

# 承 认 书

## APPROVAL SHEET

客户名称

CUSTOMER NAME:

产品名称

PRODUCT NAME: 2.4/5.8G WIFI-2 钢片内置天线

客户料号

CUSTOMER P/N:

优比电子料号

Youbi P/N: UB01NJ1D1409A REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	Eddy 	
APPROVED BY:	工程专用章 Changxing.Liu	
DATE:	2023/10/11	

### Modification History

Version	Content Revision	Issued by	Date
A	Original version	Eddy	2023-10-11

# *Content*

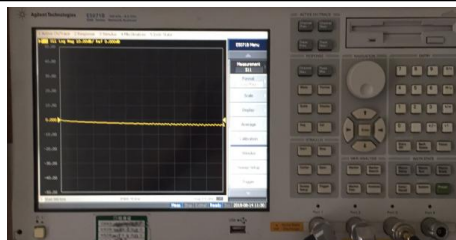
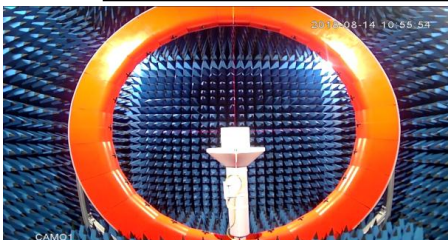
<i>Item</i>	<i>Description</i>
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3.-----	S Parameter
4.-----	Efficiency and Gain
5.-----	Radiation Pattern
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## 1. Electrical Specification

Characteristics	Specifications	Unit
Outline Dimensions	16.1x14.2x6.3,T0.4	mm
Frequency	2400-2500 / 5150-5850	MHz
Impedance	50	$\Omega$
VSWR	$\leq 2$	
Polarization	Linear Polarization	
Gain	2.18 (Max)	dBi
Efficiency	> 40	%
Connector Type	DIP	
Operating temperature	-20 $^{\circ}$ C~+85 $^{\circ}$ C	
Storage Temp	-20 $^{\circ}$ C~+50 $^{\circ}$ C	

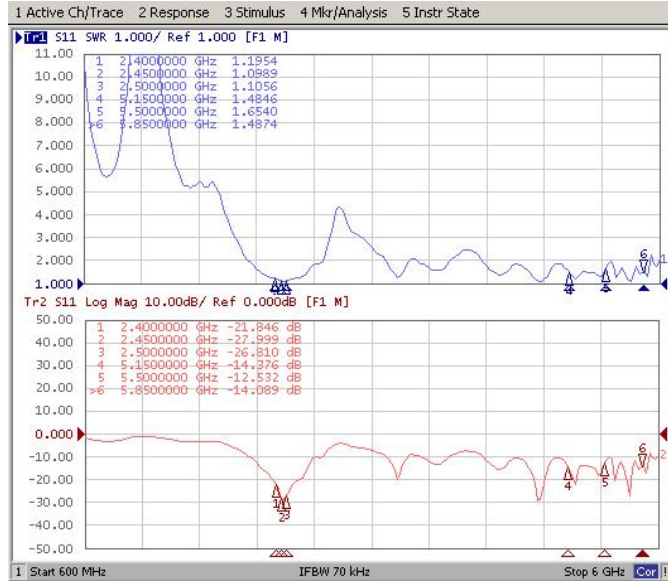
## 2. Test Items and Equipment

	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

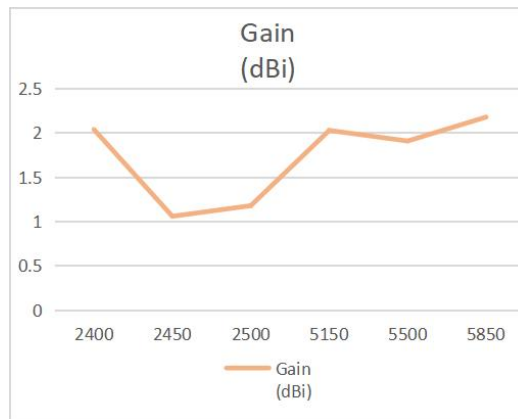
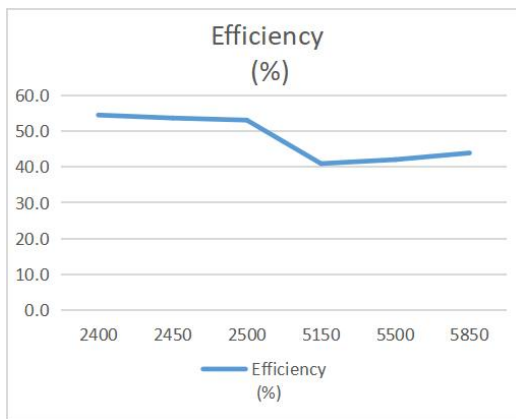
Frequency (MHz)	Return Loss (dB)	VSWR
2400	-21.84	1.19
2450	-27.99	1.09
2500	-26.81	1.10
5150	-14.37	1.48
5500	-12.53	1.65
5850	-14.08	1.48



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

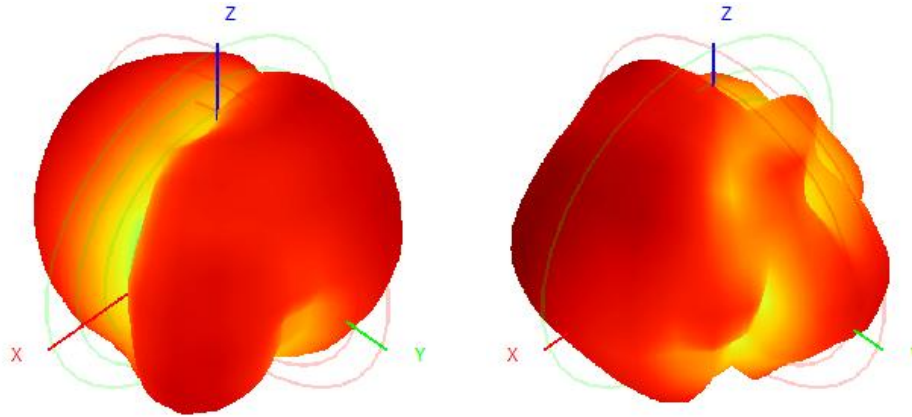
### 4. Efficiency and Gain

Frequency (MHz)	2400	2450	2500	5150	5500	5850
Efficiency (%)	54.44	53.60	53.02	40.88	42.00	43.85
Gain (dBi)	2.04	1.06	1.18	2.03	1.91	2.18



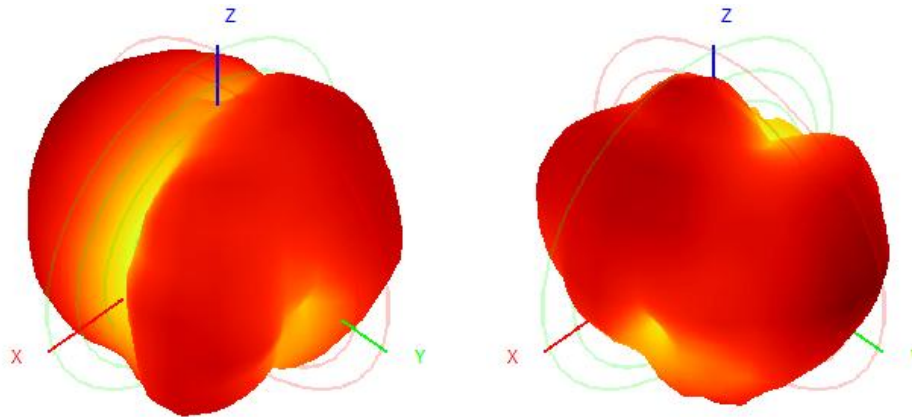
## 5. Radiation Pattern

5-1 Antenna 3D Radiation Pattern



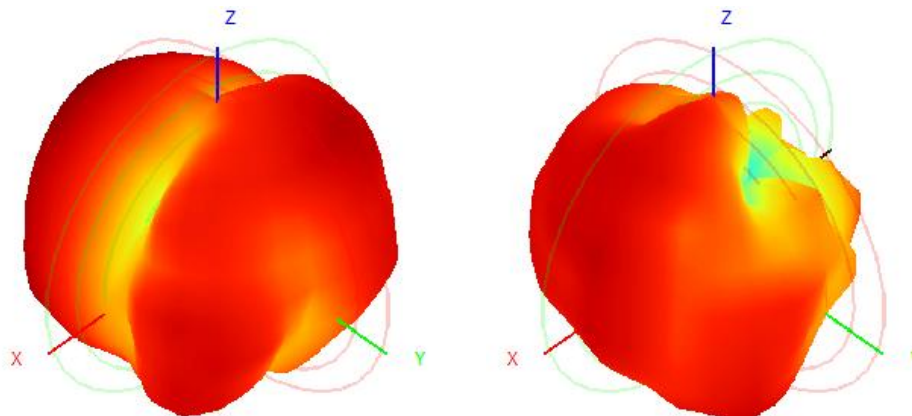
2400MHz

5150MHz



2450MHz

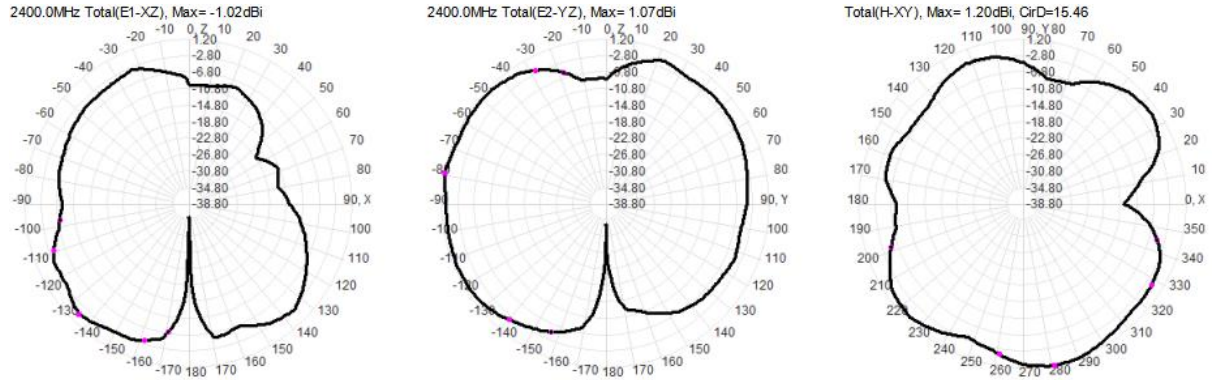
5500MHz



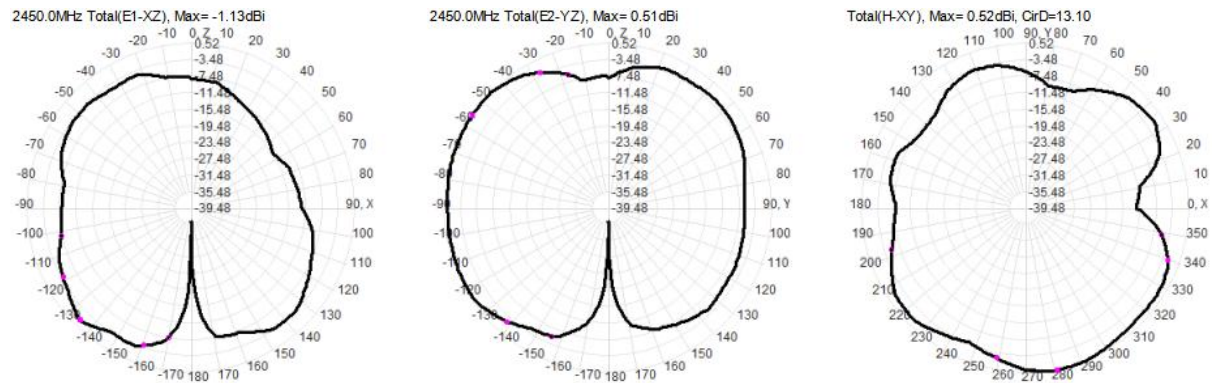
2500MHz

5850MHz

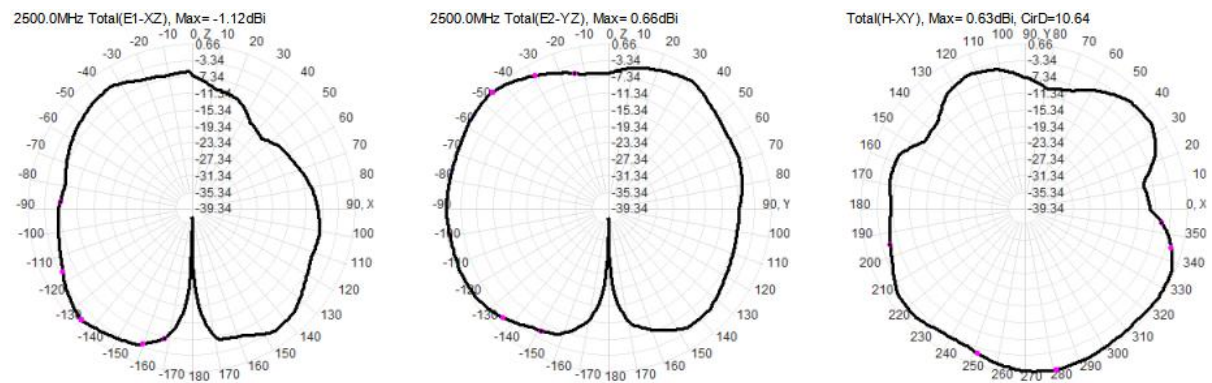
## 5-2 Antenna 2D Radiation Pattern



2400MHz

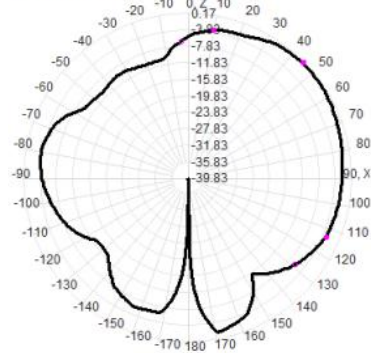


2450MHz

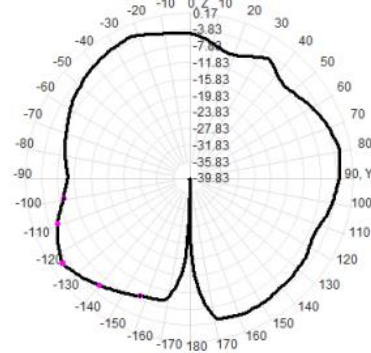


2500MHz

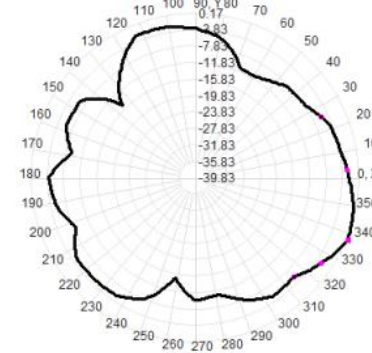
5150.0MHz Total(E1-XZ), Max=-0.34dBi



5150.0MHz Total(E2-YZ), Max=-2.75dBi

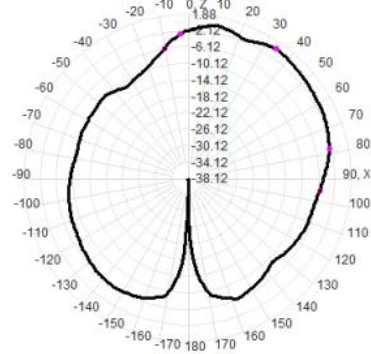


Total(H-XY), Max=0.17dBi, CirD=15.32

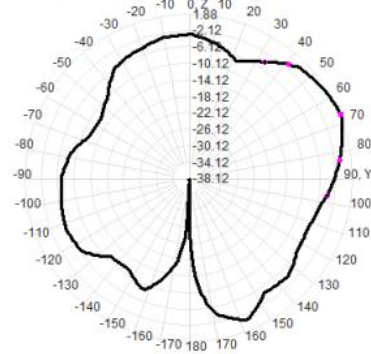


## 5150MHz

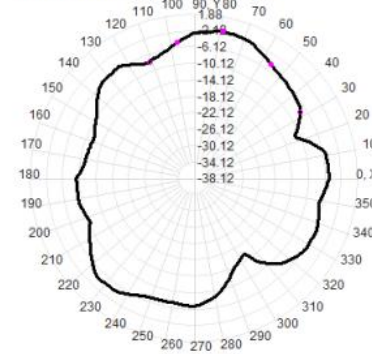
5500.0MHz Total(E1-XZ), Max=0.07dBi



5500.0MHz Total(E2-YZ), Max=1.88dBi

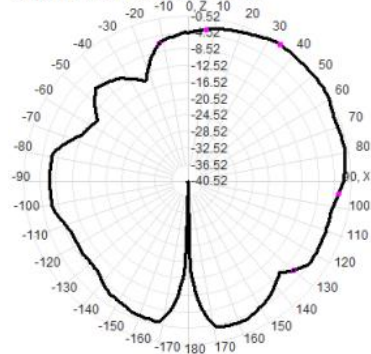


Total(H-XY), Max=-1.69dBi, CirD=14.35

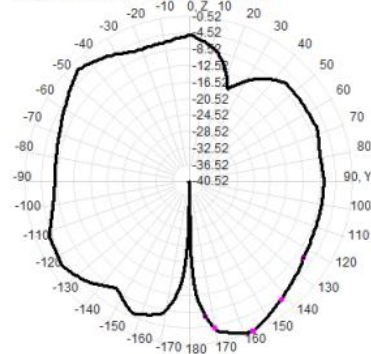


## 5500MHz

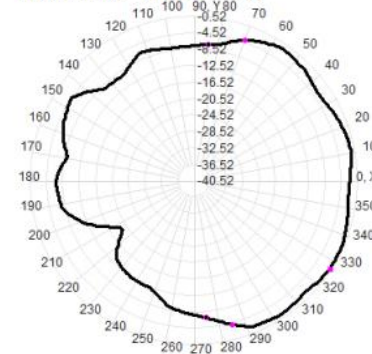
5850.0MHz Total(E1-XZ), Max=-0.52dBi



5850.0MHz Total(E2-YZ), Max=-0.89dBi



Total(H-XY), Max=-1.15dBi, CirD=18.29



## 5850MHz



6. Active test data

802.11b:11MBps		
channel	Measurement	Total
1	TRP	18.08
6	TRP	17.34
11	TRP	18.2
1	TIS(EIRP)	-80.09
6	TIS(EIRP)	-78.7
11	TIS(EIRP)	-78.94

802.11a:54MBps		
channel	Measurement	Total
36	TRP	15.44
149	TRP	20.11
165	TRP	20.23
36	TIS(EIRP)	-75.32
149	TIS(EIRP)	-75.02
165	TIS(EIRP)	-71.31

### 7. Mechanical Specification

