



# Antenna Datasheet

**Product OC:** Y0BMZ0CA5BA

**Version:** 1.0

**Date:** 2025-05-08

**Status:** Preliminary

**Product Name:** WIFI Antenna

**Key Features:**

Frequency Band: 2400–2500 MHz

Dimensions: 29.02 mm × 25.97 mm × 0.13 mm

Efficiency: Up to 43 %

RoHS Compliant

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# 1 Specification

Test Condition: Assembled in test device

## 1.1. Electrical

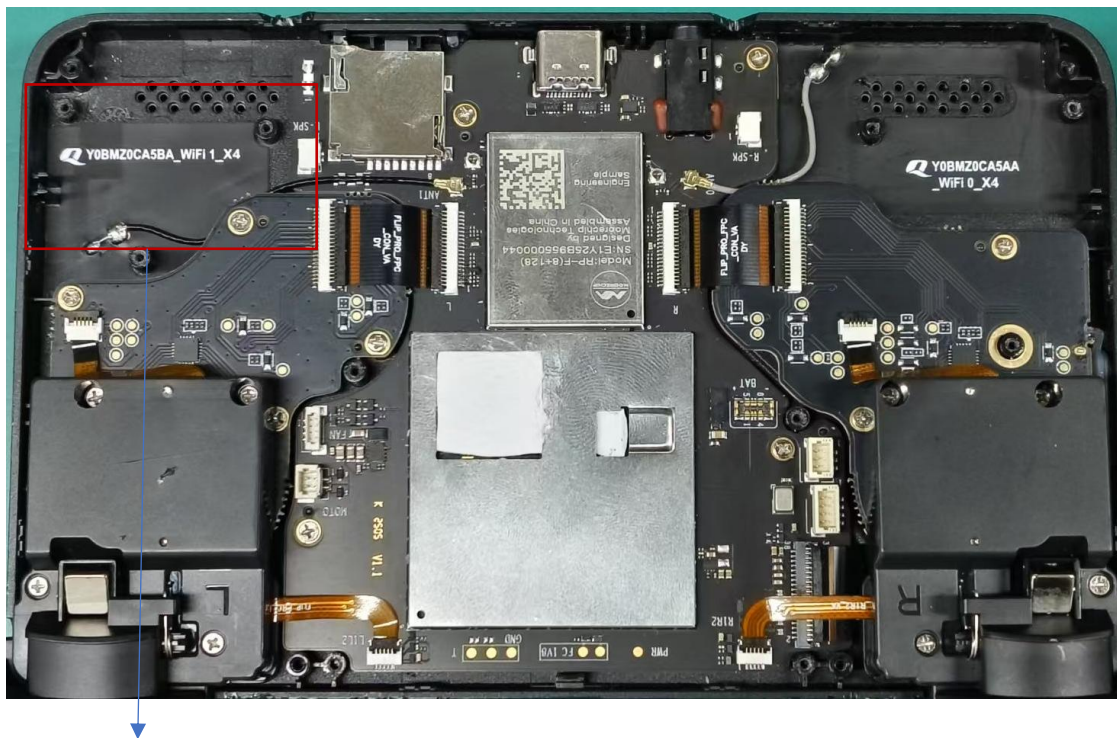
| Electrical        |                  |
|-------------------|------------------|
| Frequency Range   | 2400–2500 MHz    |
| Impedance         | 50 $\Omega$      |
| Polarization      | Linear           |
| Radiation Pattern | Omni-directional |
| VSWR              | $\leq 2.0$       |
| Peak Gain         | $\leq 1.5$ dBi   |

## 1.2. Mechanical & Environmental

| Mechanical            |                               |
|-----------------------|-------------------------------|
| Antenna Dimensions    | 29.02 mm × 25.97 mm × 0.13 mm |
| Material & Color      | FPC & Black                   |
| Mounting Type         | $\Phi$ 0.81 & Black & 50 mm   |
| Weight                | RF 4                          |
| Mounting Type         | Adhesive                      |
| Weight                | Typ. 0.26 g                   |
| Environmental         |                               |
| Operation Temperature | -40 °C to +85 °C              |

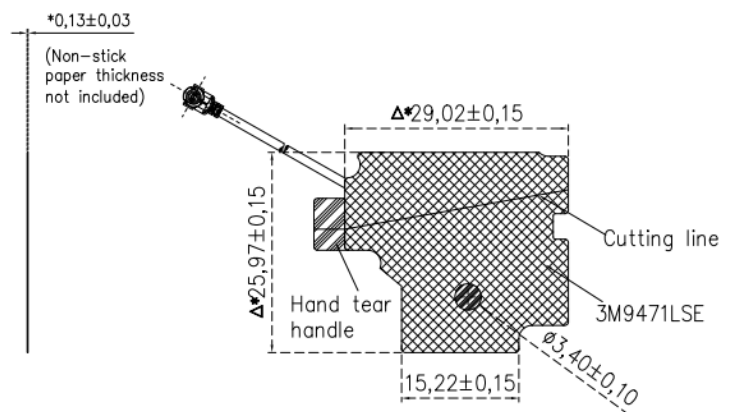
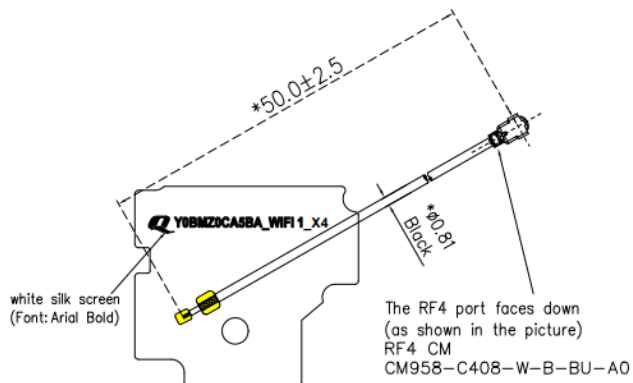
|                     |                  |
|---------------------|------------------|
| Storage Temperature | -40 °C to +85 °C |
| RoHS                | Yes              |

### 1.3. Antenna Assembly



Y0BMZ0CA5BA

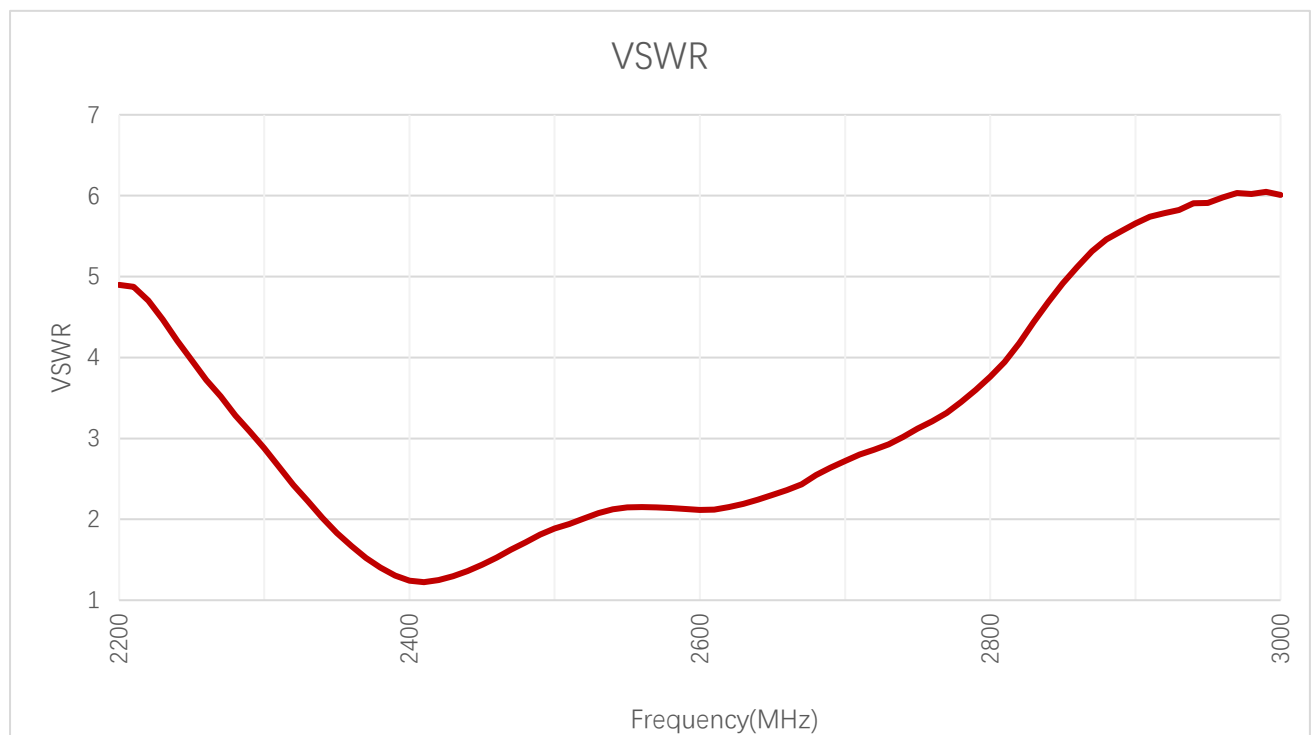
## 2 Drawing



# 3 Detailed Performance

## 3.1. S-Parameter Test

### 3.1.1. VSWR

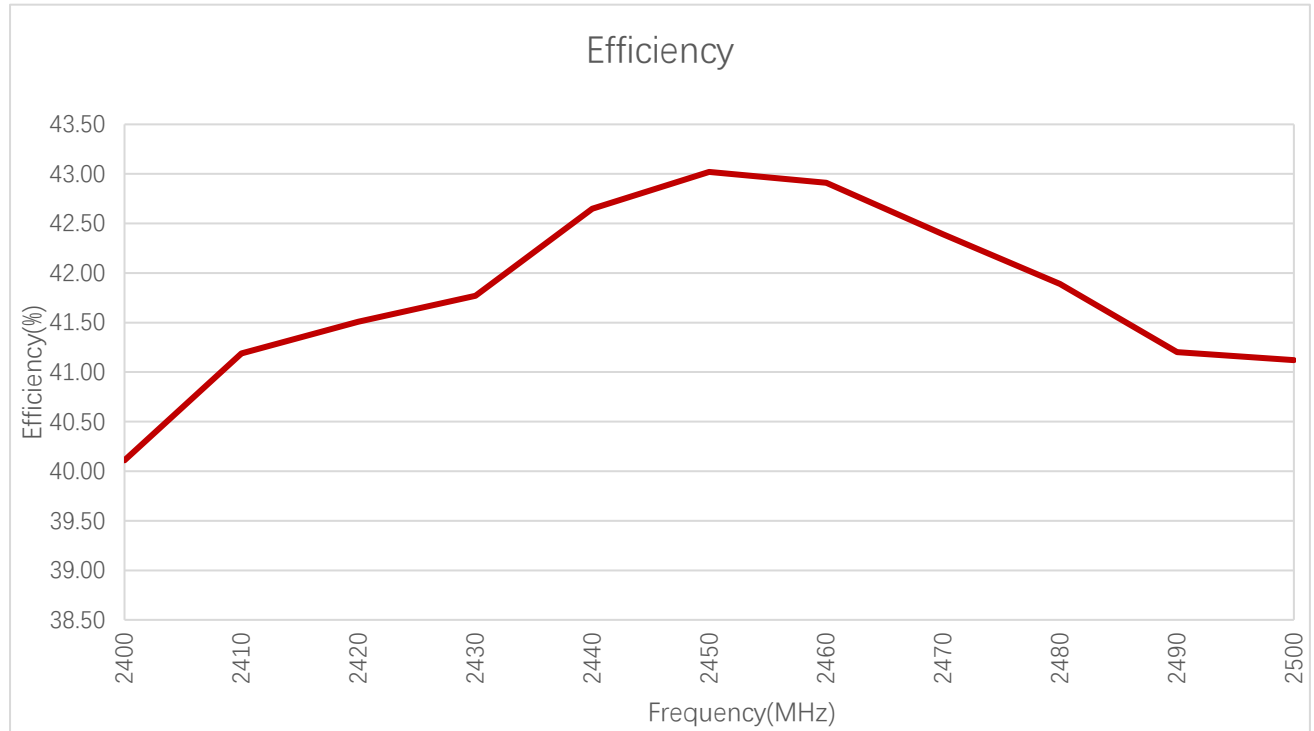


**VSWR**

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 | 5925 | 6525 | 7125 |
|-----------------|------|------|------|------|------|------|------|------|------|
| VSWR            | 1.24 | 1.44 | 1.89 | -    | -    | -    | -    | -    | -    |

## 3.2. Radiation Performance Test

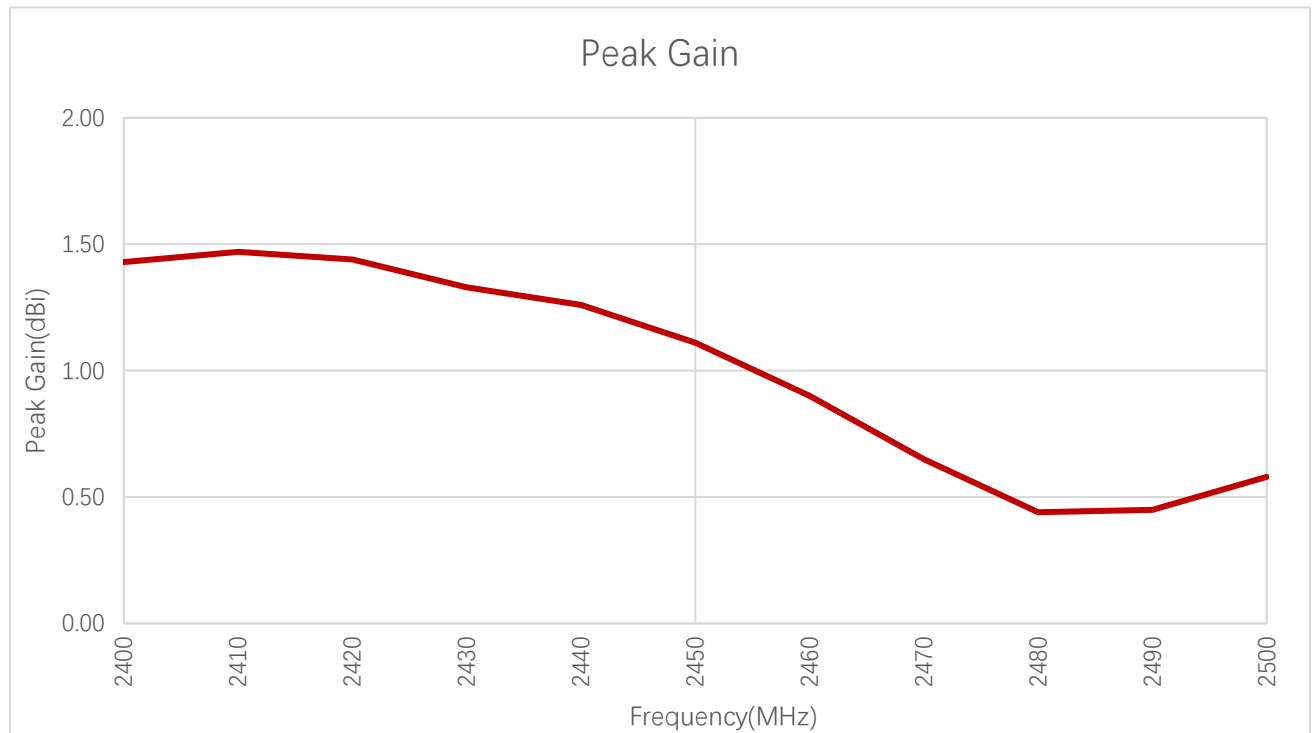
### 3.2.1. Efficiency



**Efficiency (%)**

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 | 5925 | 6525 | 7125 |
|-----------------|------|------|------|------|------|------|------|------|------|
| Efficiency (%)  | 40.1 | 43.0 | 41.1 | -    | -    | -    | -    | -    | -    |

