



WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)
DONGGUAN AEON TECH CO.,LTD.(CHINA)
SUZHOU AEON TECH CO.,LTD.(CHINA)
AEON TECH (SHANGHAI) CO.,LTD(CHINA)
DONGGUAN PARNER TECH CO.,LTD.(CHINA)

SPECIFICATION FOR APPROVAL

CUSTOMER: ASUS

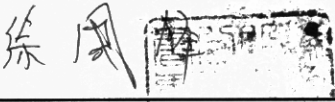
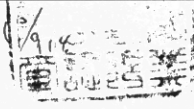
PART NAME: RF Antenna Assembly

PART NO:

REVISION:

W. Y. P/NO: C660-510333-A(SRF20141699)

REV: X1

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :		
DATE :		

WHA YU GROUP

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RF Antenna Assembly

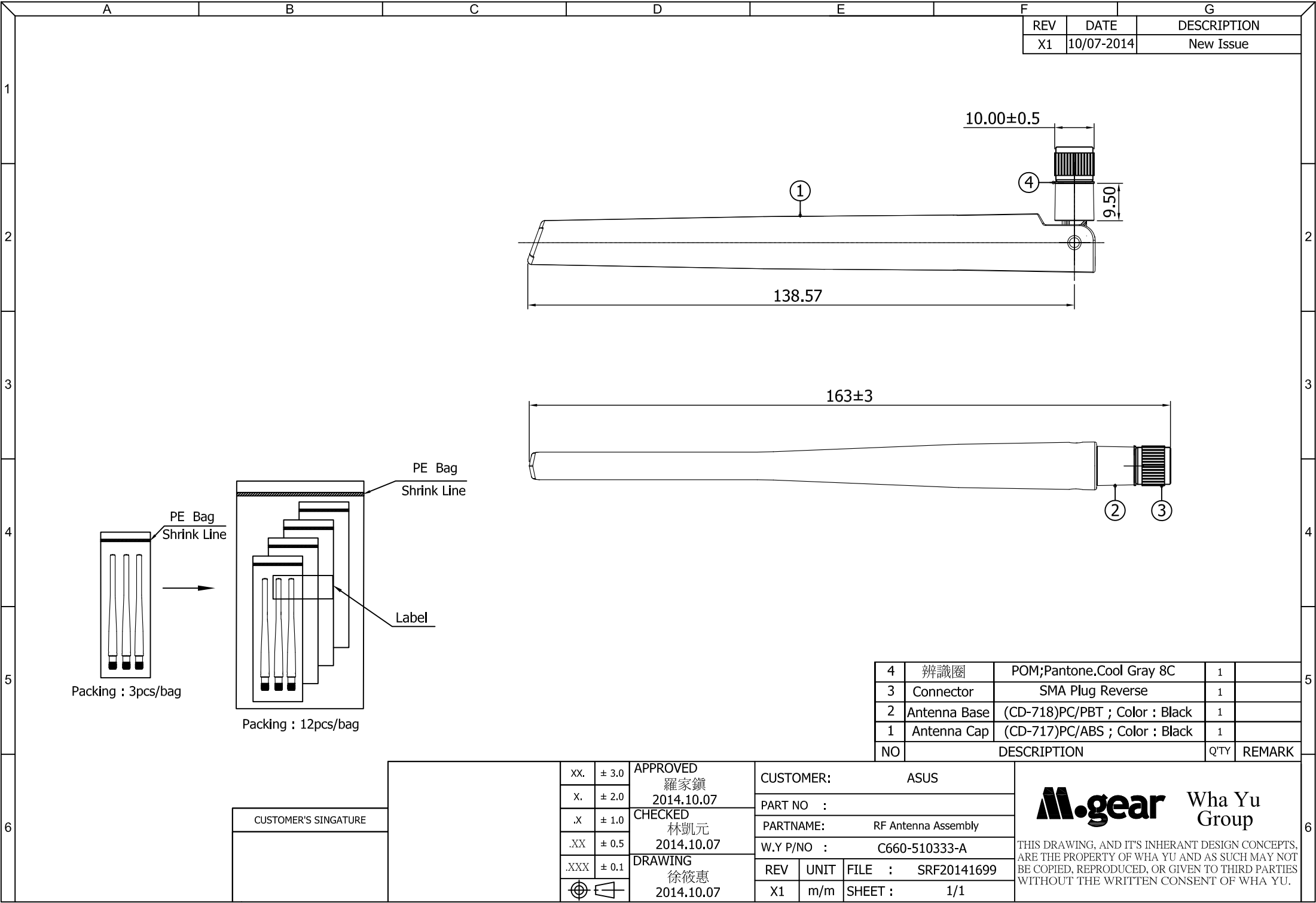
Specification (單天線)

