

承 认 书

APPROVAL SHEET

客户名称

CUSTOMER NAME:

产品名称

PRODUCT NAME: 2.4G 内置天线

客户料号

CUSTOMER P/N:

优比电子料号

Youbi P/N: UB01NF3F 997A REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:	Yongxin Lu 	
APPROVED BY:	工程专用章 Changxing. Liu	
DATE:	2023/7/1	

Modification History

Version	Content Revision	Issued by	Date
A	Original version	Yongxin.Lu	2023-7-1

Content

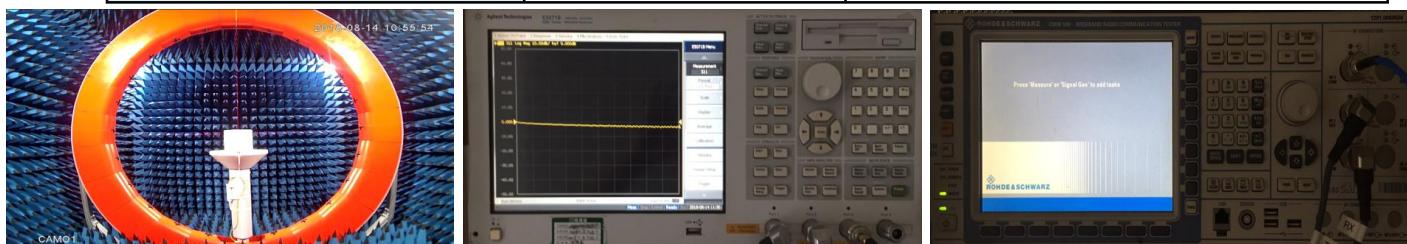
<i>Item</i>	<i>Description</i>
1.-----	Electrical Specification
2.-----	Test Items and Equipment
3.-----	S Parameter-Single antenna test
4.-----	Efficiency and Gain
5.-----	Radiation Pattern
6.-----	Antenna installation diagram
7.-----	Mechanical Specification
8.-----	Packaging

1. Electrical Specification:

Characteristics	Specifications	Unit
Outline Dimensions	29.3x7.27	mm
Frequency	2400-2500	MHz
Impedance	50	Ω
VSWR	< 2.0	
Polarization	Linear Polarization	
Gain	-2 REF	dBi
Efficiency	> 20	%
Connector Type	N/A	
Operating temperature	-20°C~+85°C	
Storage Temp	-20°C~+50°C	

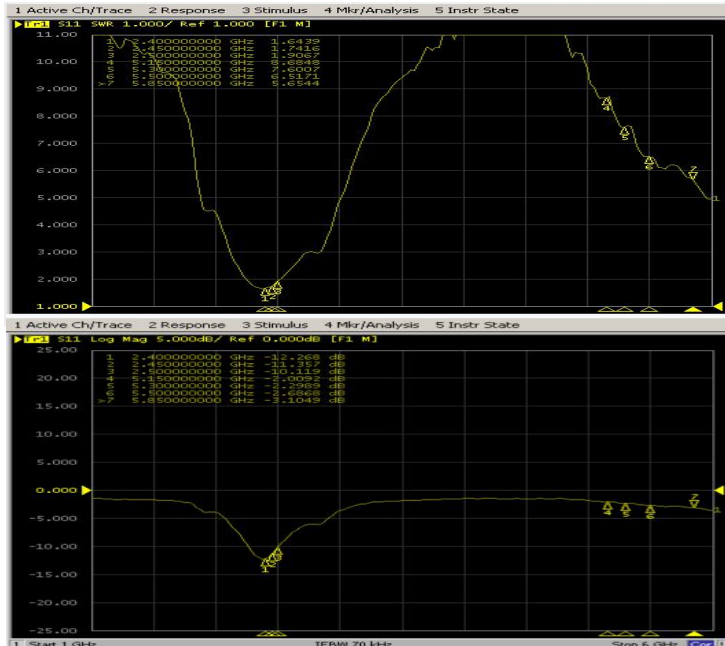
2. Test Items and Equipment

	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-Single antenna test

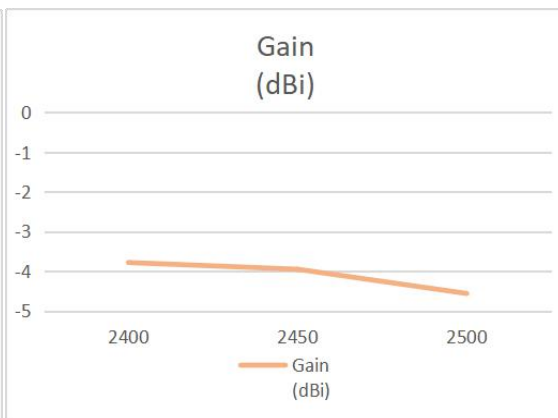
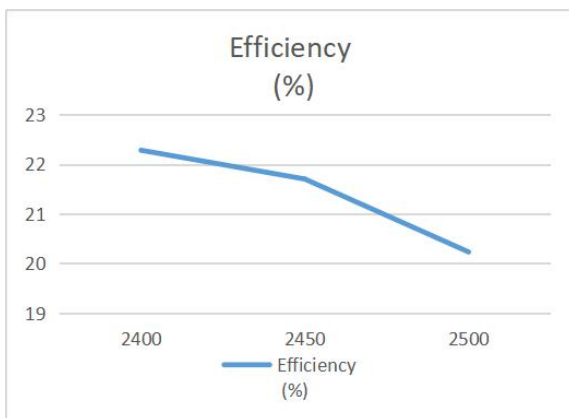
Frequency (MHz)	Return Loss (dB)	VSWR
2400	-12.26	1.64
2450	-11.35	1.74
2500	-10.11	1.90



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

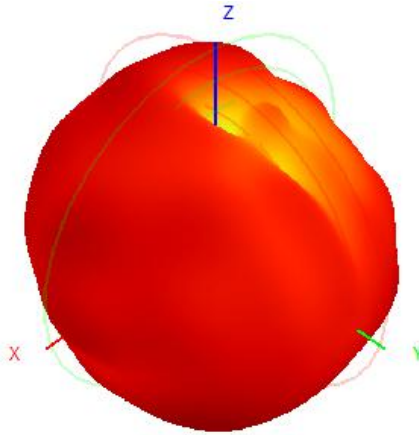
4. Efficiency and Gain

Frequency (MHz)	2400	2450	2500
Efficiency (%)	22.28	21.70	20.23
Gain (dBi)	-3.78	-3.95	-4.56

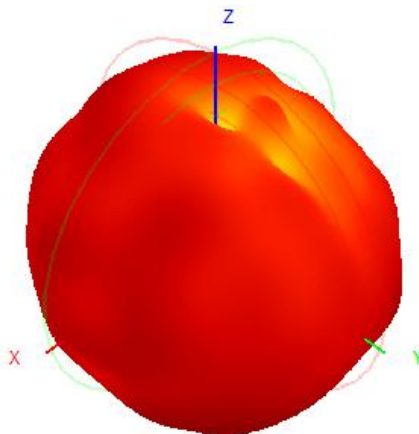


5. Radiation Pattern

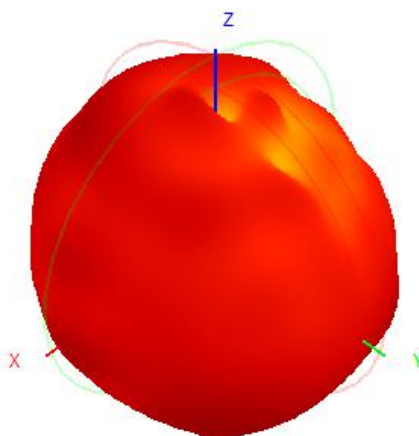
5-1 Antenna 3D Radiation Pattern



2400MHz

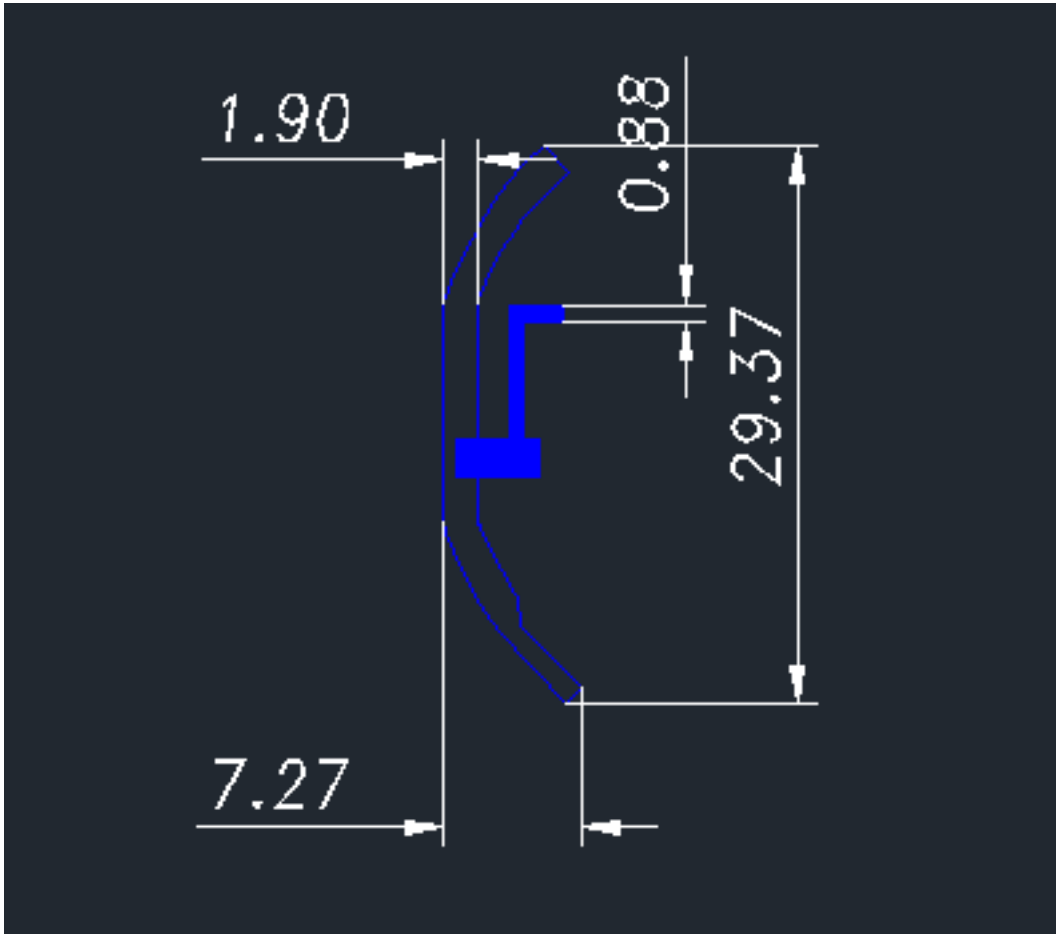


2450MHz



2500MHz

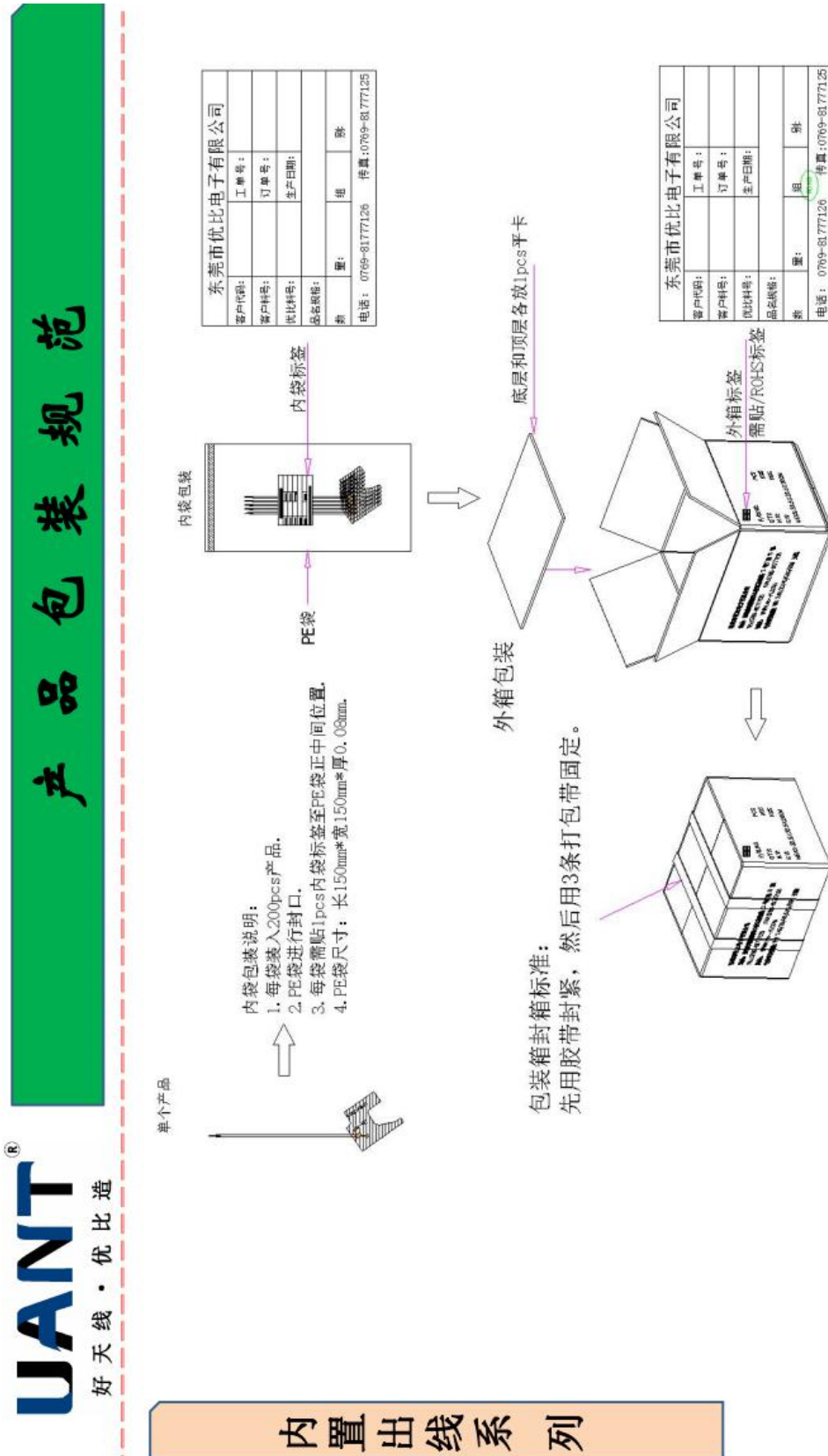
6. Antenna installation diagram



7. Mechanical Specification

RoHS COMPLIANT		REV. A		DESCRIPTION First Sample		ECN NO. /		DATE 2022.6.14		DRAFTER Yongxin	
Specification: Frequency Rang:2400-2500MHz											
GENERAL TOLERANCE: CUST. P/N:											
LINEAR:											
±0.25 ±0.3 ±0.5 ±2.0 ±0.5°											
TITLE: 2.4G FPC内置天线 P/N: UB01NF1D977A											
SCALE 1:1											
UNITS mm											
REV. A											
APPR. Changxing.Liu				CHECK: Dillon				DRAW: Yongxin			
QTY 1											
DESCRIPTION FPC Antenna radiator .PI,black											
ITEM 1											

8. Packaging



注: 此份包装规范适用于FPC, PCB天线类的线材总长<90mm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.