

# Specification for Approval

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|                              |               |                        |             |
|------------------------------|---------------|------------------------|-------------|
| <b>Customer P/N:</b>         | 62-00108-00HL | <b>HL P/N:</b>         | 6N9A190     |
| <b>Customer Device Name:</b> | PCB Antenna   | <b>HL Device Name:</b> | Q-5159-09CO |
| <b>Version:</b>              | A             | <b>Approval Date:</b>  | 2022-10-14  |

| Internal Approval |             |              |
|-------------------|-------------|--------------|
| Approved By:      | Checked By: | Prepared By: |
| Wei Zhang         | Wei Zhang   | Yuanyuan Wu  |
| Customer Approval |             |              |
|                   |             |              |

➤ **Electrical Specifications:**

| NO. | Item                  | Specifications |
|-----|-----------------------|----------------|
| 1   | Model No.             | Q-5159-09CO    |
| 2   | Antenna Type          | PCB Antenna    |
| 3   | Frequency range (MHz) | 5150-5850MHz   |
| 4   | VSWR(整机测试)            | < 2.0          |
| 5   | Peak Gain             | 10dBi          |

Outline

1.Benchmark

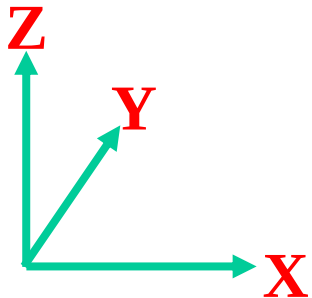
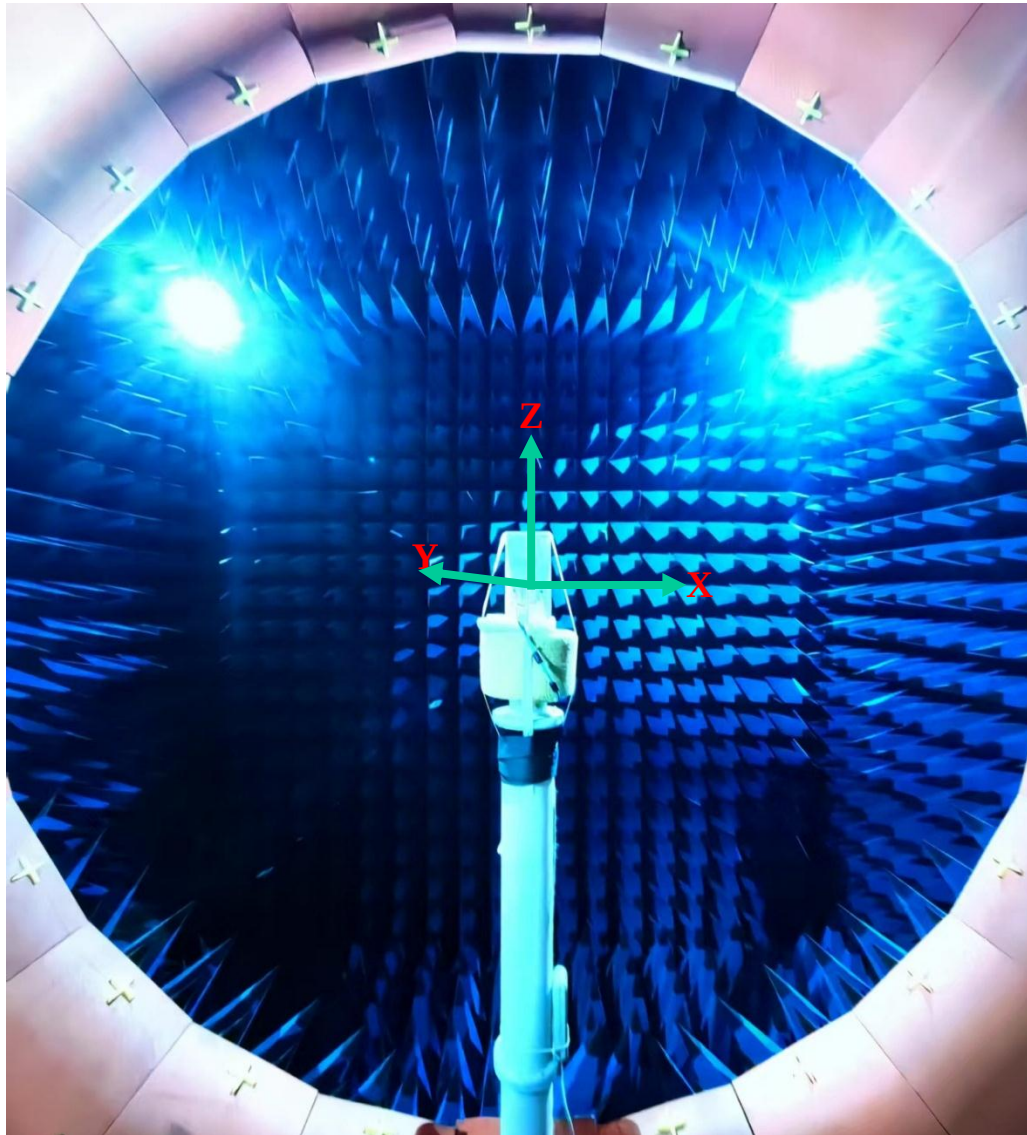
2.S-Parameters(VSWR&isolation)

3.Antenna Efficiency& Peak Gain

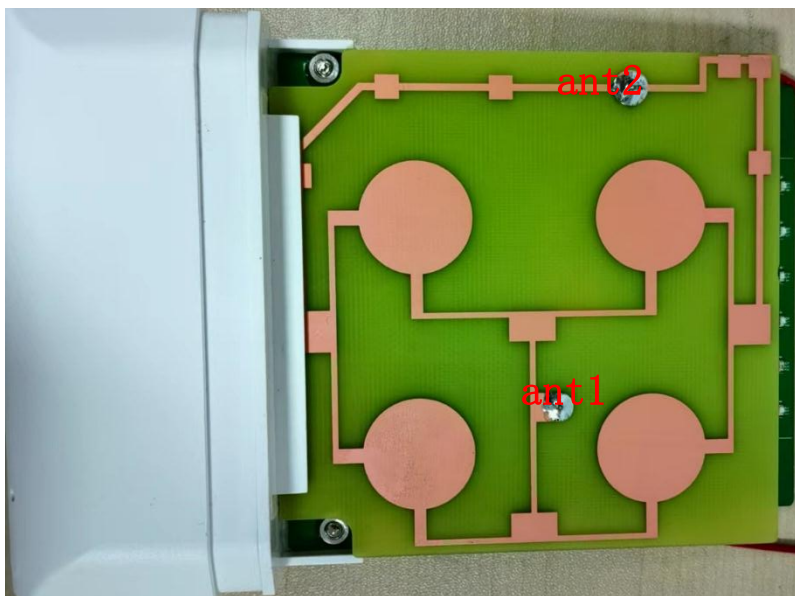
4.Radiation patterns

5.Summary

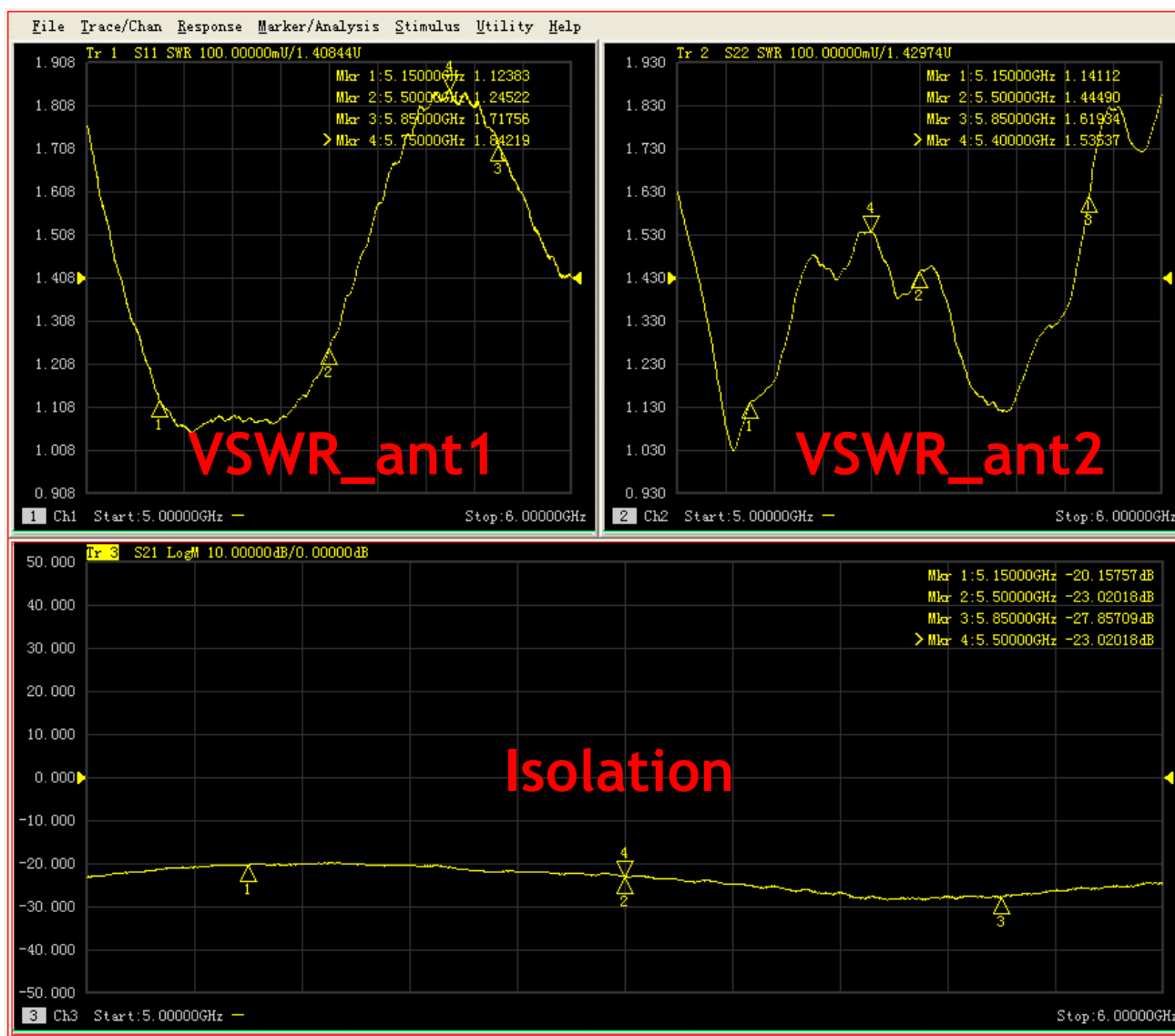
## 1. Benchmark



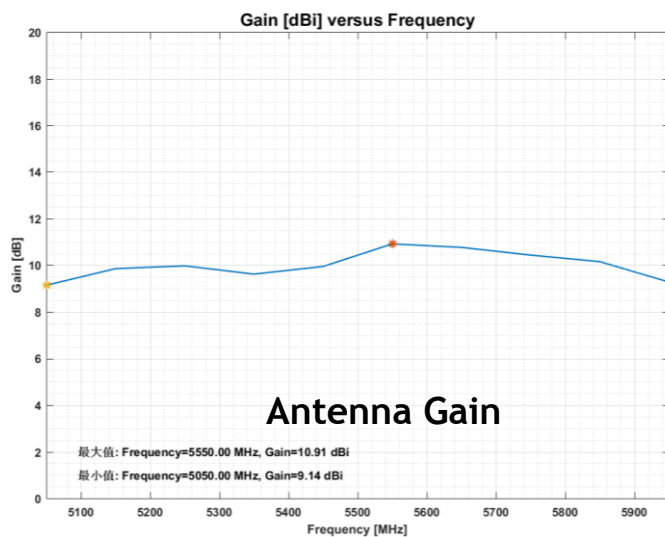
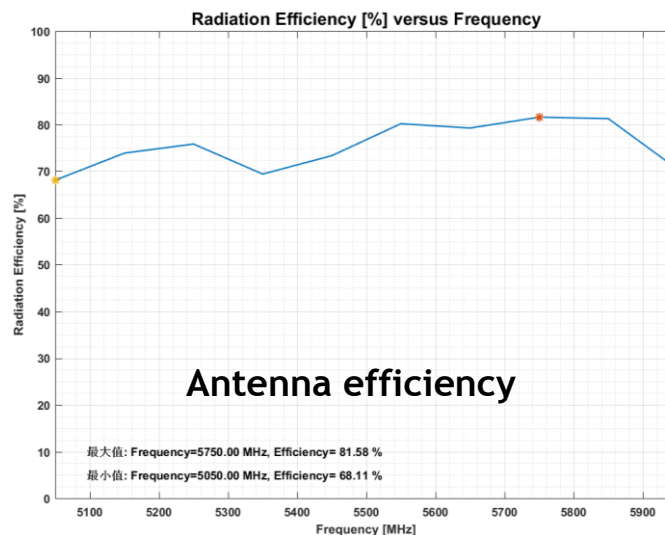
## 1. Benchmark



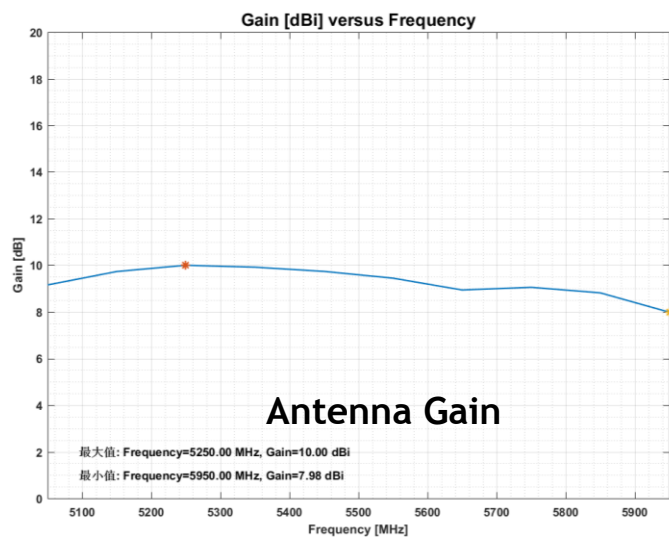
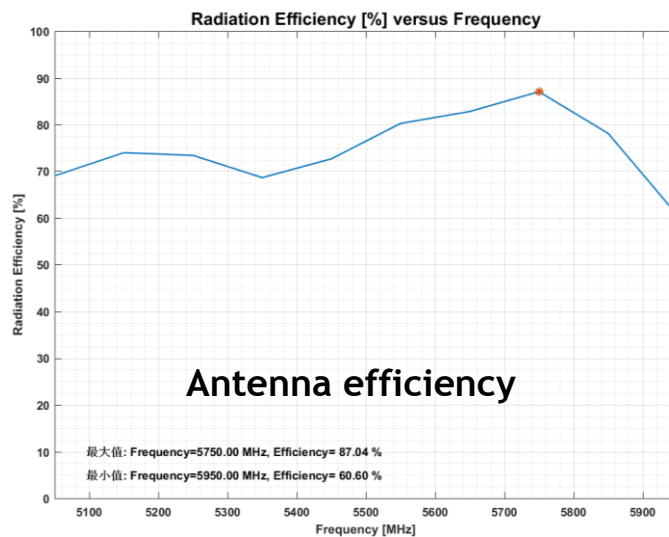
## 2. S-Parameters (VSWR)



### 3. Antenna Efficiency&Peak Gain (ant 1)

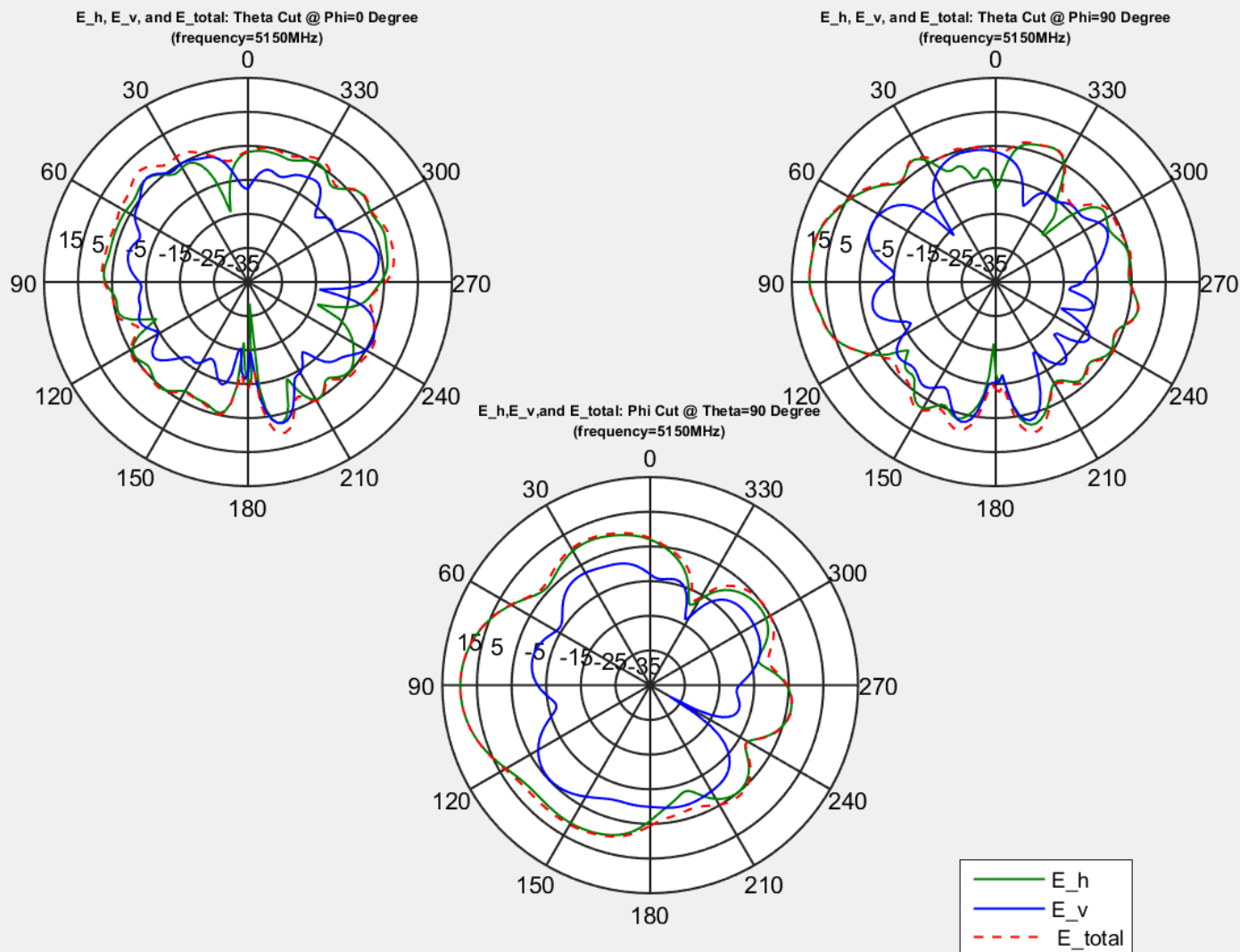


### 3. Antenna Efficiency&Peak Gain (ant 2)



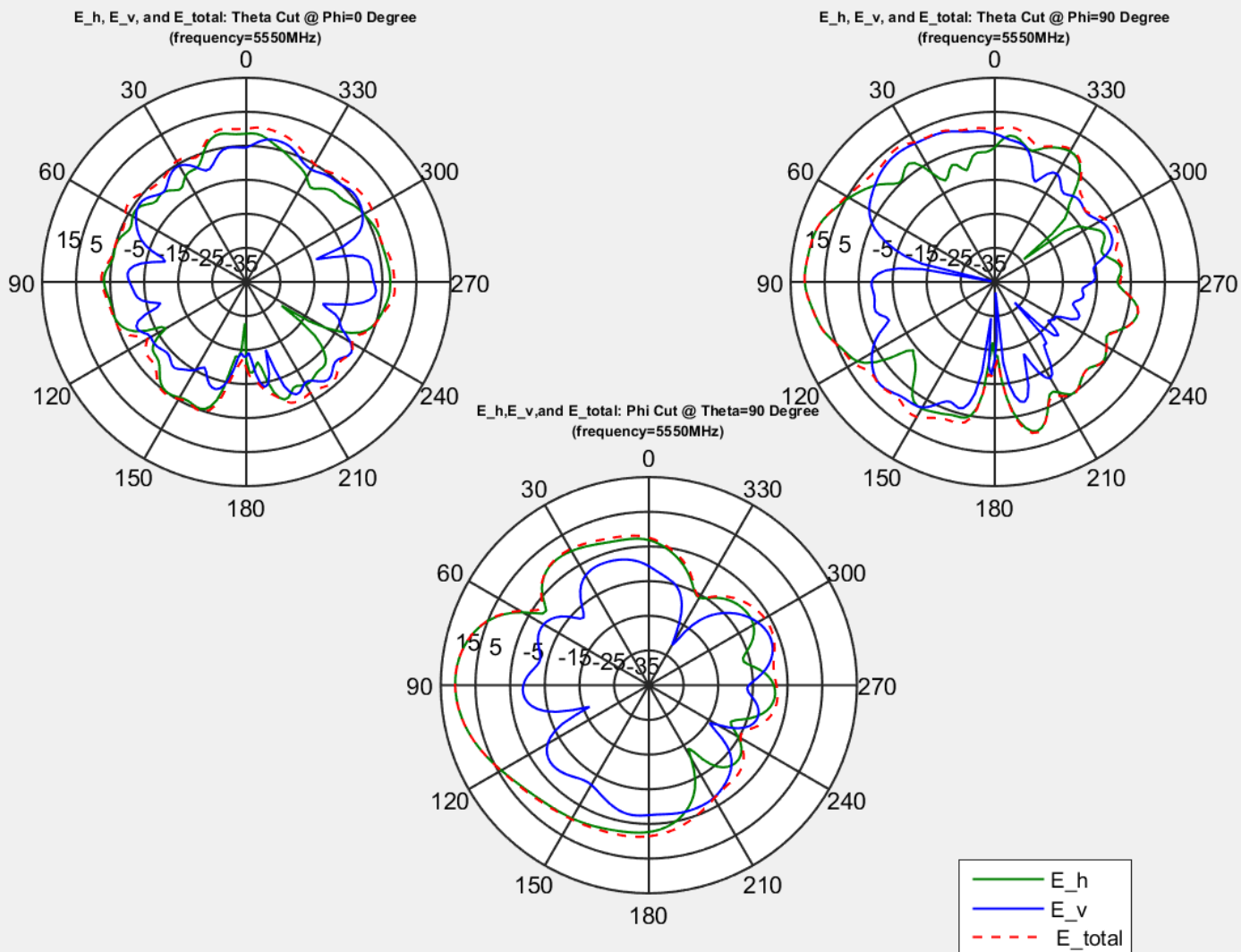


## 4. Radiation patterns (ant1@5150MHz)

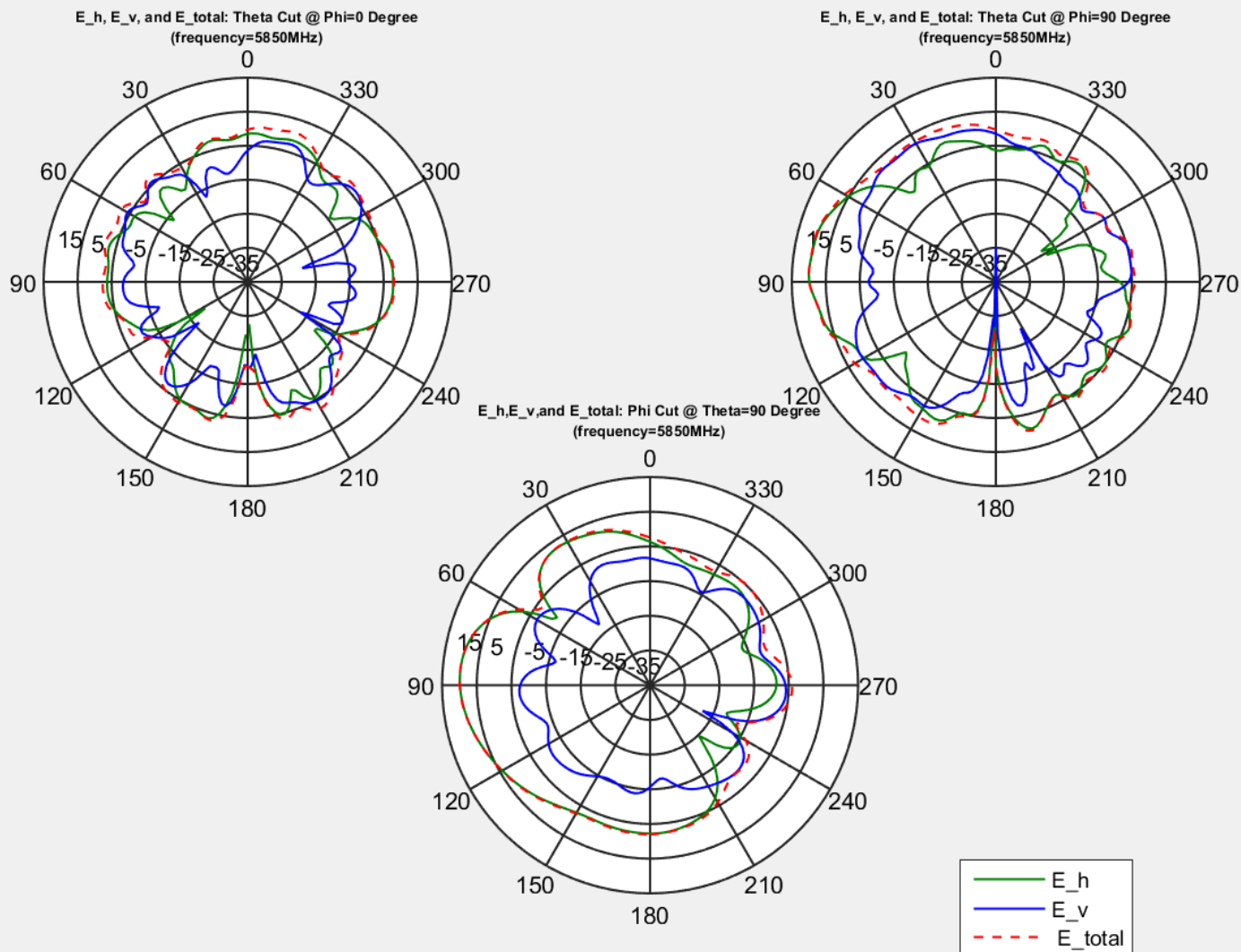




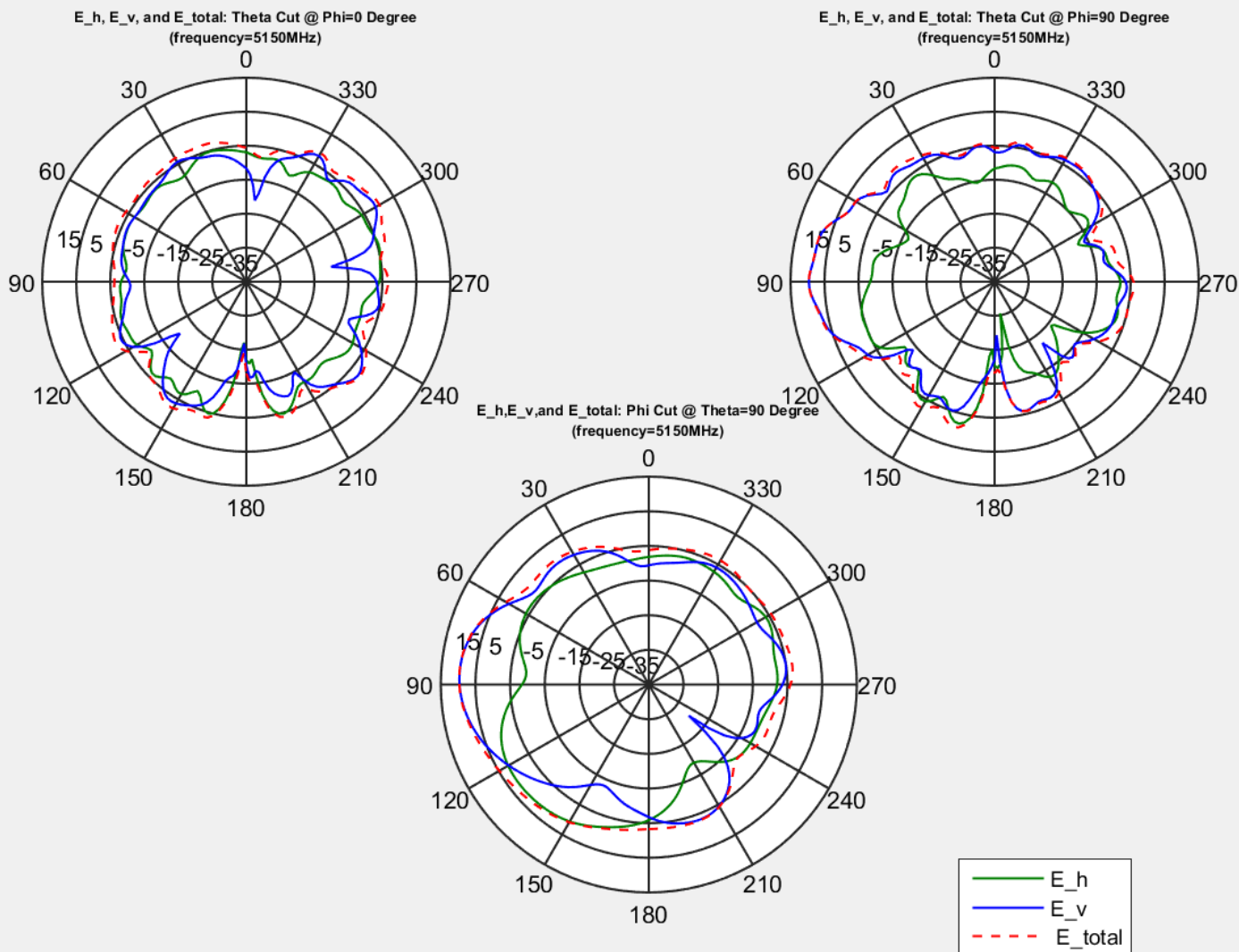
## 4. Radiation patterns (ant1@5550MHz)



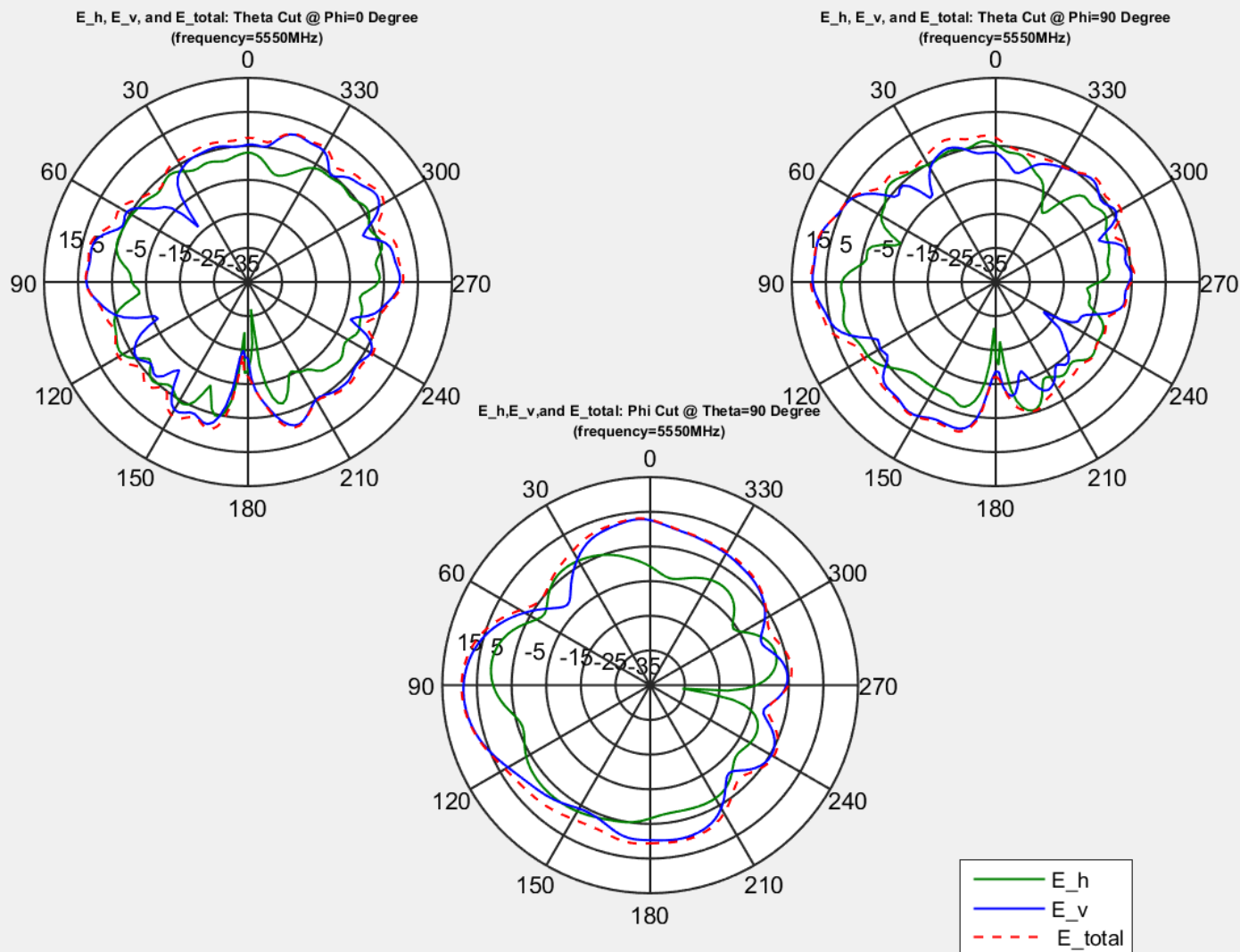
## 4. Radiation patterns (ant1@5850MHz)



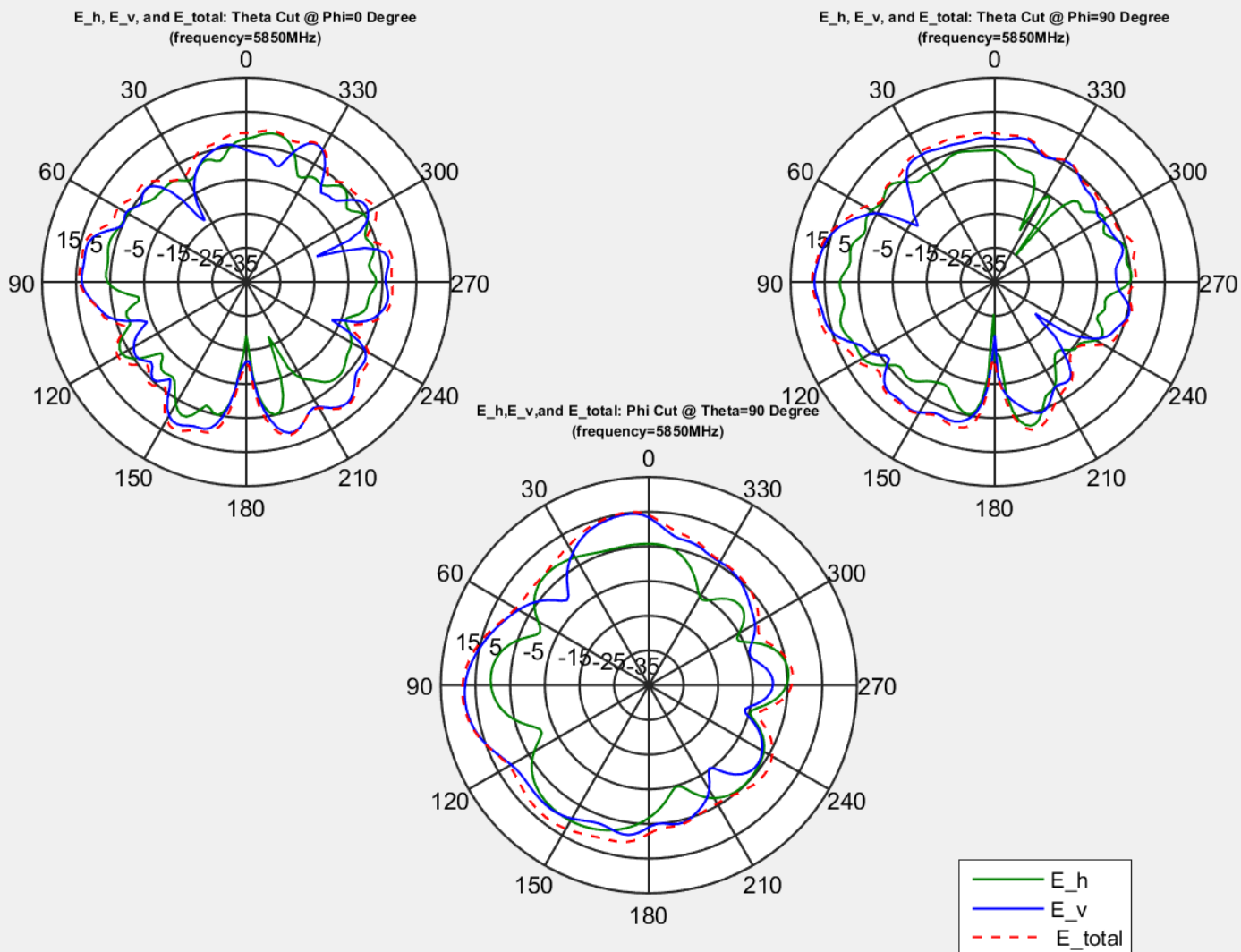
## 4. Radiation patterns (ant2@5150MHz)



## 4. Radiation patterns (ant2@5550MHz)



## 4. Radiation patterns (ant2@5850MHz)



## 5. Summary

1.测量数据如下:

S parameter

|           | 5150  | 5500  | 5850  |
|-----------|-------|-------|-------|
| VSWR_ant1 | 1.12  | 1.25  | 1.72  |
| VSWR_ant2 | 1.14  | 1.44  | 1.62  |
| S21       | -20.2 | -23.0 | -23.0 |

# 5. Summary

2.测量数据如下:

Antenna PeakGain&Efficiency

| Item | Frequency(MHz) | 5150  | 5250  | 5350  | 5450  | 5550  | 5650  | 5750  | 5850  |
|------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| ant1 | PeakGain(dBi)  | 9.85  | 9.97  | 9.62  | 9.95  | 10.91 | 10.77 | 10.43 | 10.15 |
|      | Efficiency(%)  | 73.89 | 75.83 | 69.40 | 73.34 | 80.19 | 79.26 | 81.58 | 81.28 |
| ant2 | PeakGain(dBi)  | 9.73  | 10.00 | 9.92  | 9.74  | 9.44  | 8.94  | 9.05  | 8.81  |
|      | Efficiency(%)  | 73.98 | 73.41 | 68.64 | 72.66 | 80.24 | 82.80 | 87.04 | 78.11 |



## 5. Summary

2.测量数据如下:

HPBW

| Item | Frequency(MHz) | 5150  | 5250  | 5350  | 5450  | 5550  | 5650  | 5750  | 5850  |
|------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|
| ant1 | Phi90          | 38.09 | 38.35 | 38.47 | 37.92 | 36.53 | 36.92 | 41.38 | 41.03 |
|      | theta90        | 37.13 | 36.89 | 36.99 | 37.16 | 34.25 | 34.33 | 35.73 | 37.18 |
| ant2 | Phi90          | 32.75 | 30.93 | 31.35 | 32.87 | 35.22 | 35.70 | 36.53 | 35.71 |
|      | theta90        | 39.49 | 36.11 | 34.21 | 34.32 | 34.67 | 32.92 | 31.43 | 30.71 |

