

# Shenzhen Tianlianling

## Technology Co.

Shenzhen SKYLink Technology Co.

### Antenna specification acknowledgement

Number: SLSOA20220310FZF01

Client Name: Loxin

Project Name: \_\_\_\_\_

Product Description: Single copper tube soldered 1.13mm black coaxial wire, wire length 69mm, stripped 111. 4.5mm\*34mm white heat shrinkable tube, 2mm reserved at the top.

Customer material number. \_\_\_\_\_

Our material number. wf15b.c113.69b.123185.111.

Board book. V1.0

Date 2022-03-10

This

Clients

Engi neer ing	Purc hasi ng	Reco gnit ion

Tianlian Ling

Research and Development	Engineering	Audit

## ● Specification Overview

Electrical Characteristics	
Frequency	2400MHz ~2500MHz
Return loss	<-10dB
Efficiency	>55%
Gain	1.52dbi
impedance	50 Ohm
Polarization method	Line polarization
Material and mechanical properties	
Materials	Cu
Wire Type	Wire diameter 1.13 mm, black
Terminal Type	/
Drawing size	See drawings for details
Screen printing method	/
Environmental Characteristics	
Storage temperature	- 30 °C ~ + 85 °C
FPC Soldering Temperature	280±5°C    impregnation time:10 seconds
RF wire welding temperature	320±5°C    2-3 seconds



## ● Test Equipment & Conditions

### 1. Network Analyzers :

Agilent

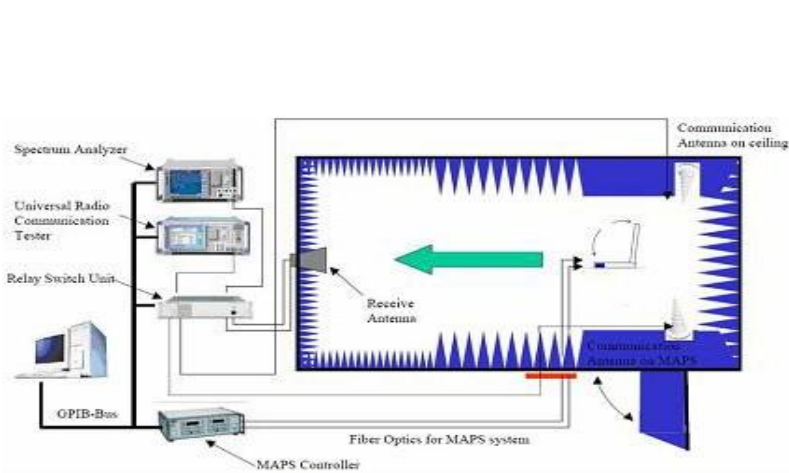
8753D50

71B Communications Test

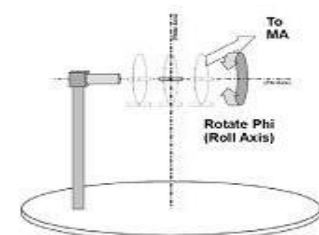
Set: Agilent E5515C

CMW500

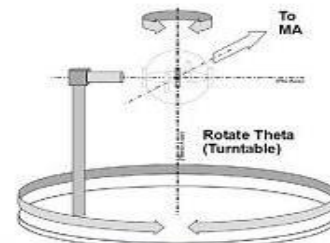
### 2. 3D Chamber Test System



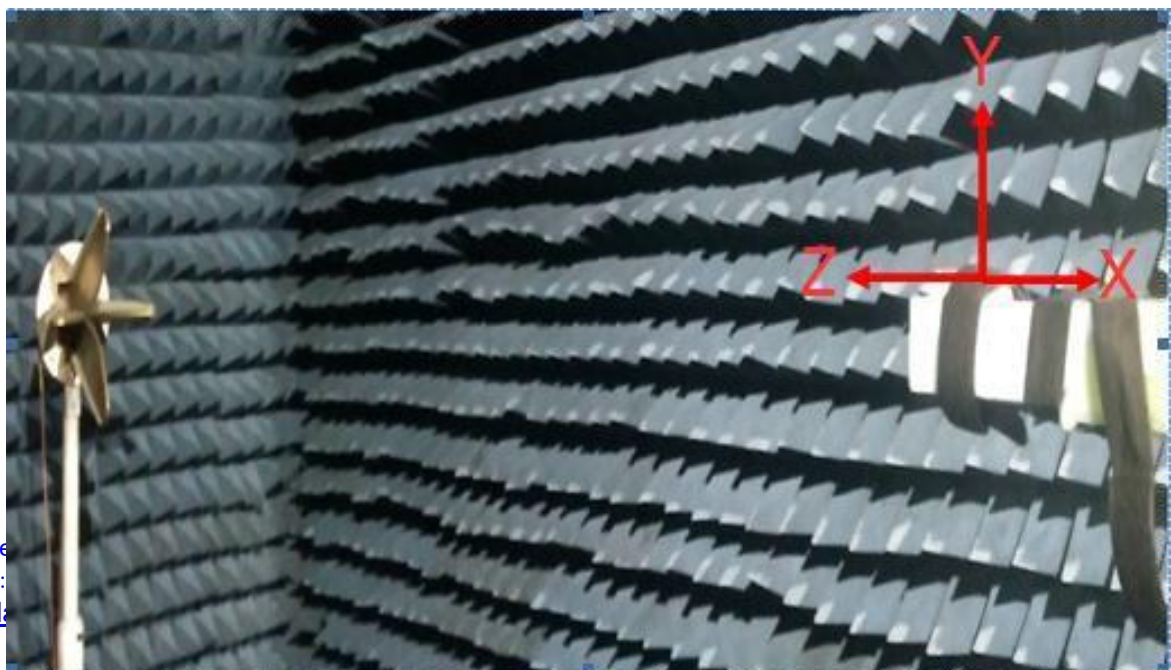
(Testing by 3D anechoic chamber)



