深圳市天联凌科技有限公司

Shenzhen SKYLink Technology Co.,Ltd

天线规格承认书

编号：SLSOA20240409FZF01

客户名称：鲸视

项目名称：P168.NZ（WIFI 天线）

产品描述：FPC 背胶，1.13MM 黑色同轴线，线长 60MM,1 代端子,端子朝下。

客户料号：

我司料号：P168.NZ.WIFI.C113.60B.1

版　　本：V1.0

日　　期：2024-04-09

此承认书严禁修改

客户

工程	采购	承认

天联凌

研发	工程	审核

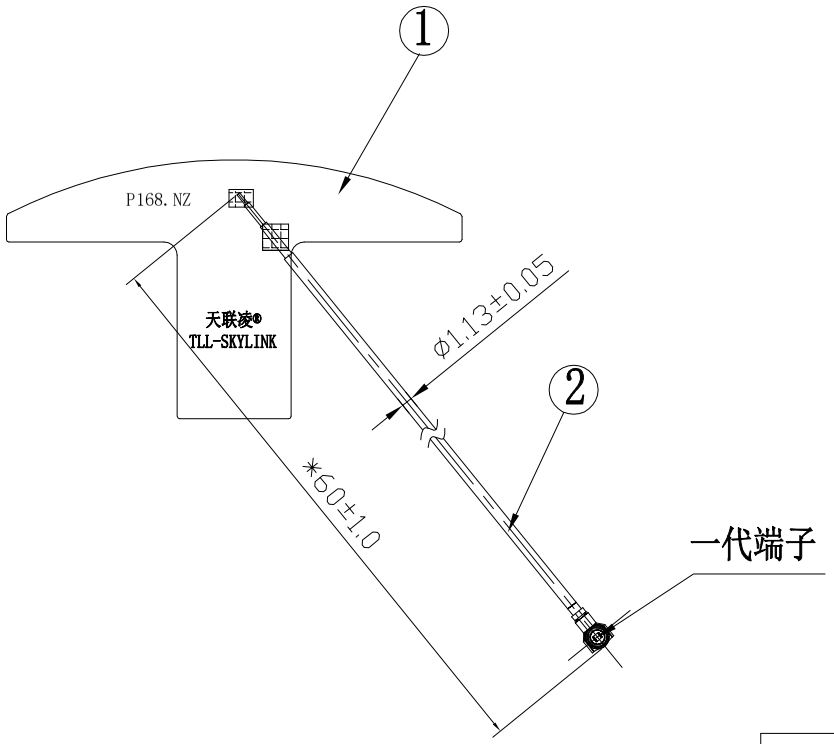
R & D Center：Room　D 5th Floor Building L,Block E ,71 Baocheng District ,Baoan District ,Shenzhen
Factory：6 Floor,GangHuaXing Industrial Park,Rongshu Road　2nd ,Fuyong,Baoan ,shenzhen
Email:damoncui@tllskylink.com

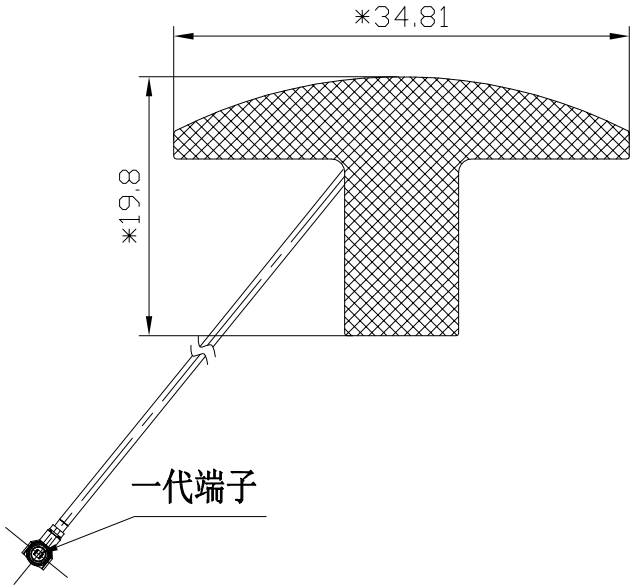
● 规格概述

电特性	
频率	2400MHz ~2500MHz 5150MHz ~5850MHz
回波损耗	<-5dB
效率	>50%
增益	2.7dbi
阻抗	50 欧姆
极化方式	线极化
材料和机械特性	
材料	FPC
线材类型	1.13mm 黑色
端子类型	1
图纸尺寸	详见图纸
丝印方式	黑底白字
环境特性	
储存温度	- 30 ˚C ~ + 85 ˚C
FPC 焊接温度	280±5℃ 浸渍时间:10 秒
射频线焊接温度	320±5℃ 2-3 秒

由 Autodesk 教育版产品制作

RoHS
Compliant
G P





注：

1. "*"为重点尺寸 ；
2. 未标注尺寸请依图纸；
3. Pb、Hg、Cr+6、PBBs、PBDEs各项小于1000PPM，Cd小于100PPM。

No.	PartName	Material	Colour	Remark
2	同轴线	镀银铜丝	黑色	
1	天线	FPC	黑色	

深 圳 天 联 凌 科 技 有 限 公 司
SHEN ZHEN SKYLink CO.,LTD

Third Angle				Project		Date	2024.04.01
0～10	±0.05	○	0.02	Part Name	WIFI天线	Designed by	
10～18	±0.10	◎	ø0.03	Part No.	P168.NZ.WIFI.C113.60B.1	Checked by MD	
18～30	±0.12	⊥	0.02	Material		Checked by RF	
30～40	±0.15	▱	0.04	DWG No.		Approved by	
40～	±0.20	Angle	±0.5°			Unit mm	Scale 1:1 Rev A
Location							

Rev	Description	Date	Remark
A	New drawing		

由 Autodesk 教育版产品制作

● Test Equipment & Conditions

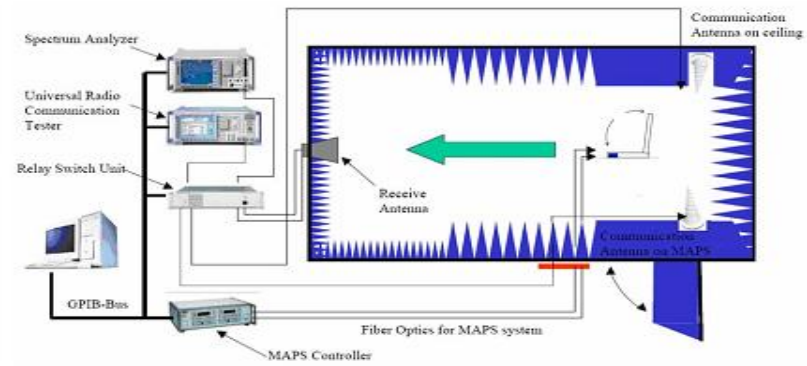
1. Network Analyzers :

Agilent 8753D 5071B

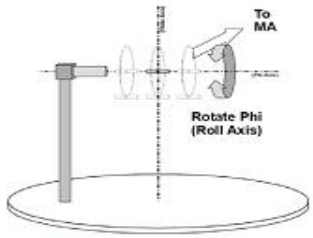
Communications Test Set:

Agilent E5515C CMW500

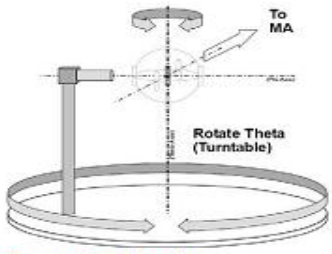
2. 3D Chamber Test System



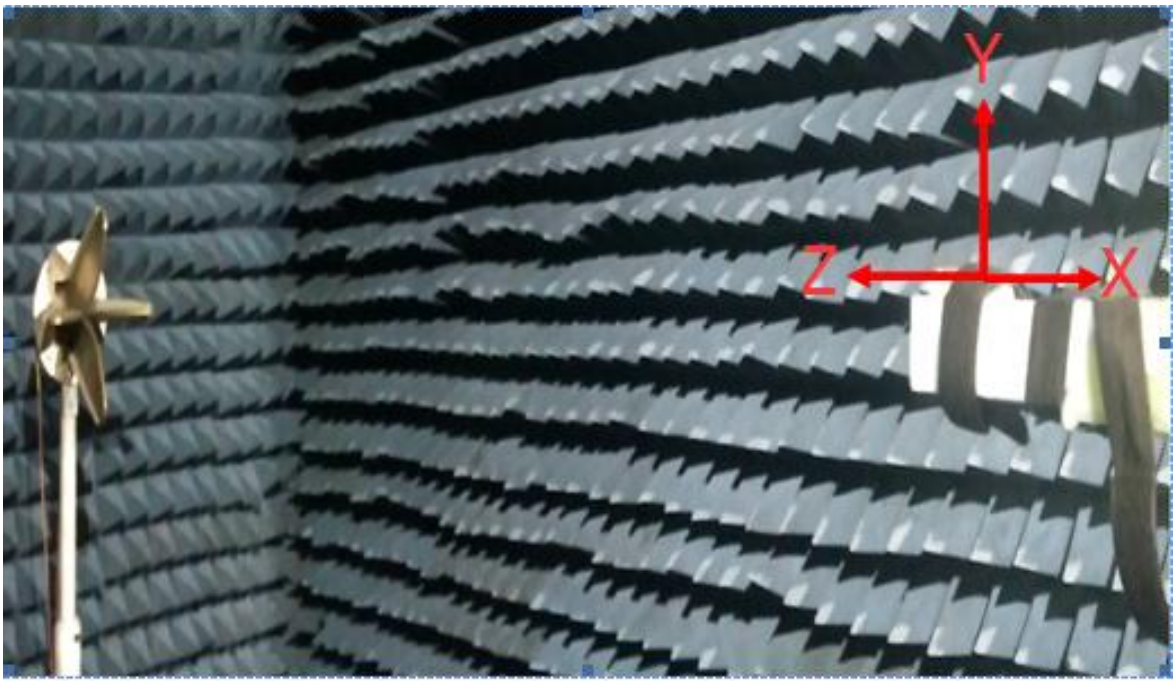
(Testing by 3D anechoic chamber)



