

1. Antenna Specification/天線標準

Antenna Specification/天線技術參數

Electrical Specification/電氣特性

Item/目錄	Specification/規格		Comment/備註
Freq. Range/頻段範圍	2400-2500&5150-5850(MHz)		
Impedance/阻抗	50 (Ω)		
VSWR/駐波比	2400-2500&5150-5850(MHz) ≤ 2.0		
Directional/輻射方向	Omni directional		
Polarization/極化形式	Vertical		
Peak Gain/峯值增益	2.75dBi	3.44dBi	
Test condition/測試條件	passive test (無源測試)		
Total Efficiency/無源效率	2400-2500&5150-5850(MHz) > 60%		

Mechanical Specification/機械指标

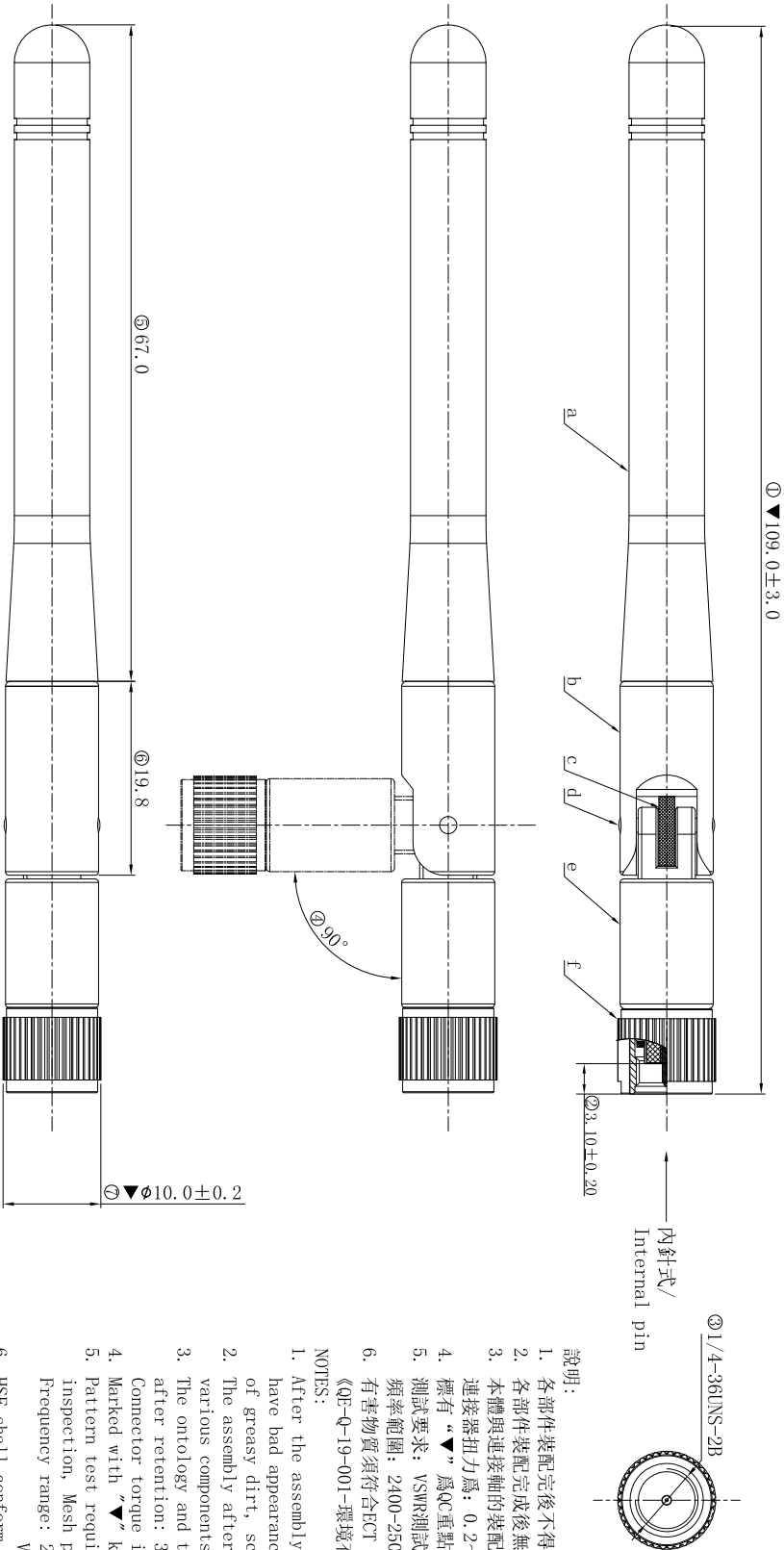
Antenna type/天線類型	膠棒天線/ Glue stick antenna		
Connector Type/連接器類型	SMA-J(公頭公針)		
RF Cable Type/射頻線型號	RG178		
Connector Torque Test/連接器扭力	N/A		
Connector Pull Test/連接器拉力	$\geq 3.0\text{Kgf}$		
Salt Spray/鹽霧測試	48 (H)		

Environmental Specification /環境指標

Operating temp/工作溫度	$-40^{\circ}\text{C} \sim +75^{\circ}\text{C}$		
Storage temp/存儲溫度	$-40^{\circ}\text{C} \sim +75^{\circ}\text{C}$		

2. Antenna Picture/天線圖片

REV.	ECN NUMBER	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED
A	ECN200148	初版發行/Initial release	07/17'20	梁允泉 duiquan, Liang	丁菊斌 dibin, Din	張英傑 yingjie, Zhang



- 說明:
- 各部件裝配完後不得有油污、劃痕、變形等外觀不良。
 - 各部件裝配完成後無明顯色差。
 - 本體與連接軸的裝配後保持力：3Kg MIN；
 - 連接器扭力為：0.2~0.6 Kg-cm。
 - 標有“▼”為QC重點檢測尺寸。
 - 測試要求：VSWR測試全檢，網分測試。
 - 頻率範圍：2400-2500&5150-5850 MHz，VSWR：≤2.0；
 - 有害物質須符合EC1

