TLL-SKYLink
天联凌

Shenzhen SKYLink Technology Co.,Ltd

Antenna Specification for Approval

Customer Name: _____

Product Name: 2.4G WIFI Antenna

Part NO.: WF99A.C113.121B.122600.111

Write By: Damon Cui

Issued Date: 2025.03.03

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**
VSWR	**< 2.0 dbi**
Efficiency	**>50%**
Peak Gain	**2.99 dbi**
Impedance	**50 Ohm**
Polarization	**Line**
Type	**Integral ANT**
B. Material & Mechanical Characteristics	
Material of Radiator	**Cu**
Cable Type	**1.13MM**
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

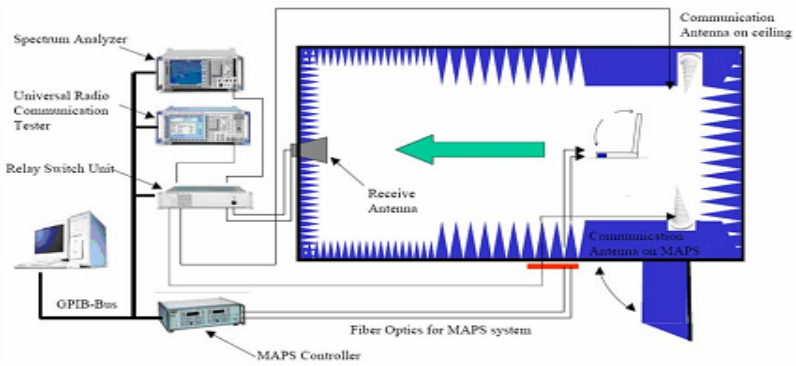
1. Network Analyzers :

Agilent 8753D 5071B

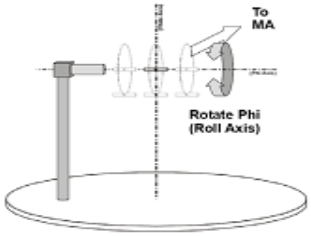
Communications Test Set:

Agilent E5515C CMW500

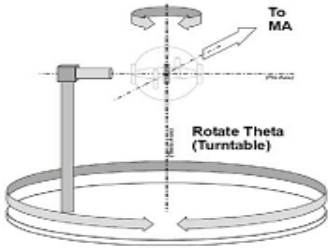
2. 3D Chamber Test System



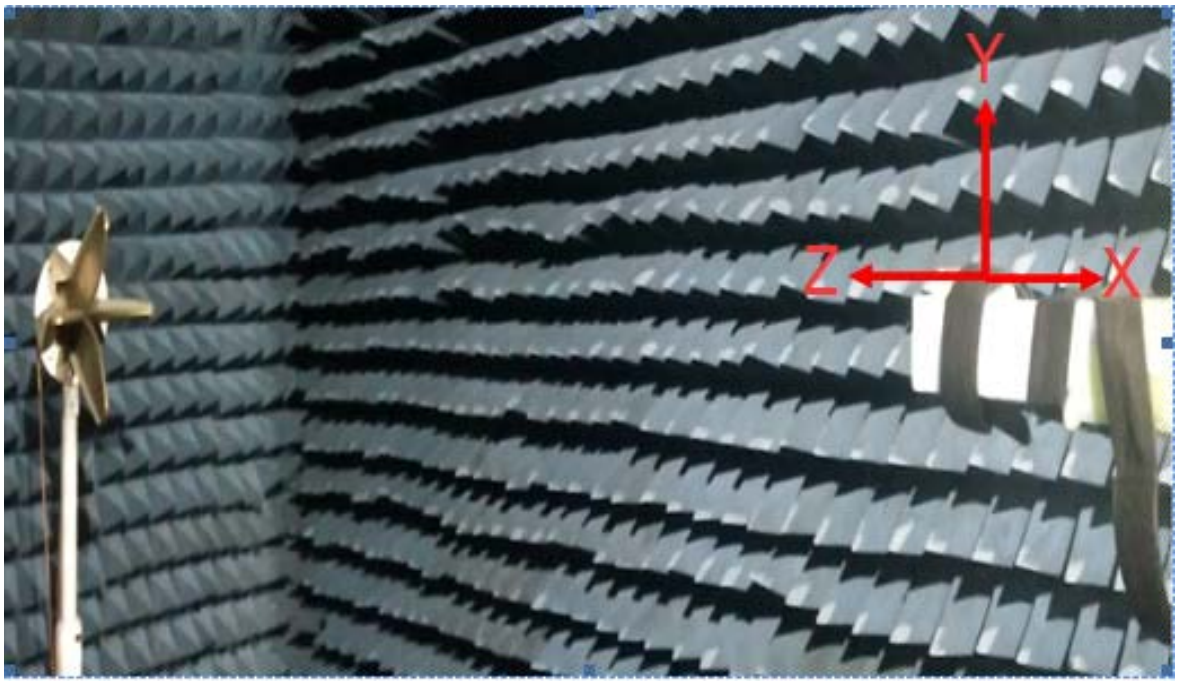
(Testing by 3D anechoic chamber)