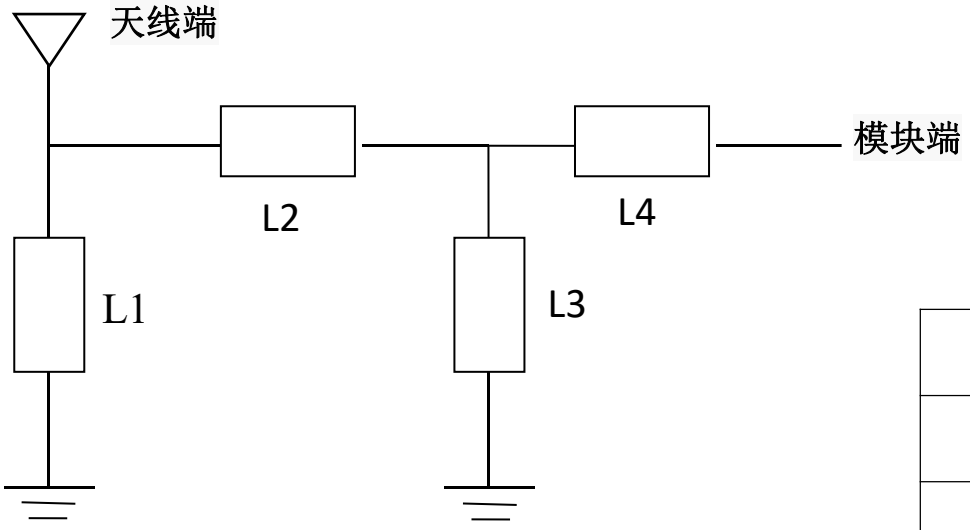
Phi axis test



Theta axis test



● 匹配电路 （matching circuit）



L1	/
L2	/
L3	/
L4	/

原主板匹配电路不变

◆ Return Loss

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◆ TRP/TIS

B 模式　11M

Test	Wifi 2G TRP		
Result	1	6	11
Frequency (MHz)	2412	2437	2462
TRP(dBm)	17.9	17.83	18.1
Test	Wifi 2G TIS		
Result	1	6	11
Frequency (MHz)	2412	2437	2462
TIS(dBm)	-68.66	-68.78	-69.43

N 模式　MCS7

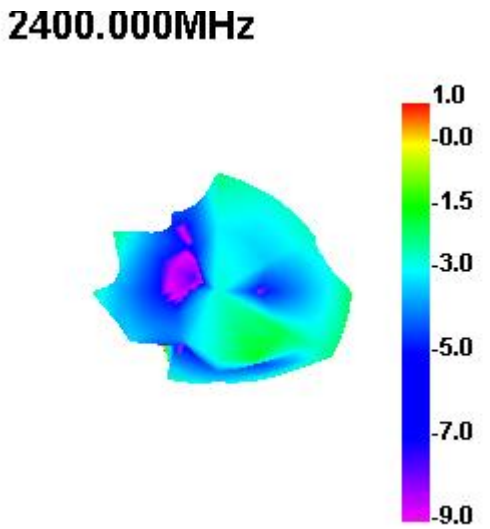
Test	Wifi 5G TRP		
Result	36	149	161
Frequency (MHz)	5180	5745	5805
TRP(dBm)	15.29	15.72	15.36
Test	Wifi 5G TIS		
Result	36	149	161
Frequency (MHz)	5180	5745	5805
TIS(dBm)	-67.69	-67.9	-68.09

