



好天线 · 优比造

东莞市优比电子有限公司

Dongguan UB Electronics Co., Ltd

ctronics Co., Ltd

## Antenna Study

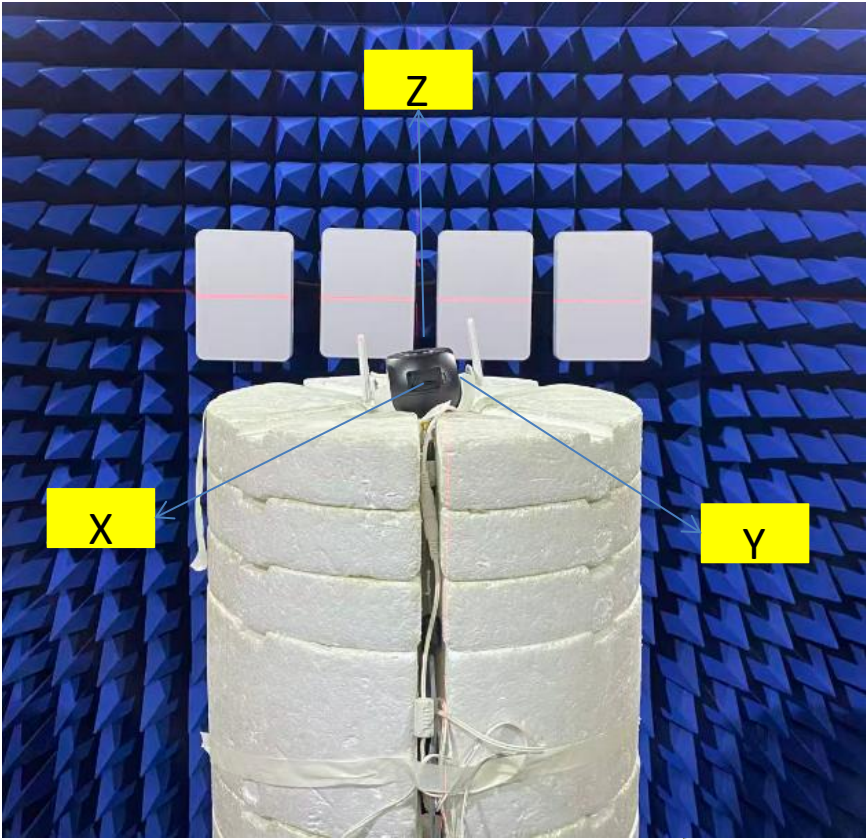
- **Client Name: 奥尼(aoni)**
- **Project Name: ED03501**
- **Debugging frequency band: 2.4G+5.8G**
- **Valuation date: 2025.09.23**

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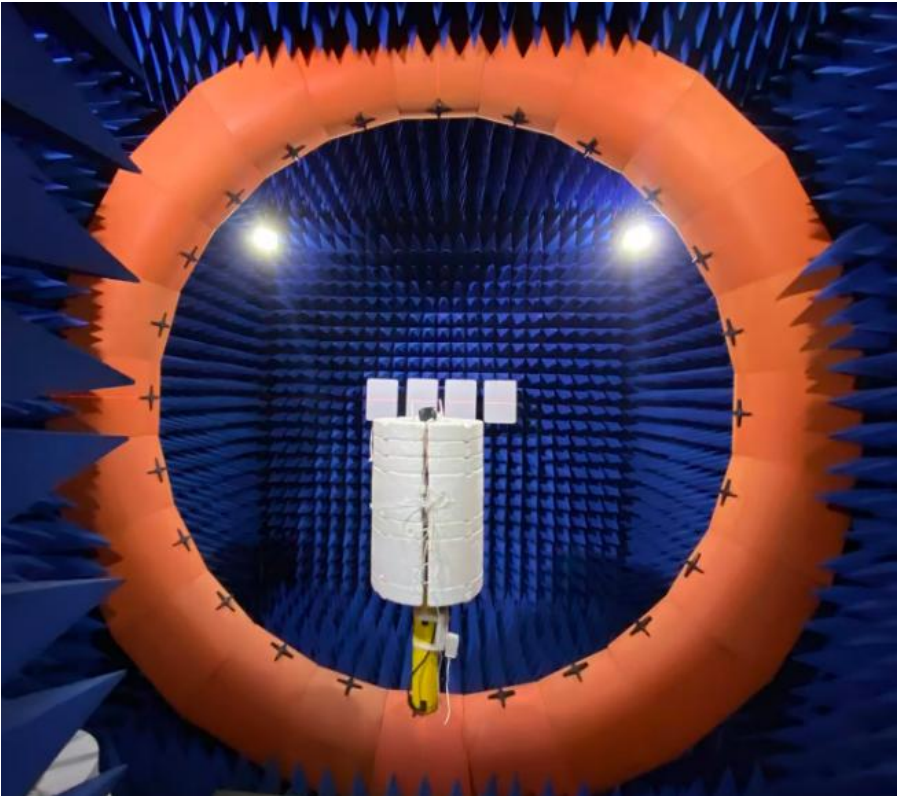
Room 101, Building 2, No.9, Xinfu Road, Lin Village, Tangxia Town

# Internal Antenna

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Testing environment



Testing 3D microwave darkroom(3m\*3m\*3m)

# External Antenna

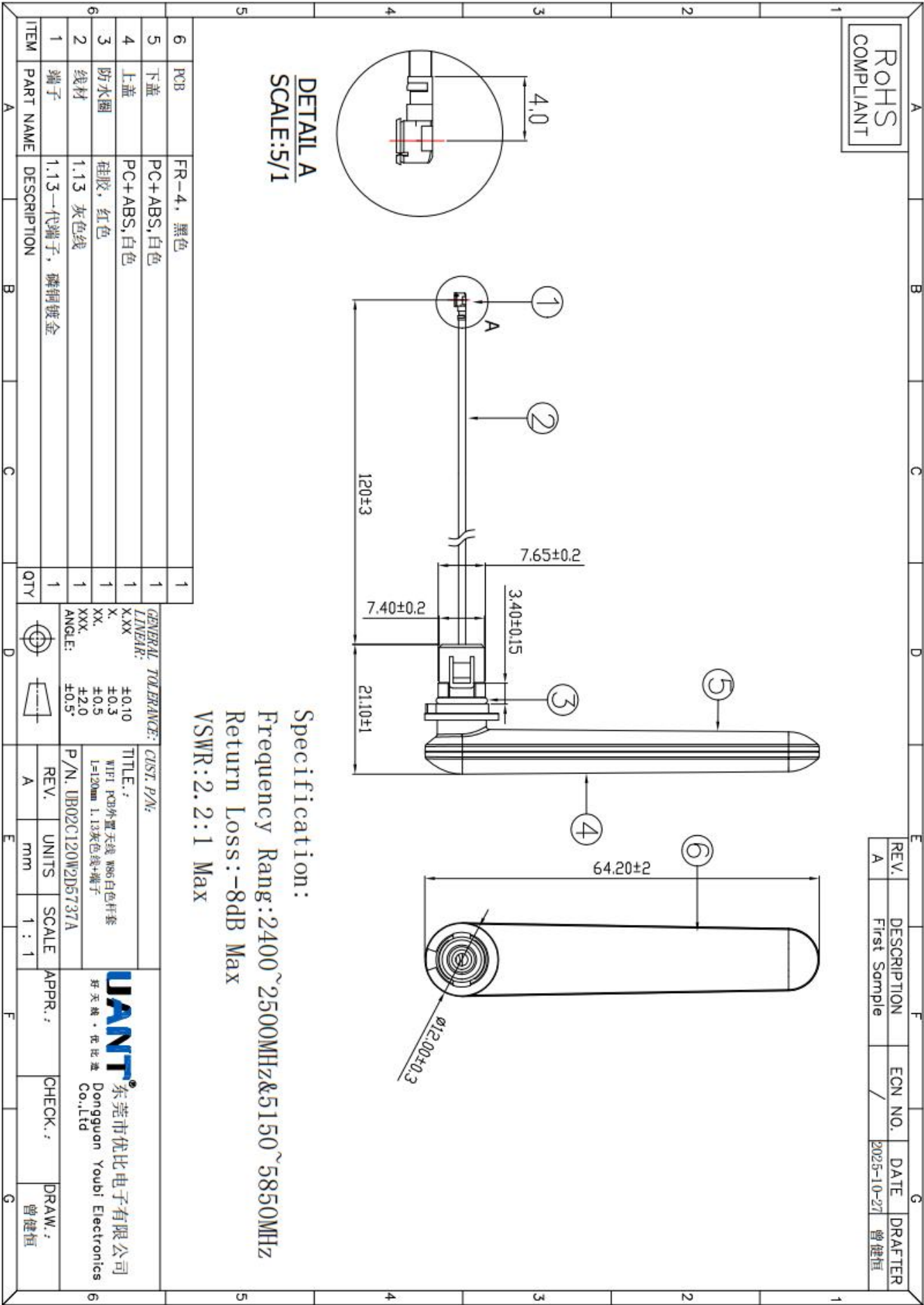
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- Antenna name:2.4G+5.8G
- Antenna Type: PIFA
- P/N: UB02C120W2D5737A
- Coaxial cable:120mm

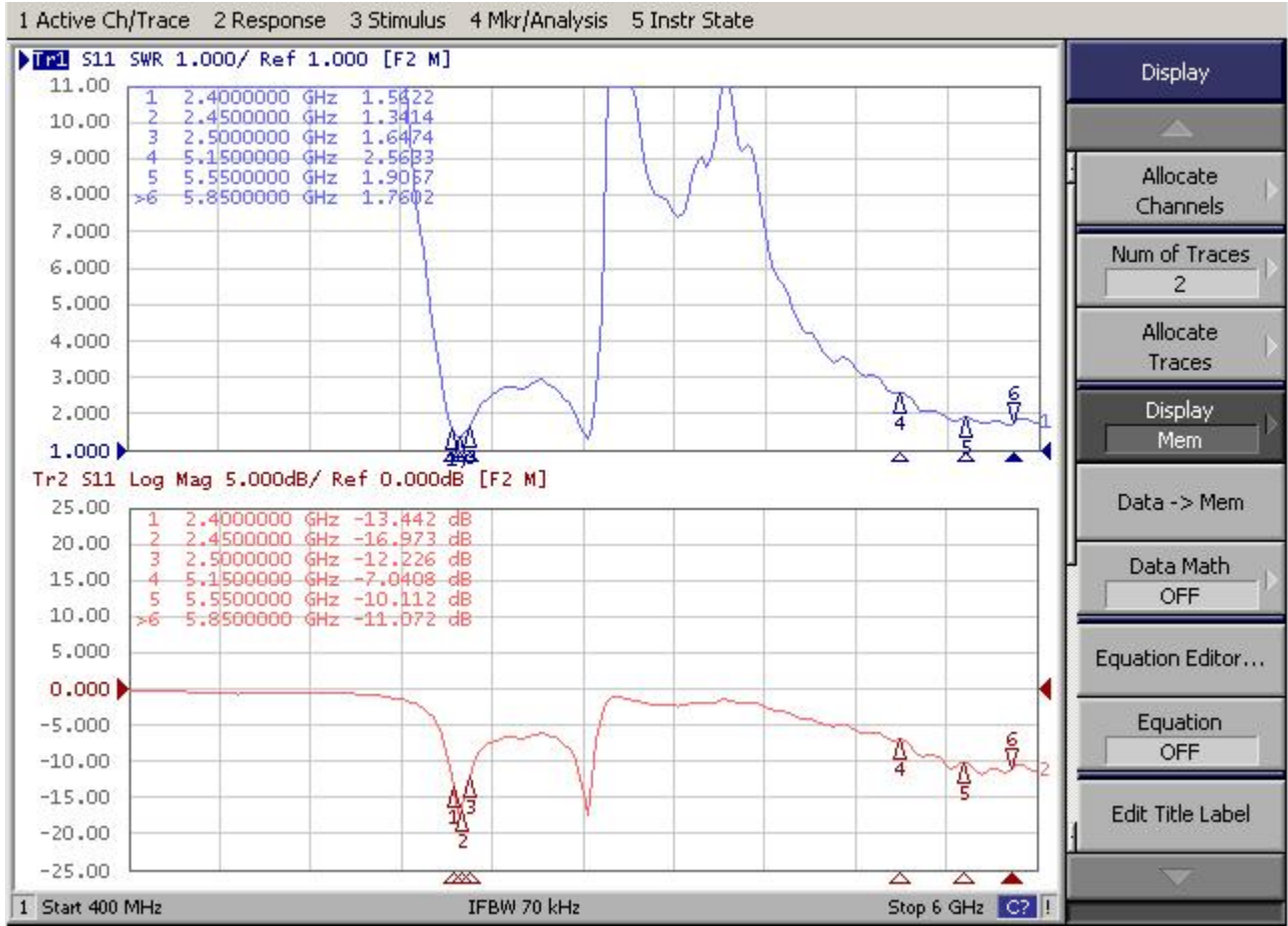


天线装配位置  
Antenna mounting position

三、结构尺寸图（CAD 图档）



# S Parameter\_Return Loss&VSWR



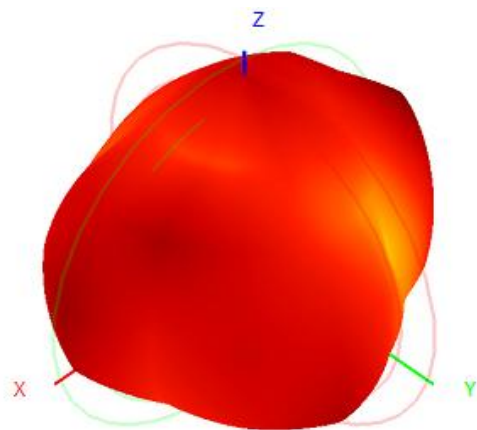
# Efficiency and Gain

|                 |        |        |        |        |        |        |        |        |        |        |        |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Frequency ID    | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     |
| Frequency (MHz) | 2400.0 | 2410.0 | 2420.0 | 2430.0 | 2440.0 | 2450.0 | 2460.0 | 2470.0 | 2480.0 | 2490.0 | 2500.0 |
| Gain (dBi)      | 2.89   | 2.87   | 2.68   | 2.70   | 2.61   | 2.55   | 2.39   | 2.28   | 2.17   | 2.09   | 2.11   |
| Efficiency (%)  | 53.28  | 52.98  | 52.55  | 52.59  | 52.42  | 52.19  | 51.91  | 51.85  | 51.45  | 50.91  | 50.58  |

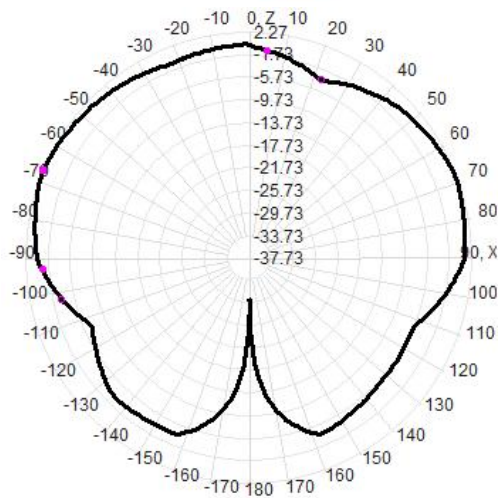
|        |        |        |        |        |        |        |        |        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 12     | 13     | 14     | 15     | 16     | 17     | 18     | 19     | 20     | 21     | 22     | 23     | 24     | 25     | 26     |
| 5150.0 | 5200.0 | 5250.0 | 5300.0 | 5350.0 | 5400.0 | 5450.0 | 5500.0 | 5550.0 | 5600.0 | 5650.0 | 5700.0 | 5750.0 | 5800.0 | 5850.0 |
| 2.87   | 2.73   | 2.88   | 2.56   | 3.21   | 2.80   | 2.73   | 2.99   | 2.90   | 2.56   | 2.26   | 1.90   | 2.15   | 2.24   | 1.73   |
| 53.92  | 51.51  | 50.06  | 51.95  | 56.53  | 52.76  | 53.81  | 55.98  | 54.35  | 55.06  | 55.50  | 50.76  | 49.99  | 55.16  | 51.69  |

# 2D/3D方向图-2450MHz

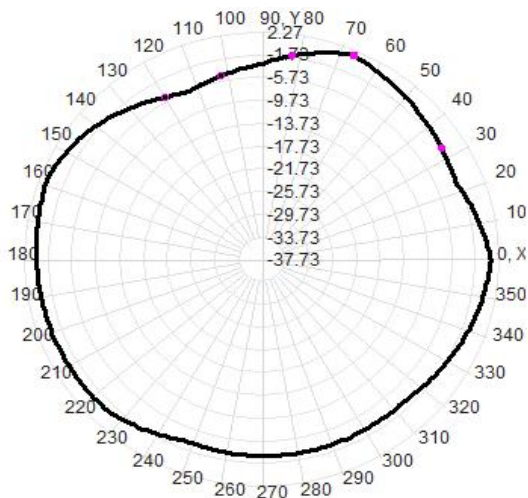
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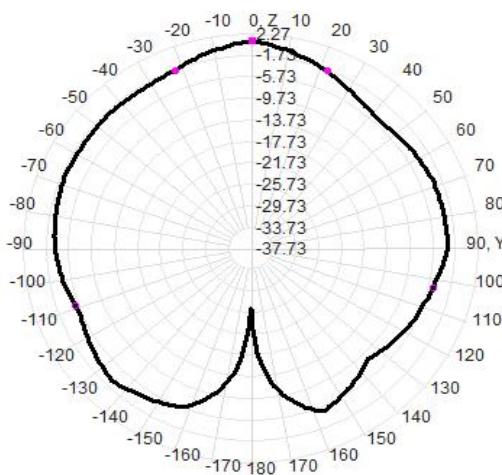
远场方向图  
directional diagram



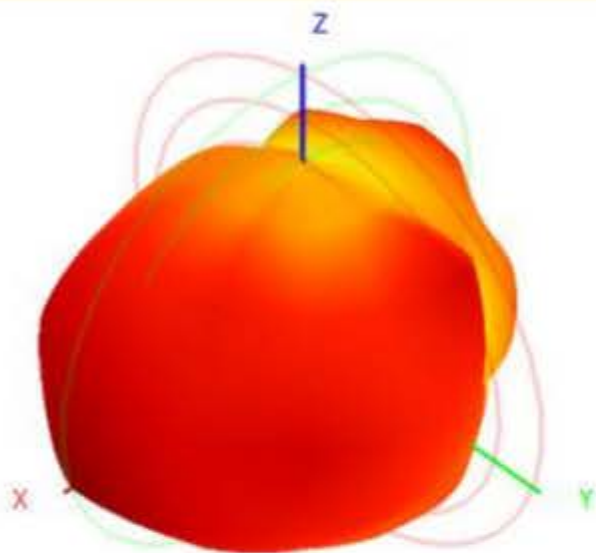
E1-XZ



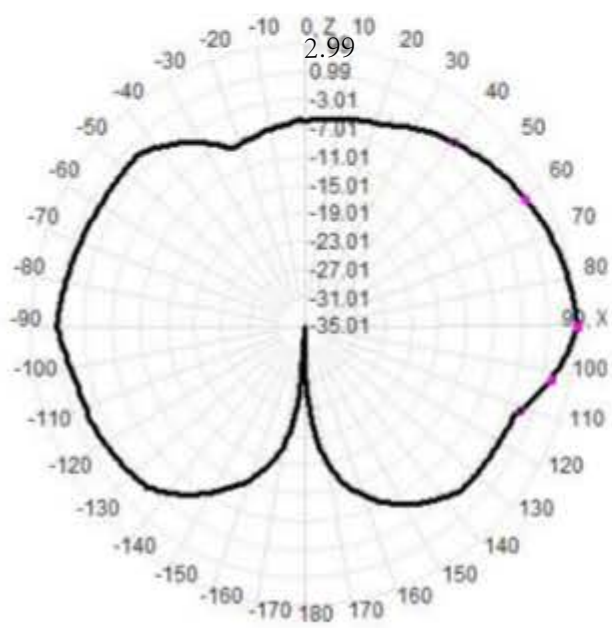
H-XY



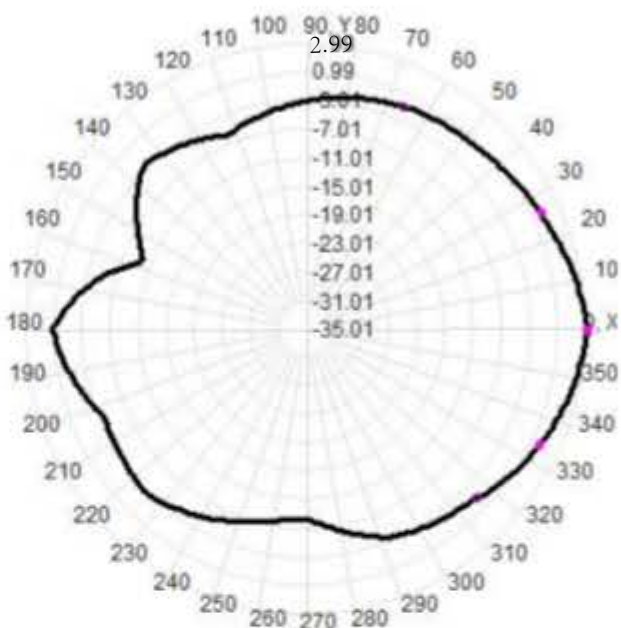
E2-YZ



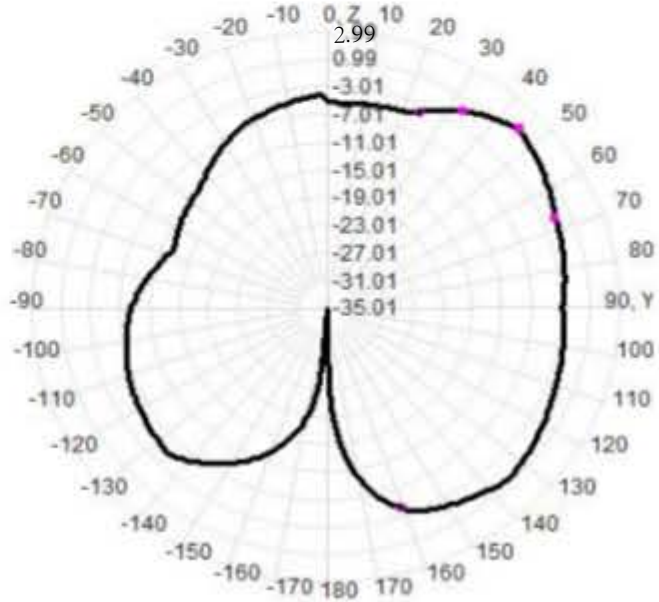
远场方向图  
far-field  
pattern



E1-XZ



H-XY



E2-YZ

# Main Antenna( 3D Free Space)

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|             | 信道<br>(channel) | TRP   | TIS    |
|-------------|-----------------|-------|--------|
| 11/B<br>11M | 1               | 18.93 | -84.78 |
|             | 6               | 18.70 | -85.84 |
|             | 11              | 17.20 | -85.75 |
| 11/A<br>54M | 36              | 19.57 | -73.55 |
|             | 149             | 18.41 | -72.02 |
|             | 165             | 17.06 | -72.55 |

# Conclusion

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- Antenna covers 2.4G+5.8G
- Test shows excellent performance, VSWR match < 2.0in working band.

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