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 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:** C660-510411-A

**REV:** XI

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :		
DATE :	2017.11.23	

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# RF Antenna Assembly

## Specification (單天線)

### 1. Electrical Properties :

- 1.1 Frequency Range..... 2.412GHz ~ 2.472GHz / 5.18GHz ~ 5.825GHz
- 1.2 Impedance ..... 50Ω Nominal
- 1.3 VSWR ..... 1.92:1 Max.
- 1.4 Return Loss..... -10 dB Max.
- 1.5 Radiation ..... Omni-directional
- 1.6 Gain(peak)..... 2.4GHz (1.94dBi) / 5GHz (2.35dBi)
- 1.7 Polarization..... Linear ; Vertical
- 1.8 Admitted Power..... 1W
- 1.9 Cable..... RG-178 Coaxial Cable
- 1.10 Connector.....Reversed-SMA

### 2. Physical Properties :

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

# Antenna Design For

## NE3-17174

### (RT-AX88U)

### 單天線測試

V1.01

<b>Product Development Status</b>		
<b>Concept Study</b>	<b>In Development</b>	<b>Production</b>
	X	

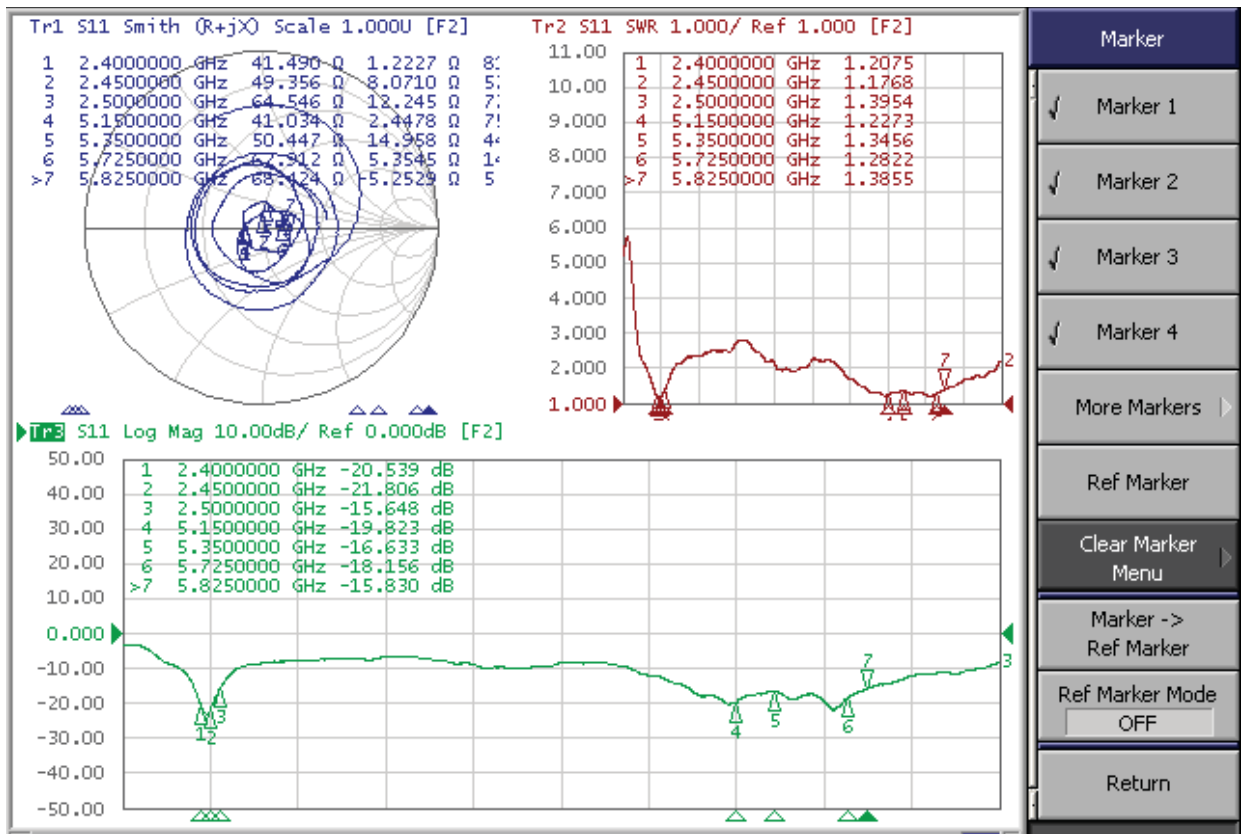
<b>Document Number</b>	
<b>1<sup>st</sup> Released Date</b>	<b>10/25/2017</b>
<b>Last Released Date</b>	<b>11/06/2017</b>
<b>Designers</b>	<b>Carter Su</b>
<b>Testers</b>	<b>Carter Su</b>
<b>Reviewed by</b>	<b>SKY</b>



