

# ANTENNA TEST REPORT

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| Applicant     | Apex Biotechnology Corp.<br>No. 7, Li-Hsin Rd. V, Hsinchu Science Park, Hsinchu, Taiwan,<br>R.O.C. |
| Brand         | ApexBio                                                                                            |
| Manufacturer  | Apex Biotechnology Corp.<br>No. 7, Li-Hsin Rd. V, Hsinchu Science Park, Hsinchu, Taiwan,<br>R.O.C. |
| Product Name  | UASure II Link Blood Uric Acid Monitoring System                                                   |
| Model Name    | UAM302                                                                                             |
| Report No     | 4790996517                                                                                         |
| Received Date | 2023/10/2                                                                                          |
| Test Period   | 2023/10/3                                                                                          |
| Issued Date   | 2023/11/3                                                                                          |

**The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report are responsible of the test sample(s) provided by the client only and are not to be used to indicate applicability to other similar products.**

**Release Note**

| Rev. | Date      | Revisions | Revised By |
|------|-----------|-----------|------------|
| --   | 2023/11/3 | -         | -          |
|      |           |           |            |

## Table of Contents

|                                                        |    |
|--------------------------------------------------------|----|
| 1. Description of Antenna.....                         | 3  |
| 2. Test Frequency and Polarization .....               | 4  |
| 3. Test Location and Address.....                      | 5  |
| 4. Measuring Instrument List (Test Equipment) .....    | 6  |
| 5. Test Connection Diagram and Condition .....         | 7  |
| 6. Test Procedure .....                                | 8  |
| 7. Test Result.....                                    | 9  |
| Appendix I : Photographs of Test Configuration .....   | 10 |
| Appendix II : Photographs of the Antenna Outview ..... | 12 |
| Appendix III : Antenna Pattern .....                   | 13 |

## 1. Description of Antenna

| Ant. No. | Brand Name            | Model Name             | Ant. Type | Operation Mode |
|----------|-----------------------|------------------------|-----------|----------------|
| 1        | APEX<br>BIOTECHNOLOGY | APEX_UAM302<br>PCB ANT | PCB       | Bluetooth LE   |

Note:

1. The EUT incorporates a SISO function. Physically, the EUT provides operation Mode as below:

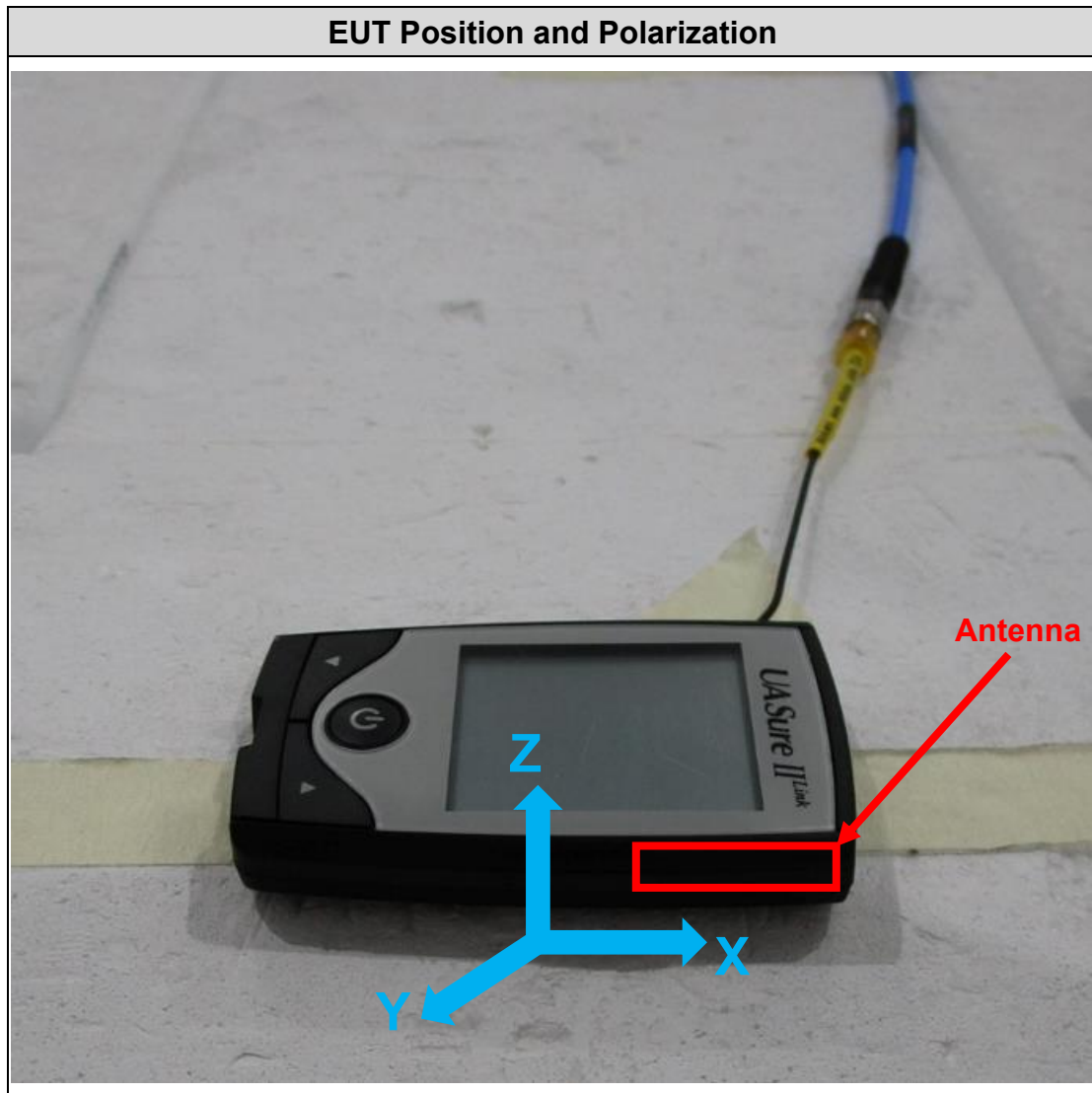
| Operation Mode | Tx,Rx Function |
|----------------|----------------|
| Bluetooth LE   | 1TX,1RX        |

2. The above Antenna information is declared by manufacturer and for more detailed features description, please refer the manufacturer's or user's manual.

## 2. Test Frequency and Polarization

The tests frequency is declared by manufacturer.

| Band (MHz)  | Test Frequency (MHz) |
|-------------|----------------------|
| 2400-2483.5 | 2402, 2440, 2480     |



### 3. Test Location and Address

|               |                                                                                                                                                                               |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Location | Underwriters Laboratories Taiwan Co., Ltd.,                                                                                                                                   |
| Address       | Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan                                                                               |
| Description   | All measurement facilities use to collect the measurement data are located at Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan |

#### 4. Measuring Instrument List (Test Equipment)

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

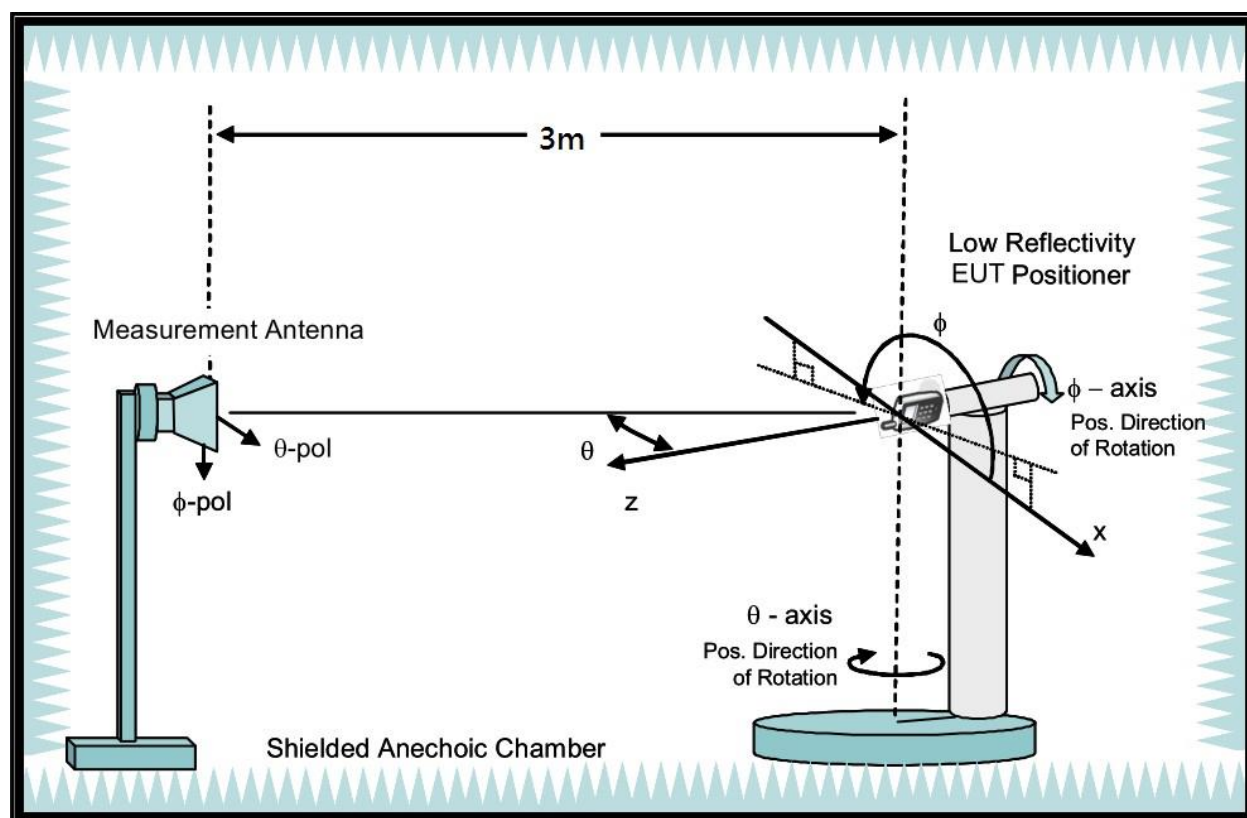
| Test Equipment List                |                       |                         |                     |            |              |
|------------------------------------|-----------------------|-------------------------|---------------------|------------|--------------|
| Equipment                          | Manufacturer          | Model No.               | Serial No.          | Cal. Date  | Expired Date |
| Broadband Horn Antenna             | SCHWARZBECK           | BBHA 9170               | 781                 | 2022/12/30 | 2023/12/29   |
| MXG Vector Signal Generator        | Keysight Technologies | N5182B                  | MY56200244          | 2023/1/6   | 2024/1/5     |
| Cables                             | Hanyitek              | K1K50-UP0264-K1K50-2500 | 170214-1 & 170214-2 | 2022/12/1  | 2023/11/30   |
| Cables                             | Hanyitek              | HPMC40KM90KF            | CB038               | 2023/2/15  | 2024/2/14    |
| Support Calibration Equipment List |                       |                         |                     |            |              |
| Equipment                          | Manufacturer          | Model No.               | Serial No.          | Cal. Date  | Expired Date |
| Double Ridged Guide Horn Antenna   | SCHWARZBECK           | BBHA 9120 D             | 01690               | 2022/12/21 | 2023/12/20   |

#### UL Software

| Software                           | Version |
|------------------------------------|---------|
| Antenna Pattern Measurement System | 1.0.0.0 |

## 5. Test Connection Diagram and Condition

| Test Facility          | Test Site No. | Environmental Condition | Test Date | Tested by     |
|------------------------|---------------|-------------------------|-----------|---------------|
| Fully Anechoic Chamber | 1277          | 23.8°C/67.5%RH          | 2023/10/3 | Waternil Guan |



## 6. Test Procedure

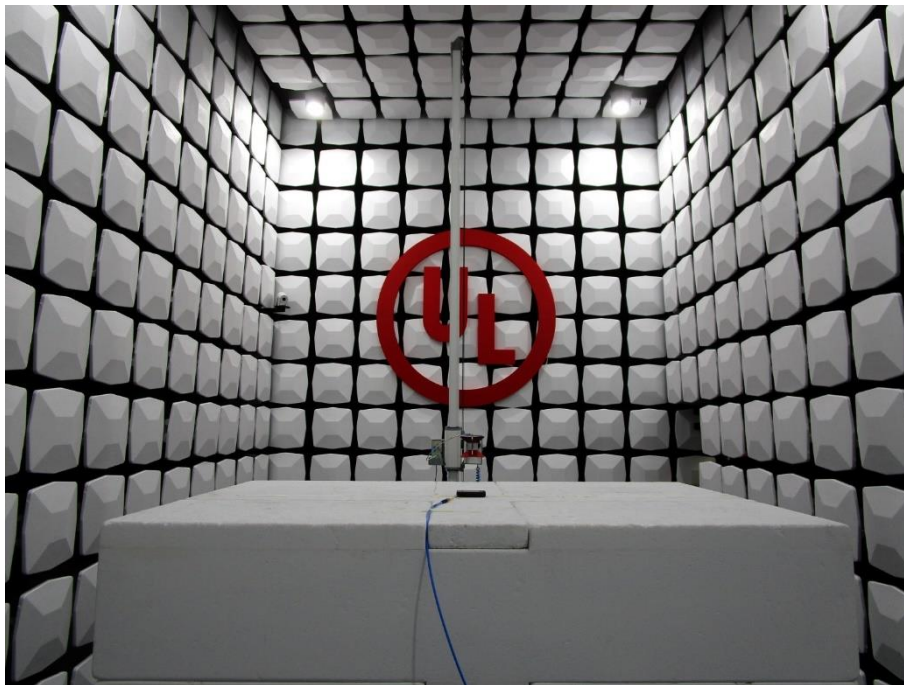
1. Set the Calibration Antenna on multi-axis positioner and connect to signal generator for capture the correction factor.
2. Signal generator insertion normalize and calculate the standard antenna factor with spectrum analyzer.
3. Calibration Antenna change to the EUT's antenna.
4. The EUT is then stepped between 0 to 360 degrees along the theta axis.

## 7. Test Result

Maximum gain result refer below table:

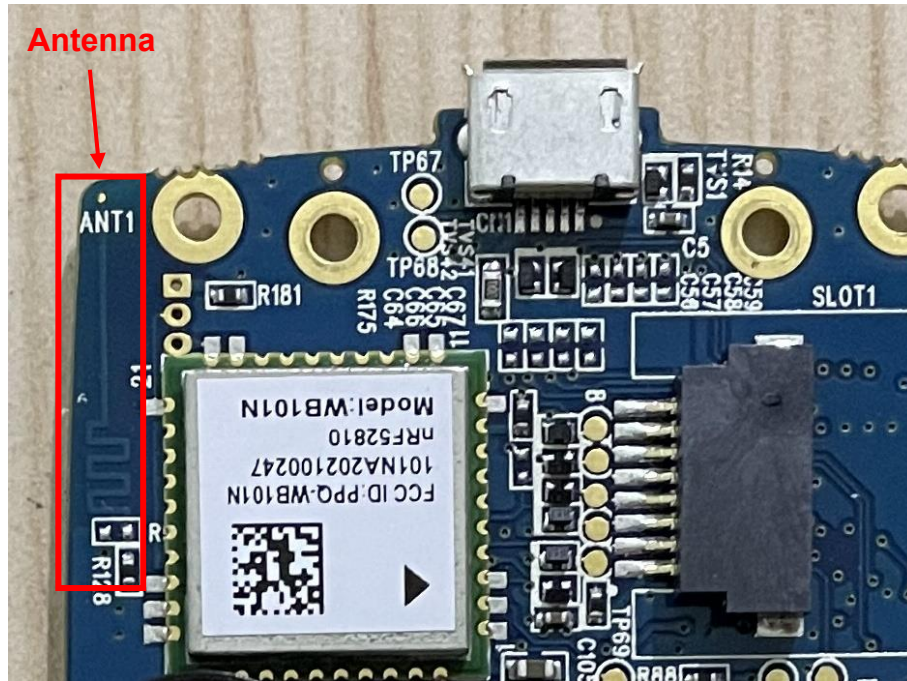
| Axis      | Polarization | Test Freq.<br>2402 (MHz) | Test Freq.<br>2440 (MHz) | Test Freq.<br>2480 (MHz) |
|-----------|--------------|--------------------------|--------------------------|--------------------------|
|           |              | Gain(dBi)                | Gain(dBi)                | Gain(dBi)                |
| X-Y Plane | Vertical     | -10.42                   | -8.53                    | -7.25                    |
|           | Horizontal   | 0.33                     | 0.48                     | <b>0.87</b>              |
| X-Z Plane | Vertical     | -6.08                    | -4.8                     | -4.3                     |
|           | Horizontal   | -5.08                    | -5.39                    | -5.13                    |
| Y-Z Plane | Vertical     | -4.87                    | -4.79                    | -6.34                    |
|           | Horizontal   | -3.51                    | -3.36                    | -3.54                    |

