

承 认 书

APPROVAL SHEET

客 户 名 称

CUSTOMER NAME:

产 品 名 称 2.4G 小 SMA 公头母针-小 4.7dBi 黑色天线

PRODUCT NAME: 2.4G small SMA male head female needle -
small 4.7dBi black antenna

客 户 料 号

CUSTOMER P/N:

优比电子料号

Youbi P/N: UB02S58B5D8B REV: A

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
CHECKED BY:		
APPROVED BY:	Changxing. Liu	
DATE:	2022/09/15	

Modification History

Version	Content Revision	Issued by	Date
A	Original version	King	2022-09-15

Content

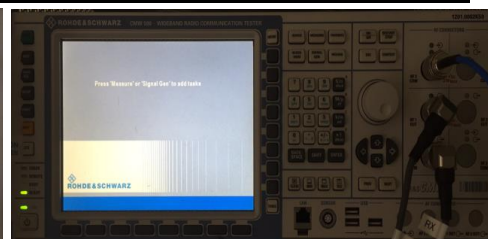
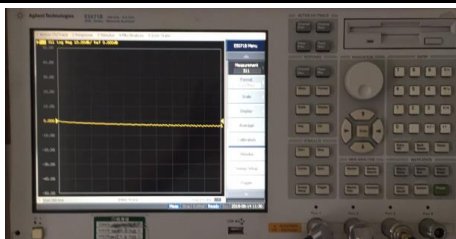
<i>Item</i>	<i>Description</i>
1.-----	Electrical Specification
2.-----	Test Items and Equipment
3.-----	S Parameter
4.-----	Efficiency and Gain
5.-----	Radiation Pattern
6.-----	Mechanical Specification

1. Electrical Specification:

Characteristics	Specifications	Unit
Outline Dimensions	Φ9.35x172	mm
Frequency	2400-2500	MHz
Impedance	50	Ω
Machine VSWR	< 2.0	
Polarization	Linear Polarization	
Gain	4.7	dBi
Efficiency	> 65	%
Connector Type	RP-SMA Male Plug connecto	
Operating temperature	-20℃~+65℃	
Storage Temp	-20℃~+65℃	