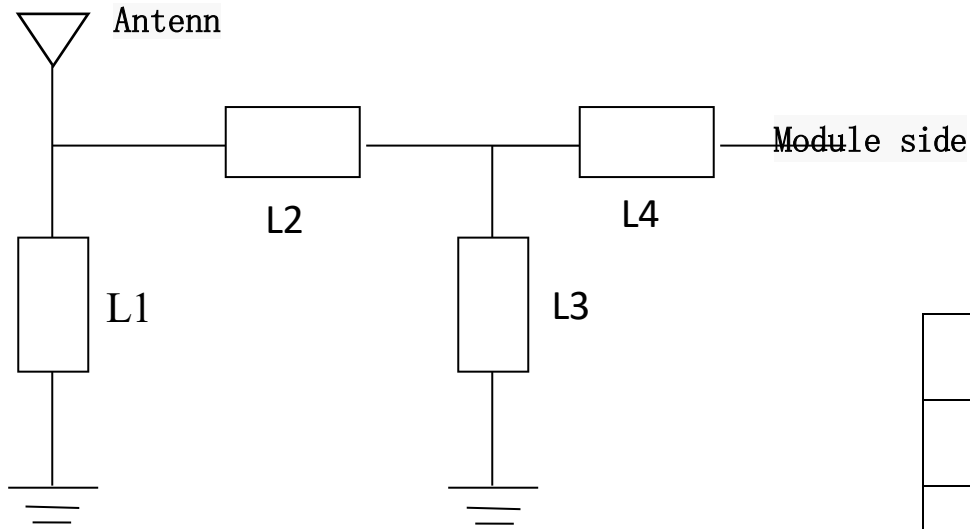
Phi axis test



Theta axis test



● Matching circuit



L1	/
L2	/
L3	/
L4	/

The original motherboard matching circuit remains unchanged

◆ Return Loss

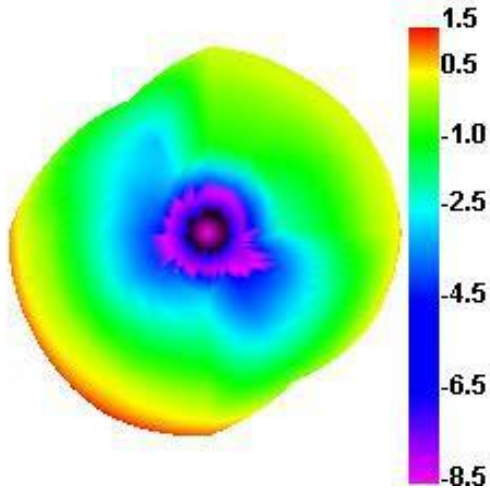


## ◆ Gain & Efficiency

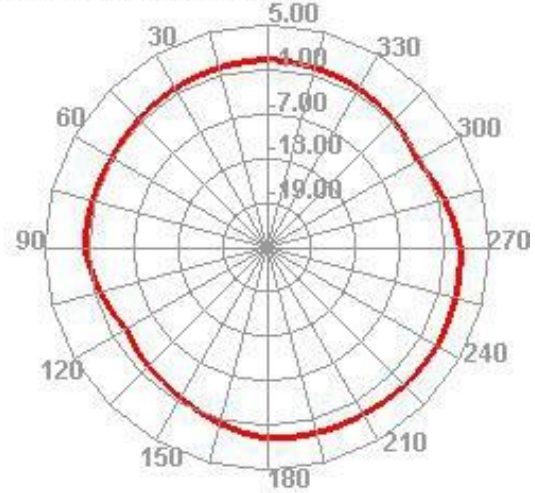
Freq (MHz)	Effi (%)	Gain (dBi)
2400	67.86	1.52
2410	66.63	1.32
2420	67.59	1.32
2430	65.88	1.51
2440	63.89	1.17
2450	57.68	0.84
2460	55.84	0.7
2470	59.19	1.08
2480	58.83	1.11
2490	60.94	1.44
2500	55.77	1.26