<b>Electrical</b>		
<b>Item</b>	<b>Specification</b>	<b>Note</b>
<b>Test Environment</b>	Free Space	
<b>Frequency Range</b>	2.412GHz~2.472GHz 5.180GHz~5.825GHz	
<b>VSWR</b>	1.92:1	
<b>Input Impedance</b>	50 ohm	
<b>Port to Port Isolation</b>	N/A	
<b>Polarization</b>	Linear (Vertical or Horizontal)	
<b>Gain(Peak gain)</b>	ANT 1. 2.4GHz(1.94dBi) / 5GHz(2.35dBi)	
<b>Efficiency</b>	2.4GHz>80% / 5GHz>70%	
<b>Half Power Beam Width (HPBW)</b>	N/A	
<b>Mechanical</b>		
<b>Dimensions</b>	N/A	
<b>Connector</b>	Reversed-SMA	
<b>Cable Type</b>	RG-178	
<b>Cable Length</b>	N/A	
<b>Radome Material</b>	N/A	
<b>Ingress Protection</b>	N/A	
<b>Operating Temperature</b>	-10°C ~ +60°C	
<b>Storage Temperature</b>	-10°C ~ +70°C	

## 2 S11 test results

### 2.1 ANT 1.

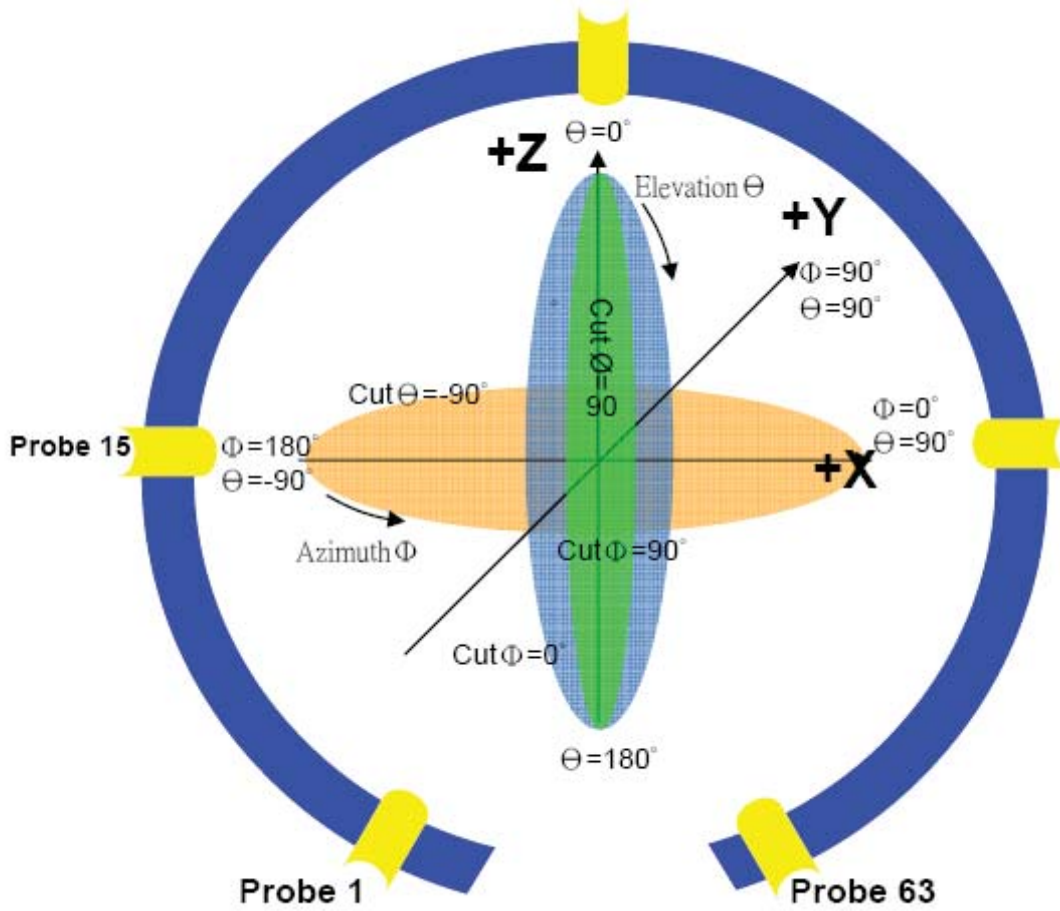


### 3 Gain & Patterns test results

#### 3.1 Measurement setting

	<b>XY</b>	<b>YZ</b>	<b>XZ</b>
0°	Right	Up	Up
90°	Back	Back	Right
180°	Left	Down	Down
270°	Front	Front	Left

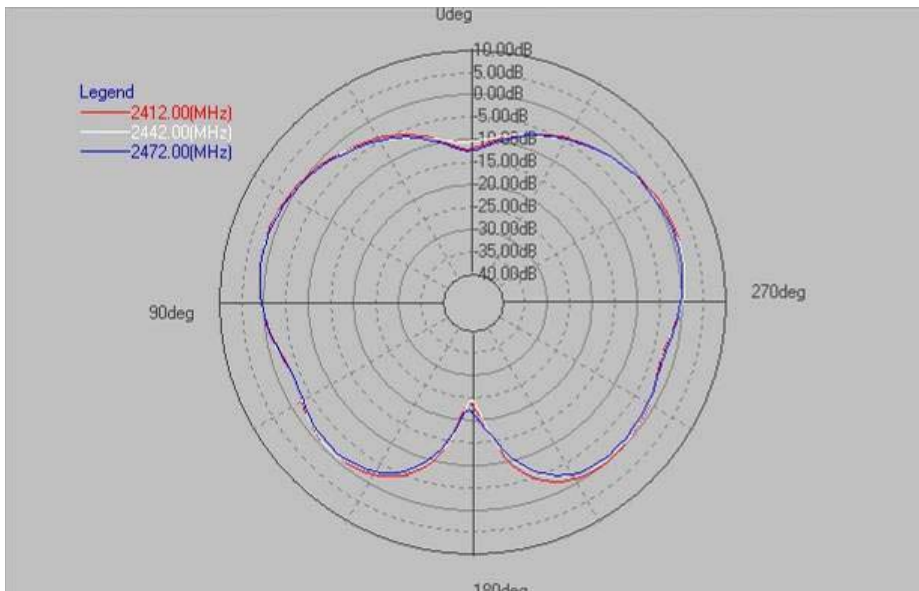




	$\theta$	$\phi$
Total angle	175°	360°
How many angle scan one point	5°	5°
Total scan point	36	73