### 3.2.2. Peak Gain



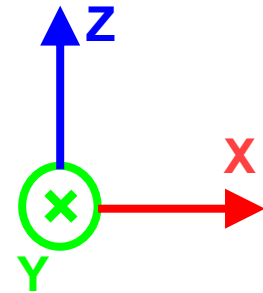
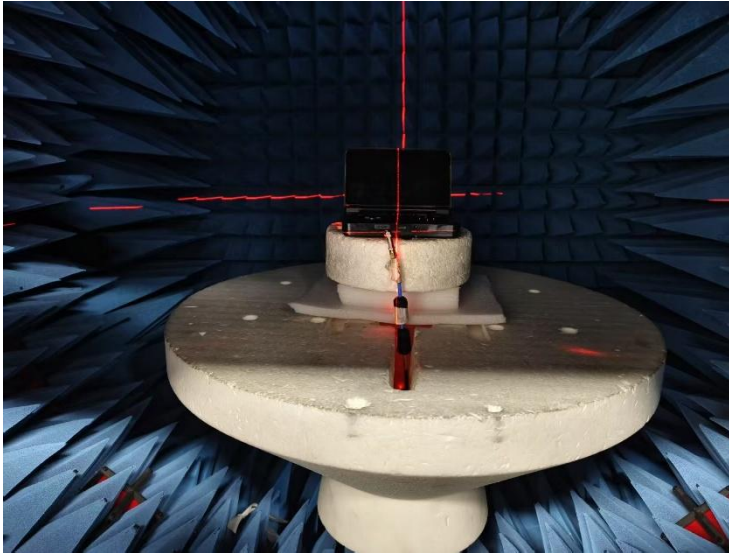
**Peak Gain (dBi)**

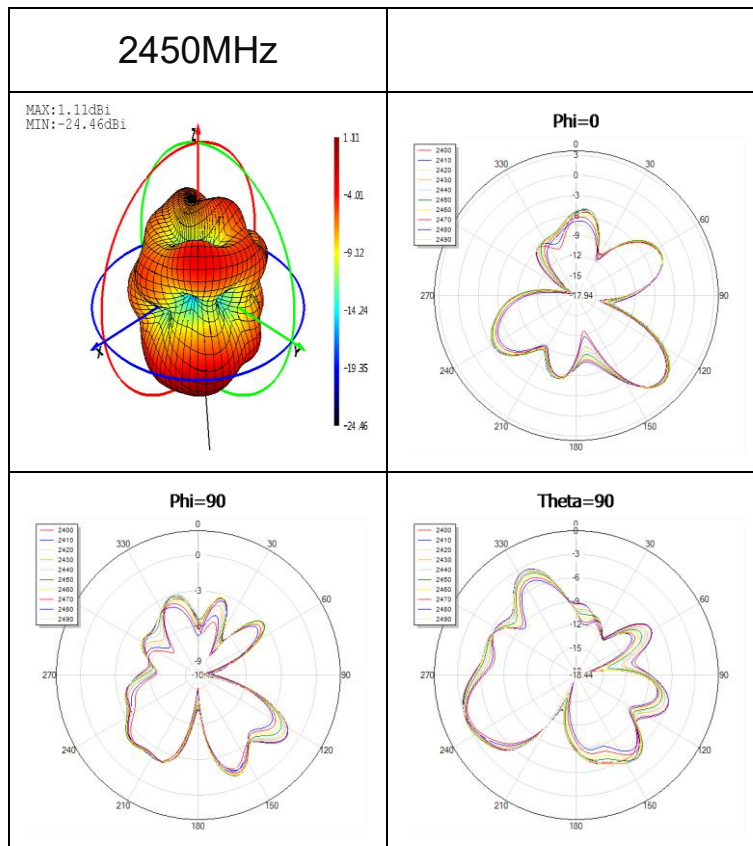
| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 | 5925 | 6525 | 7125 |
|-----------------|------|------|------|------|------|------|------|------|------|
| Peak Gain (dBi) | 1.43 | 1.11 | 0.58 | -    | -    | -    | -    | -    | -    |



### 3.2.3. 2D Radiation Pattern

- Test Condition: Assembled in test device
- Test Chamber: SZ-S-1





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## Revision History

| Version | Date       | Author                                | Note                     |
|---------|------------|---------------------------------------|--------------------------|
| -       | 2025-05-08 | Lyney LIN/<br>Shea LI/<br>Rainey LIAO | Creation of the document |
| 1.0     | 2025-05-08 | Lyney LIN/<br>Shea LI/<br>Rainey LIAO | First official release   |



