Shenzhen SKYLink Technology Co.,Ltd

Antenna Specification Acknowledgment

number: SLSOA20230818FZF01

Customer Name: Youqing

Entry name: M19 (WIFI Dual band antenna)

DESCRIPTION: 单 FPC

Customer part number:

Our part number: M19

Version: V1.0

Date: 2023-08-18

No modification allowed

custom

engineering	procure	recognize

SKYLink

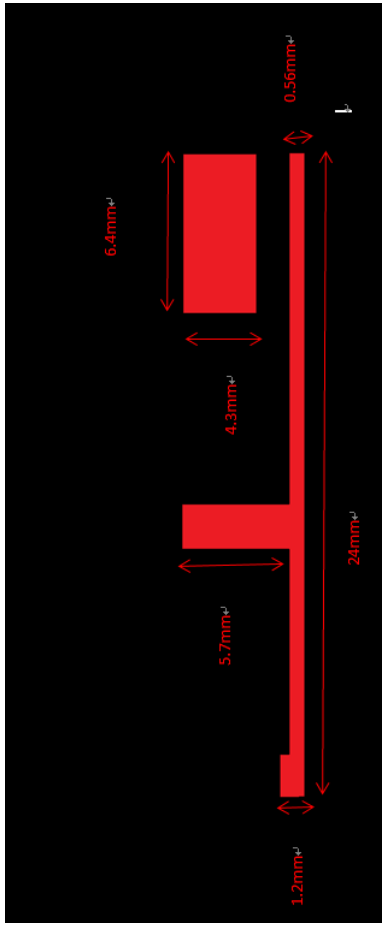
research	engineering	examine

● Specification Overview

electrical characteristics	
Frequency	2400MHz ~2500MHz 5150MHz ~5850MHz
Return Loss	<-5dB
Efficiency	>40%
Gain	2.5dbi
Impedance	50 Ω
Polarization mode	linear polarization
Material and mechanical properties	
Material	FPC
Wire type	/
Terminal type	/
Paper size	See drawings for details
Silk-screen printing	White on Black
Environmental	
Storage temperature	- 30 ℃ ~ + 85 ℃
FPC welding temperature	280±5℃ dip time:10 秒
RF wire welding temperature	320±5℃ 2-3 S

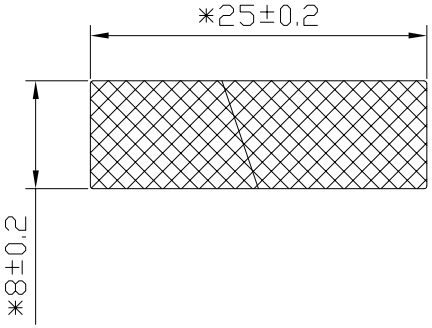
Produced by Autodesk Education Edition products

RoHS
Compliant
G P



M19

TLL-SKYLINK



Rev	Description	Date	Remark
A	New drawing		

Third Angle			
0～10	±0.05	○	0.02
10～18	±0.10	◎	⌀0.03
18～30	±0.12	⊥	0.02
30～40	±0.15	▱	0.04
40～	±0.20	Angle	±0.5°
Location			

SHEN ZHEN SKYLink CO.,LTD

Project		Date	2023-08-18
Part Name		Designed by	
Part No.	M19	Checked by	MD / RF
Material			
DWG No.		Approved by	
		Unit mm	Scale 1:1 Rev A

Produced by Autodesk Education Edition products

● Test Equipment & Conditions

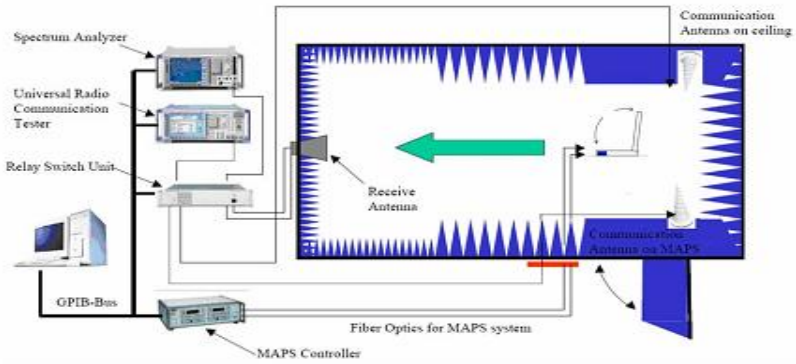
1. Network Analyzers :

Agilent 8753D 5071B

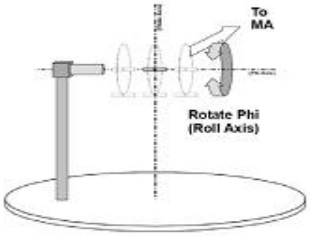
Communications Test Set:

Agilent E5515C CMW500

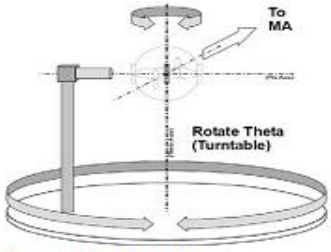
2. 3D Chamber Test System



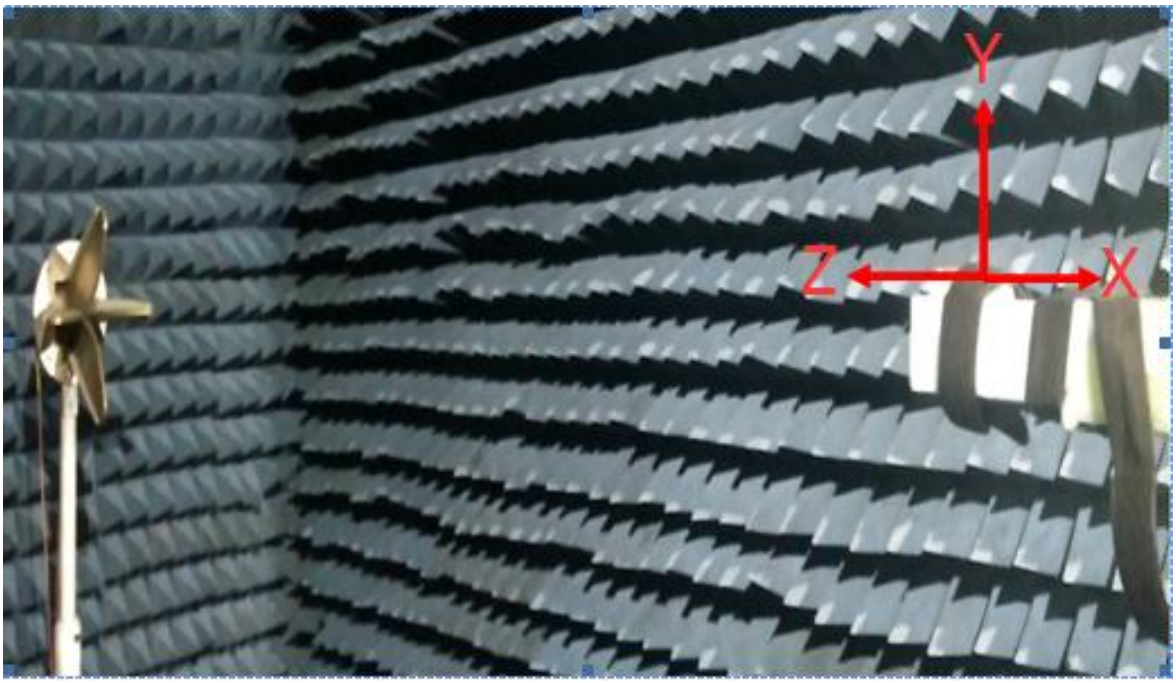
(Testing by 3D anechoic chamber)



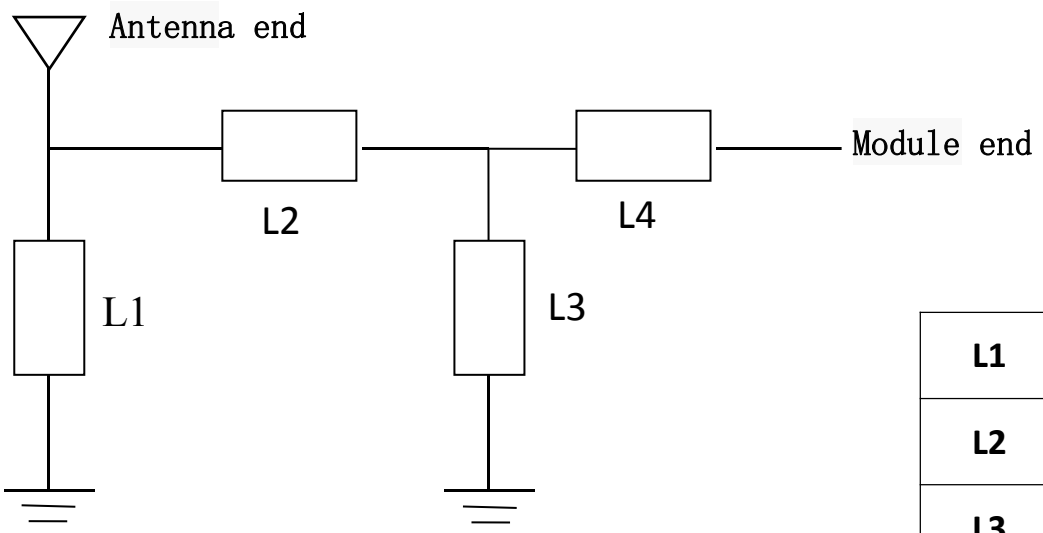
Phi axis test



Theta axis test



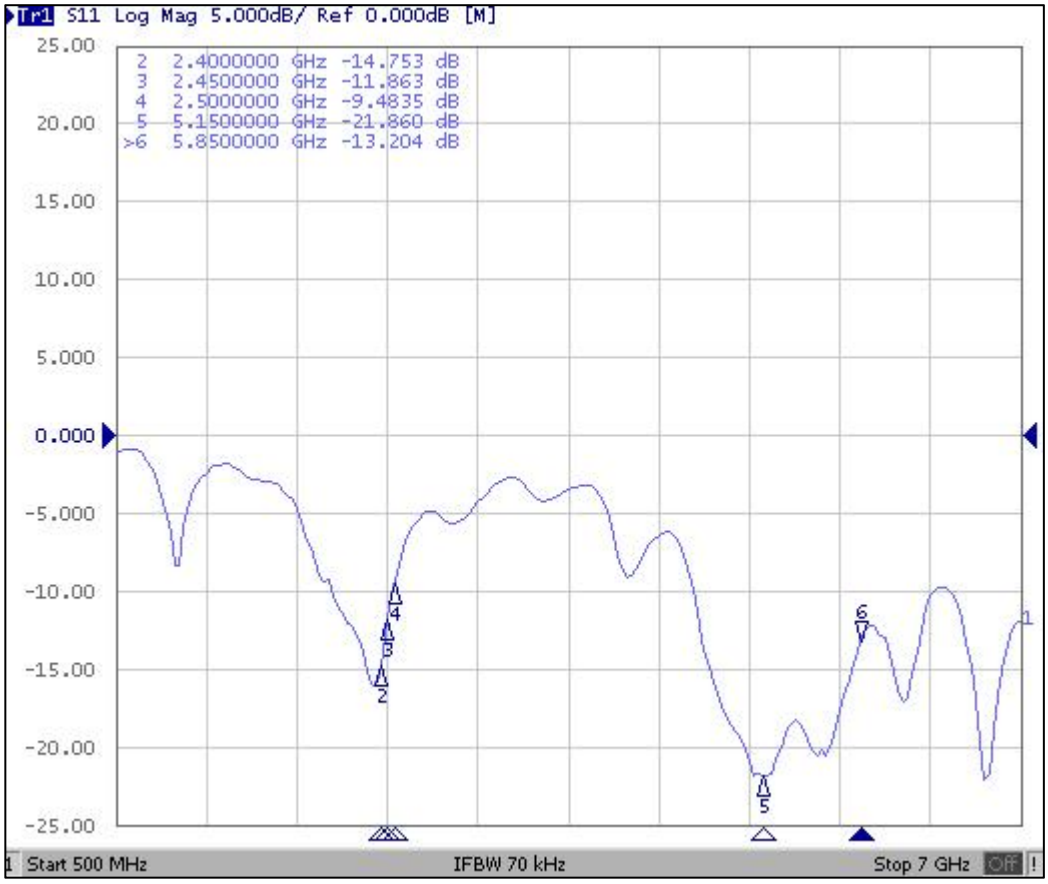
● **matching circuit**



L1	**/**
L2	**/**
L3	**/**
L4	**/**

The matching circuit of the original motherboard remains unchanged

◆ Return Loss



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Factory：6 Floor,GangHuaXing Industrial Park,Rongshu Road 2nd ,Fuyong,Baoan ,shenzhen
Email:damoncui@tllskylink.com

◆ Gain & Efficiency

Freq (MHz)	Effi (%)	Gain (dBi)
2400	58.72	2.29
2410	57.66	2.25
2420	57.98	2.39
2430	55.88	2.19
2440	54.1	2.52
2450	49.17	2
2460	49.68	1.93
2470	48.11	1.61
2480	48.11	1.46
2490	46.99	1.27
2500	47.47	1.25

Freq (MHz)	Effi (%)	Gain (dB)
5150	42.9	-2.27
5200	42.02	-2.17
5250	41.7	-1.93
5300	41.57	-2.09
5350	43.31	-1.15
5400	43.39	-0.36
5450	43.9	-0.17
5500	44.01	0.13
5550	43.73	0.34
5600	46.04	1.19
5650	45.12	2.02
5700	42.97	2.35
5750	41.29	2.47
5800	42.16	2.49
5850	44.92	2.38

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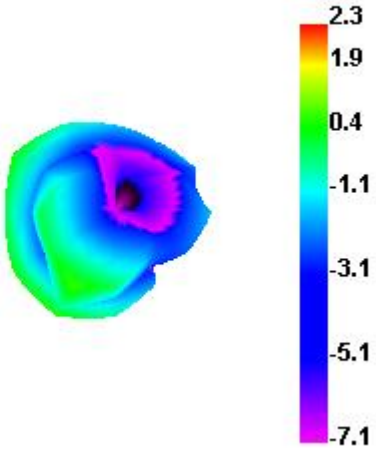
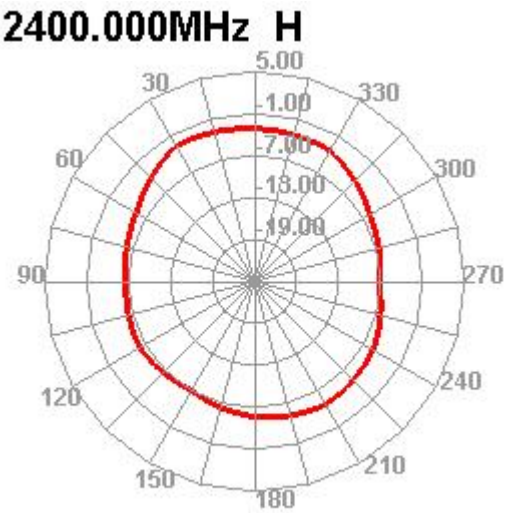
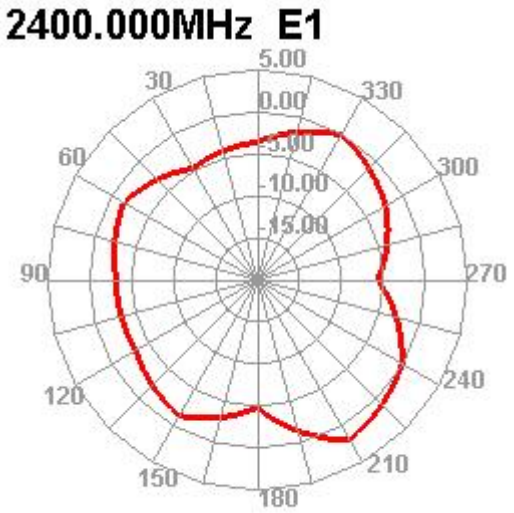
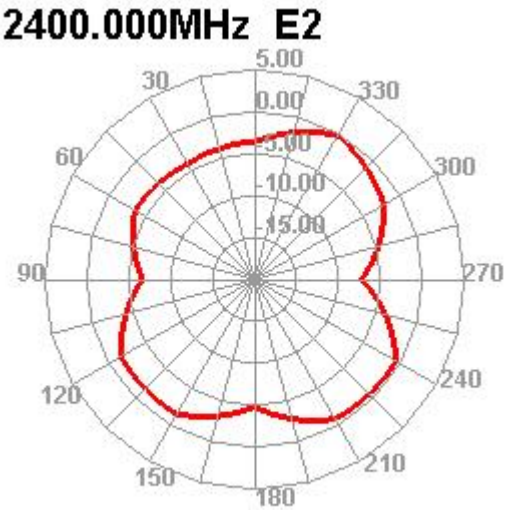
◆ Radiation Pattern









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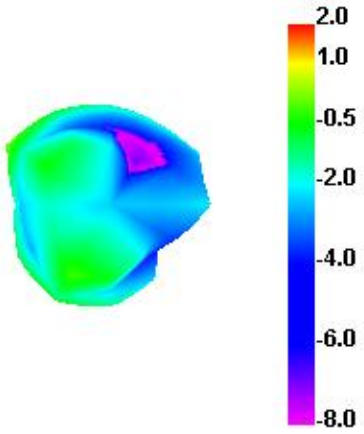
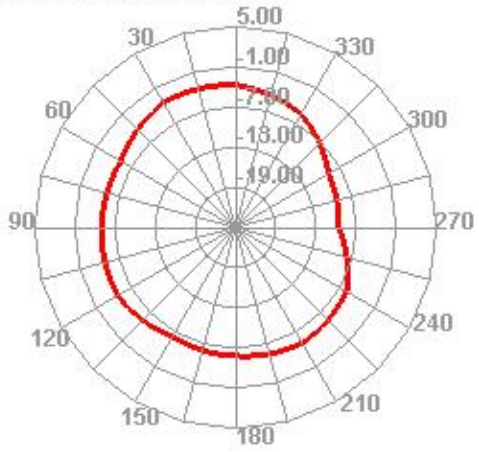
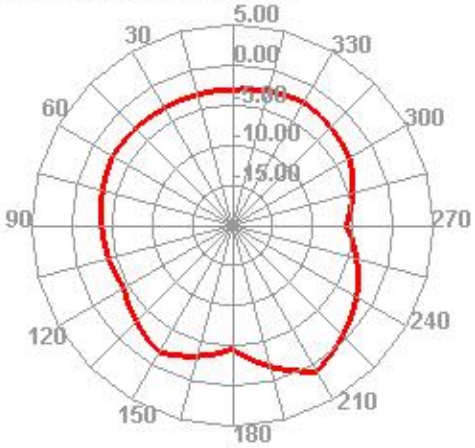
2450.000MHz



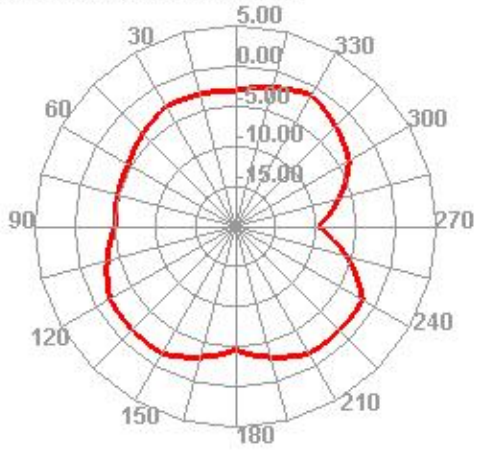
2450.000MHz H



2450.000MHz E1



2450.000MHz E2



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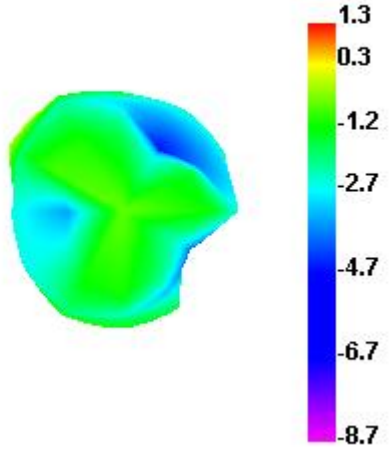
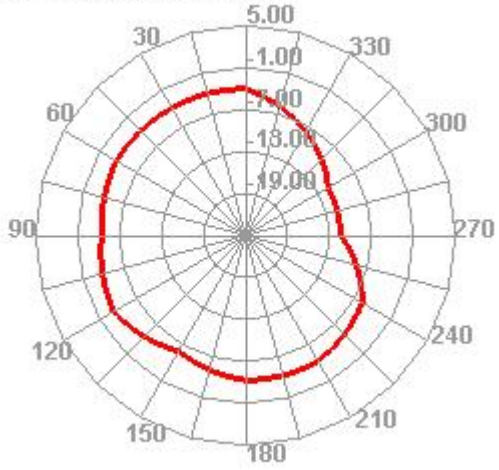
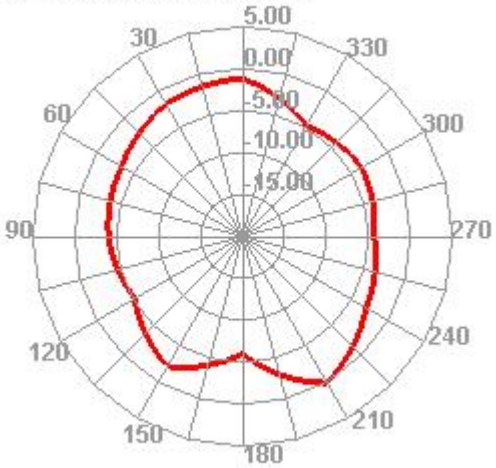
2500.000MHz



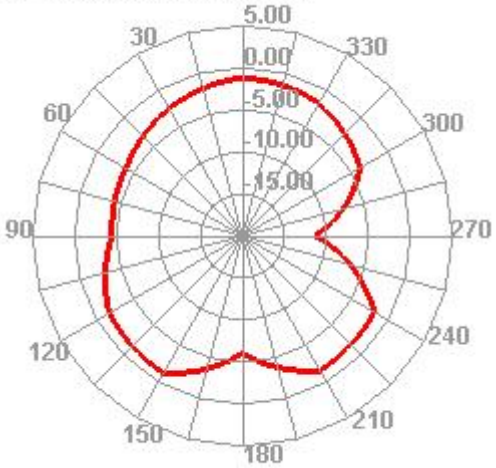
2500.000MHz H



2500.000MHz E1



2500.000MHz E2



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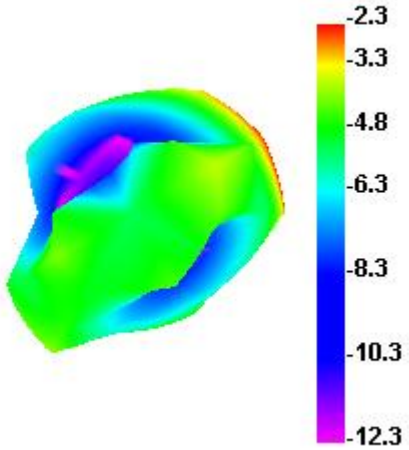
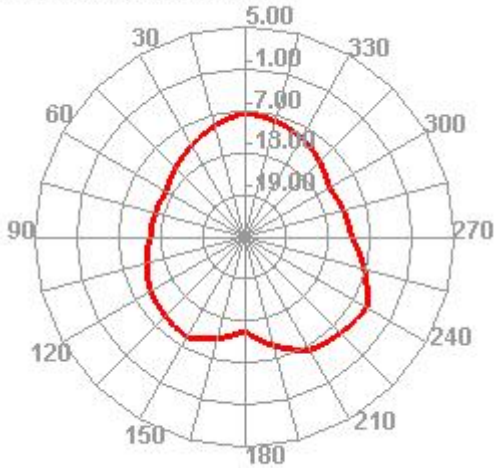
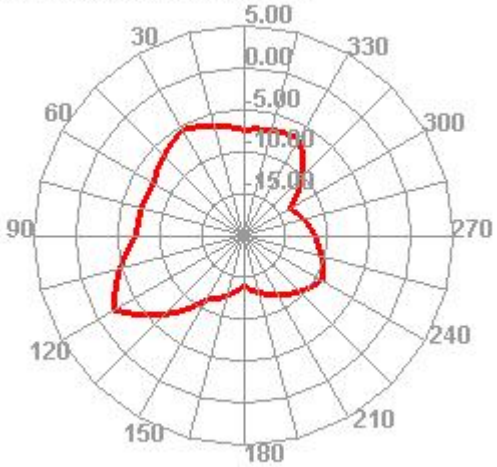
5150.000MHz



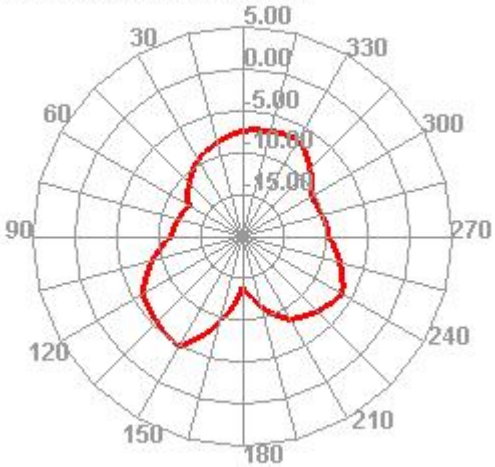
5150.000MHz H



5150.000MHz E1



5150.000MHz E2



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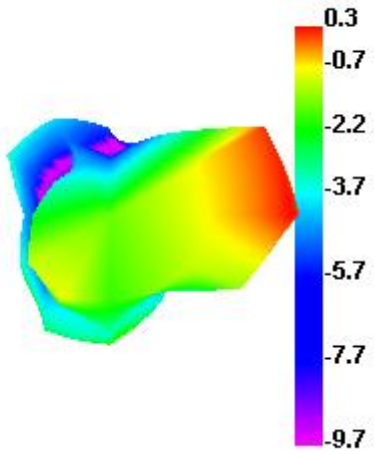
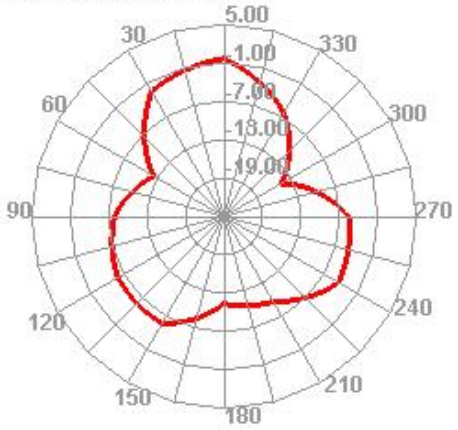
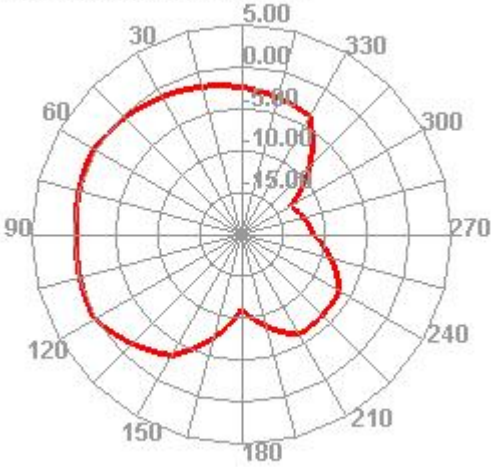
5550.000MHz



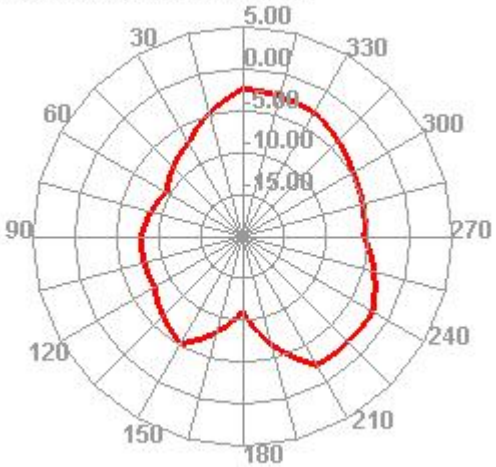
5550.000MHz H



5550.000MHz E1



5550.000MHz E2



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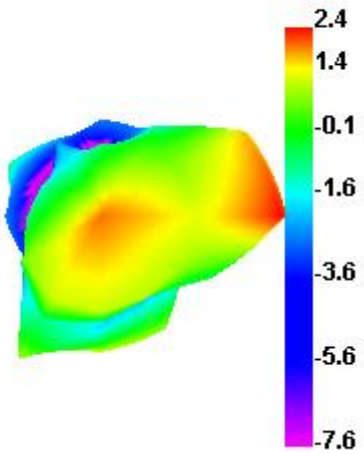
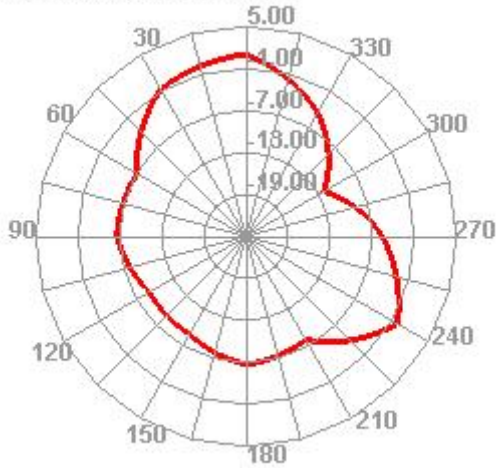
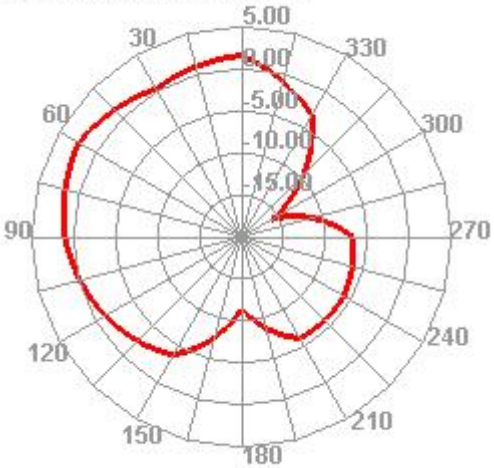
5850.000MHz



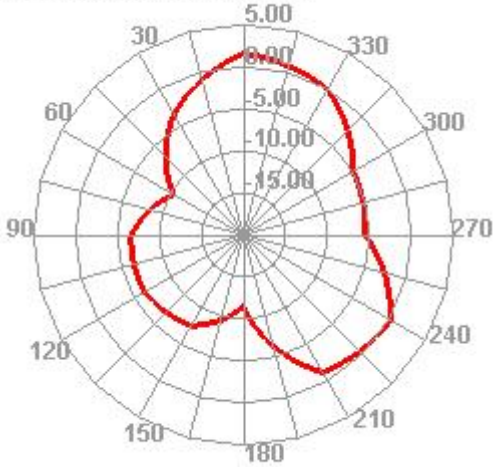
5850.000MHz H



5850.000MHz E1



5850.000MHz E2



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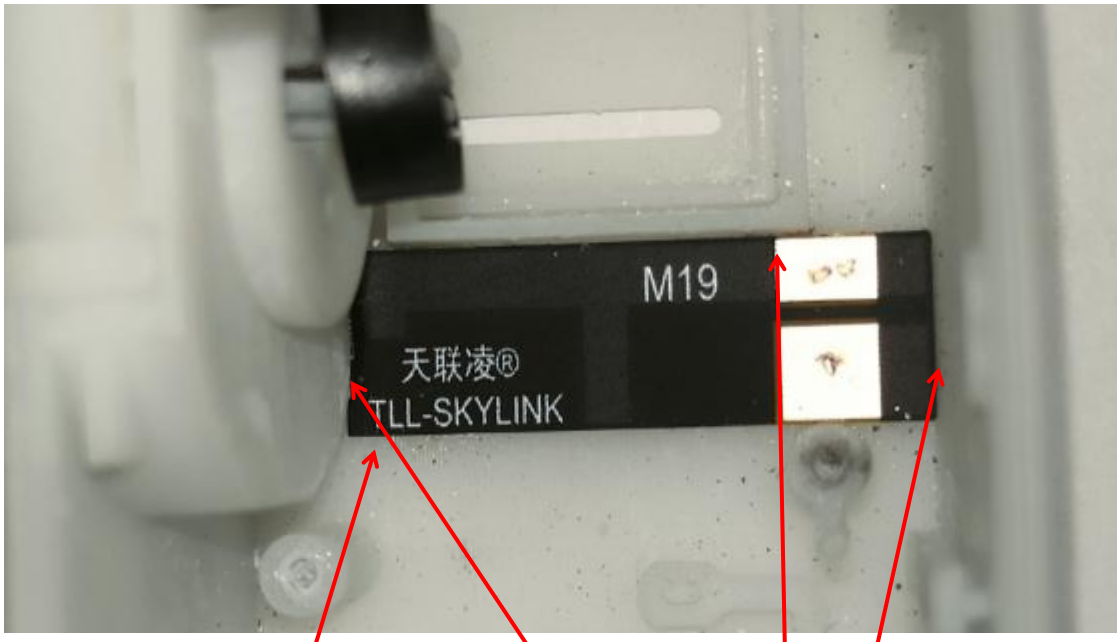
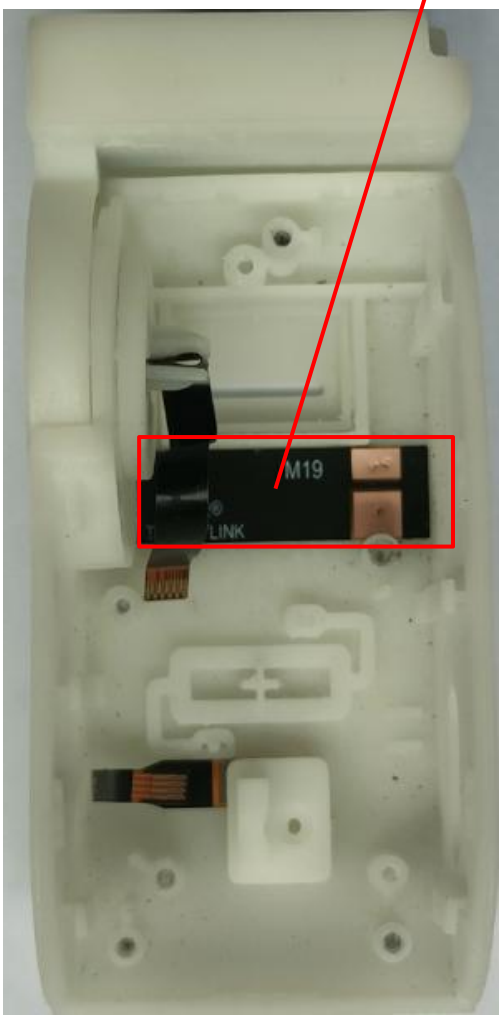
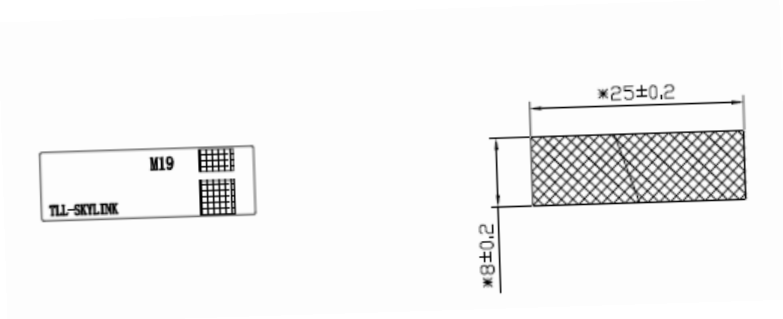
◆ Antenna assembly method





The antenna is aligned and tightly attached to the bone position in the direction of the arrow



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◆ Reliability testing

Test items		Test conditions	Device	Specification	Result
1	Low temperature	Temperature: -30 ℃, humidity: 65%, time: 48 hours Test conditions: Place the antenna in a high and low temperature test box, maintain the temperature at 25 ℃ and humidity at 65% for 1 hour, then lower the temperature to -30 ℃ within 1 hour and maintain it for 44 hours, then raise the temperature to 25 ℃ and maintain it for 2 hours	High and low temperature testing machine	No material deformation allowed Good electronic performance	Pass
2	Hot test	Temperature: 85 ℃, humidity: 85%, time: 48 hours Test conditions: Place the antenna in a high and low temperature test box, with a temperature of 25 ℃ and a humidity of 65% for 1 hour. Then, within 1 hour, raise the temperature to 80 ℃ and a humidity of 85% for 44 hours, and then lower the temperature to 25 ℃ for 2 hours.	High and low temperature testing machine	No material deformation allowed Good electronic performance	Pass
3	Salt spray test	Salt Spray Test: Place the antenna in the salt spray testing machine and set the testing environment: Temperature 35 ± 2 ℃ Humidity 85% Salt spray: 5 ± 1% PH value 6.5-7.2 Time: 24 hours	Salt spray testing machine	No color change No rusting occurred	Pass

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