### 3.2 ANT 1.

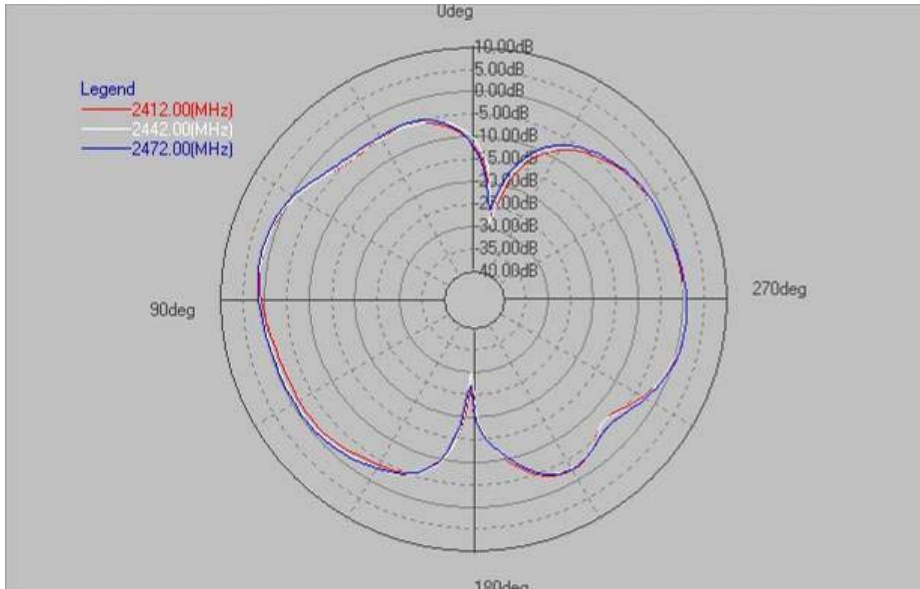
2412 MHz~2472 MHz



X-Z Plane (E-total)

Frequency	Max Value	Average
2412MHz	1.64	-2.58
2442MHz	1.61	-2.76
2472MHz	1.47	-2.95

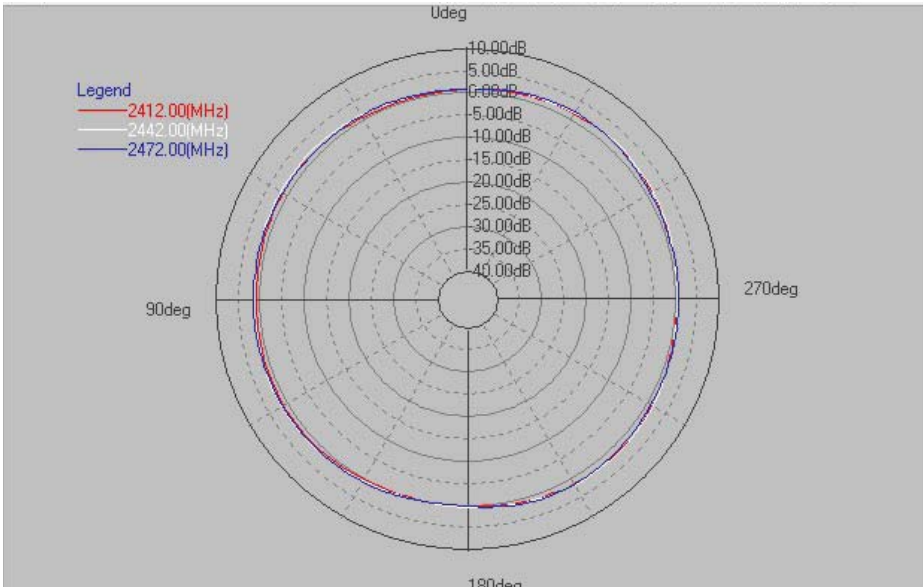
2412 MHz~2472 MHz



Y-Z Plane (E-total)

Frequency	Max Value	Average
2412MHz	1.60	-3.52
2442MHz	1.71	-3.26
2472MHz	1.94	-2.98

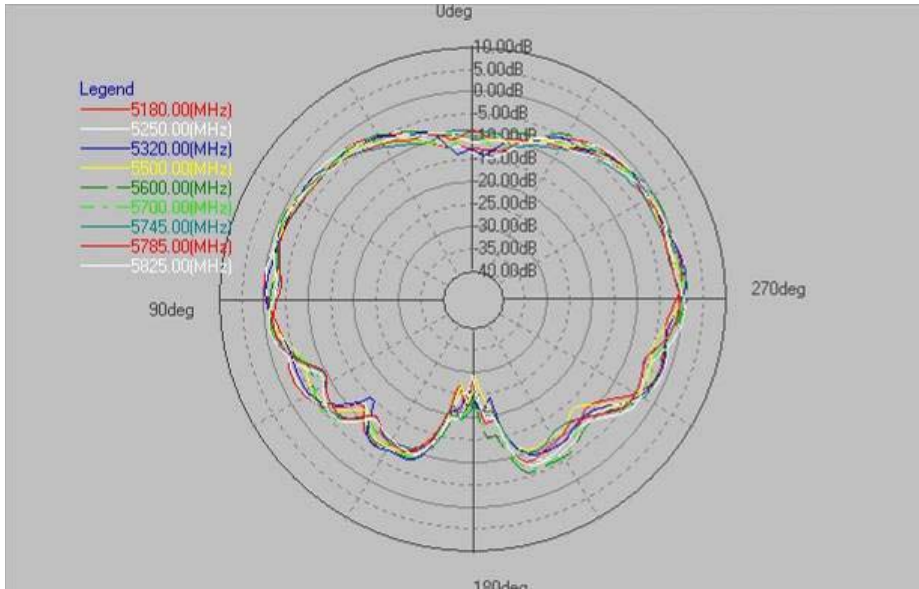
2412 MHz~2472 MHz



X-Y Plane (E-total)

Frequency	Max Value	Average
2412MHz	1.65	0.87
2442MHz	1.88	1.16
2472MHz	1.80	1.02

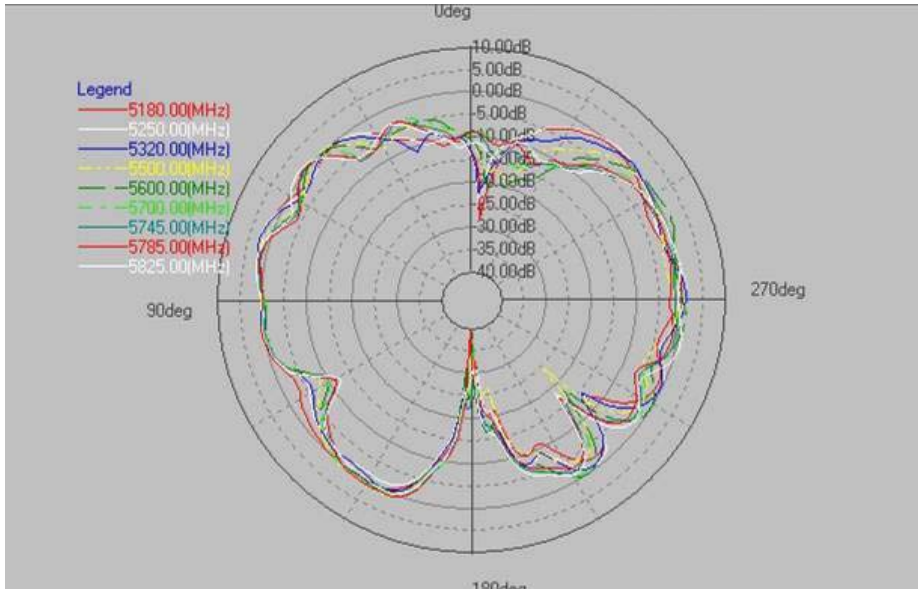
5180 MHz~5825 MHz



X-Z Plane (E-total)

