



## APPROVAL SHEET

## 承认书

CUSTOMER NAME		
CUSTOMER P/N	23040235	
PART NAME	BT black FPC built-in antenna 1.13 Black L=355mm (For Model: H93A)	
P/ N	YJC-6N355-B01	
APPROVAL REV.	A0	
DELIVERY DATE	2023 年 03 月 07 日	
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APPROVED BY	Han Xiao	
Customer Approved		
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# RoHS

Compatible

CUSTOMER  
PART NO

REV.

DESCRIPTION

DATE

首次发行

2022-07-12

修改FPC,EVA及线长

2022-09-16

修改线材颜色

2022-09-27

修改线长

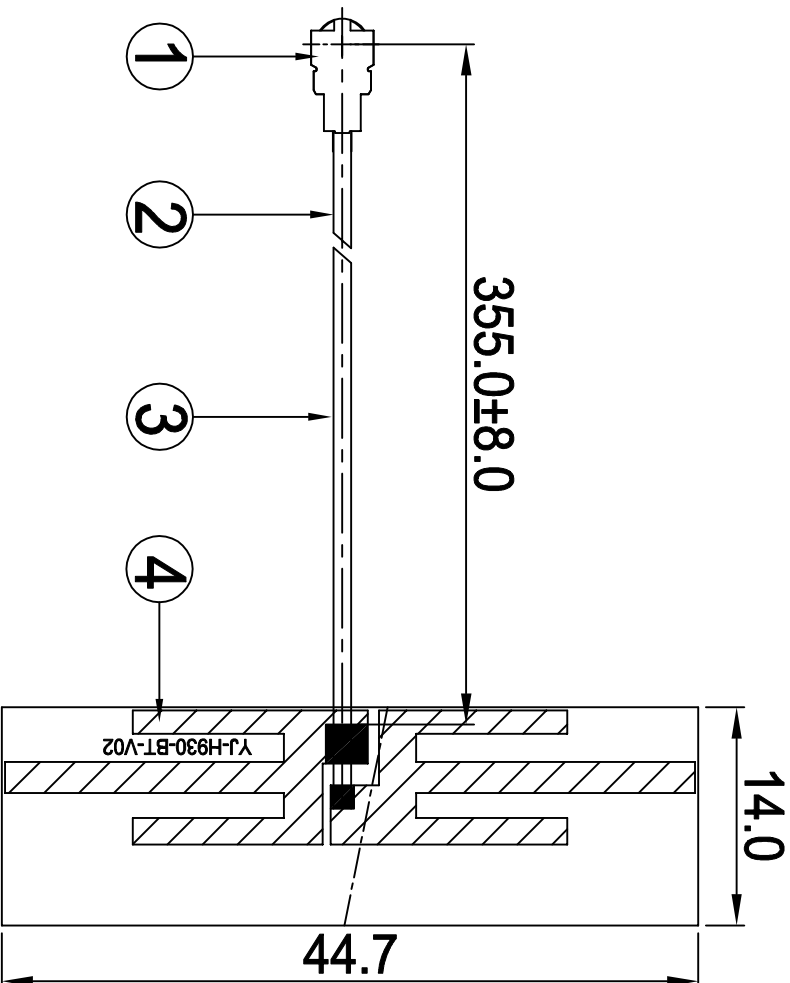
2022-10-14

去掉EVA

2022-10-17

修改线材颜色

2022-11-04



3	FPC	44.7*14.0mm	FPC	FPC11XXXXA.P01	1
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2	Coaxial Cable	O.D.1.13 Black	O.D.1.13	COA100XXA.P01	1
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1	Mini Connector	Au Plated 1代	Cu	TER100XXA.P01	1
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NO	PART NAME	DESCRIPTION	Material	Part Number	Q.TY
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比例 (SCALE)	版本 (REV)	数量 (SIZE)
比例 (SCALE)	NO	MM

零件名称 (PART NAME)	数量 (QTY)	设计 (DESIGN)	审核 (CHECK)	批准 (APPROVAL)
BT 黑色FPC前置天线	1	殷飞杰	方文桦	

零件名称 (PART NAME)	数量 (QTY)	设计 (DESIGN)	审核 (CHECK)	批准 (APPROVAL)
BT 黑色FPC前置天线	1	殷飞杰	方文桦	

产品规格 (PRODUCT SPEC)	产品编号 (PRODUCT NO.)	版本号 (VERSION)	日期 (DATE)
XD, 1.13黑色线 L=355MM	YJC-6N355-B01	第1页,共1页	2023-03-07



## Antenna technology parameters:

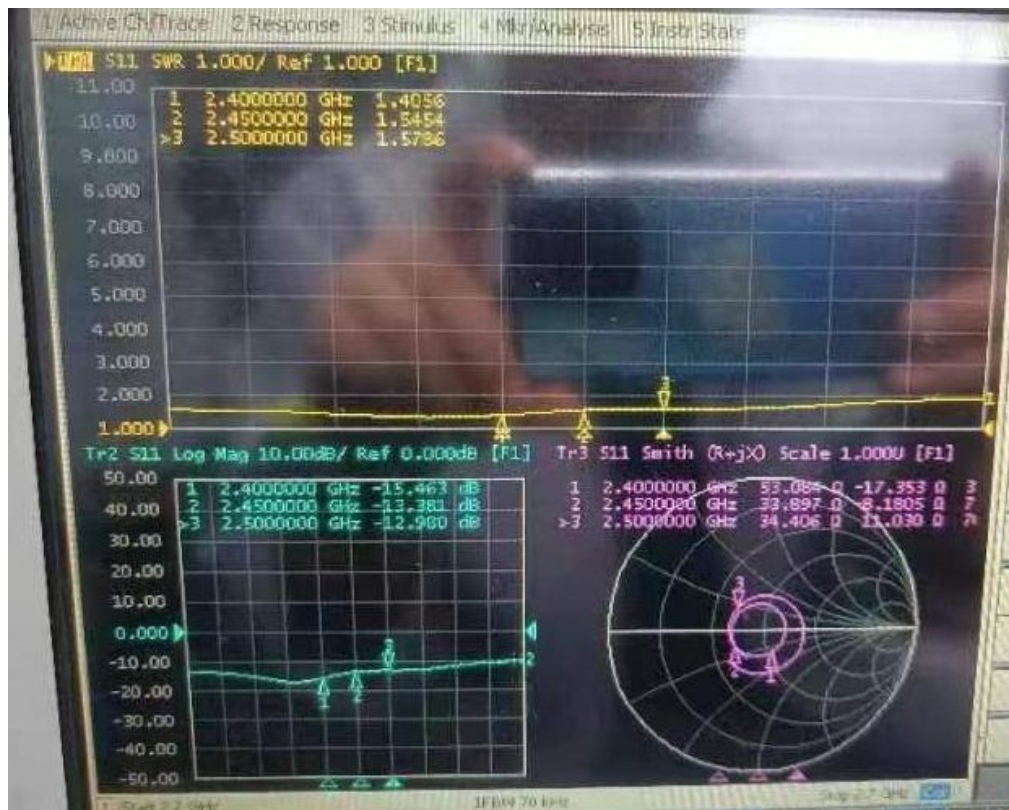
Electrical Specifications	
Frequency Range	2400-2500MHz
VSWR	<1.92
Input Impedance	50 $\Omega$
Direction	All
Gain	2.0dBi
Mechanical Specifications	
Cable Color	Black
Input connector	XD
Cable length	355mm
Working Temperature	-20 $^{\circ}$ C~+70 $^{\circ}$ C
Working Humidity	20%~80%

## 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 - 20 $^{\circ}$ C ~ + 70 $^{\circ}$ C 2. Relative humidity of 45% to 45% 3. Air pressure is 86 kpa to 106 kpa	Electrical and mechanical properties is normal
high and low temperature test	Between 70 $^{\circ}$ C and -20 $^{\circ}$ C for 5 loops, then 1-2 h under normal conditions, check the appearance quality.	Size should meet the requirements and should satisfy the content with the electrical and mechanical properties
Constant damp and hot resistance test	95 + / - 3% relative humidity, temperature test: 40 $^{\circ}$ C. 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 should satisfy the content with the electrical and mechanical properties
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 properties is normal
fall down test	1 m high altitude in accordance with the perpendicular axis free drop 3 times	Electrical and mechanical properties is normal



Antenna performance test chart:



Frequency (MHZ)	2400	2450	2500
VSWR (dB)	1.40	1.54	1.57



BT and WIFI2 isolation test diagram



BT and WIFI1 isolation test diagram





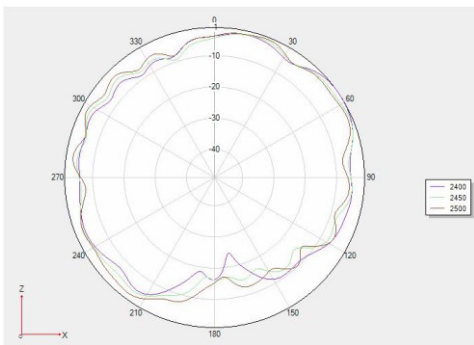
Frequency (MHz)	2400	2450	2500	5150	5725	5850
WIFI1 and BT isolation (dB)	-17	-18	-19	-28	-29	-31
WIFI2 and BT isolation (dB)	-21	-21	-19	-32	-34	-39



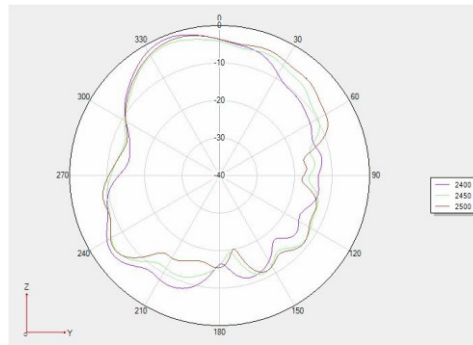
2D,3D test data (BT):

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	32.43	1.69
2410MHz	35.89	2.0
2420MHz	30.62	1.58
2430MHz	33.42	1.78
2440MHz	27.42	1.18
2450MHz	32.28	1.65
2460MHz	27.35	1.66
2470MHz	28.18	1.32
2480MHz	23.55	1.2

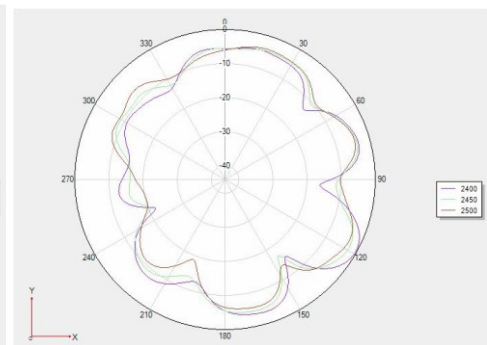
Phi 0 2D diagram:



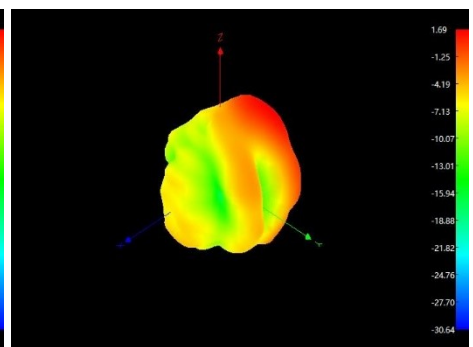
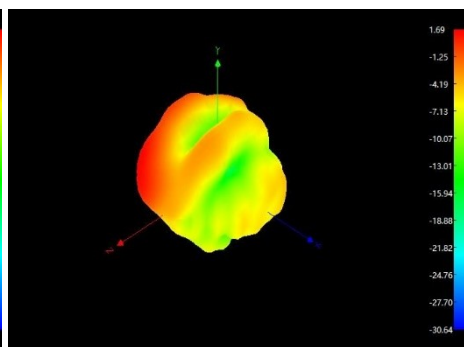
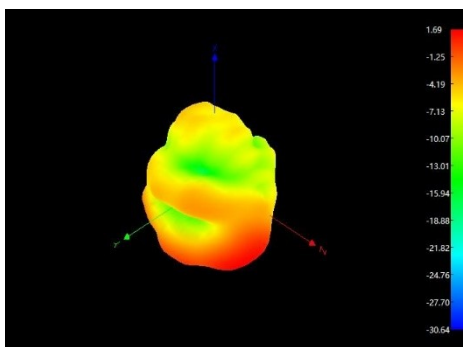
Phi 90 2D diagram



Theta 90 2D diagram



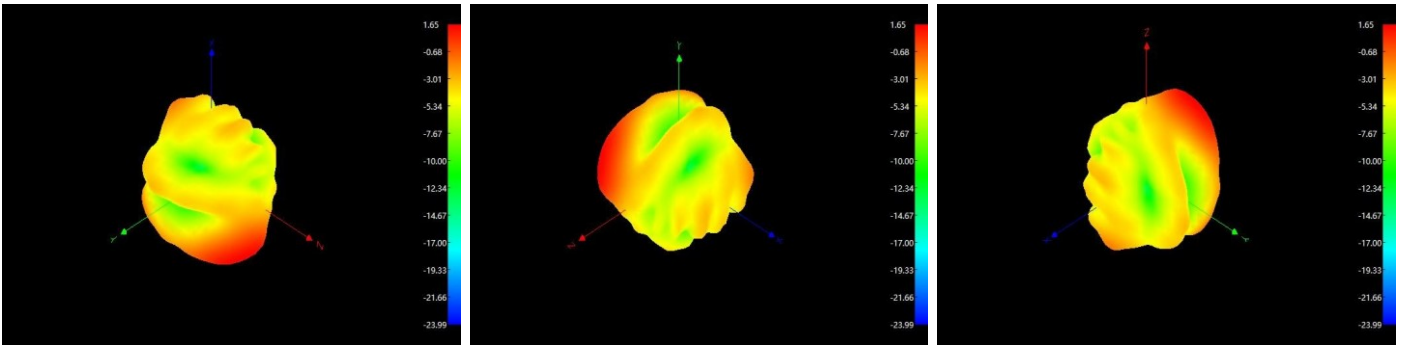
3D 2400:



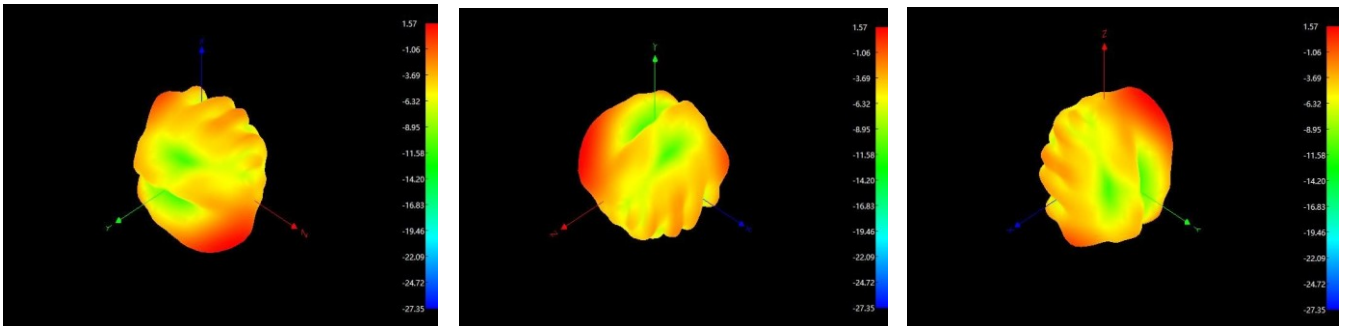




3D 2450:



3D 2500:





OTA active test data:

Item	Measurement	Band	Channel	Frequency	Total
1	TRP	BLUETOOTH	1	2403	2.86
2	TRP	BLUETOOTH	39	2441	3.9
3	TRP	BLUETOOTH	78	2480	3.57
4	TIS(EIRP)	BLUETOOTH	1	2403	-85.89
5	TIS(EIRP)	BLUETOOTH	39	2441	-86.67
6	TIS(EIRP)	BLUETOOTH	78	2480	-86.28
7	TRP	BLUETOOTH	1	2403	2.01
8	TRP	BLUETOOTH	39	2441	2.71
9	TRP	BLUETOOTH	78	2480	1.79
10	TIS(EIRP)	BLUETOOTH	1	2403	-86.91
11	TIS(EIRP)	BLUETOOTH	39	2441	-86.65
12	TIS(EIRP)	BLUETOOTH	78	2480	-85.73
13	TRP	BLUETOOTH	1	2403	1.57
14	TRP	BLUETOOTH	39	2441	2.39
15	TRP	BLUETOOTH	78	2480	1.06
16	TIS(EIRP)	BLUETOOTH	1	2403	-81.8
17	TIS(EIRP)	BLUETOOTH	39	2441	-83.05
18	TIS(EIRP)	BLUETOOTH	78	2480	-81.79



产品规格 Product Type		1.13 线		
结构图 Structure Drawing				
结构特性 Structure Characteristics				
结构 Structure	项目 Item	标准值 Standard Value		
内导体 Inner Conductor	材质 Material	镀银铜线 Silver plated copper wire		
	构成(根/mm/Composition(No./mm)	7/0.08±0.005		
	标称外径 Nom.Dia(mm)	Φ0.24±0.01		
绝缘层 Insulation	材质 Material	聚全氟乙丙烯/FEP		
	标称外径 Nom.Dia(mm)	Φ0.7±0.03		
外导体 Outer Conductor	材质 Material	镀锡铜线 Tinned copper		
	形式 Form	编织/Weaving		
	遮蔽率/ Shielding rate	≥90%		
	标称外径 Nom.Dia(mm)	Φ0.92±0.03		
护套 Jacket	材质 Material	聚全氟乙丙烯/FEP		
	标称外径 Nom.Dia(mm)	Φ1.13±0.05		
电气性能 Electrical Characteristics				
项目 Item	标准值 Standard Value	项目 Item	频率 Frequency	标准值 Standard Value
阻抗 Impedance (Ω)	50±3	衰减 Attenuation@20 °C (dB/100m)	1GHz	≤2.23
电容 Capacitance(pF/m)	98		2GHz	≤3.15
抗拉强度 Tensile strength kgf/mm <sup>2</sup>	1.76		3GHz	≤3.96
驻波比 VSWR	≤1.40@0-6GHz		4GHz	≤4.6
耐压强度 Dielectric Strength (A.C V/1min)	1000		5GHz	≤5.15
最大工作频率 (MHz) Max.oper. frequency	6000		6GHz	≤5.7
<b>可靠性 Dependability</b>				
最小弯曲半径(单次) Min.Bending Radius/Single	mm	4		
最小弯曲半径(重复) Min.Bending Radius/Repeated	mm	8		
工作温度范围 Operating Temperature	°C	-20~+80		
包装 Packing				
包装方式 Packing Mode	1000 (m/盘) 成卷 Reel			
使用提示 Trips for Use				
存储环境 Storage Environment	温度: 30°C以下, 湿度: 20-65%			
铁氟龙收缩 Teflon Shrink	绝缘层收缩≤0.2mm; 护套层收缩≤0.3mm			
加工温度 Processing temperature	250°C~260°C的情况下, 可短时间承受; 300°C以上会出现热分解现象			
最佳保存周期 The best save cycle	2 个月, 2 个月以上锡效果变差, 但电性能不受影响, 夏季高温高湿环境开剥后需尽快流转			



## 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 engine ord 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 <sup>6+</sup>	PBB	PBDE	PASS
FPC	FPC	A22202052922010 01E	SGS	22/06/14	ND	ND	ND	ND	ND	ND	PASS
Wire Rod	RG/RF Series Coaxial Cables	SZXEC2202766604	SGS	22/08/18	ND	ND	ND	ND	ND	ND	PASS
Terminal	Copper	CANEC2301145810	SGS	23/02/08	ND	5	ND	ND	ND	ND	PASS
	Au plating	A22204048601010 01C	CTI	22/09/17	ND	ND	ND	ND	ND	ND	PASS
	Rubber core	A22300350371010 02E	SGS	23/02/06	ND	ND	ND	ND	ND	ND	PASS