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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=105mm)
2.4G/5G built-in antenna (L=105mm)

型号 (Model) : DV8919X

客户料号 (Customer Part Number) :

料号 (Part Number) : Z02-10237-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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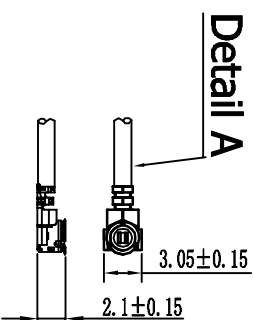
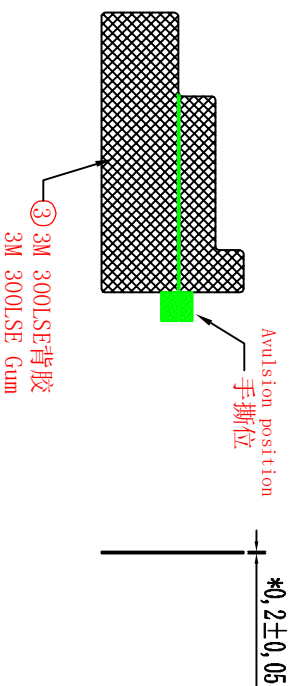
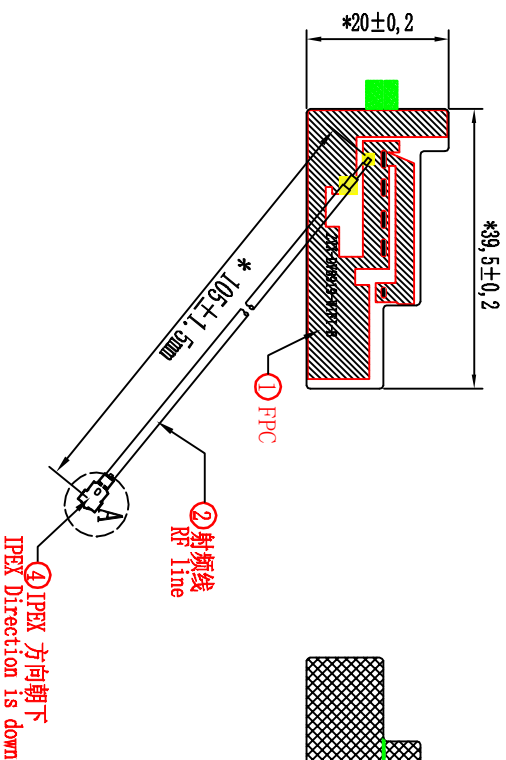
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The basic parameters

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 . 4.31dBi
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	Ø1.13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

深圳自由行通信技术有限公司

Shenzhen Free Walk Technology Co. LTD

Third angle system	机种/Project	Date	2021/12/29
0~10	±0.10	0.02	
10~20	±0.15	0.03	
20~40	±0.20	0.02	
40~	±0.25	0.04	
Do not measure the drawings Location		W/A	
品名/Part Name		2.46/5.86-Antenna-B	
料号/Part NO		202-10237-R01	
客户料号 Customer P/N		3601000266	
unit	mm	Scale	1:1
6	7	8	A

Test Equipment & Conditions

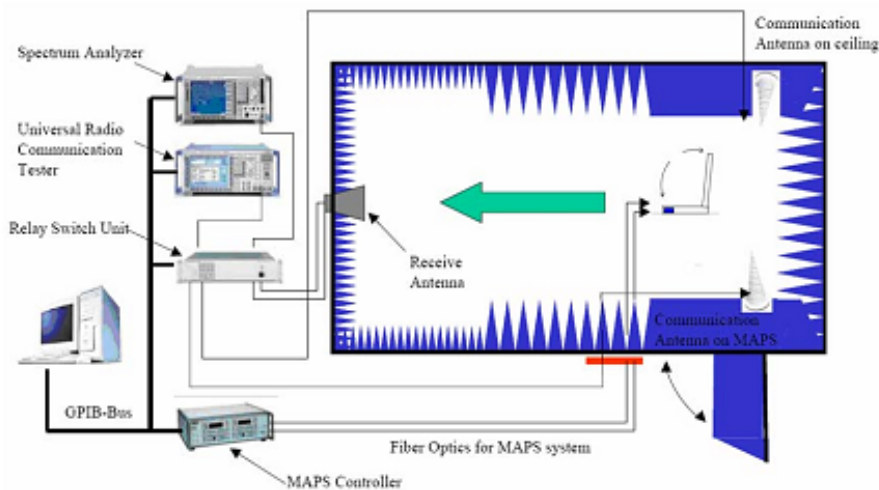
1. Network Analyzers :

Agilent 8753D 5071B

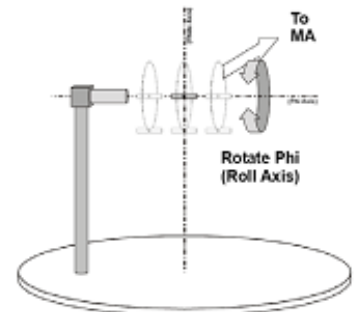
2. Communications Test Set:

Agilent 8960

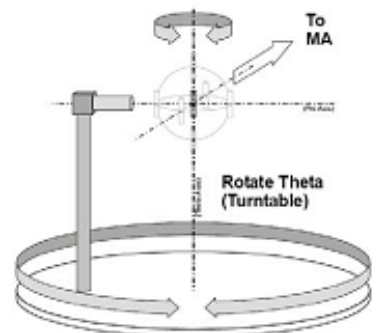
3. 3D Chamber Test System



(Testing by 3D anechoic chamber)

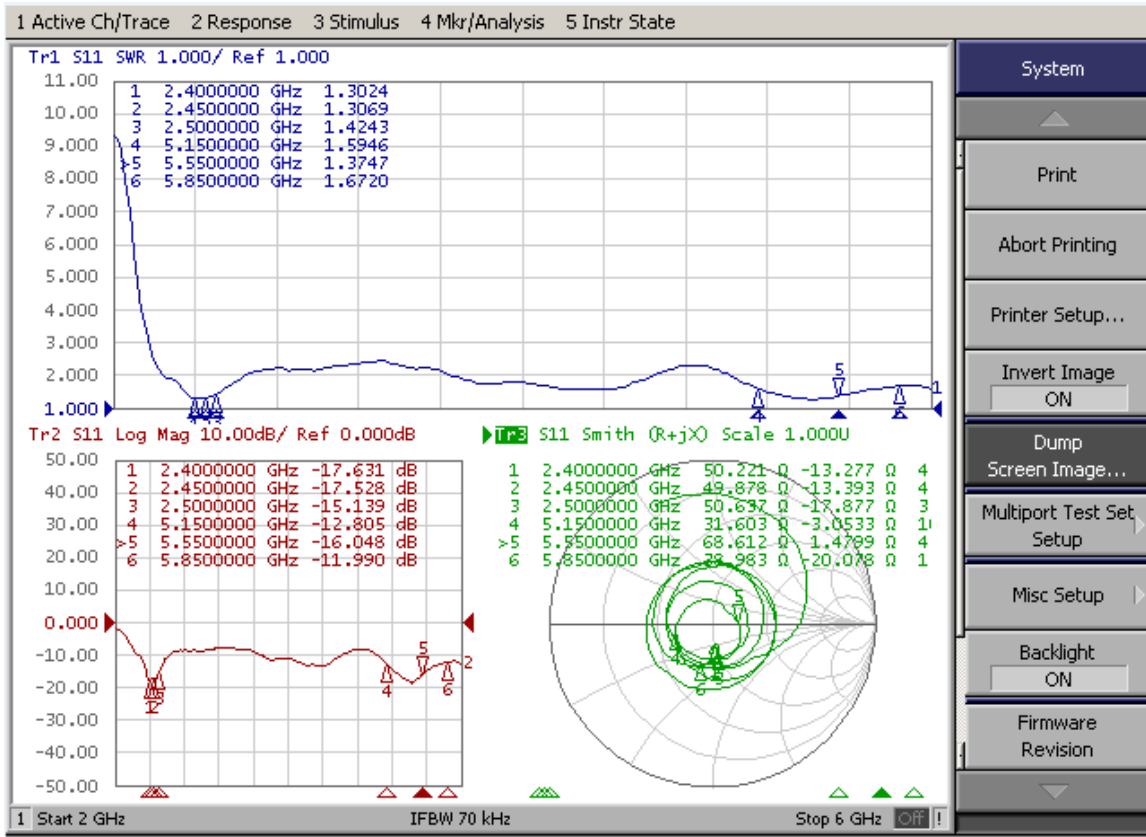


Phi axis test



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	1.3	1.3	1.4	1.5	1.3	1.6

效率&增益:

Efficency&Gain

2.4G test data

Freq(MHz)	Effi (%)	Gain(dBi)
2400	63.10	4.18
2410	63.68	3.59
2420	61.94	3.35
2430	62.95	3.00
2440	64.57	3.42
2450	59.98	3.01
2460	60.26	3.36
2470	60.67	3.57
2480	62.66	4.10
2490	59.84	3.55
2500	59.16	3.55

