Shenzhen SKYLink Technology Co.,Ltd

Antenna Specification for Approval

Customer Name: _____

Product Name: 2.4G/5.8G WIFI Antenna

Part NO.: WF84A.V3.C113.110B.221

Write By: Damon Cui

Issued Date: 2023-11-30

Customer

R&D Dept	Business Dept	Approved By

SKYLink

R&D Dept	Engineer Dept	Approval

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

Specification Summary

A. Electrical Characteristics	
Frequency	**2400MHz ~2500MHz** **5150MHz ~5850MHz**
S11	**<-10.0**
Efficiency	**>40%**
Peak Gain	**2.6dbi**
Impedance	**50 Ohm**
Polarization	**Line**
B. Material & Mechanical Characteristics	
Material of Radiator	**FPC**
Cable Type	**1.13MM Black**
Connector Type	**/**
Dimension	At Attachment
Heat-durability	**280±5˚C， 10sec.**
C. Environmental Characteristics	
Operation Temperature	**- 20 ˚C ~ + 80 ˚C**
Storage Temperature	**- 30 ˚C ~ + 85 ˚C**

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● Test Equipment & Conditions

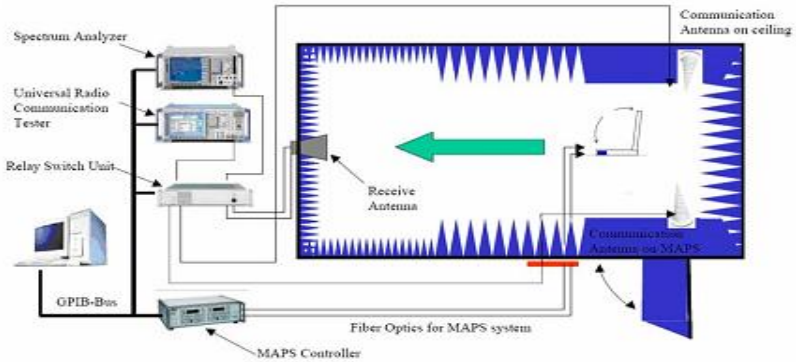
1. Network Analyzers :

Agilent 8753D 5071B

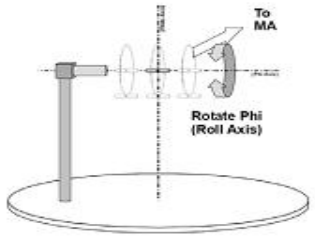
Communications Test Set:

Agilent E5515C CMW500

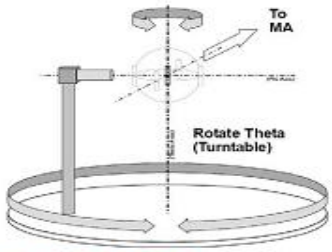
2. 3D Chamber Test System



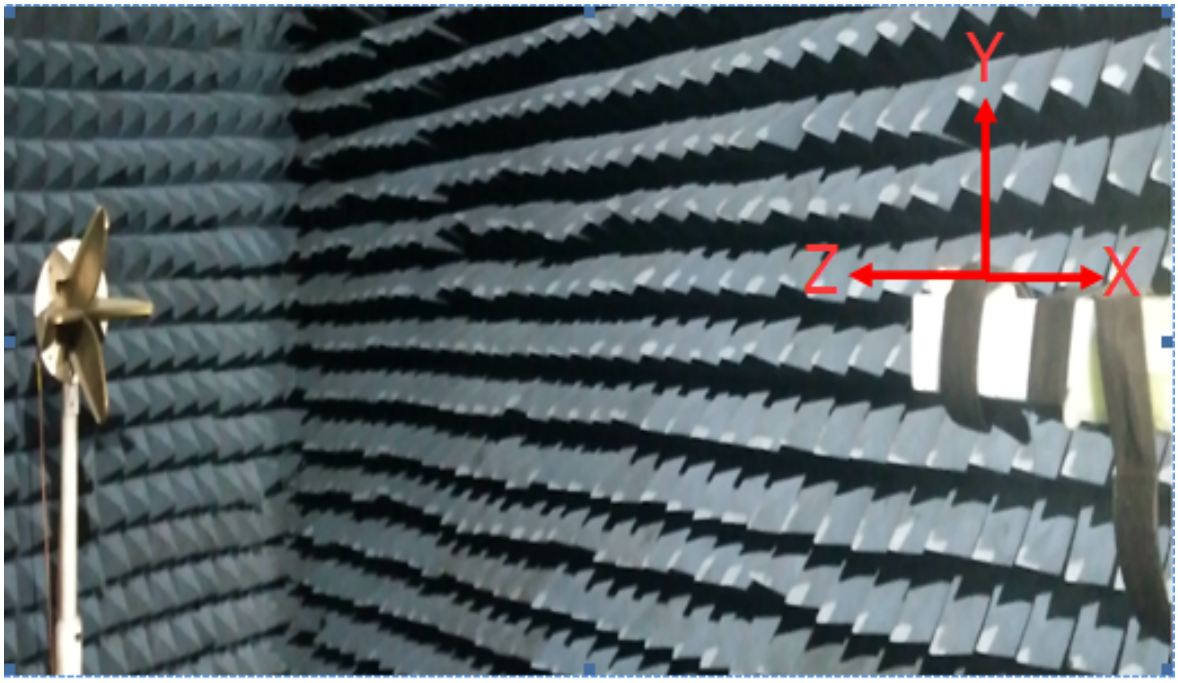
(Testing by 3D anechoic chamber)



Phi axis test



Theta axis test



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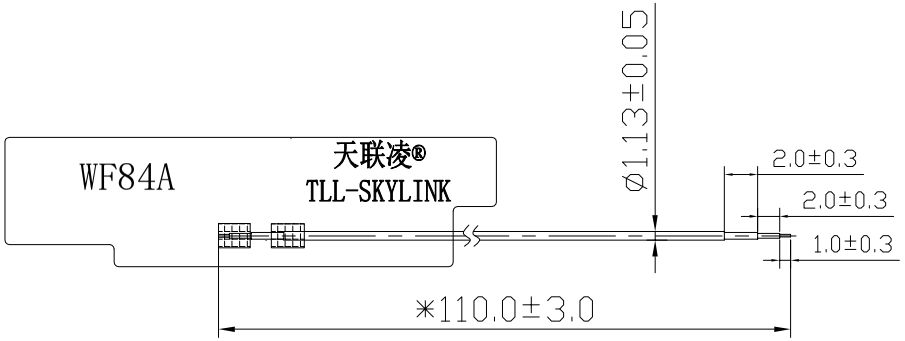

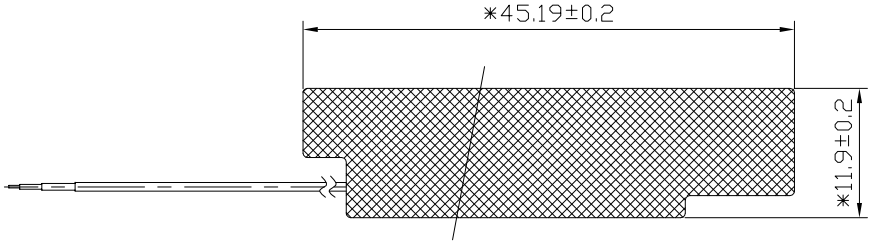

Rev	Description	Date	Remark
A	New drawing		

SHEN ZHEN SKYLink CO.,LTD

Third Angle				Project		Date	2023-11-30
0～10	±0.05	○	0.02	Part Name		Designed by	
10～18	±0.10	◎	Ø0.03	Part No.	WF84A.V3.C113.110B.221	Checked by	MD
18～30	±0.12	⊥	0.02	Material			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							