Frequency	Max Value	Average
5180MHz	0.66	-5.11
5250MHz	1.08	-4.81
5320MHz	1.15	-5.14
5500MHz	-0.03	-5.79
5600MHz	1.28	-4.54
5700MHz	0.36	-5.19
5745MHz	-0.30	-6.08
5785MHz	-0.37	-5.95
5825MHz	0.73	-5.29

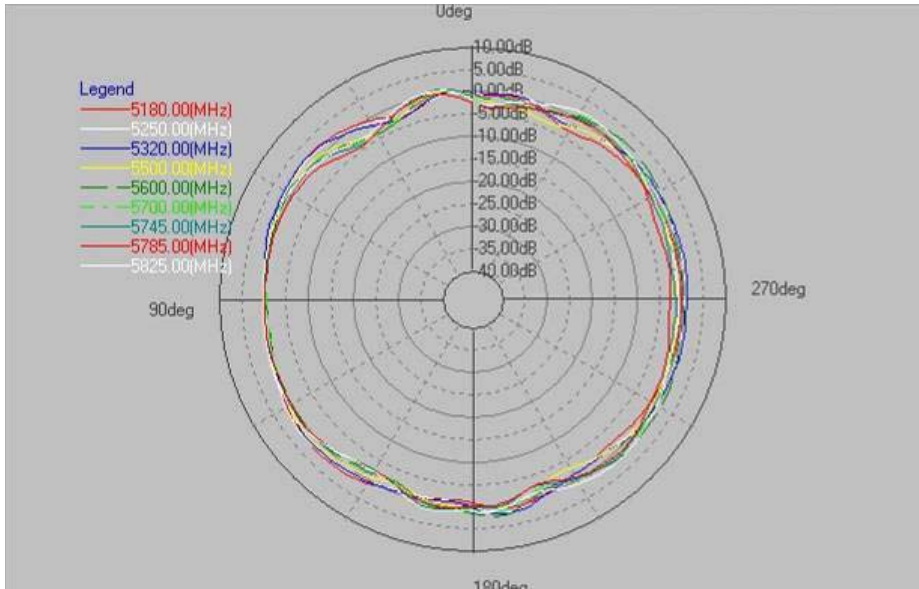
5180 MHz~5825 MHz



Y-Z Plane (E-total)

Frequency	Max Value	Average
5180MHz	2.12	-3.30
5250MHz	2.12	-3.13
5320MHz	2.33	-3.29
5500MHz	1.75	-3.90
5600MHz	1.52	-3.38
5700MHz	1.43	-3.52
5745MHz	1.52	-4.04
5785MHz	1.19	-4.13
5825MHz	1.93	-3.62

5180 MHz~5825 MHz



X-Y Plane (E-total)

Frequency	Max Value	Average
5180MHz	2.05	-0.21
5250MHz	1.98	0.20
5320MHz	2.01	0.28
5500MHz	1.20	-0.65
5600MHz	2.35	0.08
5700MHz	1.41	-0.37
5745MHz	1.22	-0.50
5785MHz	0.79	-1.03
5825MHz	1.94	0.00



#### 4.0 Return Loss

Frequency	Ant 1.(dB)
<b>2400MHz</b>	-20.53
<b>2450MHz</b>	-21.80
<b>2500MHz</b>	-15.64
<b>5150MHz</b>	-19.82
<b>5350MHz</b>	-16.63
<b>5725MHz</b>	-18.15
<b>5825MHz</b>	-15.83

#### 4.1 Efficiency

Frequency	Ant 1.
	Efficiency (%)
2412MHz	83.11%
2442MHz	86.03%
2472MHz	85.13%
5180MHz	76.07%
5250MHz	75.65%
5320MHz	76.51%
5500MHz	75.97%
5600MHz	75.48%
5700MHz	74.15%
5745MHz	79.98%
5785MHz	75.77%
5825MHz	76.25%