《QE-Q-19-001-環境有害物質管理基準》管控標準

NOTES:

- After the assembly of different parts can not have had appearance
- The assembly after the completion of the various components without clear off color.
- The ontology and the connecting shaft assembly after retention: 3Kg MIN;
- Connector torque is: 0.2~0.6 Kg - cm.
- Marked with “▼” key size detection for QC.
- Pattern test requirements: the VSWR test all inspection, Mesh points test
- Frequency range: 2400-2500&5150-5850 MHz, VSWR: ≤2.0;
- HSF shall conform to the standard QE-Q-19-001 Environmental Hazardous Substances Management.

f	連接器/connector	1	SMA-J,公頭公針，黑色，塑料/SMA-J, male needle, black, plastic
e	下固/Lower solid	1	下固, 009, 5*24, 8mm, PC+PBT, 黑色/Lower solid, 009, 5*24, 8mm, PC+PBT, black
d	銅釘/Rivet	2	001, 7*3, 7mm, POM, 黑色/001, 7*3, 7mm, POM, black
c	線纜/Cable	1	RG178, 棕色/RG178, brown
b	上固/Upper solid	1	上固, 009, 5*29 mm, PC+PBT, 黑色/Upper solid, 009, 5*29 mm, PC+PBT, black
a	杆套/Rod sleeve	1	杆套, 009, 5*67 mm, TPPE, 黑色/Rod sleeve, 009, 5*67 mm, TPPE, black
ITEM	PART NAME	Q'TY	MATERIAL / FINISH

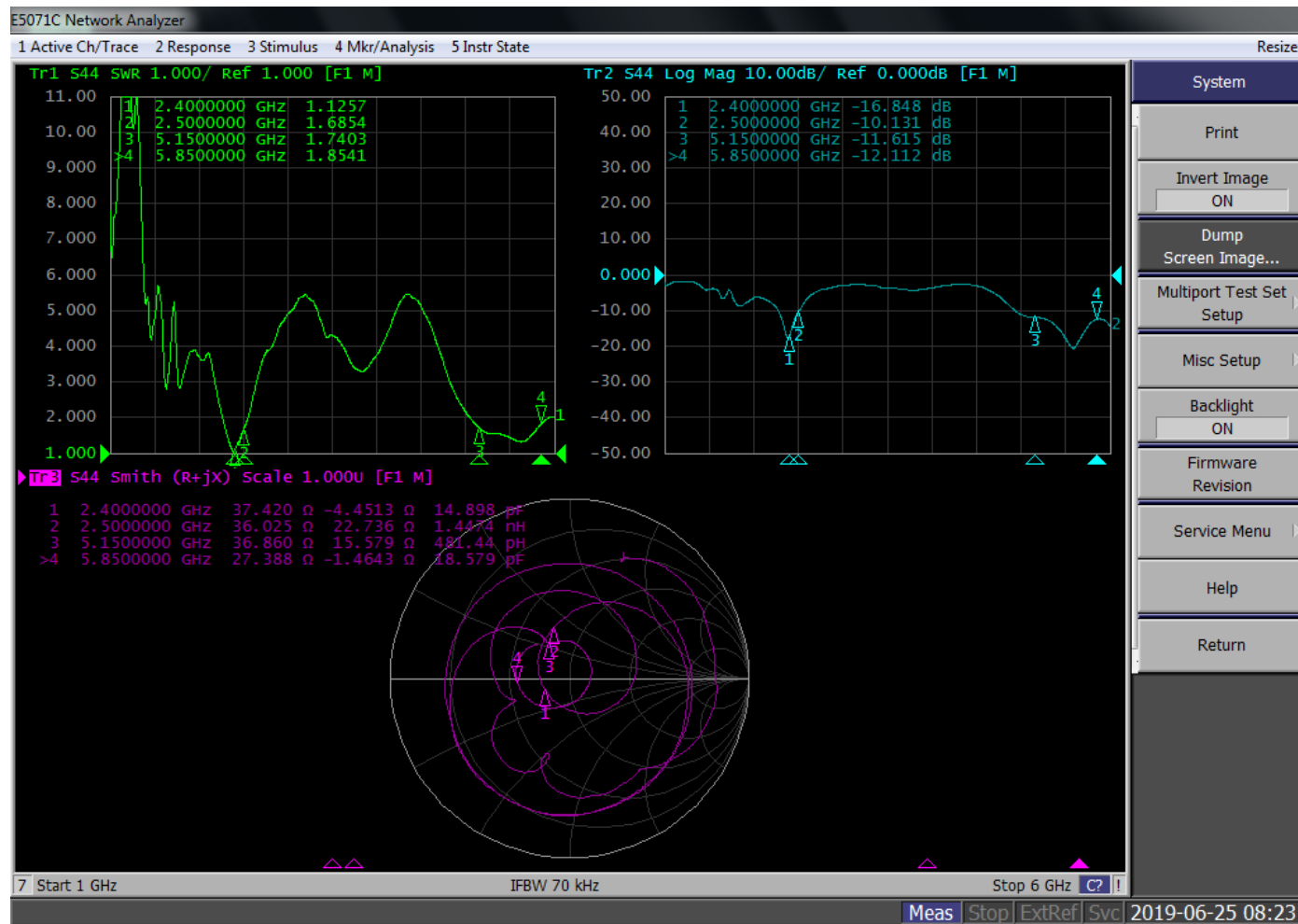
GENERAL TOLERANCE		SCALE:	DRAWN:	DATE:	DWG. NO.:	TITLE:	REV.
XX. ± 2.00	XX. ° ± 3°	1:1	梁允泉	07/17'20	600-U252-01	ANT_EX 2, 4-5, 8G 110*10_	A
X. ± 1.00	X. ° ± 2°	UNIT: mm	CHECK:	DATE:	PARTS NO. (INTENDED USE): 81800U252	WIFI-BK-PR+SMA-J	SHEET:
.X ± 0.50	.X° ± 1°	SIZE: A4	APPROVE:	DATE:			1/1
.XX ± 0.30							



ELECTRIC
CONNECTOR
TECHNOLOGY

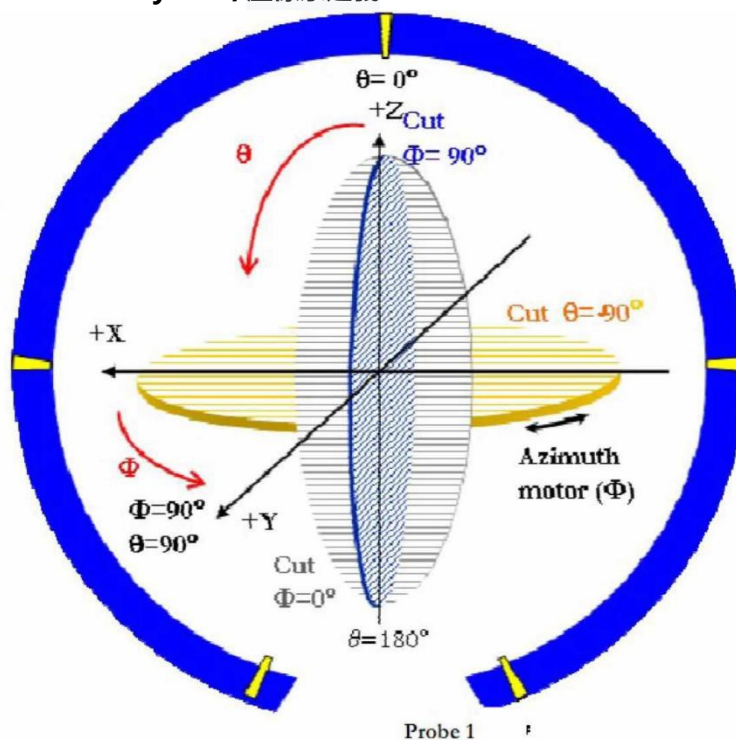
4. Antenna test result/測試結果

4.1 Return loss/Smith chart/VSWR/回波損耗/史密斯圖/駐波比



4.2 The gain and total efficiency test/增益和效率測試

4.2.1 The definition of coordinate system/座標系定義-Satimo SG24



The coordinate system of Chamber/暗室座標系



The production test position/天線測試放置位置

Product Specification

P/N:
81800U252
Rev.:
A
Page:
6 / 12

4.2.2 The test result of total efficiency and total gain/天線效率及增益測試結果

2400MHz-2500MHz

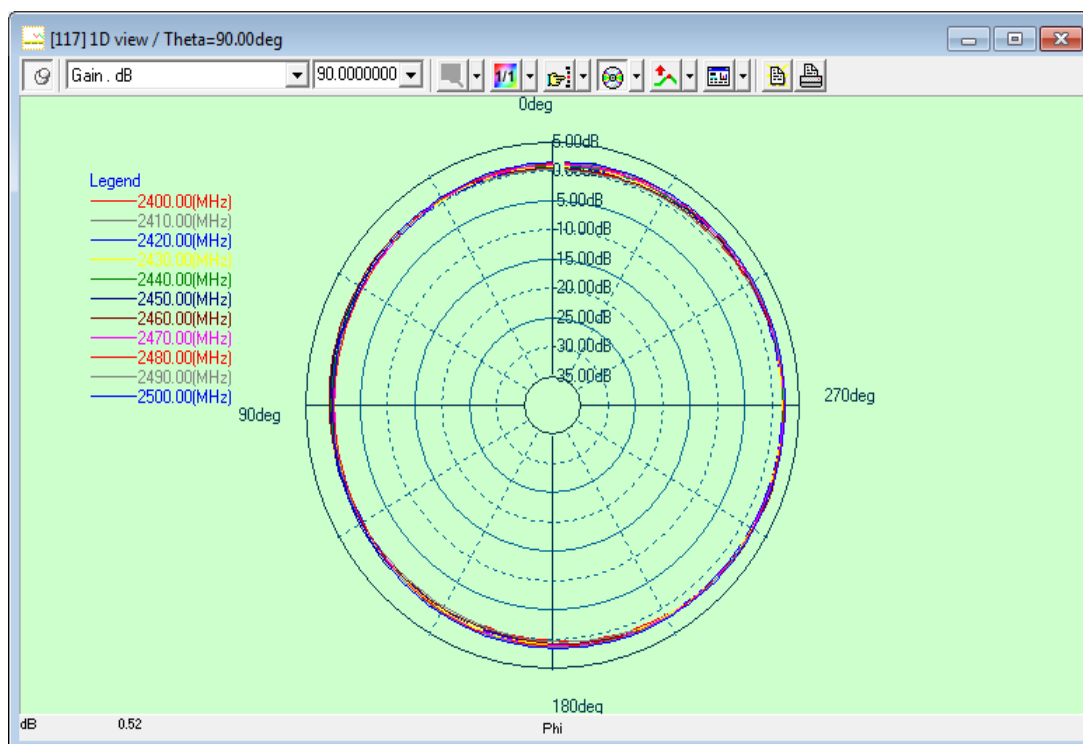
Frequency	Efficiency(%)	Gain (dBi)
2400MHz	72%	2.41
2410MHz	77%	2.66
2420MHz	76%	2.74
2430MHz	74%	2.52
2440MHz	75%	2.62
2450MHz	73%	2.23
2460MHz	72%	2.21
2470MHz	77%	2.75
2480MHz	72%	2.36
2490MHz	74%	2.56
2500MHz	71%	2.15
AVG	74%	2.47

5150MHz-5850MHz

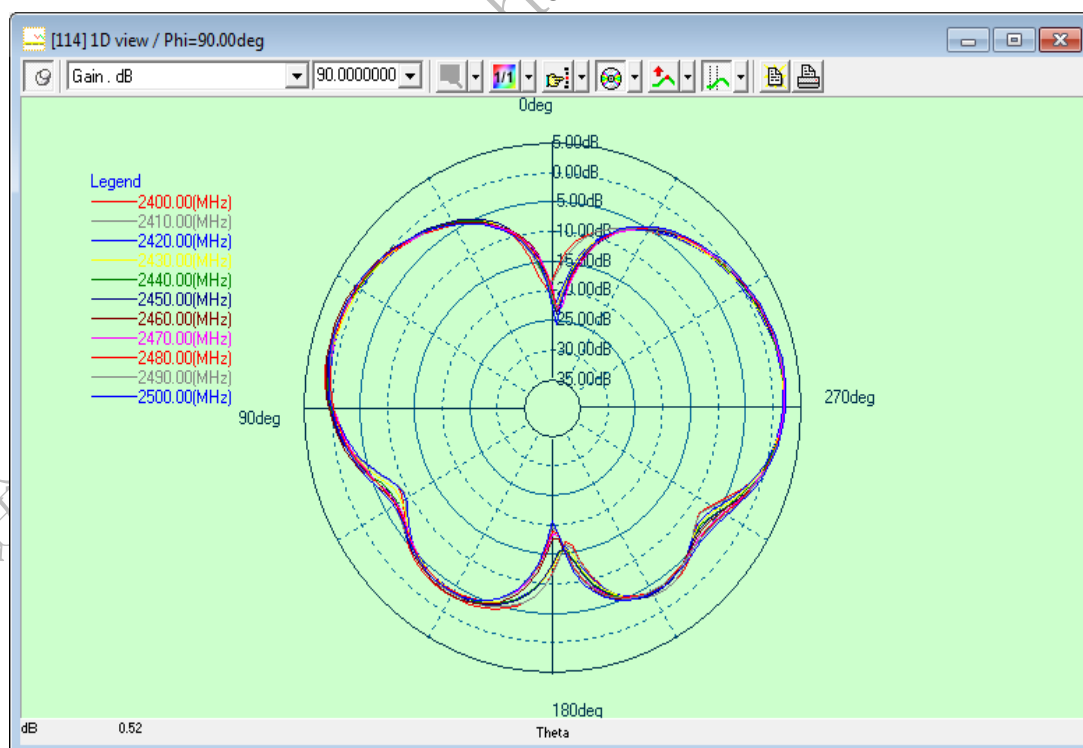
Frequency	Efficiency(%)	Gain (dBi)
5150MHz	72%	2.58
5200MHz	72%	2.60
5250MHz	71%	2.64
5300MHz	69%	2.53
5350MHz	73%	3.05
5400MHz	75%	3.26
5450MHz	73%	3.17
5500MHz	73%	3.12
5550MHz	74%	3.44
5600MHz	72%	3.00
5650MHz	67%	2.56
5700MHz	70%	2.90
5750MHz	71%	2.79
5800MHz	72%	2.61
5850MHz	75%	3.20
AVG	72%	2.90

4.2.3 The antenna radiation pattern(2D)/天線輻射方向圖 (2D)

2400-2500MHz



XOY



YOZ

Product Specification

P/N:

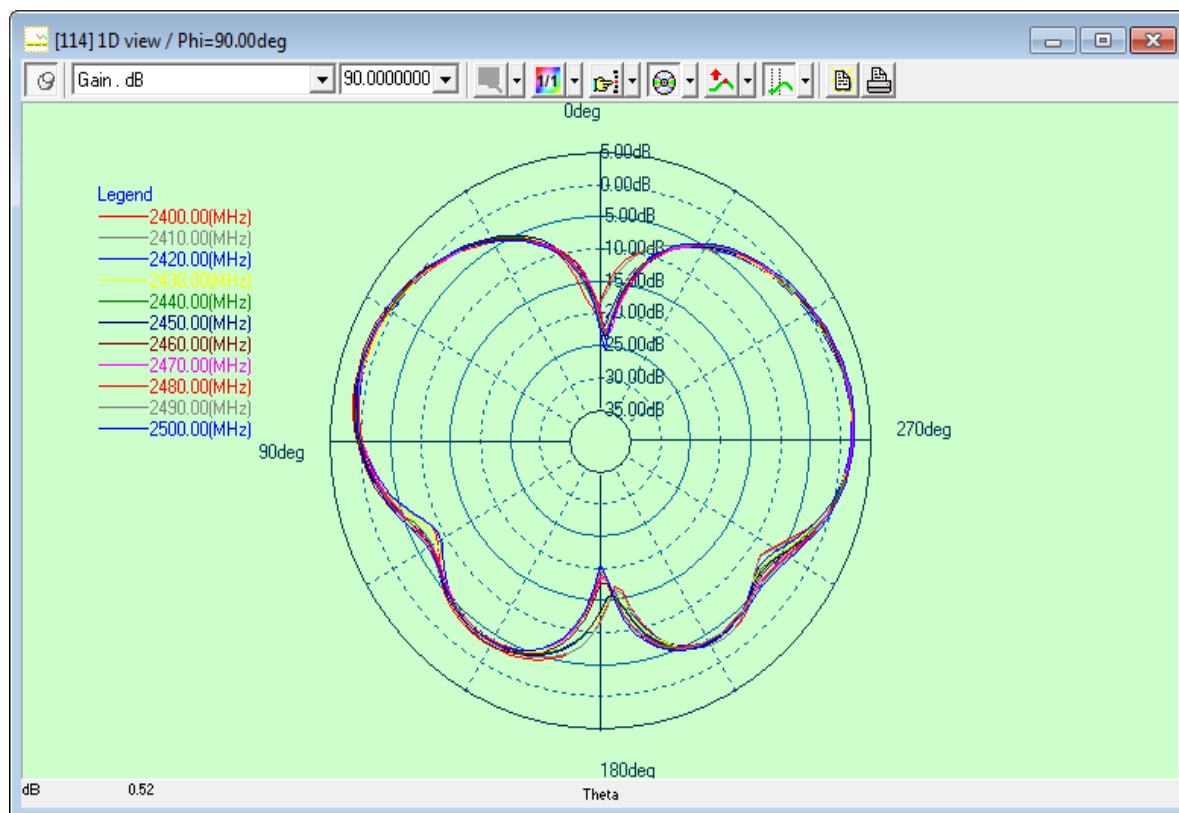
81800U252

Rev.:

A

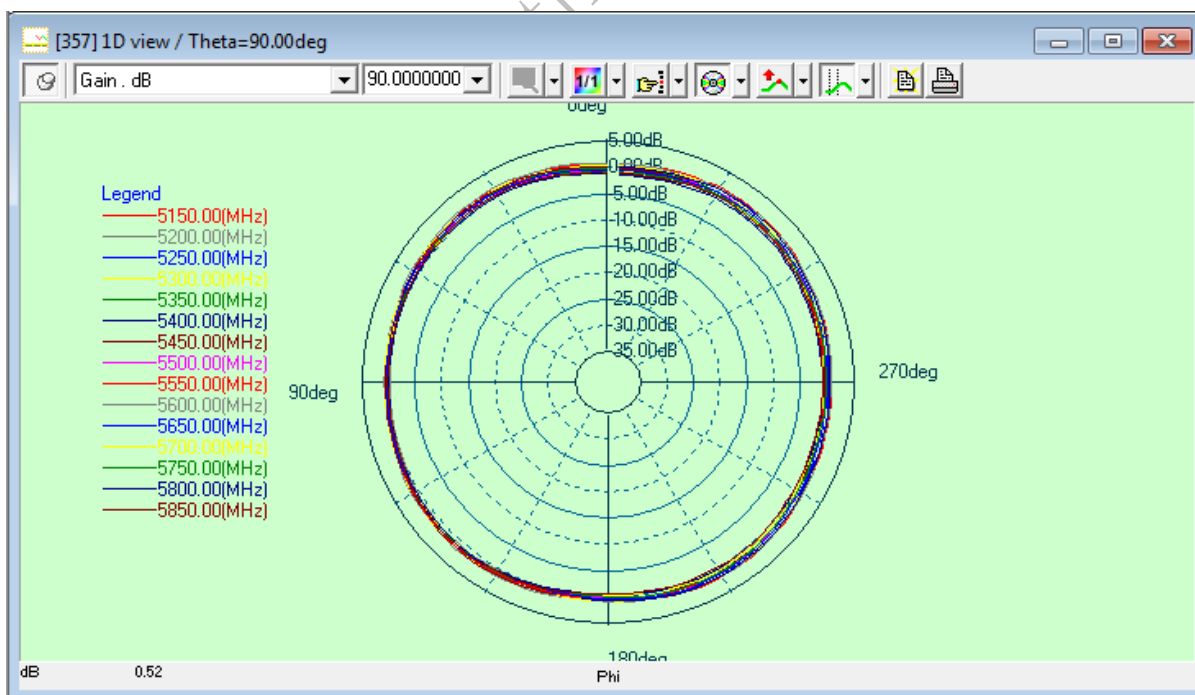
Page:

8 / 12



XOZ

5150-5850MHz



XOY

Product Specification

P/N:

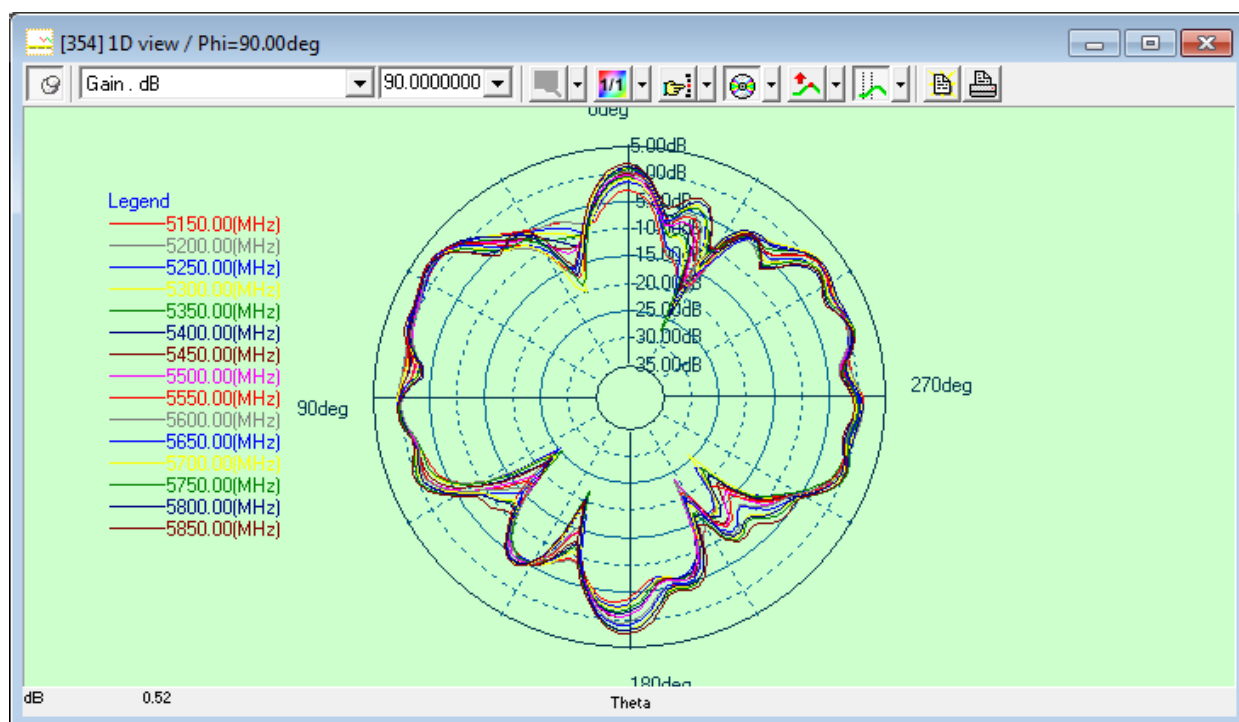
81800U252

Rev.:

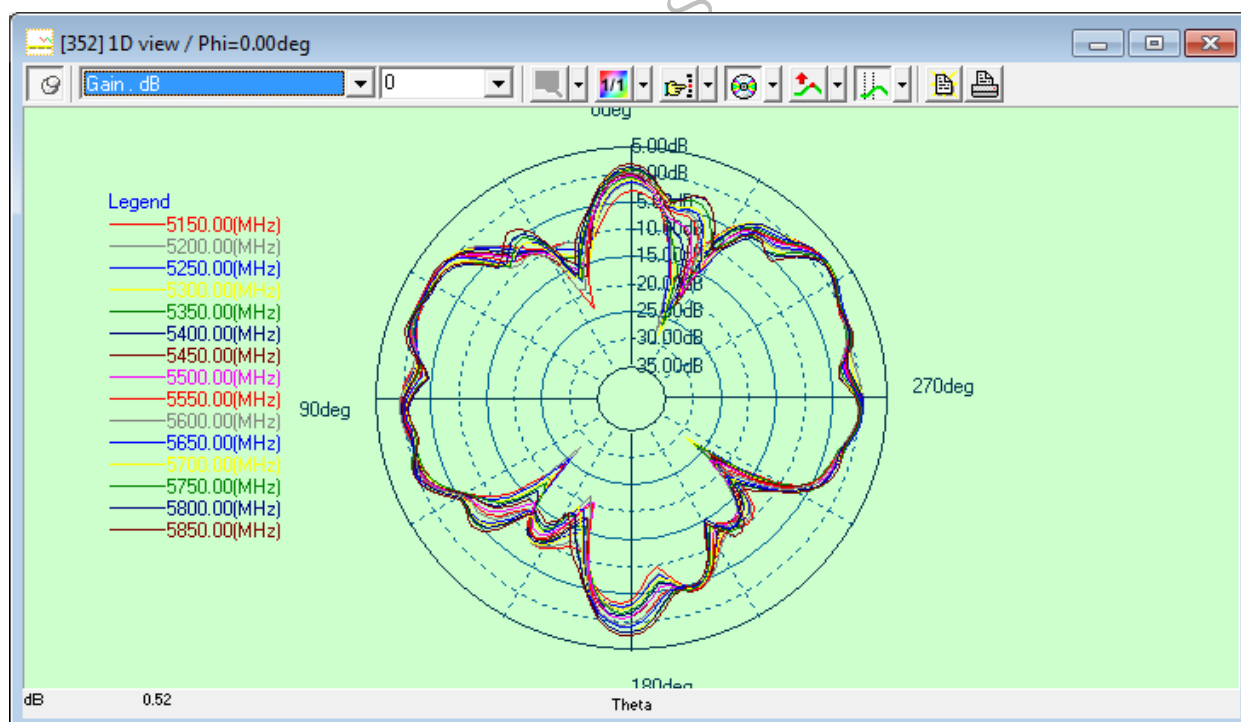
A

Page:

9 / 12



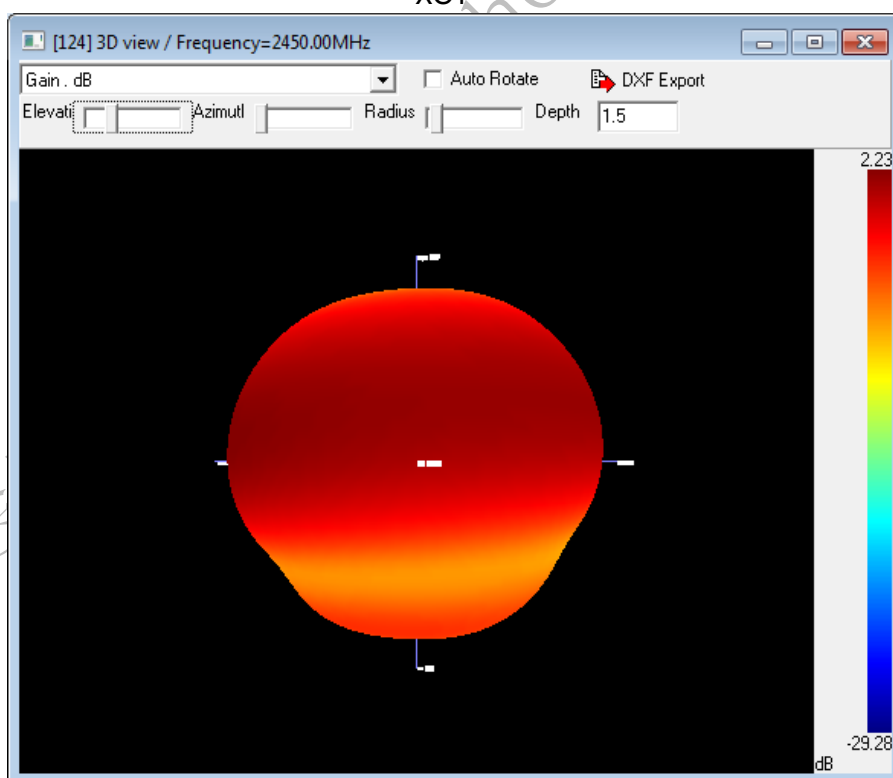
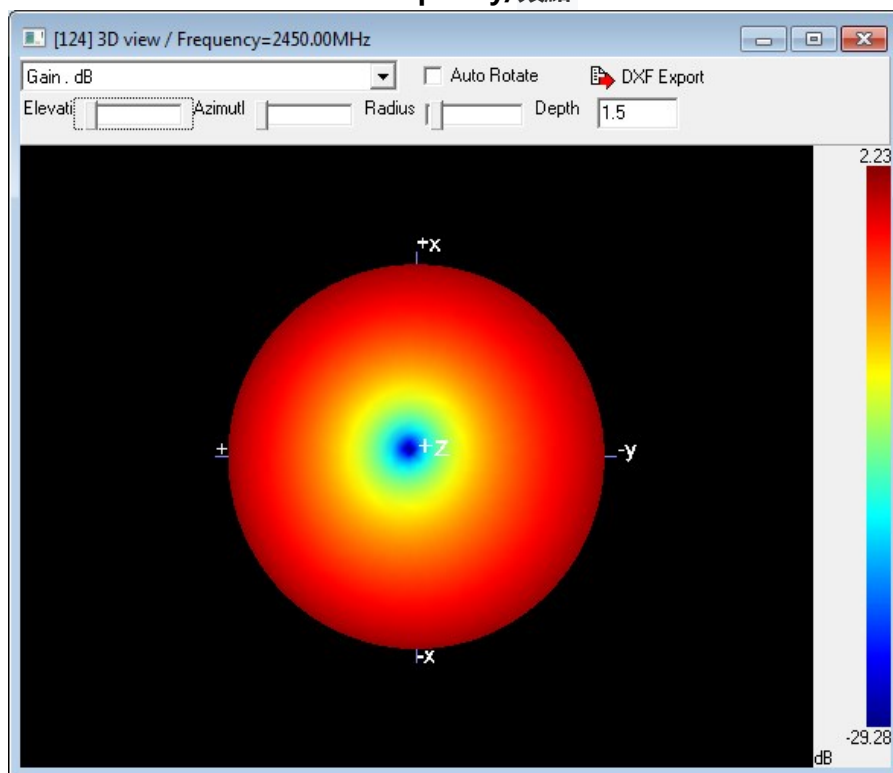
YOZ



XOZ

4.2.4 The antenna radiation pattern(3D)/天線輻射方向圖 (3D)

Frequency/頻點 2450MHz



Product Specification

P/N:

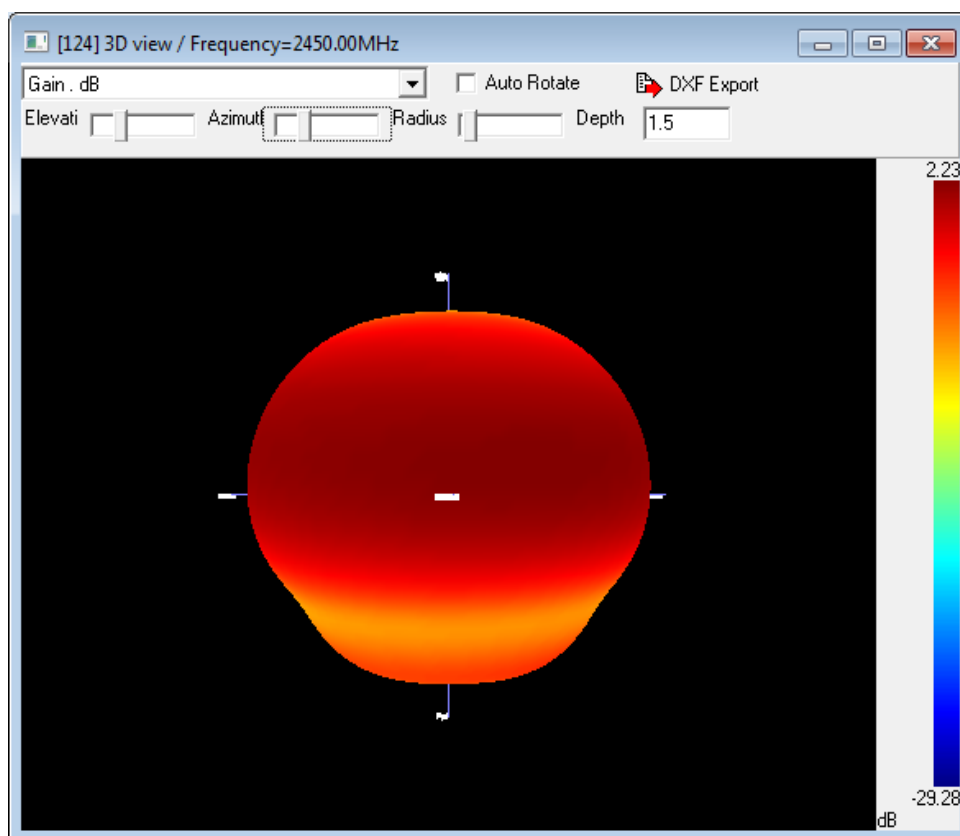
81800U252

Rev.:

A

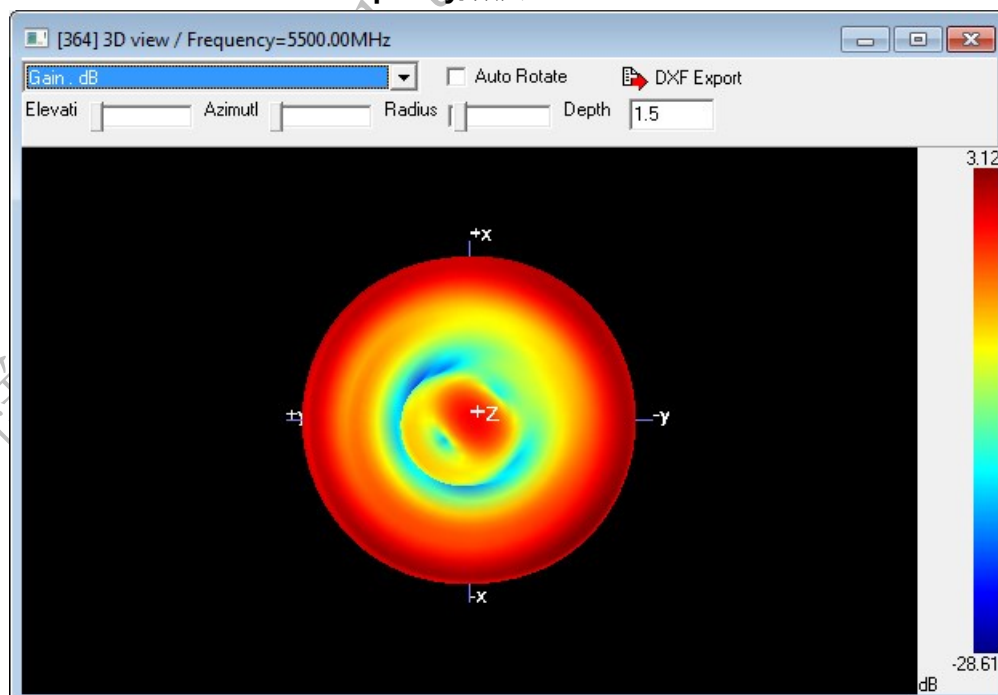
Page:

11 / 12



XOZ

Frequency/频点 5500MHz



XOY

Product Specification

P/N:

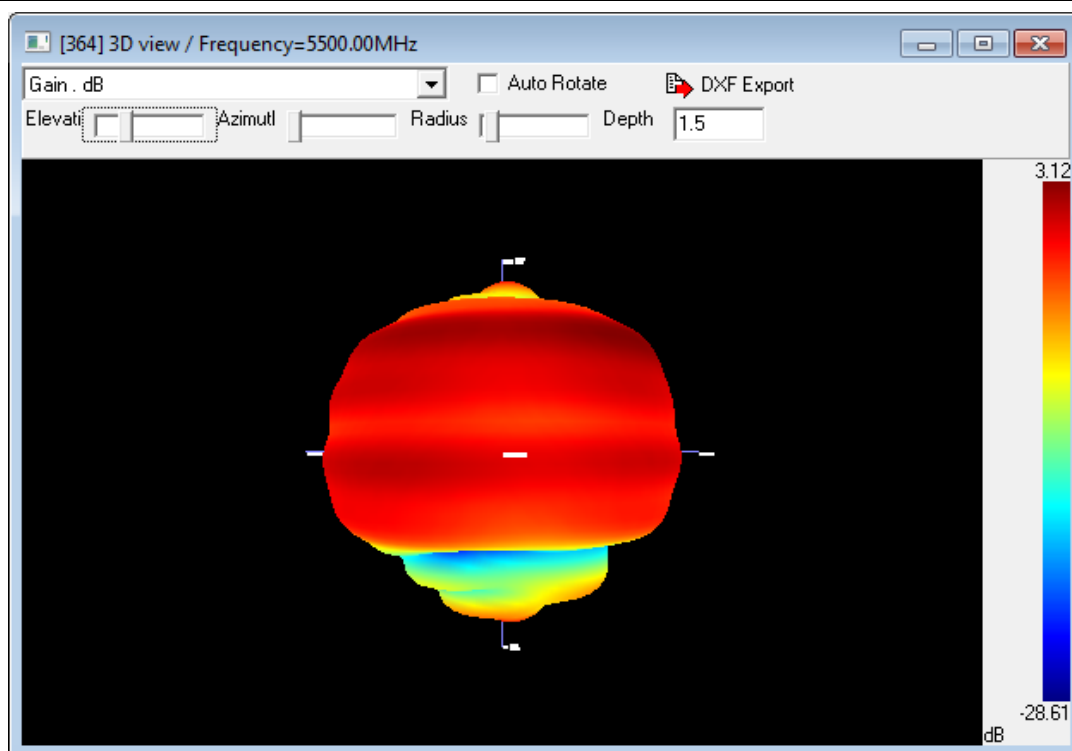
81800U252

Rev.:

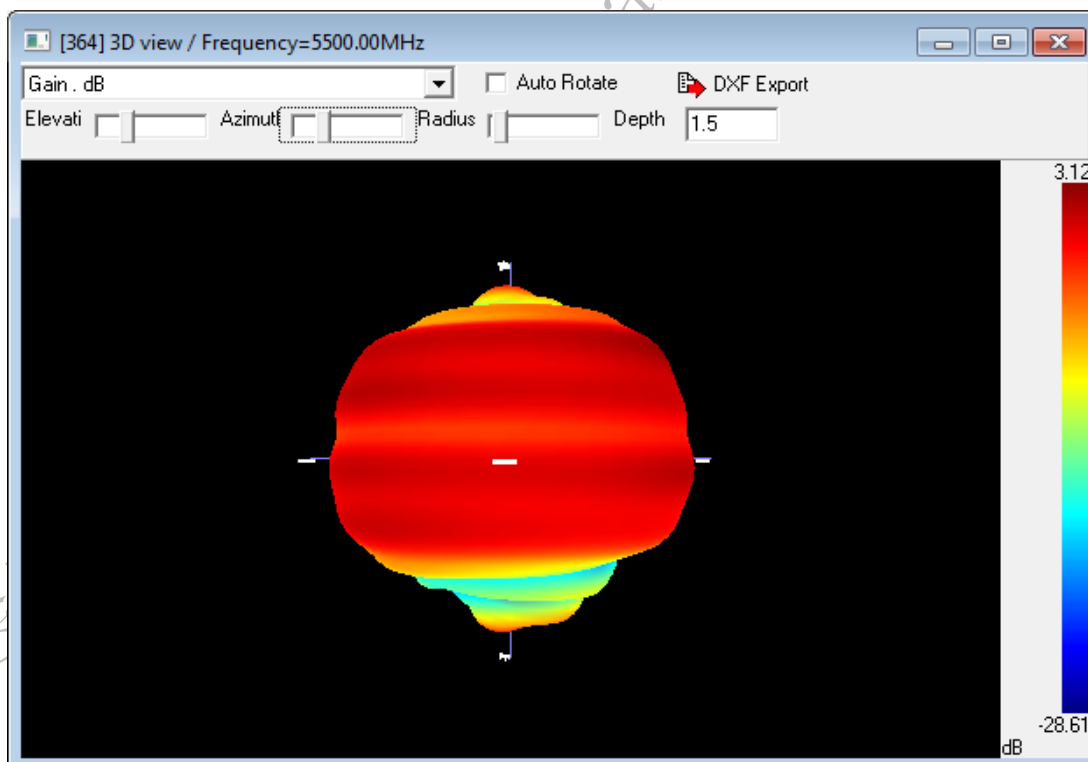
A

Page:

12 / 12



YOZ



XOZ