



宁波立捷电子有限公司

Ningbo LiJie Electronics Co., Ltd

承 认 书

APPROVAL SHEET

客户名称Customer Name SHINING 3D Tech Co., Ltd.

产品型号Product Model WIFI Antenna 4:Frequece5150-5850MHz;FPC
Black coated oil with adhesive backing+
RF1.13MM Black coaxial line+MHF I 90mm

客户料号Customer P/N /

立捷料号Lijie P/N LJ89SAWF004R

制作日期Date Prepared 2022.9.15

制作版本Revision A0

Lijie Electronics Co.,LTD (LJICT)		
Prepare	Checked	R&D
Customer		
Responsible	Checked	APPROVED

Company: Ningbo LJICT Electronics.,LTD

Add: No .599 Qiming Road Yin zhou District , Ning bo

电话(Tel): +86 574 88025737

手机(Mob): +86 18126545121

Index

1 . Title Page	1
2. Index	2
3. Blueprint	3
4. Performance Test Report	4-14
5. Tensile Test Report	15
6. Sample Inspection Report	16

5G Antenna Test Report

Customer	SHINNING 3D
Project	AOS4
Antenna Revision	A1
Product Description	FPC+Cable+MHF I
Product No	

Purpose

This report is to measure the performance of **LJ 5G WIFI** antenna for **SHINING 3D -AOS4**. All test date are showed as below.

Content

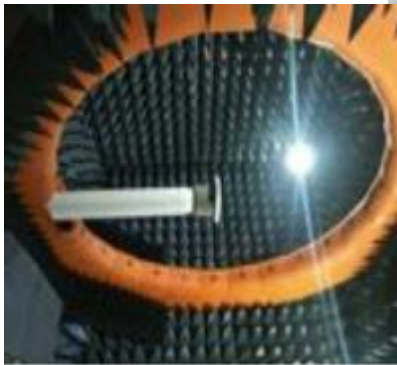
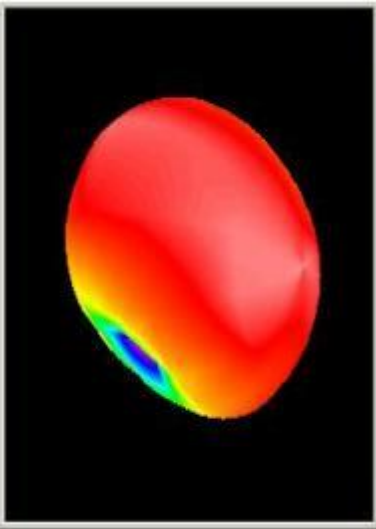
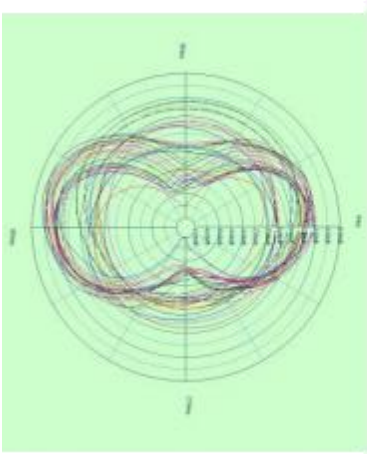
- 1: Product Overview & Dimension
- 2: Test Result
 - 2.1 Antenna Matching Network
 - 2.2 VSWR
 - 2.3 Gain & Efficiency
 - 2.4 Radiation Pattern
 - 2.5 OTA
- 3: Antenna Assembly Method

