

# 承 认 书

## APPROVAL SHEET

客 户 名 称

CUSTOMER NAME:

产 品 名 称

PRODUCT NAME: 2.4G 铜管内置天线 L=123mm+端子

客 户 料 号

CUSTOMER P/N:

优比电子料号

Youbi P/N: UB01C123T2D3629A REV: A

|              |                                                                                     |                       |
|--------------|-------------------------------------------------------------------------------------|-----------------------|
|              | MANUFACTURER<br>SIGNATURE                                                           | CUSTOMER<br>SIGNATURE |
| CHECKED BY:  |  |                       |
| APPROVED BY: | Changxing.Liu                                                                       |                       |
| DATE:        | 2023/02/27                                                                          |                       |

## Modification History

| Version | Content Revision | Issued by | Date       |
|---------|------------------|-----------|------------|
| A       | Original version | Sam       | 2023-02-27 |
|         |                  |           |            |
|         |                  |           |            |
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## *Content*

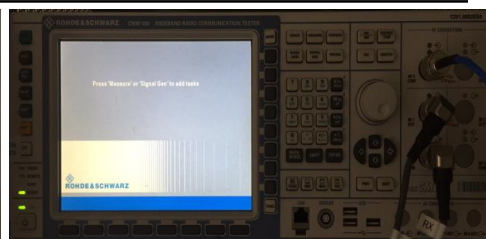
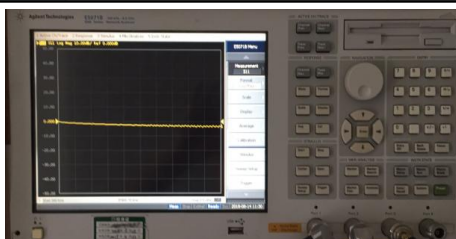
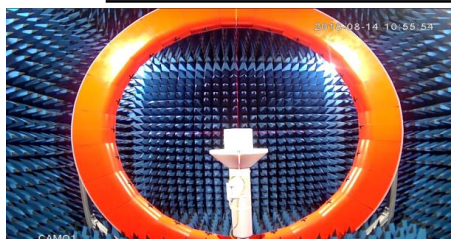
| <i>Item</i> | <i>Description</i>       |
|-------------|--------------------------|
| 1.-----     | Electrical Specification |
| 2.-----     | Test Items and Equipment |
| 3.-----     | S Parameter              |
| 4.-----     | Efficiency and Gain      |
| 5.-----     | Radiation Pattern        |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

## 1. Electrical Specification:

| Characteristics       | Specifications      | Unit |
|-----------------------|---------------------|------|
| Outline Dimensions    | Φ 5.55x123          | mm   |
| Frequency             | 2400-2500           | MHz  |
| Impedance             | 50                  | Ω    |
| Machine VSWR          | < 2.0               |      |
| Polarization          | Linear Polarization |      |
| Gain                  | 1 REF               | dBi  |
| Efficiency            | > 50                | %    |
| Connector Type        | 1.13 MHF-1-Plug     |      |
| Operating temperature | -20℃~+70℃           |      |
| Storage Temp          | -20℃~+70℃           |      |

## 2. Test Items and Equipment

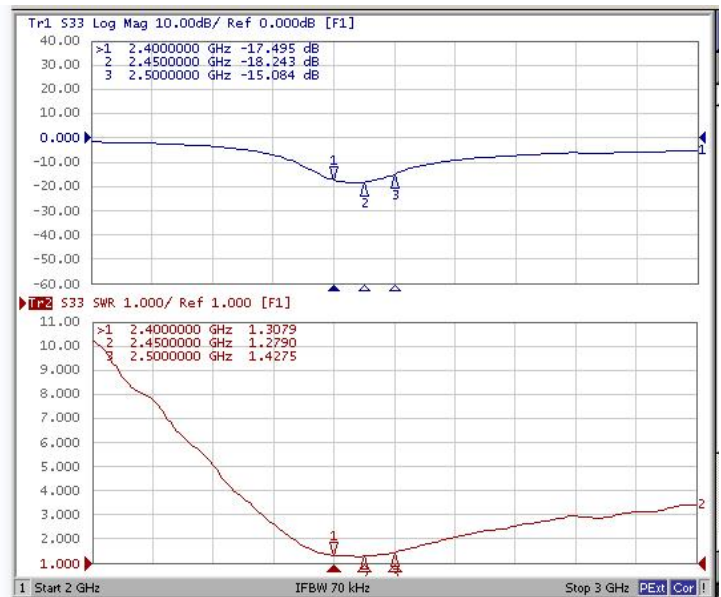
|                                            | Test items                                   | Test equipment                                                                       |
|--------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------|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



### 3. S Parameter

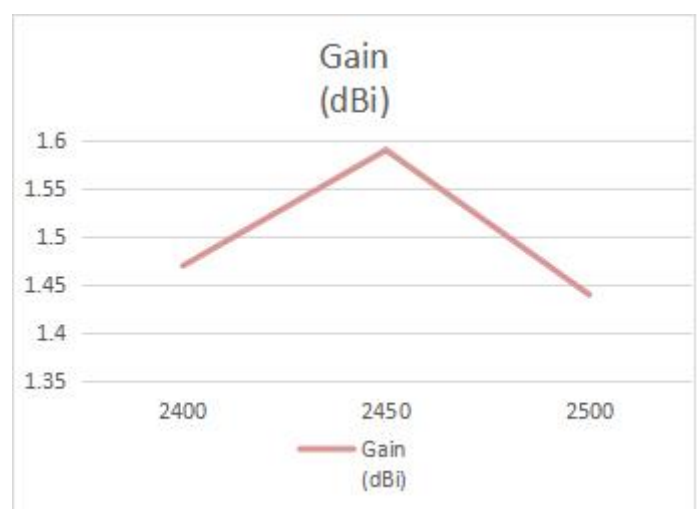
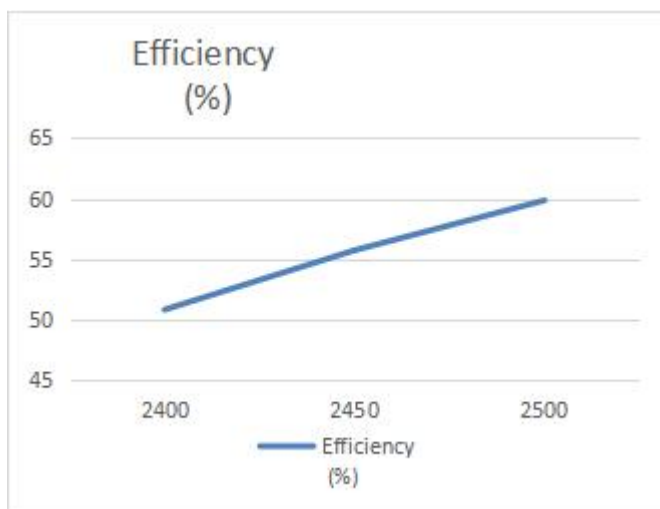
| Frequency (MHz) | Return Loss (dB) | VSWR |
|-----------------|------------------|------|
| 2400            | -17.49           | 1.30 |
| 2450            | -18.24           | 1.27 |
| 2500            | -15.08           | 1.42 |

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



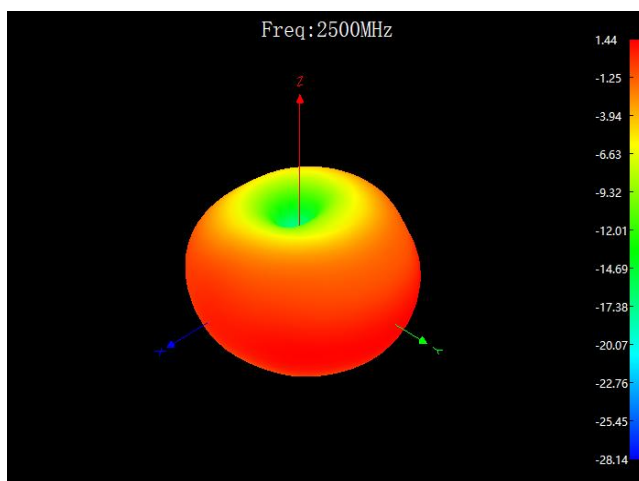
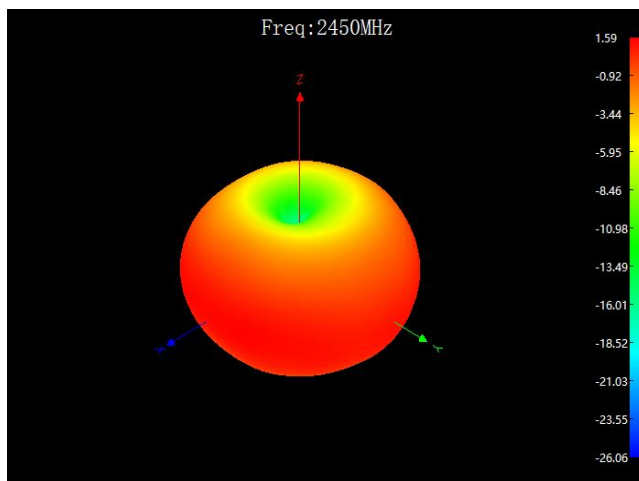
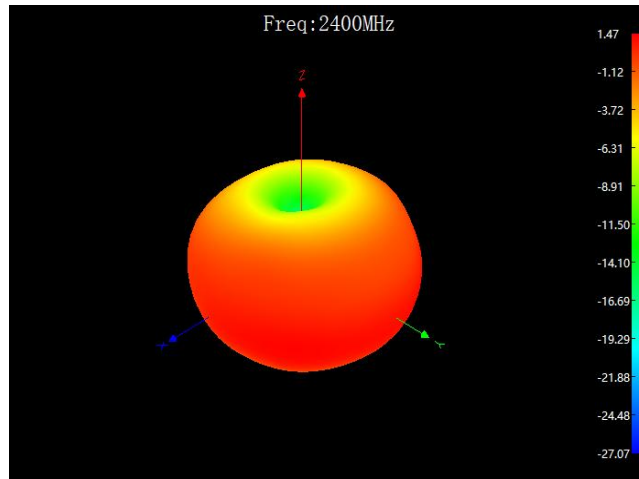
### 4. Efficiency and Gain

