total	H-pol	V-pol	Total
2400 MHz	-2.65	-1.02	-0.71	-8.39	-8.07	-5.22
2450 MHz	-0.56	-1.56	-0.23	-6.91	-8.21	-4.50
2500 MHz	-0.95	-3.59	-0.91	-7.49	-9.89	-5.52

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:

CAN	**43**	**13**	**7**	**48**	**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

6 = High Frequency Material

S. Size/Series Code

72= ASUS EBOX Antenna

T. Tolerance/Cable

01 = Cable 1 Main / Black, 38.65*7.6*0.3 mm

A. Working Frequency

250 = 2.45/5 GHz for Dual Band

P. Packing

1B = 1000 pcs packing

7. Revision Control

Revision	Date	Content	Remark
R01	Apr. 18, 2008	New Issued, Metal Antenna	N/A.