1. Product Overview & Dimension

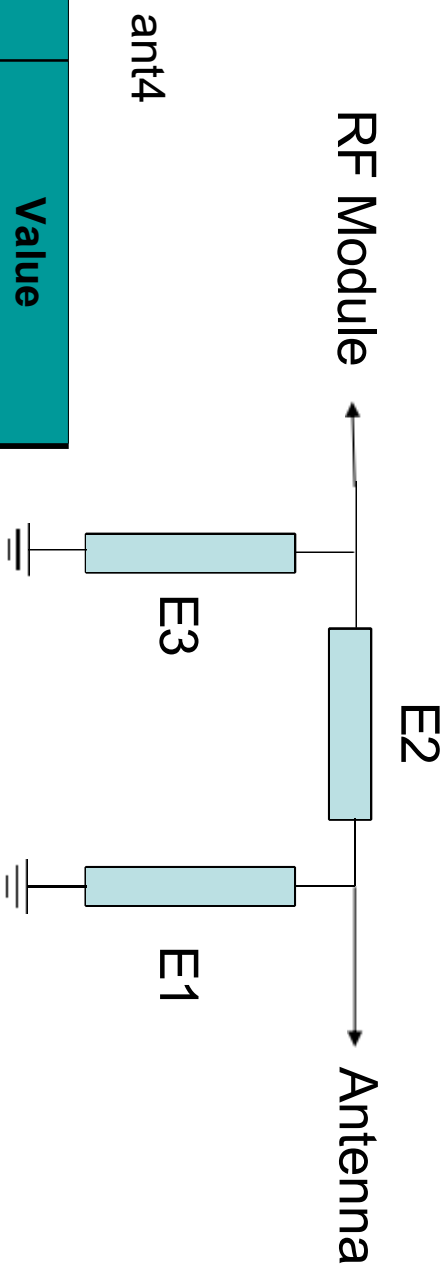


2. Test System

Sequence Number	Test Item	equipment
1. S parameter	VSWR	Agilent 5071C
2. OTA Test	TRP&TIS	Agilent 8960 E5515C& Agilent 4438C&CMW500 &CMW270 GTS
3. Gain & Efficiency	Gain & Efficiency	GTS Agilent 5071C