| Frequency (MHz) | 2400  | 2450  | 2500  |
|-----------------|-------|-------|-------|
| Efficiency (%)  | 50.82 | 55.72 | 59.84 |
| Gain (dBi)      | 1.47  | 1.59  | 1.44  |

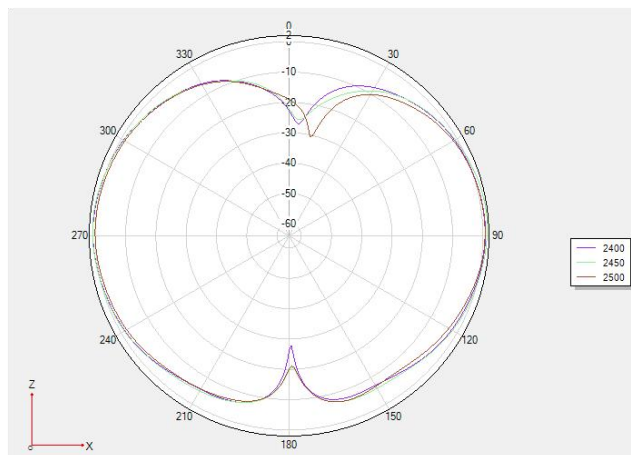


## 5. Radiation Pattern

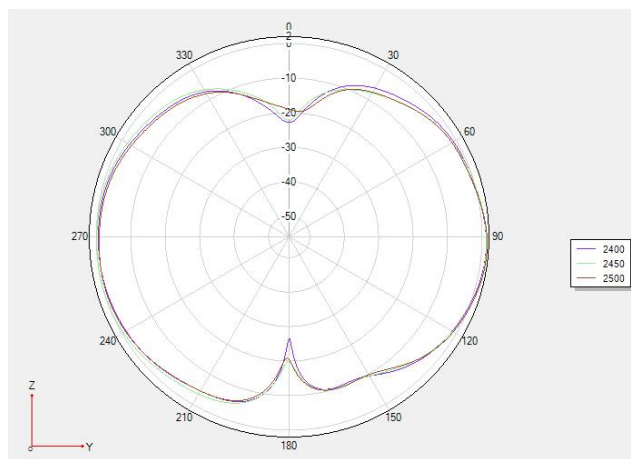
### 5-1 Antenna 3D Radiation Pattern



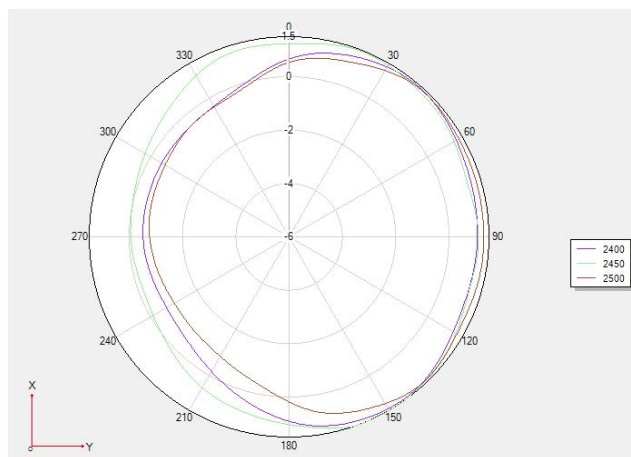
## 5-2 Antenna 2D Radiation Pattern



Phi 0 2D



Phi 90 2D



Theta 90 2D



6. Mechanical Specification:

