



深圳自由行通信技术有限公司

Shenzhen Free Walk Communication Technology Co. LTD

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承认书

APPROVAL SHEET

客户 (Customer) : 深圳市华曦达科技股份有限公司
SHEN ZHEN SDMC Technology Co., LTD

产品 (Product) : 2.4G/5G 内置天线(L=130mm)
2.4G/5G built-in antenna (L=130mm)

型号 (Model) : DV8919X

客户料号 (Customer Part Number) :

料号 (Part Number) : Z02-10236-R01

制作人 (Written By) : 胡 涛 Mr Hu

签发时间 (Issued Date) : 2021-12-29

客户 CUSTOMER

工程部 ENGINEER R&D DEPT	品质部 QUALITY DEPT	批准 APPROVED

Free Walk

射频 R&D DEPT	工程部 ENGINEER R&D DEPT	批准 APPROVED
胡 涛	古政华	邓凯



文件变更履历表

Document change history

表单编号: QR-ZYX-084 版本: A0
Form number: QR-ZYX-084 Version: A0

产品型号 Product number		文件变更记录 Document change history					
序号 Serial number	变更类型 Change type	文件编号 File Number	变更日期 Change date	变更内容说明 Description of changes	制作/修订 Production/Revision	版本 version	备注 Remarks

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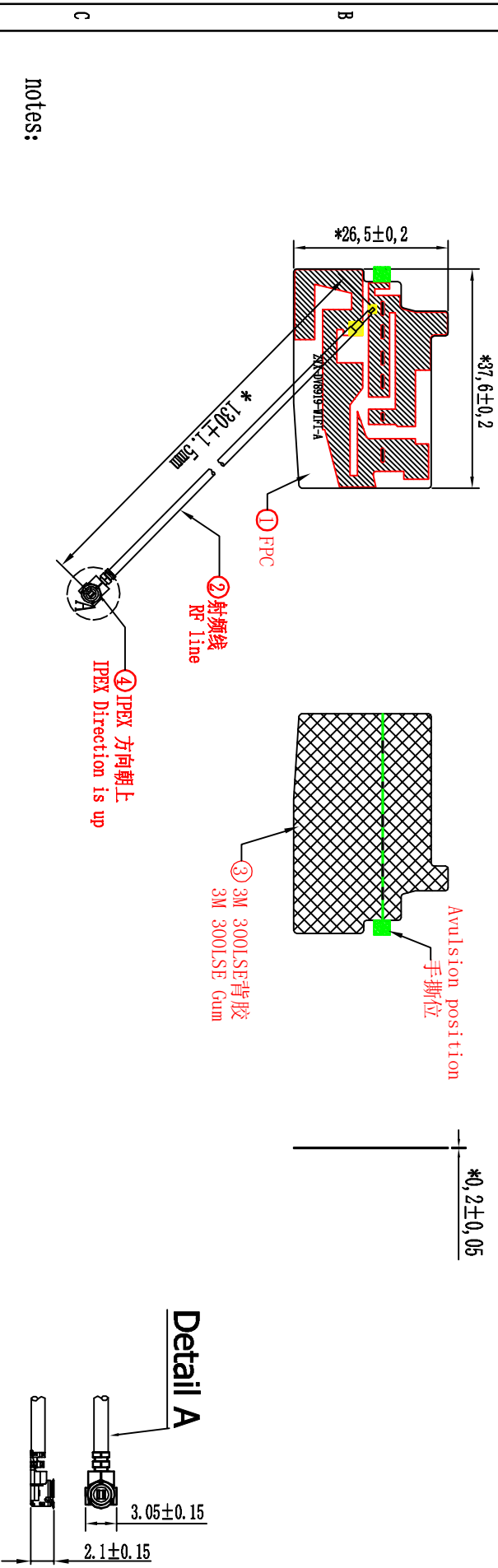
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The basic parameters

A. Electrical Characteristics	
Frequency	2400 MHz ~2500MHz/5150MHz~5850MHz
VSWR	<2
Efficiency	>40%
Impedance	50 Ohm Linear
Polarization	2.4G/5G
Gain	m a x . 3.7dBi
B. Material & Mechanical Characteristics	
Material of Radiator	
Cable Type	Φ1.13 Black
Connector Type	First generation IPEX
Dimension	
C. Environmental	
Operation Temperature	- 20 °C ~ + 60 °C
Storage Temperature	- 40 °C ~ + 80 °C

序号 NO	品名 Name	材料/规格 Material	颜色 Colour	数量 Amount	备注 Remark
①	FPC	PI+电解铜 PI+Electrolytic copper	黑色 black	1	
②	∅1.13射频线 RF line	Cu+编织带 Cu+Woven belt	黑色 black	1	
③	背胶 3M Gum	3M 300LSE	黄色 yellow	1	
④	IPEX	第一代 The third generation	金色 golden	1	



notes:

- Standard * is the key dimension, Dimensions not marked with tolerance shall be tested according to ± 0.15
- Refer to drawing without dimension; Other dimensions are subject to actual matching;
- The Routing area, The gold-plating, The 3M300LSE gum
- The product shall be free of oil, dust, burr, etc;
- accord with ROHS

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Third angle system		机种/Project		Date	
0~10	±0.10	○	0.02	DW8919X	2021/12/29
10~20	±0.15	◎	∅0.03	品名/Part Name	2.46/5.86-Antenna-A
20~40	±0.20	⊥	0.02	料号/Part NO	202-10236-R01
40~	±0.25	∇	0.04	客户料号 Customer P/N	360100265
Do not measure the drawings		Location	W/A	unit	mm
1		5		6	
2		3		4	
7		Scale		1:1	
8		Rea		A	