2.1 Antenna Matching Network

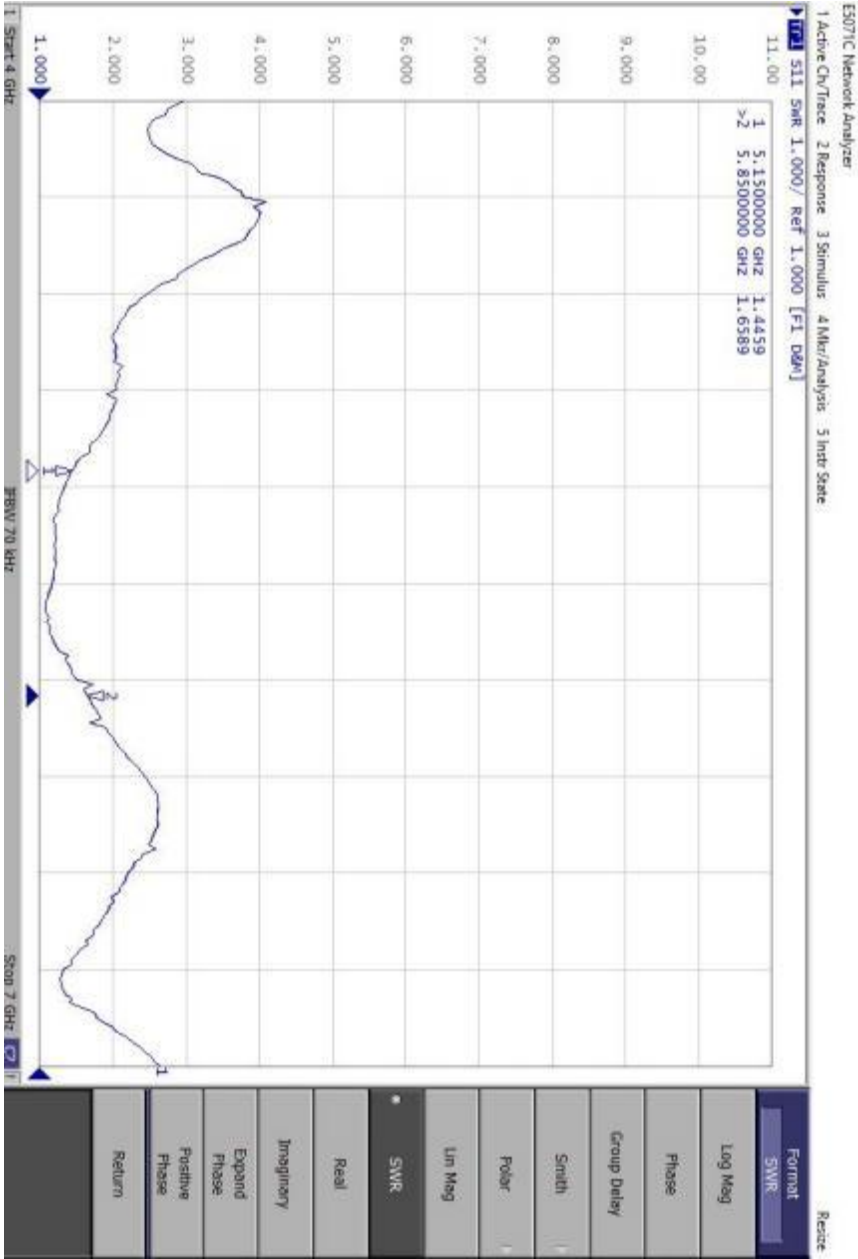


Element	Value
E1(0402)	NC
E2(0402)	0 Ω
E3(0402)	NC

Antenna matching not changed

2.2 VSWR

ant4



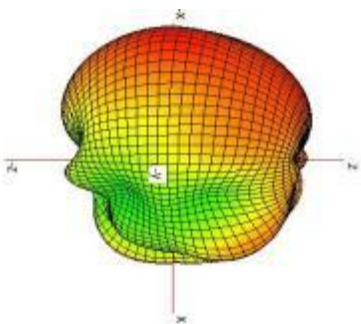
Freq. (MHz)	5150	5850
VSWR	1.44	1.65

2.3 GAIN & Efficiency

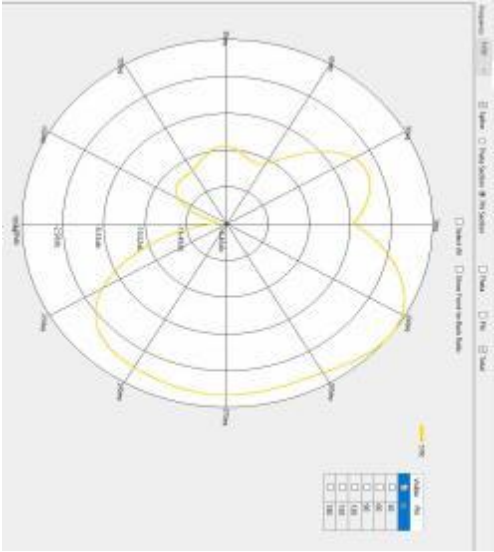
ant4

Freq. (MHz)	Effi. (dB)	Effi. (%)	Gain(dBi)
5150	-4.10	38.89	-0.96
5200	-3.89	40.79	-0.39
5250	-3.82	41.51	-0.62
5300	-3.72	42.46	-0.7
5350	-3.68	42.83	0.71
5400	-3.64	43.3	0.94
5450	-3.90	40.75	0.98
5500	-3.99	39.92	0.12
5550	-3.87	41.04	1.52
5600	-3.88	40.95	1.18
5650	-3.98	39.99	1.14
5700	-4.08	39.12	0.89
5750	-4.09	39.03	0.75
5800	-4.13	38.61	0.24
5850	-4.28	37.29	-0.89

