

Shenzhen Yunding Communication Electronics Co., LTD

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E-mail:wht0809@163.com

APPROVAL

XUAN YU CHE DING

CUSTOMER:

FPC Antenna

DESCRIPTION:

PART NO.

XYCD-DP50-WIFI-0.81-L40MM-IPEX 1

001.041.0010

CUS PART NO.:

2023.11.16

D A T E:

Yunding signature

ENGINEERING DEPARTMENT	Q C DEPARTMENT	SALES DEPARTMENT
Wu Shuyi	Liu Li	Wang Hongtao

Customer signature

ENGINEERING DEPARTMENT	Q C DEPARTMENT	PURCHASING DEPARTMENT

TEL: 0755 23073599 15017941162

✱ Approval in duplicate, please signed by your company.

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1.Antenna introduction

Implemented for 802.11b/g/n system antennas

Antenna form (PIFA) :

2.Version updates

DATE	VERSION NUMBER	MODIFICATION HISTORY
2022-12-19	V01	New version
2023-10-25	V02	New version
2023-11-15	V03	New version

3.Network analyzer test antenna results, VSWR<2.0

Frequency Range	WIFI(2400~2500/5100~5800MHZ)			
Frequency	2400	2500	5100	5800
VSWR	≤ 2.0			

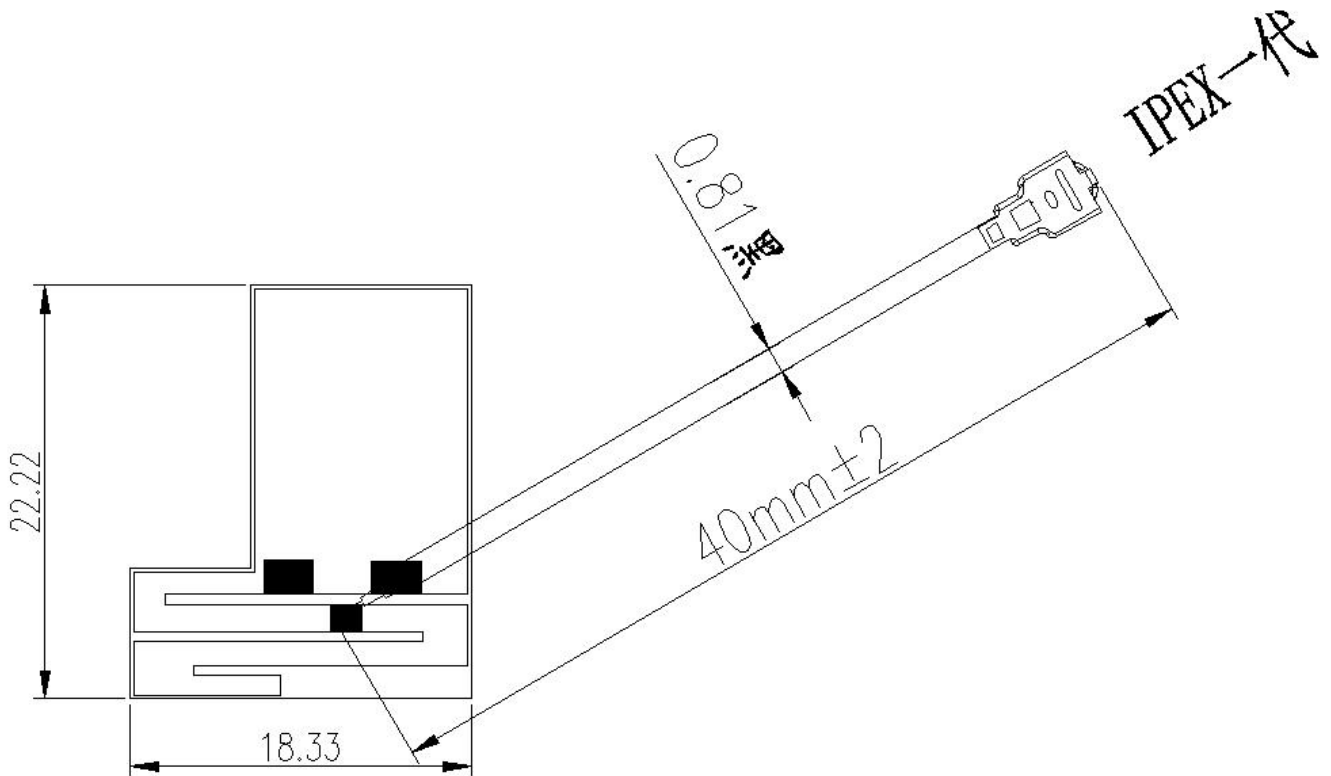
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4. Antenna structure diagram:



5. Antenna bill of materials

a:FPC flexible circuit board

b:Coaxial wire, IPEX 1, Cable length 40MM

c:Antenna weight 0.04g

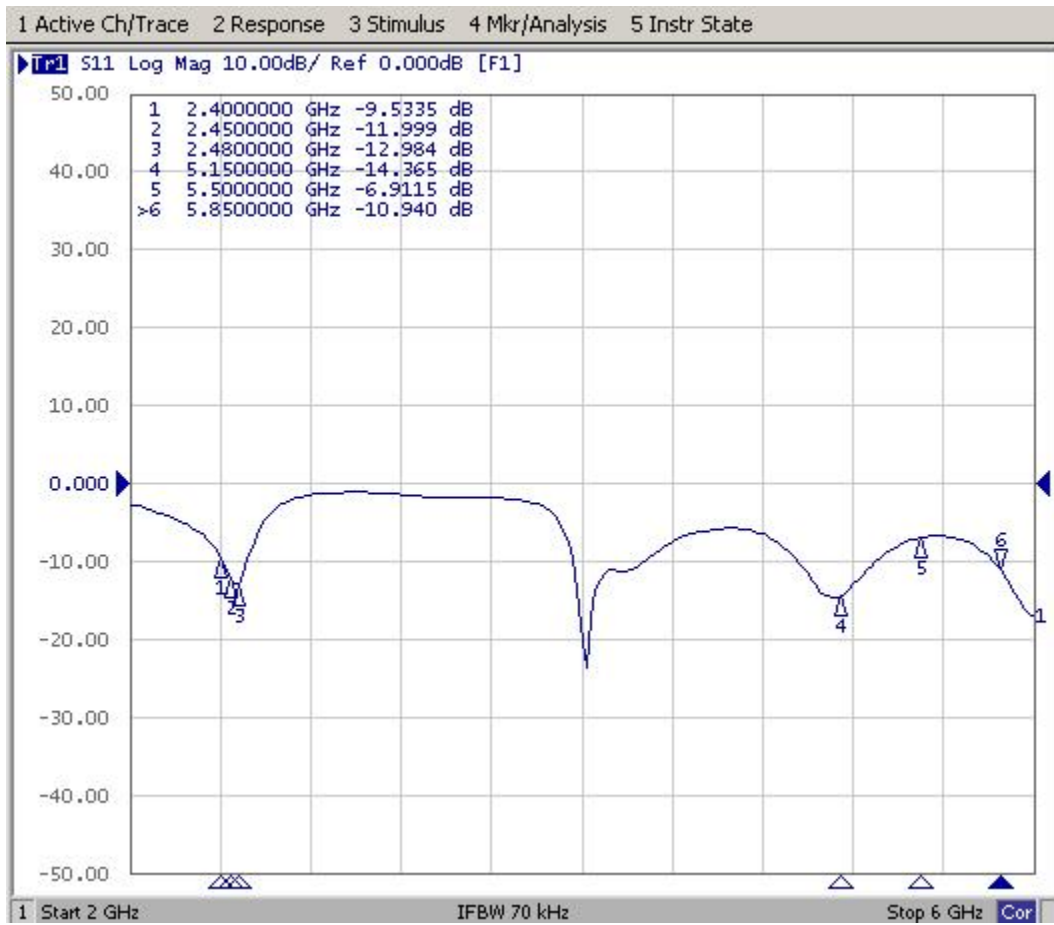
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6.S11:



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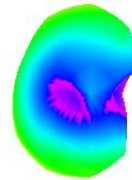
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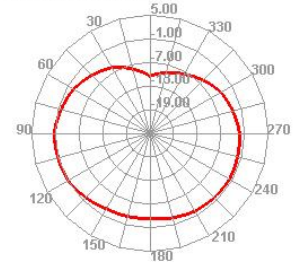
7. Antenna efficiency and gain

Passive Test For WIFI2.4			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	45.92	-3.38	1.62
2410	44.94	-3.47	1.53
2420	43.84	-3.58	1.32
2430	43.34	-3.63	1.13
2440	44.97	-3.47	1.15
2450	46.69	-3.31	1.16
2460	46.25	-3.35	1.03
2470	45.43	-3.43	0.98
2480	46.2	-3.35	1.01
2490	47.09	-3.27	1.01
2500	43.46	-3.62	0.65

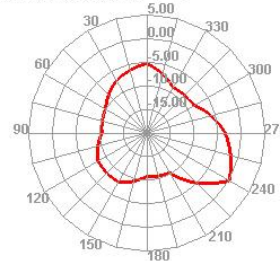
2400.000MHz



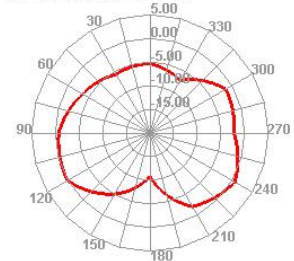
2400.000MHz H



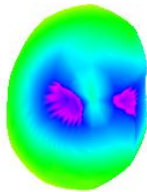
2400.000MHz E1



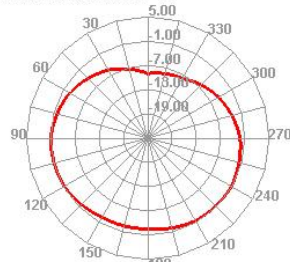
2400.000MHz E2



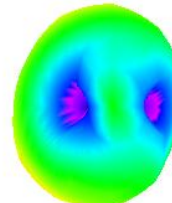
2450.000MHz



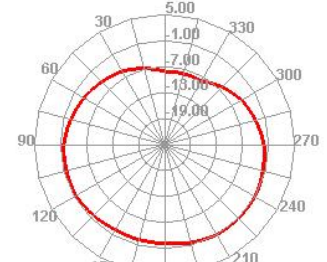
2450.000MHz H



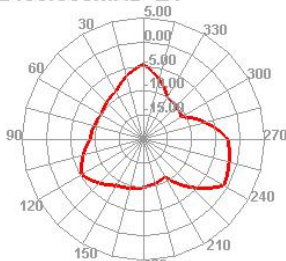
2500.000MHz



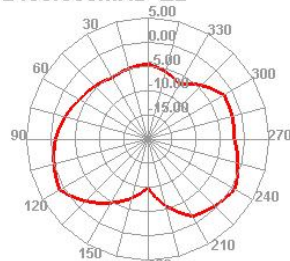
2500.000MHz H



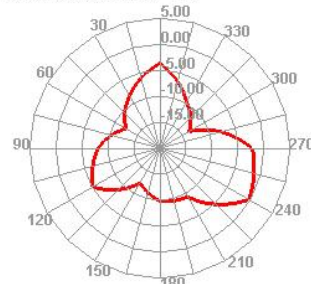
2450.000MHz E1



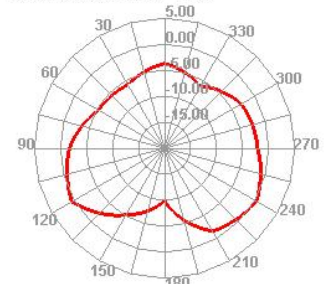
2450.000MHz E2



2500.000MHz E1



2500.000MHz E2



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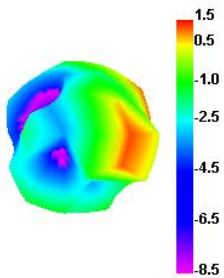
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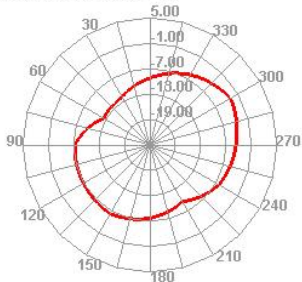
Passive Test For WIFI5.8

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5150	37.98	-4.2	1.49
5200	40.34	-3.94	1.39
5300	51.64	-2.87	1.98
5450	55.88	-2.53	2.22
5500	61.28	-2.13	3.09
5600	64.48	-1.91	3.33
5700	57.5	-2.4	2.69
5800	69.72	-1.57	3.64

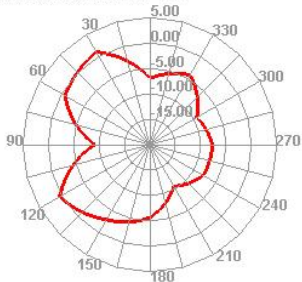
5150.000MHz



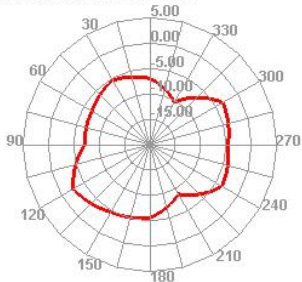
5150.000MHz H



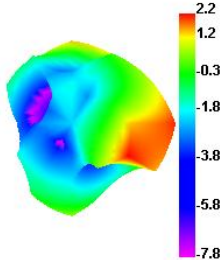
5150.000MHz E1



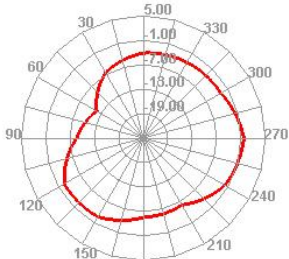
5150.000MHz E2



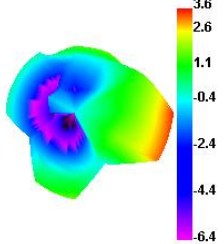
5450.000MHz



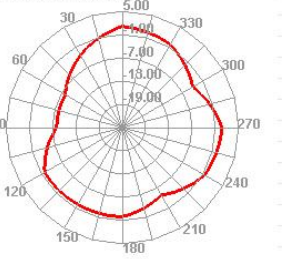
5450.000MHz H



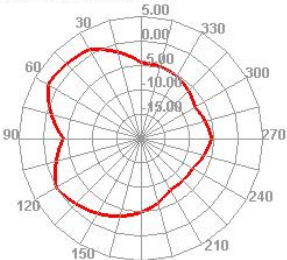
5800.000MHz



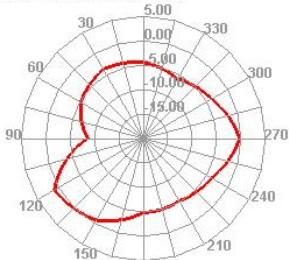
5800.000MHz H



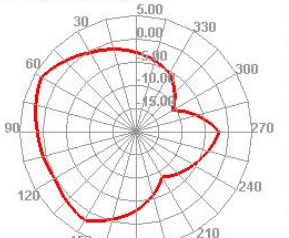
5450.000MHz E1



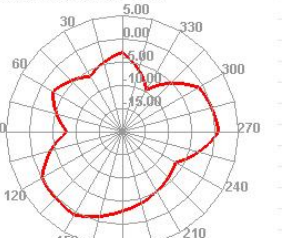
5450.000MHz E2



5800.000MHz E1



5800.000MHz E2



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Technical parameters of electrical apparatus

Electrical Specifications

Frequency Range	2400~2500/5100~5800MHZ
VSWR	≤ 2.0
Input Impedance	50 Ω
Gain	3DBI
Maximum Input Poewr	50W

Mechanical Specifications

Antenna Color	Black
Input connector	IPEX 1
Cable length	40mm
Working Temperature	-40°C~+85°C
Working Humidity	20~80%

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Environment performance test:

Project	Test condition	Test results
Storage environment	Test temperature, humidity, pressure without stated condition as follwings :1.Temperature: -30 °C ~ +80 °C ;2.Relative humidity: 45%-85%;3,Pressure: 86kpa-106kpa	Electrical and mechanical performance normal
High and low temperature test	Having 5 times cycle between -40°C to 70°C,Then in common condition 1-2 hours test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Resistance constant hot and humid test	Relative humidity:95±3%,Test temperature: 40°C,last 2 hours ,put it after 5 min test the electrical function . Test products during common condition 1-2 hours ,Then test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Vibration test	Vibrate Frequency:10-55HZ; Distance :0.35mm;Acceleration :50.0m/s;Sweep frequency cycle:30 times	Electrical and mechanical performance normal
Fall test	From 1 mheight fall down 3 times freely (vertical direction)	Electrical and mechanical performance normal