## Appendix I : Photographs of Test Configuration

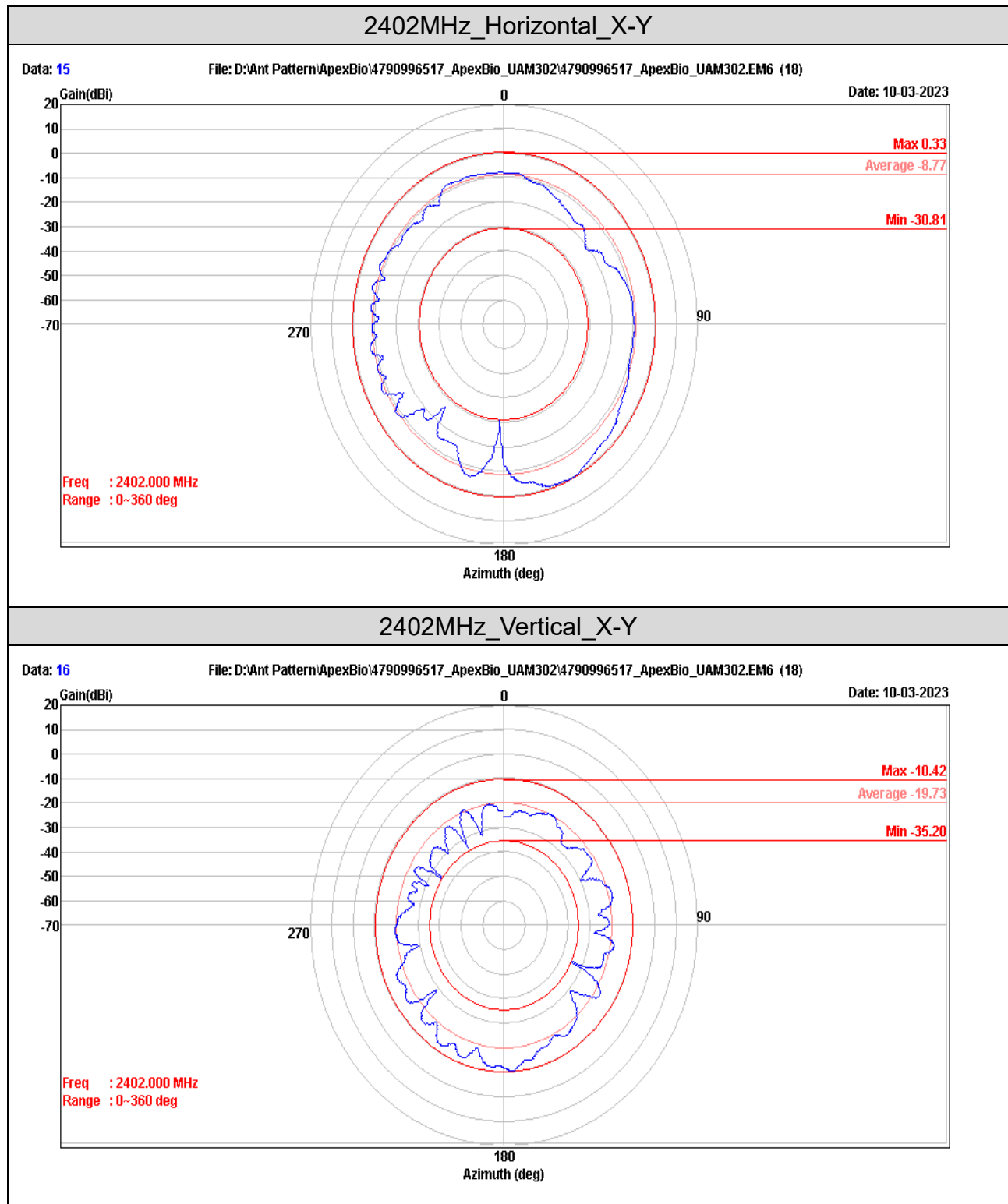




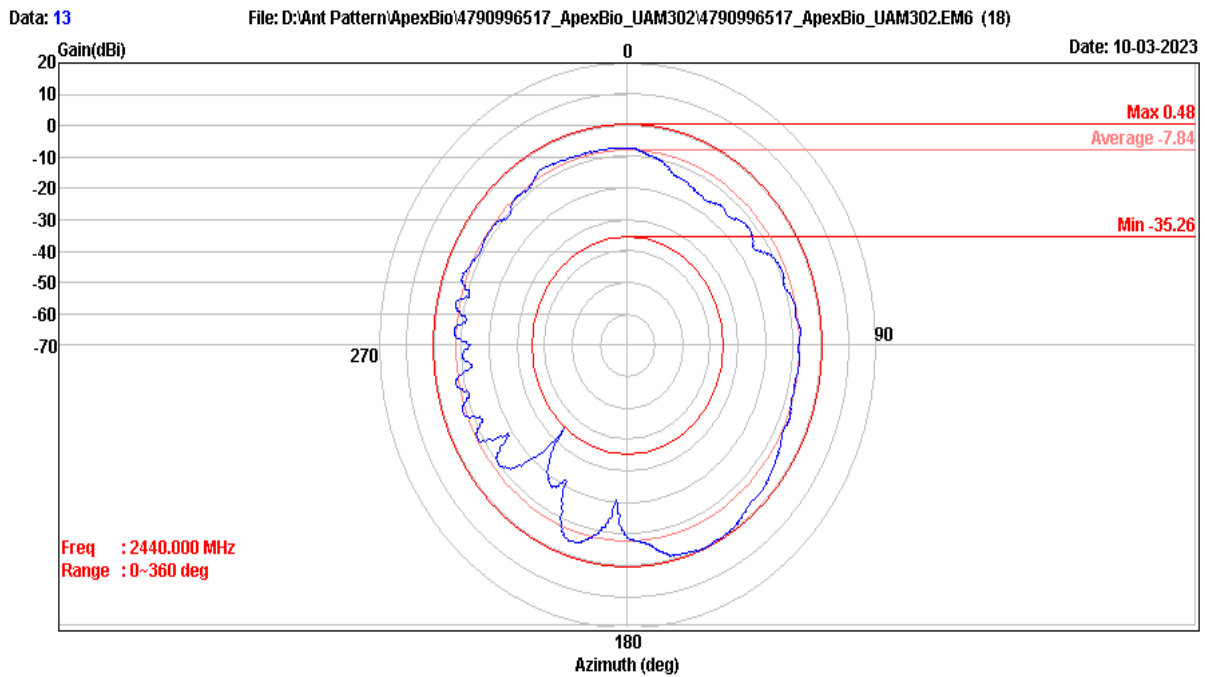
## Appendix II : Photographs of the Antenna Outview