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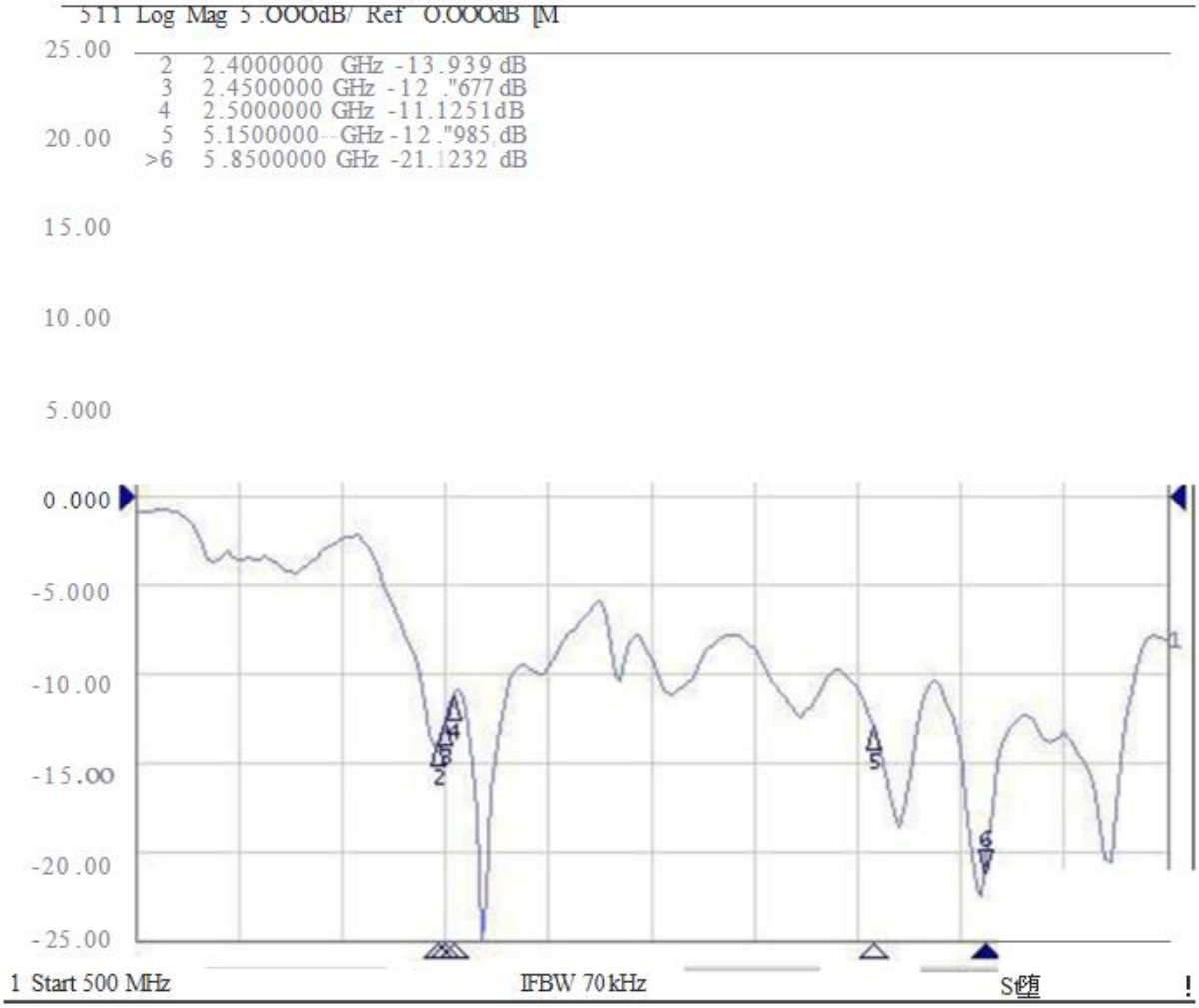
◆ Return Loss



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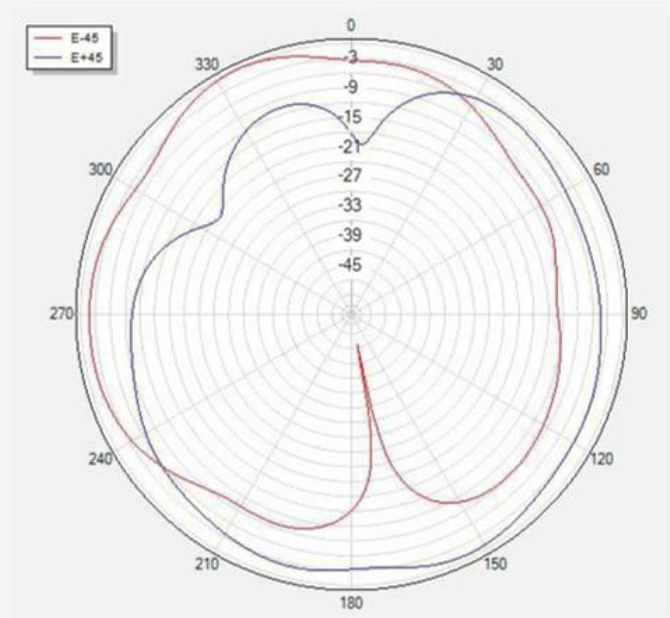
◆ Gain & Efficiency

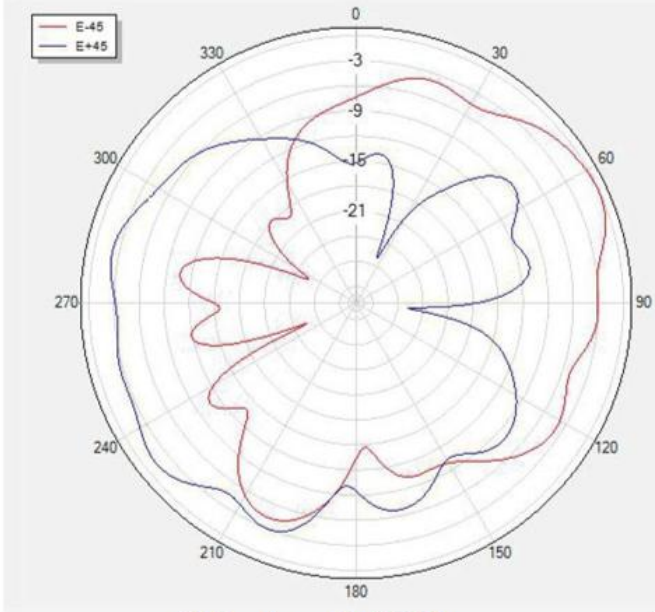
Fre (MHz)	Eff (%) (dB)	Gain (dB)
2400	65.03	2.37
2410	63.96	2.37
2420	64.51	2.46
2430	63.75	2.46
2440	63.97	2.47
2450	59.76	2.12
2460	60.42	2.13
2470	59.37	2.09
2480	60.53	2.25
2490	62.8	2.51
2500	62.94	2.62

Fre (MHz)	Eff (%) (dB)	Gain (dB)
5150	46.49	2.54
5200	45.46	2.39
5250	42.56	1.83
5300	45.86	2.47
5350	47.06	2.03
5400	45.35	2.05
5450	46.26	1.93
5500	47.2	2.04
5550	45.95	1.79
5600	46.09	2.24
5650	47.34	2.58
5700	47.9	2.57
5750	50.6	1.99
5800	52.52	1.72
5850	48.47	1.77

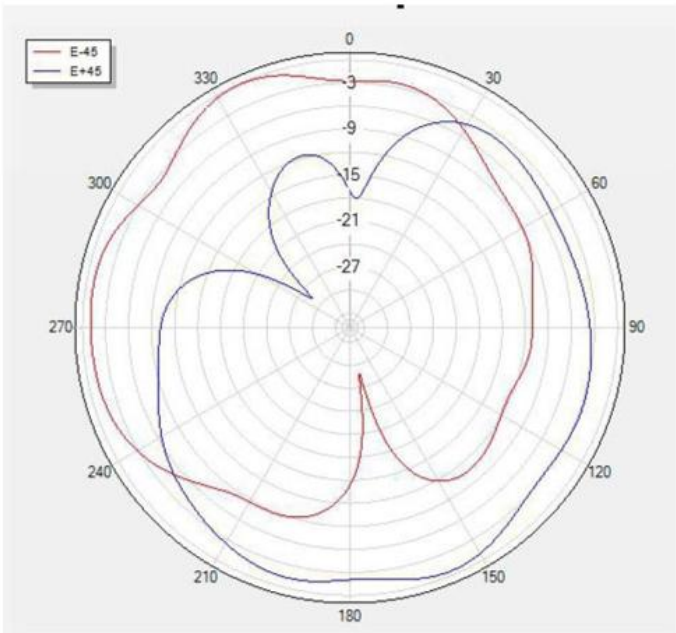
◆ Radiation Pattern



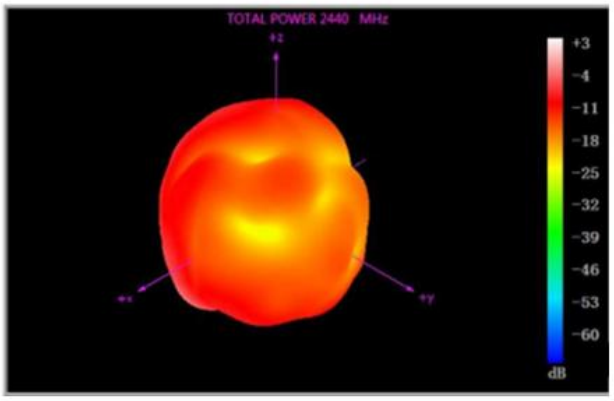
XOY-plane@2440MHz



YOZ-plane@2440MHz



XOZ-plane@2440MHz



3D plane@2440MHz

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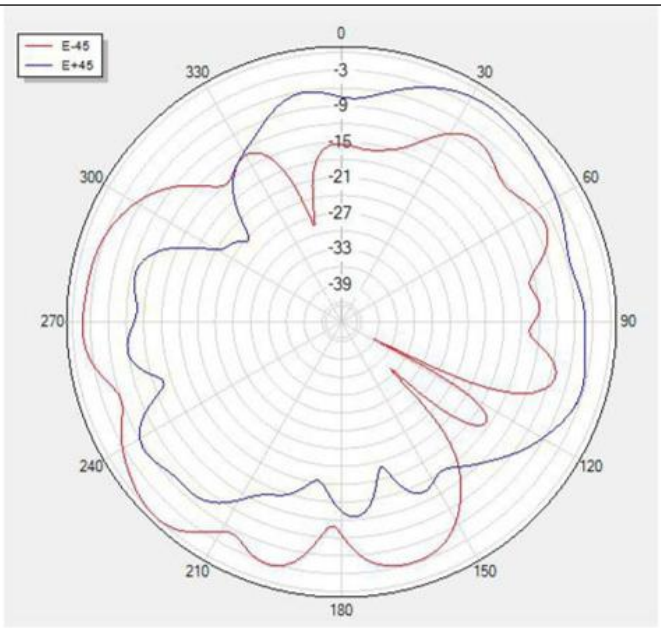
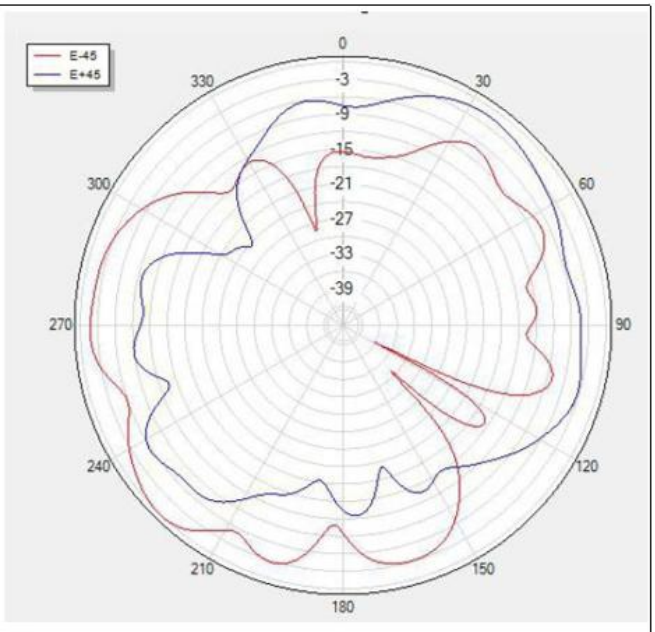
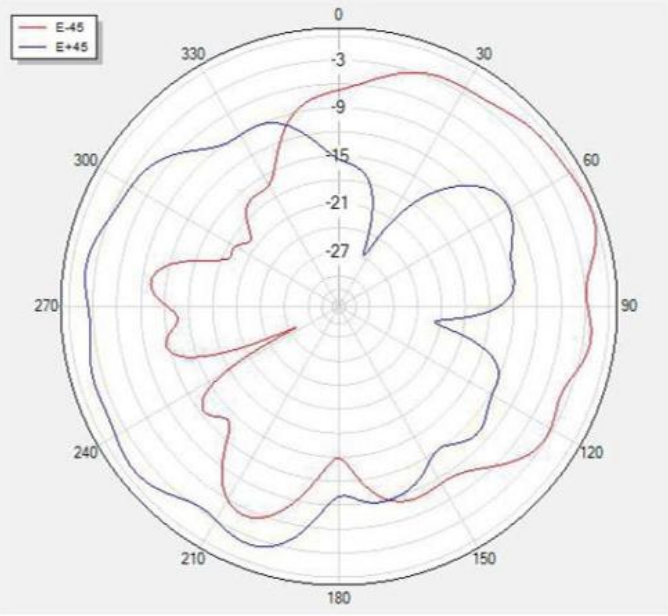


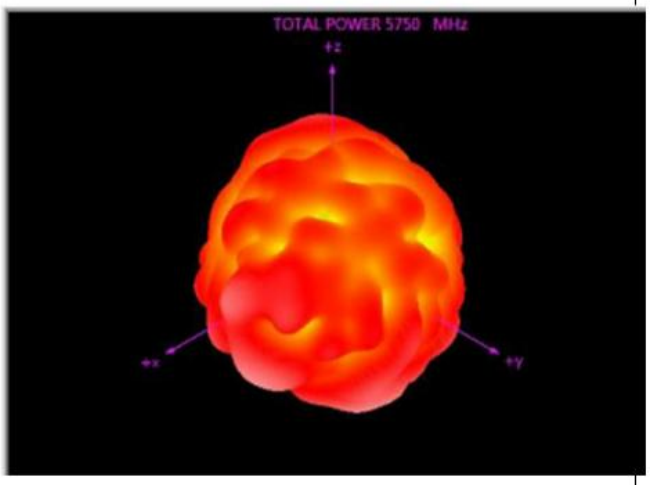
XOY-plane@5750MHz



YOZ-plane@5750MHz



XOY-plane@5750MHz



3D-plane@5750MHz

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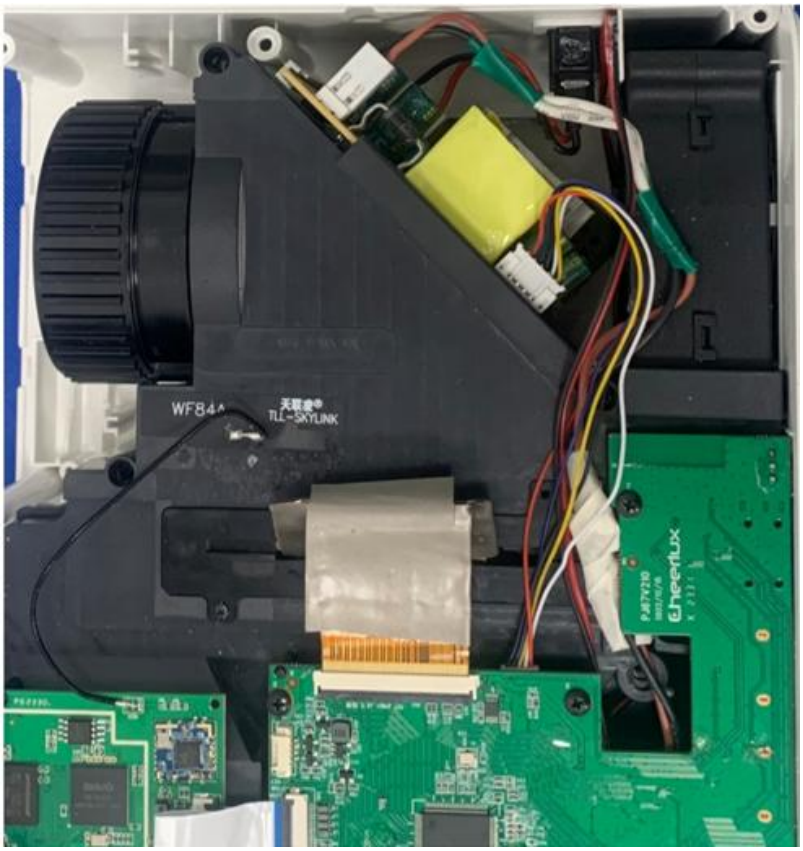
◆ Antenna Picture



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◆ Reliability Test

Test Item		Test condition	Equipment	Specification	Result
1	Low Temp. Storage Test	Temperature: -30℃， Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-down the temp. to -30℃ in one hour, store antenna for 44 hours; step-up temp to 25℃,test antenna after 2 hours.	Temp.&Humi. Tester	No material deformation is allowed. Electronic Performance is ok .	PASS
2	High Temp./High Humid Storage Test	Temperature: 85℃ Humidity: 85% RH Time:48hrs Test condition: Placing antenna in a Low/High Temperature Chamber, keep the temp is 25℃ and humidity is 65% for one hour, then step-up the temp. to 80℃ and the humidity up to 85% in one hour, store antenna for 44 hours; step-down temp to 25℃,test antenna after 2 hours.	Temp.&Humi. Tester	No material deformation is allowed. Electronic Performance is ok .	PASS
3	Salt-Spray 6 pray Test	Placing antenna in the Salt-Spray Tester ,set the test condition ， Temp: 35±2℃ Humidity: 85% NaCl salt spray :5 ±1 %.PH value :6.5~7.2 Test time:24hours	Salt-Spray Tester	No color change No appear rusting	PASS

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