



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=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



Document change history

Form number: QR-ZYX-084 Version: A0

[illegible]

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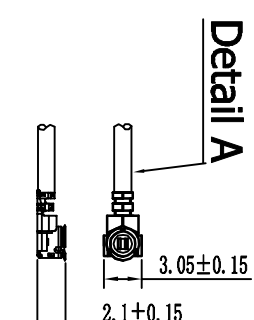
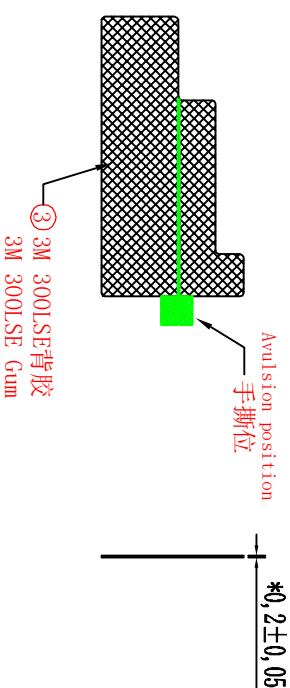
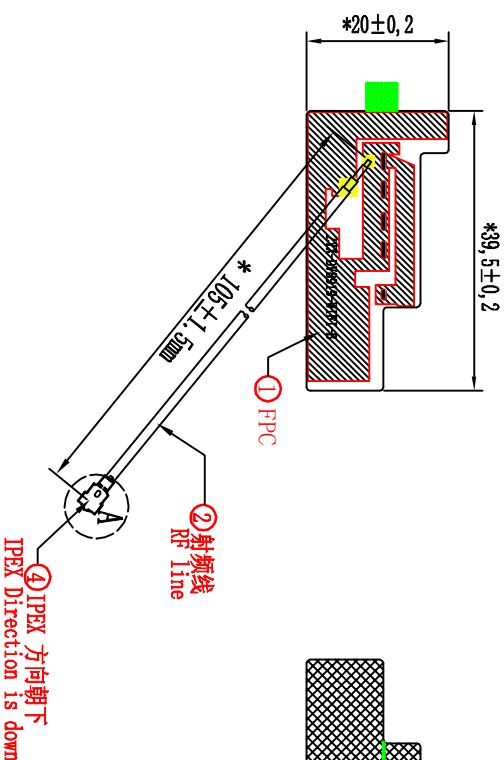
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The basic parameters

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:

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

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Third angle system	机种/Project	品名/Part Name	日期	2021/12/29
0~10	± 0.10	± 0.15	± 0.03	
10~20	± 0.15	± 0.20	± 0.02	
20~40	± 0.20	± 0.25	± 0.04	
40~	± 0.25	± 0.30	± 0.05	
Do not measure the drawings	Location	N/A	unit	mm
5	6	7	Scale	1:1
8	Rea	A		

Test Equipment & Conditions

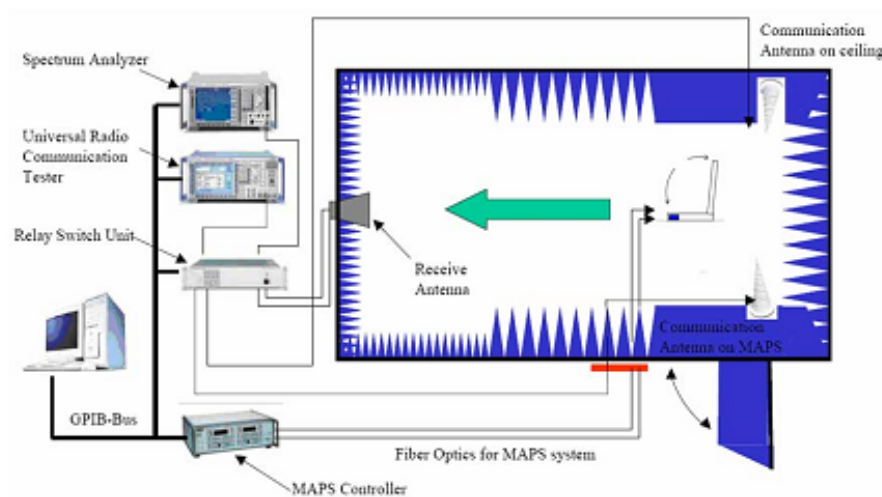
1. Network Analyzers :

Agilent 8753D 5071B

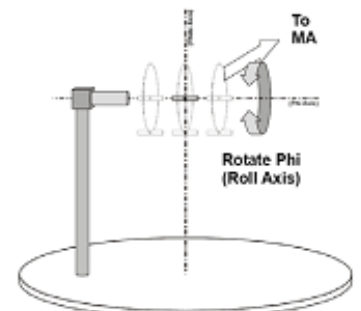
2. Communications Test Set:

Agilent 8960

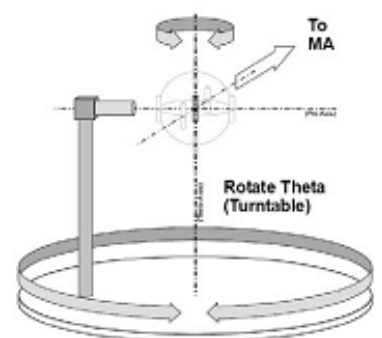
3. 3D Chamber Test System



(Testing by 3D anechoic chamber)

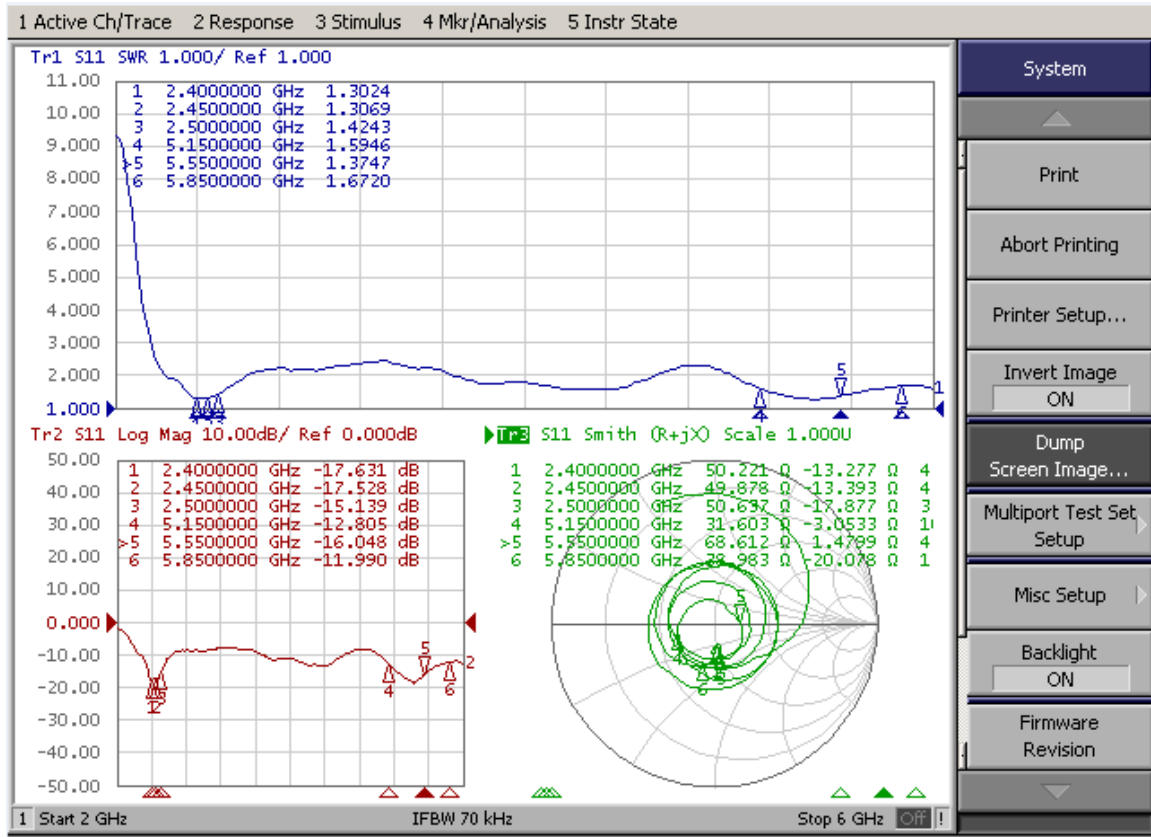


Phi axis test



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	1.3	1.3	1.4	1.5	1.3	1.6

效率&增益:

Efficiency&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

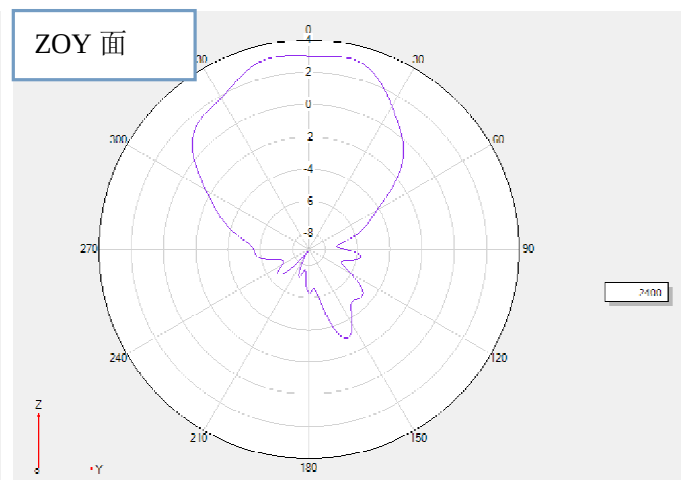
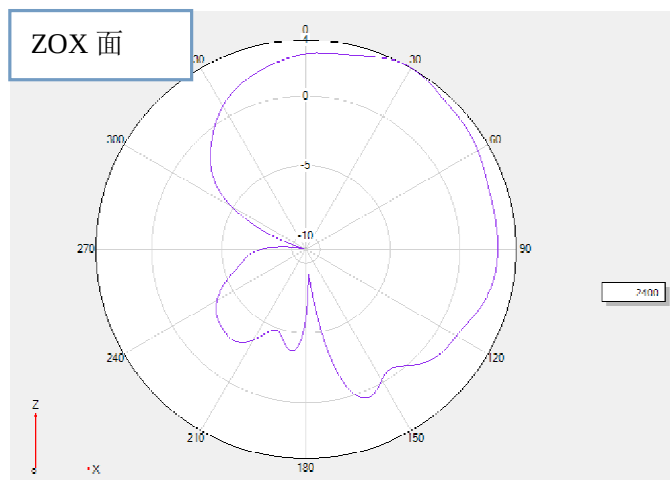
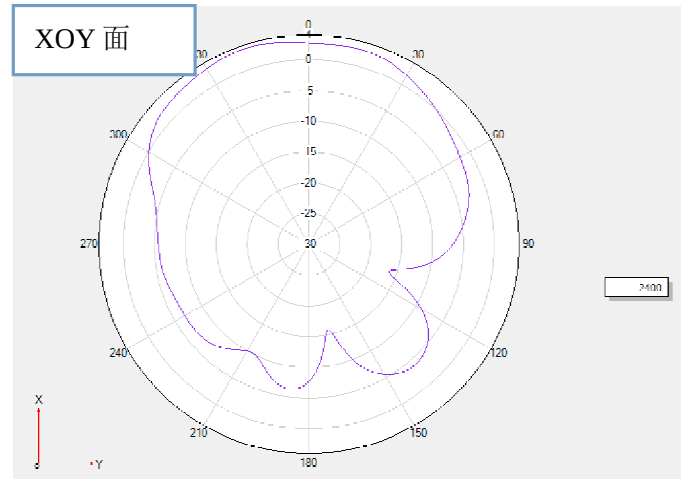
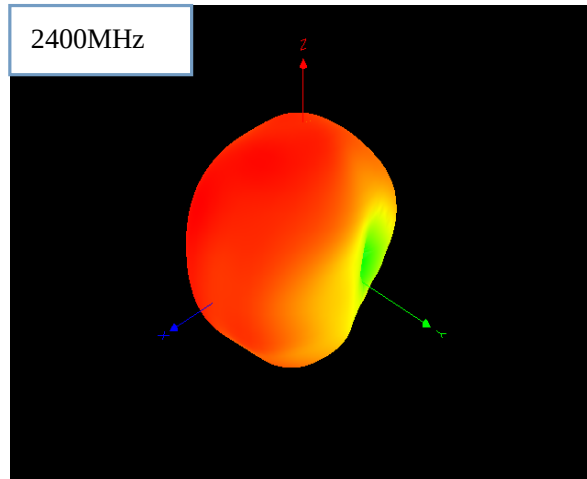
Freq (MHz)	Effi (%)	Gain(dBi)
5150	61.52	3.28
5200	60.26	2.51
5250	61.24	2.77
5300	72.11	3.47
5350	65.01	3.11
5400	72.11	3.62
5450	73.28	3.41
5500	70.47	3.87
5550	65.46	4.02
5600	70.63	4.31
5650	70.47	4.25
5700	61.80	3.70
5750	68.39	3.08
5800	60.12	2.97
5850	62.66	3.03

方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

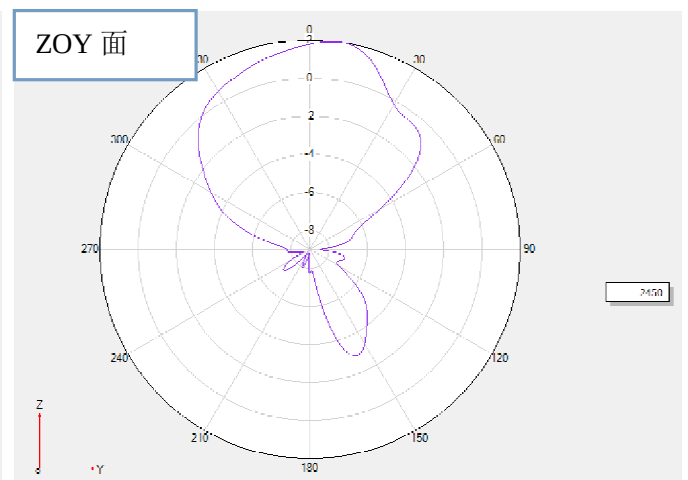
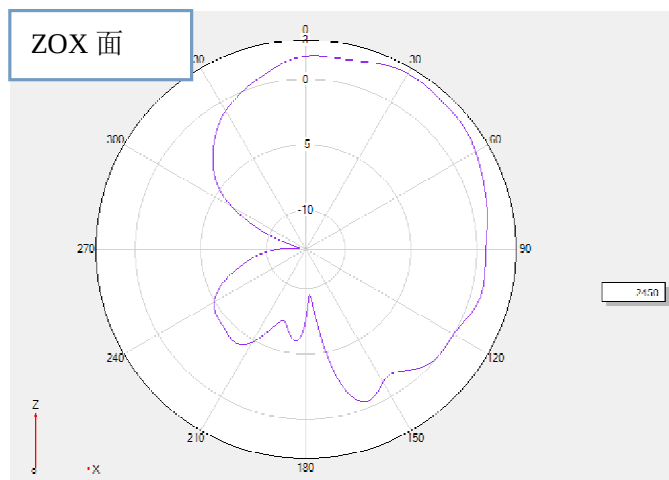
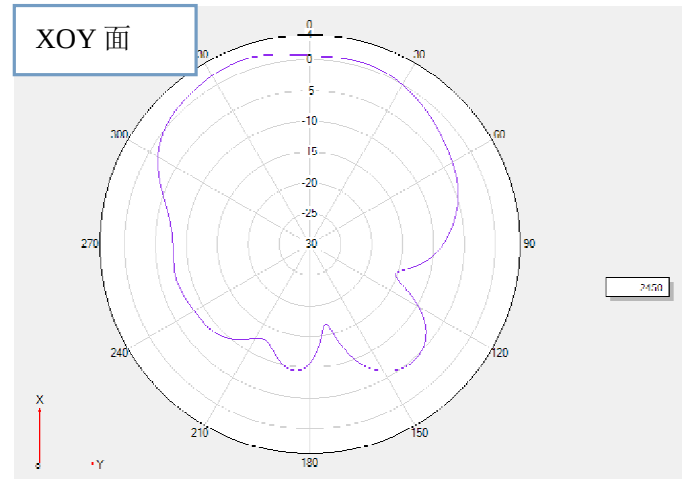
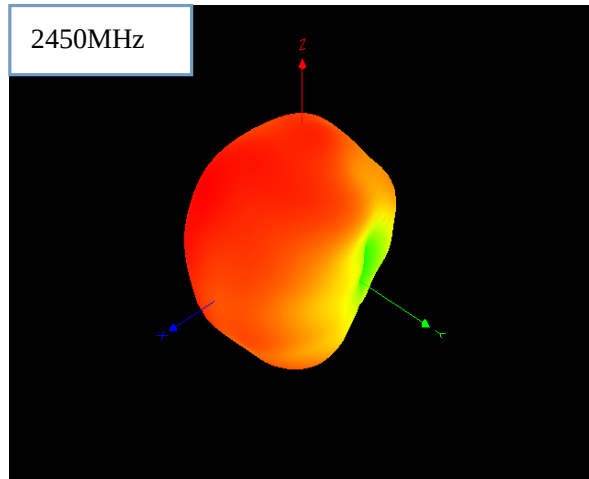


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

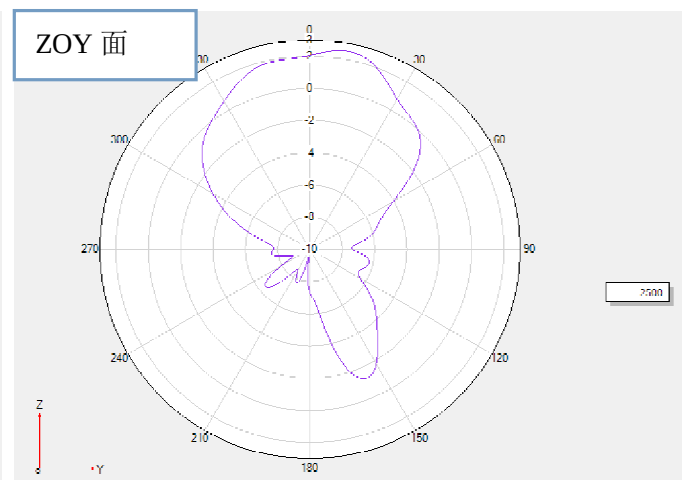
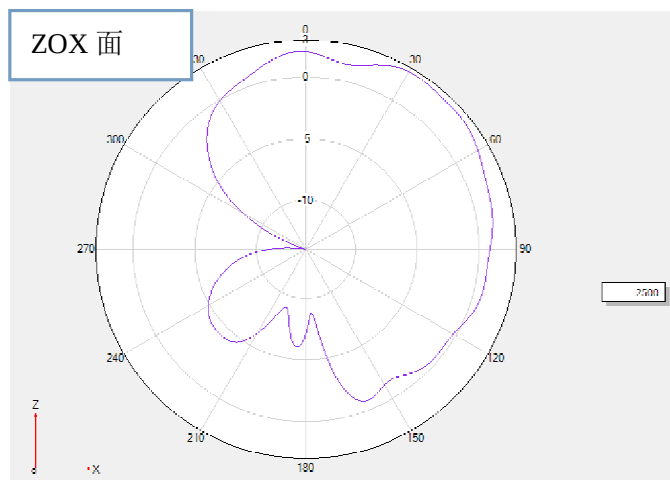
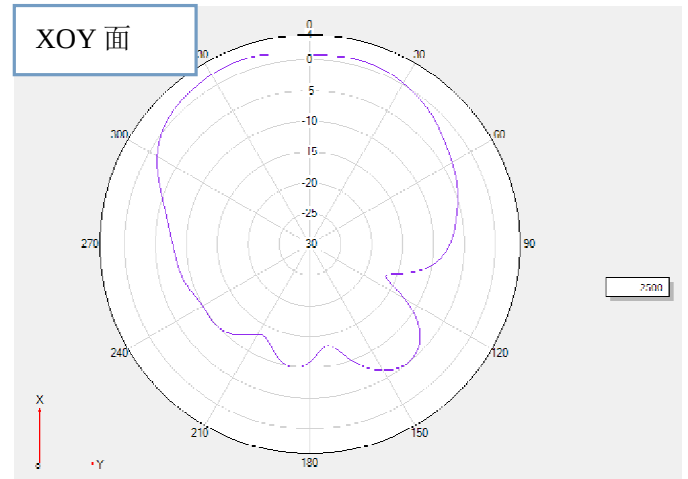
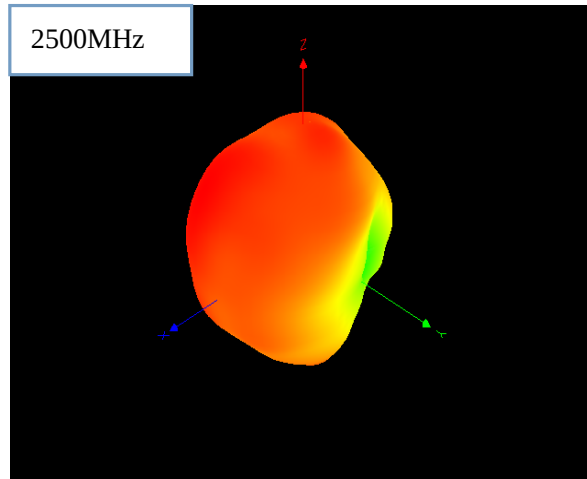