1. Electrical Properties :

- 1.1 Frequency Range..... 2.412GHz ~ 2.472GHz / 5.180GHz ~ 5.825GHz
- 1.2 Impedance 50Ω Nominal
- 1.3 VSWR 2.1:1 Max.
- 1.4 Return Loss..... -8.99 dB Max.
- 1.5 Radiation Omni-directional
- 1.6 Gain(peak)..... 2.4GHz (1.51dBi) / 5GHz (3.29dBi)
- 1.7 Cable Loss..... 2.4G(0.14dB)/5G(0.25dB)
- 1.8 Polarization..... Linear ; Vertical
- 1.9 Admitted Power..... 1W
- 1.10 Cable..... RG-178 Coaxial Cable
- 1.11 Connector..... SMA

2. Physical Properties :

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



REV	DATE	DESCRIPTION
X1	10/07-2014	New Issue

4	辨識圈	POM;Pantone.Cool Gray 8C	1	
3	Connector	SMA Plug Reverse	1	
2	Antenna Base	(CD-718)PC/PBT ; Color : Black	1	
1	Antenna Cap	(CD-717)PC/ABS ; Color : Black	1	
NO	DESCRIPTION		Q'TY	REMARK

CUSTOMER'S SINGATURE	XX.	± 3.0	APPROVED	CUSTOMER: ASUS		
	X.	± 2.0	羅家鎮 2014.10.07			
	.X	± 1.0	CHECKED	PART NO :		
	.XX	± 0.5	林凱元 2014.10.07	PARTNAME: RF Antenna Assembly		
	.XXX	± 0.1	DRAWING	W.Y P/NO : C660-510333-A		
	徐筱惠 2014.10.07			REV	UNIT	FILE : SRF20141699
				X1	m/m	SHEET : 1/1



Wha Yu Group

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Antenna Design For

NE3-14098

單天線測試

V1.03

Document Number	NE3-14098
1st Released Date	06/30/14
Last Released Date	08/19/14
Author	ANDY-yuan
Review by	SKY

Revised History

[illegible]

Specification

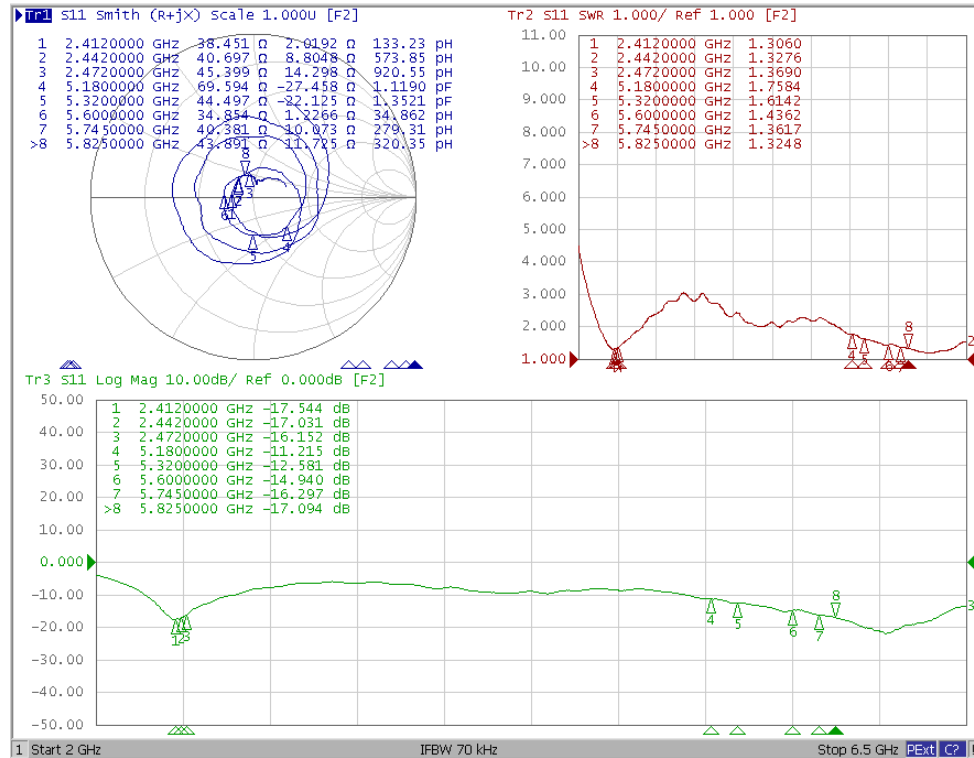
Rough description		
Item	Initial Specification	Final Specification
Dimensions	None	
Impedance	50Ω	
Test environment	With Housing	
Application	None	
Freq. Range	2.412GHz~2.472GHz/ 5.180GHz~5.825GHz	
Antenna type	DIPOLE	
GAIN (Peak Gain)	ANT1 2.4GHz(1.51dBi) 5GHz(3.29dBi)	
VSWR	2.1:1	
Radiation	None	
Polarization	Linear	
HPBW / H	None	
HPBW / E	None	
Connector type	SMA	
Cable type	RG-178	
Cable Loss	2.4GHz(0.25dB) / 5GHz(0.28dB)	

1 Antenna Introduction



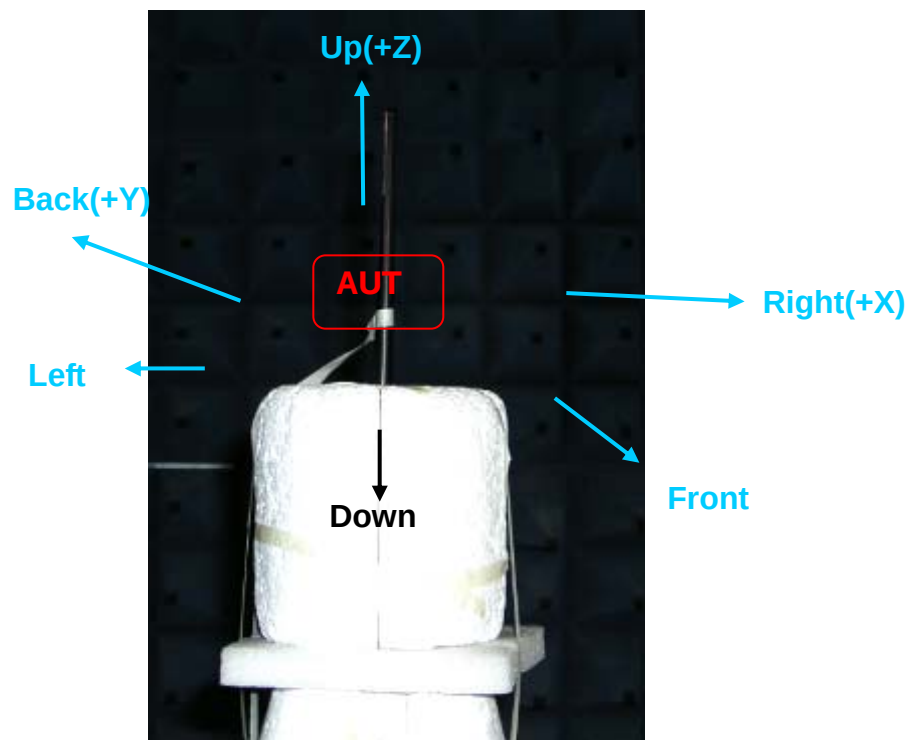
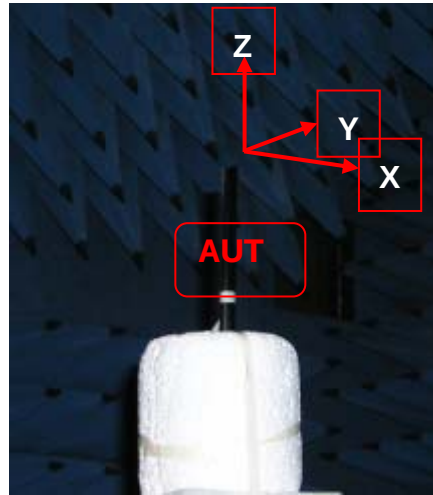
2 S11 test results