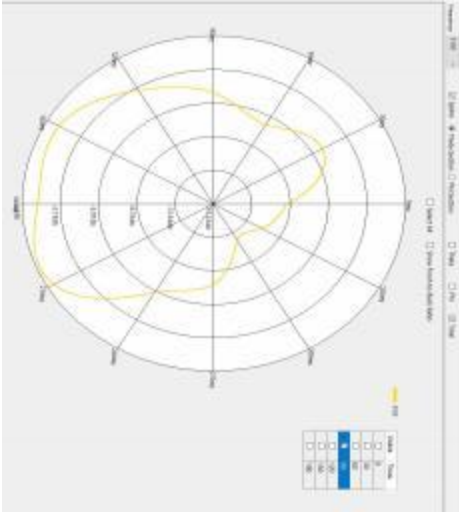
2.4 Radiation Pattern



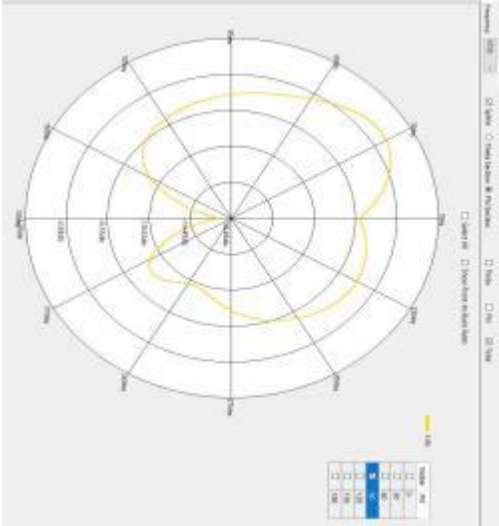
5150MHz



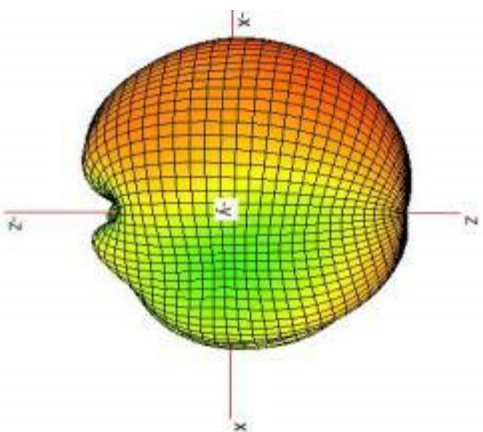
5150MHz(XOZ)



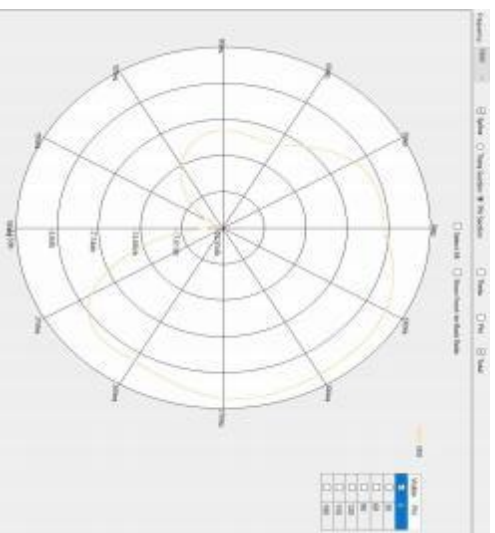
5150MHz(XOY)



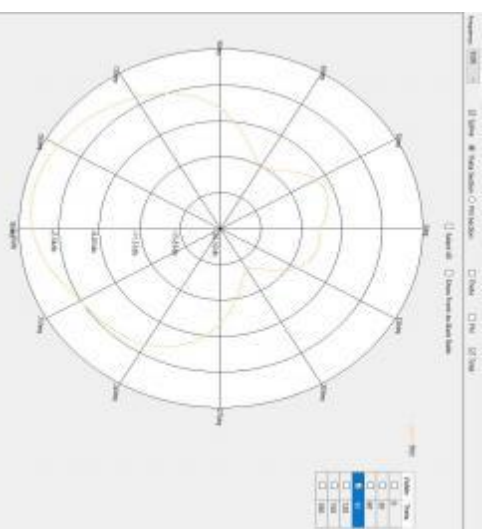
5150MHz(YOZ)



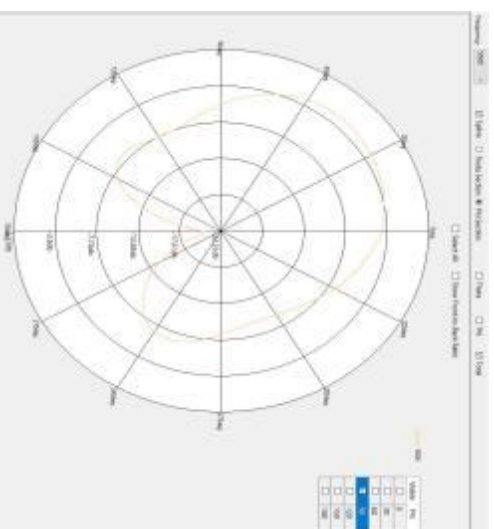
5500MHz



5500MHz(XOZ)



5500MHz(XOY)



5500MHz(YOZ)