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

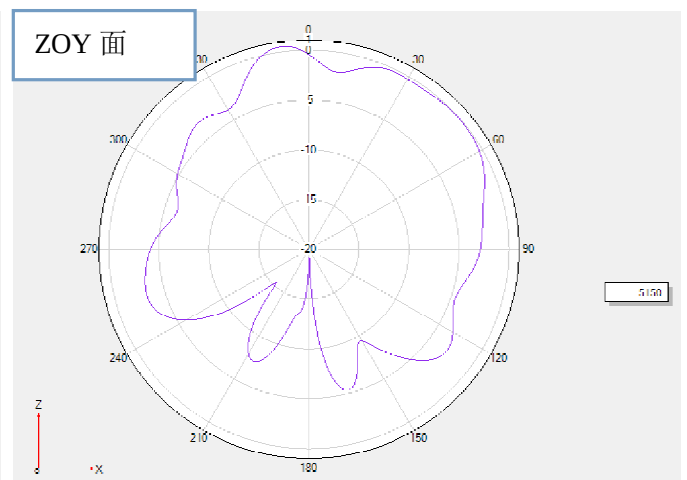
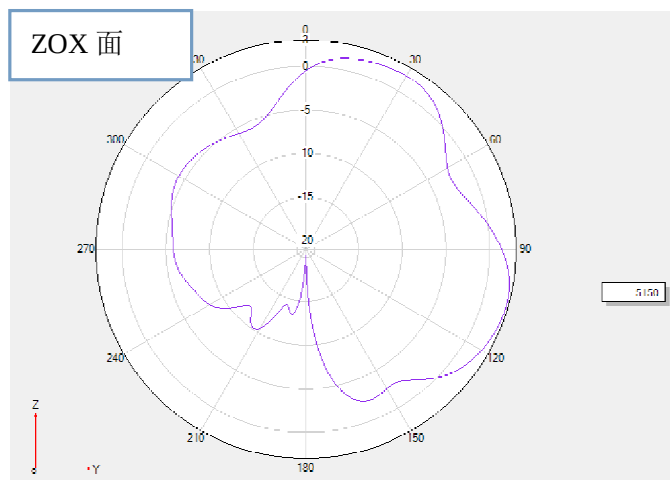
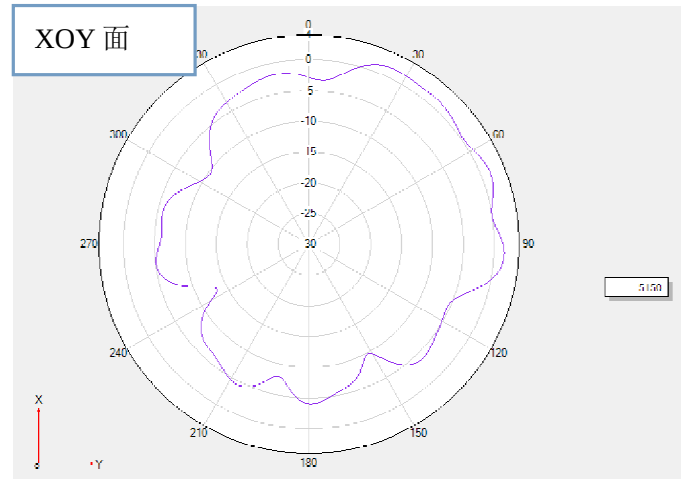
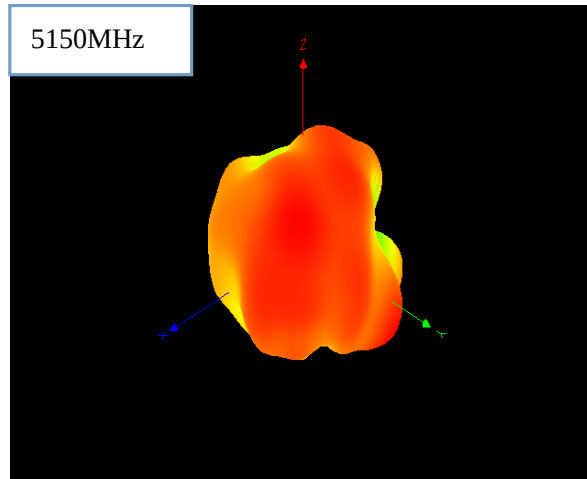


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

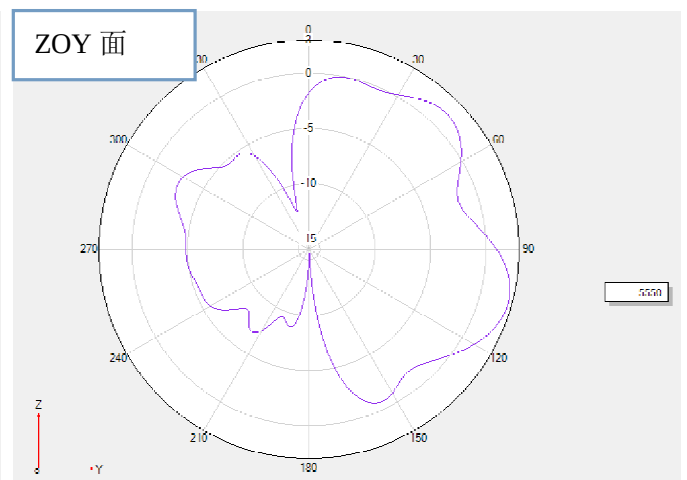
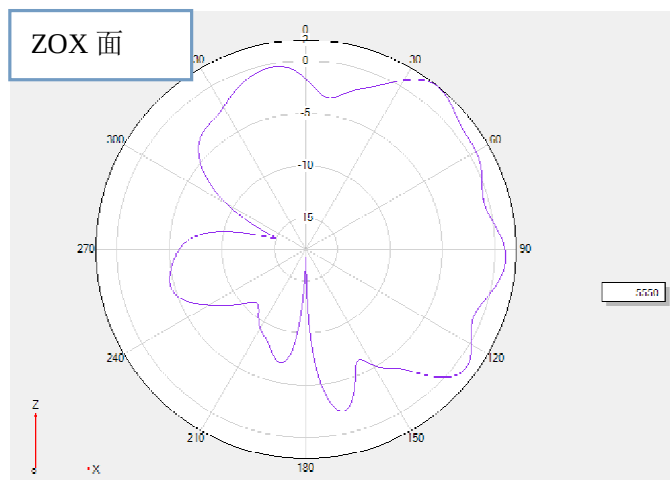
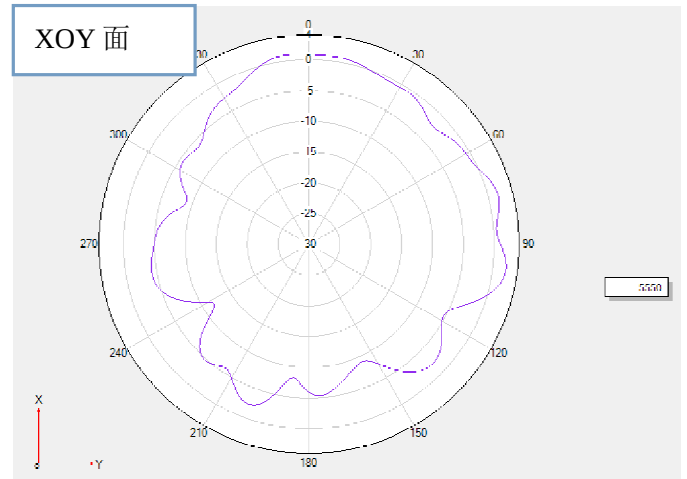
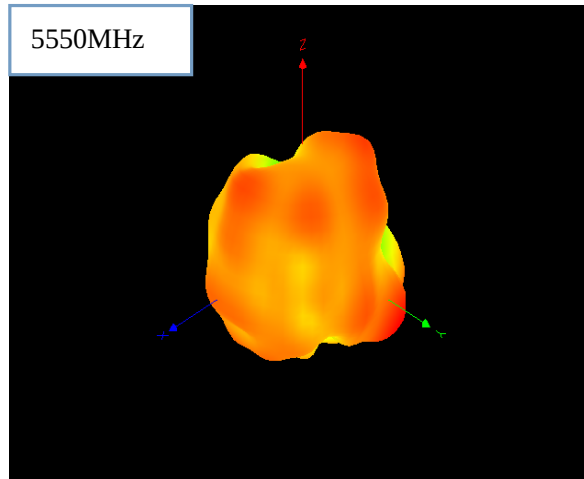


