

# **OAW-AP1511**

## **Antenna Test Report**

Version:V1  
2024-6-14

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## 1. Test Information

|              |              |
|--------------|--------------|
| Equipment    | EMT Chamber  |
| Applicant    | Han-Networks |
| Manufacturer | AOT          |

## 2. Testing Location

| Testing Location |                                                                           |
|------------------|---------------------------------------------------------------------------|
| <b>AOT</b>       | ADD: 289 Jinghua Road,Shipai, BachengTown, Kunshan City, Jiangsu Province |

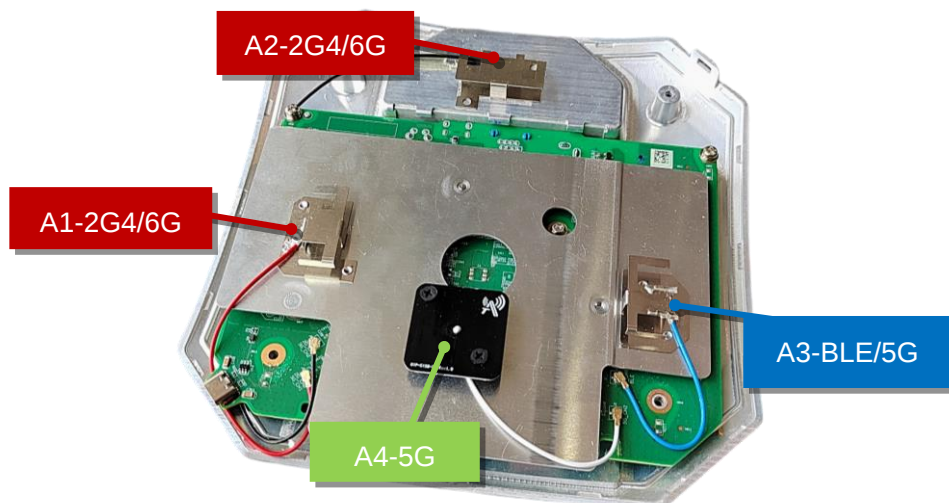
| Test Condition | Test Engineer | Test Environment ( °C / %) | Test Date           |
|----------------|---------------|----------------------------|---------------------|
| Radiated       | Changgan Lai  | 20-24 / 45-60              | 5.27.2024~5.27.2024 |

## 3. Test Frequency

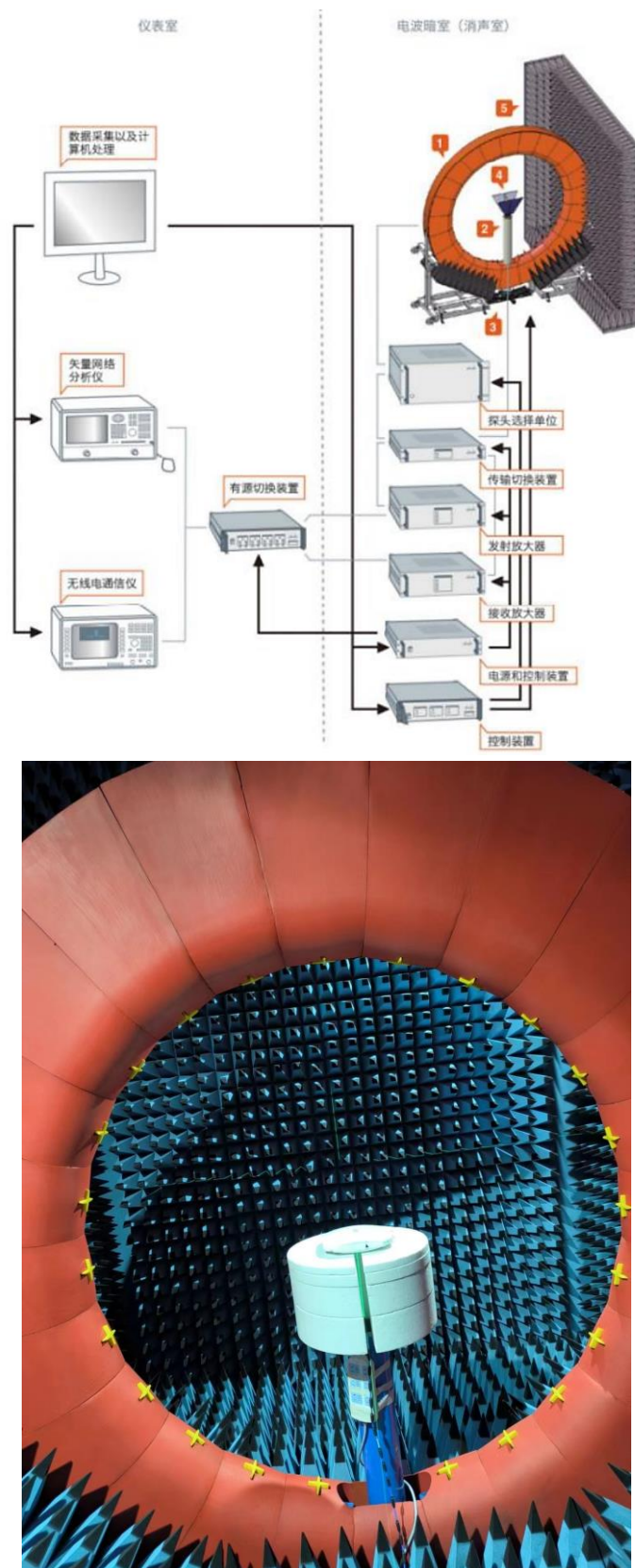
| Band (MHz) | Test Frequency (MHz) |
|------------|----------------------|
| 2400-2500  | 2450                 |
| 5150-5850  | 5150/5500/5850       |
| 5925-7125  | 5925/6500/7125       |

## 4. Antenna Information

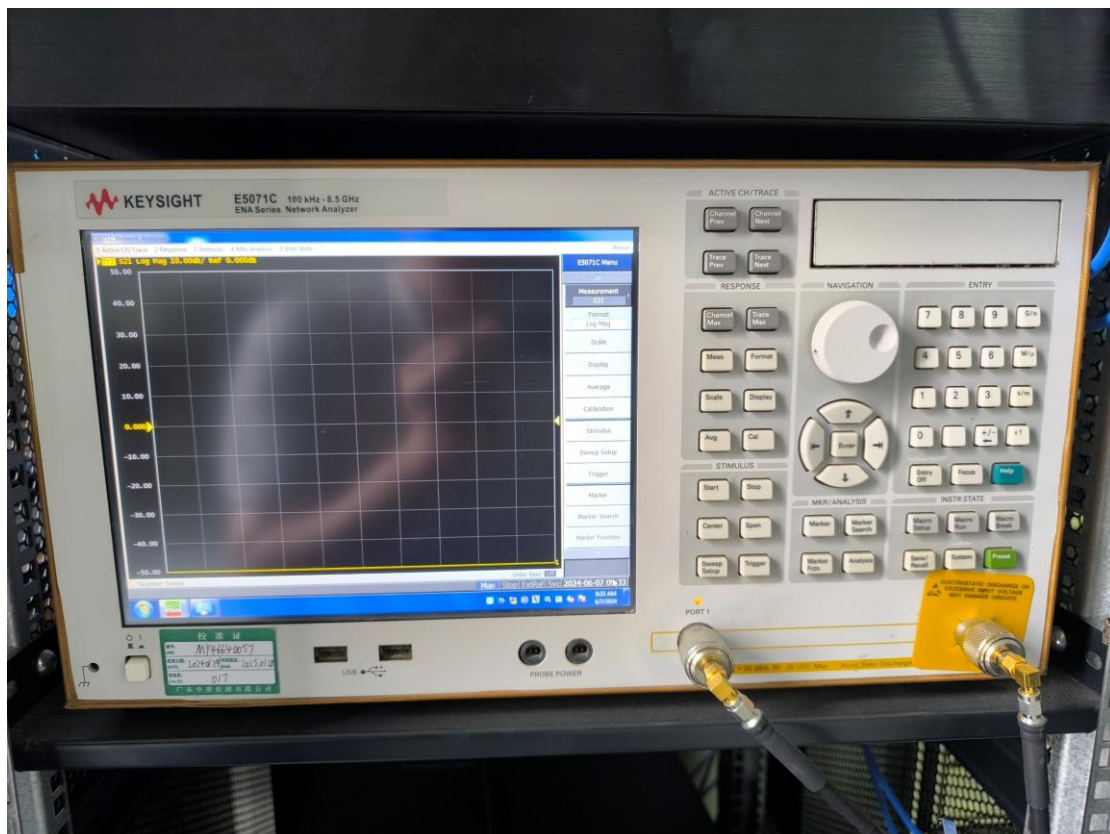
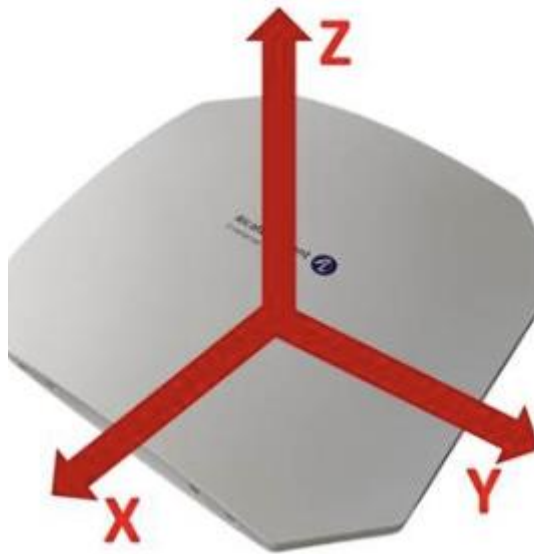
| Ant. Position             | Polarization Type | Ant. Type | Connector |
|---------------------------|-------------------|-----------|-----------|
| Antenna 1 (2.4G/6G)       | Vertical          | Dipole    | I-PEX     |
| Antenna 2 (2.4G/6G)       | Vertical          | Dipole    | I-PEX     |
| Antenna 3 (BLE/Zigbee/5G) | Vertical          | Dipole    | I-PEX     |
| Antenna 4 (5G)            | Horizontal        | Dipole    | I-PEX     |



## 5. Test Configuration



## 6. Reference Calibration



CALIBRATION PASS

CAL.DATA: 2024.1.29

NEXT CAL.DATA: 2025.1.29

## 7. Test Method

The “great circle” cut method, whereby the Measurement Antenna remains fixed and the EUT is rotated about two axes in sequential order. The radiated RF performance of the Equipment Under Test (EUT) is measured by sampling the radiated transmit power of the mobile at various locations surrounding the device. A three-dimensional characterization of the 'transmit' performance of the EUT is pieced together by analyzing the data from the spatially distributed measurements.

Data points taken every 2 degrees in the theta and in the phi axes are deemed sufficient to fully characterize the EUT's Far-Field radiation pattern and total radiated power. All of the measured power values will be integrated.

## 8. Measured Values and Calculation of Correlated / Uncorrelated Gains

### Summary of Antenna Peak Gain

**Antenna Peak Gain Table (Ant. Position: 2.4G Ant.1~2)**

| Band (MHz)           | 2400-2500 |
|----------------------|-----------|
| Ant.1 Max Gain (dBi) | 5.6       |
| Ant.2 Max Gain (dBi) | 3.5       |

**Antenna Peak Gain Table (Ant. Position: 5G Ant.3~4)**

| Band (MHz)           | 5150 ~ 5350 | 5470 ~ 5725 | 5725 ~ 5850 |
|----------------------|-------------|-------------|-------------|
| Ant.3 Max Gain (dBi) | 5.3         | 5.9         | 5.7         |
| Ant.4 Max Gain (dBi) | 4.6         | 4.3         | 3.7         |

**Antenna Peak Gain Table (Ant. Position: 6G Ant.1~2)**

| Band (MHz)           | 5925 ~ 6425 | 6425 ~ 6875 | 6875 ~ 7125 |
|----------------------|-------------|-------------|-------------|
| Ant.1 Max Gain (dBi) | 6.4         | 6.4         | 5.9         |
| Ant.1 Min Gain (dBi) | 4.7         |             |             |
| Ant.2 Max Gain (dBi) | 5.1         | 5.7         | 5.9         |
| Ant.2 Min Gain (dBi) | 4.0         |             |             |

**Antenna Peak Gain Table (Ant. Position: BLE/Zigbee Ant.3)**

| Band (MHz)           | 2400-2500 |
|----------------------|-----------|
| Ant.3 Max Gain (dBi) | 4.3       |



|                  |      |      |      |
|------------------|------|------|------|
| Frequency (MHz)  | 5150 | 5500 | 5850 |
| Directional Gain | 3.75 | 4.21 | 3.9  |

**Ant.3~4 @5.15GHz**

[illegible][illegible]

## Correlated Directional Gain for 6GHz (Ant. Position: 6G Ant.1~2)

| Frequency (MHz)  | 5925 | 6500 | 7125 |
|------------------|------|------|------|
| Directional Gain | 6.22 | 6.88 | 6.87 |

### Ant.1~2 @5.925GHz

| Frequency (MHz)  | 5925 | 6500 | 7125 |
|------------------|------|------|------|
| Directional Gain | 6.22 | 6.88 | 6.87 |

### Ant.1~2 @6.5GHz

| Frequency (MHz)  | 5925 | 6500 | 7125 |
|------------------|------|------|------|
| Directional Gain | 6.22 | 6.88 | 6.87 |

### Ant.1~2 @7.125GHz

| Frequency (MHz)  | 5925 | 6500 | 7125 |
|------------------|------|------|------|
| Directional Gain | 6.22 | 6.88 | 6.87 |

## Uncorrelated Directional Gain for 6GHz (Ant. Position: 6G Ant.1~2)

| Frequency (MHz)  | 5925 | 6500 | 7125 |
|------------------|------|------|------|
| Directional Gain | 3.21 | 4.24 | 3.95 |

### Ant.1~2 @5.925GHz

| Frequency (MHz)  | 5925 | 6500 | 7125 |
|------------------|------|------|------|
| Directional Gain | 3.21 | 4.24 | 3.95 |

### Ant.1~2 @6.5GHz

| Frequency (MHz)  | 5925 | 6500 | 7125 |
|------------------|------|------|------|
| Directional Gain | 3.21 | 4.24 | 3.95 |

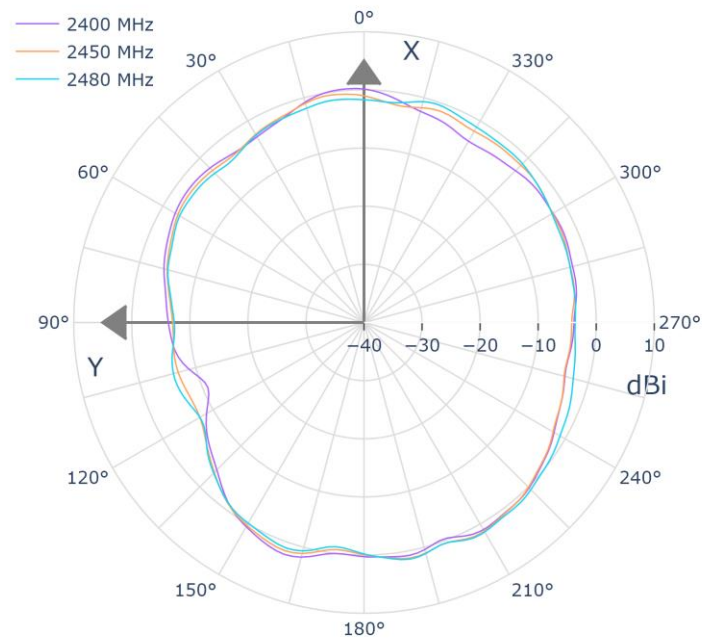
**Ant.1~2 @7.125GHz**

[illegible]

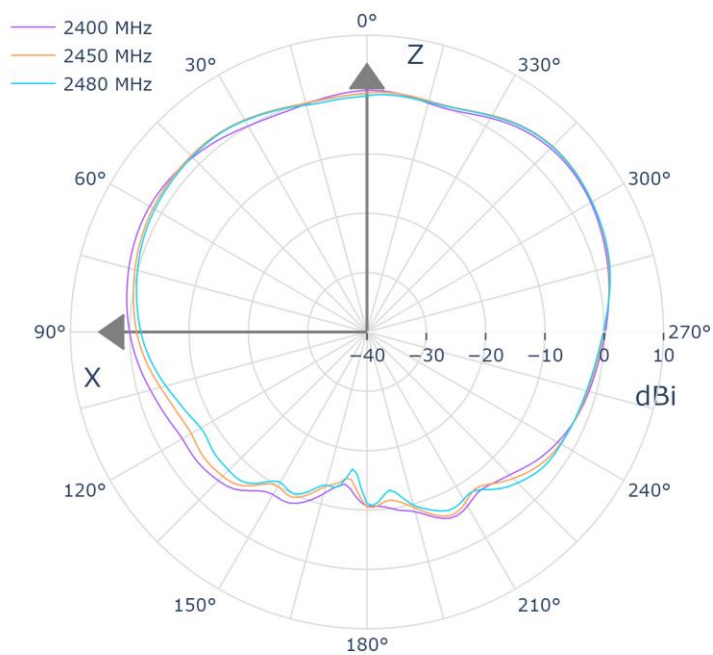
## 9. Radiation Pattern

Ant. Position: 2.4G Ant.1

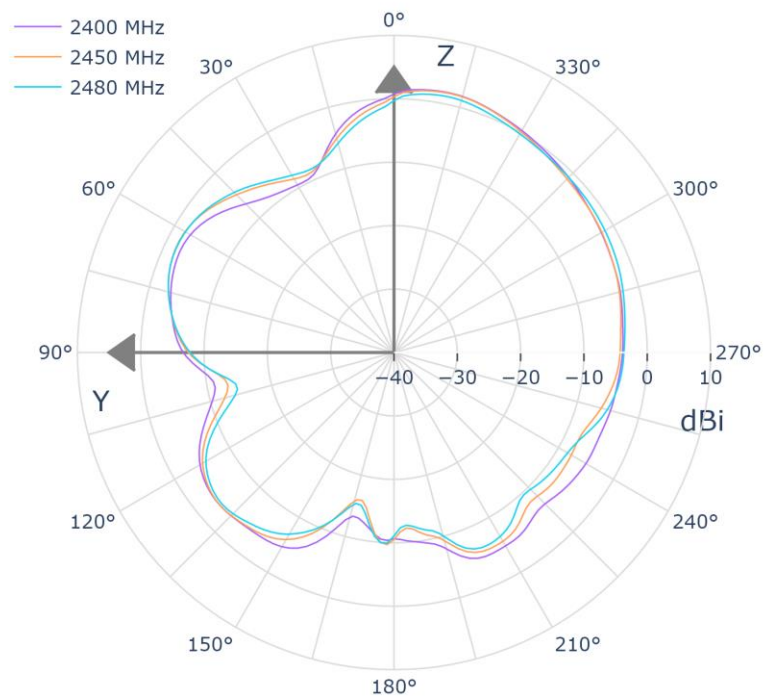
[XY\\_Ant.1@2.4G](#)



[XZ\\_Ant.1@2.4G](#)

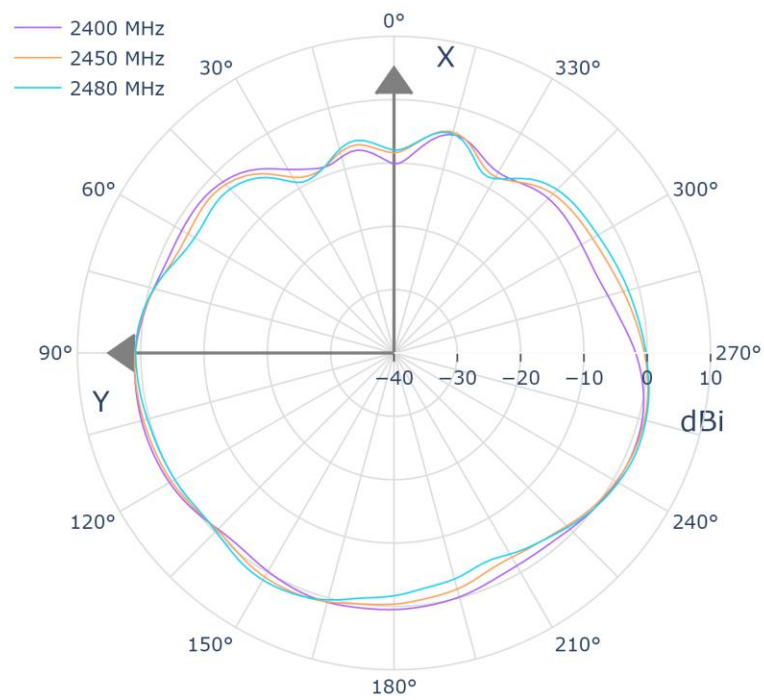


### YZ\_Ant.1@2.4G

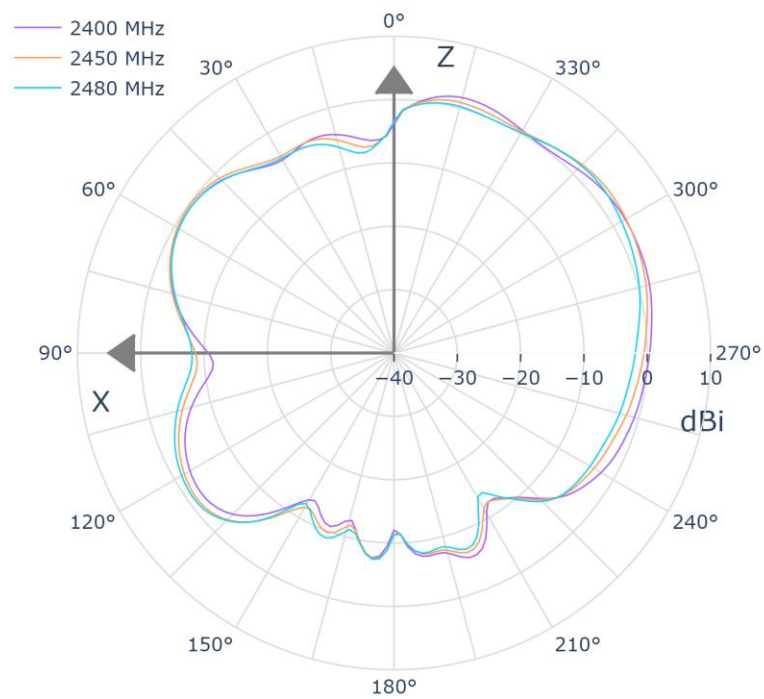


### **Ant. Position: 2.4G Ant.2**

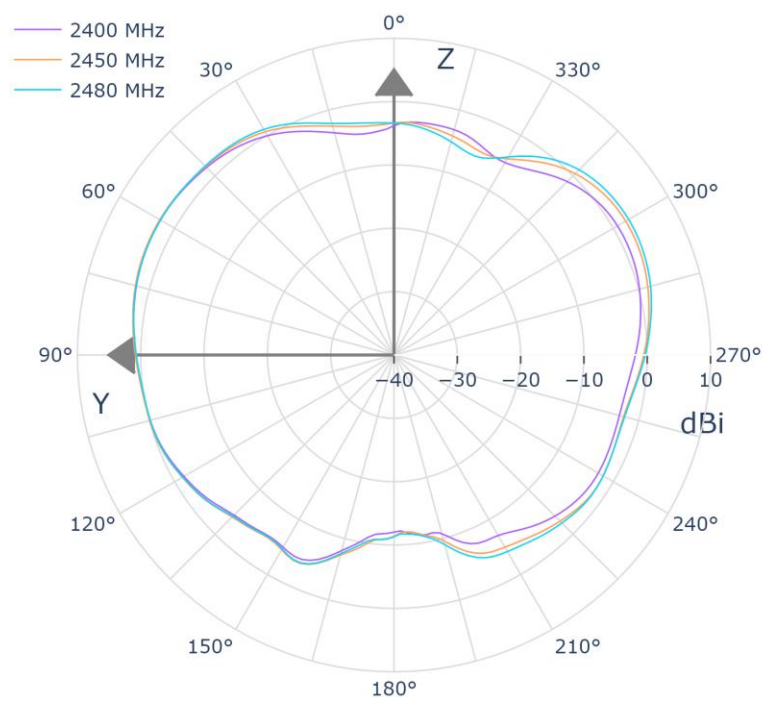
#### XY\_Ant.2@2.4G



### XZ\_Ant.2@2.4G

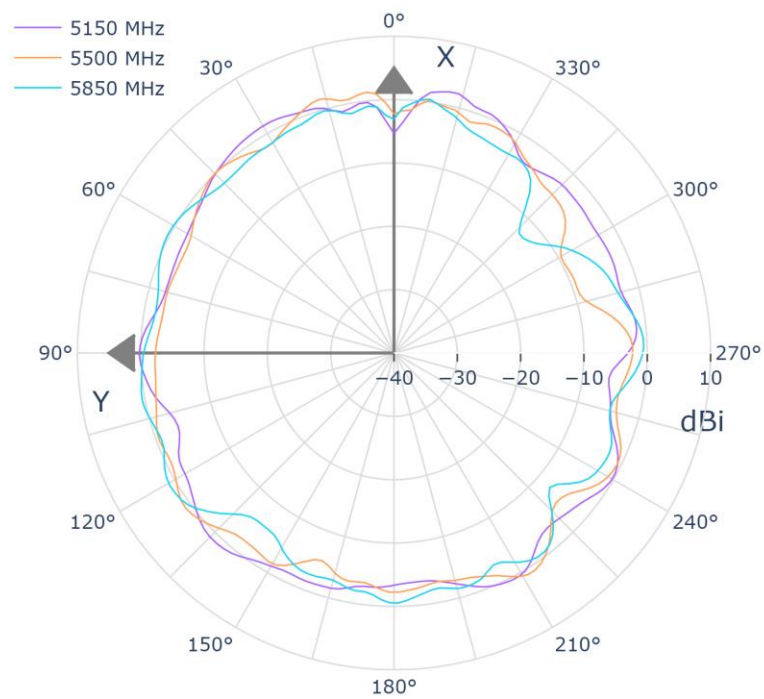


### YZ\_Ant.2@2.4G

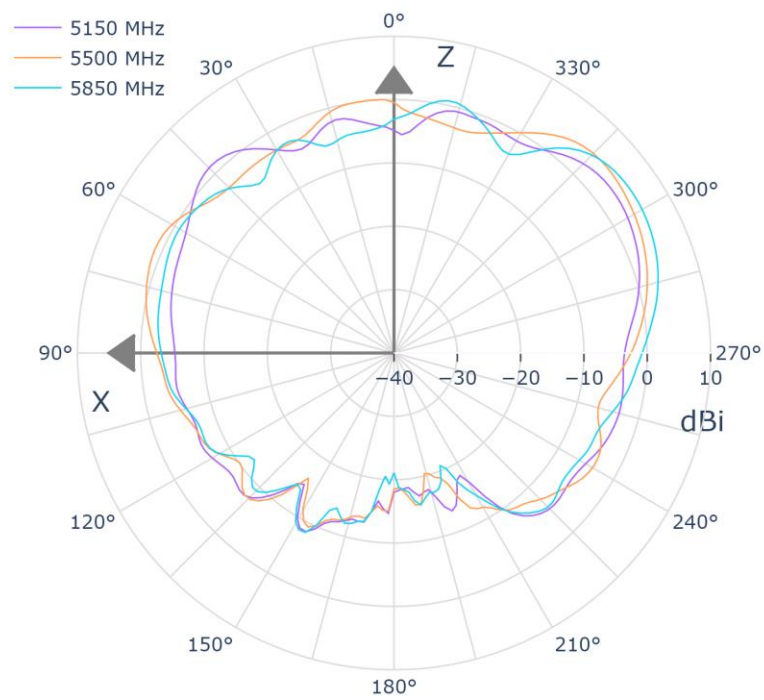


Ant. Position: 5G Ant.3

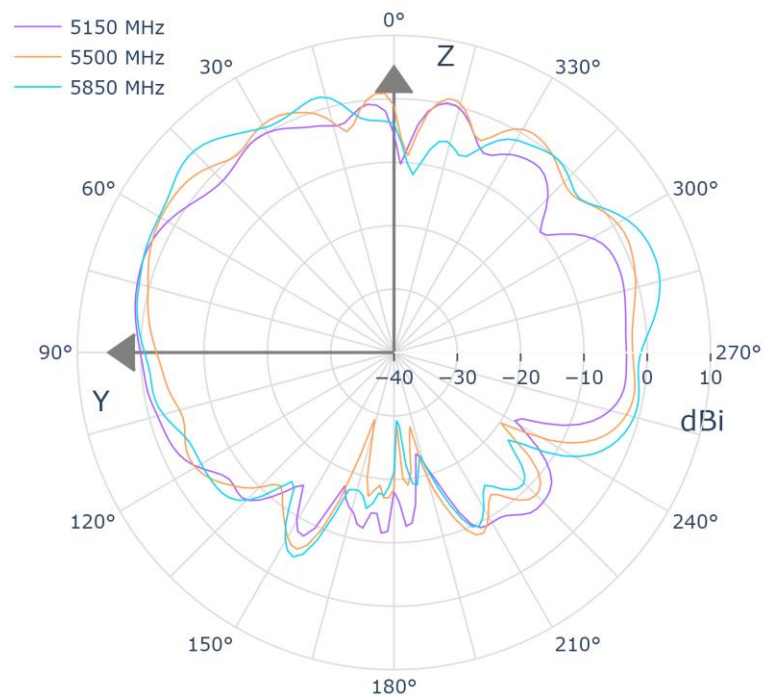
XY Ant.3@5G



XZ Ant.3@5G

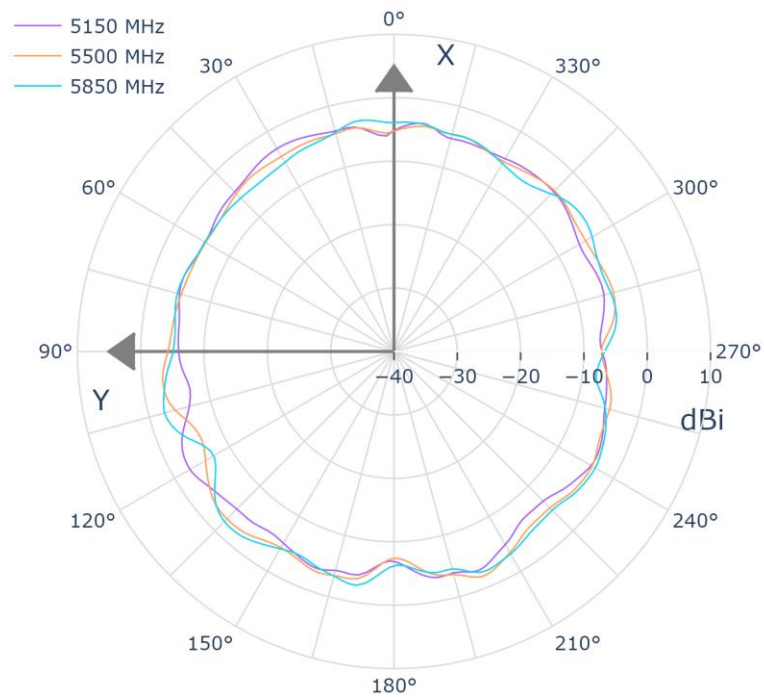


### YZ Ant.3@5G

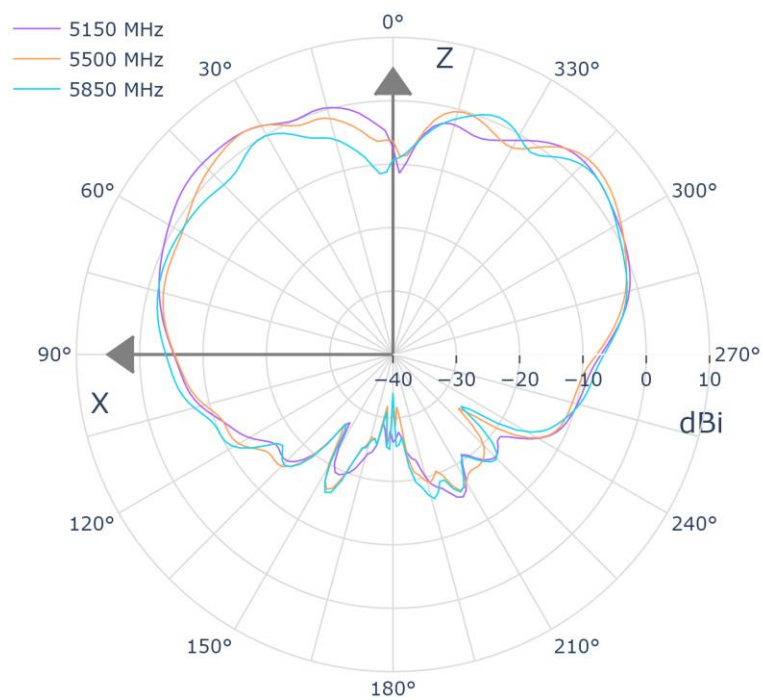


### Ant. Position: 5G Ant.4

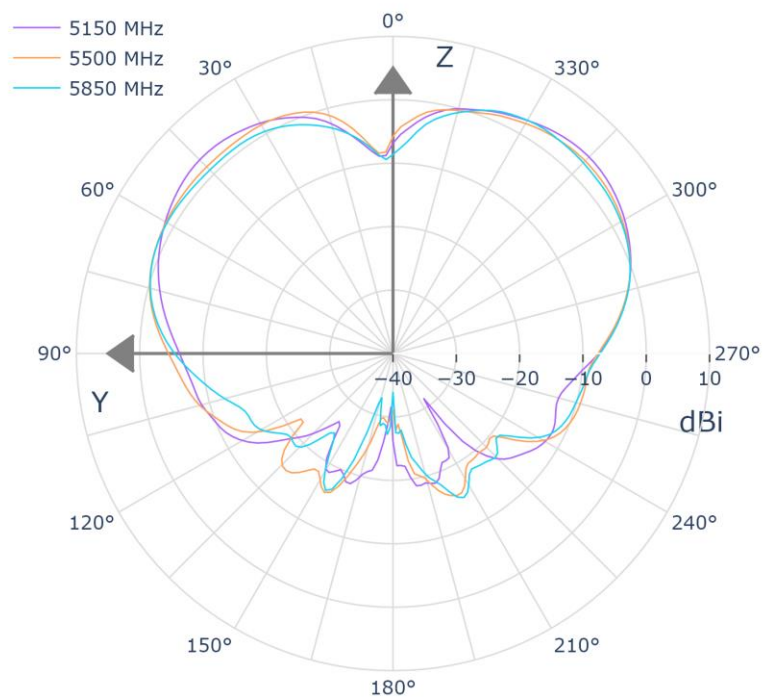
#### XY Ant.4@5G



XZ Ant.4@5G

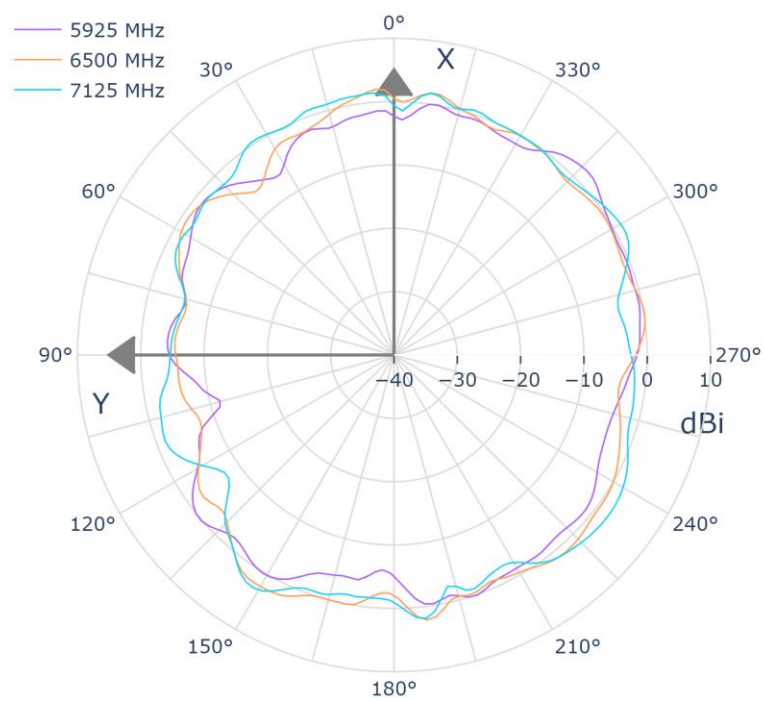


YZ Ant.4@5G

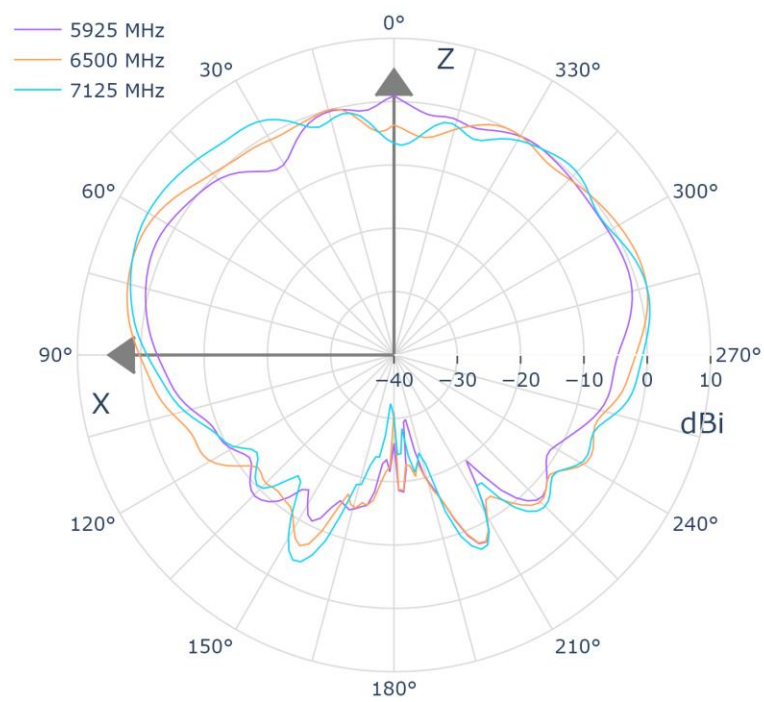


Ant. Position: 6G Ant.1

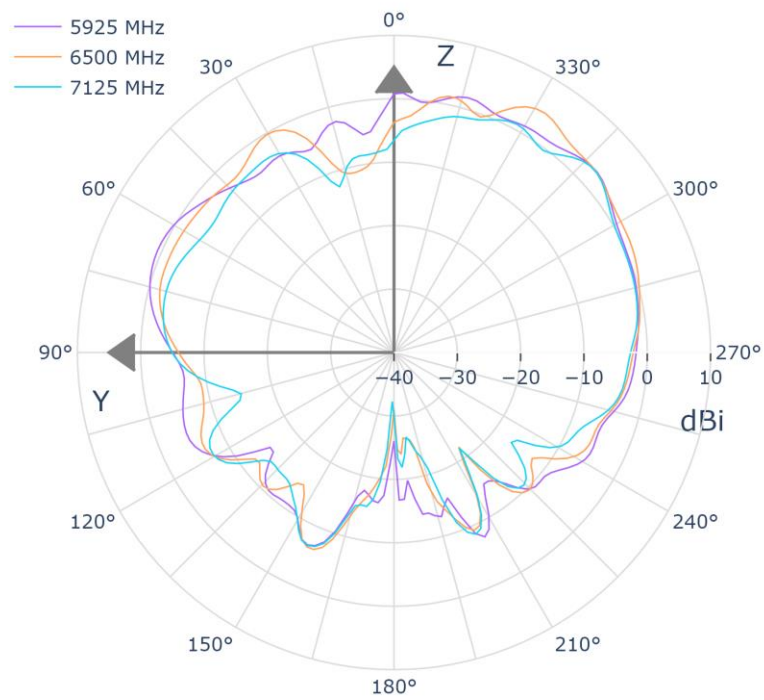
XY Ant.1@6G



XZ Ant.1@6G

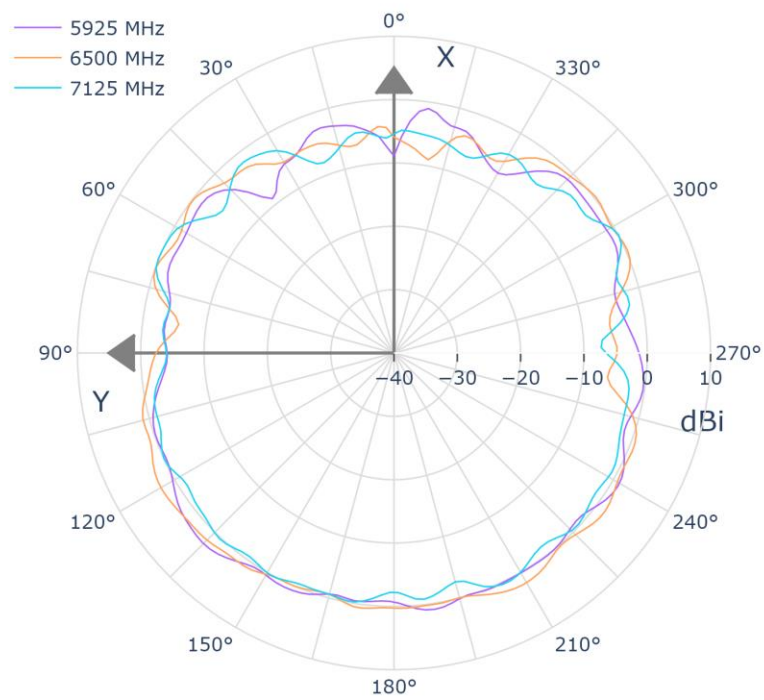


### YZ Ant.1@6G

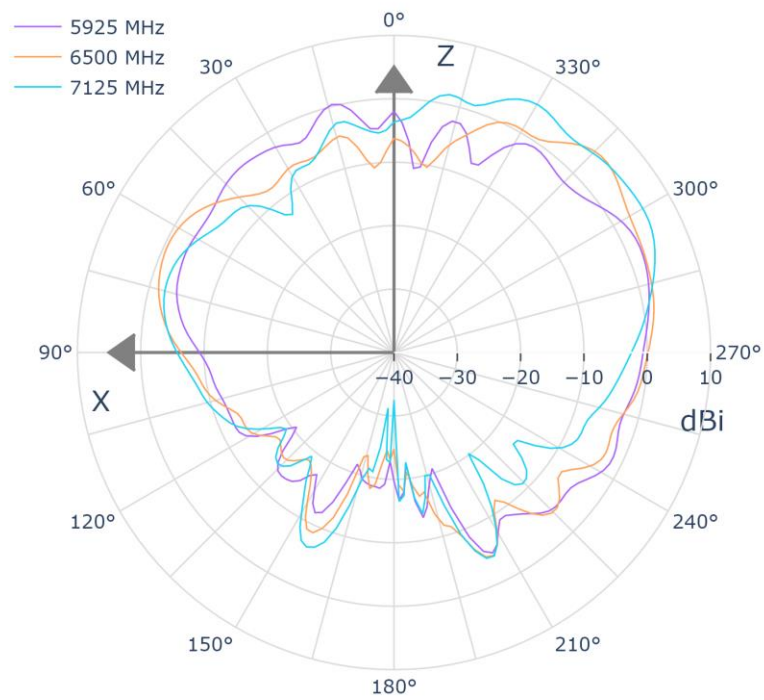


### Ant. Position: 6G Ant.2

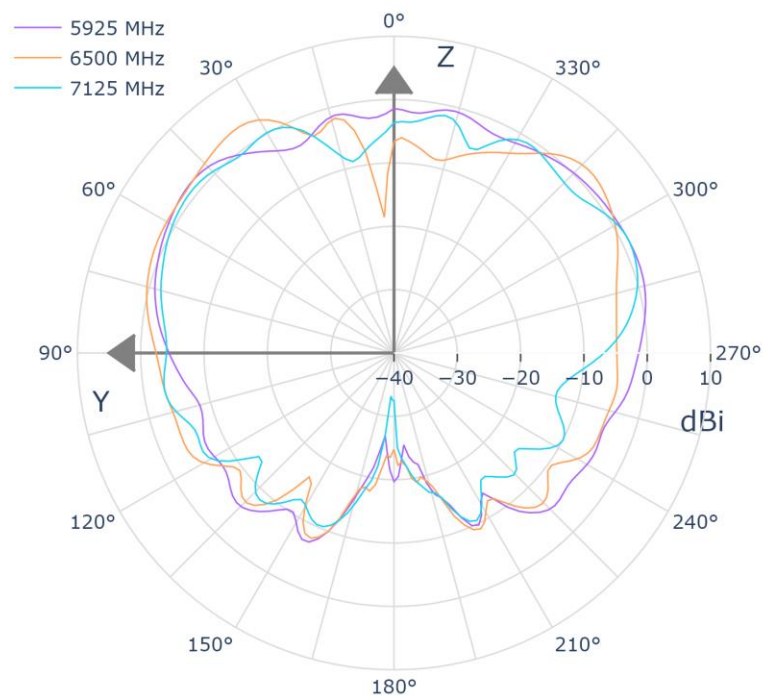
### XY Ant.2@6G



### XZ Ant.2@6G

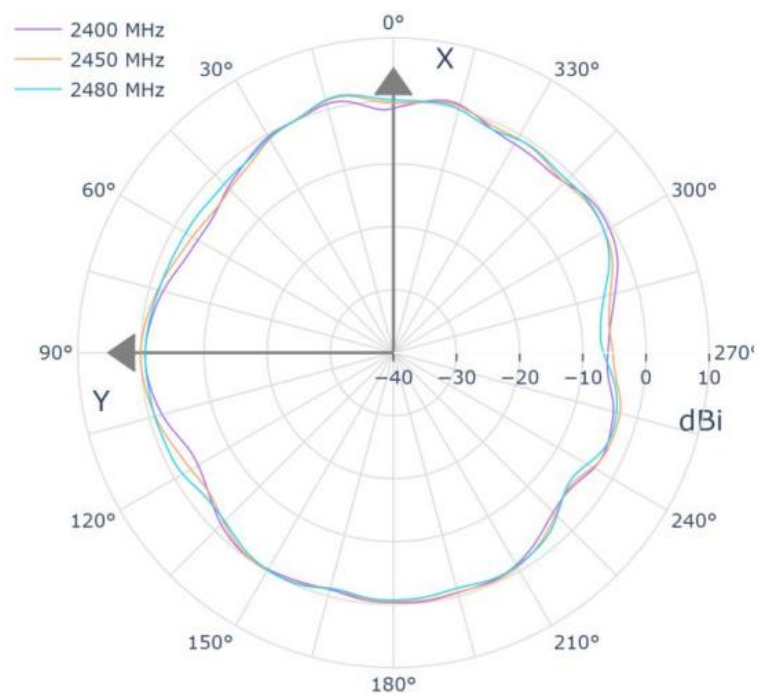


### YZ Ant.2@6G

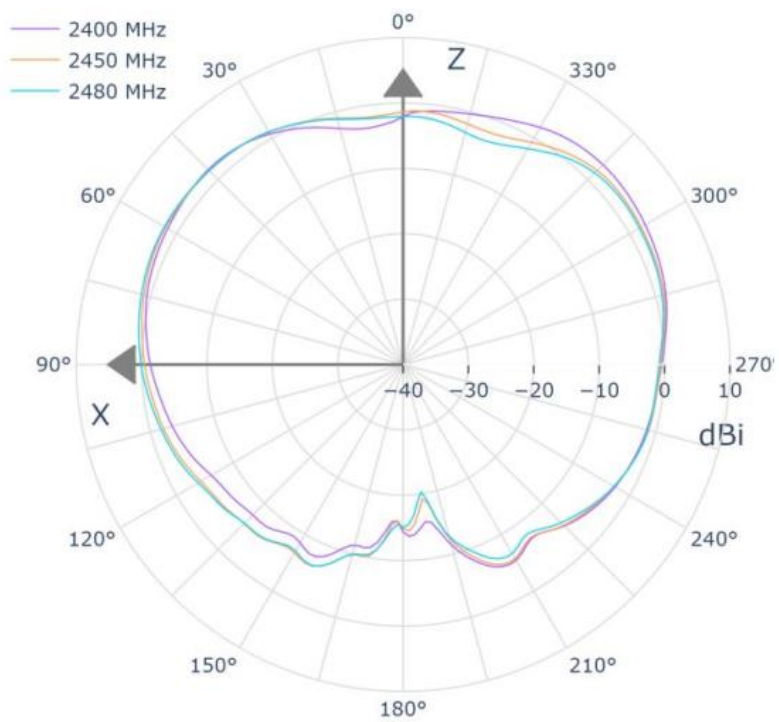


Ant. Position: BLE Ant.3

XY Ant.3@2.4G



XZ Ant.2@6G



YZ Ant.2@6G

