

# 承 认 书

## APPROVAL SHEET

客 户 名 称

CUSTOMER NAME: Zhejiang Uniview Technologies Co., Ltd.

产 品 名 称

PRODUCT NAME: 2.4G PCB Antenna

客 户 料 号

CUSTOMER P/N:

优比电子料号

Youbi P/N: UB01NJ3D349A REV: A

|              | MANUFACTURER<br>SIGNATURE                                                                         | CUSTOMER<br>SIGNATURE |
|--------------|---------------------------------------------------------------------------------------------------|-----------------------|
| CHECKED BY:  | Mark Liang<br> |                       |
| APPROVED BY: | Changxing. Liu                                                                                    |                       |
| DATE:        | 2021/06/29                                                                                        |                       |

### Modification History

| Version | Content Revision | Issued by  | Date       |
|---------|------------------|------------|------------|
| A       | Original version | Mark.Liang | 2021-06-29 |
|         |                  |            |            |
|         |                  |            |            |
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## *Content*

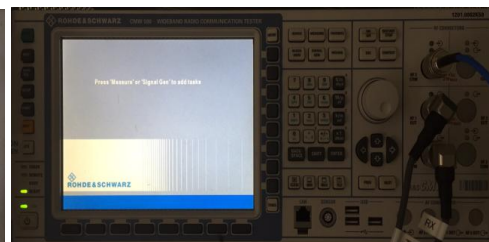
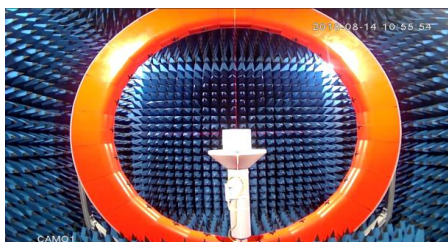
| <i>Item</i> | <i>Description</i>       |
|-------------|--------------------------|
| 1.-----     | Electrical Specification |
| 2.-----     | Test Items and Equipment |
| 3.-----     | S Parameter              |
| 4.-----     | Efficiency and Gain      |
| 5.-----     | Radiation Pattern        |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

## 1.Electrical Specification:

| Characteristics       | Specifications      | Unit     |
|-----------------------|---------------------|----------|
| Outline Dimensions    | 10.9 x 13.0xT0.6    | mm       |
| Frequency             | 2400~ 2500          | MHz      |
| Impedance             | 50                  | $\Omega$ |
| VSWR                  | 1.92Max             |          |
| Polarization          | Linear Polarization |          |
| Gain                  | 2±1                 | dBi      |
| Efficiency            | >40                 | %        |
| Connector Type        | PCB DIP             |          |
| Operating temperature | -20℃~+70℃           |          |
| Storage Temp          | -20℃~+50℃           |          |

## 2.Test Items and Equipment

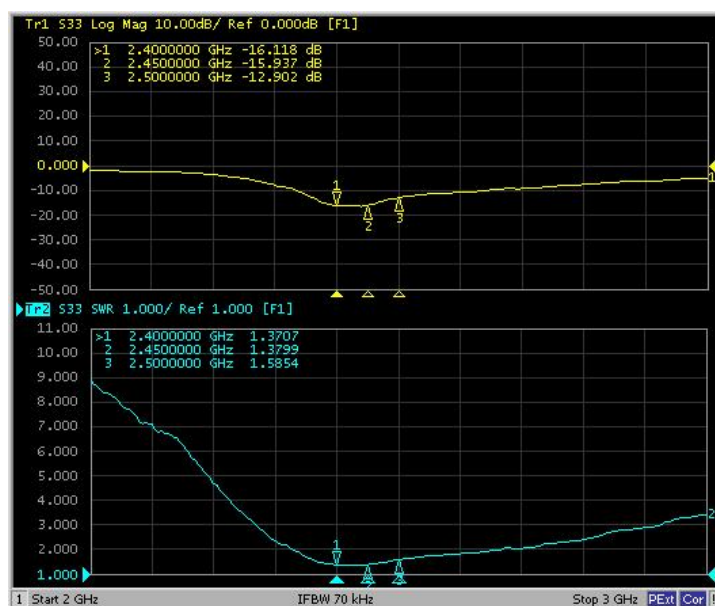
|                                            | Test items                                   | Test equipment                                                                       |
|--------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------|
| 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

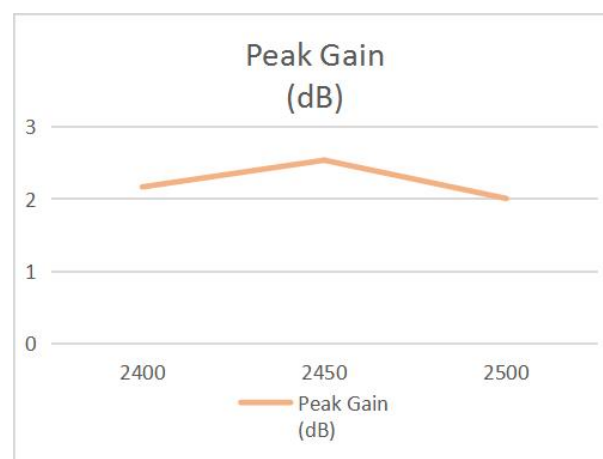
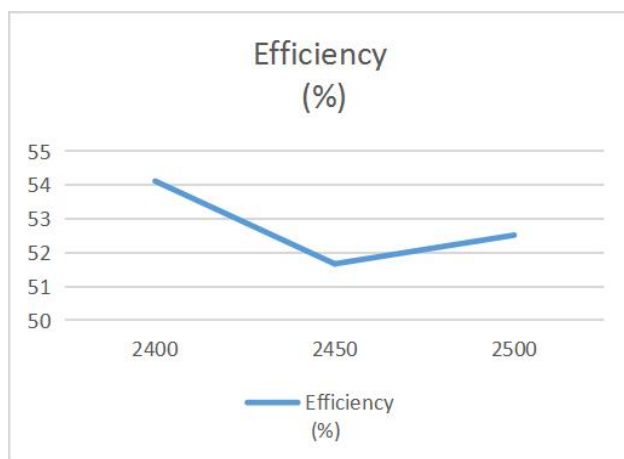
| Frequency (MHz) | R L (dB) | VSWR |
|-----------------|----------|------|
| 2400            | -16.11   | 1.37 |
| 2450            | -15.93   | 1.37 |
| 2500            | -12.90   | 1.58 |

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



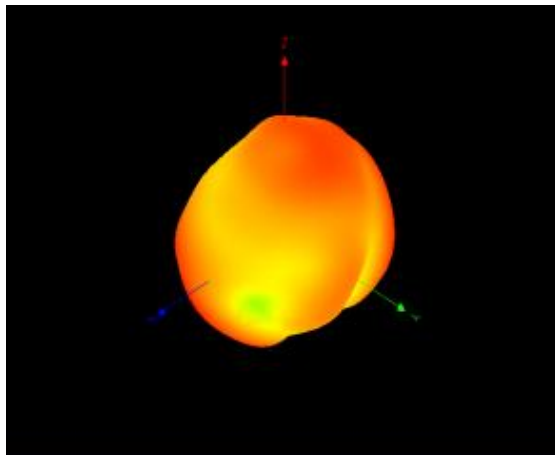
### 4. Efficiency and Gain

| Frequency (MHz) | 2400 | 2450 | 2500 |
|-----------------|------|------|------|
| Efficiency (%)  | 43.5 | 49.1 | 46.8 |
| Gain (dBi)      | 2.55 | 2.84 | 2.64 |

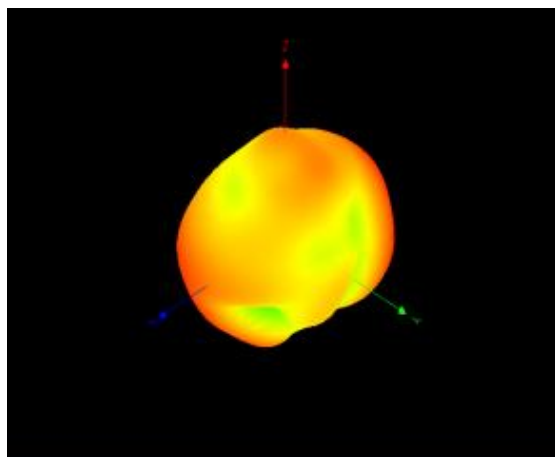


## 5. Radiation Pattern

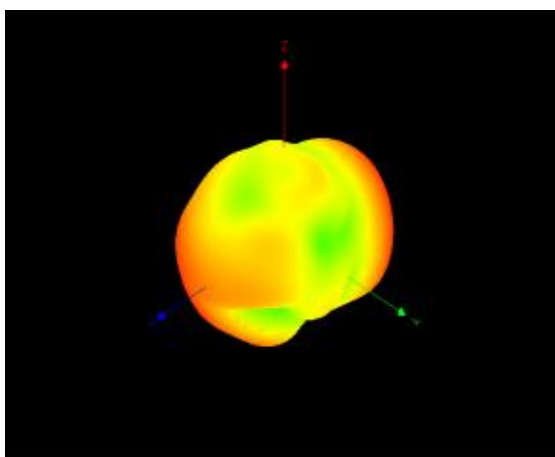
5-1 Antenna 3D Radiation Pattern



2400MHz

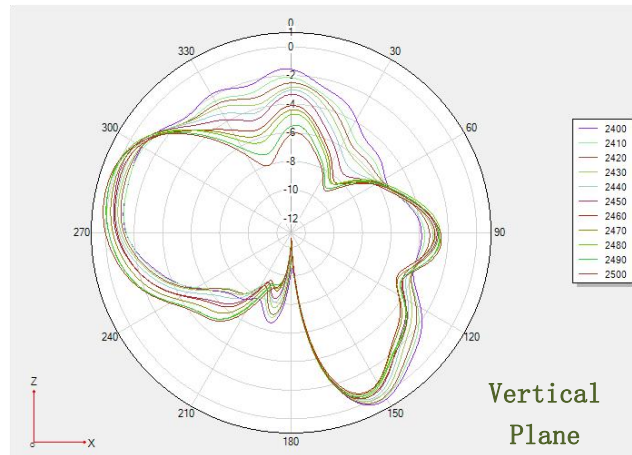


2450MHz

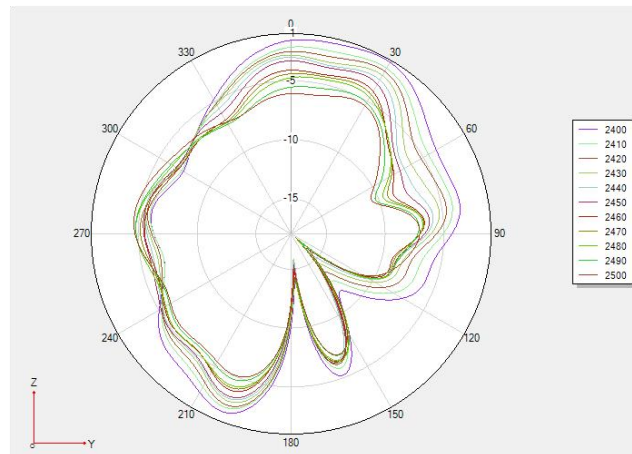


2500MHz

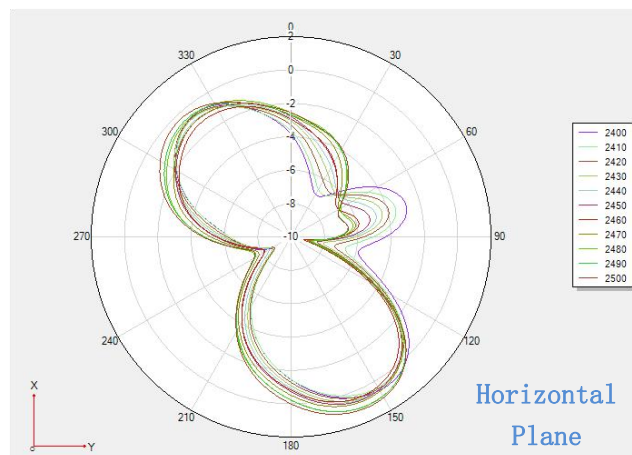
## 5-1 Antenna 3D Radiation Pattern



Phi 0 2D

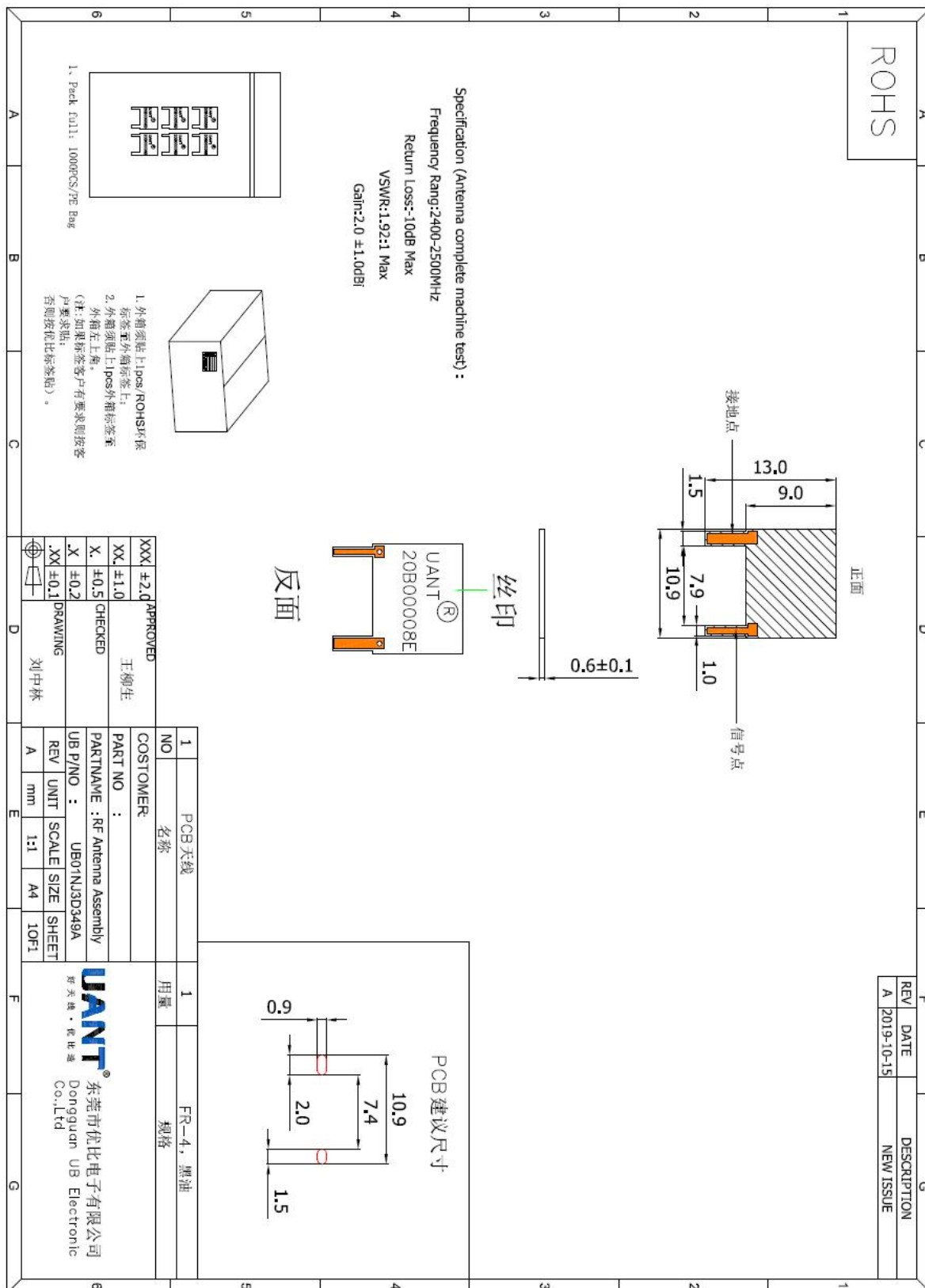


Phi 90 2D



Theta 90 2D

## 6. Mechanical Specification:



| REV | DATE       | DESCRIPTION |
|-----|------------|-------------|
| A   | 2019-10-15 | NEW ISSUE   |

| 1  | 名称     | 数量 | 规格       |
|----|--------|----|----------|
| NO | PCB 天线 | 1  | FR-4, 黑油 |

|          |          |     |
|----------|----------|-----|
| XXX ±2.0 | APPROVED | 王柳生 |
| XX ±1.0  | CHECKED  | 刘中林 |
| X ±0.5   | DRAWING  |     |
| .X ±0.2  |          |     |
| .XX ±0.1 |          |     |

| REV | UNIT | SCALE | SIZE | SHEET |
|-----|------|-------|------|-------|
| A   | mm   | 1:1   | A4   | 10F1  |

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