Test Equipment & Conditions

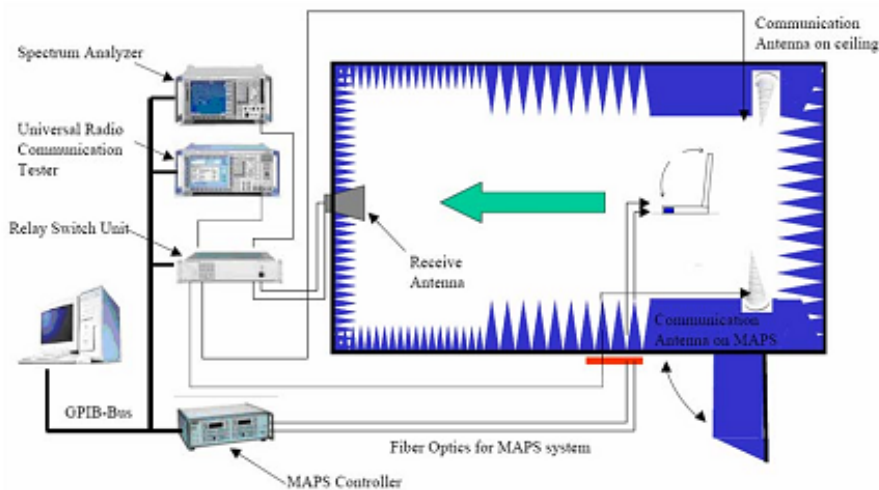
1. Network Analyzers :

Agilent 8753D 5071B

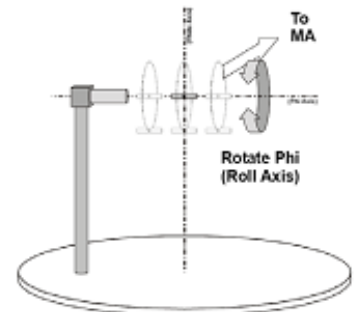
2. Communications Test Set:

Agilent 8960

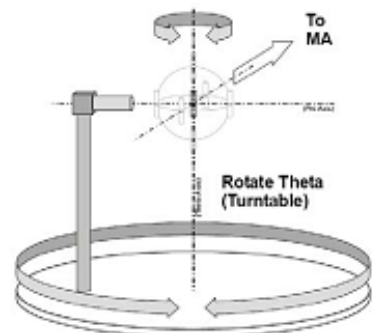
3. 3D Chamber Test System



(Testing by 3D anechoic chamber)

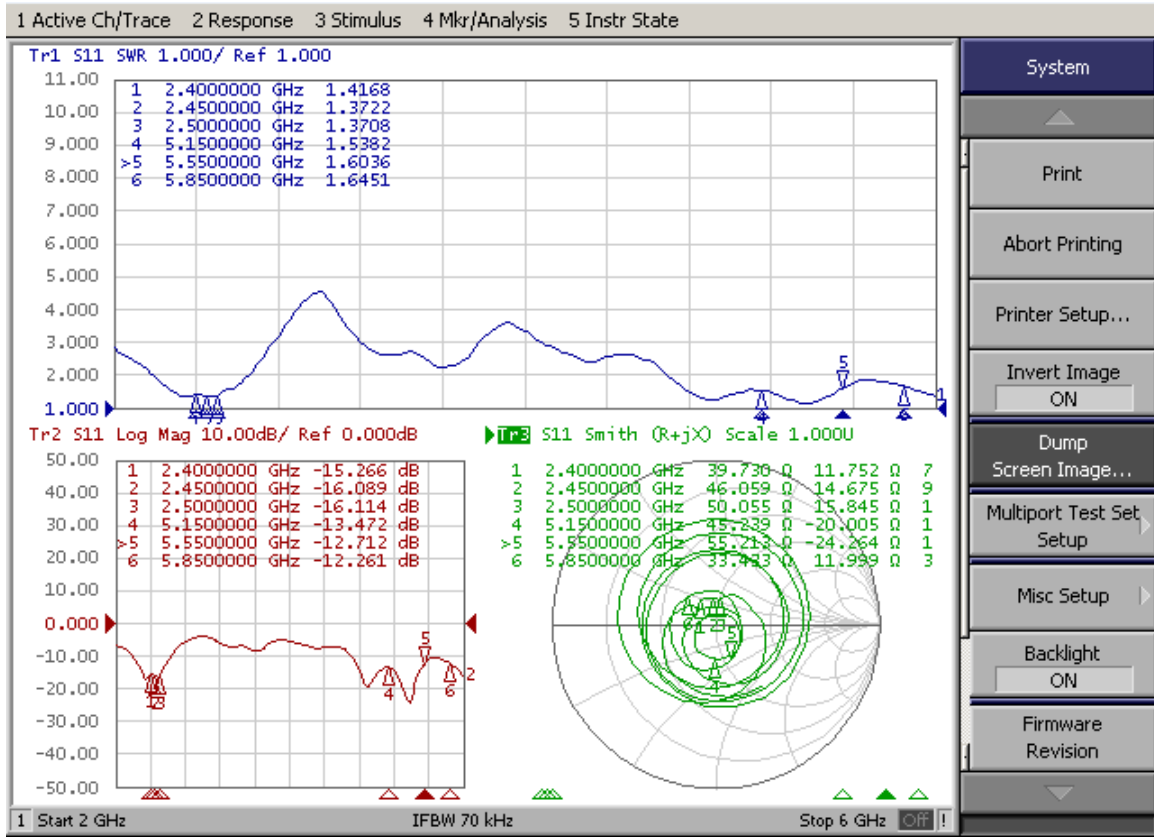


Phi axis test



Theta axis test

测试数据 Test Data



驻波比数据 SWR data

Freq/GHz	2.4	2.45	2.5	5.15	5.55	5.85
VSWR	1.4	1.3	1.3	1.5	1.6	1.6

效率&增益:

Efficiency&Gain

2.4G test data

Freq(MHz)	Effi (%)	Gain(dBi)
2400	52.84	3.40
2410	53.95	3.35
2420	52.84	2.78
2430	52.48	2.94
2440	50.82	2.48
2450	46.88	2.40
2460	45.92	2.00
2470	45.19	2.35
2480	43.15	2.23
2490	42.95	2.01
2500	42.76	2.02

5.8G test data

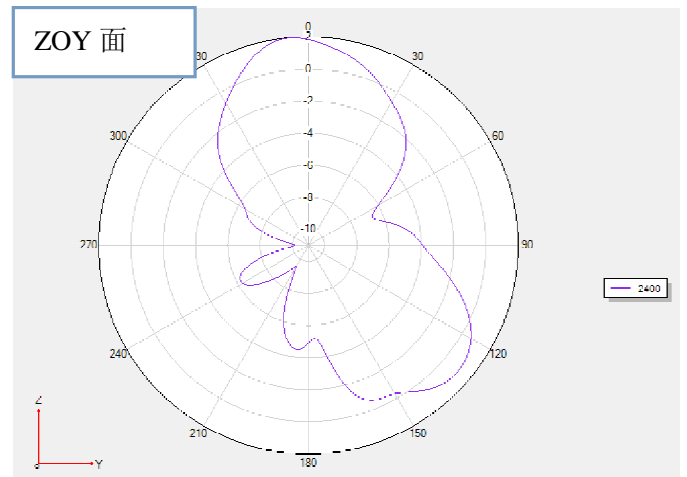
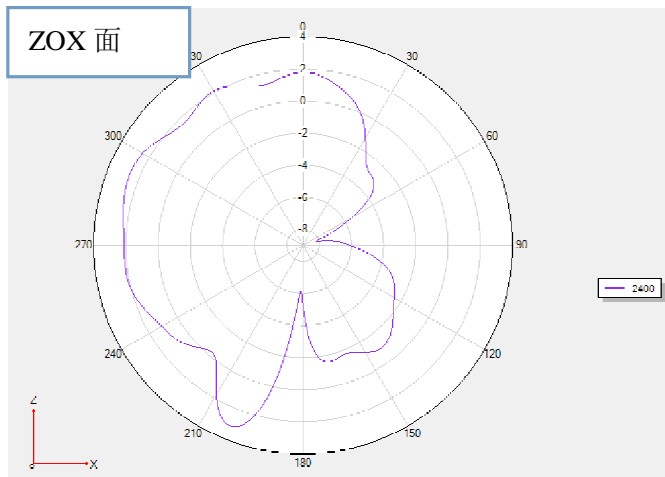
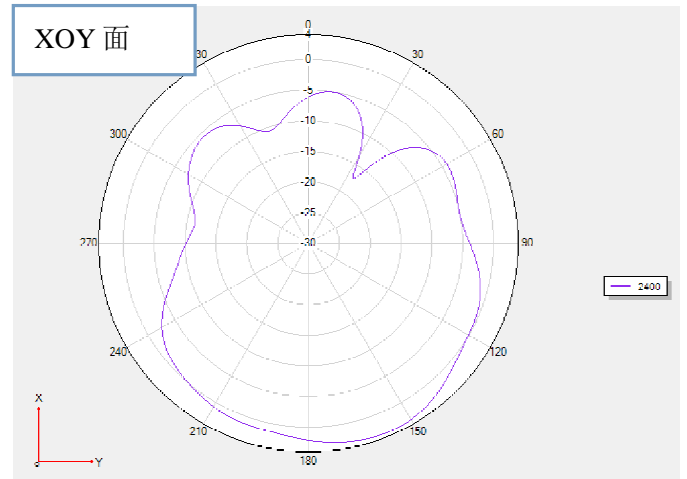
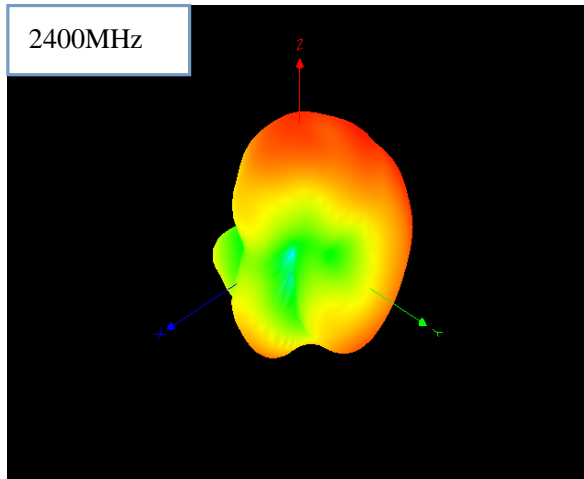
Freq(MHz)	Effi (%)	Gain(dBi)
5150	63.83	2.47
5200	62.52	2.41
5250	63.24	2.58
5300	67.61	2.61
5350	63.24	2.52
5400	66.99	2.52
5450	68.55	2.89
5500	64.42	3.02
5550	60.95	3.17
5600	63.10	3.70
5650	63.68	3.36
5700	61.09	3.11
5750	65.16	2.50
5800	62.23	1.90
5850	64.42	2.93

方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

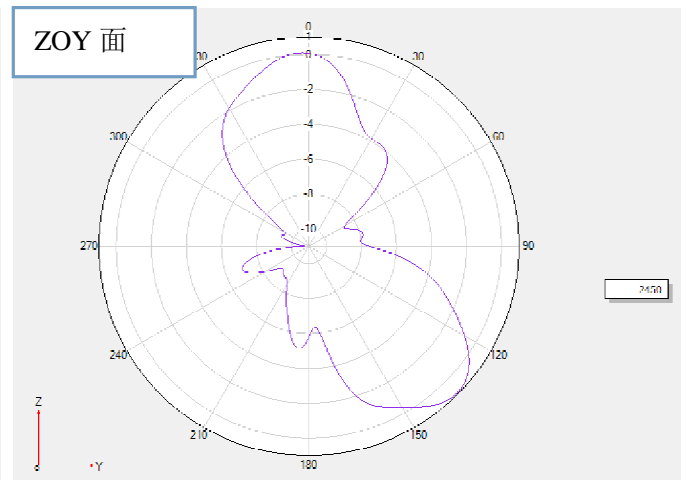
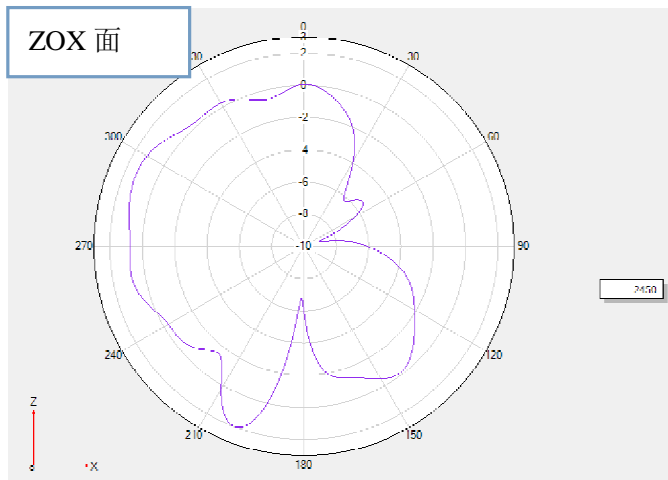
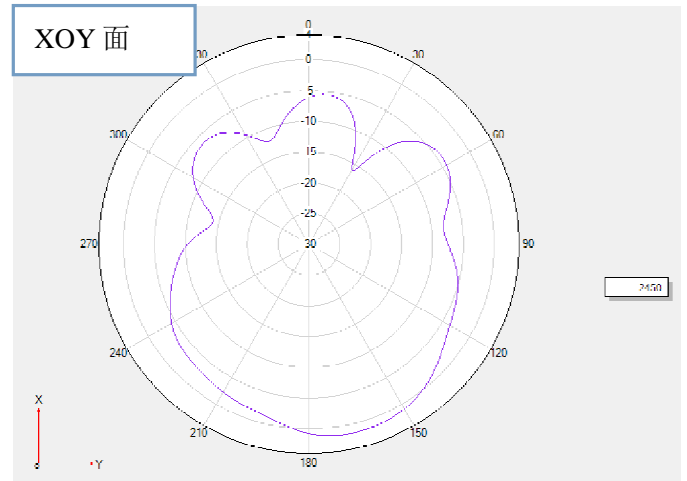
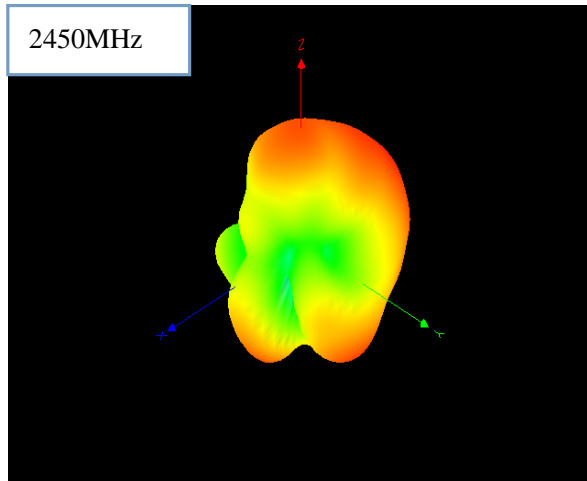


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

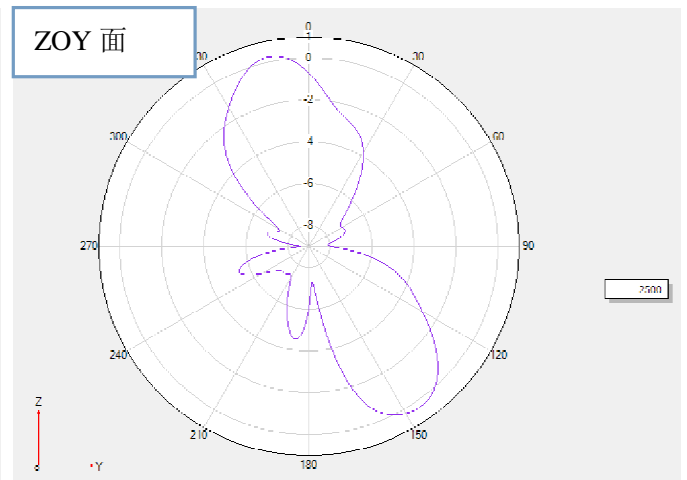
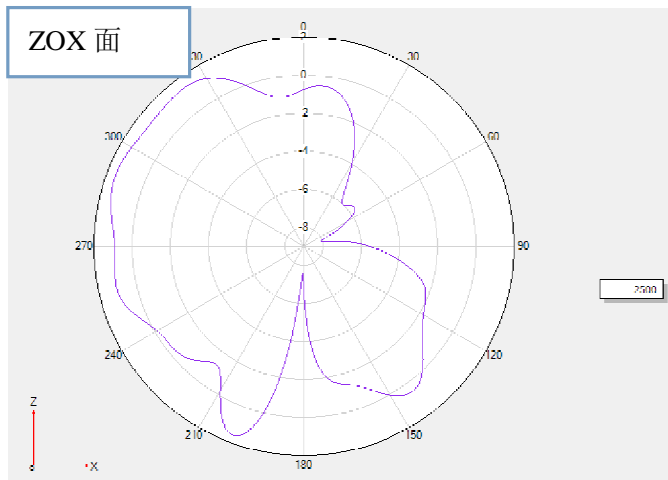
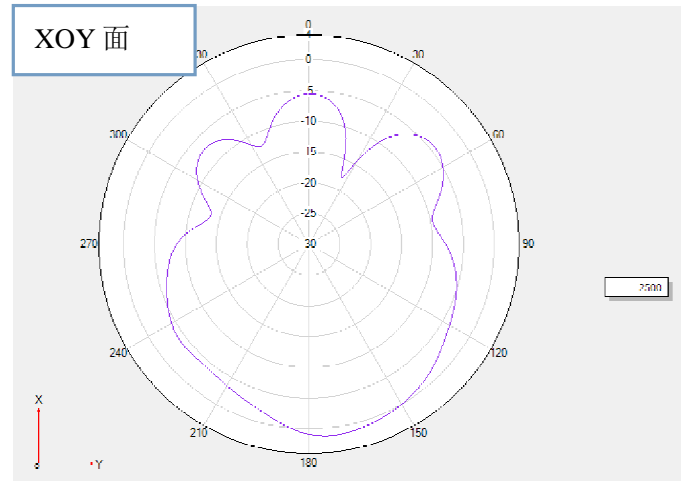
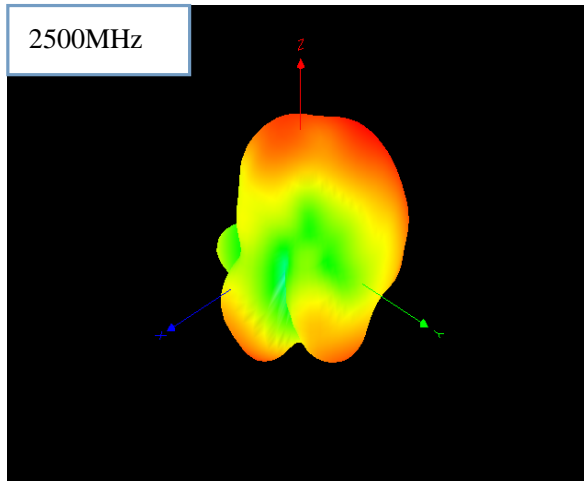


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

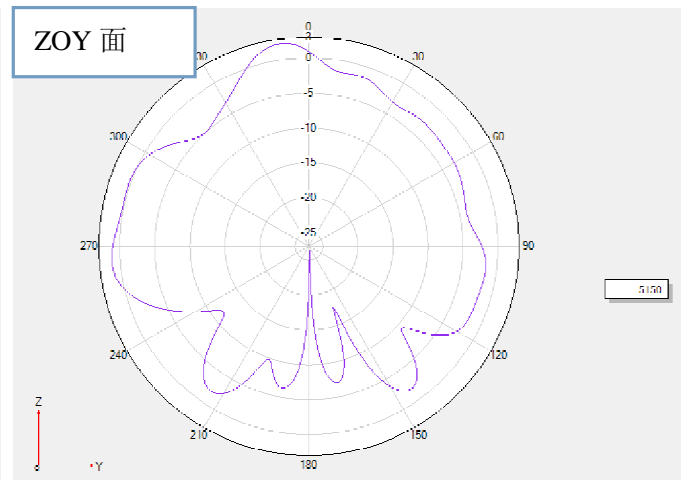
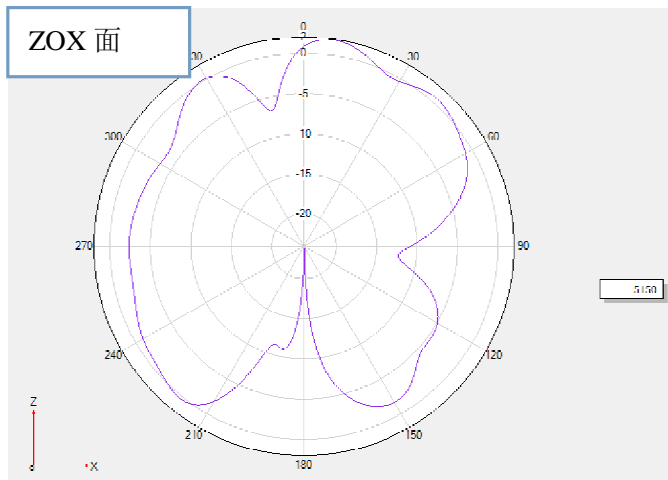
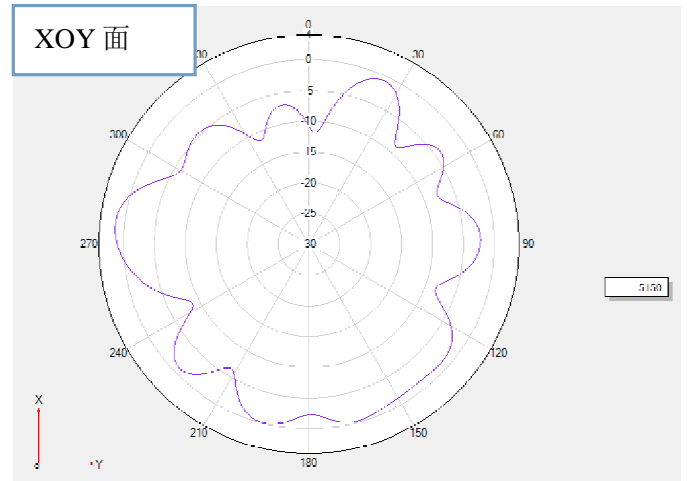
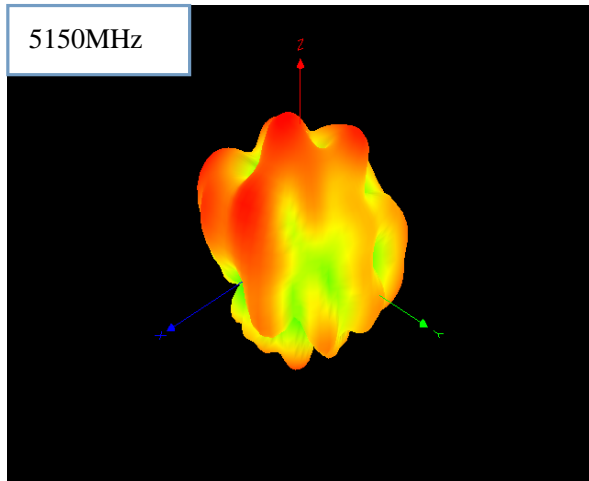


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

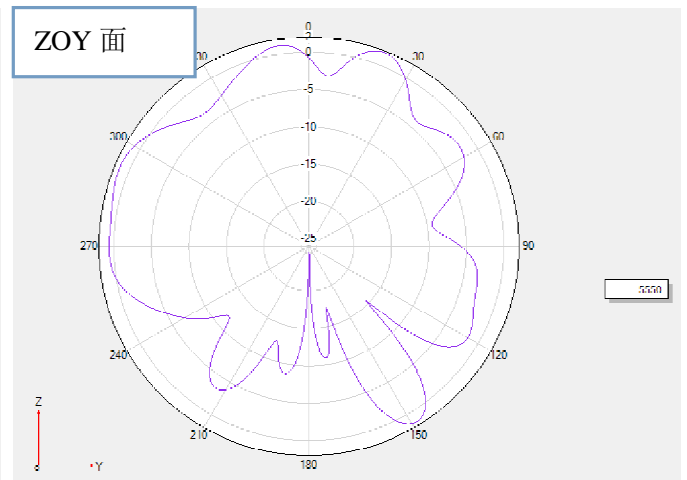
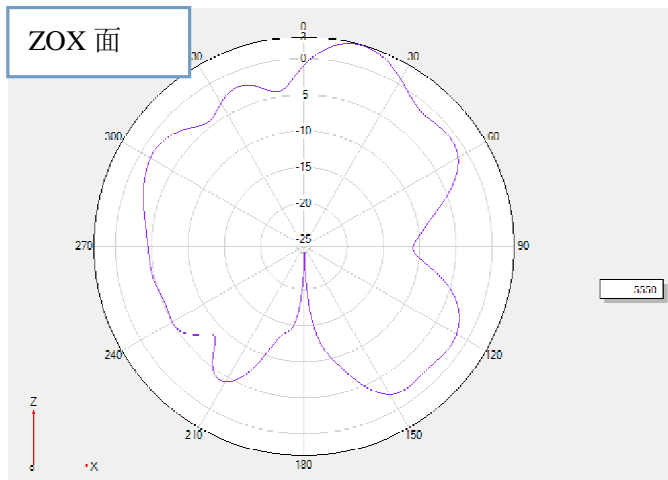
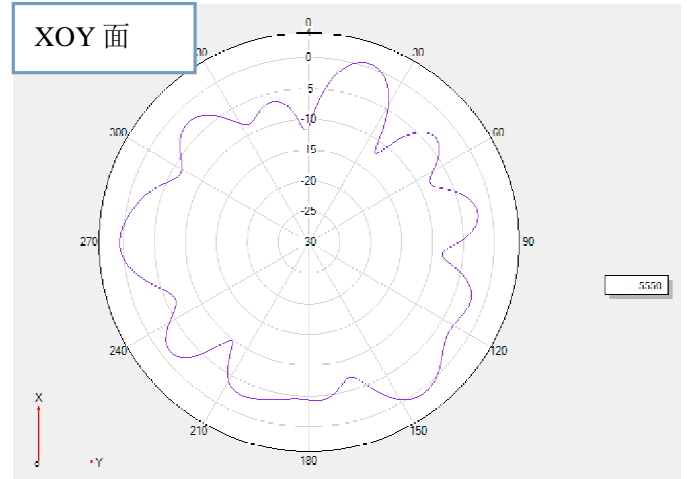
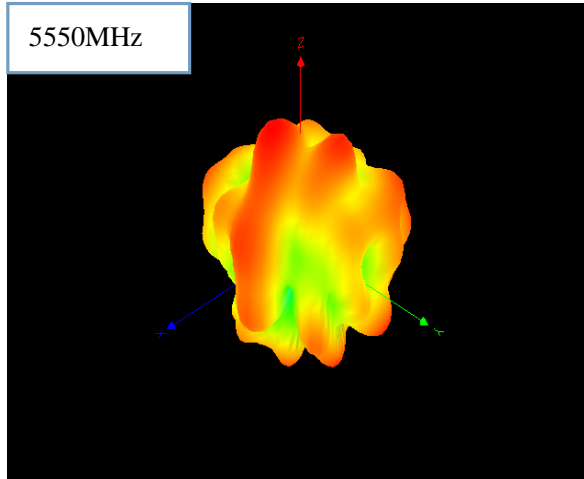


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

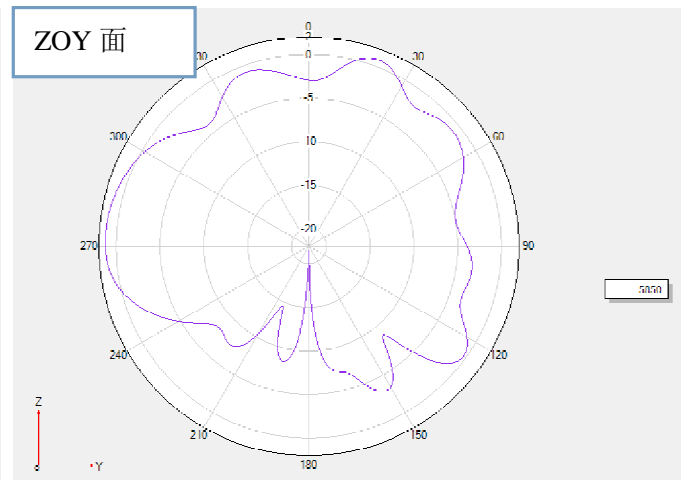
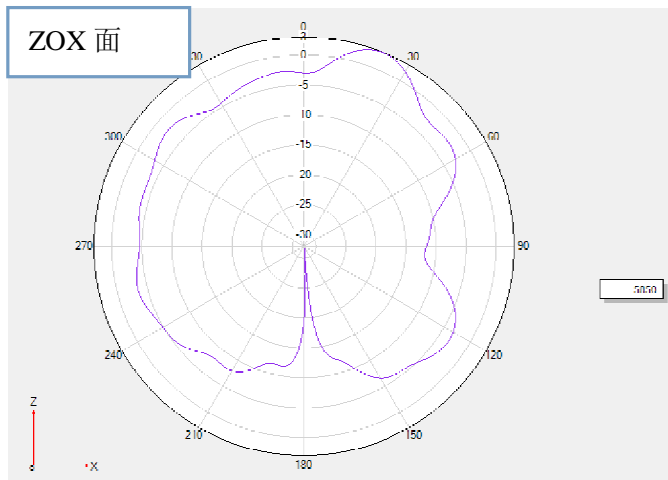
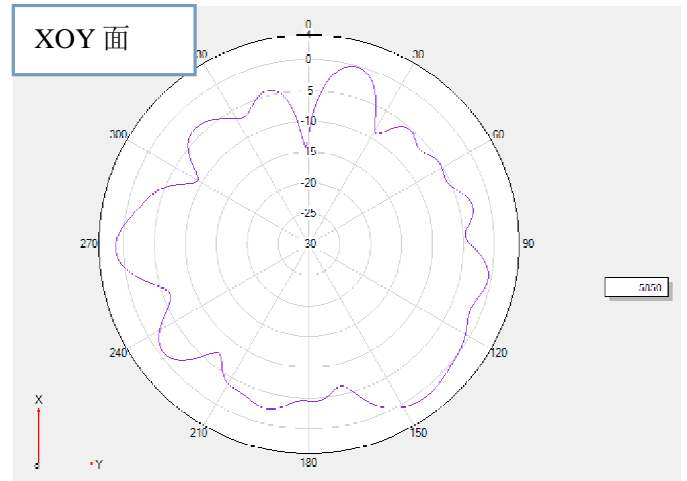
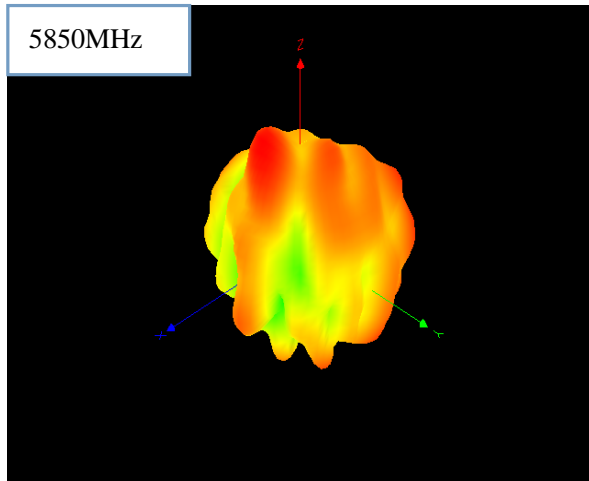


方向图 (3D)

Directional map (3D)

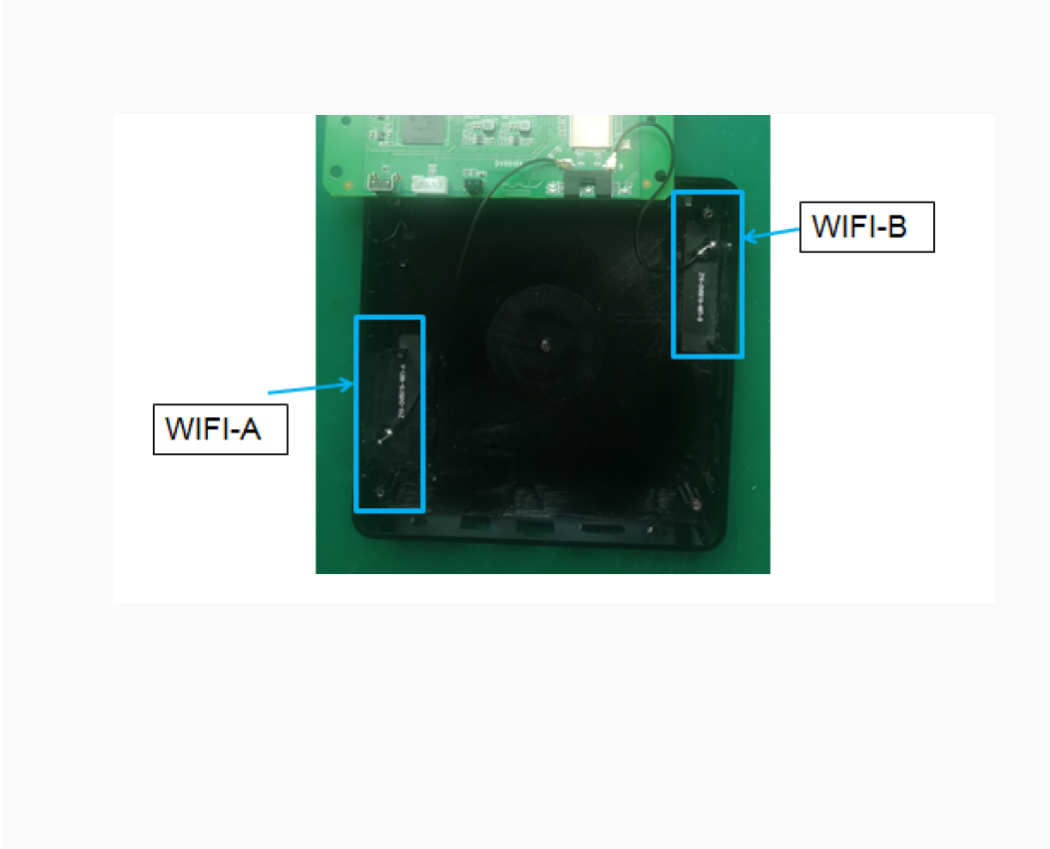
方向图 (2D)

Directional map (2D)



天线图片

Antenna Picture



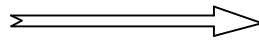
Product packaging specification

Product Name: antenna

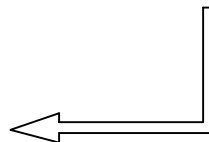
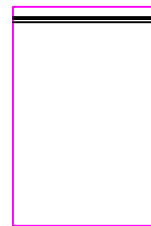
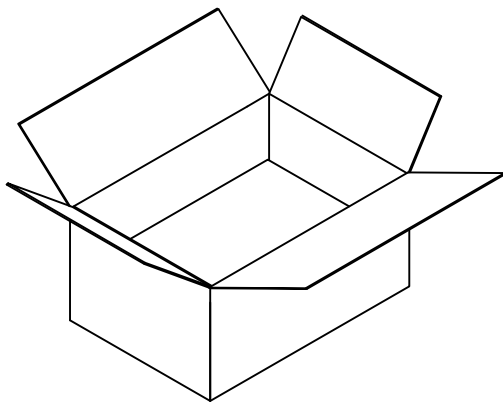
Rea : A00

Except for others

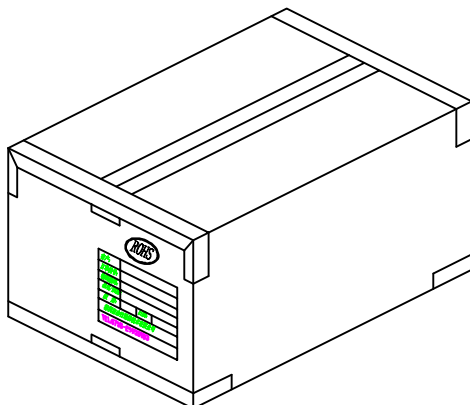
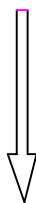
一: Antenna



二: Put them in PE bags, quantity is packed in (50 100pcs)
Subject to the actual situation



三: Put the antenna in the carton



四: Seal the box and paste the production label and RoHS label on the outer box (actual situation shall prevail)