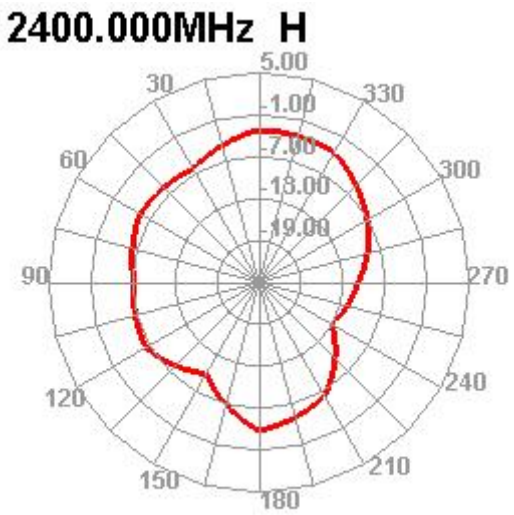
◆ Gain & Efficiency

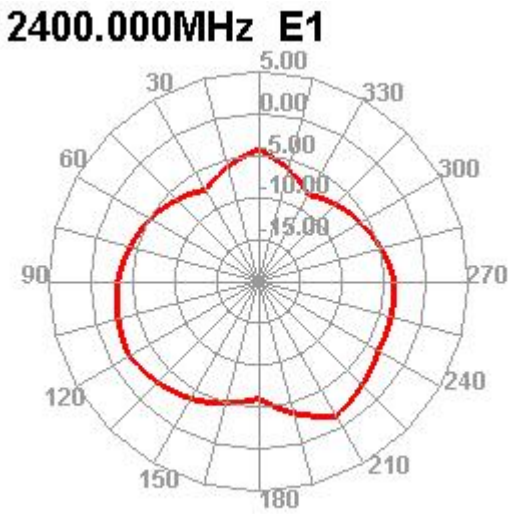
Freq (MHz)	Effi (%)	Gain (dBi)
2400	52.4	0.97
2410	54.42	1.28
2420	53.62	1.79
2430	54.1	2.36
2440	55.44	2.53
2450	54.3	2.70
2460	55.38	2.31
2470	54.96	2.32
2480	54.47	2.46
2490	57.1	2.51
2500	57.46	2.48

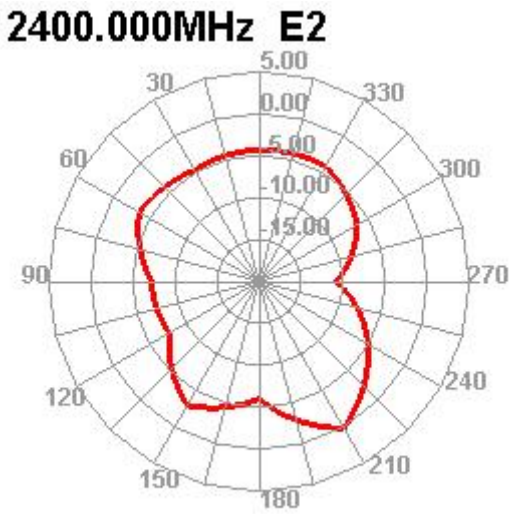
Freq (MHz)	Effi (%)	Gain (dBi)
5150	53.99	-0.55
5200	54.76	-0.58
5250	50.15	-0.81
5300	50.58	-0.48
5350	52.54	0.3
5400	59.32	0.18
5450	54.93	-0.37
5500	51.41	0.14
5550	50.55	1.25
5600	50.29	1.83
5650	53.6	1.96
5700	54.28	2.35
5750	51.35	2.68
5800	51.85	2.70
5850	52.37	2.31

◆ 方向图









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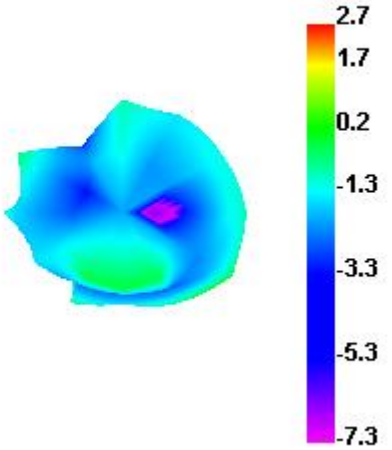