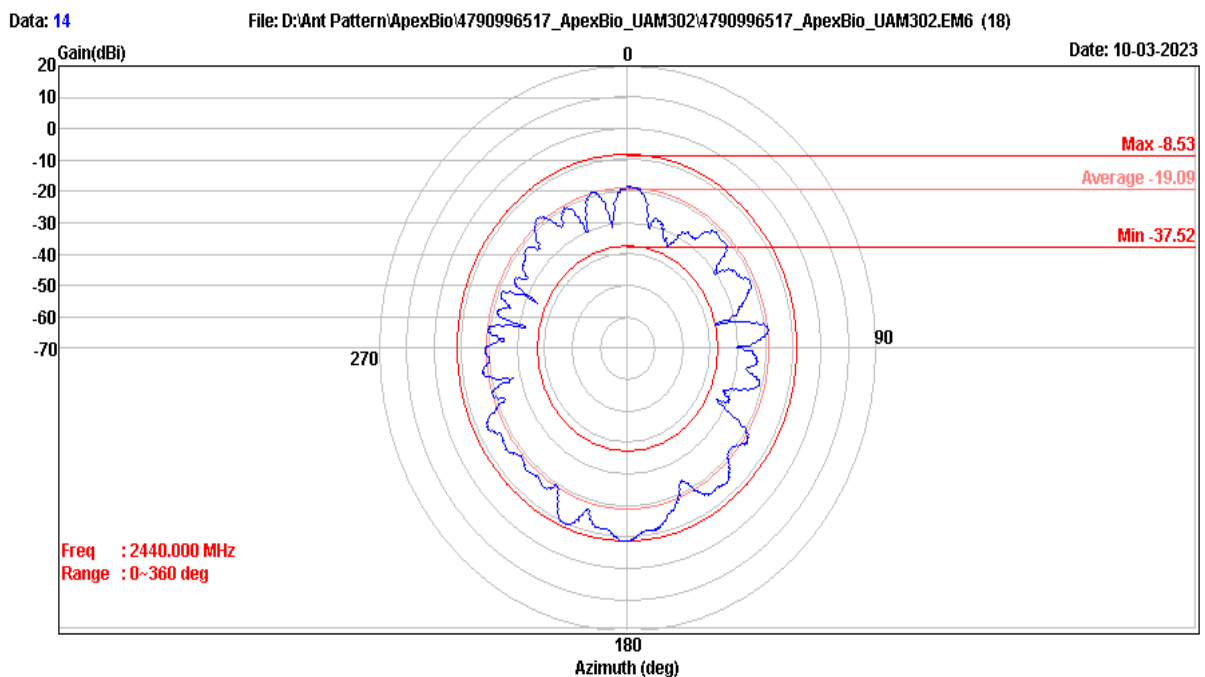
## Appendix III : Antenna Pattern



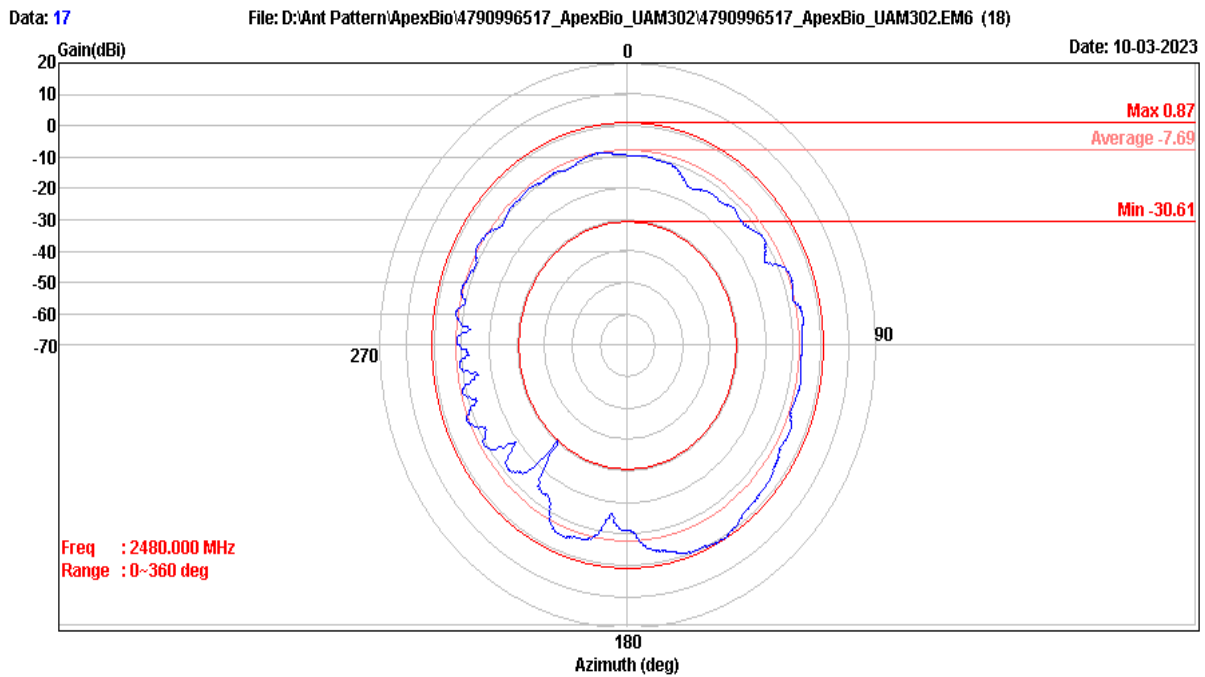
### 2440MHz\_Horizontal\_X-Y



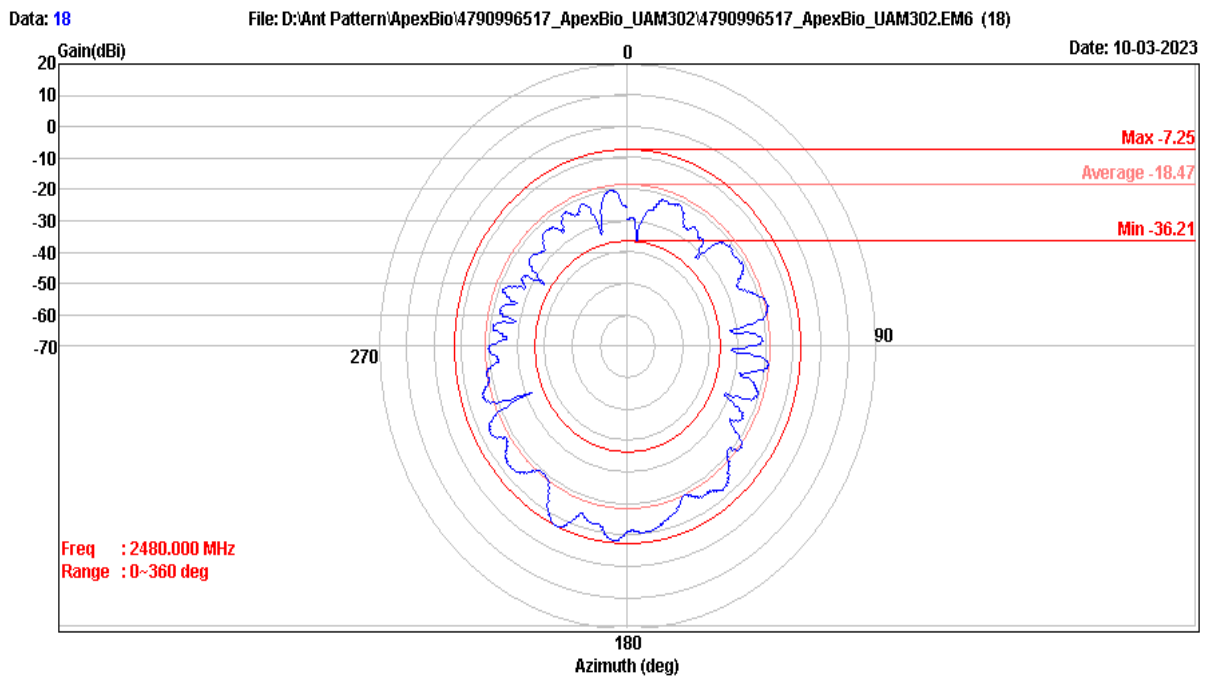
### 2440MHz\_Vertical\_X-Y



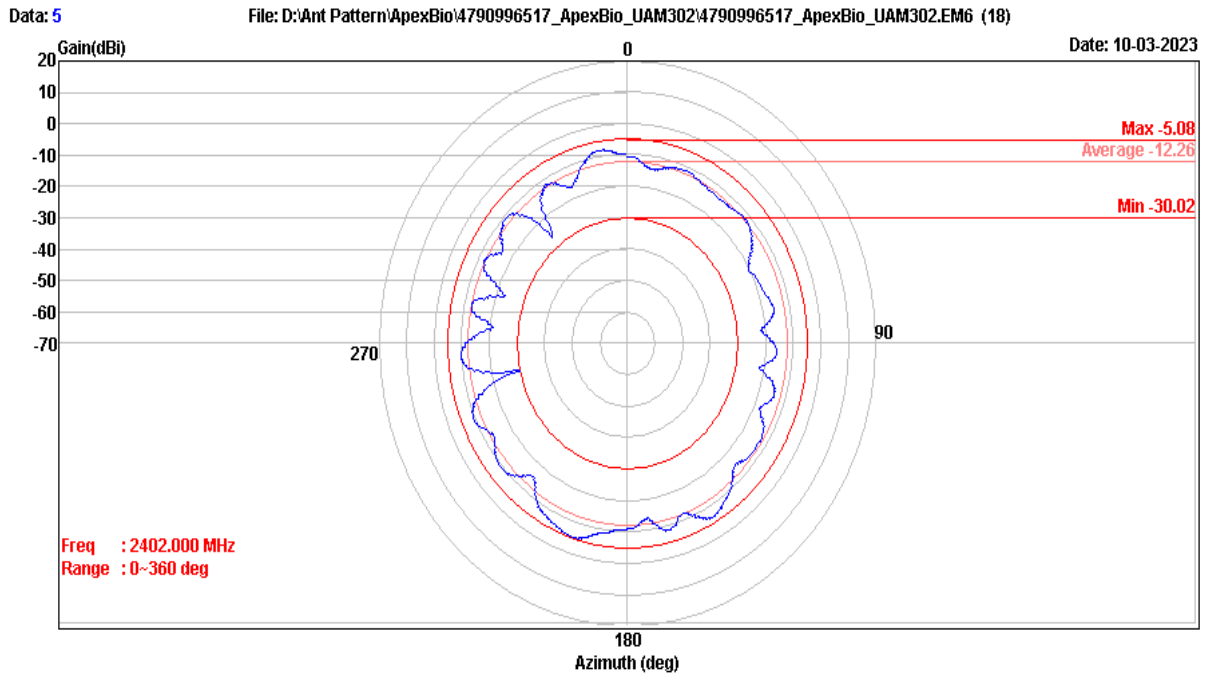