Phi axis test



Theta axis test



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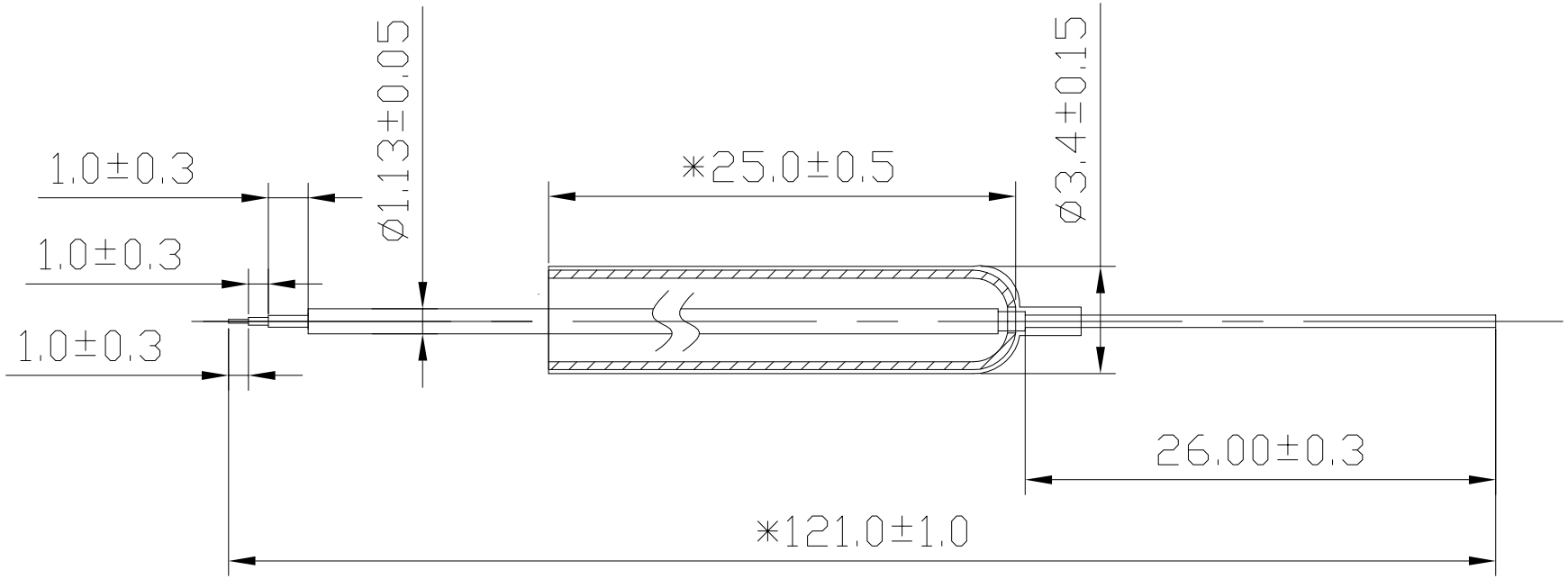
RoHS
Compliant
G P



Rev	Description	Date	Remark
A	New drawing		

0～10	±0.05	○	0.02
10～18	±0.10	◎	Ø0.03
18～30	±0.12	⊥	0.02
30～40	±0.15	▱	0.04
40～	±0.20	Angle	±0.5°
Location			

SHEN ZHEN SKYLink CO.,LTD

Third Angle	Project	Date	2025-03-03
	Part Name	Designed by	
	Part No. WF99A.C113.121B.122600.111	Checked by	MD / RF
	Material		
	DWG No.	Approved by	
		Unit mm	Scale 1:1 Rev A

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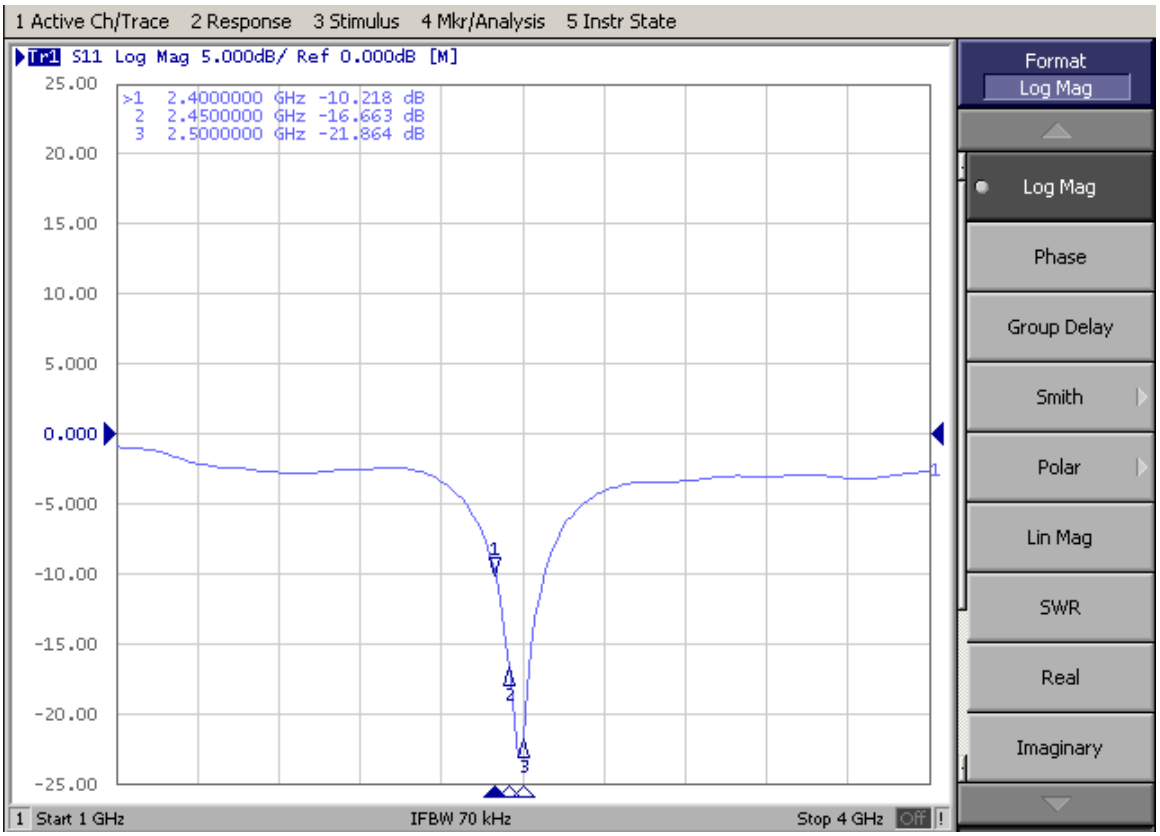
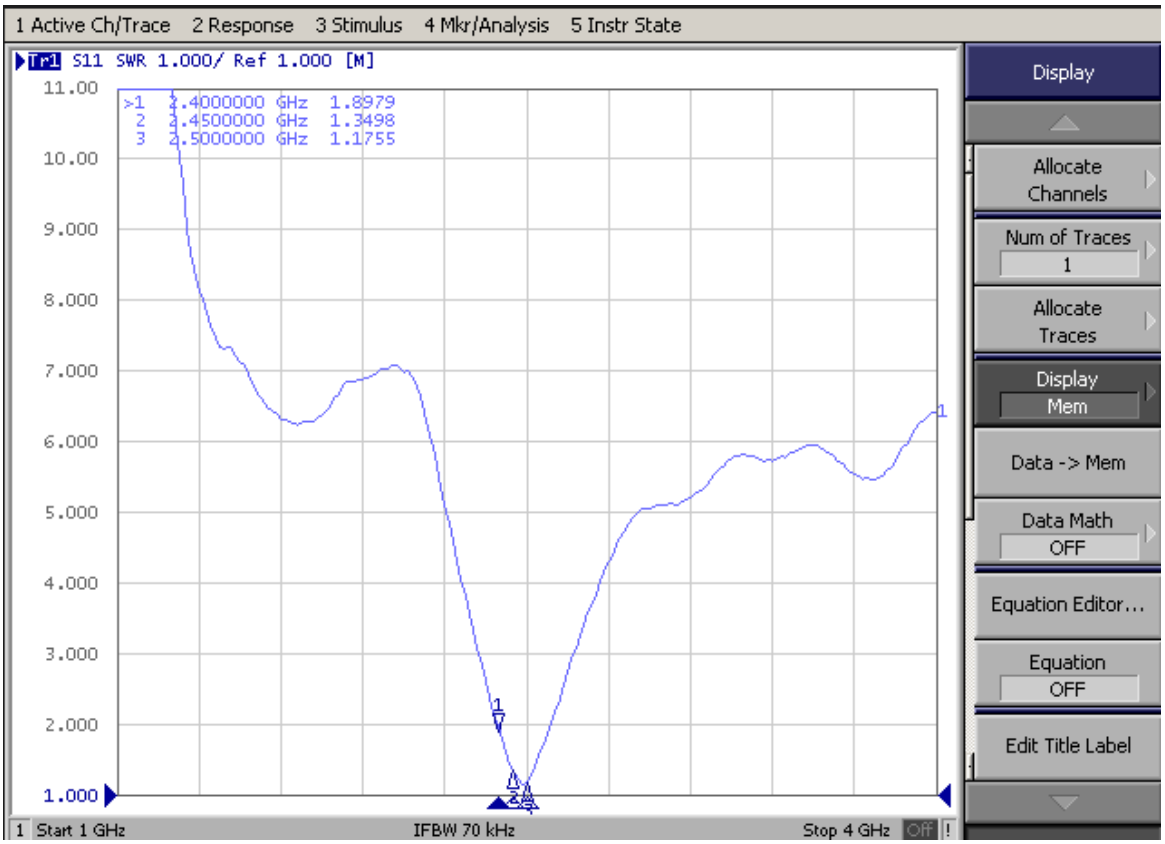
◆ Return Loss



◆ VSWR



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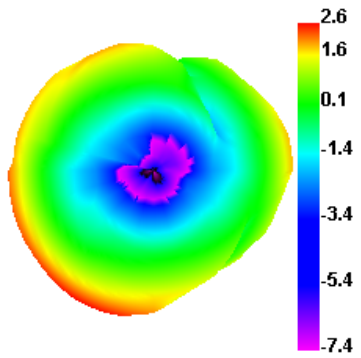
◆ Gain & Efficiency

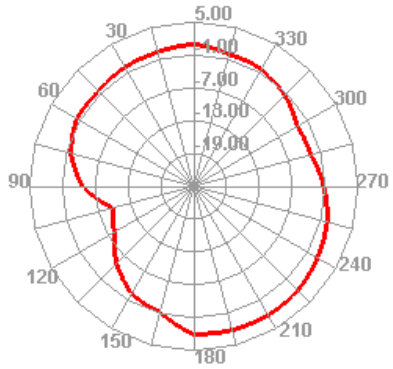
Freq (MHz)	Effi (%)	Gain (dBi)
2400	56.84	2.58
2410	61.81	2.95
2420	66.18	2.79
2430	68.23	2.68
2440	65.46	2.85
2450	62.07	2.77
2460	62.89	2.79
2470	65.97	2.84
2480	67.27	2.8
2490	65.65	2.61
2500	65.73	2.99

◆ Radiation Pattern

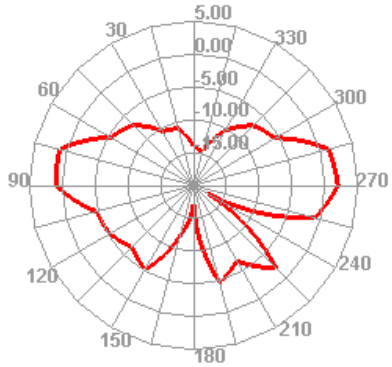
2400.000MHz



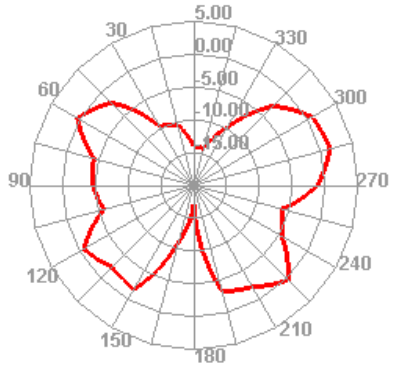
2400.000MHz H



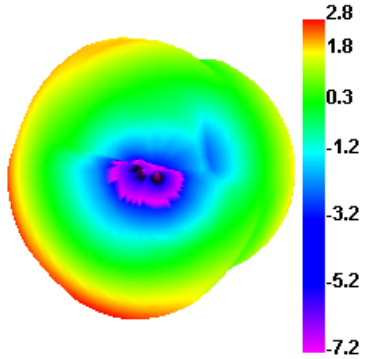
2400.000MHz E1



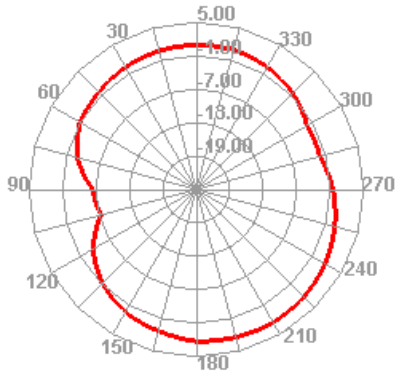
2400.000MHz E2



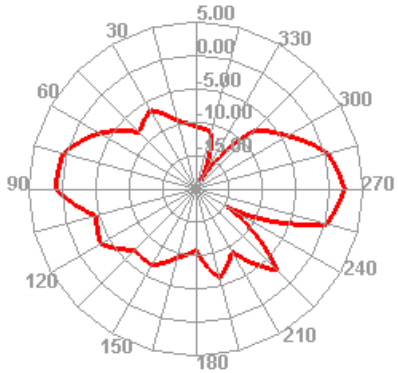
2450.000MHz



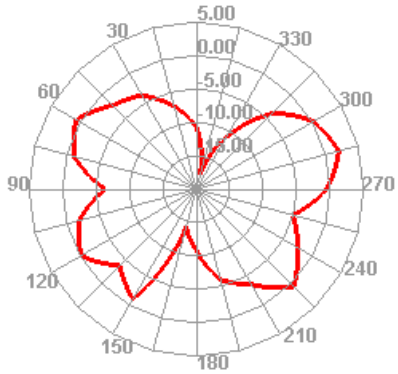
2450.000MHz H



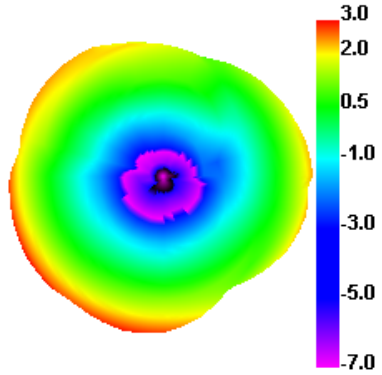
2450.000MHz E1



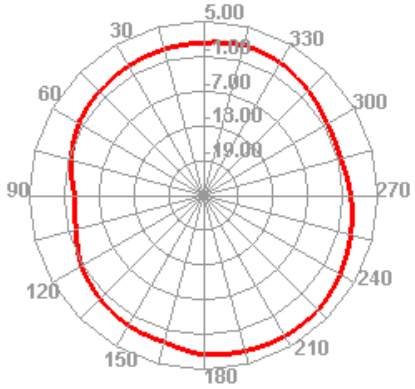
2450.000MHz E2



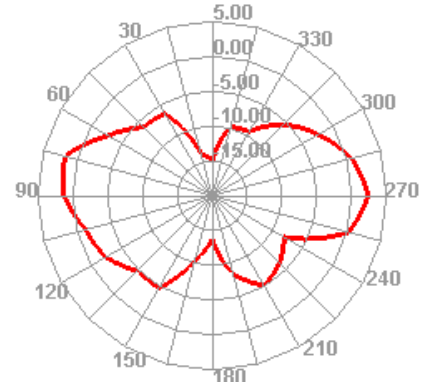
2500.000MHz



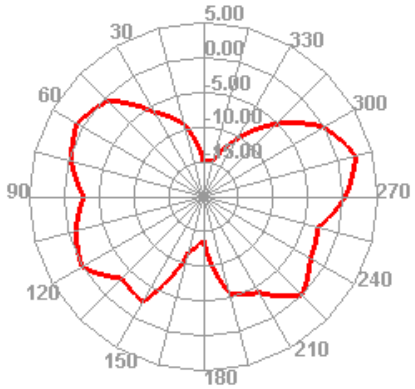
2500.000MHz H



2500.000MHz E1



2500.000MHz E2



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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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