

# Suzhou Point Positive Electronic Technology Co.,ltd

## SPECIFICATION FOR APPROVAL

|              |                                  |      |    |
|--------------|----------------------------------|------|----|
| Customer     | Hansong (NanJing) Technology Ltd |      |    |
| Customer P/N |                                  | Rev. | A1 |
| Description  | ANTENNA                          |      |    |
| DRAWING P/N  | RC1WFI0886A2                     |      |    |

|                                  |          |         |     |       |
|----------------------------------|----------|---------|-----|-------|
| CUSTOMER<br>APPROVED BY<br>STAMP | Approval | Quality | RD  | Sales |
|                                  | Roy      | Hellen  | Tak | Frank |

ADD : No 3 XinLang Road ,Yinghu industrial Park, Wangting Town  
Xiangcheng district Suzhou City

TEL : 0512-66706846

FAX : 0512-65088773

MAIL;Sales@ppteco.com



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|                          |       |  |
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| 2、 Electrical Properties | ----- |  |
|--------------------------|-------|--|

Return Loss /VSWR

Radiation Pattern

|                 |       |  |
|-----------------|-------|--|
| 3 ,Packing date | ----- |  |
|-----------------|-------|--|

|                        |  |  |
|------------------------|--|--|
| 4. Material Data Sheet |  |  |
|------------------------|--|--|

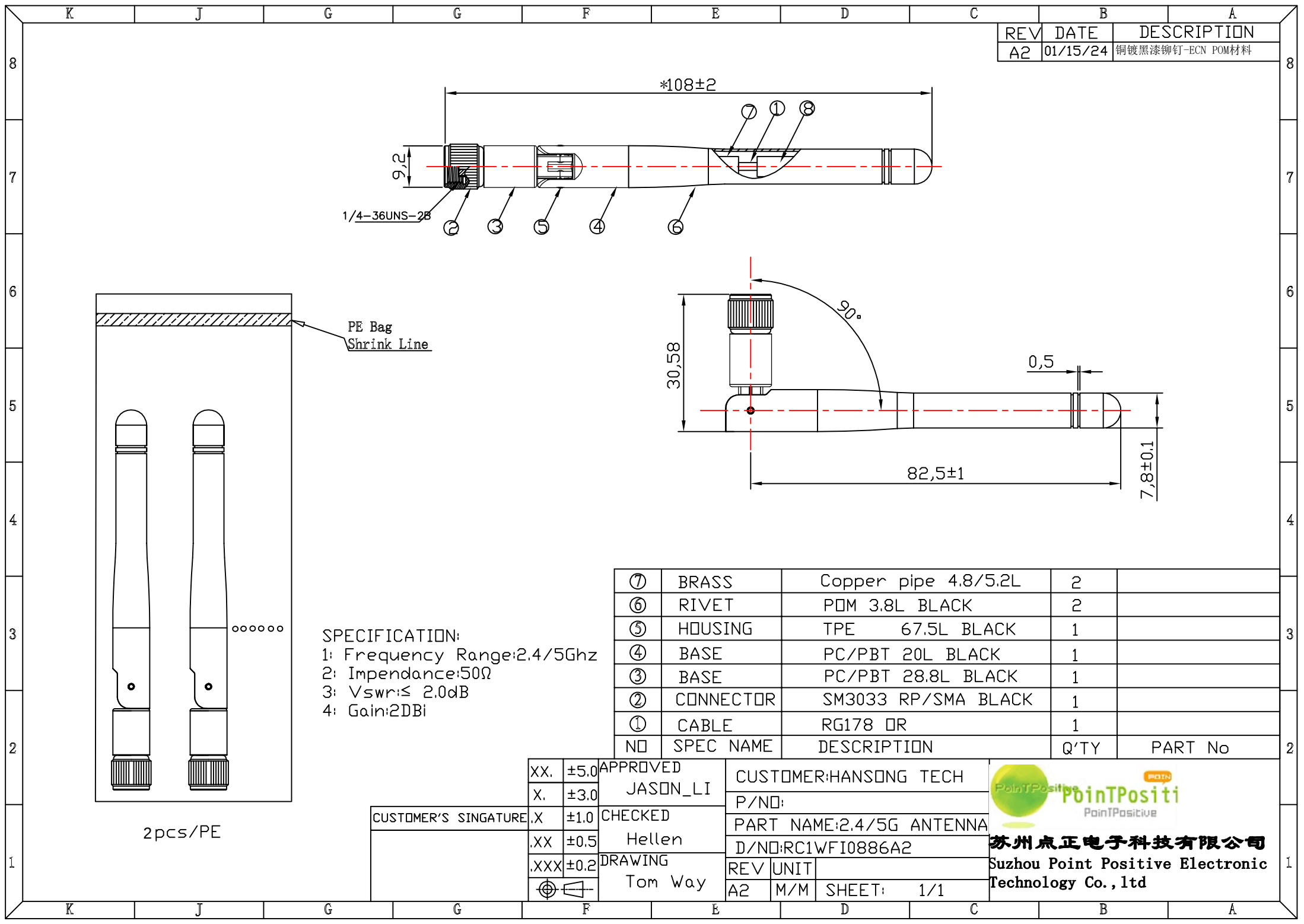
MHF Connector -----

Coaxial Cable -----

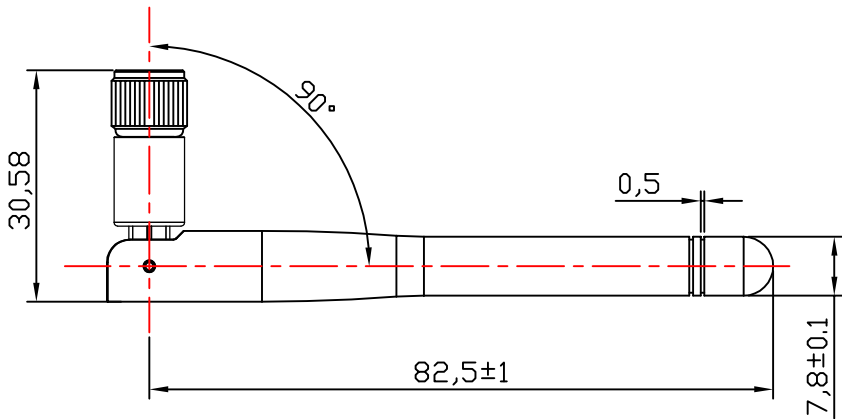
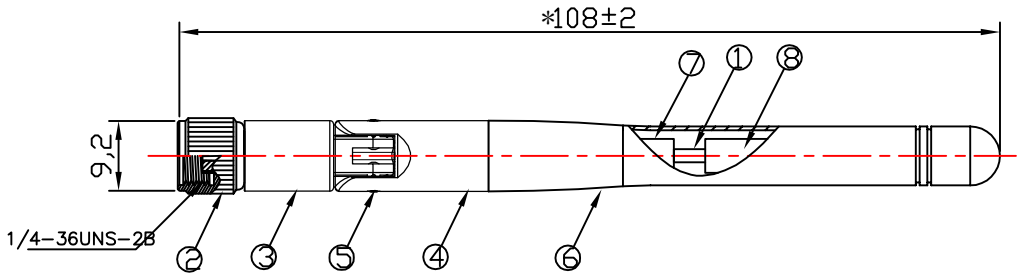
|                           |       |  |
|---------------------------|-------|--|
| 5. Material SGS.Rohs.MSDS | ----- |  |
|---------------------------|-------|--|

# SPECIFICATION

|                               |                                  |
|-------------------------------|----------------------------------|
| 1. Description                | ANTENNA                          |
| 2. Customer                   | Hansong (NanJing) Technology Ltd |
| 3. Model No                   | RC1WFI0886A2                     |
| 4. Part No                    |                                  |
| 5. Standard                   |                                  |
| 6. Antenna Profile            | See Drawing                      |
| 7. Color                      | BK                               |
| 8. Electrical Characteristics |                                  |
| Operating Frequency           | 2.4~5.8Ghz                       |
| Antenna Type                  | External Rod Antenna             |
| Polarization Type             | vertical or horizontal           |
| Peak Gain                     | 2.4G~1.3 DBi/5G~ 3.5DBi Typica   |
| Impedance                     | 50Ω                              |
| V.S.W.R                       | 2:1 Max.                         |
| 9. Mechanical Characteristics |                                  |
| Swivel                        |                                  |
| Lead Length                   | L:108MM                          |
| Connector                     | RP-SMA                           |
| 10. Raw Material              |                                  |
| Coaxial Cable                 | RG178                            |
| Housing/Hinge                 | TPEE                             |



| REV | DATE     | DESCRIPTION      |
|-----|----------|------------------|
| A2  | 01/15/24 | 铜镀黑漆铆钉-ECN POM材料 |



SPECIFICATION:  
1: Frequency Range:2.4/5Ghz  
2: Impedance:50Ω  
3: Vswr:≤ 2.0dB  
4: Gain:2DBi

|    |           |                      |      |         |
|----|-----------|----------------------|------|---------|
| ⑦  | BRASS     | Copper pipe 4.8/5.2L | 2    |         |
| ⑥  | RIVET     | POM 3.8L BLACK       | 2    |         |
| ⑤  | HOUSING   | TPE 67.5L BLACK      | 1    |         |
| ④  | BASE      | PC/PBT 20L BLACK     | 1    |         |
| ③  | BASE      | PC/PBT 28.8L BLACK   | 1    |         |
| ②  | CONNECTOR | SM3033 RP/SMA BLACK  | 1    |         |
| ①  | CABLE     | RG178 OR             | 1    |         |
| NO | SPEC NAME | DESCRIPTION          | Q'TY | PART No |

|      |      |          |
|------|------|----------|
| XX.  | ±5.0 | APPROVED |
| X.   | ±3.0 | JASON_LI |
| .X   | ±1.0 | CHECKED  |
| .XX  | ±0.5 | Hellen   |
| .XXX | ±0.2 | DRAWING  |
| ⊕    |      | Tom Way  |

|                      |  |
|----------------------|--|
| CUSTOMER'S SINGATURE |  |
|----------------------|--|

|                          |      |            |
|--------------------------|------|------------|
| CUSTOMER:HANSONG TECH    |      |            |
| P/NO:                    |      |            |
| PART NAME:2.4/5G ANTENNA |      |            |
| D/NO:RC1WFI0886A2        |      |            |
| REV                      | UNIT |            |
| A2                       | M/M  | SHEET: 1/1 |



**苏州点正电子科技有限公司**  
Suzhou Point Positive Electronic  
Technology Co., Ltd

2pcs/PE

# Antenna Measurement Report

- Model: Dipole Antenna
- Manufacture : Suzhou point positive electronic technology co.,ltd
- Series Number : QTKOTAPR00321
- Antenna Type:
  - WLAN 802.11 a/b/g: Antenna1 & Antenna 2
  - Bluetooth: Antenna3
- Data : 2023/05/15



# OUTLINE SUMMARY

- Test Environment and Equipment
- Test Data of Antenna:

Test Result : Efficiency & Peak Gain

Test Result : 3D Radiation Pattern Test

Taet Laboratory:

Name:**suzhou Laboratory**

Address:No.99 Hongye RD.Suzhou Industrial Park Loufeng Hi-New-Tech  
Development Area,Suzhou,China

The test results relate only to the samples tested.



## TEST ENVIRONMENT AND EQUIPMENTS

### **The Gain, Efficiency, Directivity and 3D Pattern**

Shanghai EM-Testing Co., Ltd.  
<https://www.em-testing.com/>

### **Frequency Range :**

WLAN 802.11 a/b/g: 2.40~2.50 & 5.125~5.85 GHz

### **Radiation Pattern Test System :**

The Radiation Pattern Test System(EMT24)

The antenna under tested is arranged in the turned table and a decoupling sleeve is used to reduce feed line radiation (see figure. 1 &2). when viewed from the door of the chamber.



The axis arrangement is shown in Fig. 3

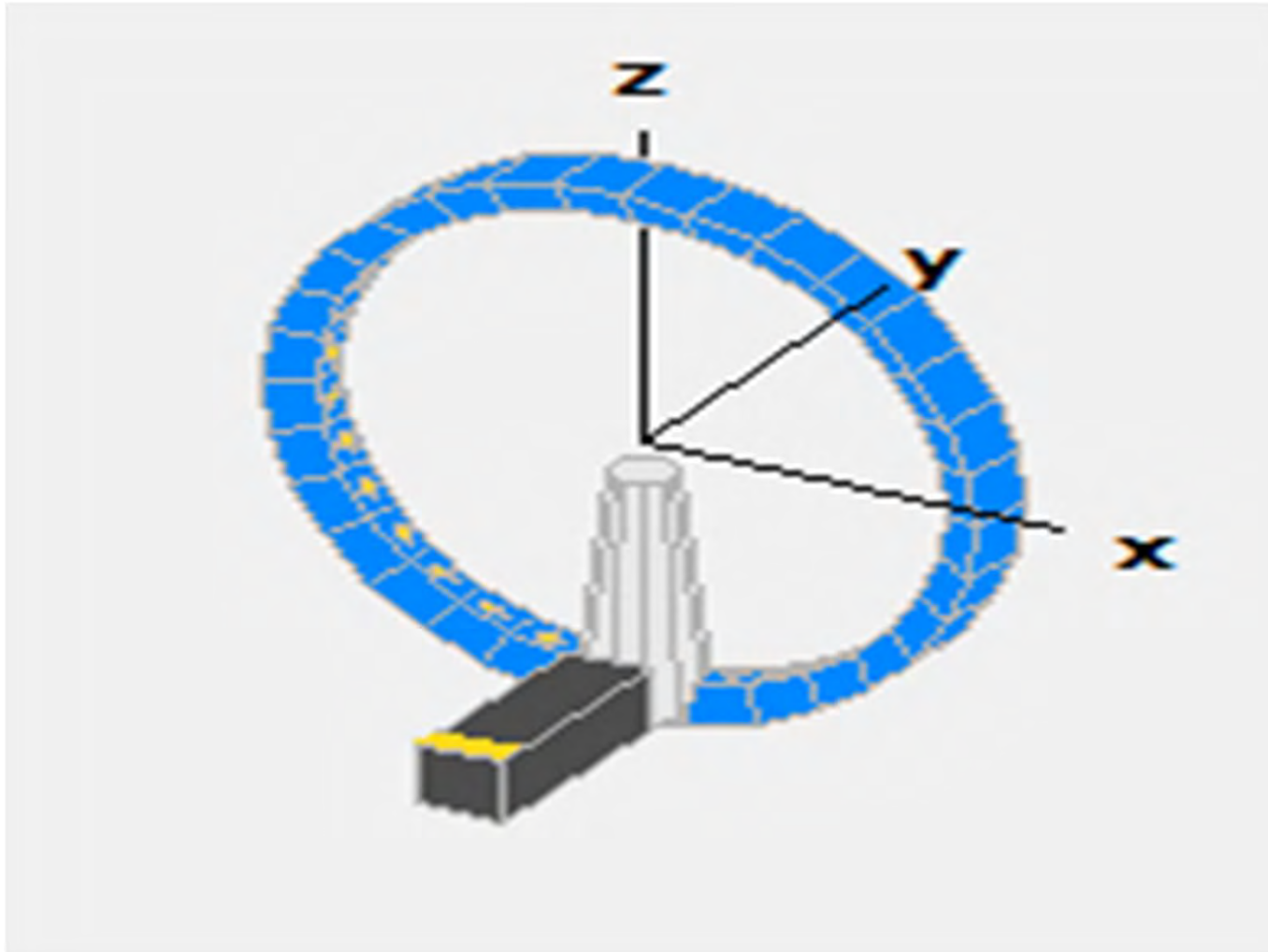


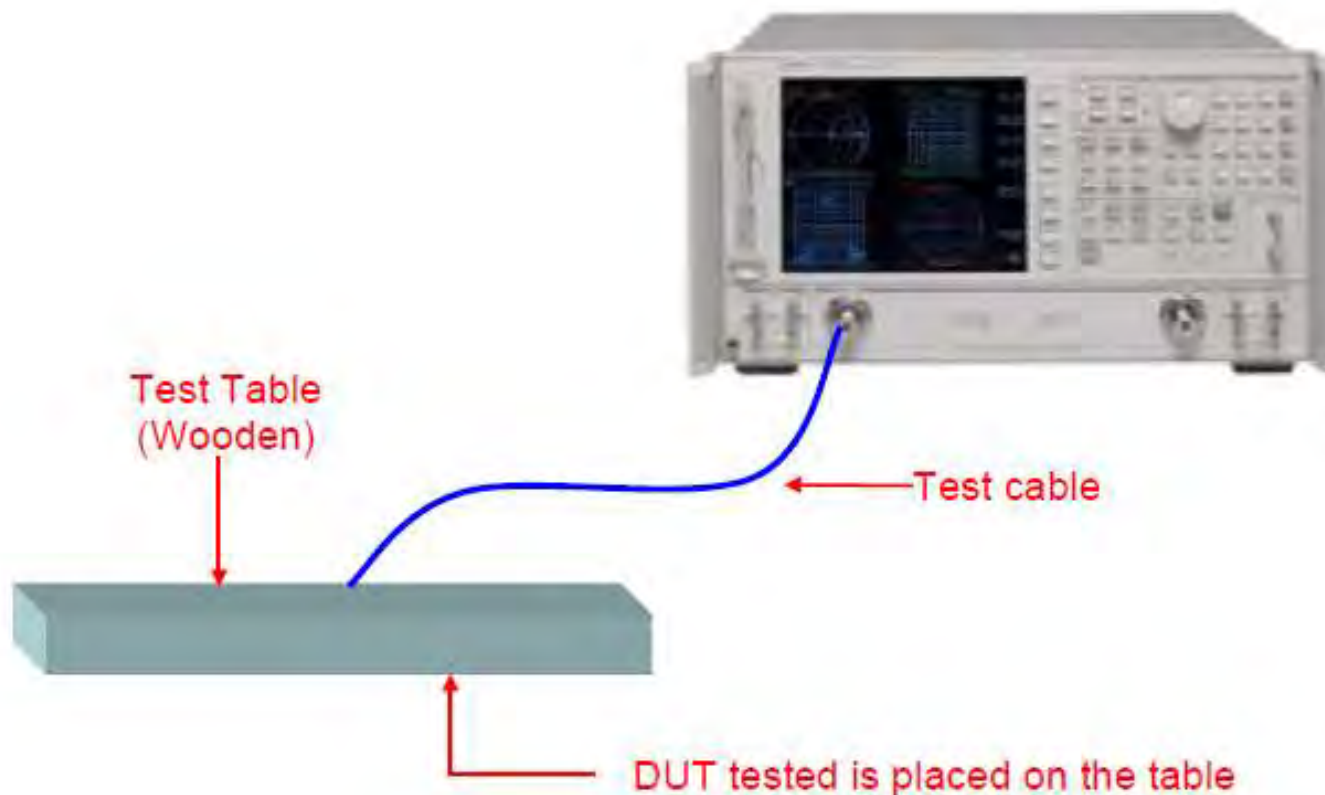
Fig. 3



# TEST ENVIRONMENT AND EQUIPMENTS

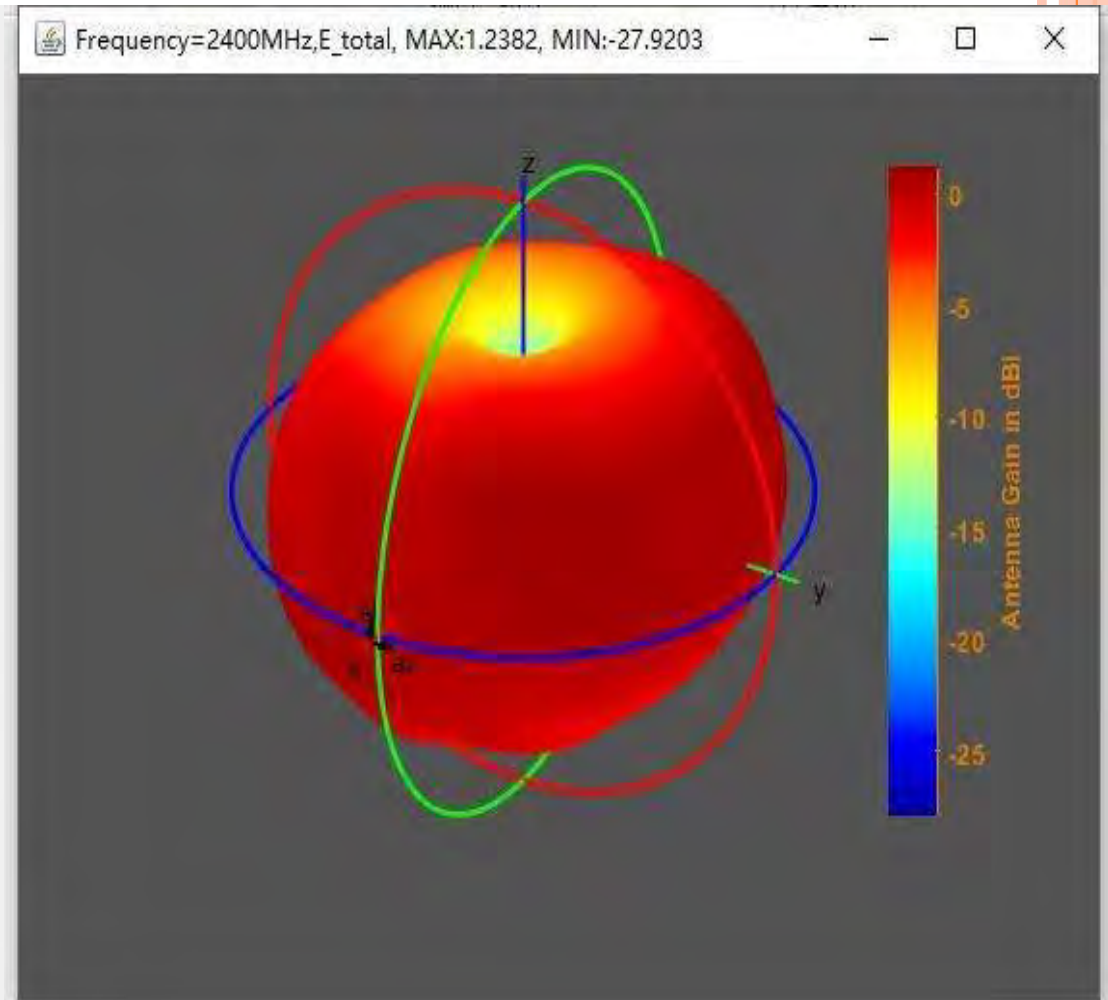
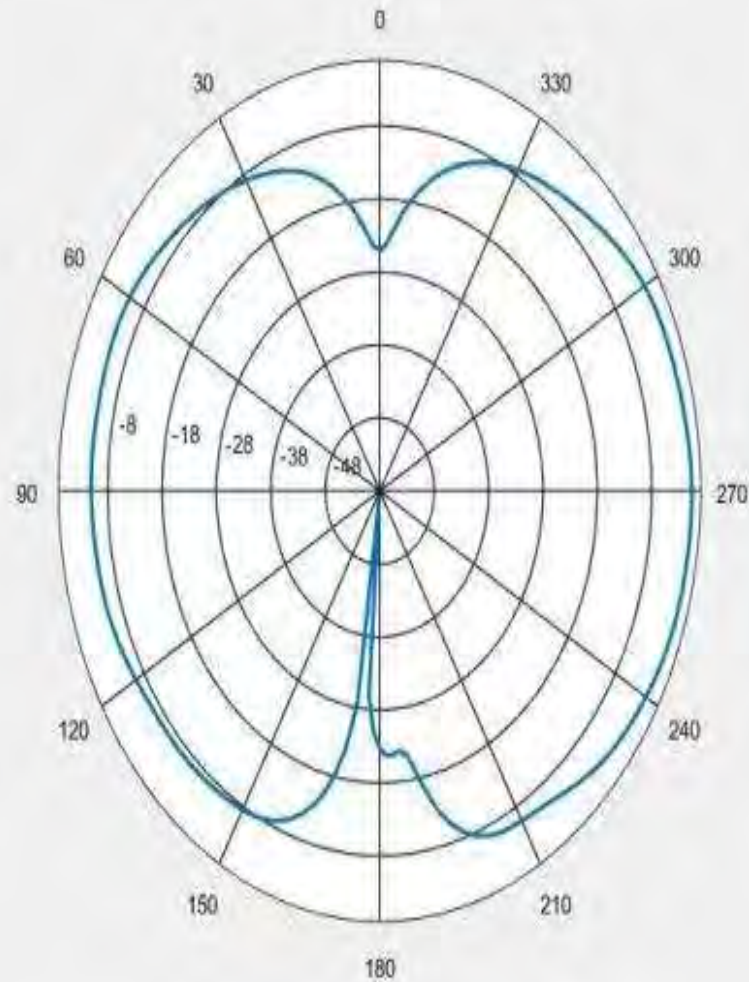
## S-Parameter test

- Network Analyzer
- Testing range from 30KHz to 8.5GHz



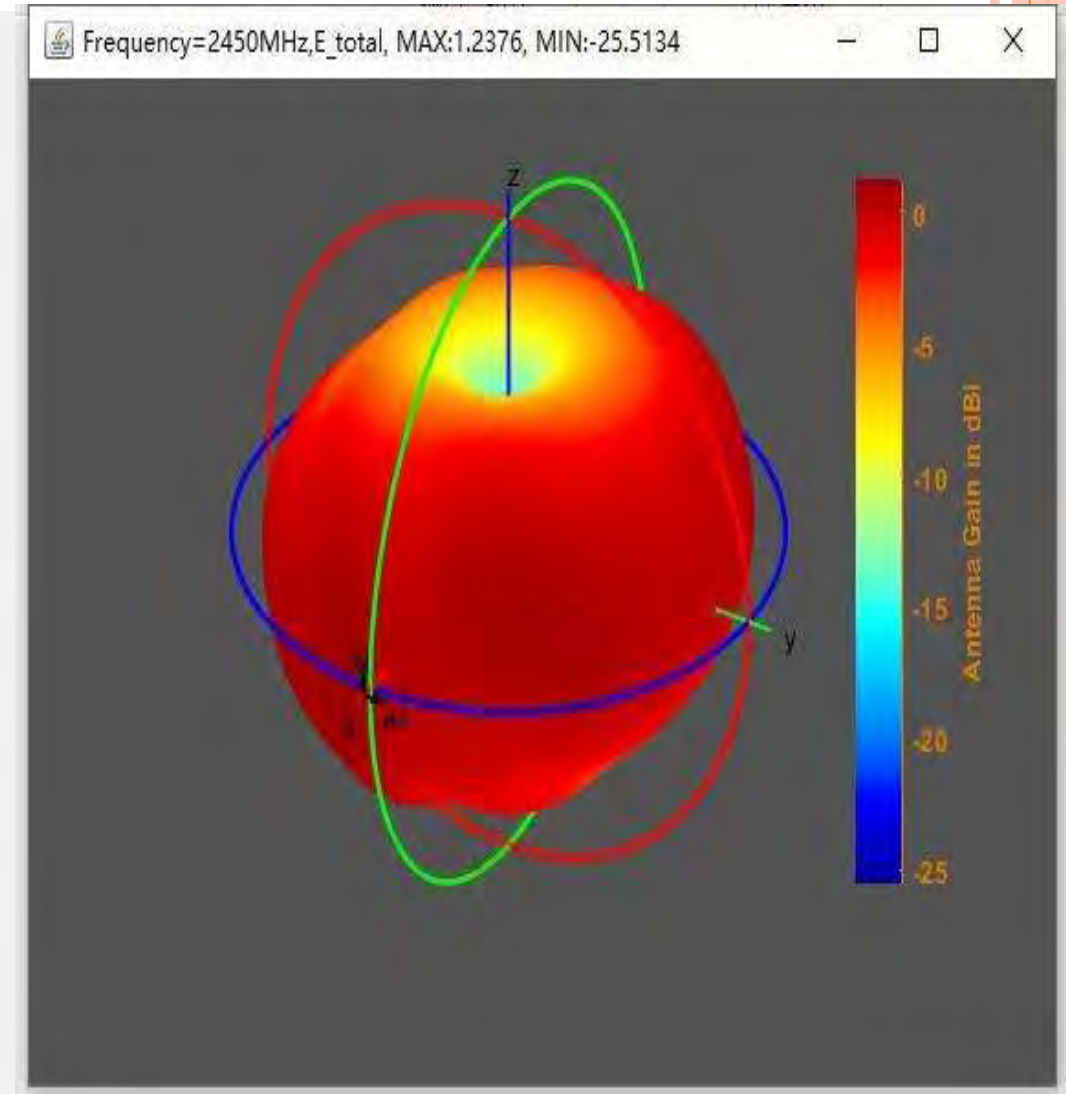
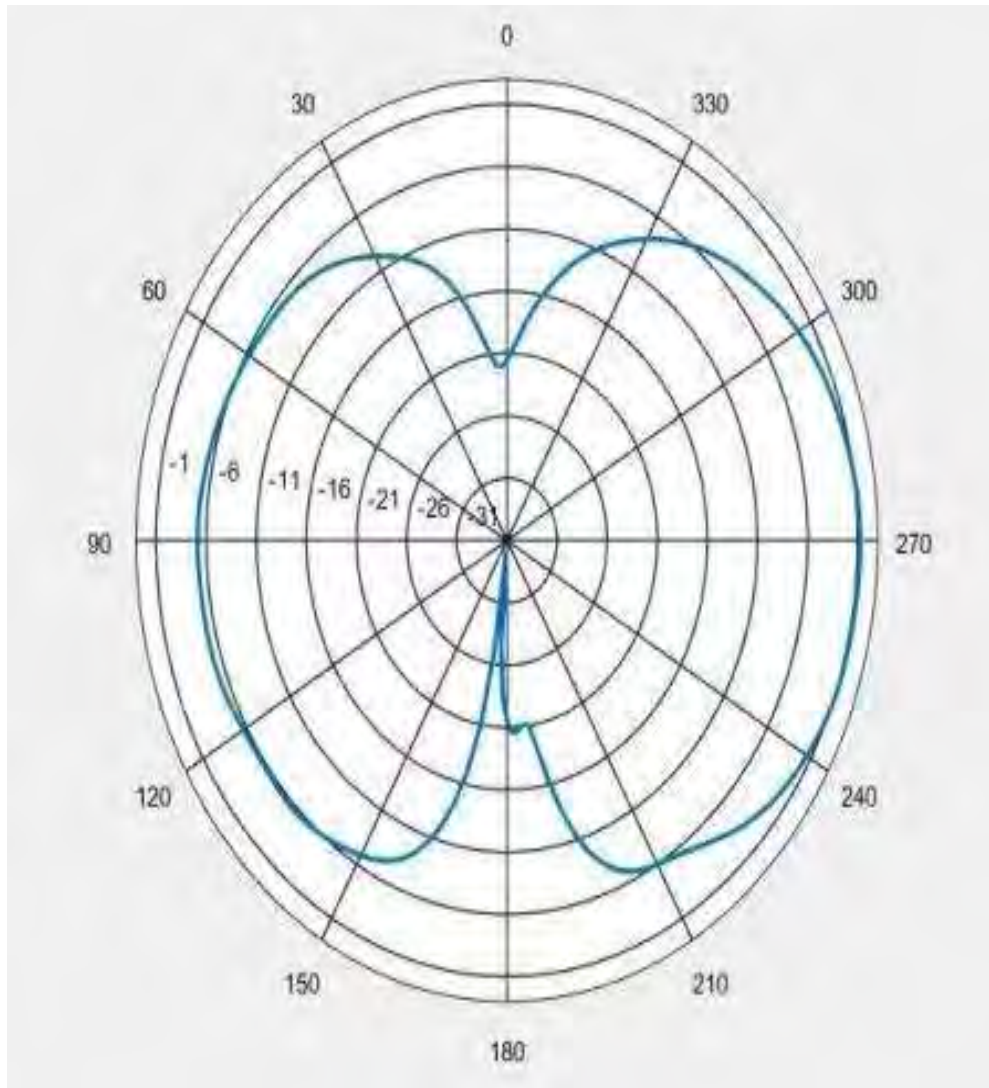
# TEST RESULT : 2D & 3D RADIATION PATTERN

ANTENNA 1 2.4GHz



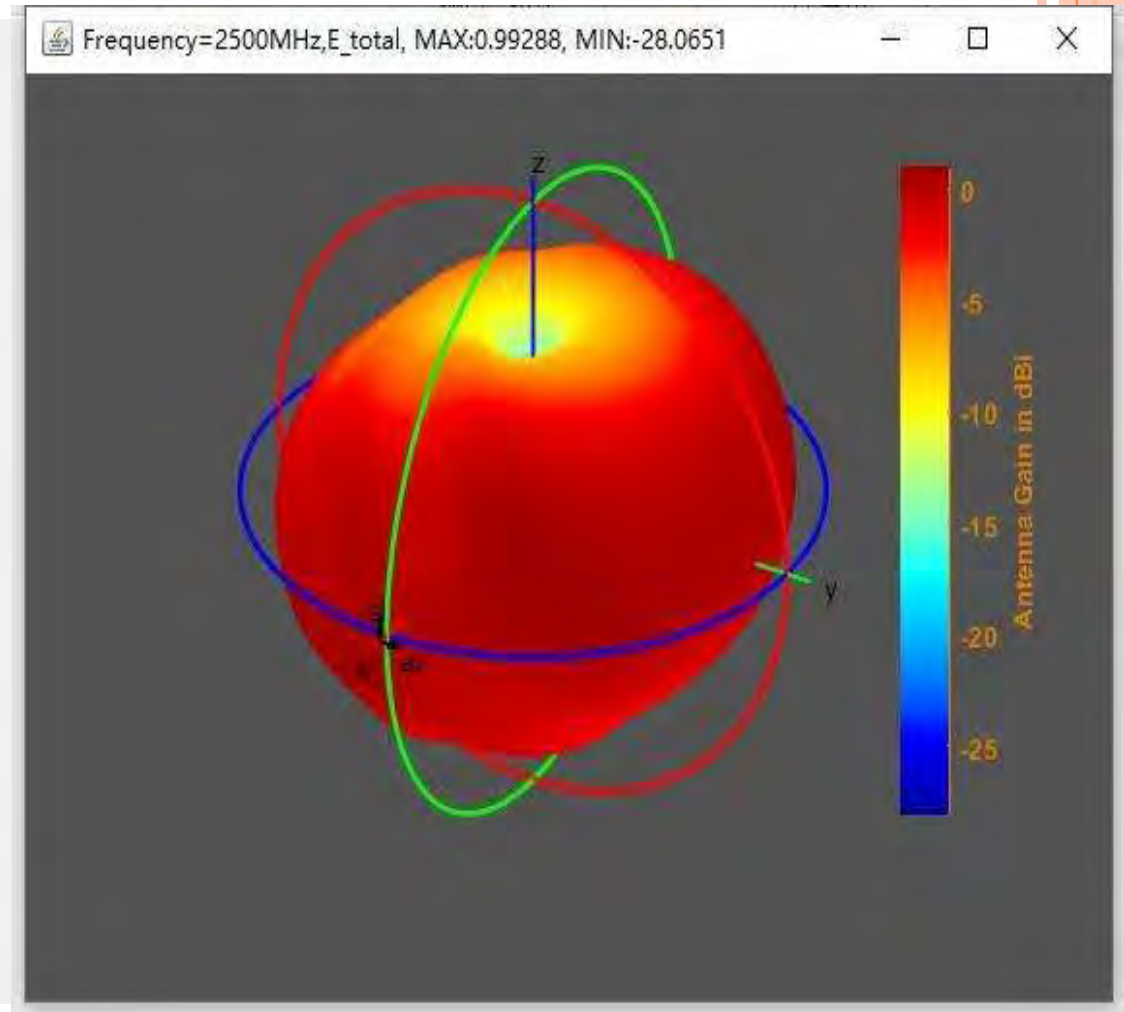
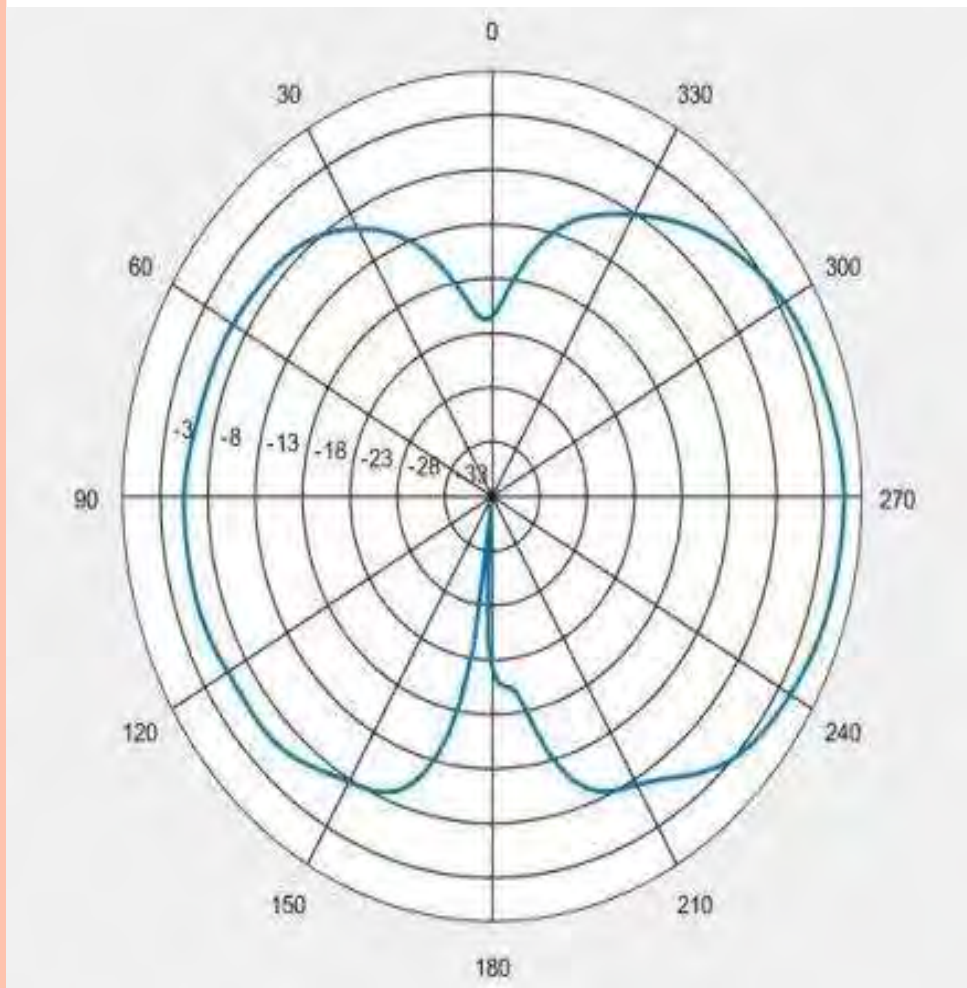
# TEST RESULT : 2D & 3D RADIATION PATTERN

ANTENNA 1 2.45GHz



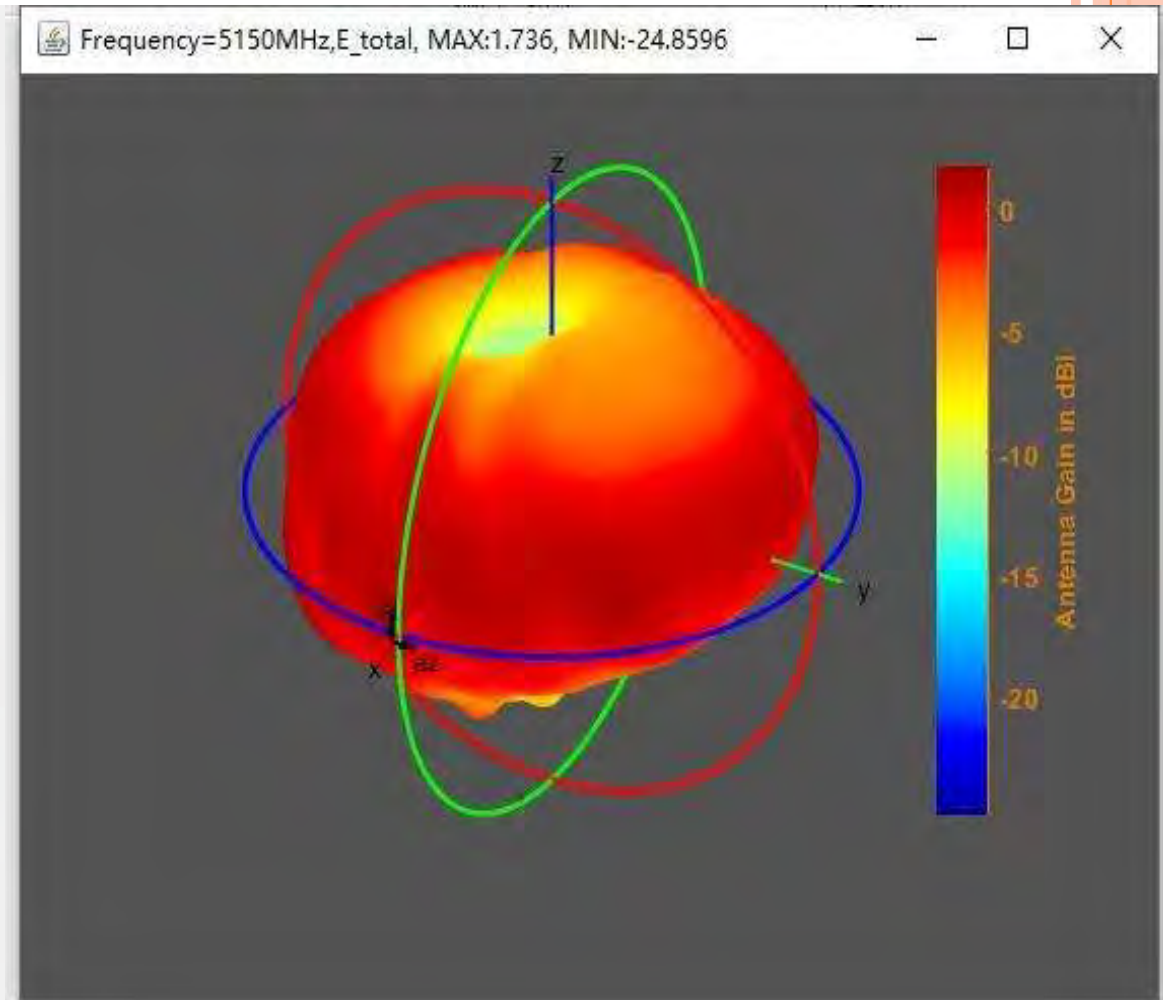
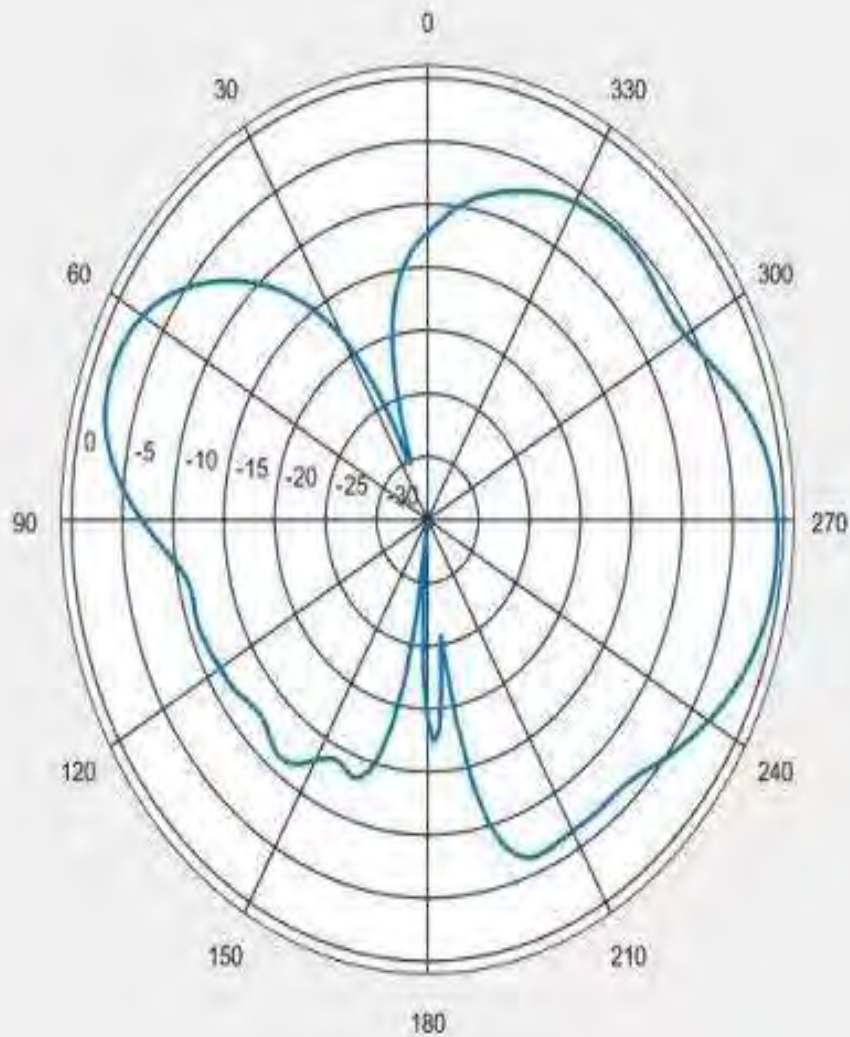
# TEST RESULT : 2D & 3D RADIATION PATTERN

ANTENNA 1 2.5GHz



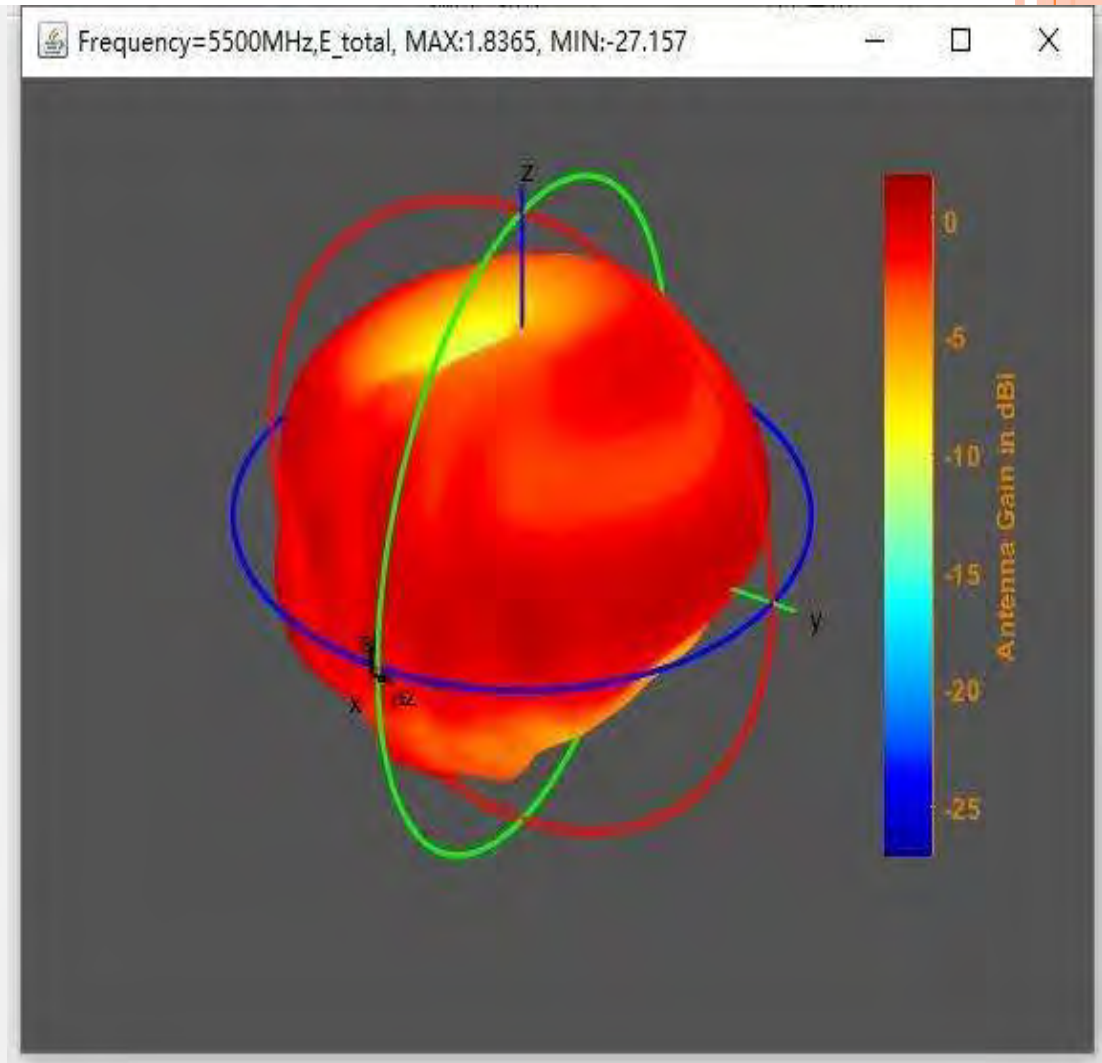
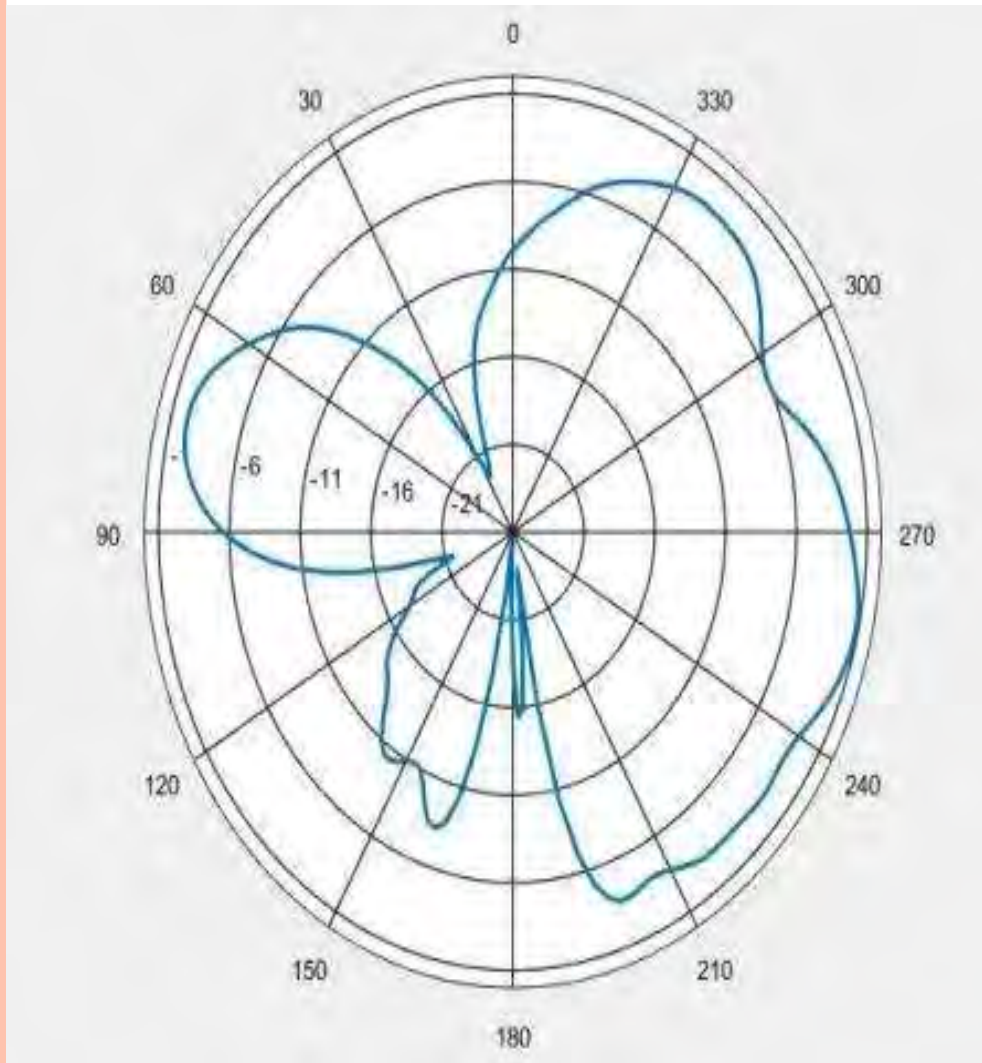
# TEST RESULT : 2D & 3D RADIATION PATTERN

ANTENNA 1 5.15GHz



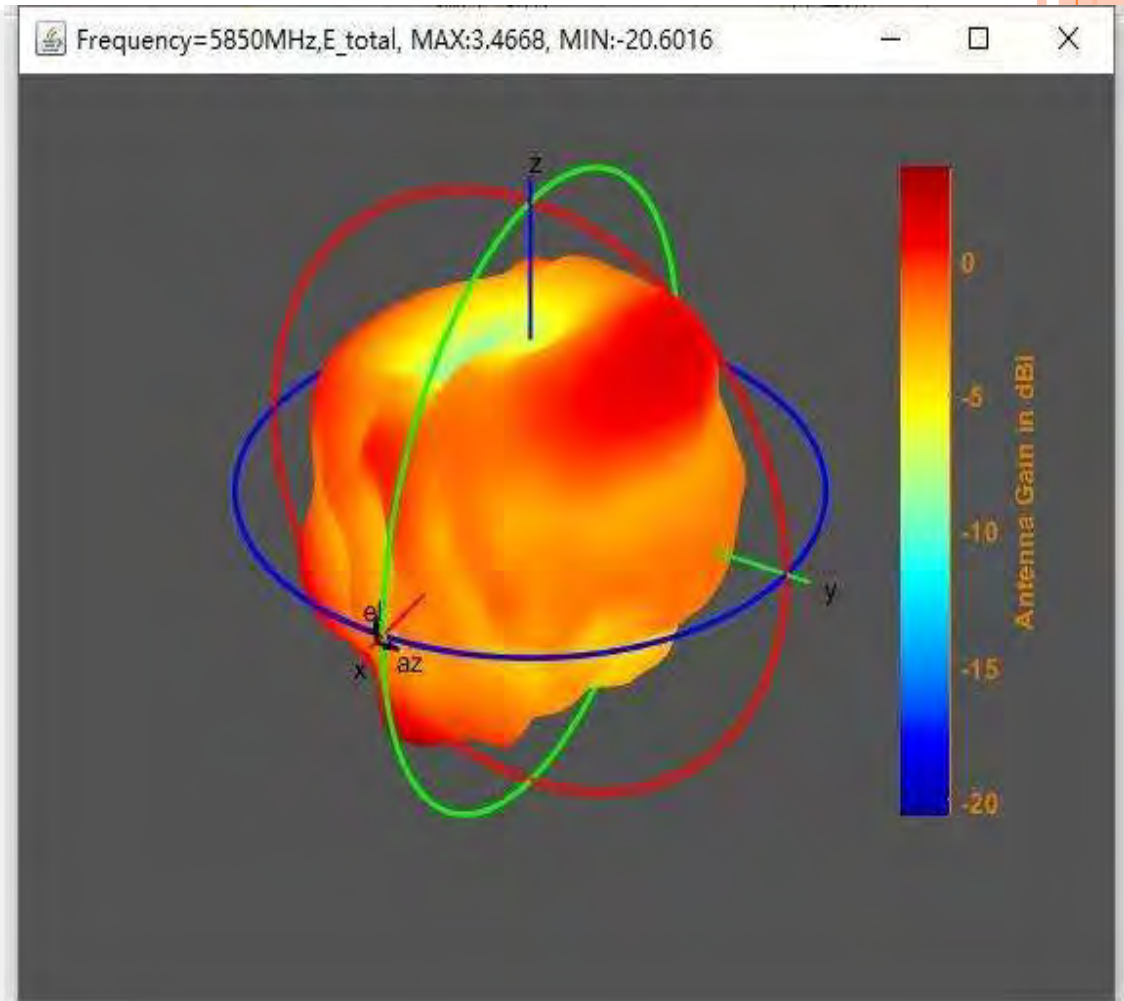
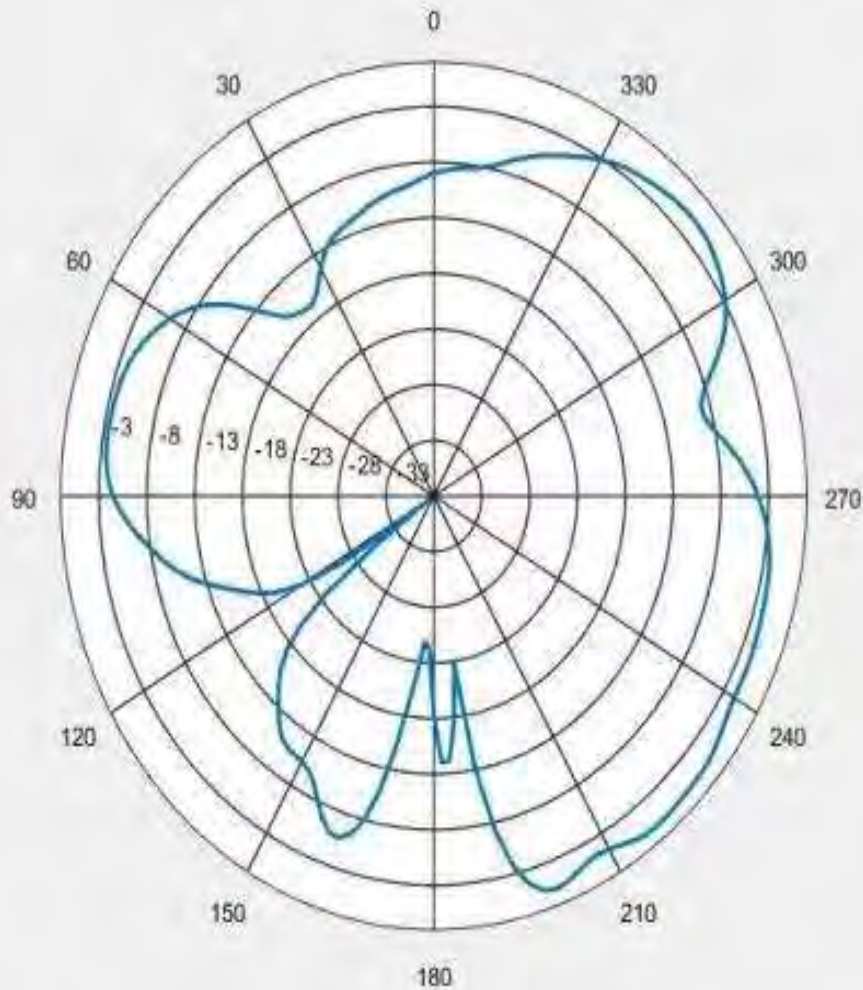
# TEST RESULT : 2D & 3D RADIATION PATTERN

ANTENNA 1 5.5GHz



# TEST RESULT : 2D & 3D RADIATION PATTERN

ANTENNA 1 5.85GHz



# TEST RESULT : EFFICIENCY & PEAK GAIN

| Frequency (MHz) | Directivity(dB) | Gain(dB) | Average Gain(dB) | Efficiency(dB) | Efficiency(%) |
|-----------------|-----------------|----------|------------------|----------------|---------------|
| 2400            | 2.2596          | 1.2382   | -2.2683          | -1.0214        | 79.0418       |
| 2450            | 2.4342          | 1.2376   | -2.4718          | -1.1965        | 75.9181       |
| 2475            | 2.5203          | 1.1678   | -2.6398          | -1.3525        | 73.2402       |
| 2500            | 2.471           | 0.9929   | -2.7526          | -1.4781        | 71.1517       |
| 5150            | 3.4513          | 1.736    | -2.8959          | -1.7152        | 67.3714       |
| 5175            | 3.2087          | 1.2482   | -3.1069          | -1.9605        | 63.6722       |
| 5350            | 3.2736          | 1.499    | -2.8116          | -1.7746        | 66.4563       |
| 5375            | 3.2676          | 1.4915   | -2.806           | -1.7761        | 66.4339       |
| 5400            | 3.9964          | 2.3024   | -2.6858          | -1.694         | 67.702        |
| 5425            | 3.4521          | 1.583    | -2.8203          | -1.8691        | 65.027        |
| 5450            | 3.3415          | 1.7092   | -2.5721          | -1.6323        | 68.6709       |
| 5475            | 3.7417          | 2.2569   | -2.3905          | -1.4849        | 71.0419       |
| 5500            | 3.5249          | 1.8365   | -2.5758          | -1.6884        | 67.7898       |
| 5800            | 4.3962          | 2.9879   | -2.023           | -1.4084        | 72.3041       |
| 5850            | 5.0296          | 3.4668   | -2.1298          | -1.5628        | 69.7783       |

