

Star Chi technology sample acknowledgement book

Supplier name: Shenzhen Yingjiachuang Electronic Technology Co., LTD

Product name :BT 2.4G black FPC built-in antenna

Material number:

Material Description: L52A_BT_ 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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Shenzhen Yingjia Chuang electronic technology Co., LTD

<http://www.szsyjc.com>

APPROVAL SHEET

CUSTOMER NAME		
CUSTOMER P/N	64. 3. 20. 0006A	
PART NAME	BT Black FPC built-in antenna 1.13 White wire L=60mm(Applicable model: L52A)	
P/ N	YJC-6N060-W01	
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

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Resumer:

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



Antenna plan:

A	B	C	D	E	F	G																																																																
1	<div><div>RoHS</div><div><p>1 generation line end The opening mode is shown in the figure</p><p>1.13 White Line</p><p>*60\pm5</p><p>Tear position</p><p>11.9\pm0.3</p><p>41.5\pm0.3</p><p>1.52A-B1-XD</p></div></div>					6																																																																
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<p>Requirements:</p> <ol style="list-style-type: none">1. The finished product must be 100% test conduction OK2. The finished product must be 100% inspected OK.3. Environmentally friendly process. Finished product4. Meet ROHS requirements.5. No tolerance is specified. Please refer to general tolerance.6. * Dimensioning for emphasis.						6																																																																
<table border="1"><thead><tr><th>Frequency Range</th><td>2400-2500MHz</td></tr><tr><th>Gain</th><td>2.0\pm1dBi</td></tr><tr><th>VSWR</th><td><1.92</td></tr><tr><th>Polarization</th><td>Linear.Vertical</td></tr><tr><th>Max power rating</th><td>50W</td></tr><tr><th>Impedance</th><td>50Ω</td></tr></thead></table> <div><p>Material label card shall be affixed to the outer box</p><p>1PCS for each ROHS label</p></div>						Frequency Range	2400-2500MHz	Gain	2.0 \pm 1dBi	VSWR	<1.92	Polarization	Linear.Vertical	Max power rating	50W	Impedance	50 Ω	5																																																				
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Antenna technical parameters and environmental testing:

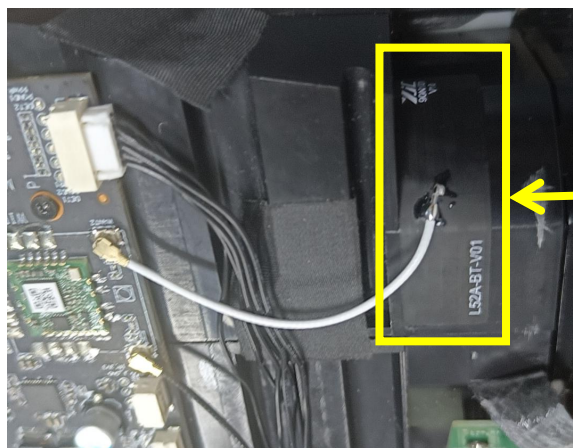
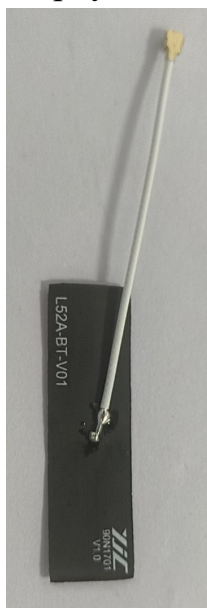
Electrical technical parameter			
Electrical Specifications		Mechanical Specifications	
Frequency Range	2400-2500MHz	Cable Color	White
VSWR	<1.92	Input connector	XD
Input Impedance	50 Ω	Cable length	60mm
Direction	All	Working Temperature	-20℃~+70℃
Gain	2.0±1dBi	Working Humidity	20%~80%

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 mechniry 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 mechniry 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

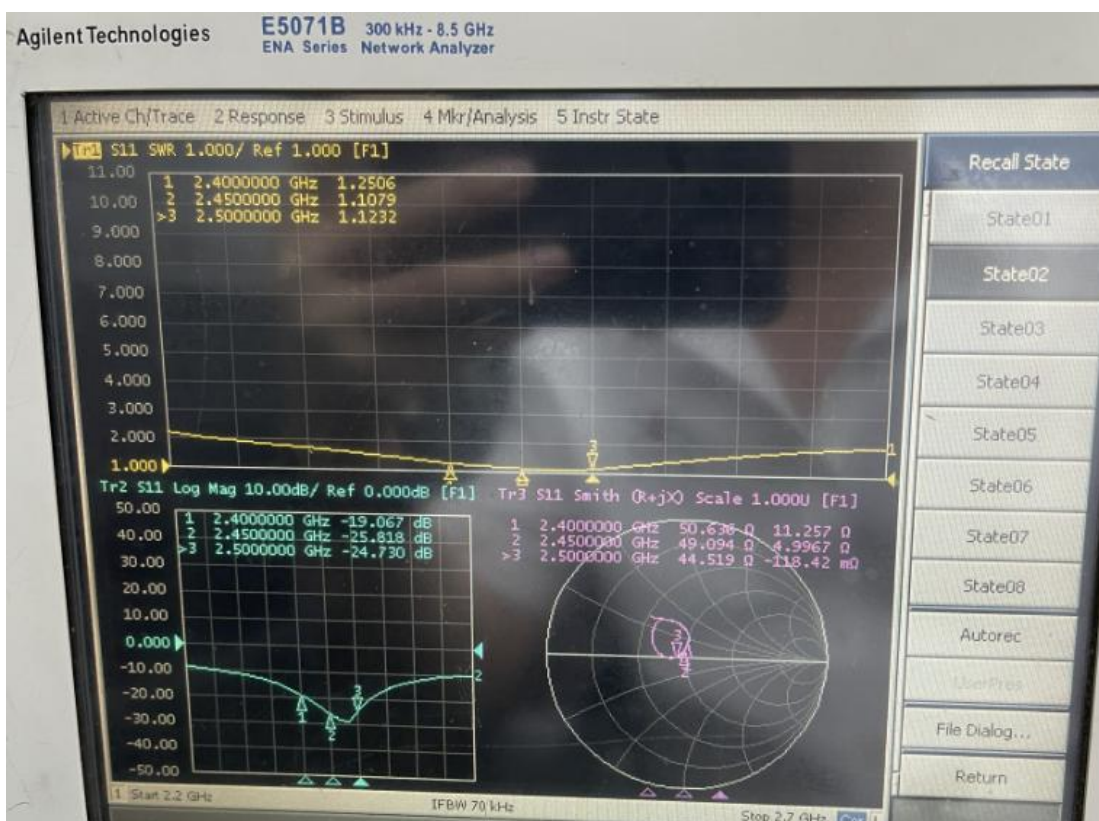


Antenna physical diagram and attached location diagram:



Antenna attachment position

Antenna performance test diagram:



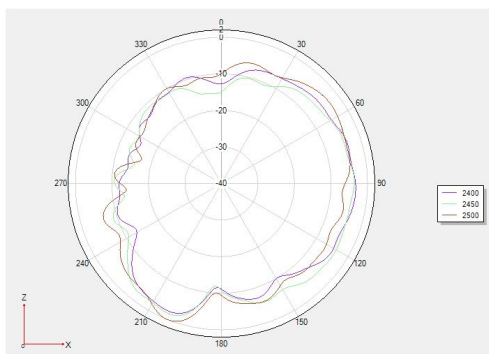
frequency (MHZ)	2400	2450	2500
Standing-wave ratio	1.25	1.10	1.12



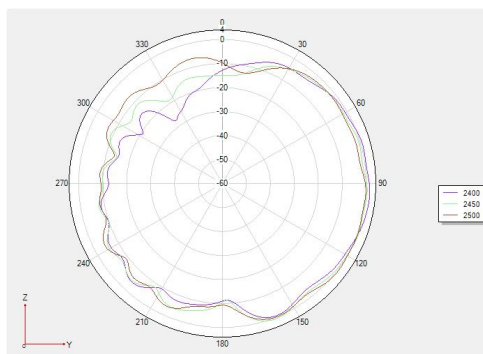
2D and 3D Test Data (BT):

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	57.28	2.4
2410MHz	51.40	2.35
2420MHz	61.52	2.37
2430MHz	51.40	2.22
2440MHz	57.02	2.05
2450MHz	51.88	2.02
2460MHz	52.60	2.33
2470MHz	47.86	1.78
2480MHz	53.83	2.18
2490MHz	49.32	1.82
2500MHz	47.42	1.92

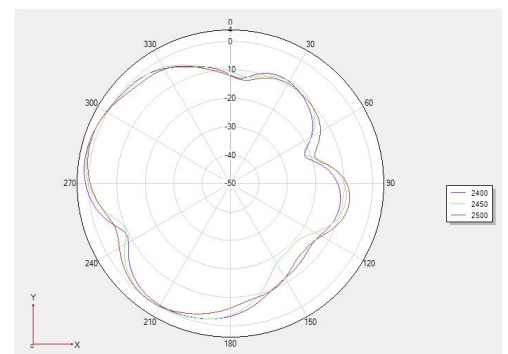
Phi 0 2D:



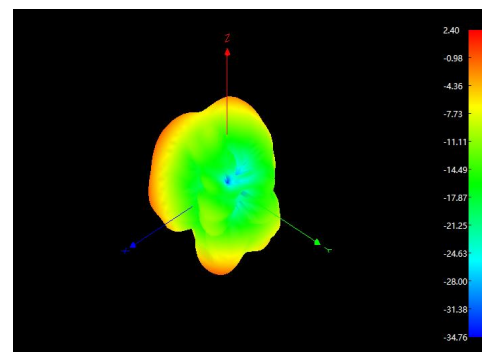
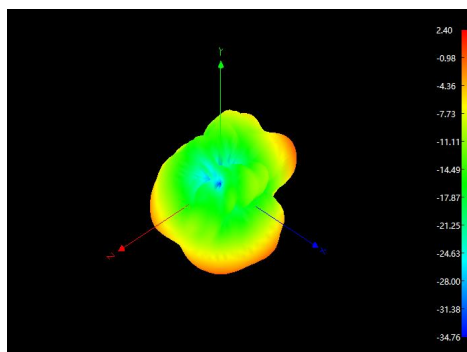
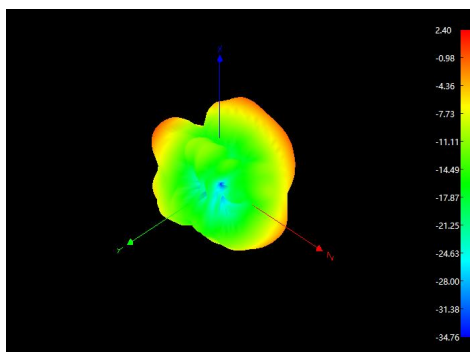
Phi 90 2D



Theta 90 2D

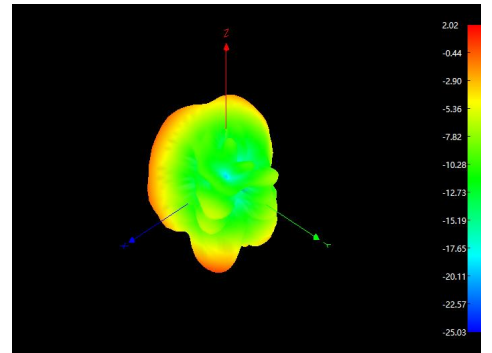
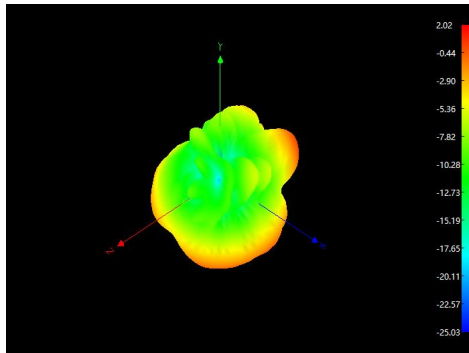
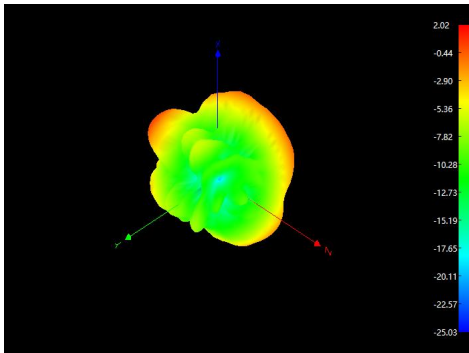


3D 2400:

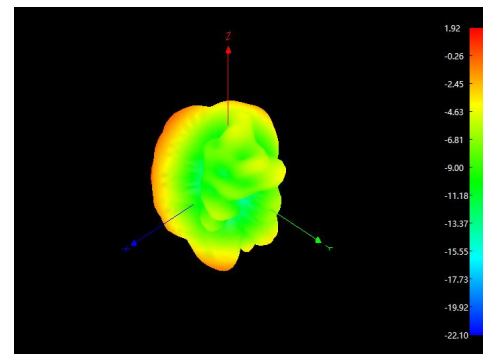
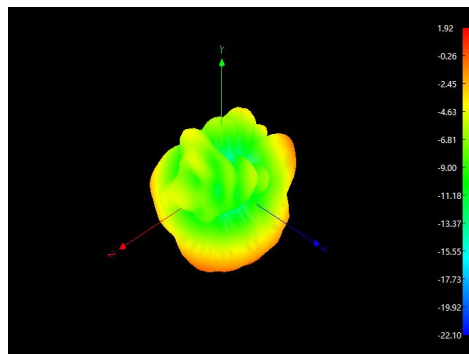
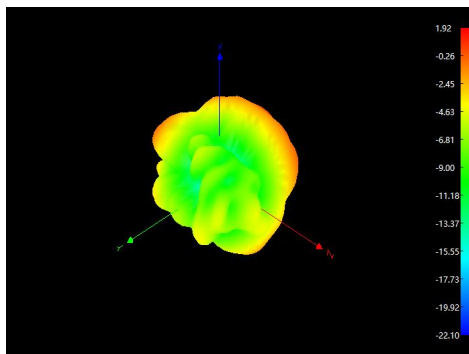




3D 2450:



3D 2500:





OTA active test data statistics:

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	BLUETOOTH	0	2402	6.52
2	TRP	BLUETOOTH	39	2441	6.43
3	TRP	BLUETOOTH	78	2480	6.46
4	TIS(EIRP)	BLUETOOTH	0	2402	-85.24
5	TIS(EIRP)	BLUETOOTH	39	2441	-89.07
6	TIS(EIRP)	BLUETOOTH	78	2480	-87.24
7	TRP	BLUETOOTH	0	2402	3.86
8	TRP	BLUETOOTH	39	2441	3.75
9	TRP	BLUETOOTH	78	2480	3.77
10	TIS(EIRP)	BLUETOOTH	0	2402	-85.74
11	TIS(EIRP)	BLUETOOTH	39	2441	-89.51
12	TIS(EIRP)	BLUETOOTH	78	2480	-87.42
13	TRP	BLUETOOTH	0	2402	3.89
14	TRP	BLUETOOTH	39	2441	3.77
15	TRP	BLUETOOTH	78	2480	3.80
16	TIS(EIRP)	BLUETOOTH	0	2402	-80.07
17	TIS(EIRP)	BLUETOOTH	39	2441	-83.55
18	TIS(EIRP)	BLUETOOTH	78	2480	-81.83



Shenzhen Yingjia Chuang electronic technology Co., LTD

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Process flow chart:

Cut cables or cut terminals weld \longrightarrow test \longrightarrow QC \longrightarrow 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 changing	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	diameter	Standard size (mm)	N1	N2	N3	N4	N5	determine				
	1	long 41.5 (±0.3)	41.58mm	41.69mm	41.62mm	41.56mm	41.52mm	OK				
	2	宽 11.9 (±0.3)	11.99mm	11.95mm	11.87mm	11.96mm	11.96mm	OK				
	3											
	4											
Failure description:												
Test results determine: <input checked="" type="checkbox"/> Up to standard <input type="checkbox"/> 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. 多溴联苯 (PBB)	0.1% (最大含量1000PPM)
6. 多溴联苯醚 (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. Hexavalent Chromium Cr(VI)	0.1%(Proposed Maximum concentration)
5. Polybrominated biphenyls-PBB	0.1%(Proposed Maximum concentration)
6. Polybrominated diphenyl 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:

日期:





Shenzhen Yingjia Chuang electronic technology Co., LTD
<http://www.szsyjc.com>

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-friend ly tin wire	SHAEC23006357502	SGS	23/05/23	ND	43	ND	ND	ND	ND	PASS