◆ Radiation Pattern

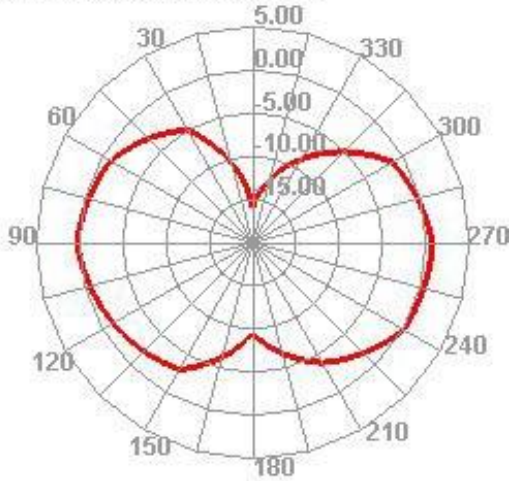
2400.000MHz



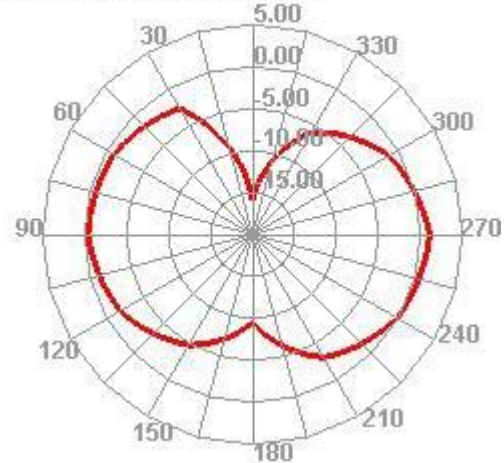
2400.000MHz H



2400.000MHz E1



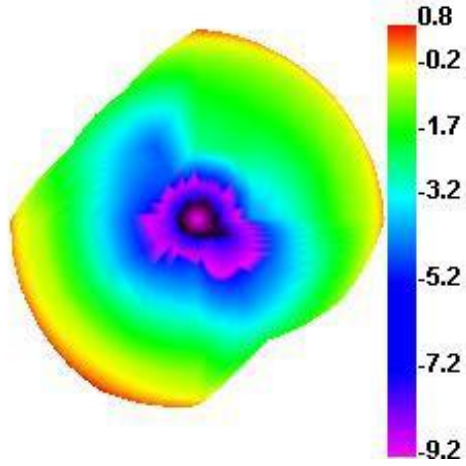
2400.000MHz E2



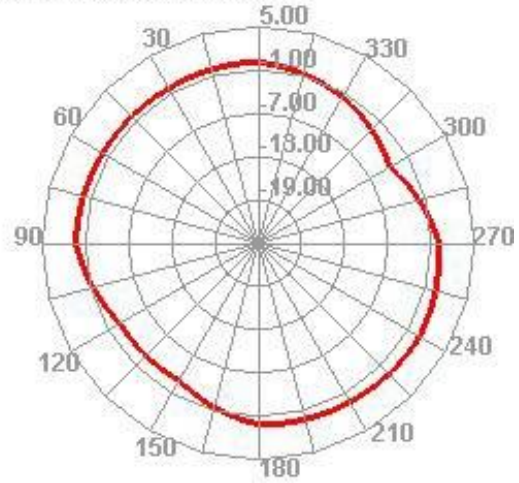


## ◆ Radiation

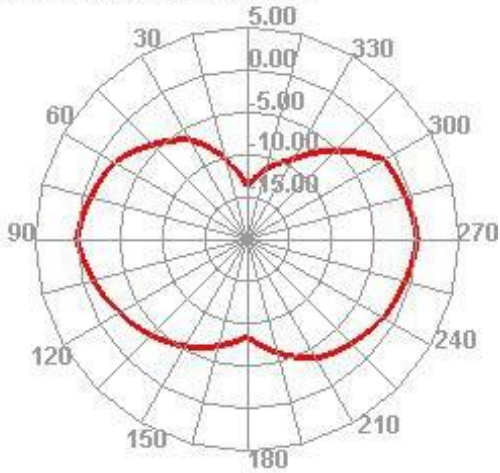
2450.000MHz



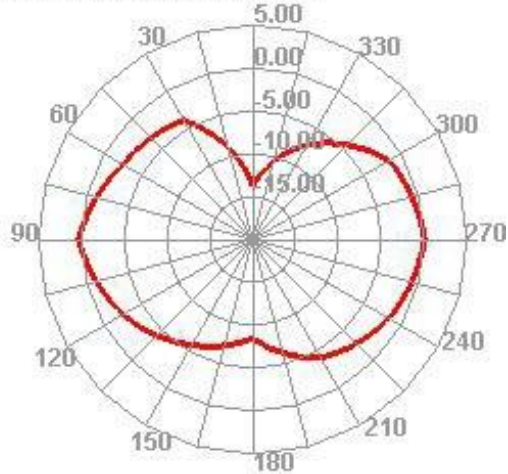
2450.000MHz H



2450.000MHz E1

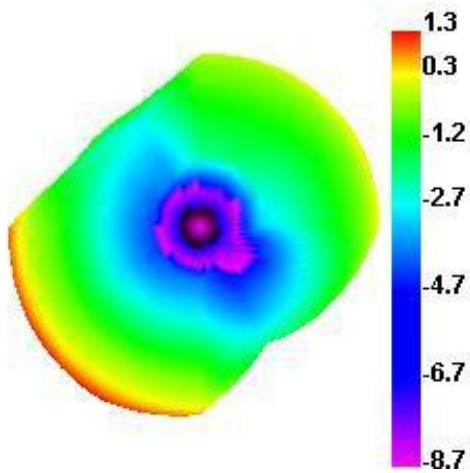


2450.000MHz E2

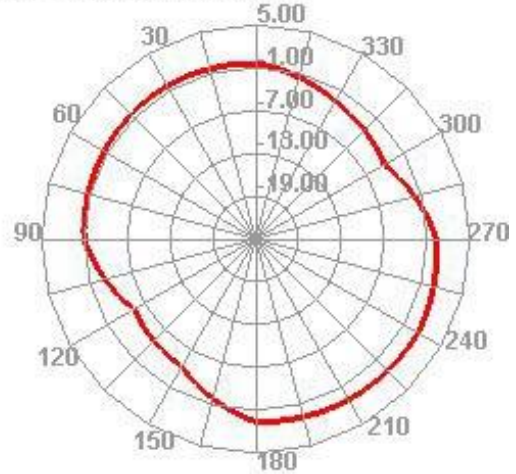


## ◆ Radiation

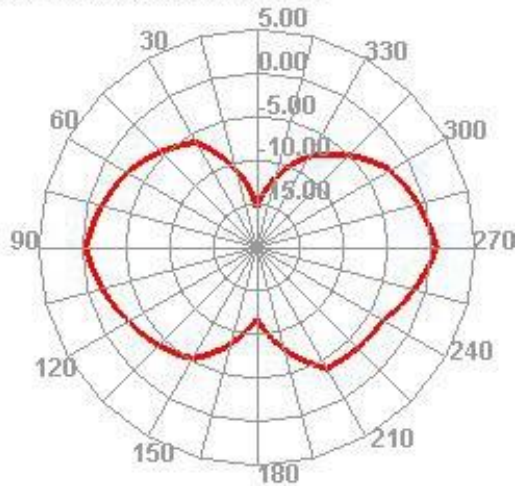
2500.000MHz



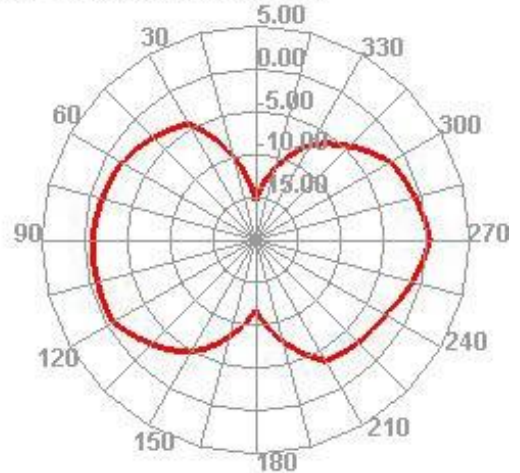
2500.000MHz H



2500.000MHz E1



2500.000MHz E2



◆ Reliabil

Test Items		Test conditions	Equipment	Specification	Results
1	Low temperature test	<p>Temperature: -30°C, humidity: 65%, time: 48 hours</p> <p>Test conditions.</p> <p>The antenna is placed in a high and low temperature test chamber and the temperature is maintained at 25°C, humidity was kept at 65% for 1 hour, and then at 1 Lower the temperature to -30°C within hours, keep it for 44 hours, then raise the temperature to 25°C, hold for 2 hours</p>	High and low temperature testers	<p>No material deformation allowed</p> <p>Good electronic performance</p>	By
2	High Temperature Test	<p>Temperature: 85°C, humidity: 85%, time: 48 hours</p> <p>Test conditions.</p> <p>Place the antenna in a high and low temperature test chamber and keep the temperature at 25° C, humidity was maintained at 65% for 1h, and then at 1 Within hours, raise the temperature to 80°C, humidity to 85%,keep 44 hours, then lower the temperature to 25° C and keep it for 2 hours.</p>	High and low temperature testers	<p>No material deformation allowed</p> <p>Good electronic performance</p>	By
		<p>Salt spray test.</p> <p>Place the antenna in the salt spray tester</p>			

◆ Reliabil

3	Salt Spray Test	Set test environment: temperature $35\pm 2^{\circ}\text{C}$ humidity 85% Salt spray: $5\pm 1\%$ PH value 6.5~7.2 Time: 24 hours	Salt spray testing machine	No color change no rusting	By
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