2.5 OTA

ant3

Band	Channel	TRP	Channel	TIS
11A	36	17. 27	36	-72. 05
	149	17. 69	149	-69. 54
	157	16. 64	157	-69. 66
	165	16. 29	165	-69. 08

ant4

Band	Channel	TRP	Channel	TIS
11A	36	17. 09	36	-71. 16
	149	16. 79	149	-70. 98
	157	16. 15	157	-71. 56
	165	16. 48	165	-71. 06

Confluence

Band	Channel	TRP	Channel	TIS
11A	36	20. 26	36	-74. 0
	149	20. 29	149	-72. 52
	157	19. 52	157	-73. 83
	165	19. 31	165	-72. 29



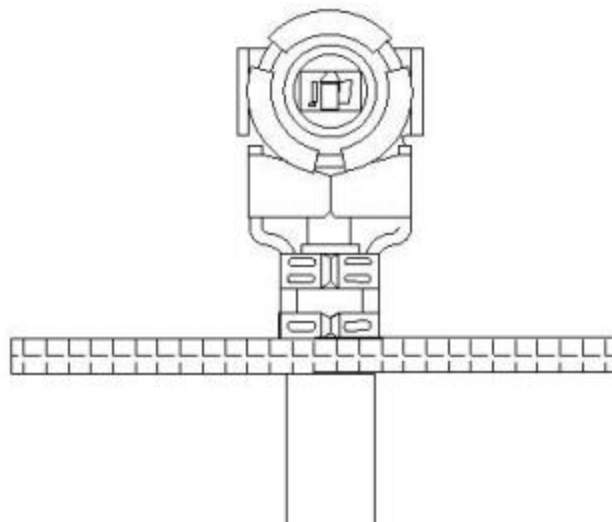
PULLING FORCE TEST REPORT

Customer: Shinning 3D LTD,.CO

Part Number: LJ89SAWF004R

Order: Sample

Date: 2022.09.15



Test conditions	Snap force	Pull force	1Kg
		Time	1 minute
		Equipment	Pulling Tester

Test position

SMA CONNECTOR

Test results.

Sample No	Test Standard		Decided
	Cable Appearance	Electric Test	
1	No damaged	No open and no short circuit	Pass
2	No damaged	No open and no short circuit	Pass
3	No damaged	No open and no short circuit	Pass
4	No damaged	No open and no short circuit	Pass
5	No damaged	No open and no short circuit	Pass
Remarks: The Pulling Force Test Weight Load 1Kg/min.			

Approved By: WEI HONG HOU

Checked By: JIU LONG ZHENG

Date: 2022.09.15

Date: 2022.09.15



Sample Inspection Report

CUSTOMER: SHINNING 3DDATE: 2022.09.15PART NO.: LJ89SAWF004RQTY: 5 PCS

CONCLUSION

PASS ☒FAIL ☐

一 Appearance Inspection:

	Result	PASS	FAIL
1 Appearance	GOOD	✓	
2. onstruction	WIFI Antenna 4: Frequece 5150-5850MHz; FPC Black coated oil with adhesive backing+ RF1.13MM Black coaxial line+MHFI 90mm	I ✓	

二. Electric Characteristic Inspection:

Test Item	Test Condition	PASS	FAIL
1. Continuity Test	0.5Ω	✓	
2. Withstand Voltage	DC 500V/ AC300 V	✓	
3. Insulation Resistance	20MΩ	✓	
Conductive Resistance	0.5Ω	✓	
5. VSWR:	≤3.0	✓	

三. (Mechanical Characteristic Inspection) YES ☒ NO ☐

(Test Item)	(Test Condition)	RESULT	PASS	FAIL
Lifting Tension	1Kg/min	OK	✓	

四. (Dimension Inspection):

Spec(Unit:mm)		Actual Range (Unit:mm)					PASS	FAIL
		1	2	3	4	5		
1	90±1	90.15	90.00	89.80	90.10	90.04	✓	
2	34±0.2	34.03	34.00	34.05	34.02	34.15	✓	
3	9.5±0.2	9.56	9.52	9.50	9.55	9.48	✓	
4								
5								
6								
7								
8								
9								
10								

Authorizer :

Auditor:

Auditor: