



WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)

DONGGUAN AEON TECH CO.,LTD.(CHINA)

SPECIFICATION FOR APPROVAL

CUSTOMER: ASUS

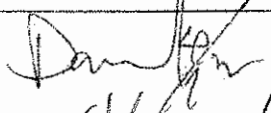
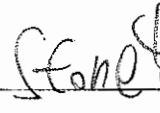
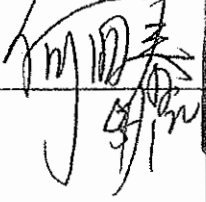
PART NAME: RF Antenna Assembly

PART NO.:

REVISION:

W. Y. P/NO.: C660-510579-A(SRF2022406)

REV.: XI

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :	  	
DATE :		

WHA YU GROUP

WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)

譚裕實業股份有限公司

Address: No. 326, Sec. 2, Kung Tao 5 Road, Hsin Chu City, Taiwan, R.O.C.

Tel: +886-3-5714225(REP.)

Fax: + 886-3-5713853 · + 886-3-5723600

DONGGUAN AEON TECH CO., LTD.(CHINA)

東莞台霖電子通訊有限公司

Address: Hupan Industrial District, Tai Ling Shan Town, Dong Guan City, Guangdong, China

Tel: +86-769-85655858

Fax: +86-769-85655258

Contents

<i>Item</i>	<i>Description</i>	<i>Page</i>
1.	規格表	 1
2.	成品圖	 2
3.	測試報告	 3~13

RF Antenna Assembly

Specification

1. Electrical Properties :

- 1.1 Frequency Range.....5.180~5.825 GHz
- 1.2 Impedance 50Ω Nominal
- 1.3 VSWR 1.92:1 Max.
- 1.4 Return Loss 10 dB Min.
- 1.5 Peak Gain 5GHz(3.0dBi)
- 1.6 Radiation Omni-directional
- 1.7 Admitted Power.....1 W
- 1.8 Polarization.....Linear
- 1.9 Cable.....1.13mm Cable
- 1.10 Connector.....I-PEX MHF Connector

2. Physical Properties :

- 2.1 Operating Temp. -10°C ~ +60°C
- 2.2 Storage Temp. -10°C ~ +70°C

Antenna Design For (RT-AC86U/RT-AX86U)

單 5G 測試

V1.03

Product Development Status		
Concept Study	In Development	Production
	X	

Document Number	NE3-16087
1 st Released Date	10/05/2016
Last Released Date	12/07/2016
Designers	Carter Su
Testers	Carter Su
Reviewed by	SKY

Electrical		
Item	Specification	Note
Test Environment	Free Test	
Frequency Range	5.180GHz~5.825GHz	
VSWR	1.92:1	
Input Impedance	50 ohm	
Port to Port Isolation	N/A	
Polarization	Linear (Vertical or Horizontal)	
Gain(Peak gain)	5GHz(3.0dBi)	
Efficiency	>70%	
Half Power Beam Width (HPBW)	N/A	
Mechanical		
Dimensions	(L)31.78(W)26.33(T)0.6 mm(1oZ)	
Connector	IPX	
Cable Type	Ø1.13	
Cable Length	40mm	
Radome Material	N/A	
Ingress Protection	N/A	
Operating Temperature	-10℃ ~ +60℃	
Storage Temperature	-10℃ ~ +70℃	

5

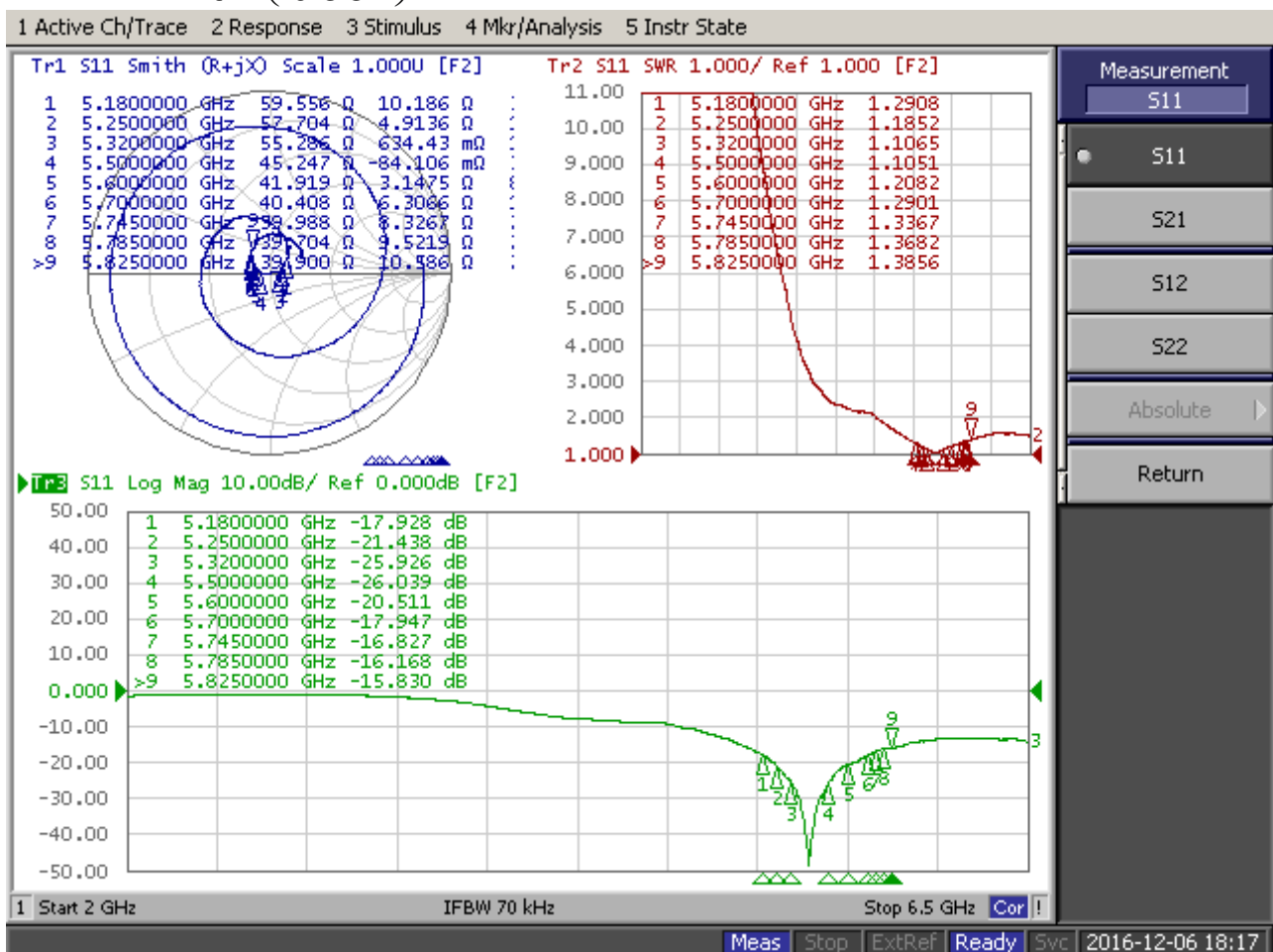
1. Antennas' setup and environment



2. Network Analyzer Measurement

2.1 S11 Test Results

2.1.1 Ant1 (black)



3. Gain & Patterns test results

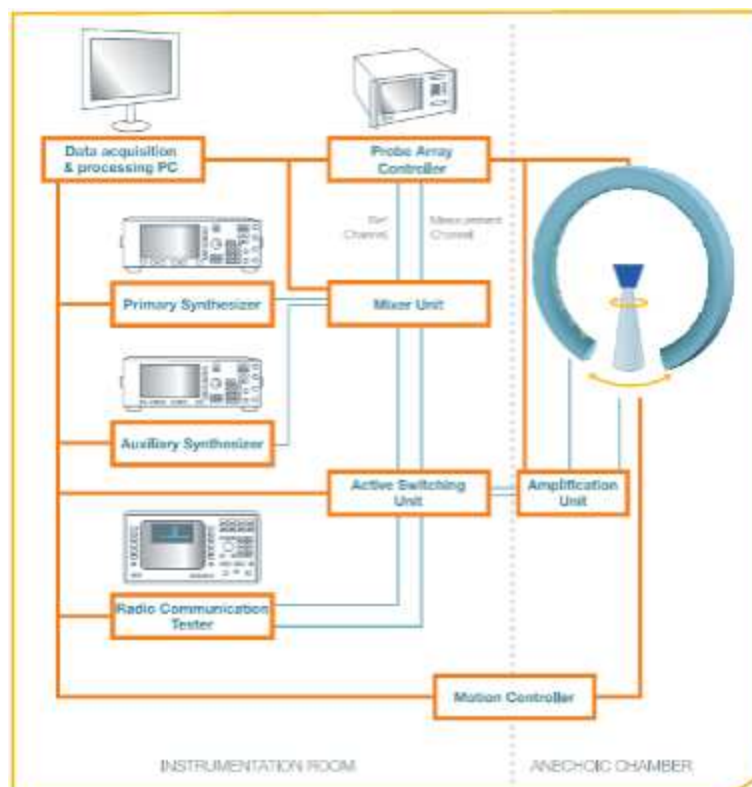
3.1 Lab information

- Lab name : Satimo
- Address : No.326 Sec.2, Kung Tao 5 Road, HsinChu City, Taiwan
- Certification : none (Satimo system certification: CTIA, 3GPP, Wi-Fi alliance and WiMAX Forum)
- Size (LxWxH) : 5m x 5m x 5m
- Isolation level : >100dB
- Normal applications : antenna radiation pattern measurement, OTA performance testing.
- Frequency measurement range : 0.4 to 6 GHz
- EUT scanning method : conical cut method
- Measurement distance : 1.6m
- Measurement antenna specification (for θ and Φ polarization each) : dual polarization antenna for 0.4 to 6.0 GHz frequency range

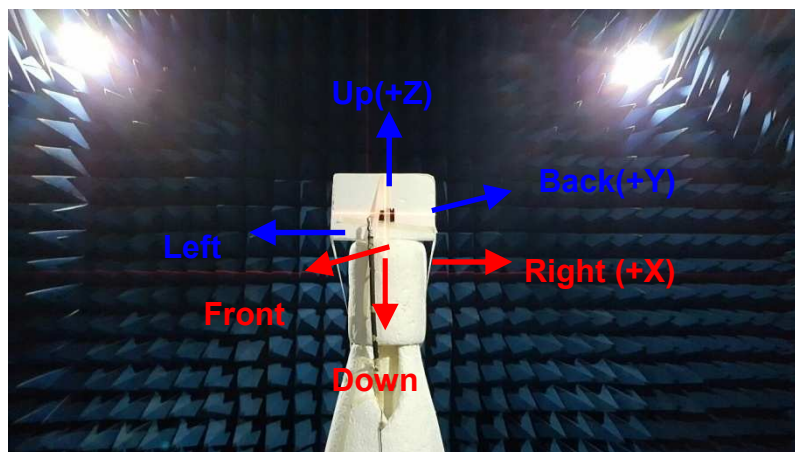
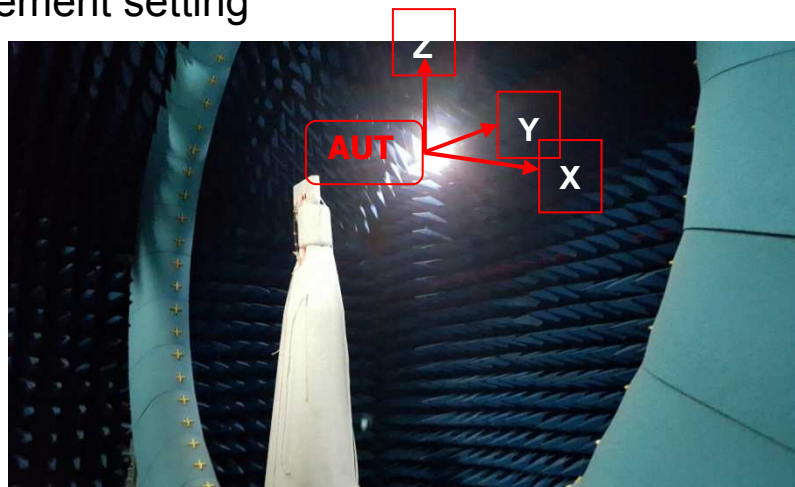


0.4 to 6.0 GHz probe

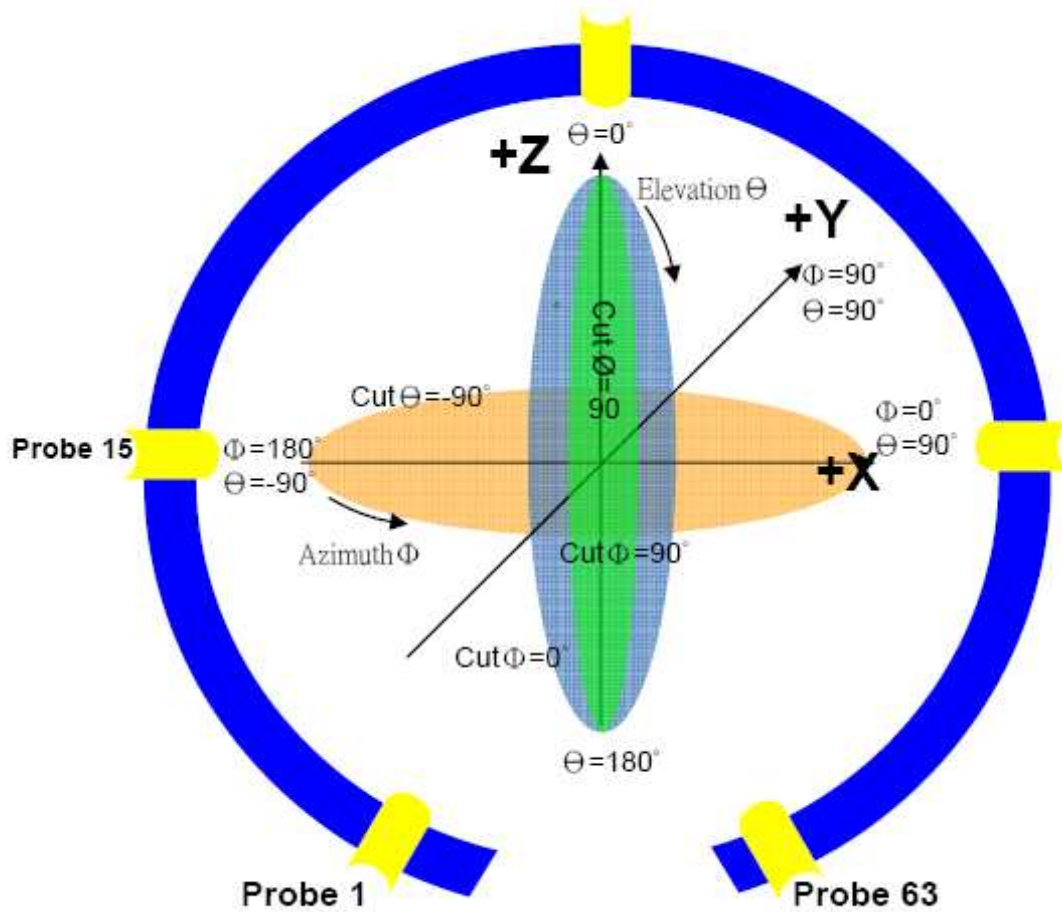
- Equipment list :



3.2 Measurement setting



	XY	YZ	XZ
0°	Right	Up	Up
90°	Back	Back	Right
180°	Left	Down	Down
270°	Front	Front	Left

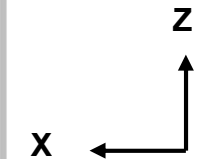
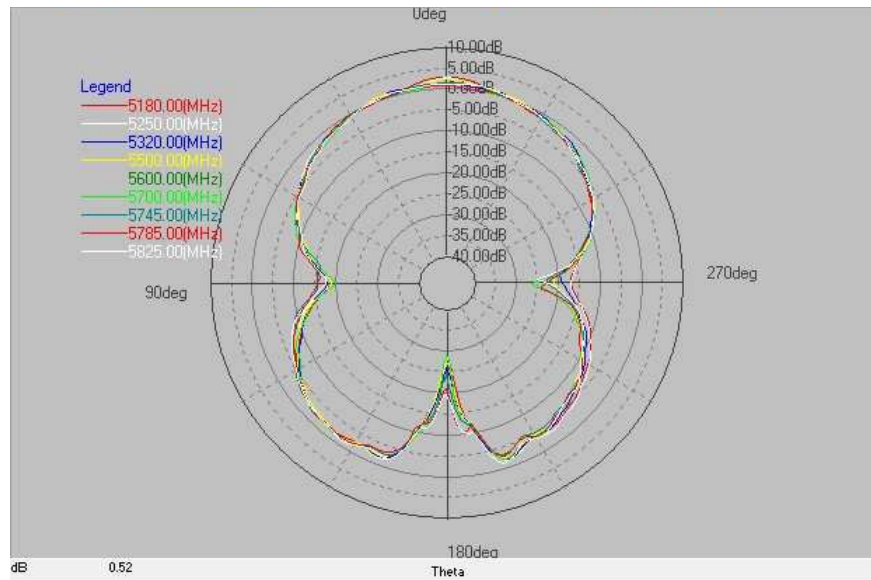


	θ	ϕ
Total angle	175°	360°
How many angle scan one point	5°	5°
Total scan point	36	73

3.3 2D Patterns

3.3.1 Ant 1– 5G(black)

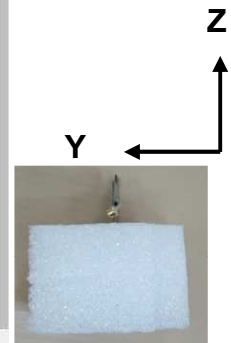
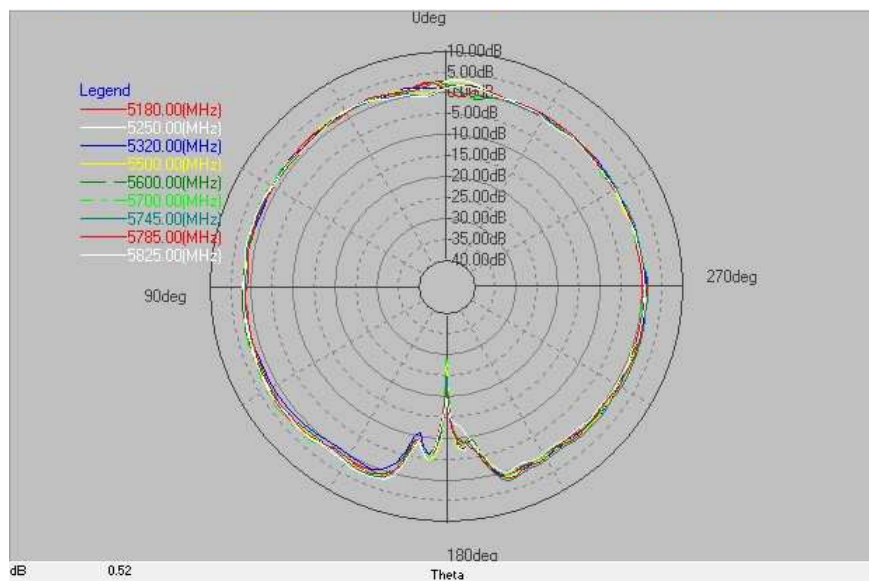
5180 MHz~5825 MHz



X-Z Plane

Frequency	Max Value	Average
5180MHz	2.61	-4.84
5250MHz	2.42	-4.66
5320MHz	1.18	-4.99
5500MHz	2.03	-5.11
5600MHz	2.03	-4.78
5700MHz	0.72	-5.17
5745MHz	1.15	-5.19
5785MHz	0.65	-5.26
5825MHz	1.11	-4.94

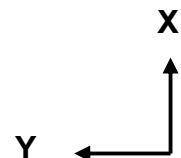
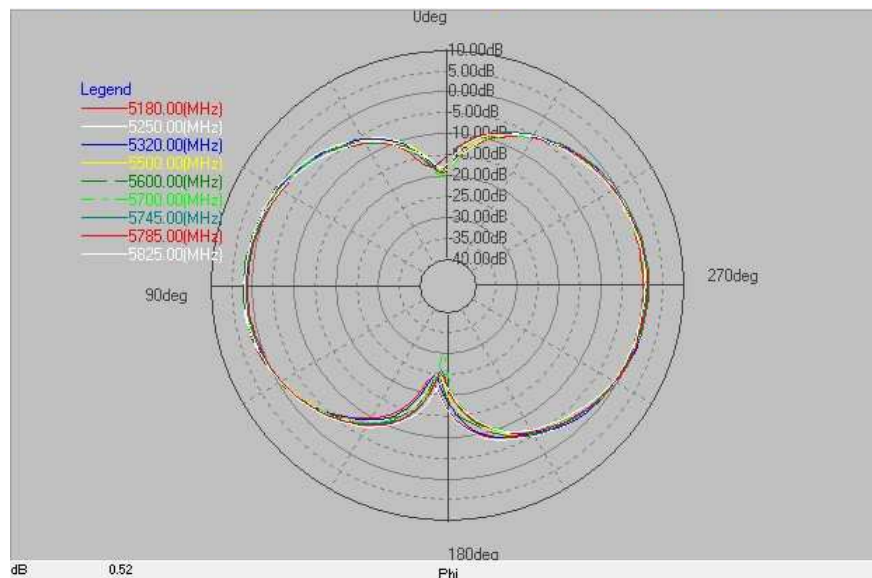
5180 MHz~5825 MHz



Y-Z Plane

Frequency	Max Value	Average
5180MHz	2.61	0.64
5250MHz	2.90	0.77
5320MHz	1.87	0.38
5500MHz	2.45	0.57
5600MHz	2.48	0.39
5700MHz	3.00	0.65
5745MHz	2.14	0.68
5785MHz	2.34	0.49
5825MHz	2.52	0.41

5180 MHz~5825 MHz



X-Y Plane

Frequency	Max Value	Average
5180MHz	2.20	-3.18
5250MHz	2.21	-2.97
5320MHz	1.78	-3.14
5500MHz	1.83	-3.39
5600MHz	2.22	-3.21
5700MHz	1.86	-3.49
5745MHz	1.65	-3.12
5785MHz	1.21	-3.45
5825MHz	1.85	-3.47

4. Summary

4.1 Return Loss

Frequency	Ant 1 (dB)
5180MHz	-17.9
5250MHz	-21.4
5320MHz	-25.9
5500MHz	-26.0
5600MHz	-20.5
5700MHz	-17.9
5745MHz	-16.8
5785MHz	-16.1
5825MHz	-15.8