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# Antenna Datasheet

**Product OC:** Y0BMZ0CA5AA

**Version:** 1.0

**Date:** 2025-05-08

**Status:** Preliminary

**Product Name:** WIFI Antenna

**Key Features:**

Frequency Band: 2400–2500 MHz

Dimensions: 40.82 mm × 28.46 mm × 0.13mm

Efficiency: Up to 27.9 %

RoHS Compliant



# Contents

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# 1 Specification

Test Condition: Assembled in test device

## 1.1. Electrical

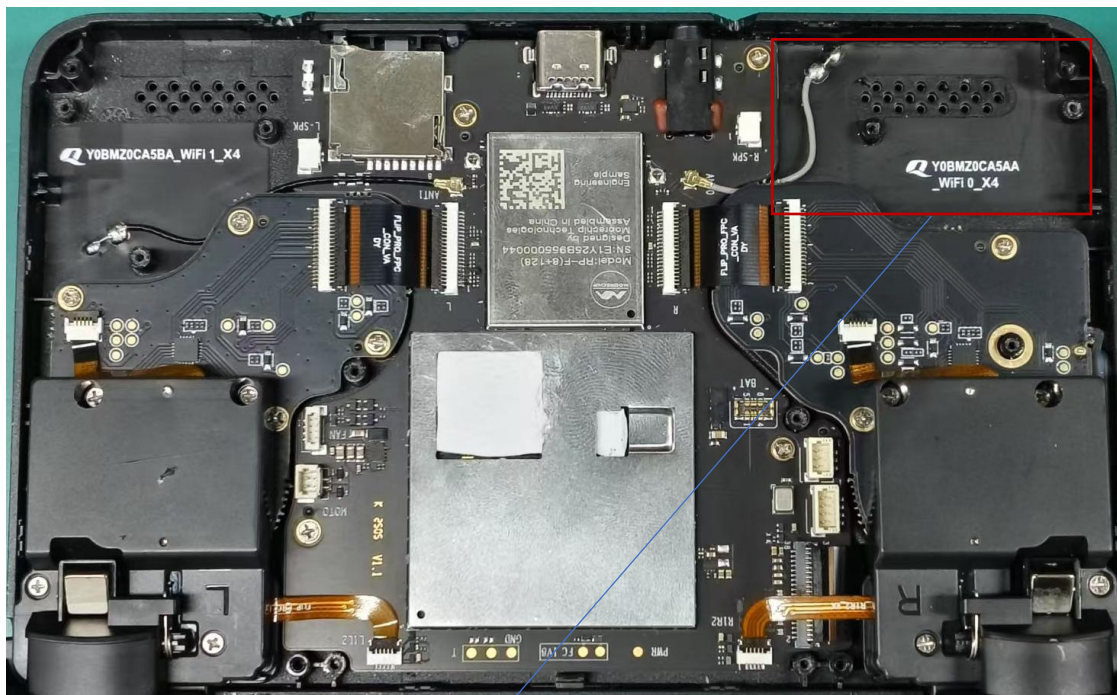
| Electrical        |                  |
|-------------------|------------------|
| Frequency Range   | 2400–2500 MHz,   |
| Impedance         | 50 $\Omega$      |
| Polarization      | Linear           |
| Radiation Pattern | Omni-directional |
| VSWR              | $\leq 2$         |
| Peak Gain         | $\leq 1.7$ dBi   |

## 1.2. Mechanical & Environmental

| Mechanical            |                               |
|-----------------------|-------------------------------|
| Antenna Dimensions    | 40.82 mm × 28.46 mm × 0.13 mm |
| Material & Color      | FPC & Black                   |
| Mounting Type         | $\Phi$ 0.81 & Grey & 33 mm    |
| Weight                | RF 4                          |
| Mounting Type         | Adhesive                      |
| Weight                | Typ. 0.34 g                   |
| Environmental         |                               |
| Operation Temperature | -40 °C to +85 °C              |

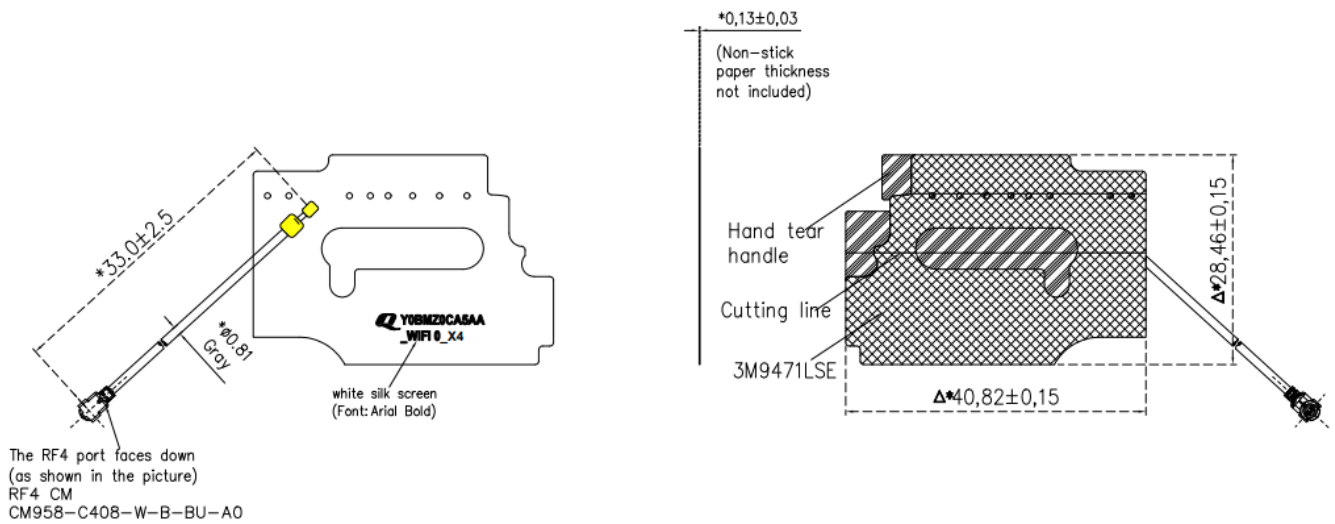
|                     |                  |
|---------------------|------------------|
| Storage Temperature | -40 °C to +85 °C |
| RoHS                | Yes              |

### 1.3. Antenna Assembly



**Y0BMZ0CA5AA**

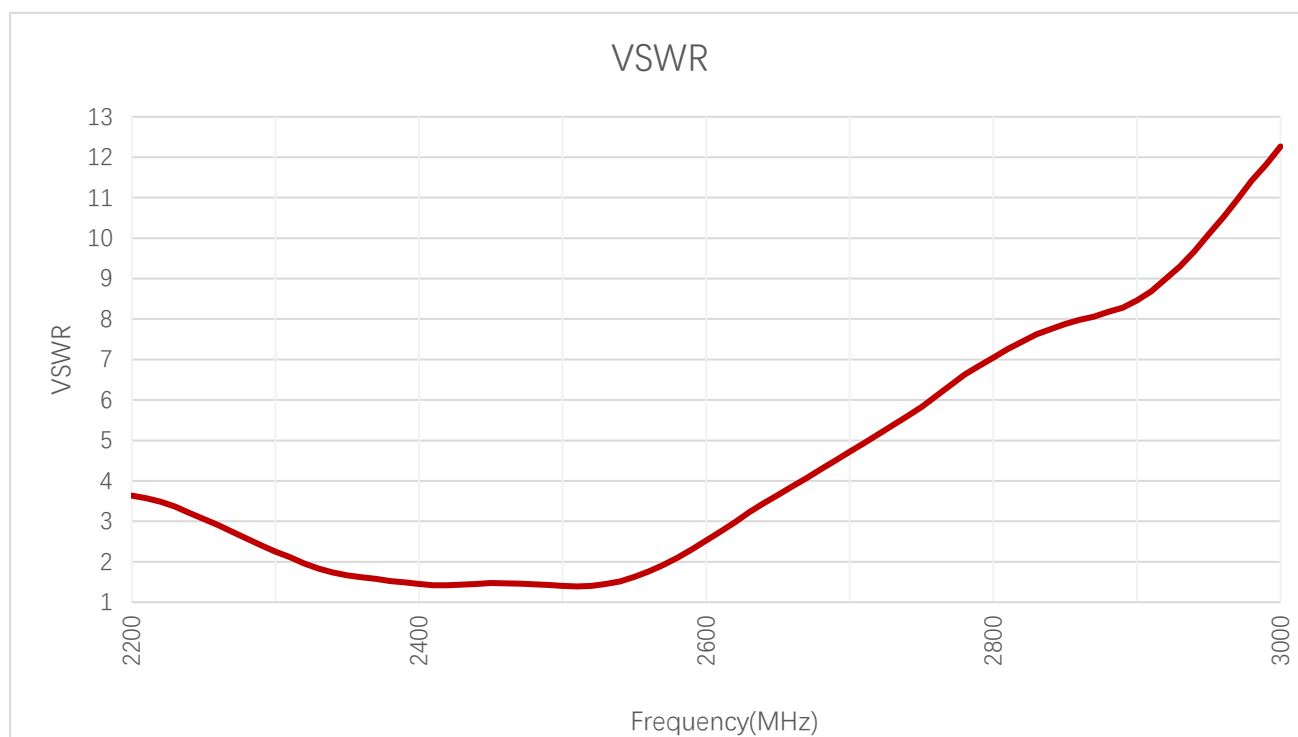
## 2 Drawing



# 3 Detailed Performance

## 3.1. S-Parameter Test

### 3.1.1. VSWR

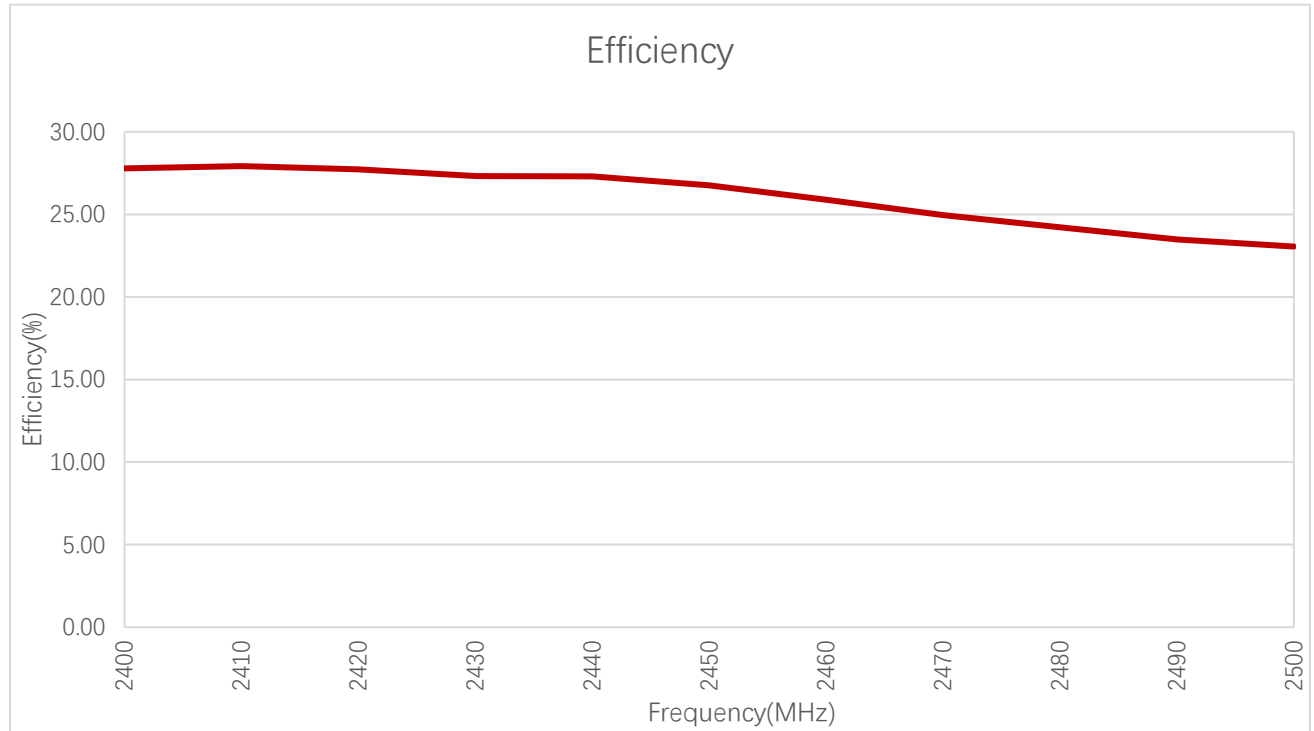


**VSWR**

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 | 5925 | 6525 | 7125 |
|-----------------|------|------|------|------|------|------|------|------|------|
| VSWR            | 1.45 | 1.47 | 1.41 | -    | -    | -    | -    | -    | -    |

## 3.2. Radiation Performance Test

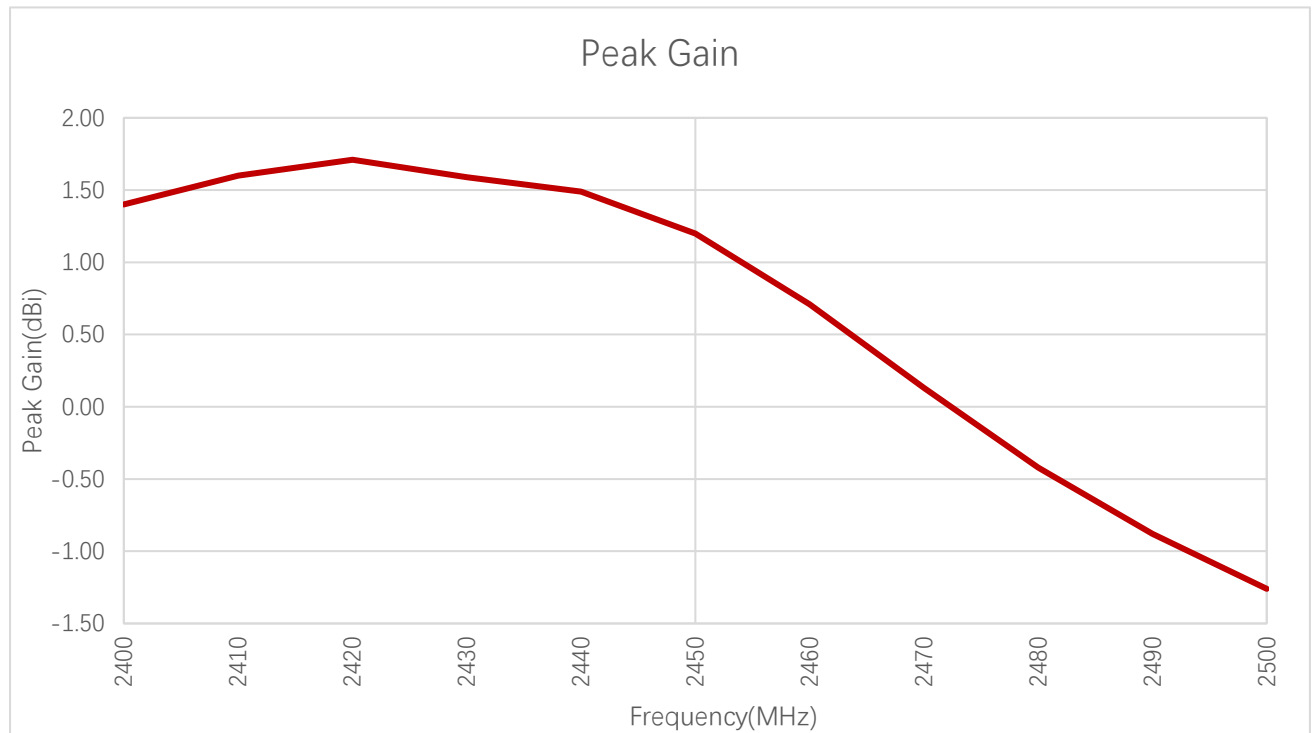
### 3.2.1. Efficiency



**Efficiency (%)**

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 | 5925 | 6525 | 7125 |
|-----------------|------|------|------|------|------|------|------|------|------|
| Efficiency (%)  | 27.8 | 26.8 | 23.1 | -    | -    | -    | -    | -    | -    |

### 3.2.2. Peak Gain

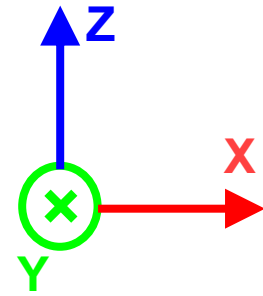
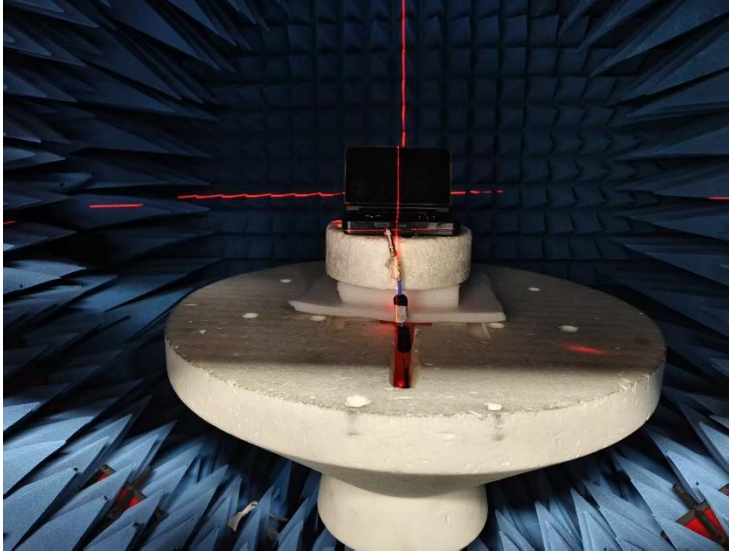


**Peak Gain (dBi)**

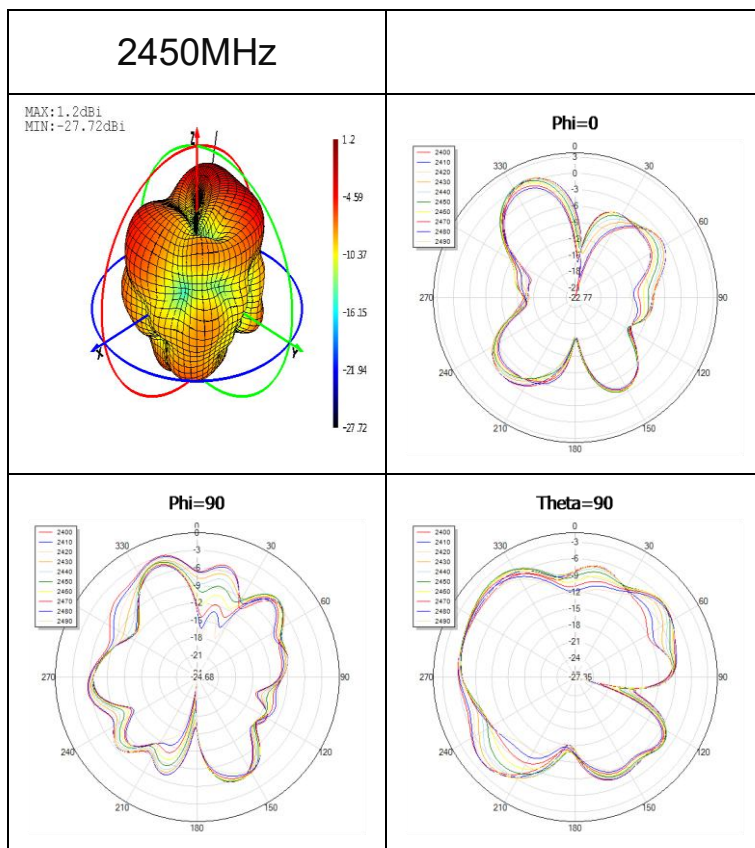
| Frequency (MHz) | 2400 | 2450 | 2500  | 5150 | 5500 | 5850 | 5925 | 6525 | 7125 |
|-----------------|------|------|-------|------|------|------|------|------|------|
| Peak Gain (dBi) | 1.40 | 1.20 | -1.26 | -    | -    | -    | -    | -    | -    |

### 3.2.3. 2D Radiation Pattern

- Test Condition: Assembled in test device
- Test Chamber: SZ-S-1







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## Revision History

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| -       | 2025-05-08 | Lyney LIN/<br>Shea LI/<br>Rainey LIAO | Creation of the document |
| 1.0     | 2025-05-08 | Lyney LIN/<br>Shea LI/<br>Rainey LIAO | First official release   |



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