方向图 (3D)

Directional map (3D)

方向图 (2D)

Directional map (2D)

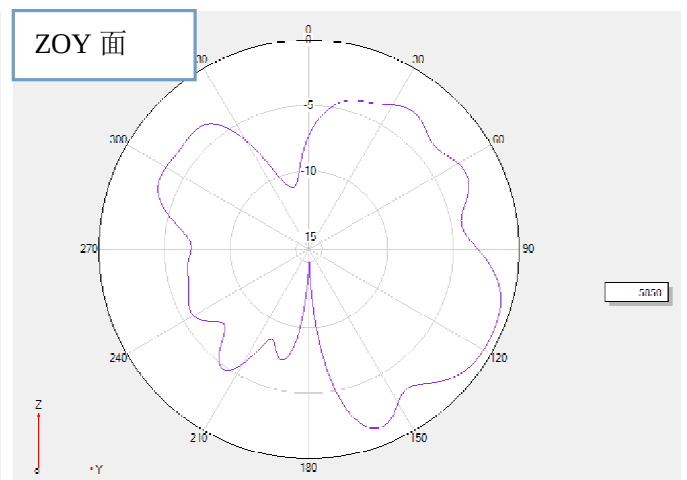
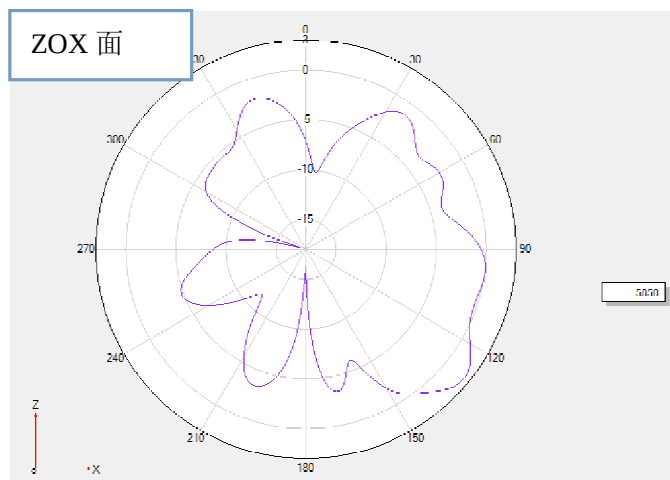
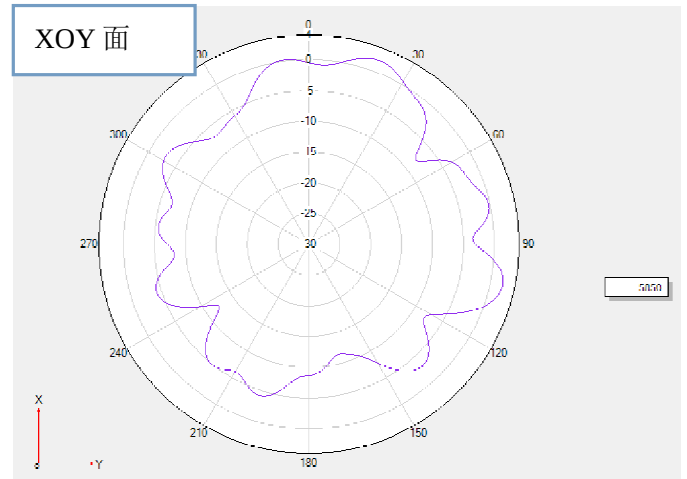
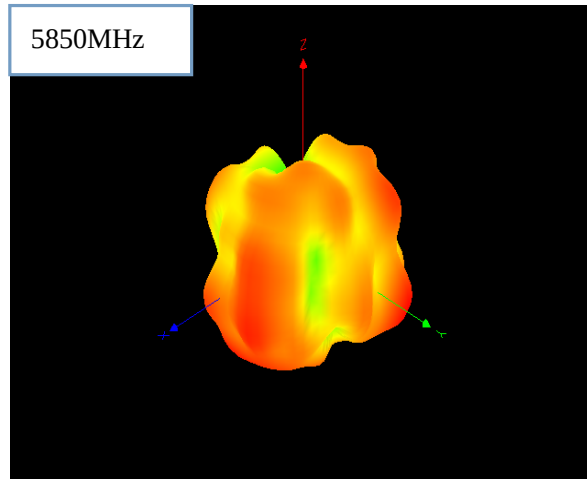


方向图 (3D)

Directional map (3D)

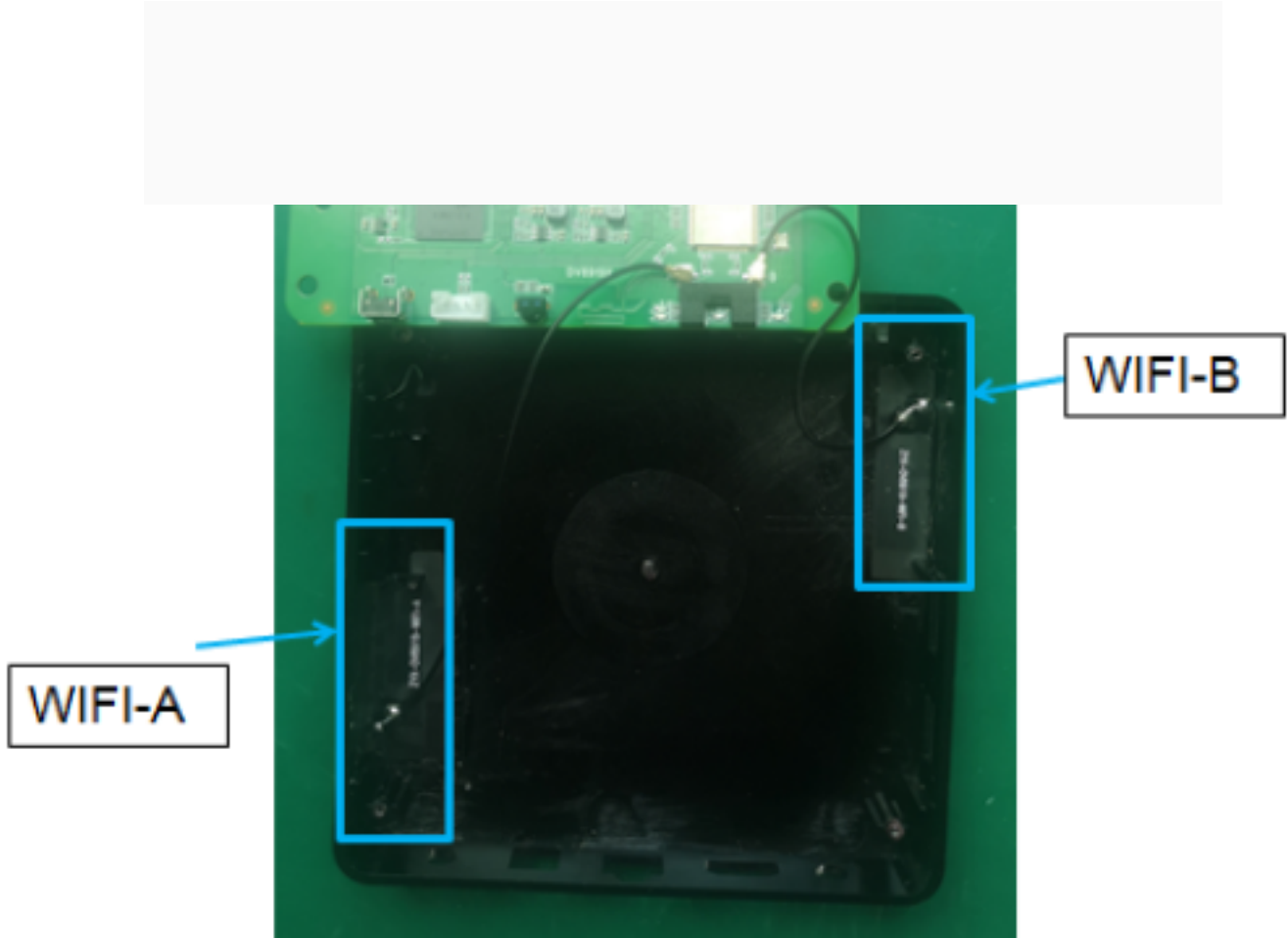
方向图 (2D)

Directional map (2D)



天线图片

Antenna Picture



Product packaging specification

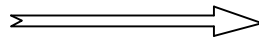
page: 1 of 1

Product Name: antenna

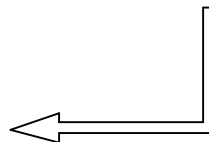
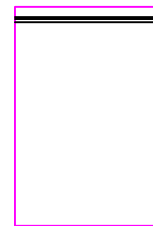
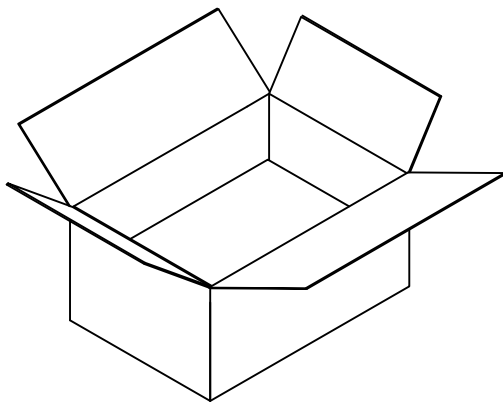
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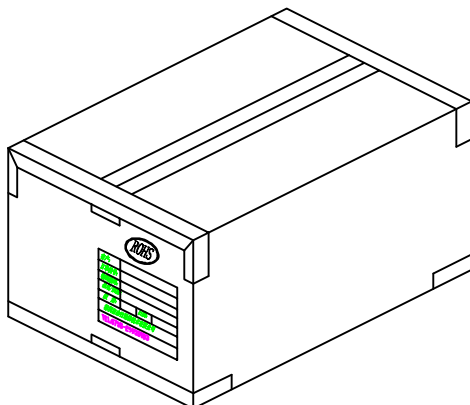
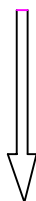
一: Antenna



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)