

# 承 认 书

## APPROVAL SHEET

客户名称

CUSTOMER NAME:

产品名称

PRODUCT NAME: 2.4G FPC 内置天线 L=110mm+端子

客户料号

CUSTOMER P/N:

优比电子料号

Youbi P/N: UB01C110F2D3551A REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	Eddy 	
APPROVED BY:	工程专用章 Changxing. Liu	
DATE:	2023/3/22	

### Modification History

Version	Content Revision	Issued by	Date
A	Original version	Eddy	2023-3-22

## *Content*

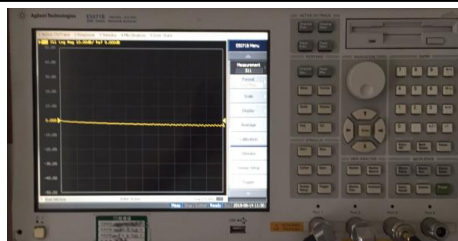
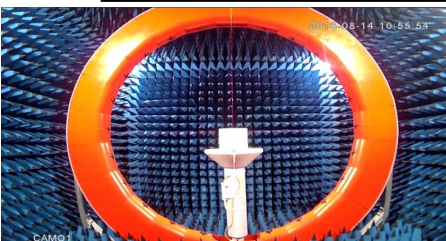
<i>Item</i>	<i>Description</i>
1.-----	Electrical Specification
2.-----	Test Items and Equipment
3.-----	S Parameter
4.-----	Efficiency and Gain
5.-----	Radiation Pattern
6.-----	Active test data
7.-----	Antenna installation diagram
8.-----	Mechanical Specification
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## 1. Electrical Specification:

Characteristics	Specifications	Unit
Outline Dimensions	39x16.5,L110	mm
Frequency	2400-2500	MHz
Impedance	50	$\Omega$
VSWR	< 2	
Polarization	Linear Polarization	
Gain	3.66	dBi
Efficiency	>40	%
Connector Type	MHF-1-Plug	
Operating temperature	-20 $^{\circ}$ C~+85 $^{\circ}$ C	
Storage Temp	-20 $^{\circ}$ C~+50 $^{\circ}$ C	

## 2. Test Items and Equipment

	Test items	Test equipment
S Parameter	1.Return Loss 2.VSWR	Network analyzer (Agilent E5071B)
The whole machine of Passive parameters	1.Frequency 2.Gain 3.Radiation Pattern	1.3D microwave darkroom (5m*5m*5m) 2.Network analyzer (Agilent E5071B)
The whole machine of Active parameters	1.TRP 2.TIS	1.3D microwave darkroom (5m*5m*5m) 2.Comprehensive test instrument (CMW500)



### 3. S Parameter

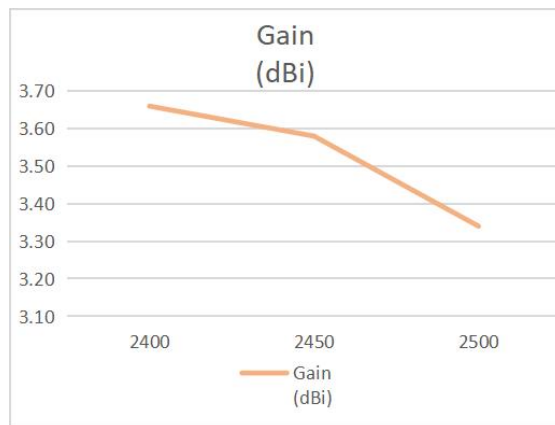
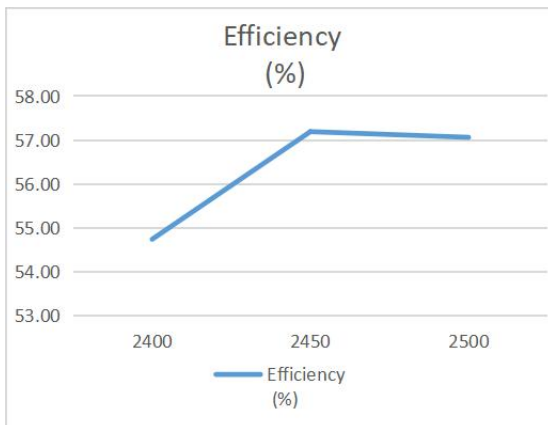
Frequency (MHz)	Return Loss (dB)	VSWR
2400	-19.16	1.24
2450	-18.18	1.27
2500	-14.81	1.45



\* Voltage Standing Wave Ratio(VSWR)  
Return Loss(RL)  
 $RL=20*\log_{10}[(VSWR+1)/(VSWR-1)]$

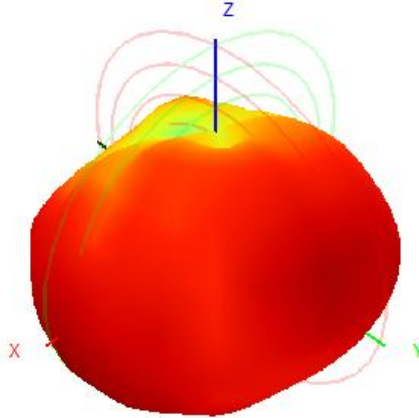
### 4. Efficiency and Gain

Frequency (MHz)	2400	2450	2500
Efficiency (%)	54.74	57.19	57.06
Gain (dBi)	3.66	3.58	3.34

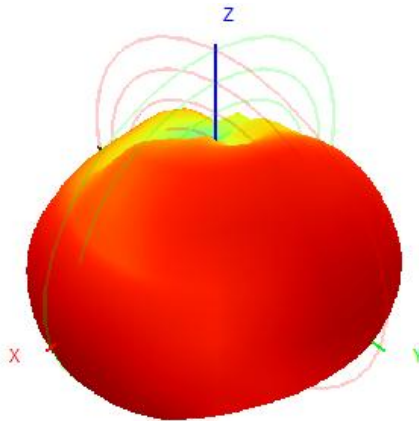


## 5. Radiation Pattern

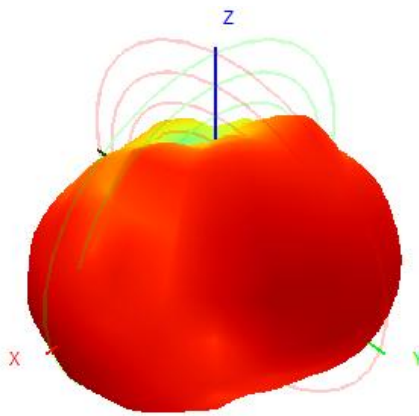
5-1 Antenna 3D Radiation Pattern



2400MHz

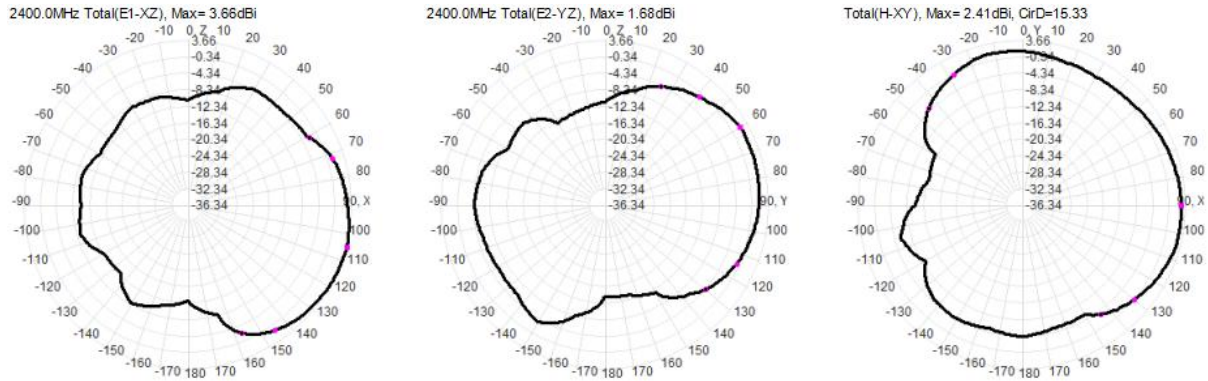


2450MHz

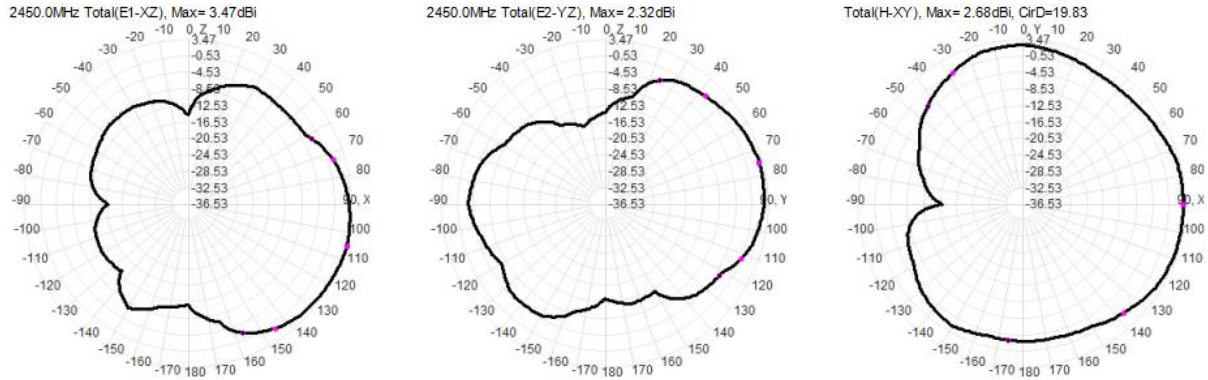


2500MHz

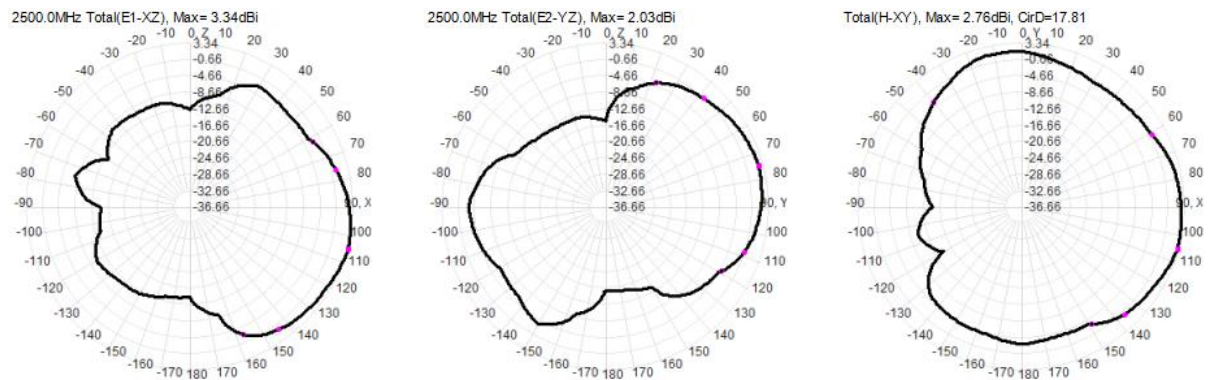
5-2 Antenna 2D Radiation Pattern



2400MHz



2450MHz



2500MHz

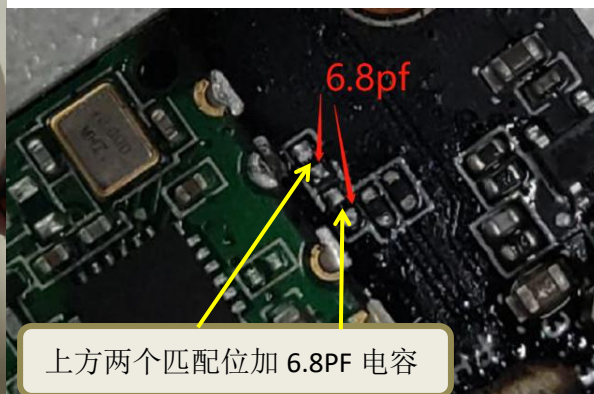
6. Active test data

802.11b : 11Mbps		
Item	Measurement	Total
1	TRP	20.03
6	TRP	19.64
11	TRP	17.85
1	TIS(EIRP)	-86.92
6	TIS(EIRP)	-85.04
11	TIS(EIRP)	-87.78

802.11g : 54Mbps		
Item	Measurement	Total
1	TRP	19.8
6	TRP	20.57
11	TRP	17.44
1	TIS(EIRP)	-70.03
6	TIS(EIRP)	-71.01
11	TIS(EIRP)	-72.04

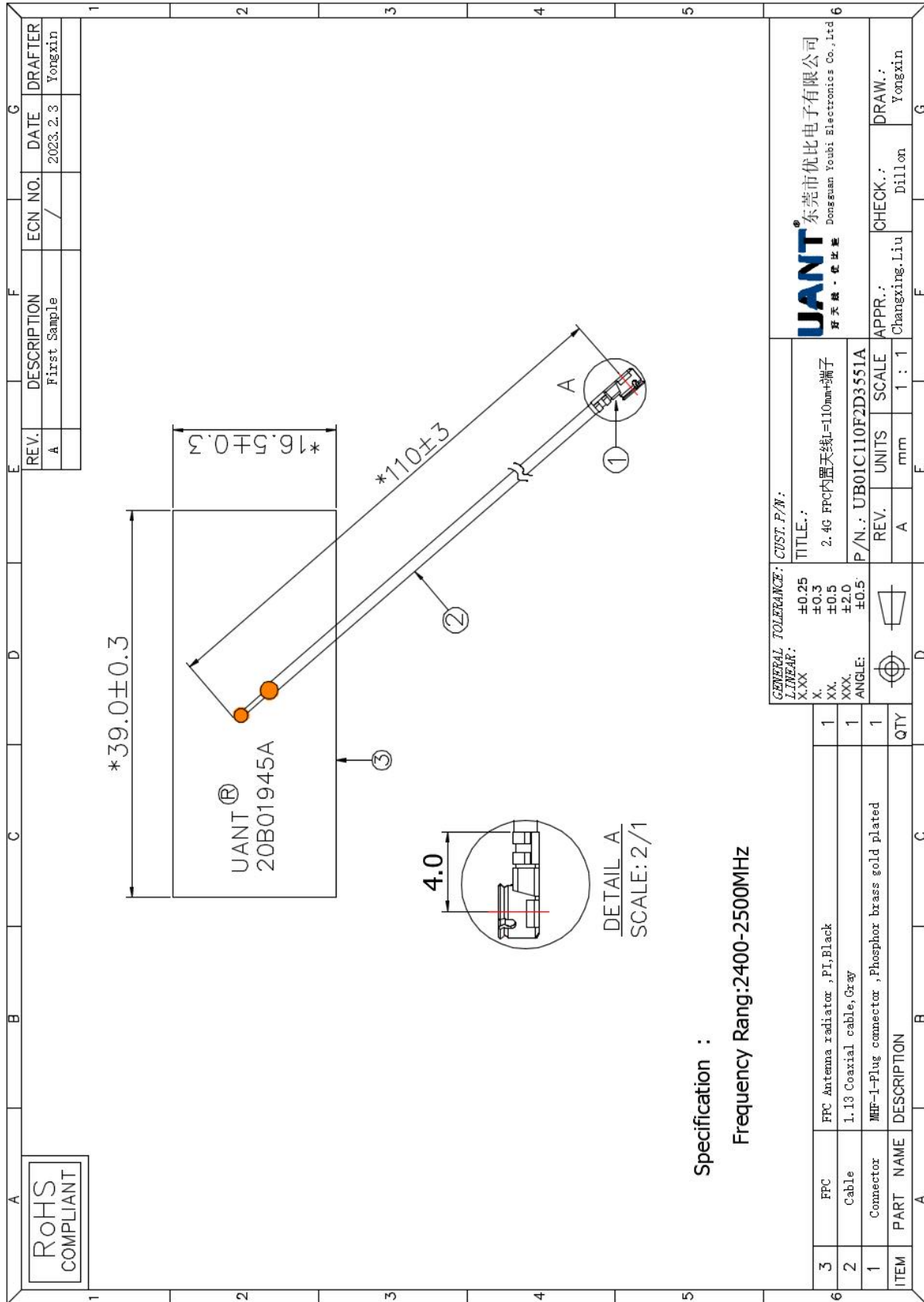
802.11n: MCS7		
Item	Measurement	Total
1	TRP	18.45
6	TRP	18.71
11	TRP	16.57
1	TIS(EIRP)	-67.86
6	TIS(EIRP)	-66.11
11	TIS(EIRP)	-67.71

7. Antenna installation diagram





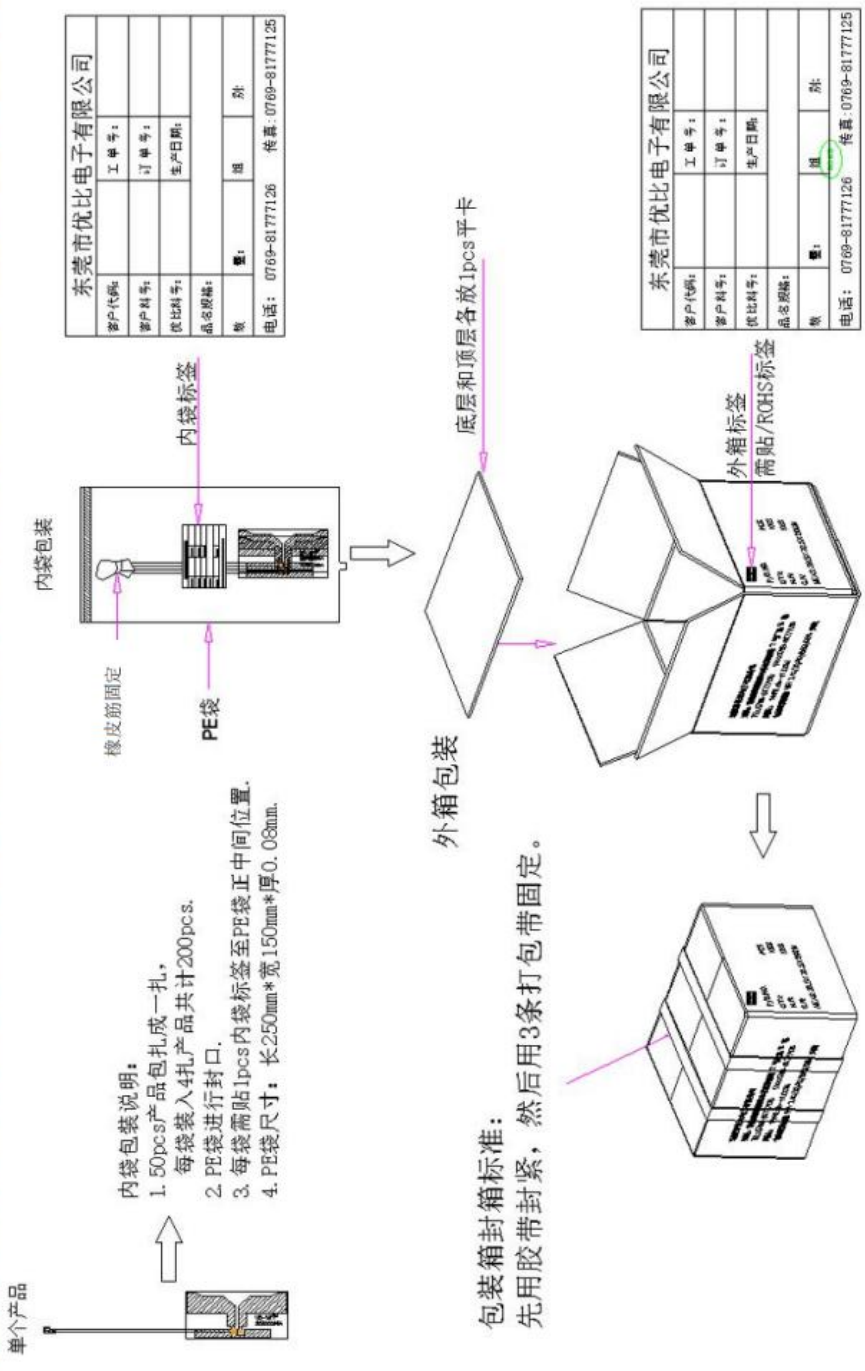
## 8. Mechanical Specification



### 9. Packaging

# 产品包装规范

## 内置出线系列



东莞市优比电子有限公司	
客户代码:	工单号:
客户料号:	订单号:
优比料号:	生产日期:
品名规格:	量: 组 别:
数量:	电话: 0769-81777126 传真: 0769-81777125

东莞市优比电子有限公司	
客户代码:	工单号:
客户料号:	订单号:
优比料号:	生产日期:
品名规格:	量: 组 别:
数量:	电话: 0769-81777126 传真: 0769-81777125

**注:** 此份包装规范适用于FPC, PCB天线类的线材总长 $\geq 90$ mm带ipex和不带ipex产品, 属于通用类型.

1. **中号纸箱**装10000pcs产品每箱.