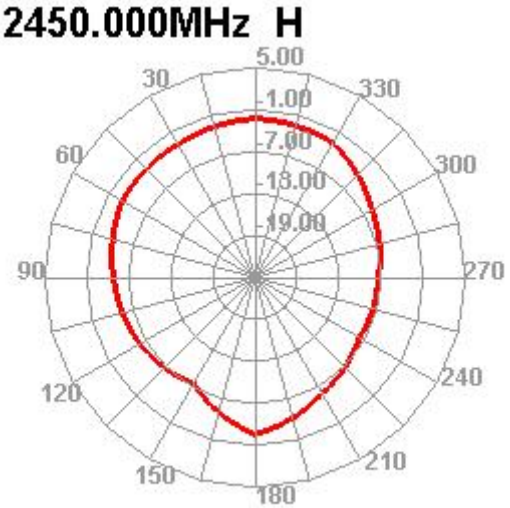

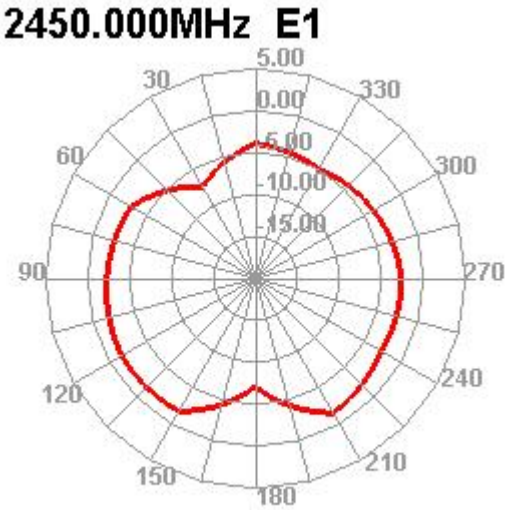

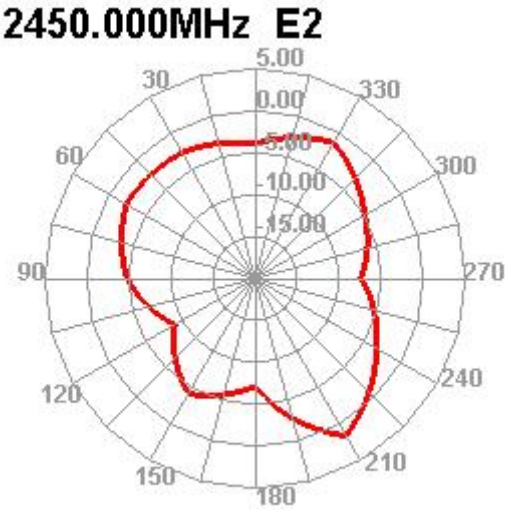

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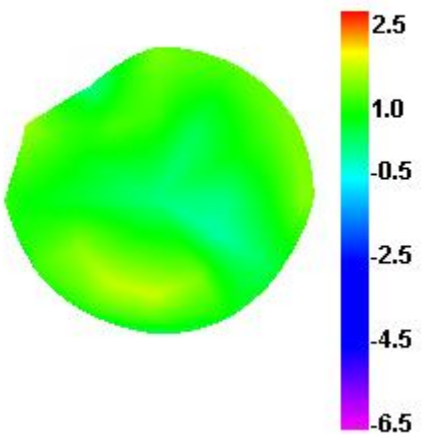

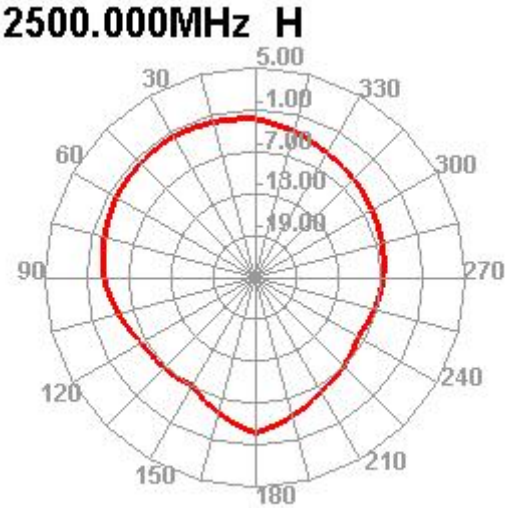

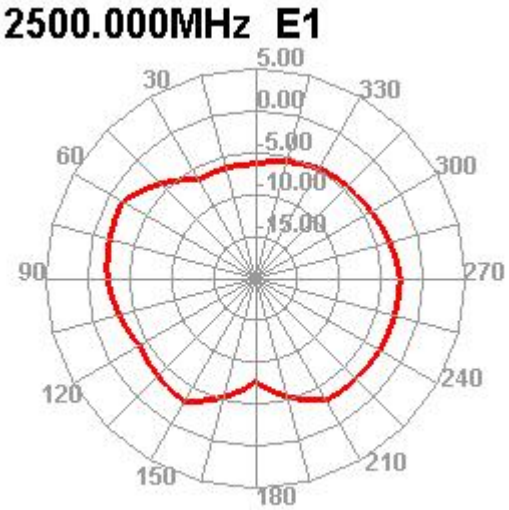

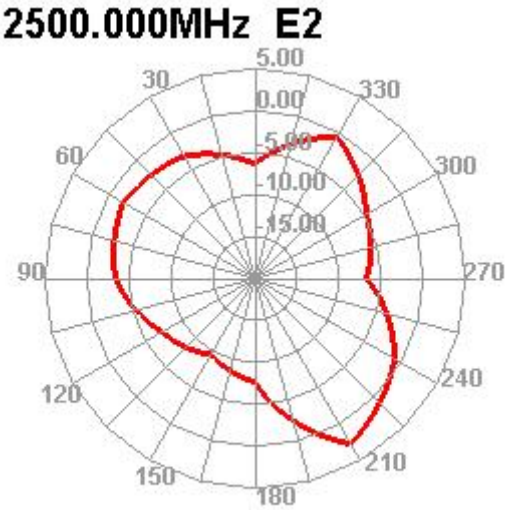

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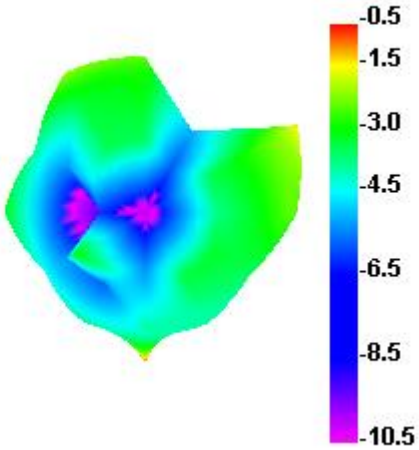
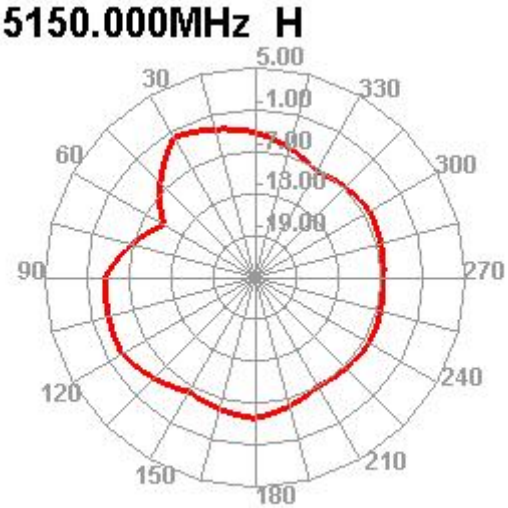
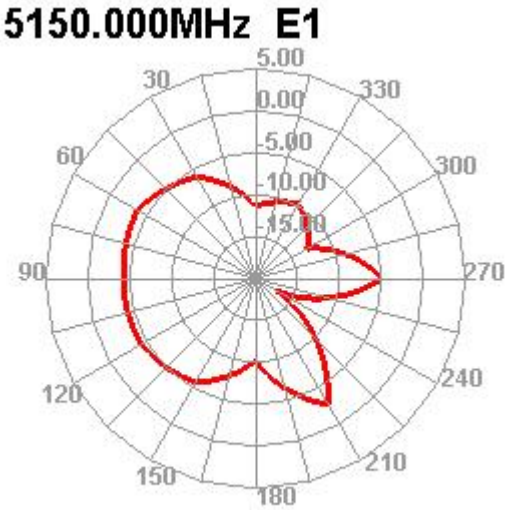
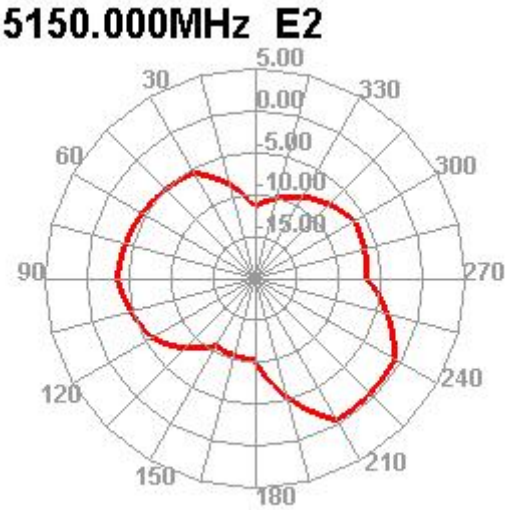
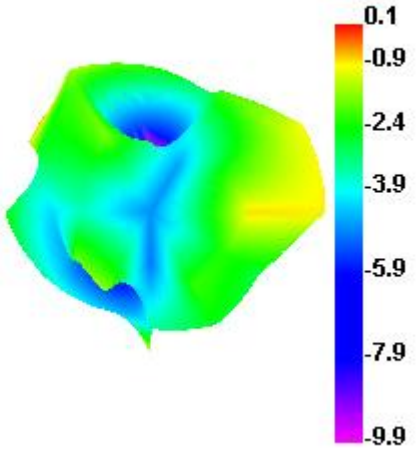

5150.000MHz
-0.5
-1.5
-3.0
-4.5
-6.5
-8.5
-10.5


5150.000MHz H
5.00
-1.00
-7.00
-13.00
-19.00
30
330
60
300
90
270
120
240
150
210
180

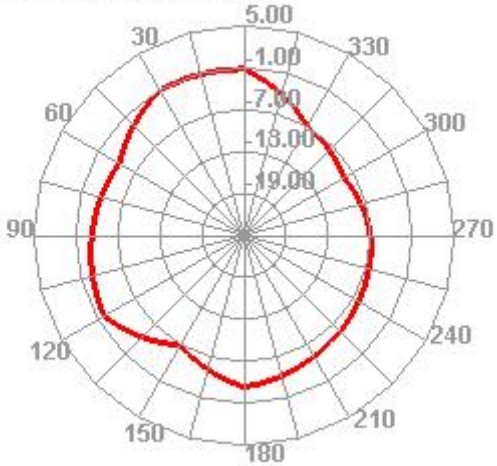

5150.000MHz E1
5.00
0.00
-5.00
-10.00
-15.00
30
330
60
300
90
270
120
240
150
210
180


5150.000MHz E2
5.00
0.00
-5.00
-10.00
-15.00
30
330
60
300
90
270
120
240
150
210
180

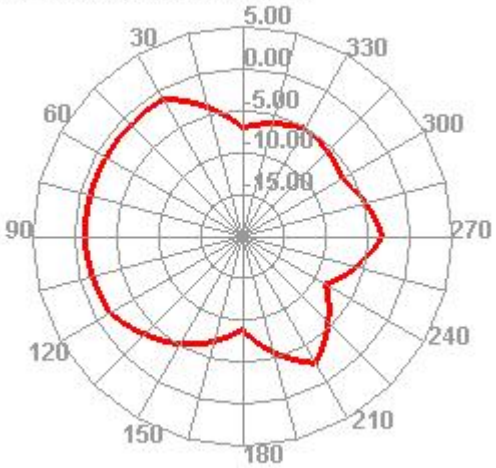
5500.000MHz



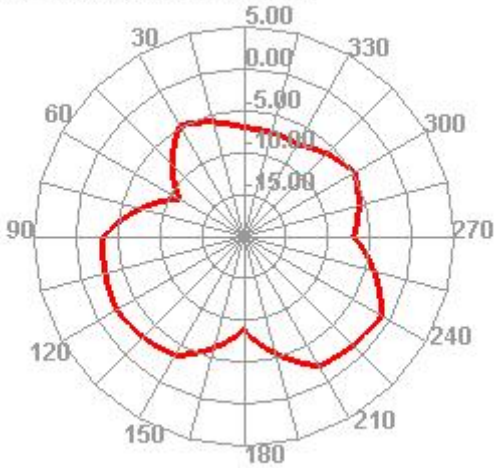
5500.000MHz H



5500.000MHz E1



5500.000MHz E2



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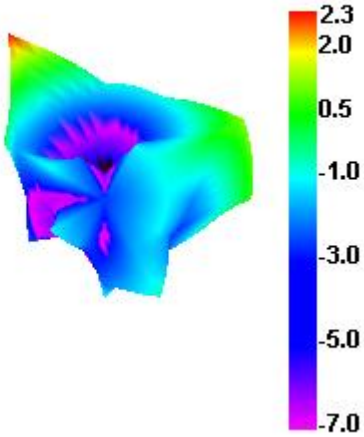
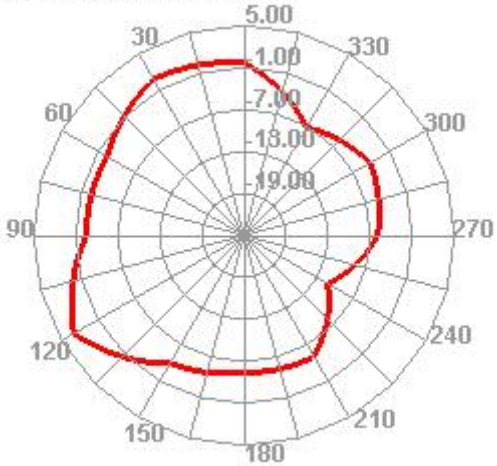
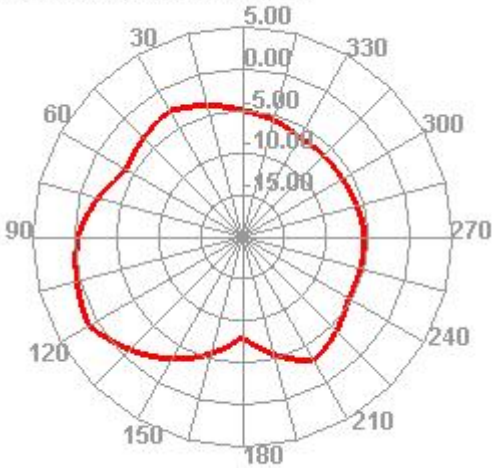
5850.000MHz



