Star Chi technology sample acknowledgement book

Supplier name: Shenzhen Yingjiachuang Electronic Technology Co., LTD

Product name :WIFI 2.4G/5G black FPC built-in antenna

Material number:

Material Description: L52A_WIFI_ antenna

Edition of the admission book: A0 edition

Drawing version number (no need to fill in if no drawing is available): A0

Supplier recognition field (Stamp is required here, and each acknowledgement is sealed with a seal)		
R&d/Engineering	Quality	Give permission to
Wu Jiaxiong	Yang Yungang	Chauhan

Shenzhen star Chi technology recognition column		
Design department	Research and development	Quality management department

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APPROVAL SHEET

CUSTOMER NAME	
CUSTOMER P/N	64.3.20.0007A
PART NAME	WIFI Black FPC built-in antenna 1.13 Black line L=140mm(Applicable model: L52A)
P/ N	YJC-6N140-B27
APPROVAL REV.	A0
DELIVERY DATE	October 13, 2023
PREPARED BY	Wu Jiaxiong
CHECKED BY	Fang Wenfeng
APPROVED BY	Chauhan

Customer Approved		
Prepared By	Checked By	Approved By

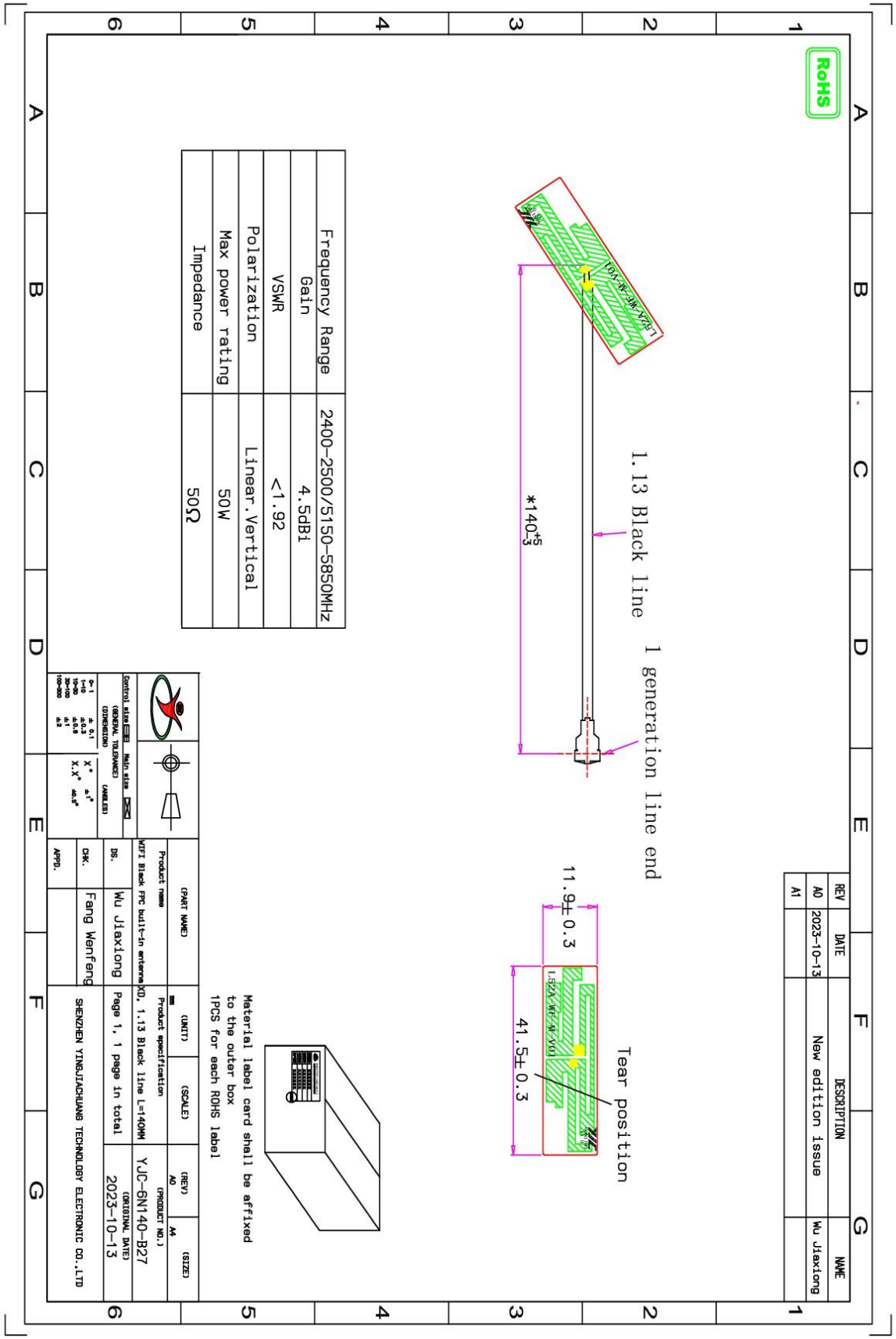
Address: Building C, Hongyu Guangming Valley, No. 11, Youma Gang Road, Ma Tian Street, Guangming District, ShenzhenDongguan Branch: Yingjiachuang Industrial Park, No. 2 Yinhe 3rd Road, Shishuikou, Qiaotou Town, Dongguan CityHangzhou Office: 212, Building B, Dahua Jianghong International Innovation Park, 369 Internet of Things Street, Binjiang District, HangzhouMianyang Office: No. 4F-34 Wanxiang High-tech International, No. 35 Mianxing East Road, Mianyang High-tech Zone, Sichuan Provincetelephone: 0755-27810060 fax: 0755-27810057 website: http://www.szsyjc.com

Catalogue

Resumer：

Version	Changes and reasons	date	publish
A/0	Issued	October 13, 2023	

Antenna plan：



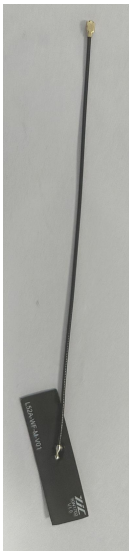
Antenna technical parameters and environmental testing:

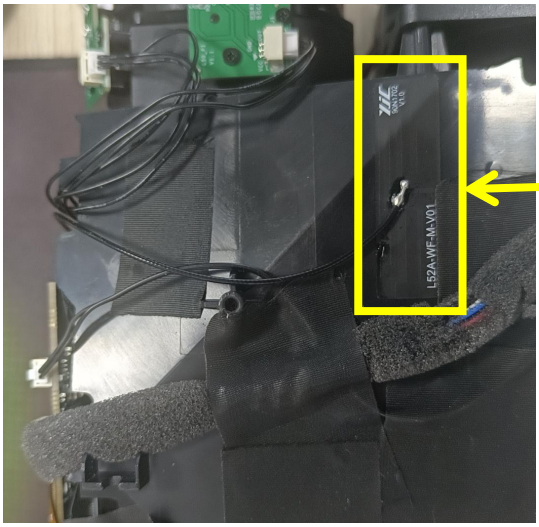
Electrical technical parameter			
Electrical Specifications		Mechanical Specifications	
Frequency Range	2400-2500/5150-5850MHz	Cable Color	Black
VSWR	＜1.92	Input connector	XD
Input Impedance	50 Ω	Cable length	140mm
Direction	All	Working Temperature	-20℃~+70℃
Gain	4.5dBi	Working Humidity	20%~80%

Environmental performance test:

Project	Test condition	Standard
Storage Conditions	In the absence of specified test temperature, humidity, air pressure is as follows:: 1. Temperature is - 30 ℃ ~ + 80 ℃ 2. Relative humidity of 45% to 45% 3. Air pressure is 86 kpa to 106 kpa	Electrical and mechanical performace is normal
High and low temperature test	Between 70 ℃ and -20 ℃ for 5 loops, then 1-2 h under normal conditions, check the appearance quality.	Size should meet the requirements and meet the performance of mechinery and electric.
Constant damp and hot resistance test	95 + / - 3% relative humidity, temperature test: 40 ℃. Lasts 2 h after, try to take out the determination of electrical properties, within 5 min after try 1-2 h under article normal thing, check the appearance quality	Size should meet the requirements and meet the performance of mechinery and electric.
vibration test	10-55 hz, vibration frequency range of displacement amplitude: 0.35 MM, acceleration amplitude: 50.0 M/S, sweep cycles: 30 times	Electrical and mechanical performace is normal
Fall down test	1 m high altitude in accordance with the perpendicular axis free drop 3 times	Electrical and mechanical performace is normal

Antenna physical diagram and attached location diagram：





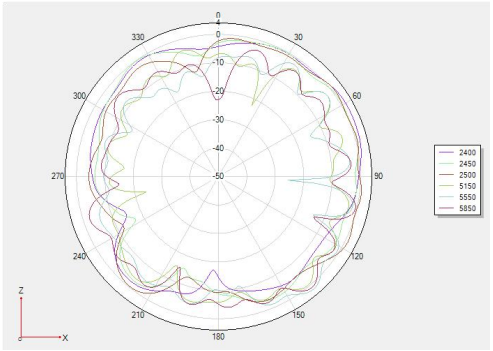
Antenna performance test diagram:

frequency（MHZ）	2400	2450	2500	5150	5725	5850
Standing-wave ratio	1.33	1.41	1.53	1.21	1.29	1.32

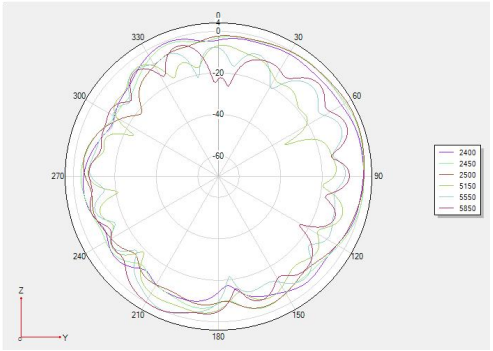
2D.3D Test Data (WIFI)：

Frequency	Efficiency (%)	Gain.(dBi)
2400MHz	58.75	2.01
2410MHz	52.66	2.04
2420MHz	58.70	2.11
2430MHz	52.07	2.16
2440MHz	57.75	2.10
2450MHz	51.78	2.20
2460MHz	54.57	2.44
2470MHz	59.90	2.24
2480MHz	56.13	2.06
2490MHz	53.05	2.17
2500MHz	53.15	2.09
5150MHz	44.58	4.22
5250MHz	48.42	4.58
5350MHz	42.95	4.31
5450MHz	46.99	4.47
5550MHz	44.36	4.44
5650MHz	46.88	4.55
5750MHz	48.08	4.54
5850MHz	44.26	4.25

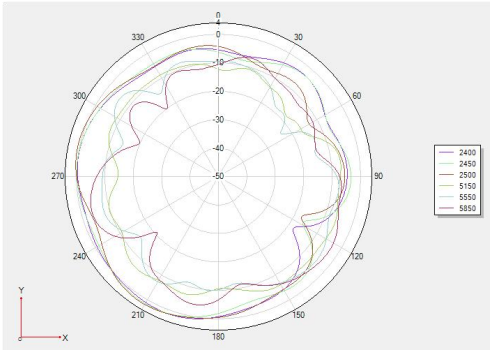
Phi 0 2D



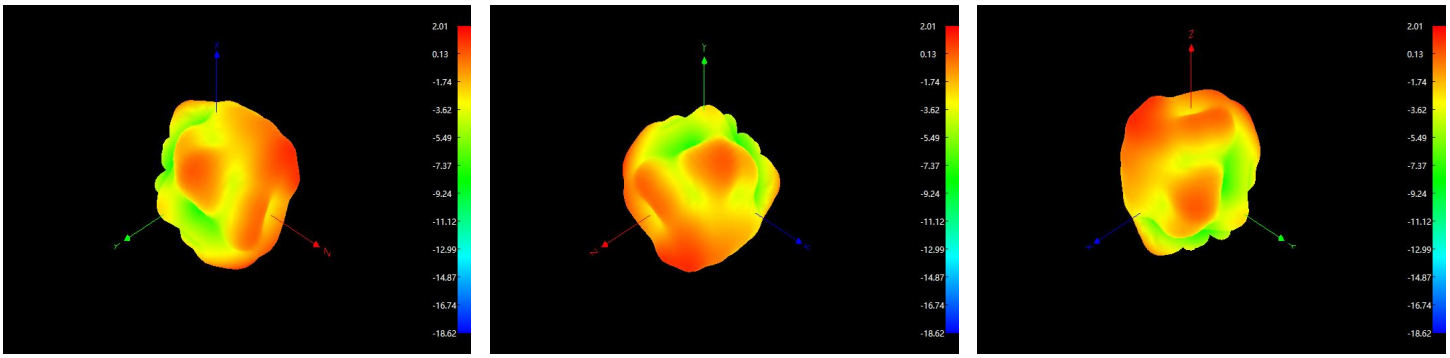
Phi 90 2D



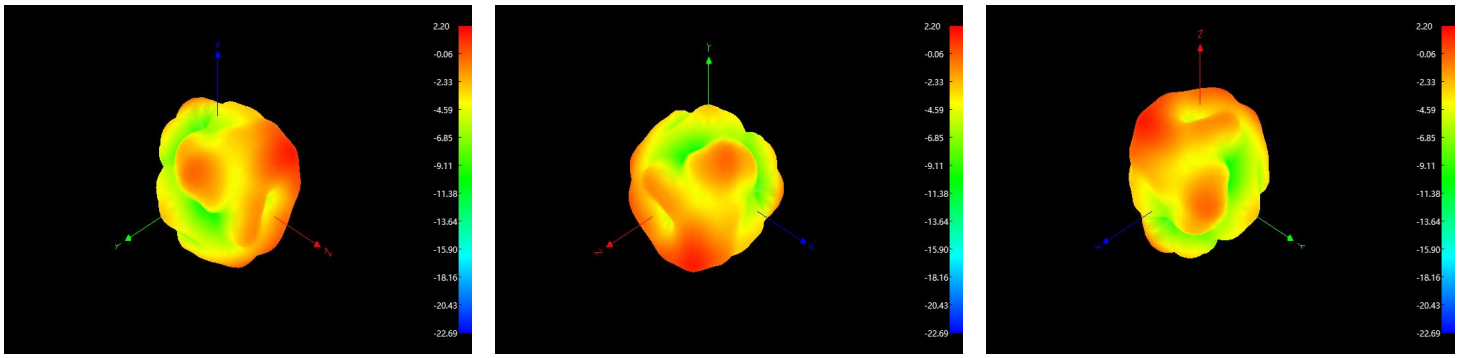
Theta 90 2D



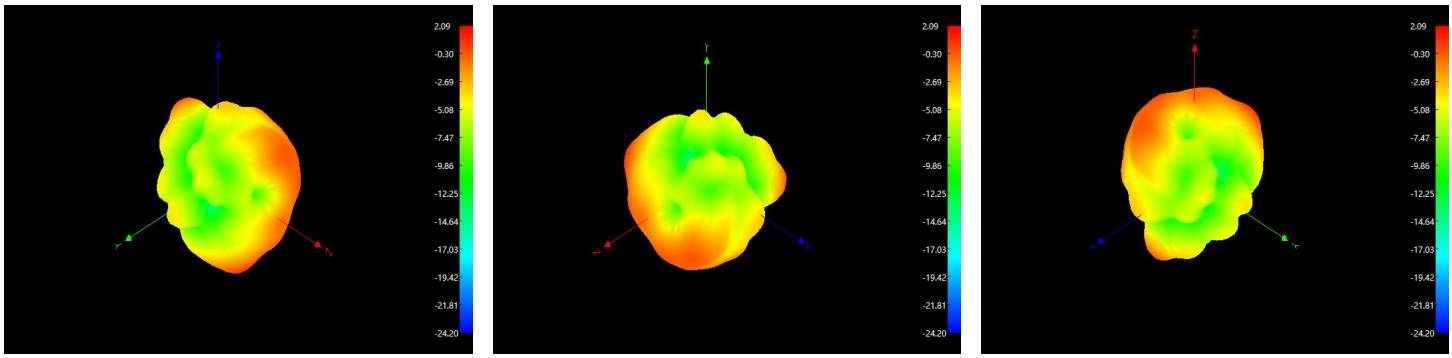
3D 2400：



3D 2450：



3D 2500：



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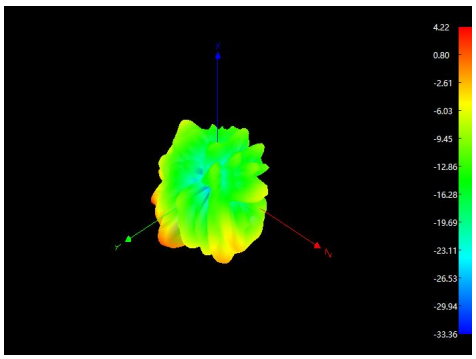
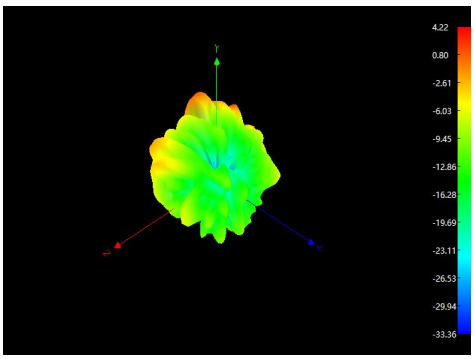
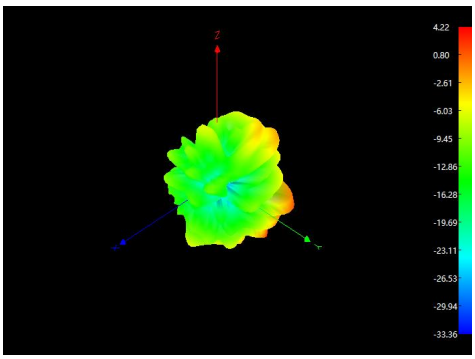
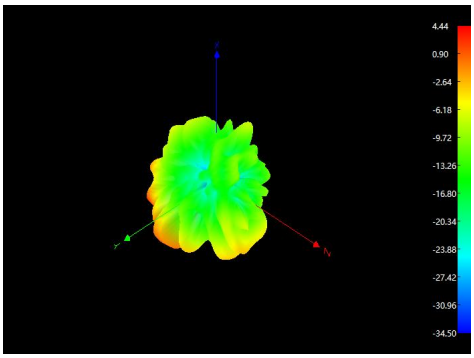
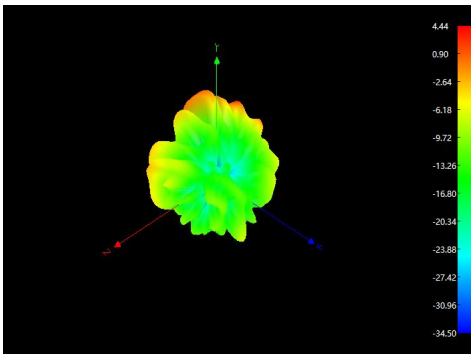


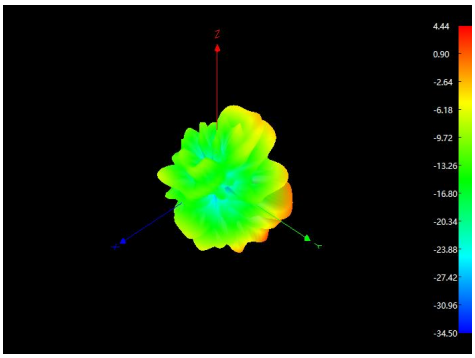




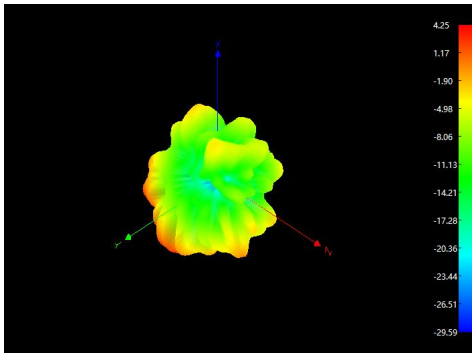
3D 5550：

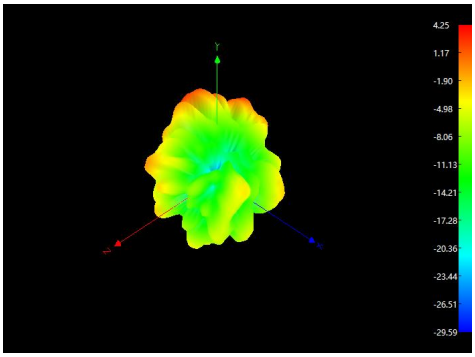


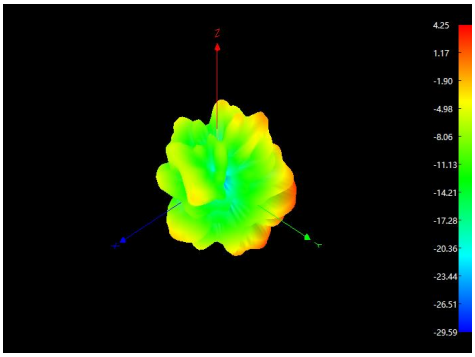




3D 5850：







OTA active test data statistics：

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	WIFI_B (11M)	1	2412	14.68
2	TRP	WIFI_B (11M)	6	2437	14.24
3	TRP	WIFI_B (11M)	11	2462	15.73
4	TIS(EIRP)	WIFI_B (11M)	1	2412	-82.27
5	TIS(EIRP)	WIFI_B (11M)	6	2437	-84.66
6	TIS(EIRP)	WIFI_B (11M)	11	2462	-85.11
7	TRP	WIFI_G (54M)	1	2412	12.4
8	TRP	WIFI_G (54M)	6	2437	12.07
9	TRP	WIFI_G (54M)	11	2462	13.24
10	TIS(EIRP)	WIFI_G (54M)	1	2412	-69.98
11	TIS(EIRP)	WIFI_G (54M)	6	2437	-72.44
12	TIS(EIRP)	WIFI_G (54M)	11	2462	-72.66
13	TRP	WIFI_N_ISM (65M)	1	2412	12.33
14	TRP	WIFI_N_ISM (65M)	6	2437	12.03
15	TRP	WIFI_N_ISM (65M)	11	2462	13.19
16	TIS(EIRP)	WIFI_N_ISM (65M)	1	2412	-67.27
17	TIS(EIRP)	WIFI_N_ISM (65M)	6	2437	-70.32
18	TIS(EIRP)	WIFI_N_ISM (65M)	11	2462	-70.32
19	TRP	WIFI_A (54M)	36	5180	11.48
20	TRP	WIFI_A (54M)	149	5745	11.15
21	TRP	WIFI_A (54M)	165	5825	10.41
22	TIS(EIRP)	WIFI_A (54M)	36	5180	-74.34
23	TIS(EIRP)	WIFI_A (54M)	149	5745	-71.82
24	TIS(EIRP)	WIFI_A (54M)	165	5825	-72.75
25	TRP	WIFI_AX_ISM (108M)	1	2412	11.47
26	TRP	WIFI_AX_ISM (108M)	6	2437	11.13
27	TRP	WIFI_AX_ISM (108M)	11	2462	12.05
28	TIS(EIRP)	WIFI_AX_ISM (108M)	1	2412	-66.1
29	TIS(EIRP)	WIFI_AX_ISM (108M)	6	2437	-65.96
30	TIS(EIRP)	WIFI_AX_ISM (108M)	11	2462	-66.27
31	TRP	WIFI_AX_UNII (108M)	36	5180	11.09
32	TRP	WIFI_AX_UNII (108M)	149	5745	10.73
33	TRP	WIFI_AX_UNII (108M)	165	5825	9.95
34	TIS(EIRP)	WIFI_AX_UNII (108M)	36	5180	-67.91
35	TIS(EIRP)	WIFI_AX_UNII (108M)	149	5745	-65.57
36	TIS(EIRP)	WIFI_AX_UNII (108M)	165	5825	-66.31

Process flow chart:

Cut cablesorcut terminalsweld ⇒ test ⇒ QC ⇒ package

BOM list:

FPC Wire rod terminal PE packing bag Paper box

Outgoing inspection report

Customer name		Starlight	Model number	L52A	Inspection procedure			
Product name		FPC built-in antenna	Product number		Inspection method	Appearance detection		
Date of submission		2023.10.13	Quantity for inspection	5 PCS	Date of inspection	2023.10.13		
check check pass cheng	Inspection content	criterion			Inspection mode	Control frequency	Test result OK/NG	
	appearance	Test result For the same parts, the outer surface of the product is smooth and flat, and no obvious bubbles, wrinkles, cracks, burrs, flash edges, pinholes, dents, scratches and other defects affecting the appearance are allowed (or refer to the sample).			visual	100%	OK	
	colour	The sample was examined and no color bias was observed. (30cm distance, 90 ° ~ 45 ° rotation, 600lux illumination)			visual	100%	OK	
	Key dimension	As follows			determine	5pcs/batch	OK	

Key dimension measurement	dimension	Standard size (mm)	N1	N2	N3	N4	N5	determine
	1	长 41.5（±0.3）	41.45mm	41.52mm	41.64mm	41.67mm	41.71mm	OK
	2	宽 11.9（±0.3）	11.92mm	11.96mm	11.99mm	12.01mm	12.02mm	OK
	3							
	4							
	5							

Failure description:

Test results determine: ■Up to standard ☐Below standard

Inspector: Zhu Pan | Approved by: Feng Yingmei

ROHS 声明

尊敬的顾客：

我司身为江西星驰电子科技有限公司的供应商，我们在这里保证:我司供货给贵司的产品符合下列欧盟指令ＲＯＨＳ的要求，一旦经第三方机构检测出我司所提供的物质超出欧盟指令ＲＯＨＳ要求之标准值，因此而造成的一切损失均由我司承担，特此声明：

一． 中文

1.铅（Pb）	0.1%(最大含量1000PPM)
2.汞（Hg）	0.1%(最大含量1000PPM)
3.镉（Cd）	0.01%(最大含量100PPM)
4.六价的铬	0.1%（最大含量1000PPM）
5.多溴联笨（PBB）	0.1%（最大含量1000PPM）
6.多溴联笨醚（PBDE）	0.1%（最大含量1000PPM）

二.英文

1.Lead-Pb（铅）	0.1%（Proposed Maximum concentration）
2.Mercury-Hg	0.1%(Proposed Maximum concentration)
3.Cadmium-Cd	0.01%(Proposed Maximum concentration)
4.Hexaualent Chromium Cr(VI)	0.1%(Proposed Maximum concentration)
5.Polybrominated biphenyls-PBB	0.1%(Proposed Maximum concentration)
6.Polybrominated dlphenyl ethers-pbde	0.1%(Proposed Maximum concentration)

公司名称：深圳市英佳创电子科技有限公司

法人代表签名/公司盖章：

总经理：陈英

日期：2023-4-27

Material RoHS conformity declaration form

This is to certify that the delivery to your company's components, raw materials, auxiliary materials used and the additives in the production engineering are accord with RoHS environmental requirements of the restrictions on the use of hazardous substances directive (RoHS directive 2011/65 / EU)

About components used raw materials, packaging materials, auxiliary materials and additives used in the production process such as composition of the report is as follows:

Component /Part Name	Material Composition	ICP report #	Test Org.	Test Date	Content of harmful substances (ppm)						PASS?
					Cd	Pb	Hg	Cr $^{6+}$	PBB	PBDE	PASS
FPC	FPC	FTS2302160201-01C1	SGS	23/02/20	ND	ND	ND	ND	ND	ND	PASS
Wire rod	Coaxial cable	CANEC2301851703	SGS	23/02/23	ND	ND	ND	ND	ND	ND	PASS
terminal	Phosphor bronze	CANEC2301145810	SGS	23/02/08	ND	5	ND	ND	ND	ND	PASS
	Gold coating	A2230400553101001E	CTI	23/08/12	ND	ND	ND	ND	ND	ND	PASS
	Rubber core	A2230035037101002E	SGS	23/02/06	ND	ND	ND	ND	ND	ND	PASS
Eco-friendly tin wire	Eco-friendly tin wire	SHAEC23006357502	SGS	23/05/23	ND	43	ND	ND	ND	ND	PASS