### 2480MHz\_Horizontal\_X-Y



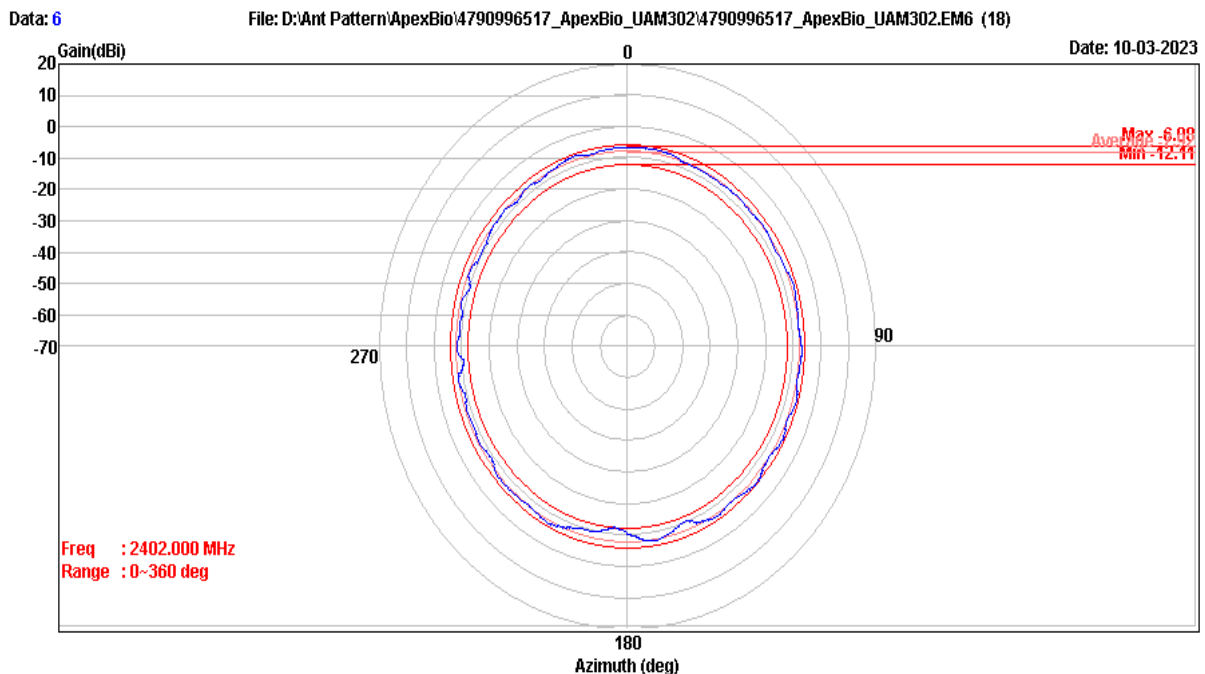
### 2480MHz\_Vertical\_X-Y



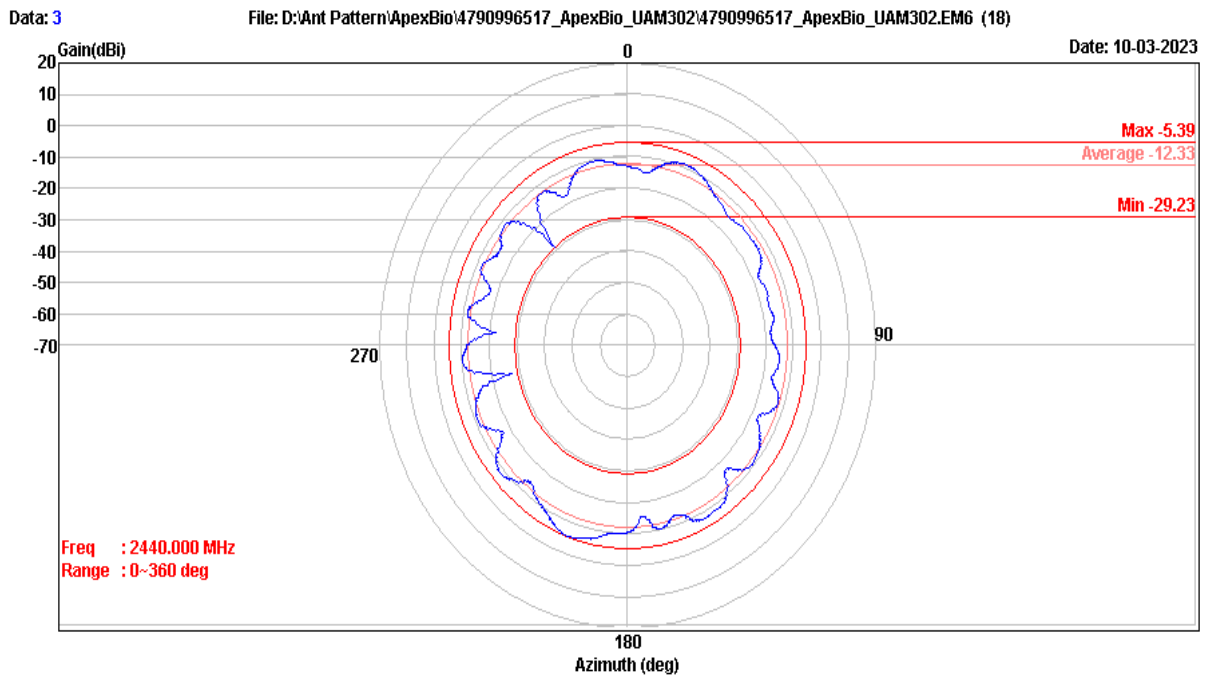
### 2402MHz\_Horizontal\_X-Z



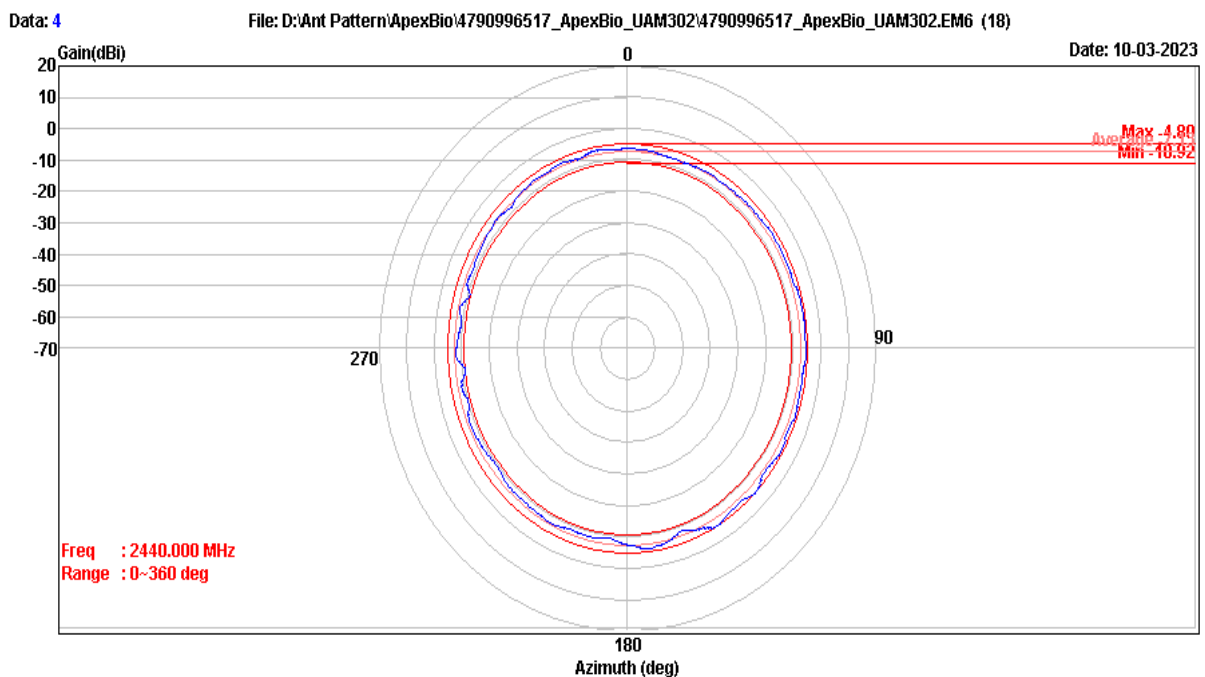
### 2402MHz\_Vertical\_X-Z



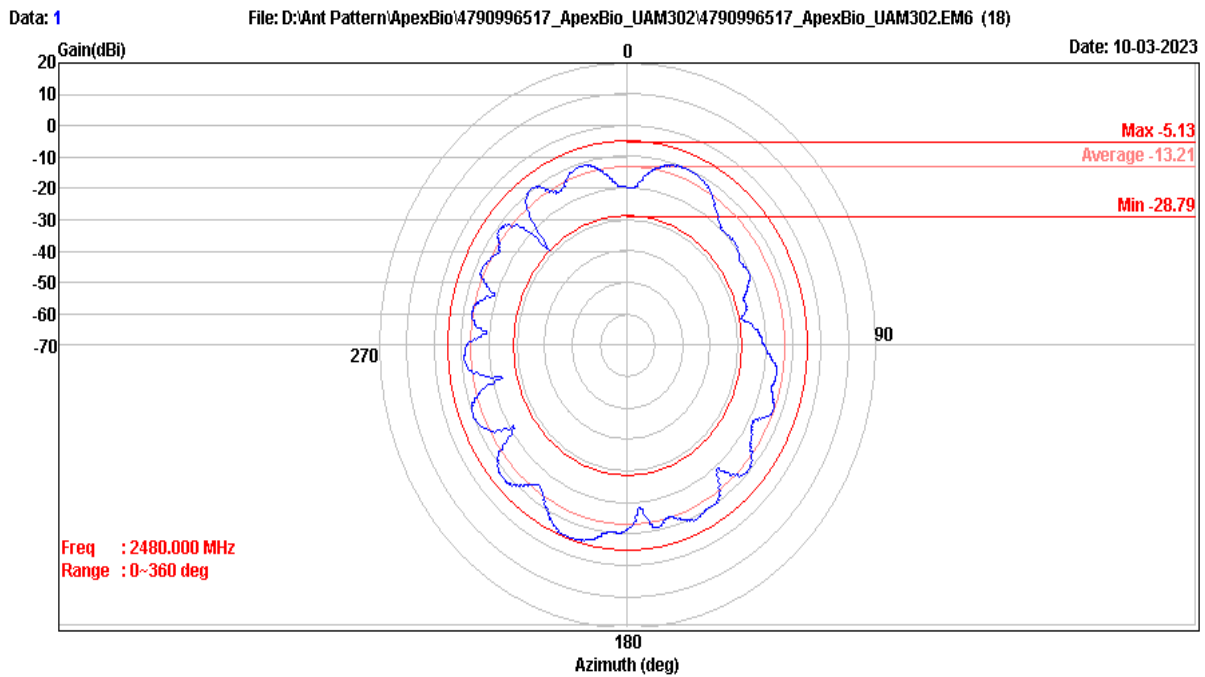
### 2440MHz\_Horizontal\_X-Z



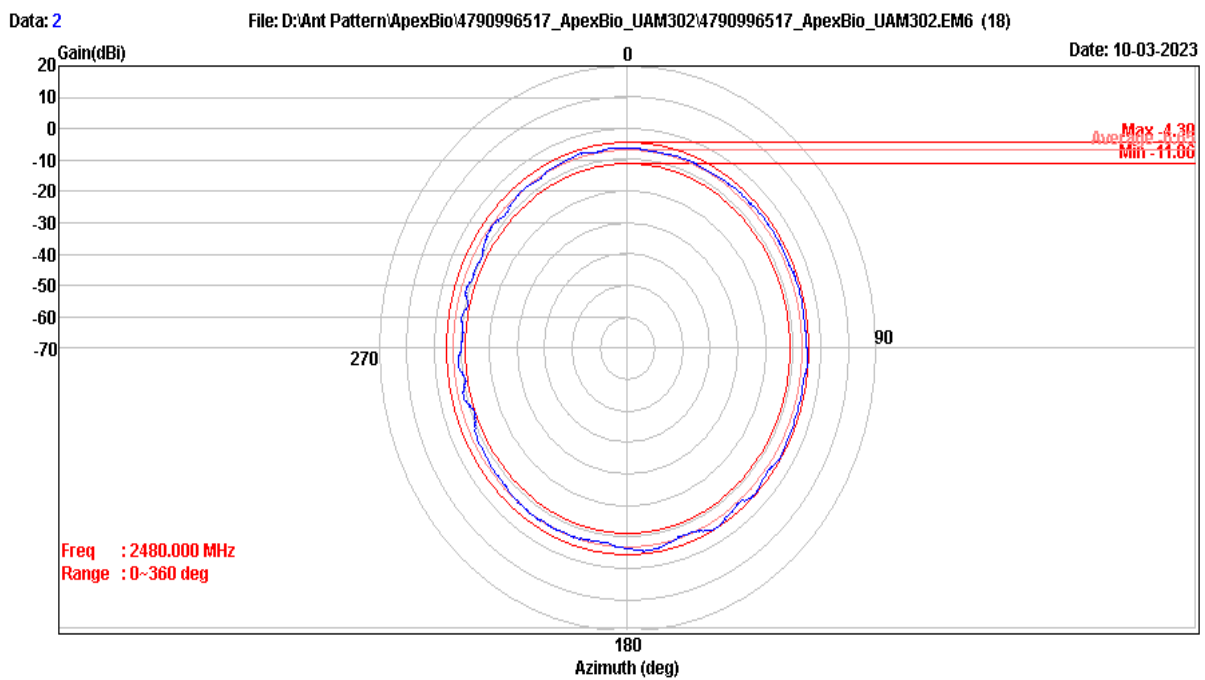
### 2440MHz\_Vertical\_X-Z



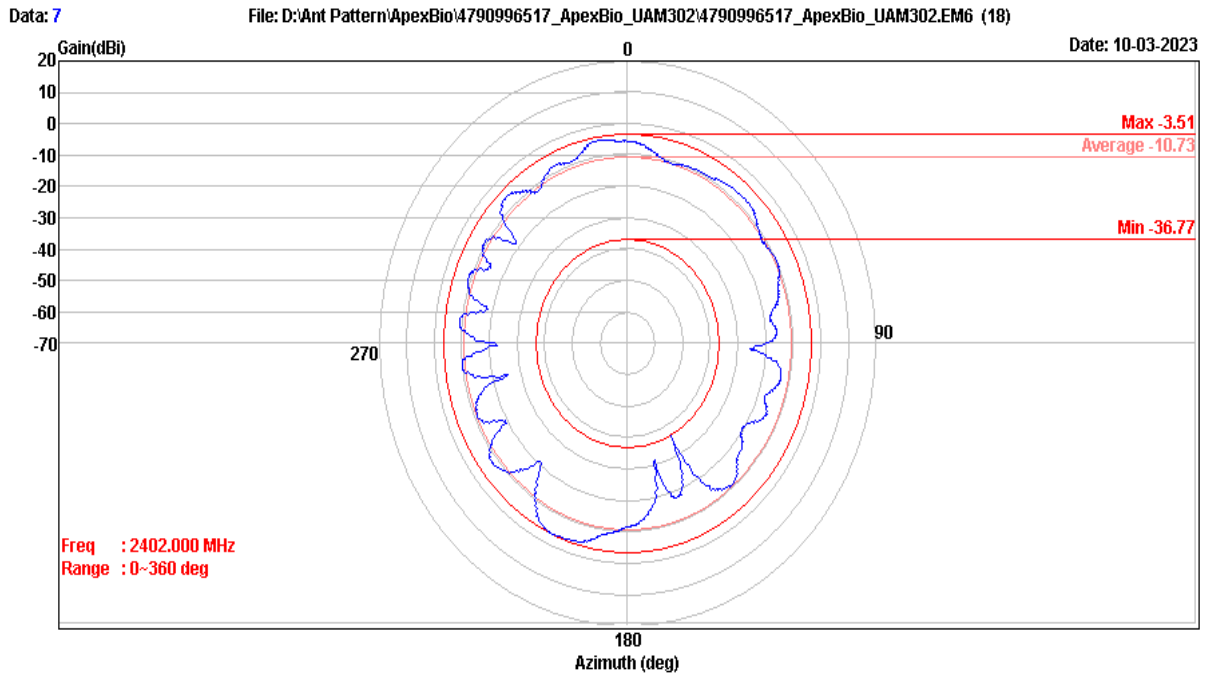
### 2480MHz\_Horizontal\_X-Z



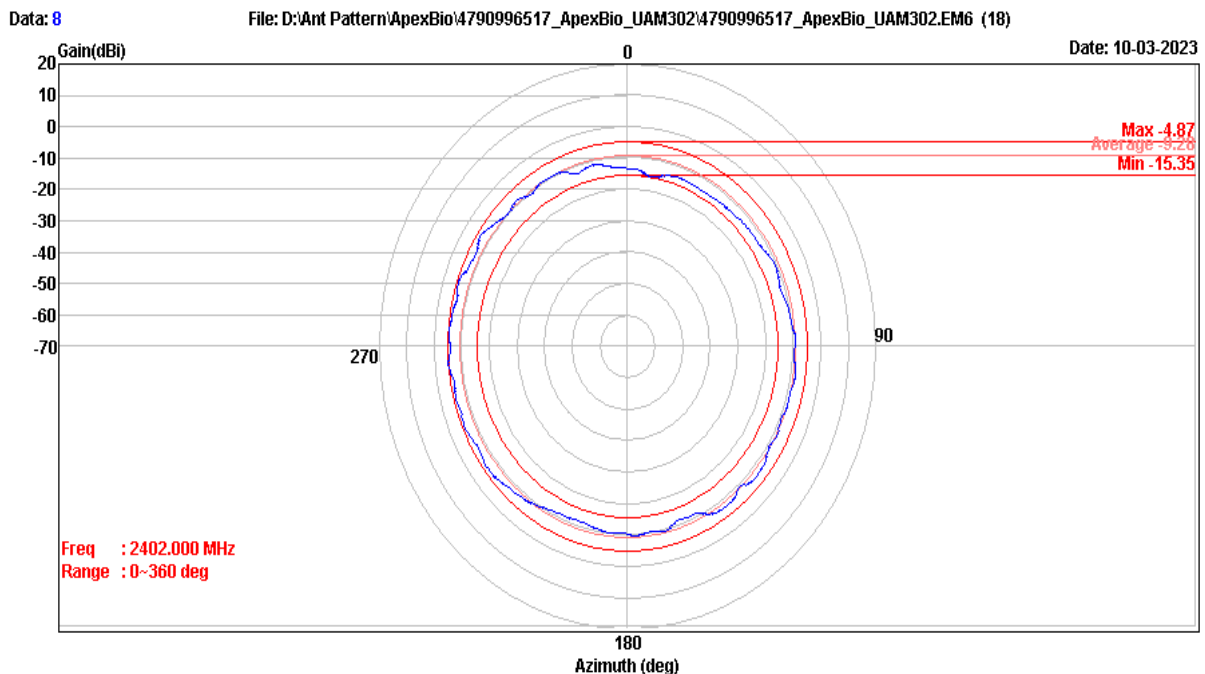
### 2480MHz\_Vertical\_X-Z



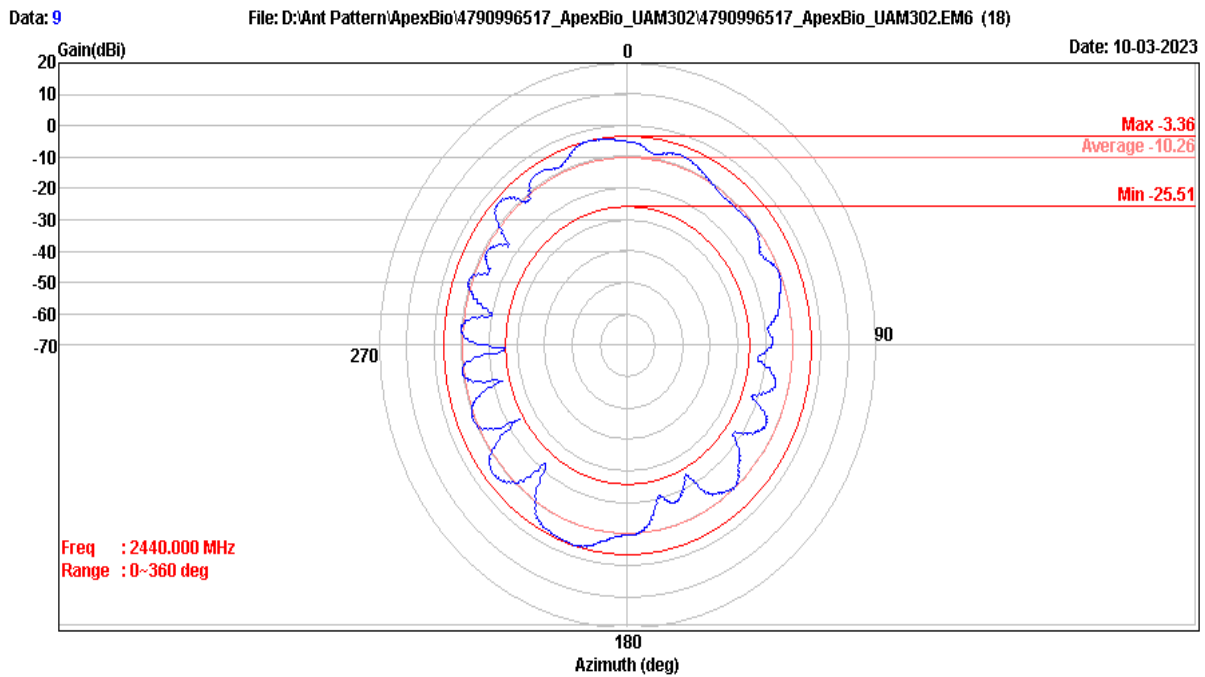
### 2402MHz\_Horizontal\_Y-Z



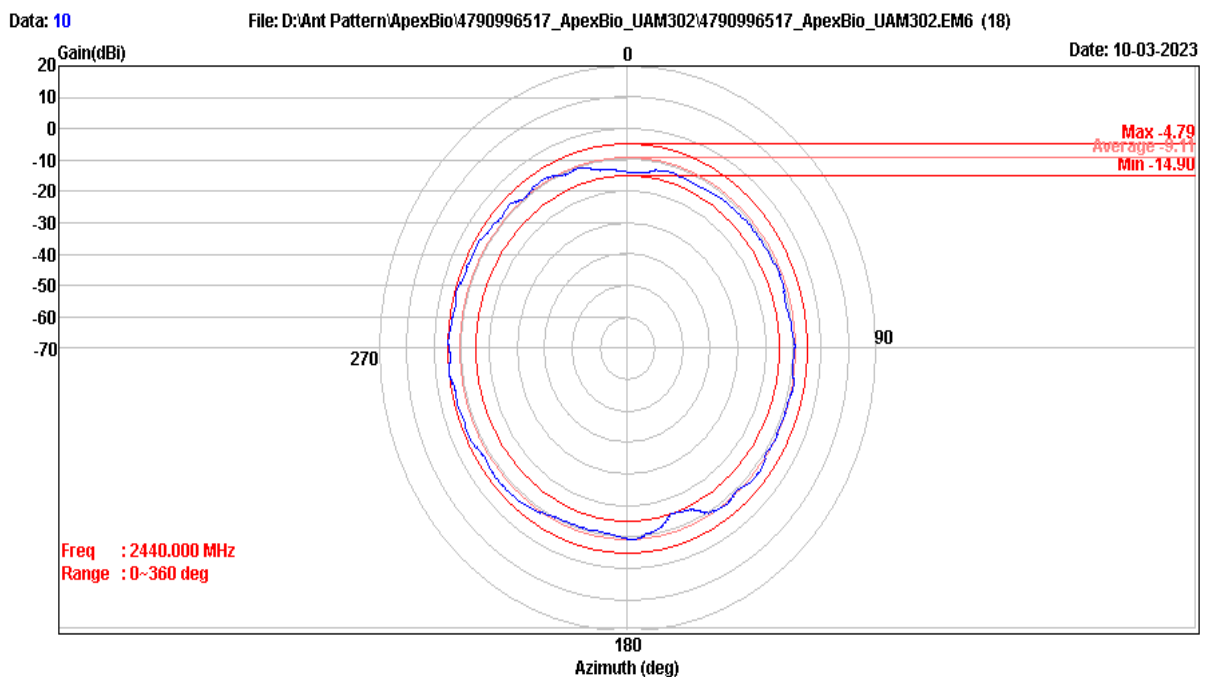
### 2402MHz\_Vertical\_Y-Z



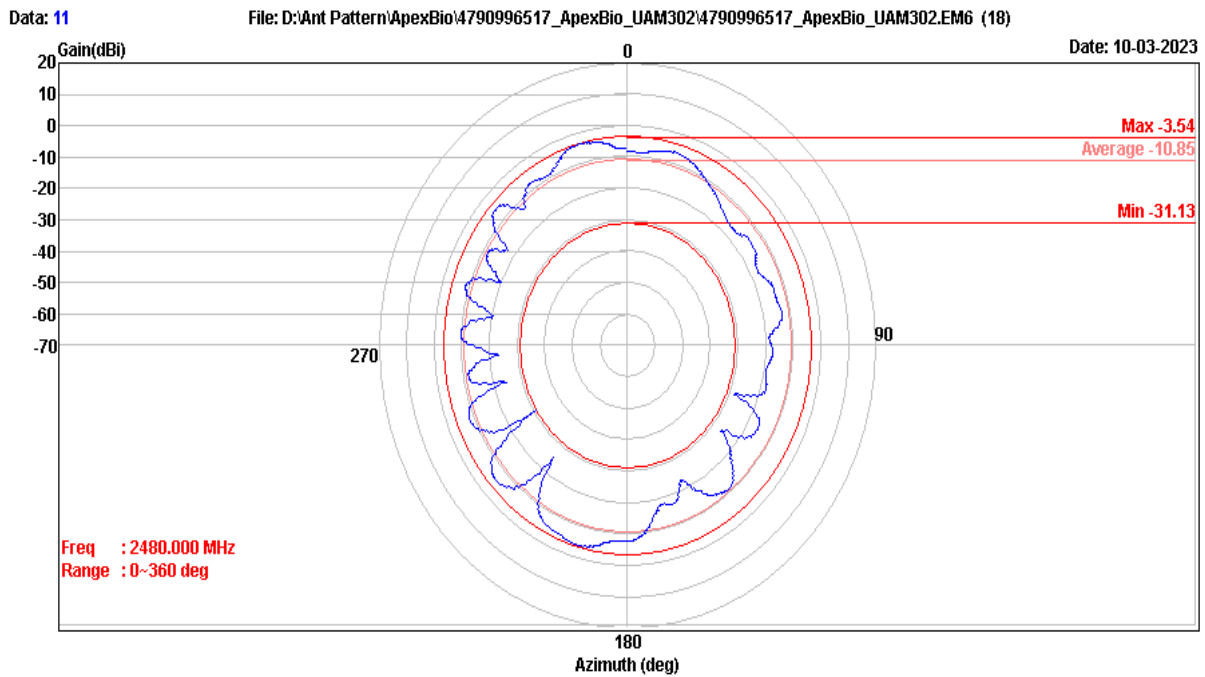
### 2440MHz\_Horizontal\_Y-Z



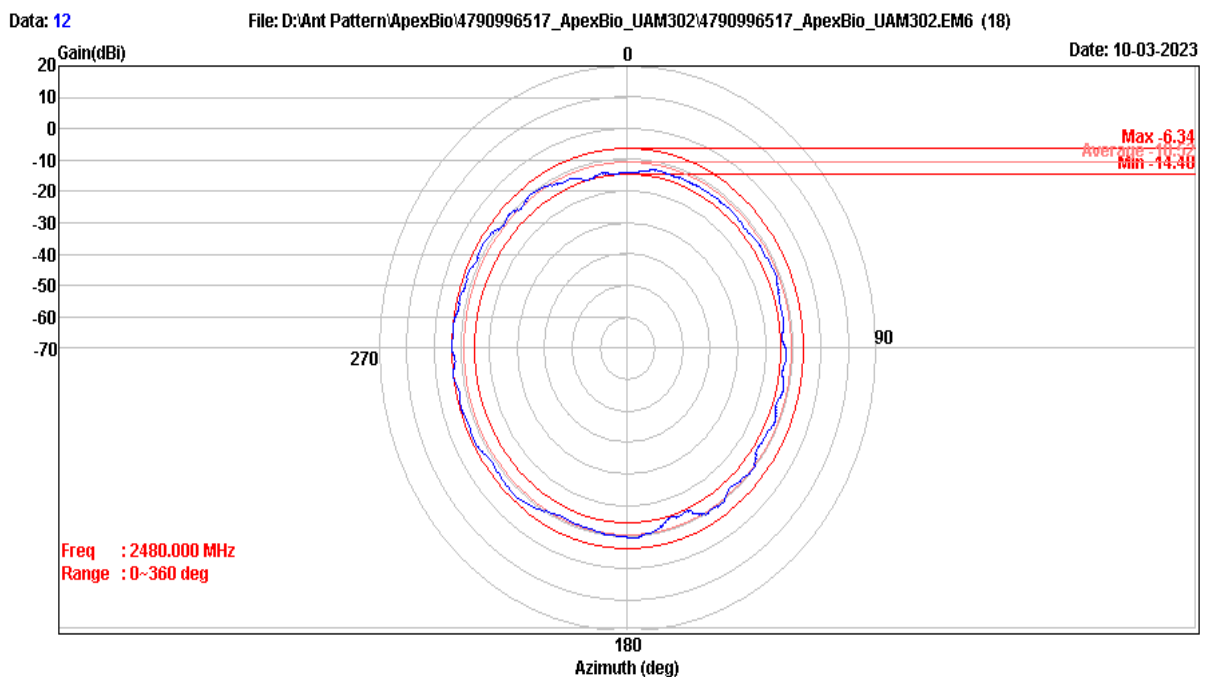
### 2440MHz\_Vertical\_Y-Z



### 2480MHz\_Horizontal\_Y-Z



### 2480MHz\_Vertical\_Y-Z



**END OF REPORT**