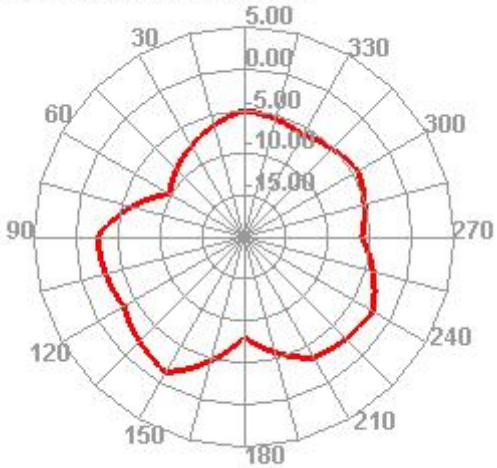
5850.000MHz H



5850.000MHz E1



5850.000MHz E2



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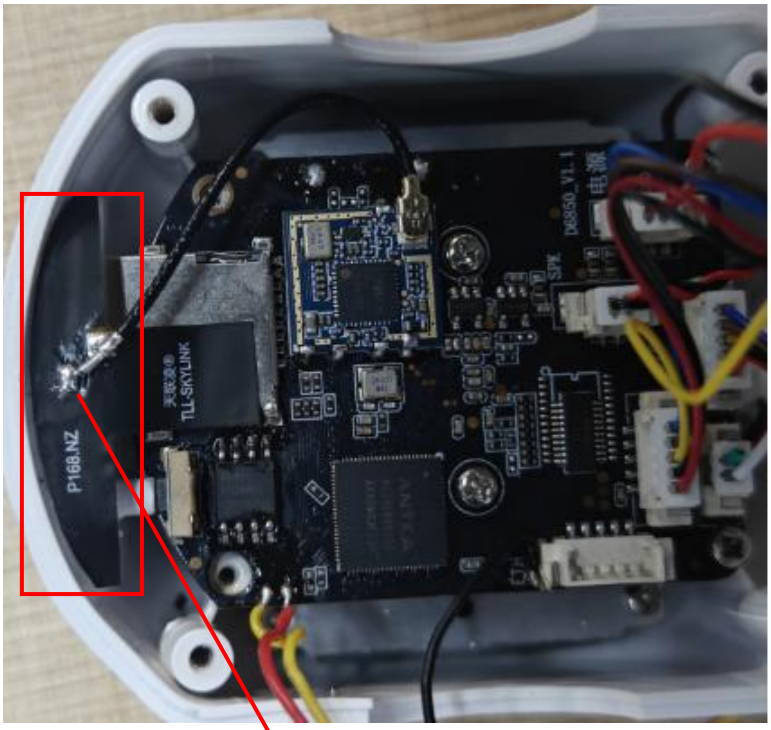
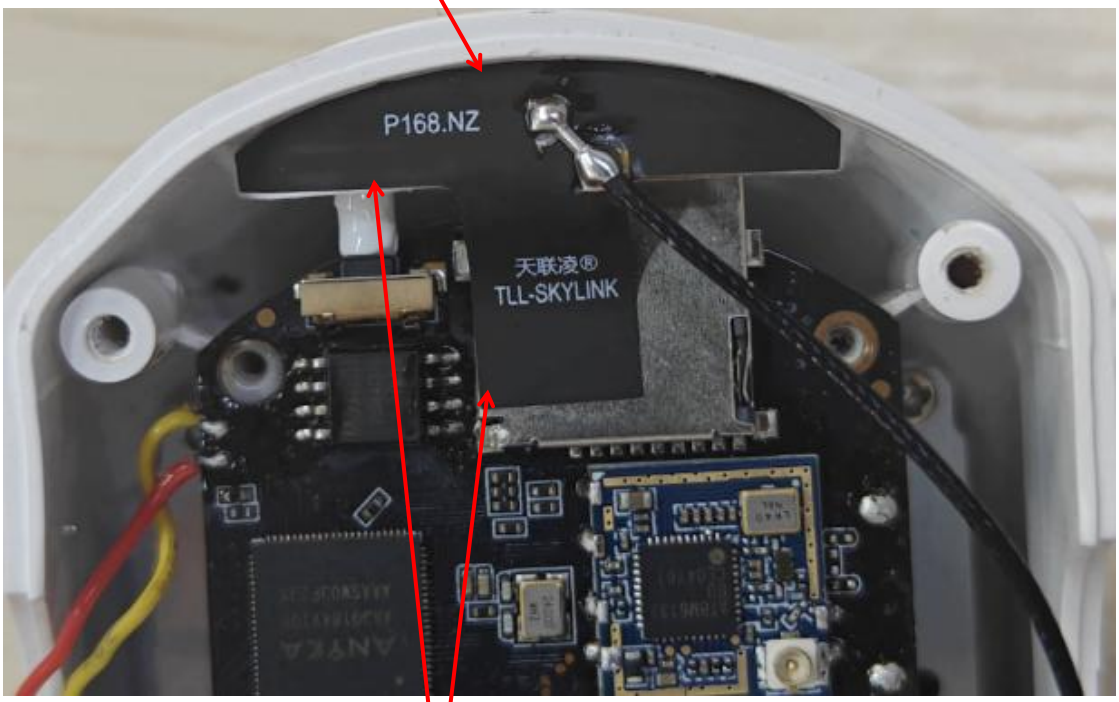
◆ 天线装配方式





天线沿箭头方向对齐贴紧。

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◆ 可靠性测试

测试项目		测试条件	设备	规范	结果
1	低温测试	温度：-30℃，湿度：65%，时间：48小时 测试条件： 把天线放置在高低温测试箱里，温度保持在25℃，湿度保持在65%,时间为1小时，然后在1小时内降低温度到-30℃，保持44小时，再升温到25℃，保持2小时	高低温测试机	不允许材料变形 电子性能好	通过
2	高温测试	温度：85℃，湿度：85%，时间：48小时 测试条件： 把天线放置在高低温测试箱里，温度保持在25℃，湿度保持在65%，时间为1小时，然后在1小时内，把温度升到80℃，湿度为85%,保持44小时，再把温度降到25℃，保持2小时。	高低温测试机	不允许材料变形 电子性能好	通过
3	盐雾测试	盐雾测试： 把天线放置在盐雾测试机内 设置测试环境： 温度35±2℃ 湿度85% 盐雾喷剂：5±1% PH值6.5~7.2 时间：24小时	盐雾测试机	没有颜色变化 没有出现生锈	通过