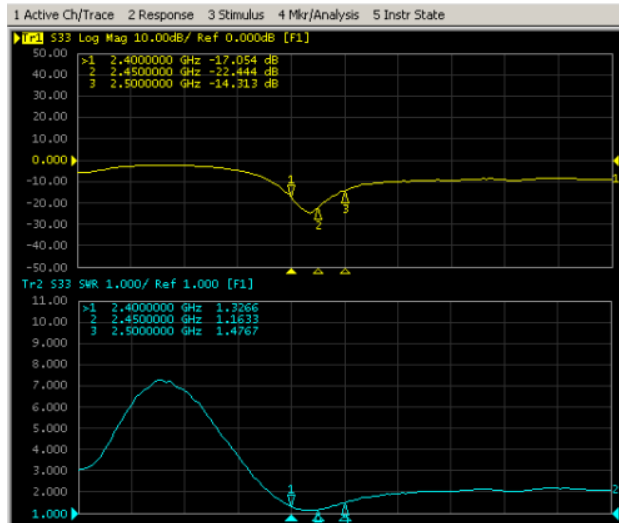
2.Test Items and Equipment

	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

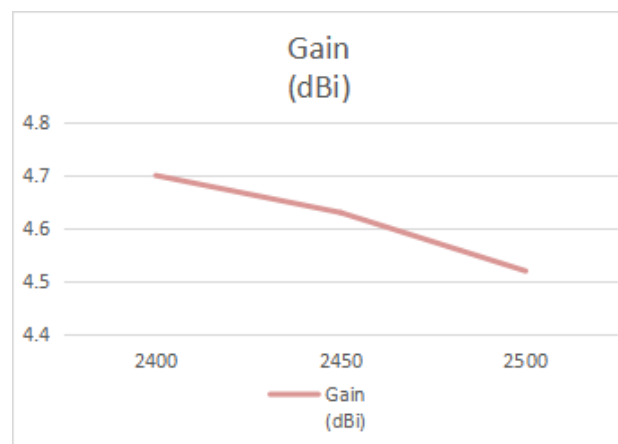
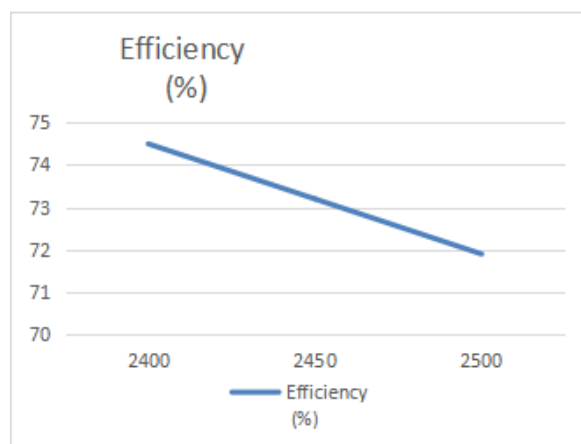
Frequency (MHz)	Return Loss (dB)	VSWR
2400	-17.05	1.32
2450	-22.44	1.16
2500	-14.71	1.47



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

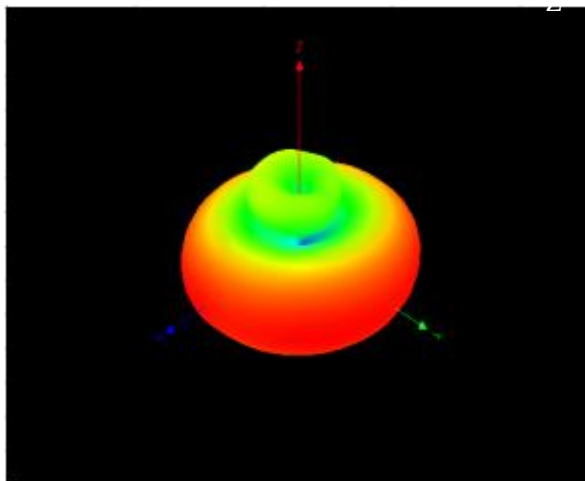
4. Efficiency and Gain

Frequency (MHz)	2400	2450	2500
Efficiency (%)	74.5	73.2	71.9
Gain (dBi)	4.7	4.63	4.52

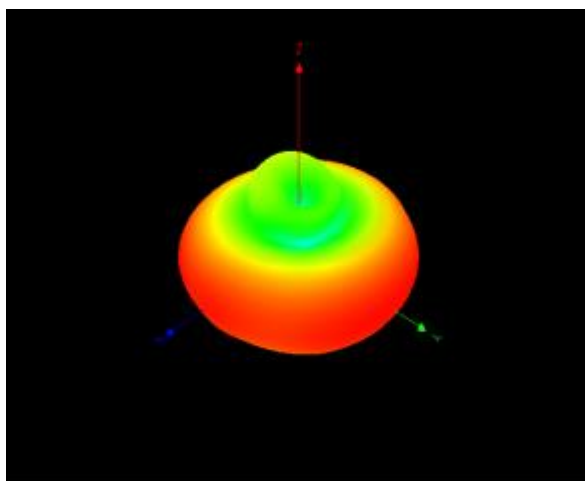


5. Radiation Pattern

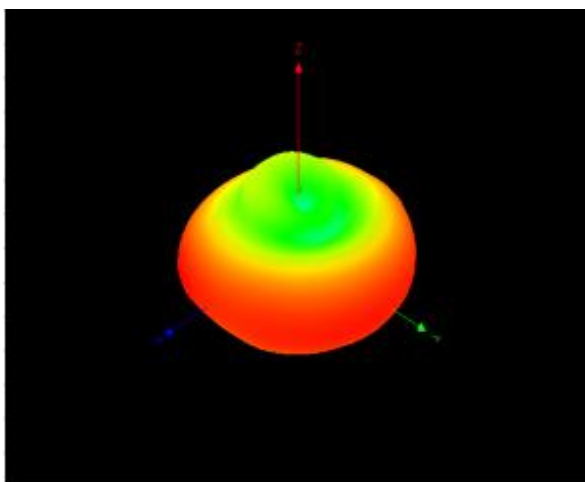
5-1 Antenna 3D Radiation Pattern



2400MHz

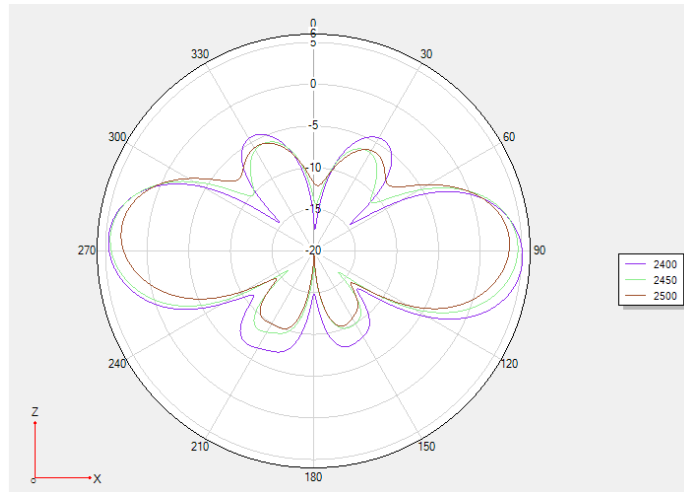


2450MHz

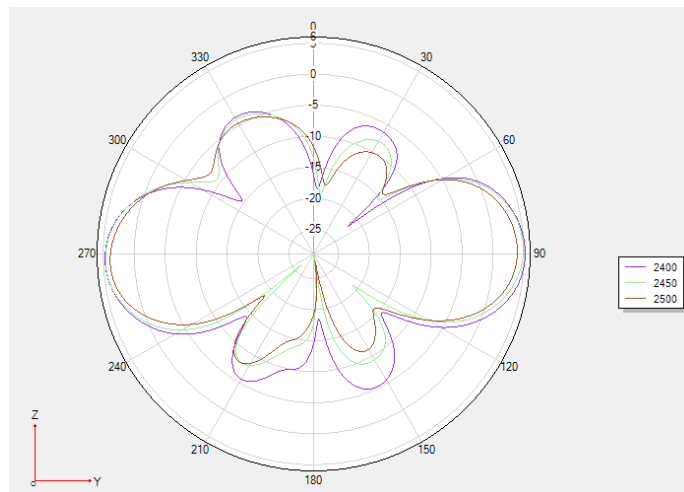


2500MHz

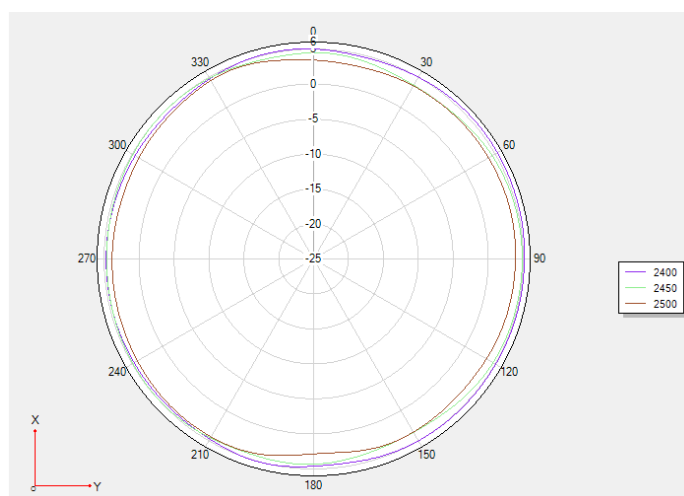
5-2 Antenna 2D Radiation Pattern



Phi 0 2D 图



Phi 90 2D 图



Theta 90 2D 图

6. Mechanical Specification:

