



Shenzhen Yingjia Chuang electronic technology Co., LTD

<http://www.szsyjc.com>

APPROVAL SHEET

CUSTOMER NAME		
CUSTOMER P/N		
PART NAME	2.4G black FPC internal antenna L=60MM (Applicable to model :9454W)	
P/ N	YJC-6N060-B87	
APPROVAL REV.	A3	
DELIVERY DATE	January 11, 2022	
PREPARED BY	Wu Jiaxiong	
CHECKED BY	Fang Wenfeng	
APPROVED BY		
Customer Approved		
Prepared By	Checked By	Approved By

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resume:

edition	Content of change and reasons for change	date	release
A/0	Initial release	July 07, 2020	
A/1	Change the double-sided tape to VHB tape	August 19, 2021	
A/2	Add plate thickness label	September 18, 2021	
A/3	Updated the thickness of the back adhesive model	January 11, 2022	



Antenna plan:

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The IPEX opening is shown as shown

Antenna plate thickness $0.1 \pm 0.02\text{mm}$
 The thickness of VHB glue is $0.2 \pm 0.02\text{mm}$
 The total thickness of FPC board is $0.4 \pm 0.05\text{mm}$

FREQUENCY RANGE	2400-2500 MHz
Gain	3.0dBi
VSWR	<1.92:1
Polarization	Linear, Vertical
Max power rating	50W
Impedance	50 ohms

Requirements:

- The finished product must be 100% test conduction OK
- The finished product must be 100% inspected OK.
- The finished product uses an environmentally friendly process.
- Meet ROHS requirements.
- No tolerance is specified. Please refer to general tolerance.
- * Dimensioning for emphasis.

(GENERAL DIMENSIONS)	(ANGLE)
A ± 0.1	A ± 0.1
B ± 0.1	B ± 0.1
C ± 0.1	C ± 0.1
D ± 0.1	D ± 0.1
E ± 0.1	E ± 0.1
F ± 0.1	F ± 0.1
G ± 0.1	G ± 0.1

(PART NAME)	(UNIT)	(SCALE)	(REV)	(SIZE)
2.4G Black FPC built-in antenna	IPEX 1.13 Black L=50mm		YJC-6N060-887	
DR.	Wu Jiaxiong	Page 1, 1 page in total.		(ORIGINAL DATE) 2022-01-11
CHK.				
APP.				

Material label card shall be affixed to the outer box
 1PCS for each ROHS label

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REV	DATE	DESCRIPTION	NAME
A0	2020-07-07	New edition Issue	Ye Suqing
A1	2021-09-19	Change the double-sided tape to VHB tape	Wu Jiaxiong
A2	2021-09-18	Add plate thickness label	Wu Jiaxiong
A3	2022-01-11	Updated the thickness of the black adhesive model	Wu Jiaxiong

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Antenna technical parameters and environmental testing:

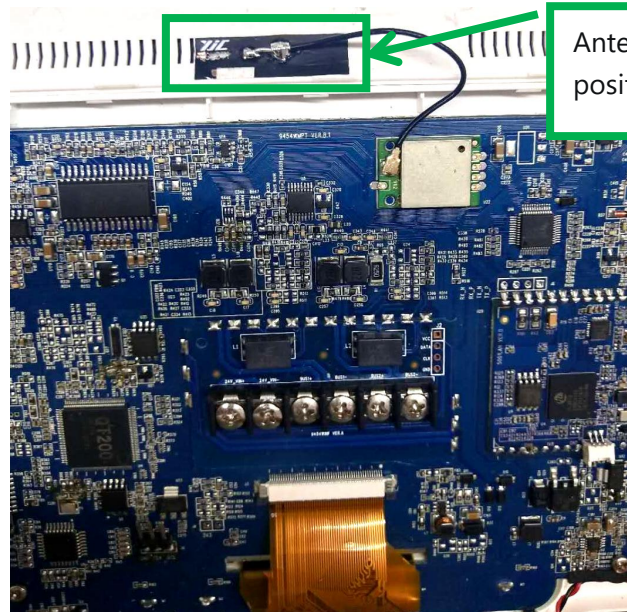
Electrical technical parameter			
Electrical Specifications		Mechanical Specifications	
Frequency Range	2400-2500MHz	Wire Color	Black
VSWR	<1.92	Input connector	IPEX
Input Impedance	50 Ω	Wire Length	60MM
Direction	All	Working Temperature	-20℃~+70℃
Gain	2.53 dBi	Working Humidity	20%~80%

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 mechnery 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 mechnery 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

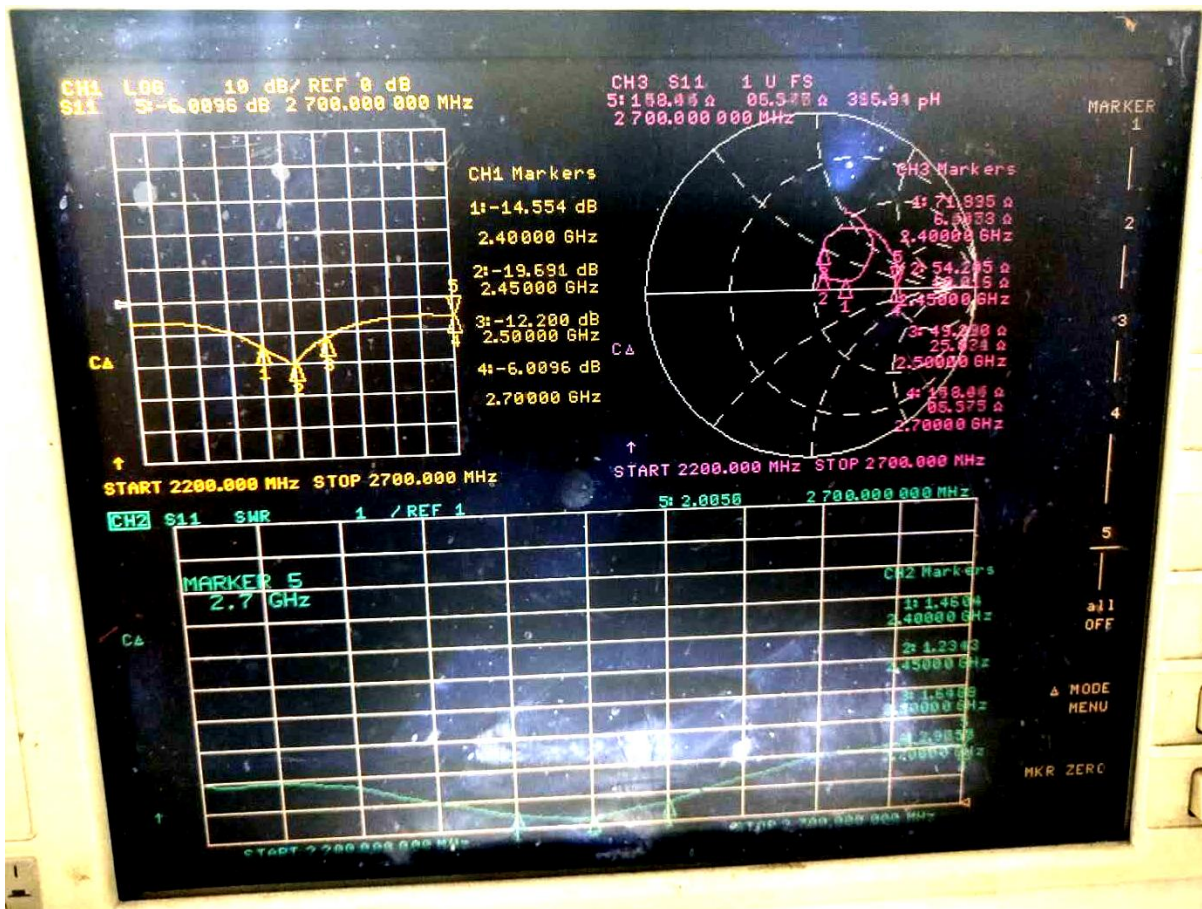


Antenna physical diagram and attached location diagram:



Antenna attachment position

Antenna performance test diagram:



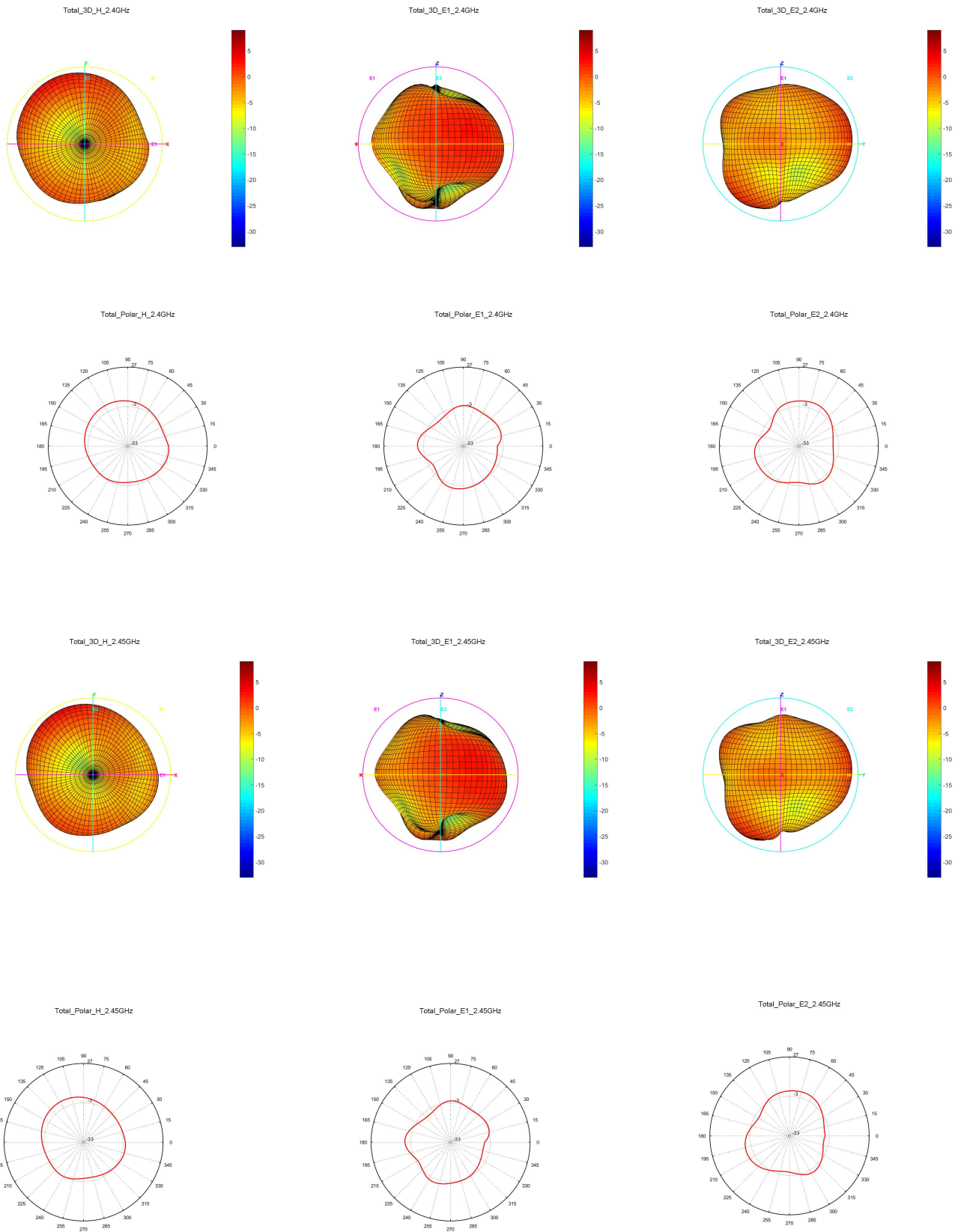


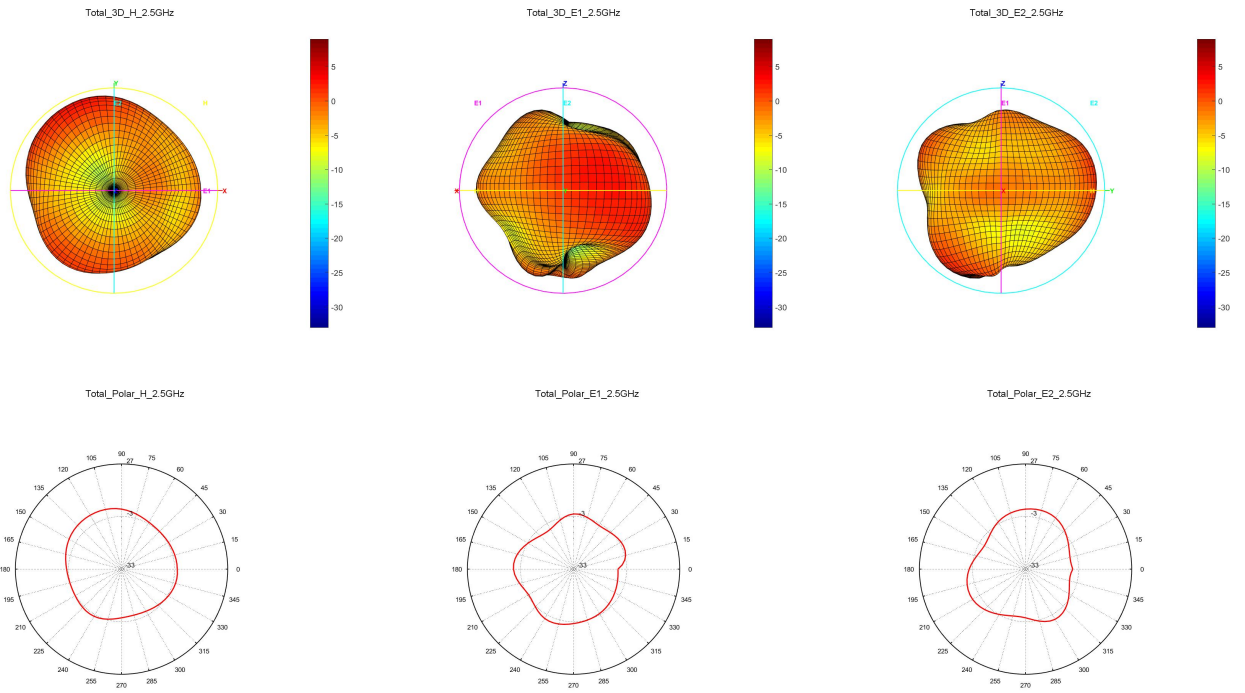
OTA active test data statistics:

Prototype type	Protocol mode	TRP	TIS	channel	OTA coupling test	
		speed	speed		TRP (dbm)	TIS (dbm)
9454W	802.11b	11M	11M	6	15.45	-77.27
	802.11g	6M	54M	6	15.83	-71.64
	802.11n	MCS0	MCS7	6	15.63	-70.69


2D, 3D(2.4G) test data:

Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	60.53	2.25
2410MHz	61.94	2.35
2420MHz	62.52	2.4
2430MHz	61.66	2.41
2440MHz	63.24	2.53
2450MHz	61.94	2.46
2460MHz	59.84	2.25
2470MHz	62.23	2.49
2480MHz	64.27	2.54
2490MHz	62.52	2.45
2500MHz	62.66	2.52







Product Type		1.13 Wire		
Structure Drawing				
Structure Characteristics				
Structure	Item	Standard Value		
Inner Conductor	Material	Silver plated copper wire		
	(mm/Composition(No./mm))	7/0.08±0.005		
	Nom.Dia(mm)	Φ0.24±0.01		
Insulation	Material	FEP		
	Nom.Dia(mm)	Φ0.7±0.03		
Outer Conductor	Material	Tinned copper		
	From	Weaving		
	Shielding rate	≥90%		
	Nom.Dia(mm)	Φ0.92±0.03		
Jacket	Material	FEP		
	Nom.Dia(mm)	Φ1.13±0.05		
电气性能 Electrical Characteristics				
Item	Standard Value	Item	Frequency	Standard Value
Impedance (Ω)	50±3	Attenuation@20 °C (dB/100m)	1GHz	≤2.23
Capacitance(pF/m)	98		2GHz	≤3.15
Tensile strengthkgf/mm ²	1.76		3GHz	≤3.96
VSWR	≤1.40@0-6GHz		4GHz	≤4.6
Dielectric Strength (A.C V/1min)	1000		5GHz	≤5.15
(MHz) Max.oper. frequency	6000		6GHz	≤5.7
Dependability				
Min.Bending Radius/Single		mm	4	
Min.Bending Radius/Repeated		mm	8	
Operating Temperature		°C	-20~+80	
Packing				
Packing Mode	1000 (m/disc)Reel			
Trips for Use				
Storage Environment	Temperature: below 30°C, humidity: 20-65%			
Teflon Shrink	Insulation shrinkage ≅0.2mm; Sheath shrinkage ≅0.3mm			
Processing temperature	Under the condition of 250°C~260°C, it can withstand for a short time; Thermal decomposition occurs above 300°C			
The best save cycle	After 2 months, the effect of tin becomes worse after 2 months, but the soon as possible after peeling in the high temperature and high humidity environment in summer			



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	
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	A2220404860101001C	CTI	22/09/17	ND	ND	ND	ND	ND	ND	PASS
	Rubber core	A2230035037101002E	SGS	23/02/06	ND	ND	ND	ND	ND	ND	PASS
FPC	FPCFlexible board	FTS2302160201-01C1	SGS	23/02/20	ND	ND	ND	ND	ND	ND	PASS
Eco-friendly tin wire	Eco-friendly tin wire	ZXEC2203054802	SGS	22/09/19	ND	46	ND	ND	ND	ND	PASS