5.8G test data

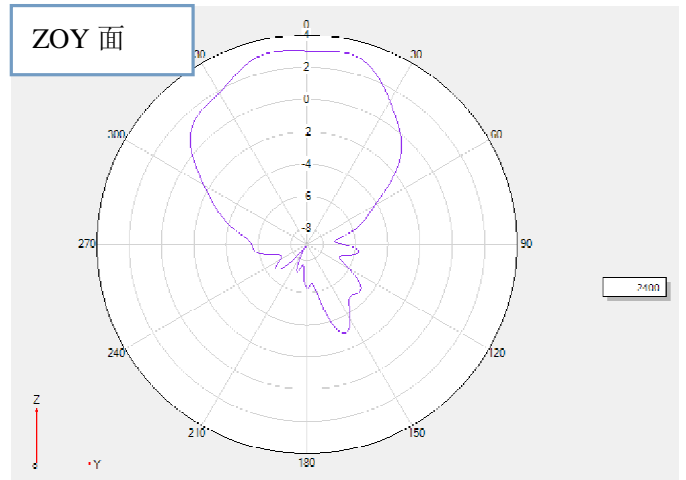
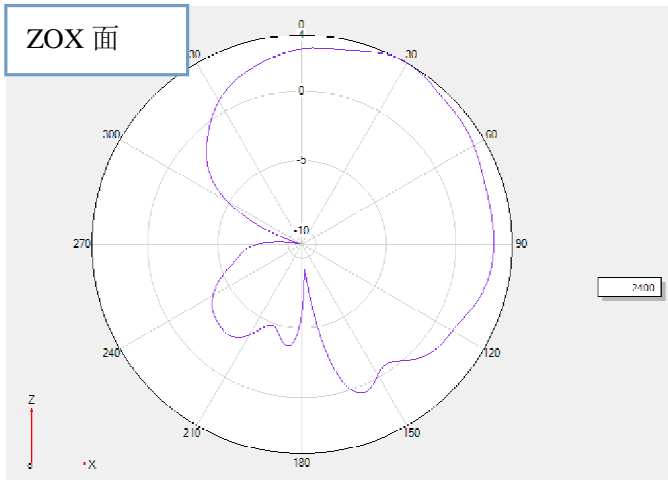
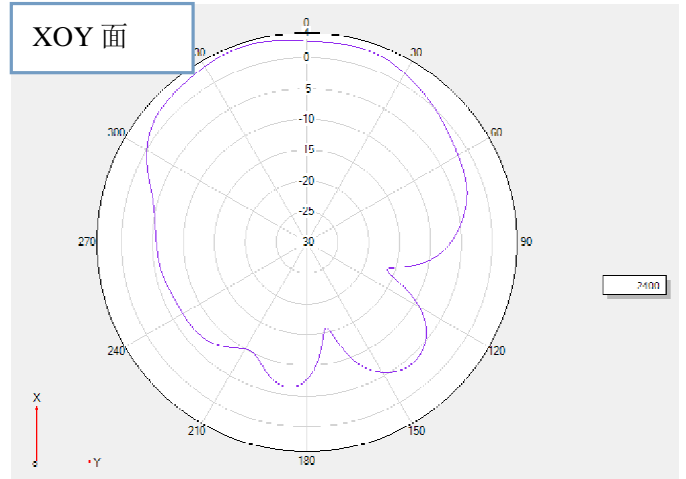
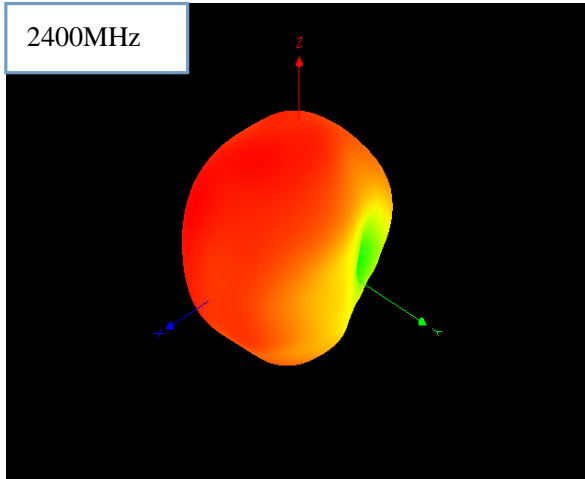
Freq(MHz)	Effi (%)	Gain(dBi)
5150	61.52	3.28
5200	60.26	2.51
5250	61.24	2.77
5300	72.11	3.47
5350	65.01	3.11
5400	72.11	3.62
5450	73.28	3.41
5500	70.47	3.87
5550	65.46	4.02
5600	70.63	4.31
5650	70.47	4.25
5700	61.80	3.70
5750	68.39	3.08
5800	60.12	2.97
5850	62.66	3.03

方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

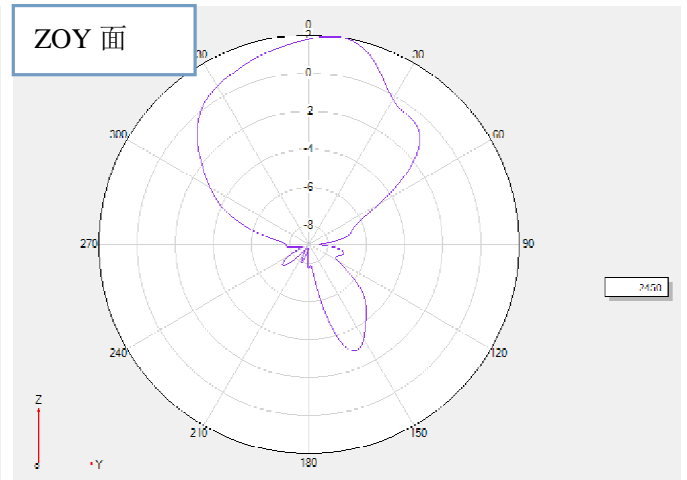
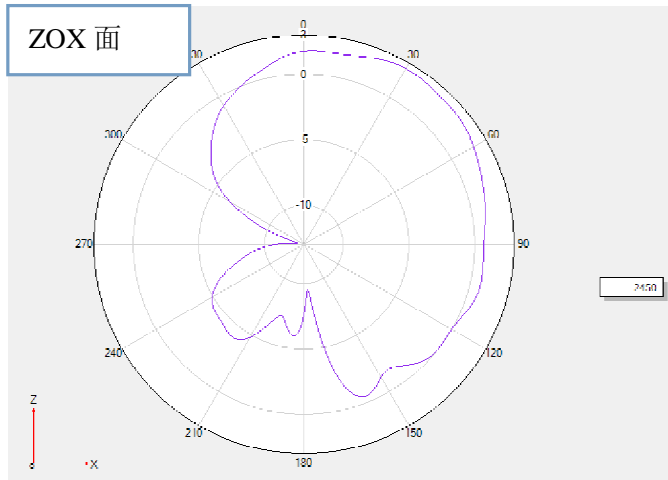
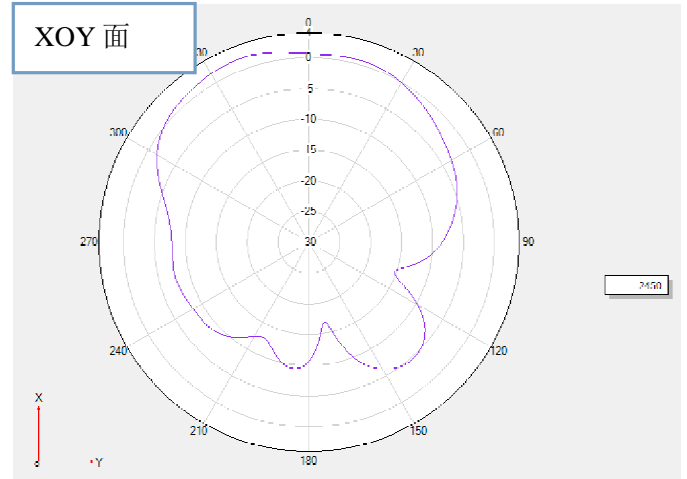
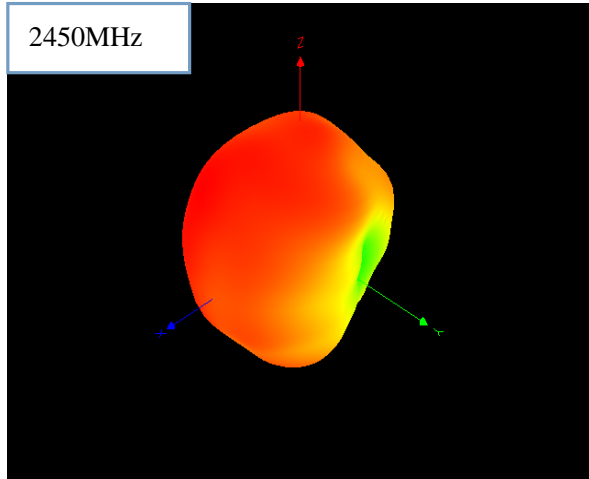


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

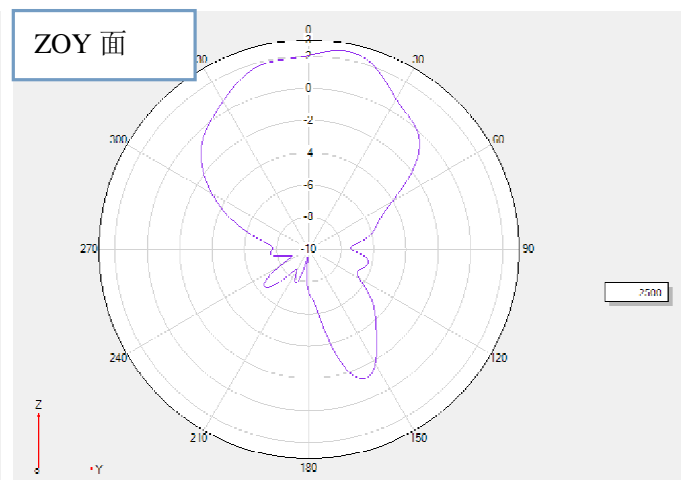
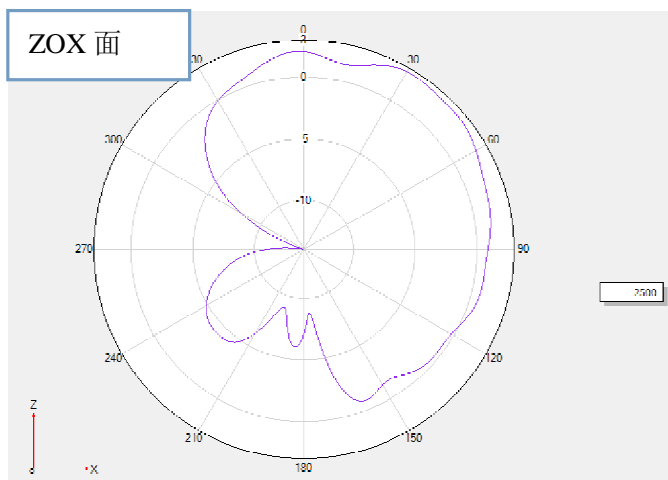
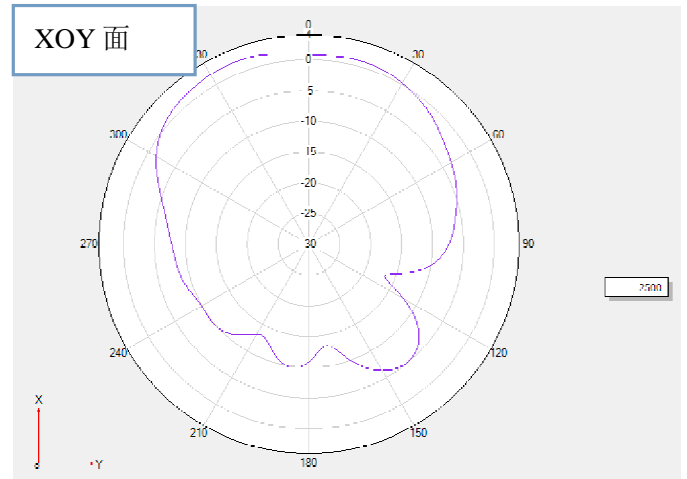
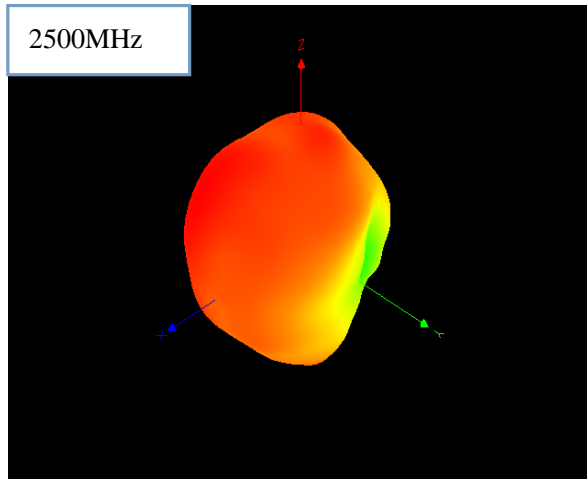


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

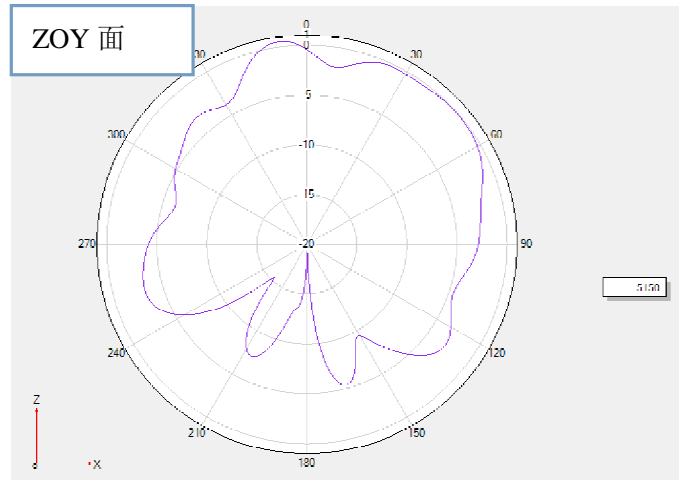
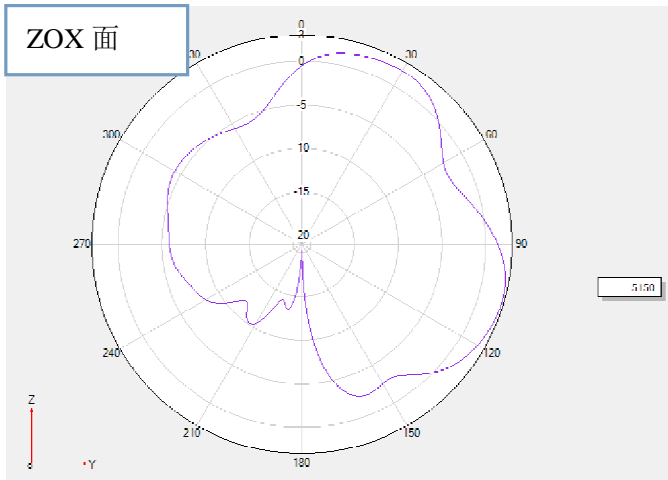
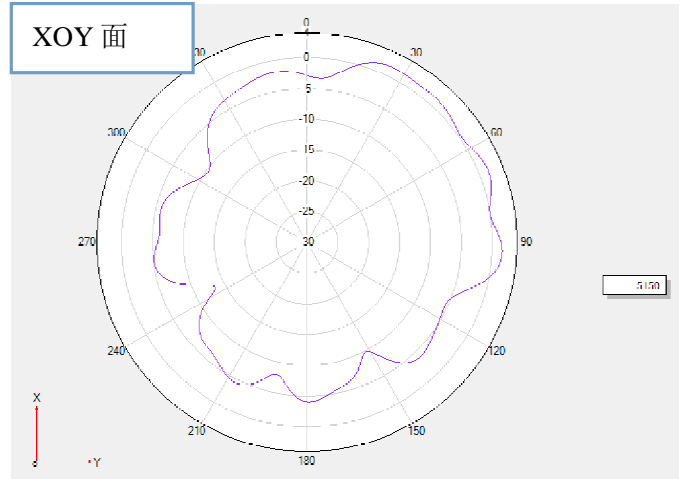
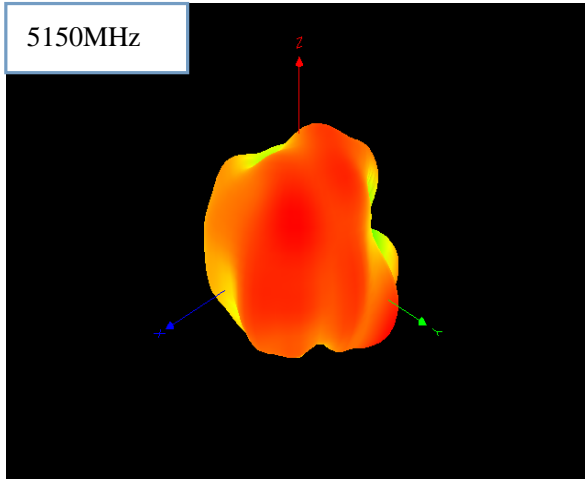


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

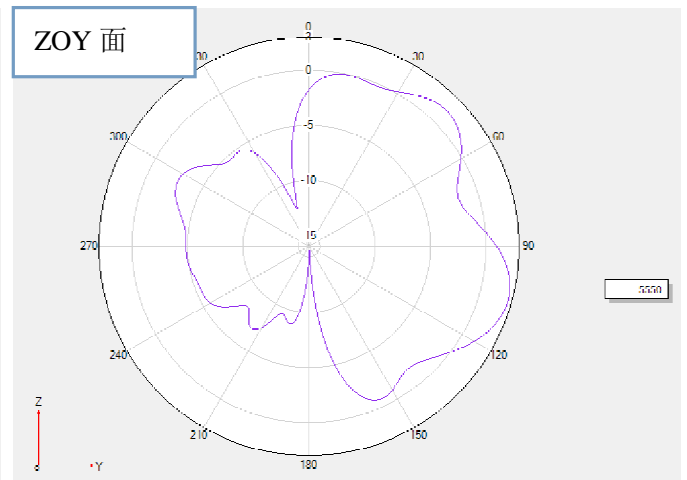
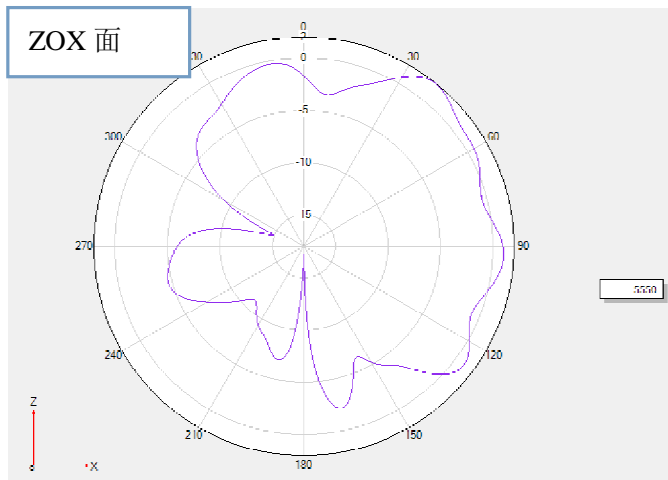
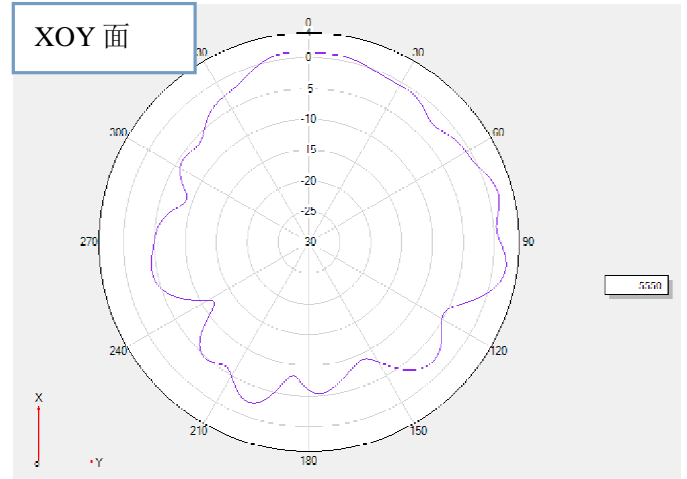
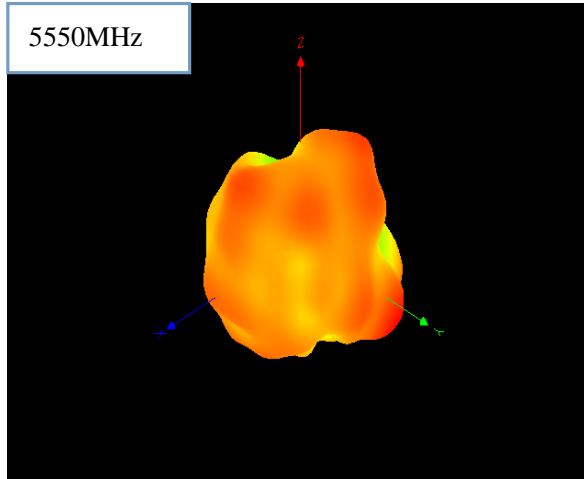


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

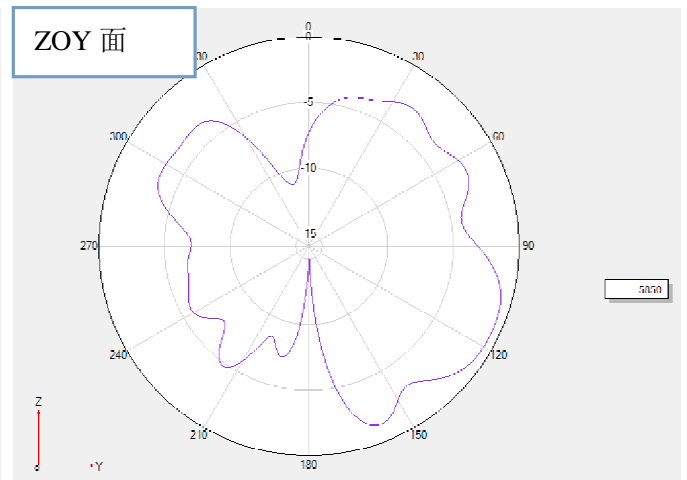
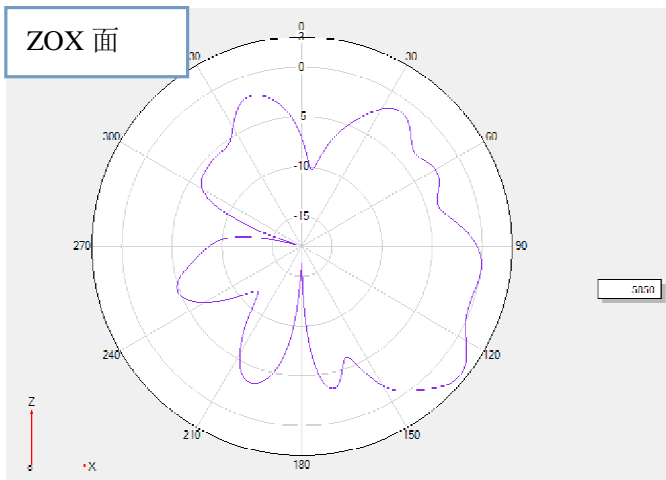
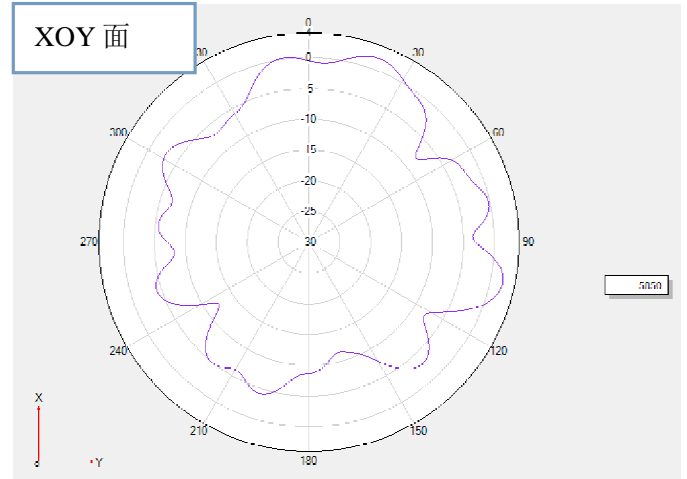
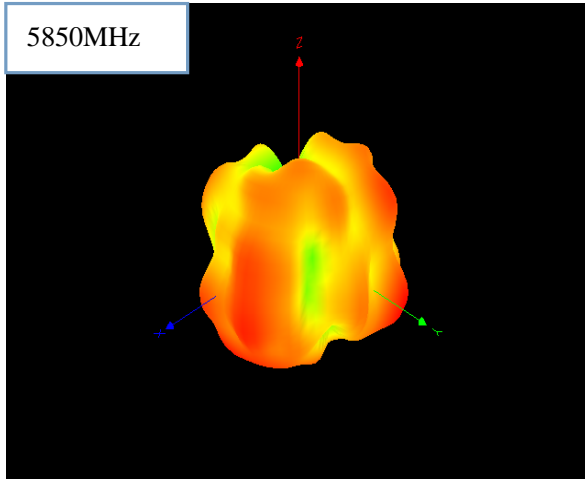


方向图 (3D)

Directional map (3D)

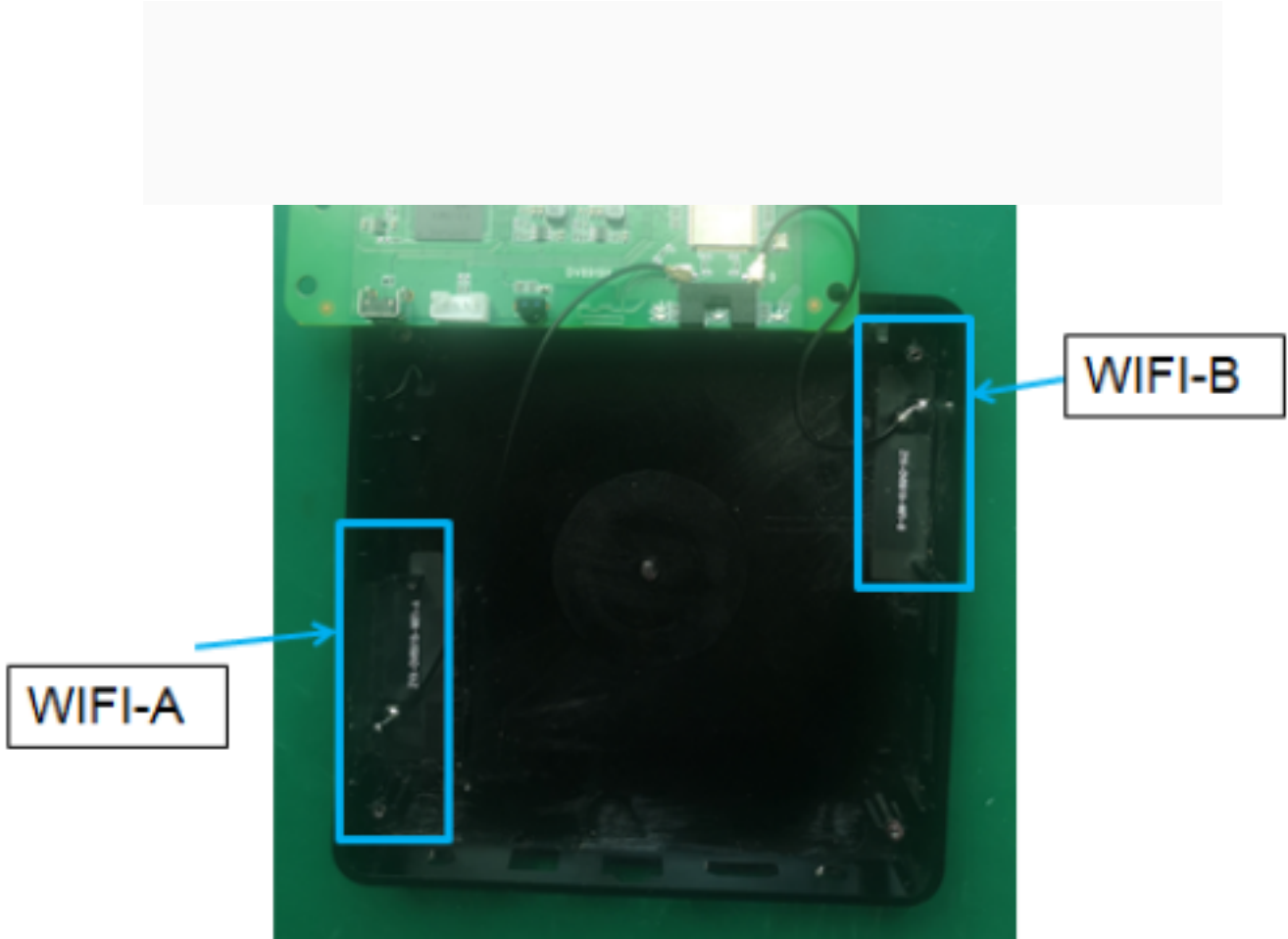
方向图 (2D)

Directional map (2D)



天线图片

Antenna Picture



Product packaging specification

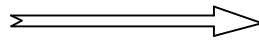
page: 1 of 1

Product Name: antenna

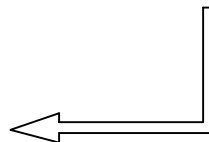
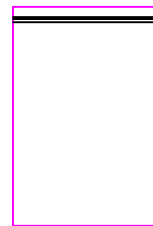
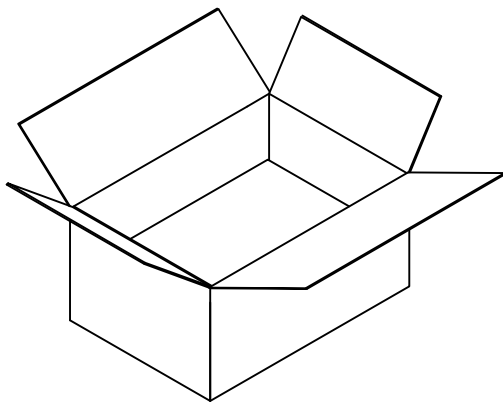
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Except for others

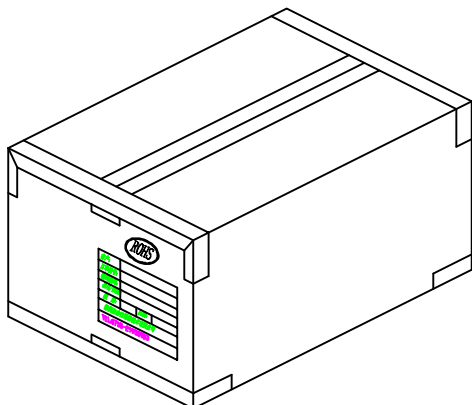
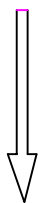
一: Antenna



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)