

# Antenna Datasheet

**Product OC:** Y0RGH0CA2AA

**Version:** 1.0

**Date:** 2025-05-07

**Product Name:** External Wi-Fi Antenna

**Key Features:**

Frequency Band: 2400–2500 MHz, 5150–5850 MHz

Dimensions: 164.79 mm × 23.79 mm × 21.05 mm

Efficiency: Up to 72 %

RoHS Compliant

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# 1 Specification

Test Condition: Assembled in test device

## 1.1. Electrical

| Electrical        |             |                  |
|-------------------|-------------|------------------|
| Frequency Range   | <b>2.4G</b> | 2400–2500 MHz    |
|                   | <b>5G</b>   | 5150–5850 MHz    |
| Impedance         | <b>2.4G</b> | 50 Ω             |
|                   | <b>5G</b>   | 50 Ω             |
| Polarization      | <b>2.4G</b> | Linear           |
|                   | <b>5G</b>   | Linear           |
| Radiation Pattern | <b>2.4G</b> | Omni-directional |
|                   | <b>5G</b>   | Omni-directional |
| VSWR              | <b>2.4G</b> | ≤ 1.4            |
|                   | <b>5G</b>   | ≤ 1.7            |
| Peak Gain         | <b>2.4G</b> | 3.1 dBi          |
|                   | <b>5G</b>   | 5.1 dBi          |

## 1.2. Mechanical & Environmental

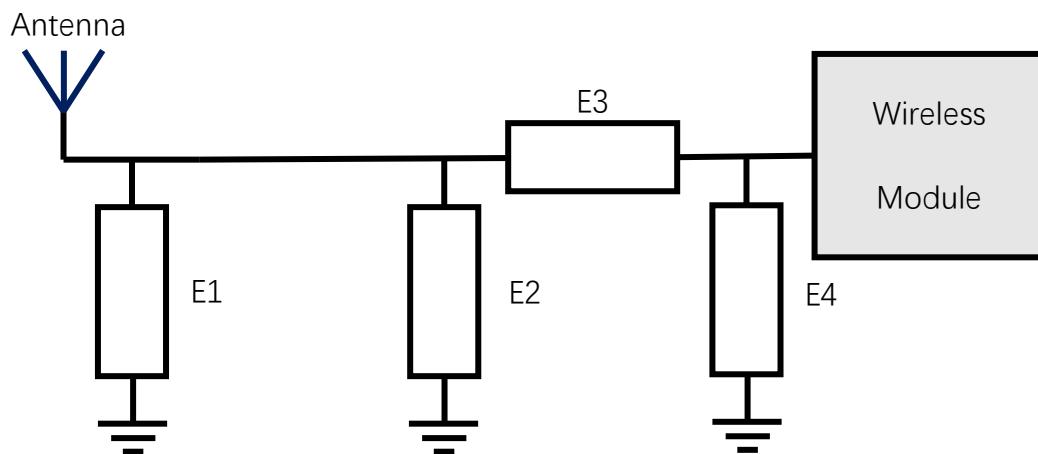
| Mechanical         |                                |
|--------------------|--------------------------------|
| Antenna Dimensions | 164.79mm × 23.79 mm × 21.05 mm |
| Material & Color   | ABS & Blue-gray                |

|                              |             |                         |
|------------------------------|-------------|-------------------------|
| <b>Mounting Type</b>         | <b>2.4G</b> | Φ 1.37 & White & 300 mm |
|                              | <b>5.0G</b> | Φ 1.37 & Black & 90 mm  |
| <b>Connector Type</b>        |             | RF1 & ETC               |
| <b>Mounting Type</b>         |             | Terminal                |
| <b>Weight</b>                |             | Typ. 24.9 g             |
| <b>Environmental</b>         |             |                         |
| <b>Operation Temperature</b> |             | -20 °C to +70 °C        |
| <b>Storage Temperature</b>   |             | -20 °C to +70 °C        |
| <b>RoHS Compliant</b>        |             | Yes                     |

### 1.3. Antenna Assembly

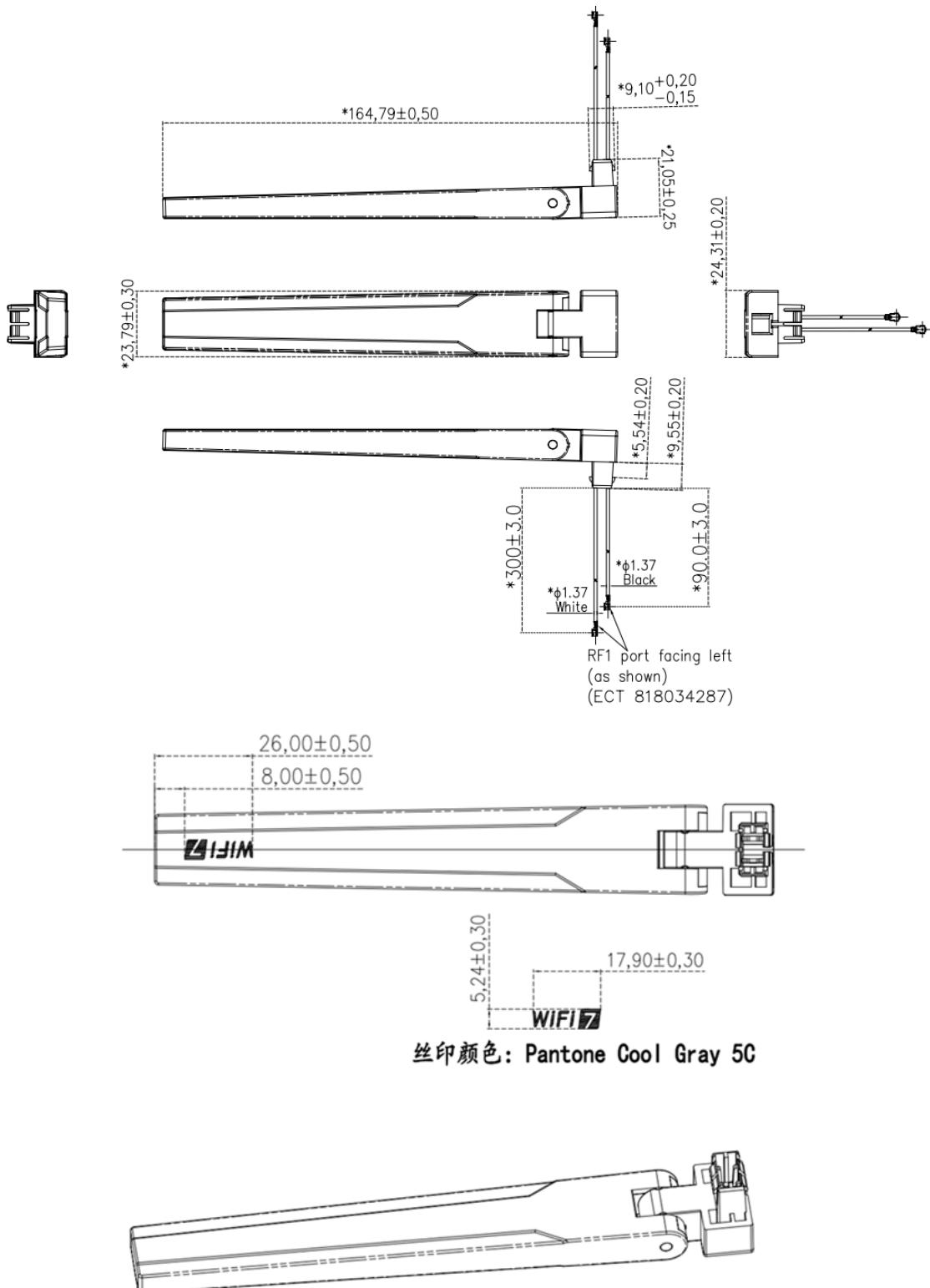


## 1.4. Matching Circuit



|                         | E1  | E1  | E3   | E4  |
|-------------------------|-----|-----|------|-----|
| <b>Default Matching</b> | DNI | DNI | 0 Ω  | DNI |
| <b>Tolerance</b>        | N/A | N/A | ±5 % | N/A |

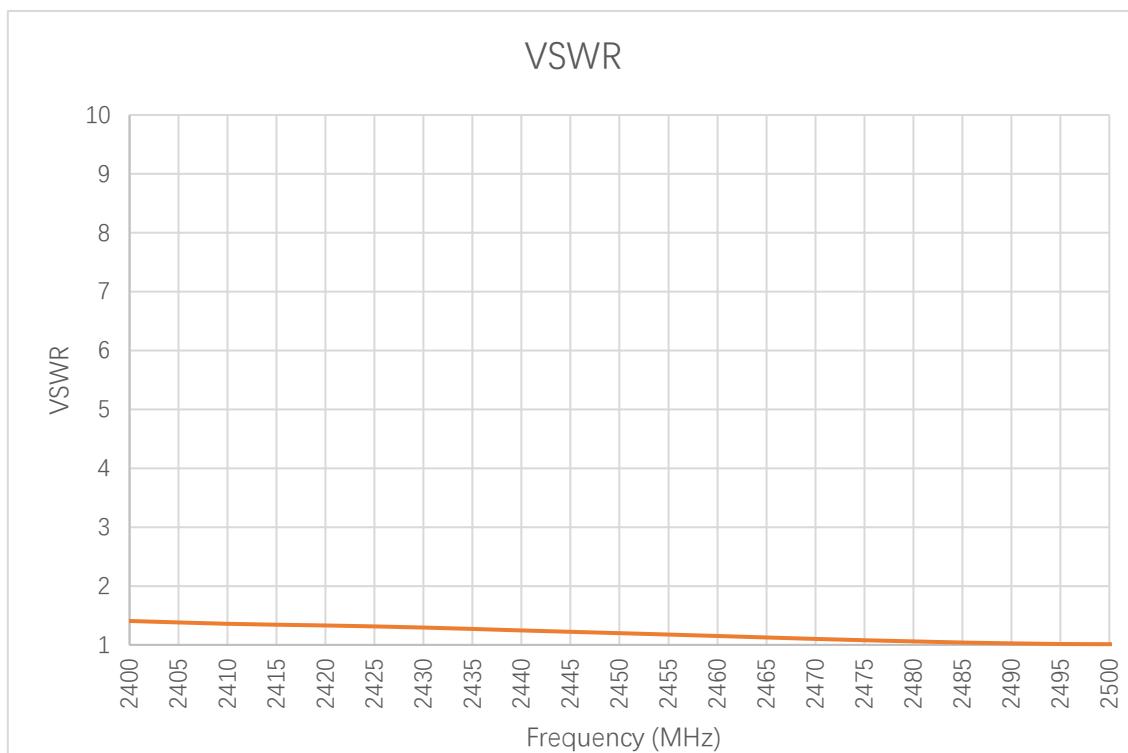
## 2 Drawing

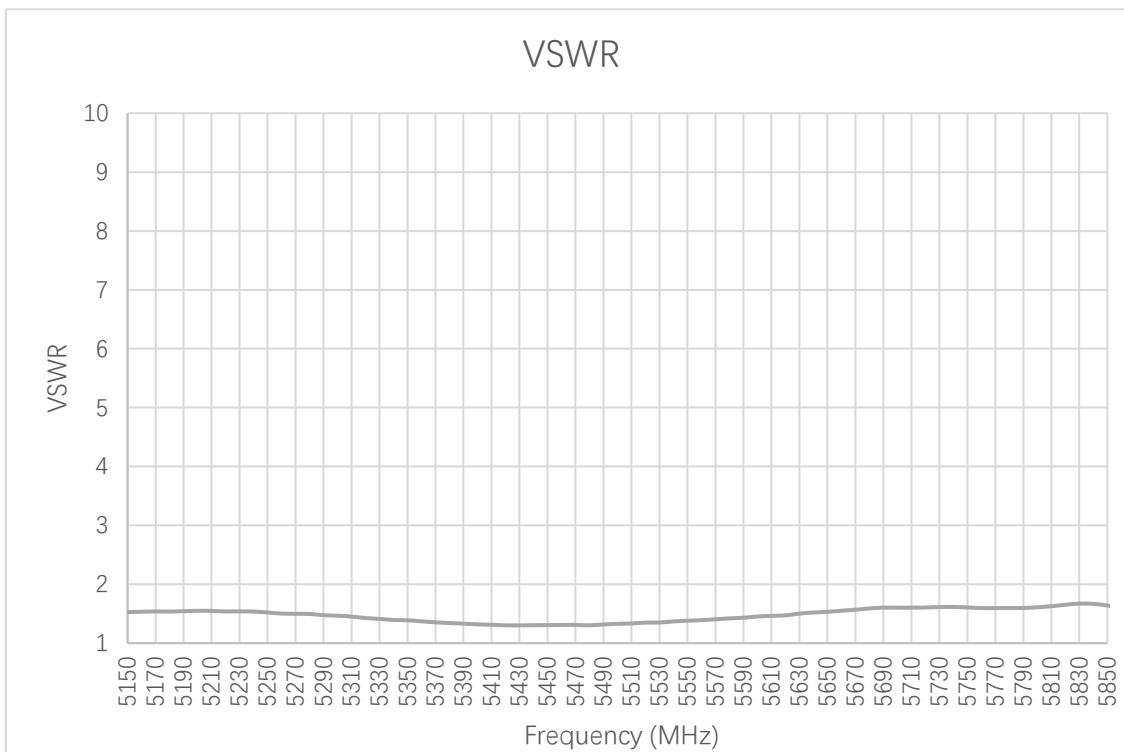


# 3 Detailed Performance

## 3.1. S-Parameter Test

### 3.1.1. VSWR

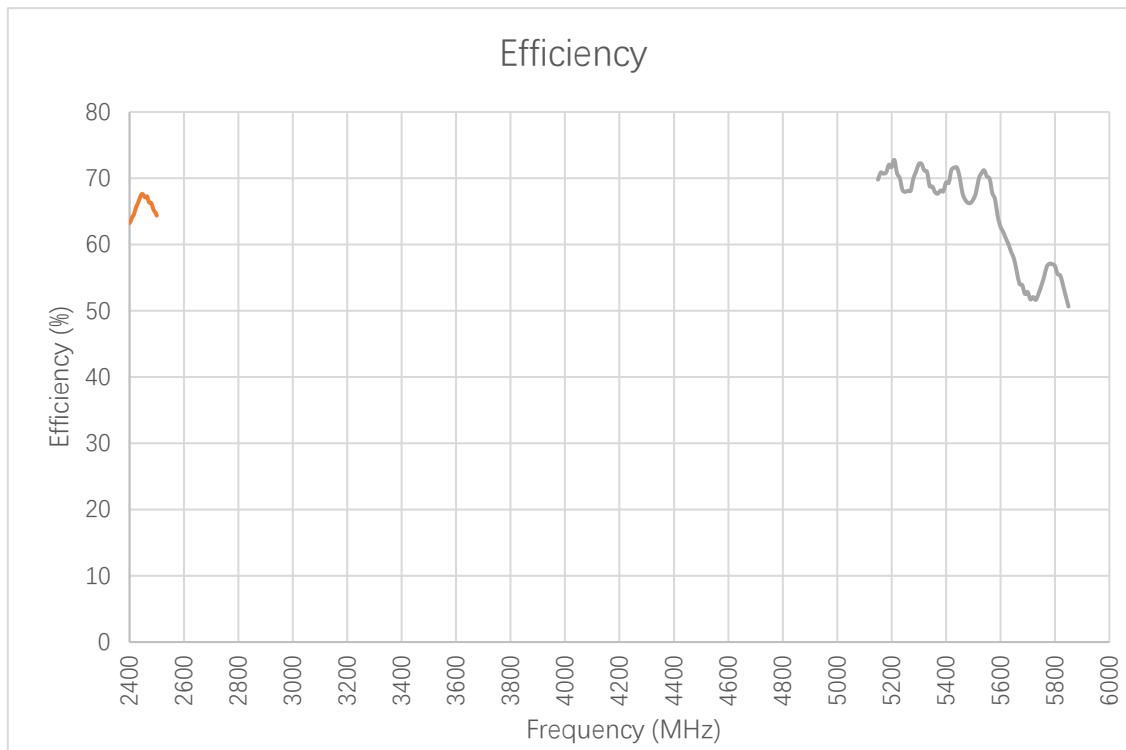


**VSWR**

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 | 5925 | 6325 | 6725 | 7125 |
|-----------------|------|------|------|------|------|------|------|------|------|------|
| <b>VSWR</b>     | 1.4  | 1.2  | 1.0  | 1.5  | 1.3  | 1.6  | -    | -    | -    | -    |

## 3.2. Radiation Performance Test

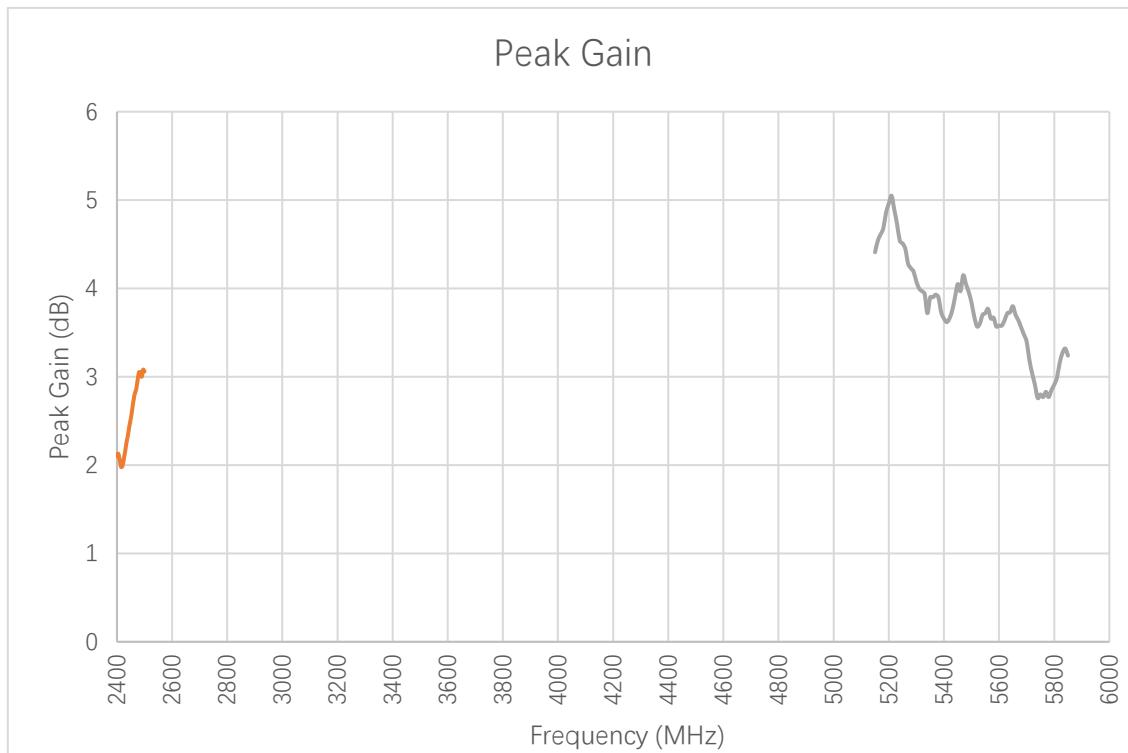
### 3.2.1. Efficiency



Efficiency (%)

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 | 5925 | 6325 | 6725 | 7125 |
|-----------------|------|------|------|------|------|------|------|------|------|------|
| Efficiency (%)  | 63.3 | 67.6 | 64.4 | 69.8 | 66.8 | 50.7 | -    | -    | -    | -    |

### 3.2.2. Peak Gain

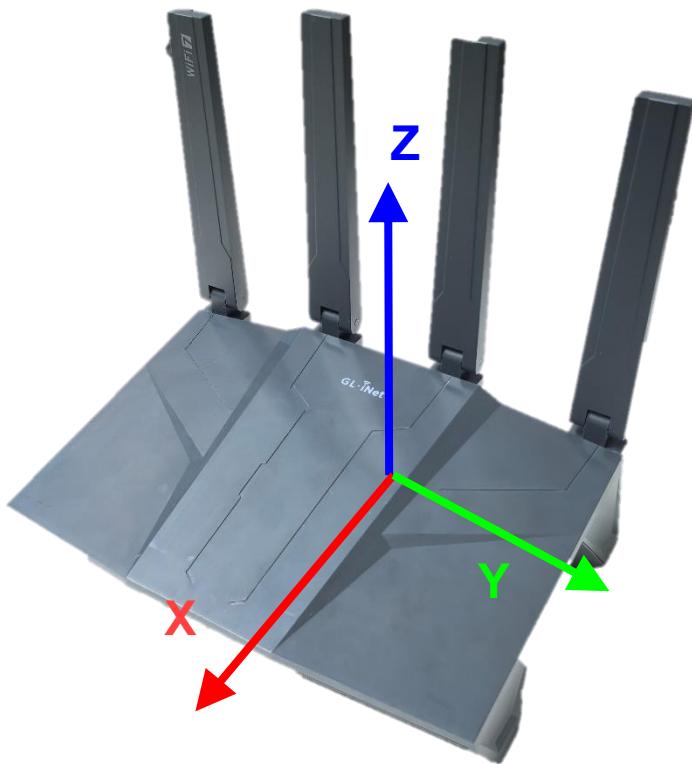


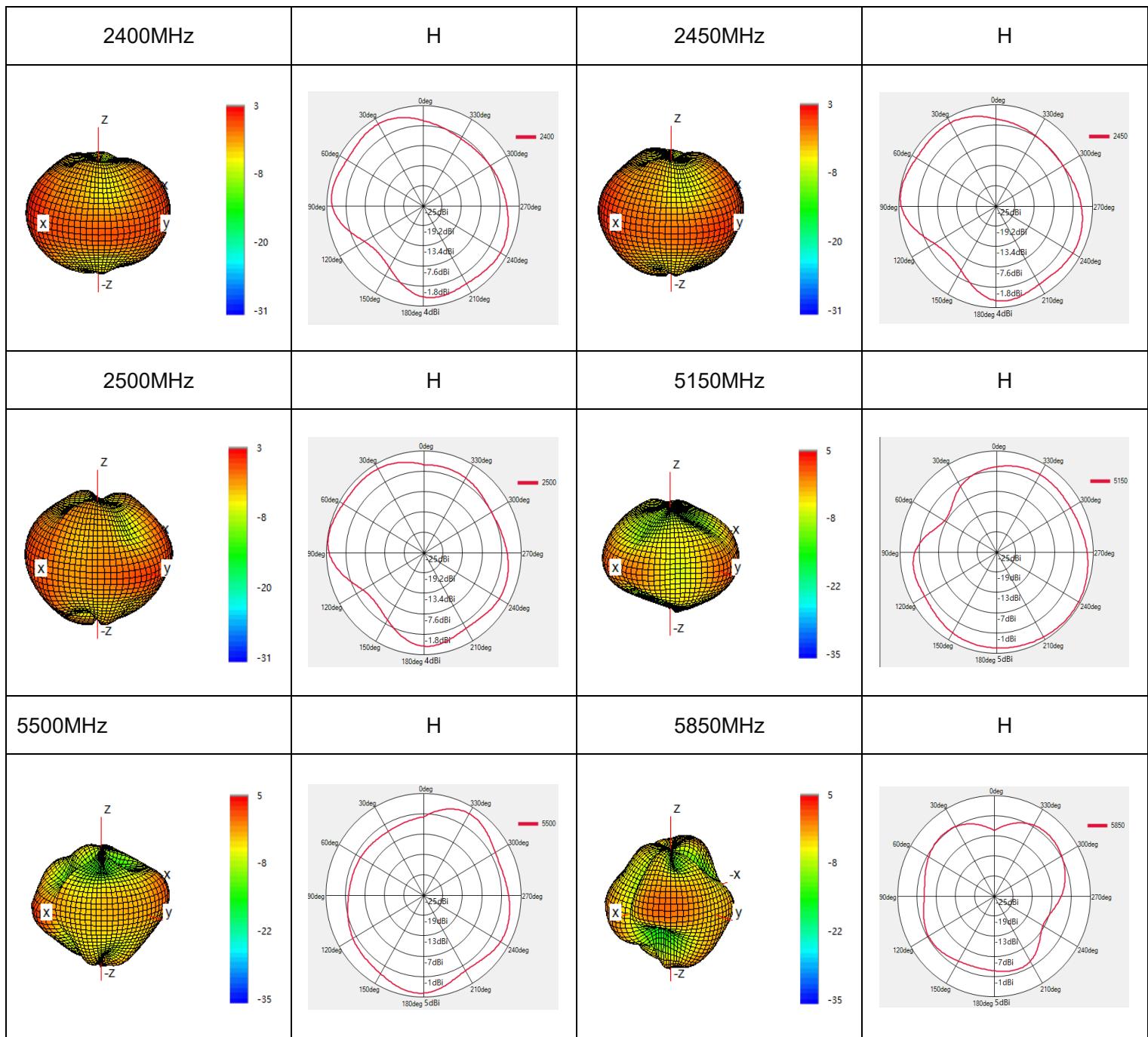
Peak Gain (dBi)

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 | 5925 | 6325 | 6725 | 7125 |
|-----------------|------|------|------|------|------|------|------|------|------|------|
| Peak Gain (dBi) | 2.1  | 2.5  | 3.1  | 4.4  | 3.8  | 3.2  | -    | -    | -    | -    |

### 3.2.3. 2D Radiation Pattern

- Test Condition: Assembled in test device
- Test Chamber: FS-G-1





# Contact Us

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# Revision History

| Version | Date       | Author                                | Note                     |
|---------|------------|---------------------------------------|--------------------------|
| -       | 2025-05-07 | Mordecai LIU/<br>Shea LI/<br>Aria CHU | Creation of the document |
| 1.0     | 2025-05-07 | Mordecai LIU/<br>Shea LI/<br>Aria CHU | First official release   |



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