2.1 ANT 1.

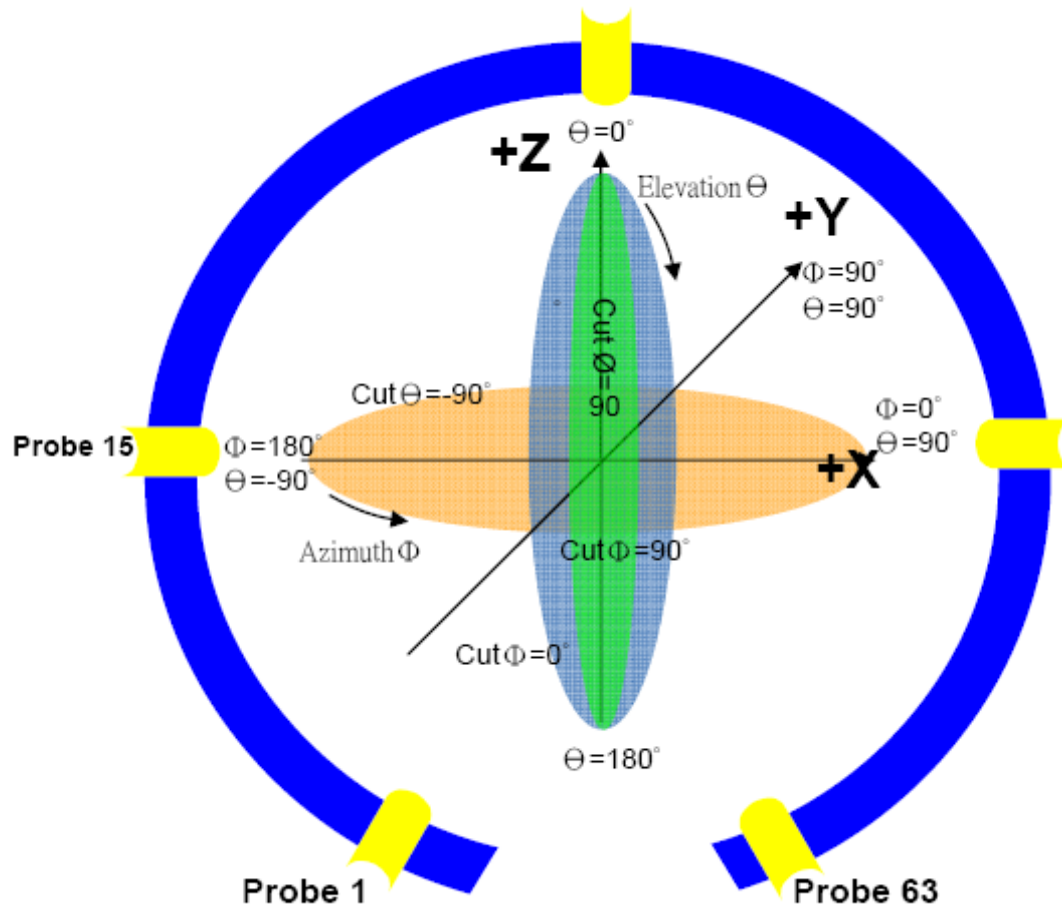


3 Gain & Patterns test results

3.1 Measurement setting



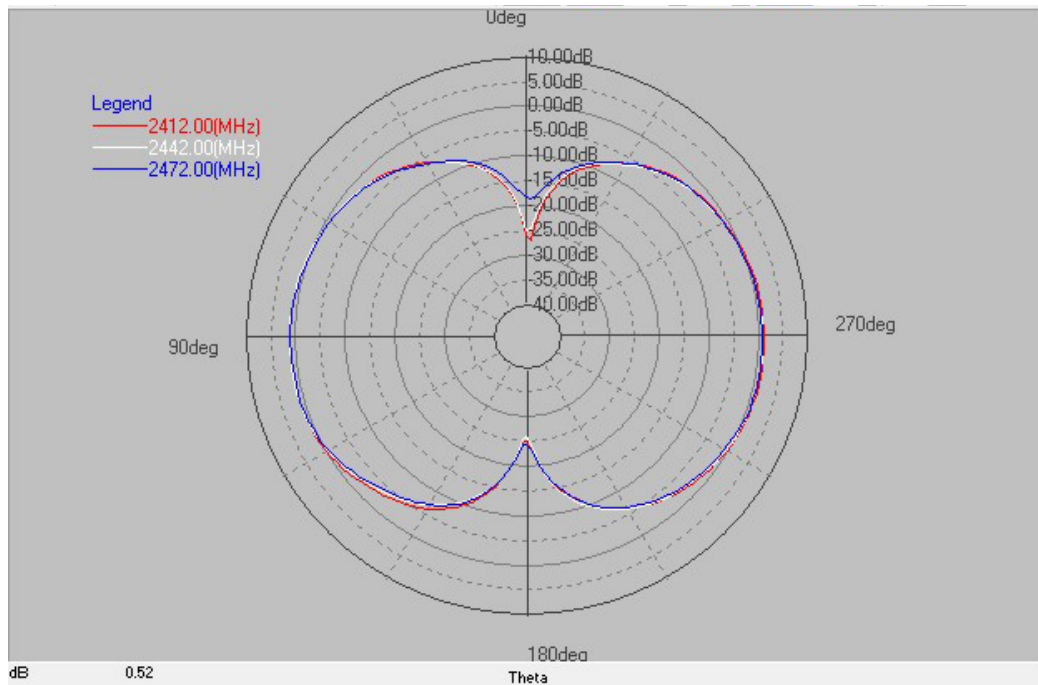
	XY	YZ	XZ
0°	Right	Up	Up
90°	Back	Back	Right
180°	Left	Down	Down
270°	Front	Front	Left



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

3.2 ANT 1.

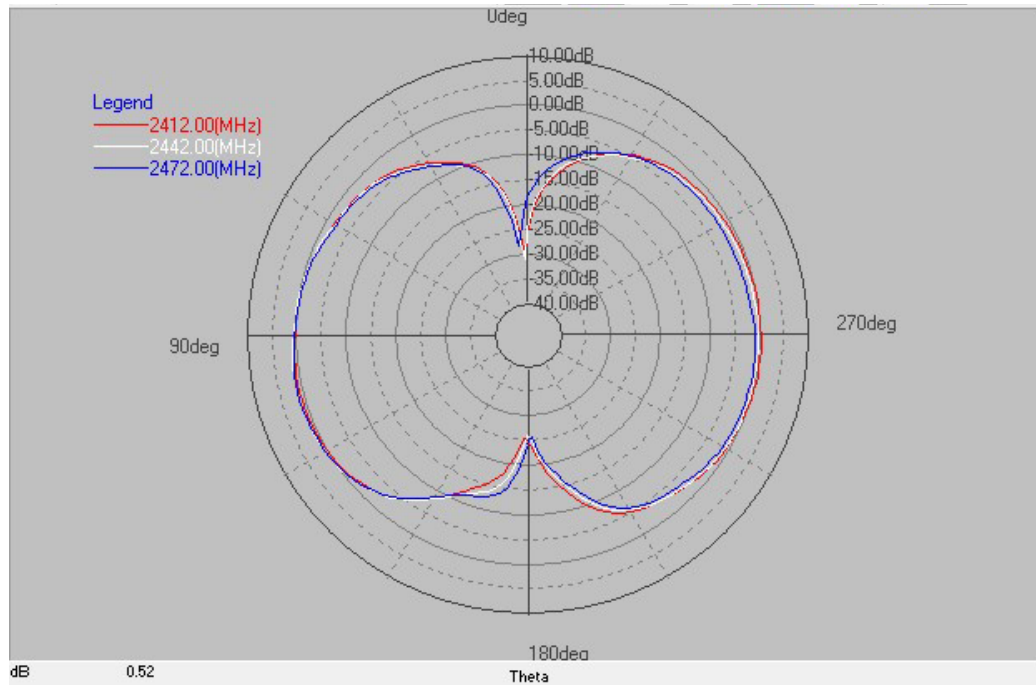
2412 MHz~2472 MHz



X-Z Plane (E-total)

Frequency	Max Value	Average
2412MHz	1.15 dB	-3.33 dB
2442MHz	1.21 dB	-3.47 dB
2472MHz	1.06 dB	-3.55 dB

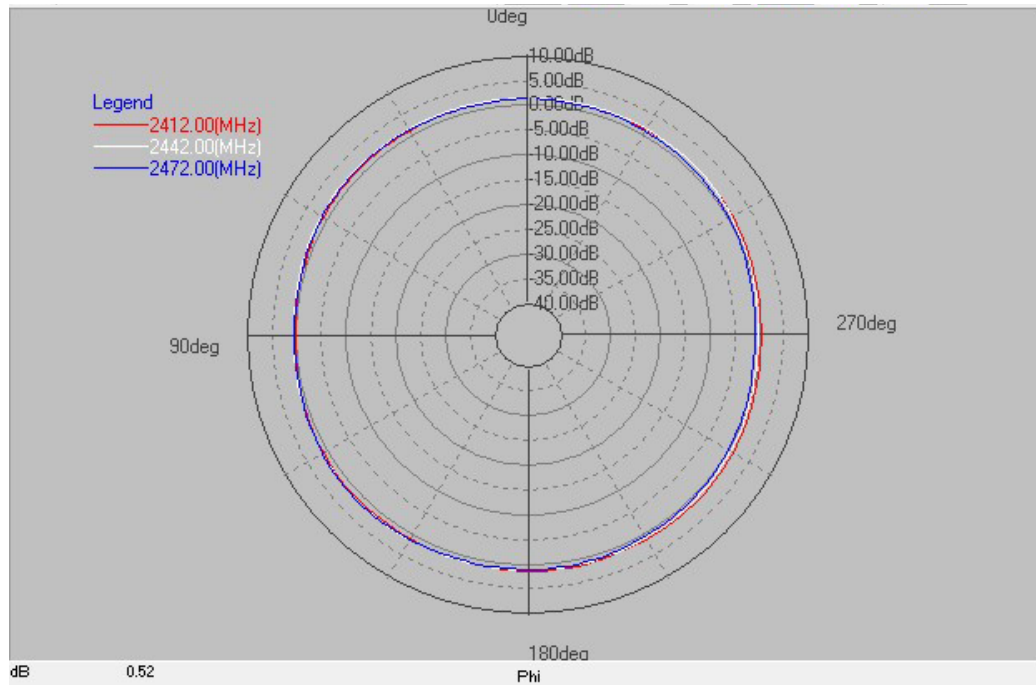
2412 MHz~2472 MHz



Y-Z Plane (E-total)

Frequency	Max Value	Average
2412MHz	0.79 dB	-3.64 dB
2442MHz	1.27 dB	-3.78 dB
2472MHz	1.23 dB	-4.09 dB

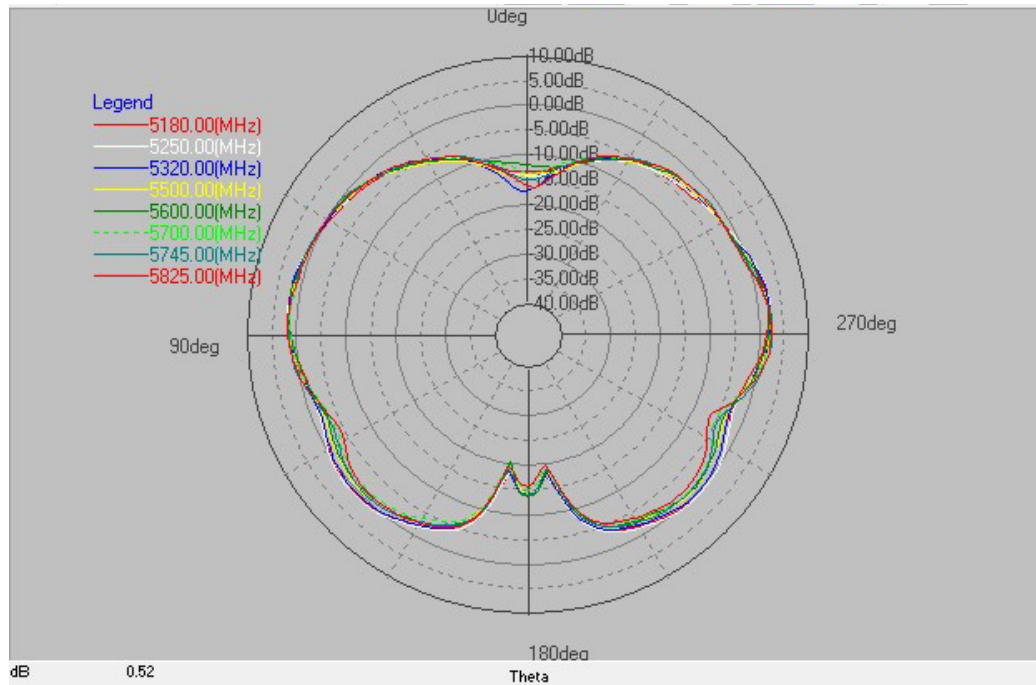
2412 MHz~2472 MHz



X-Y Plane (E-total)

Frequency	Max Value	Average
2412MHz	1.31 dB	0.93 dB
2442MHz	1.51 dB	0.94 dB
2472MHz	1.46 dB	0.65 dB

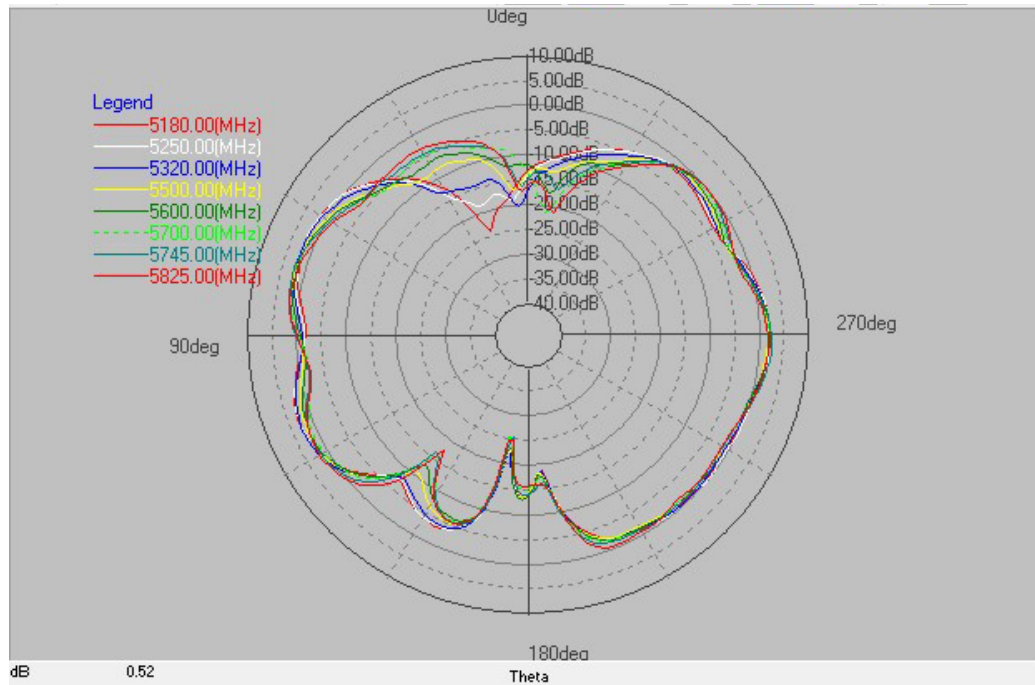
5180 MHz~5825 MHz



X-Z Plane (E-total)

Frequency	Max Value	Average
5180MHz	2.06 dB	-2.68 dB
5250MHz	2.53 dB	-2.46 dB
5320MHz	2.38 dB	-2.68 dB
5500MHz	2.12 dB	-3.05 dB
5600MHz	2.07 dB	-3.01 dB
5700MHz	2.29 dB	-3.21 dB
5745MHz	2.56 dB	-2.92 dB
5825MHz	2.44 dB	-3.27 dB

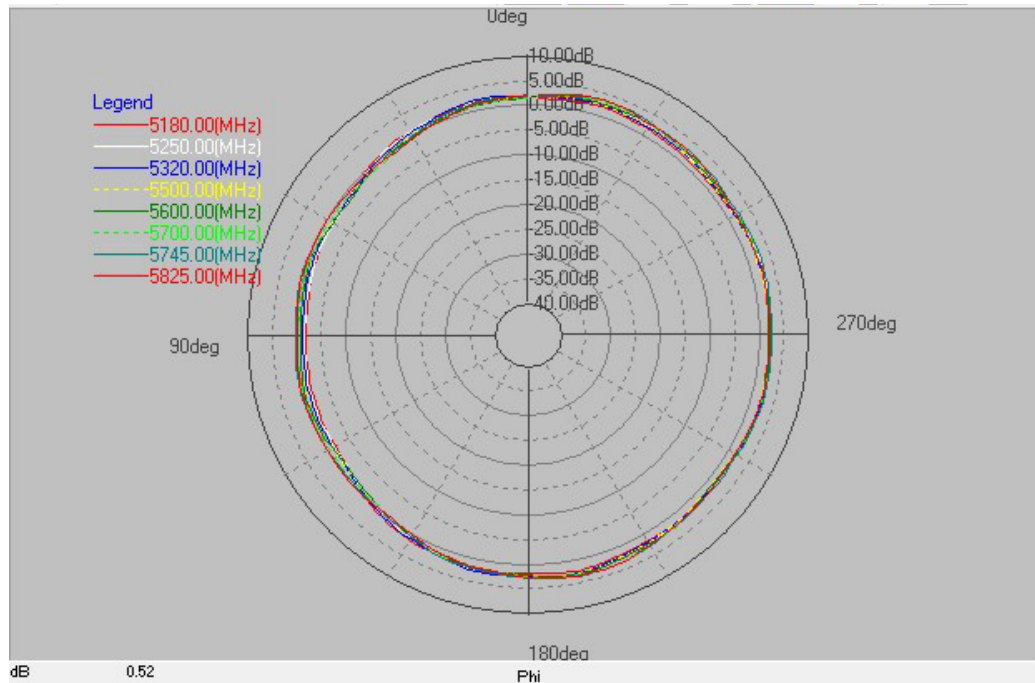
5180 MHz~5825 MHz



Y-Z Plane (E-total)

Frequency	Max Value	Average
5180MHz	2.76 dB	-2.74 dB
5250MHz	2.63 dB	-2.63 dB
5320MHz	2.64 dB	-2.81 dB
5500MHz	2.00 dB	-3.06 dB
5600MHz	2.22 dB	-3.05 dB
5700MHz	2.21 dB	-3.07 dB
5745MHz	2.59 dB	-2.70 dB
5825MHz	1.90 dB	-2.86 dB

5180 MHz~5825 MHz



X-Y Plane (E-total)

Frequency	Max Value	Average
5180MHz	2.46 dB	0.88 dB
5250MHz	2.57 dB	1.08 dB
5320MHz	2.58 dB	1.07 dB
5500MHz	2.66 dB	1.01 dB
5600MHz	2.76 dB	1.06 dB
5700MHz	3.12 dB	1.21 dB
5745MHz	3.29 dB	1.59 dB
5825MHz	3.18 dB	1.35 dB

4.0 Return Loss

Frequency	Ant 1. (dB)
2412MHz	-17.5
2442MHz	-17.0
2472MHz	-16.1
5180MHz	-11.2
5320MHz	-12.5
5600MHz	-14.9
5745MHz	-16.2
5825MHz	-17.0