



Antenna Datasheet

Product OC: Y4RYM0MA0AA

Version: 1.0

Date: 2024-11-18

Status: Preliminary

Product Name: Wi-Fi Adhesive Mount FPC Monopole Antenna

Key Features:

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

Peak efficiency: 71.3 % (EVB)

Dimensions: 22.9 × 11.7 mm

RoHS and REACH Compliant

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1 Specification

Test Condition: Stick to 3 mm thick ABS board & Stick to 3 mm thick ABS board on 130 mm × 130 mm EVB

1.1. Electrical

| Electrical | |
|--------------------------|------------------------------|
| Frequency Range | 2400–2500 MHz, 5150–5850 MHz |
| Impedance | 50 Ω |
| Polarization | Linear |
| Radiation Pattern | Omni-directional |

| Specification | Band | Band | Wi-Fi 2G | Wi-Fi 5G |
|------------------------------|-------------|------|---------------|---------------|
| | Freq. (MHz) | | 2400–2500 | 5150–5850 |
| Max. VSWR | ABS | | 2.2 | 2.0 |
| | EVB | | 2.7 | 1.6 |
| Max. Return Loss (dB) | ABS | | -8.5 | -9.5 |
| | EVB | | -6.8 | -12.8 |
| AVG Eff. (%) | ABS | | 58.2 | 63.6 |
| | EVB | | 57.5 | 60.9 |
| AVG Gain (dB) | ABS | | -2.4 | -2.0 |
| | EVB | | -2.4 | -2.2 |
| Max. Peak Gain (dBi) | ABS | | 2.1 (2480) | 3.3 (5590) |
| | EVB | | 2.0 (2430) | 3.2 (5240) |

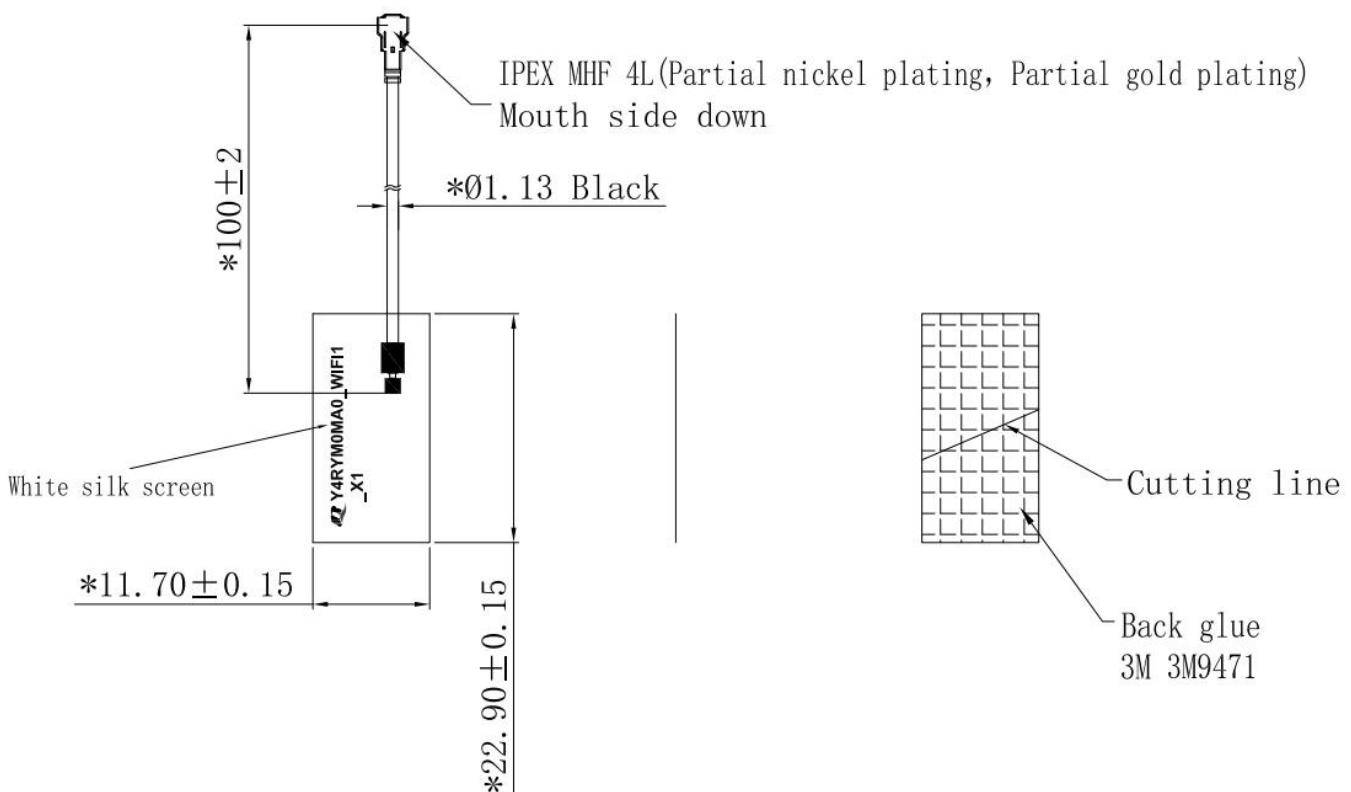
| | | |
|--------------------|------------|----------------|
| VSWR | ABS | ≤ 2.2 |
| | EVB | ≤ 2.7 |
| Return Loss | ABS | ≤ -8.5 dB |
| | EVB | ≤ -6.8 dB |
| Peak Gain | ABS | ≤ 3.3 dBi |
| | EVB | ≤ 3.2 dBi |

- **ABS:** Stick to 3 mm thick ABS board
- **EVB:** Stick to 3 mm thick ABS board on 130 mm × 130 mm EVB

1.2. Mechanical & Environmental

| Mechanical | |
|--|-------------------------|
| Antenna Size | 22.9 × 11.7 mm |
| Antenna Material & Color | FPC & Black |
| Cable Type & Color & Length | Φ 1.13 & Black & 100 mm |
| Connector Type | IPEX MHF 4L |
| Mounting Type | Adhesive |
| Antenna Weight | Typ. 0.48 g |
| Environmental | |
| Operation Temperature | -20 °C to +85 °C |
| Storage Temperature | -20 °C to +85 °C |
| RoHS and REACH Compliant | Yes |

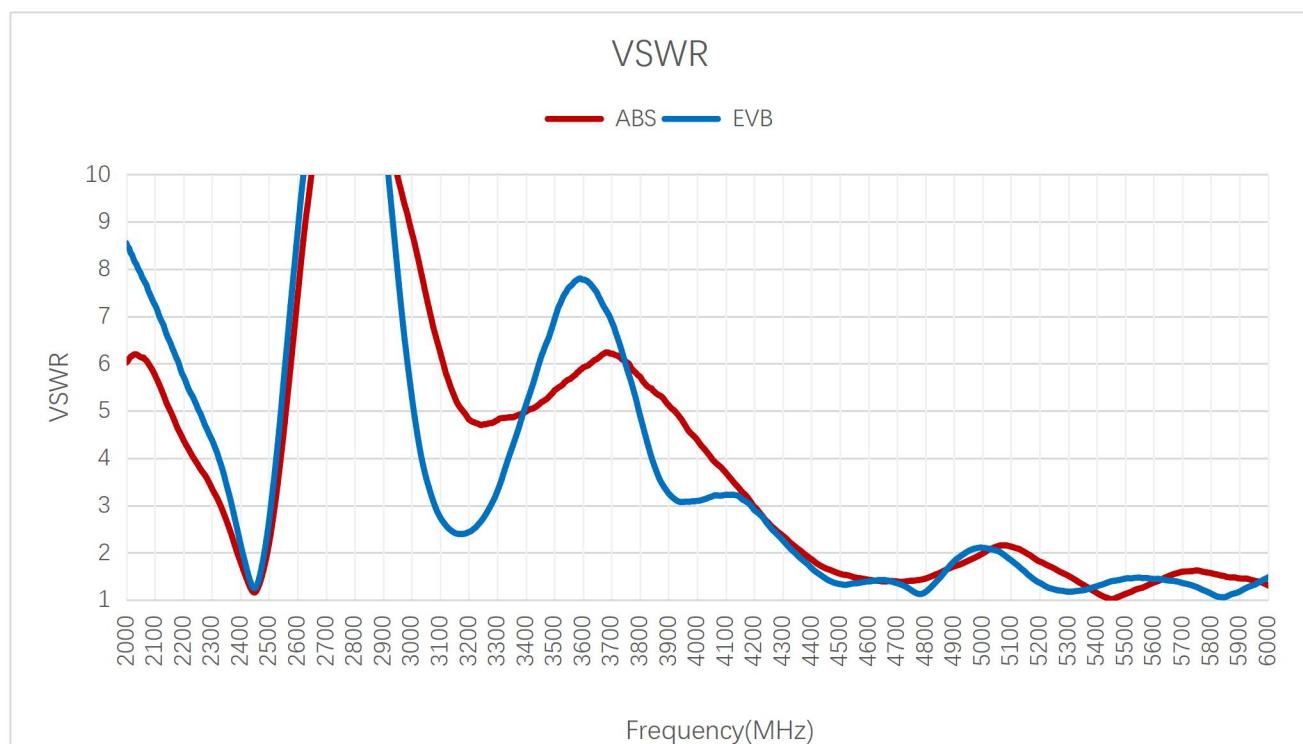
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

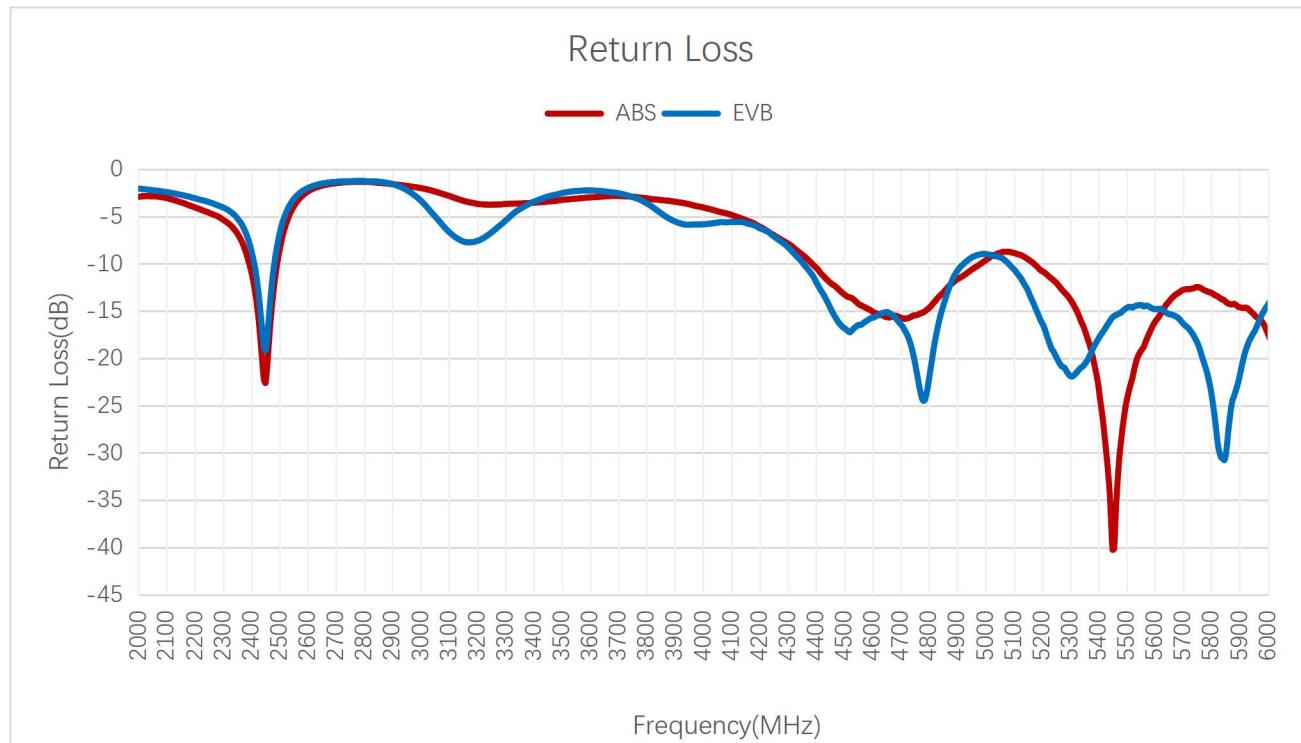
3.1.1. VSWR



VSWR

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 |
|-----------------|------|------|------|------|------|------|
| ABS | 1.8 | 1.2 | 2.2 | 2.0 | 1.1 | 1.5 |
| EVB | 2.2 | 1.2 | 2.7 | 1.6 | 1.5 | 1.1 |

3.1.2. Return Loss

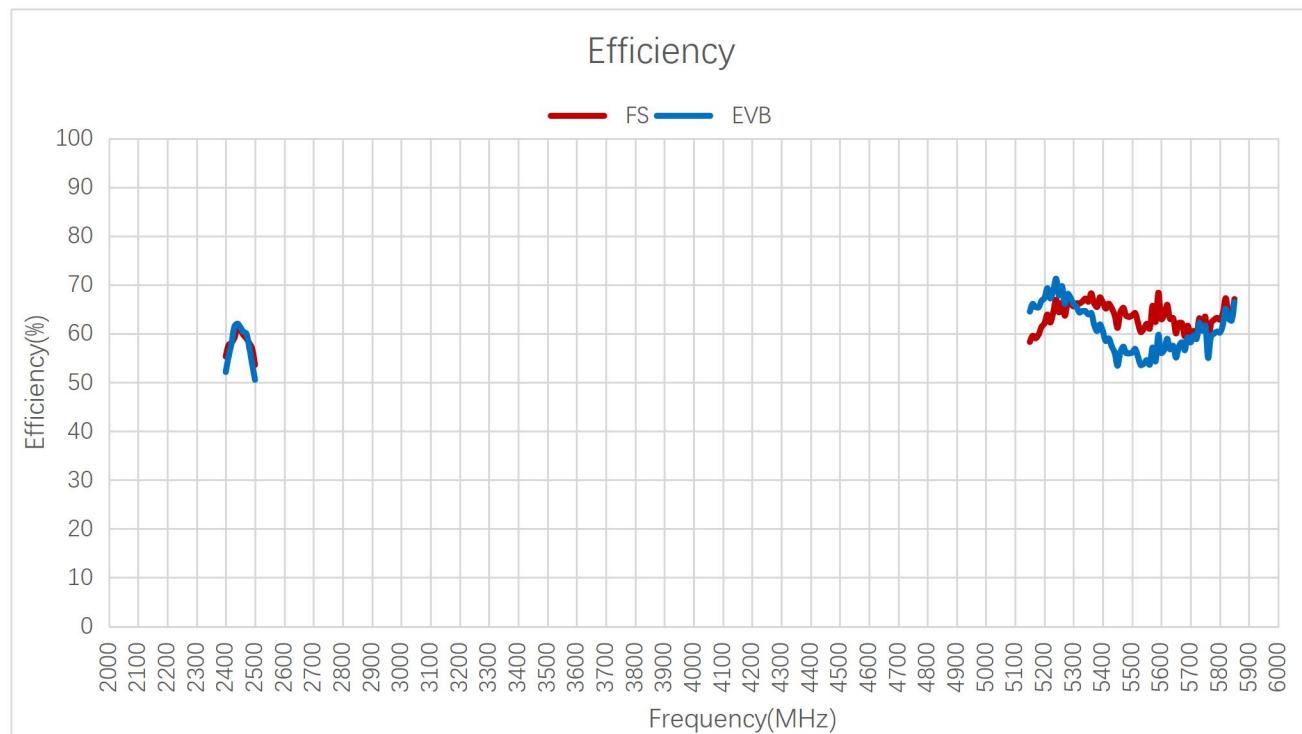


Return Loss (dB)

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 |
|-----------------|-------|-------|------|-------|-------|-------|
| ABS | -10.8 | -22.6 | -8.5 | -9.5 | -24.4 | -14.0 |
| EVB | -8.6 | -19.2 | -6.8 | -12.8 | -14.7 | -30.3 |

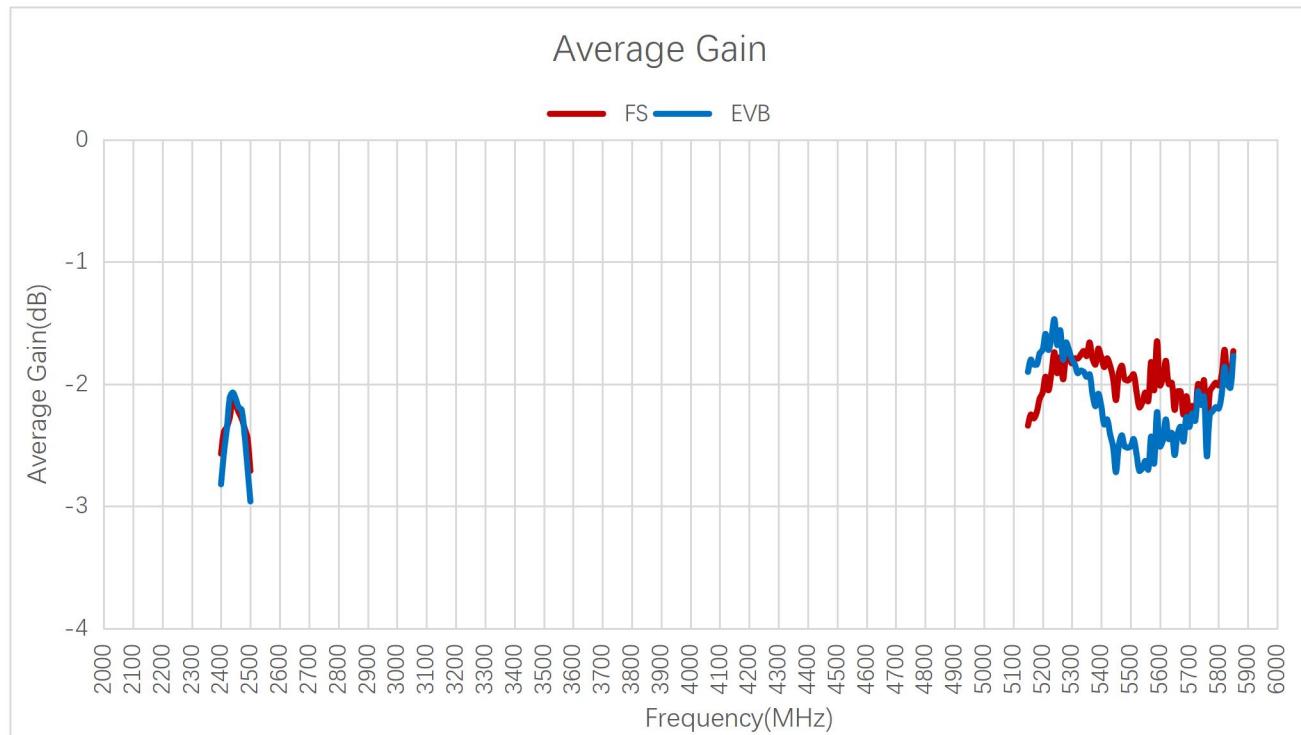
3.2. Radiation Performance Test

3.2.1. Efficiency



| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 |
|-----------------|------|------|------|------|------|------|
| ABS | 55.4 | 60.7 | 53.6 | 58.3 | 63.8 | 67.1 |
| EVB | 52.2 | 61.3 | 50.6 | 64.6 | 56.2 | 66.6 |

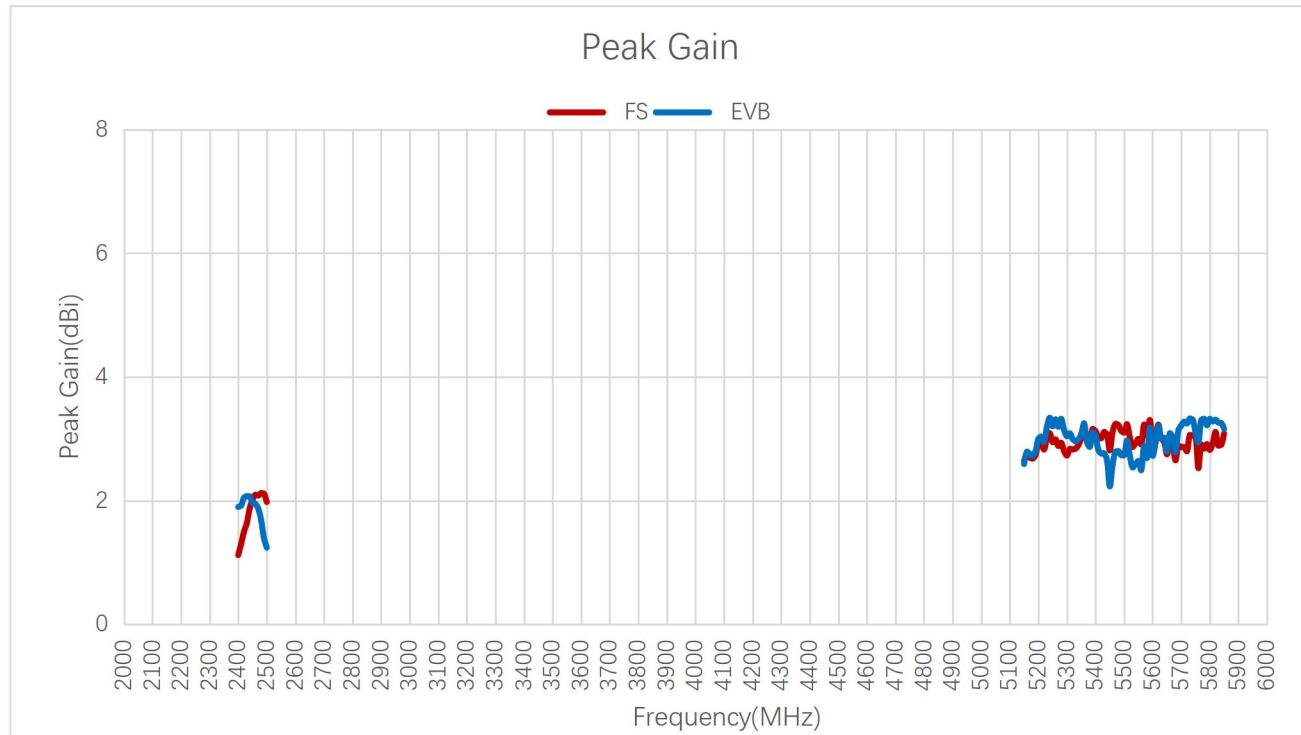
3.2.2. Average Gain



Average Gain (dB)

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 |
|-----------------|------|------|------|------|------|------|
| ABS | -2.6 | -2.2 | -2.7 | -2.3 | -2.0 | -1.7 |
| EVB | -2.8 | -2.1 | -3.0 | -1.9 | -2.5 | -1.8 |

3.2.3. Peak Gain



Peak Gain (dBi)

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5500 | 5850 |
|-----------------|------|------|------|------|------|------|
| ABS | 1.1 | 2.1 | 2.0 | 2.6 | 3.1 | 3.1 |
| EVB | 1.9 | 2.0 | 1.2 | 2.6 | 2.7 | 3.2 |

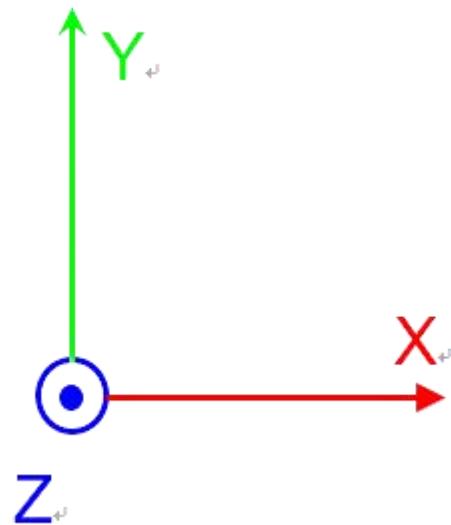
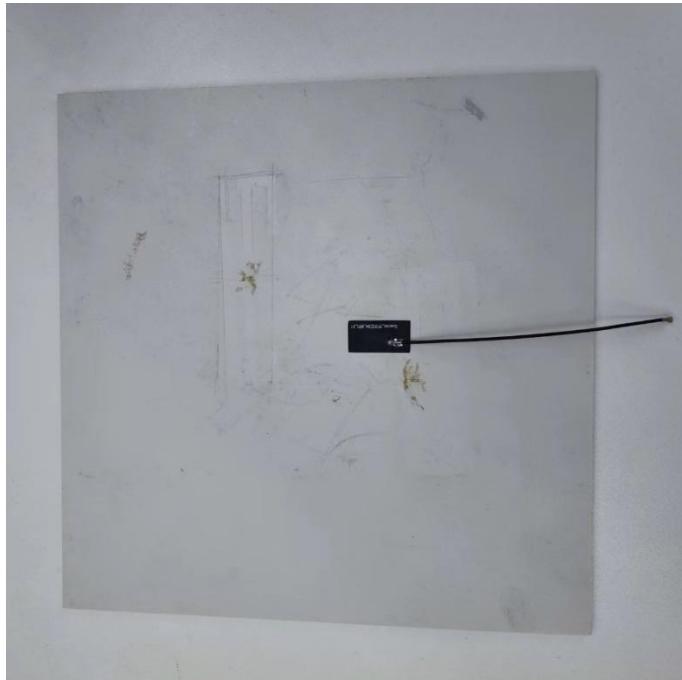
Max Peak Gain (dBi)

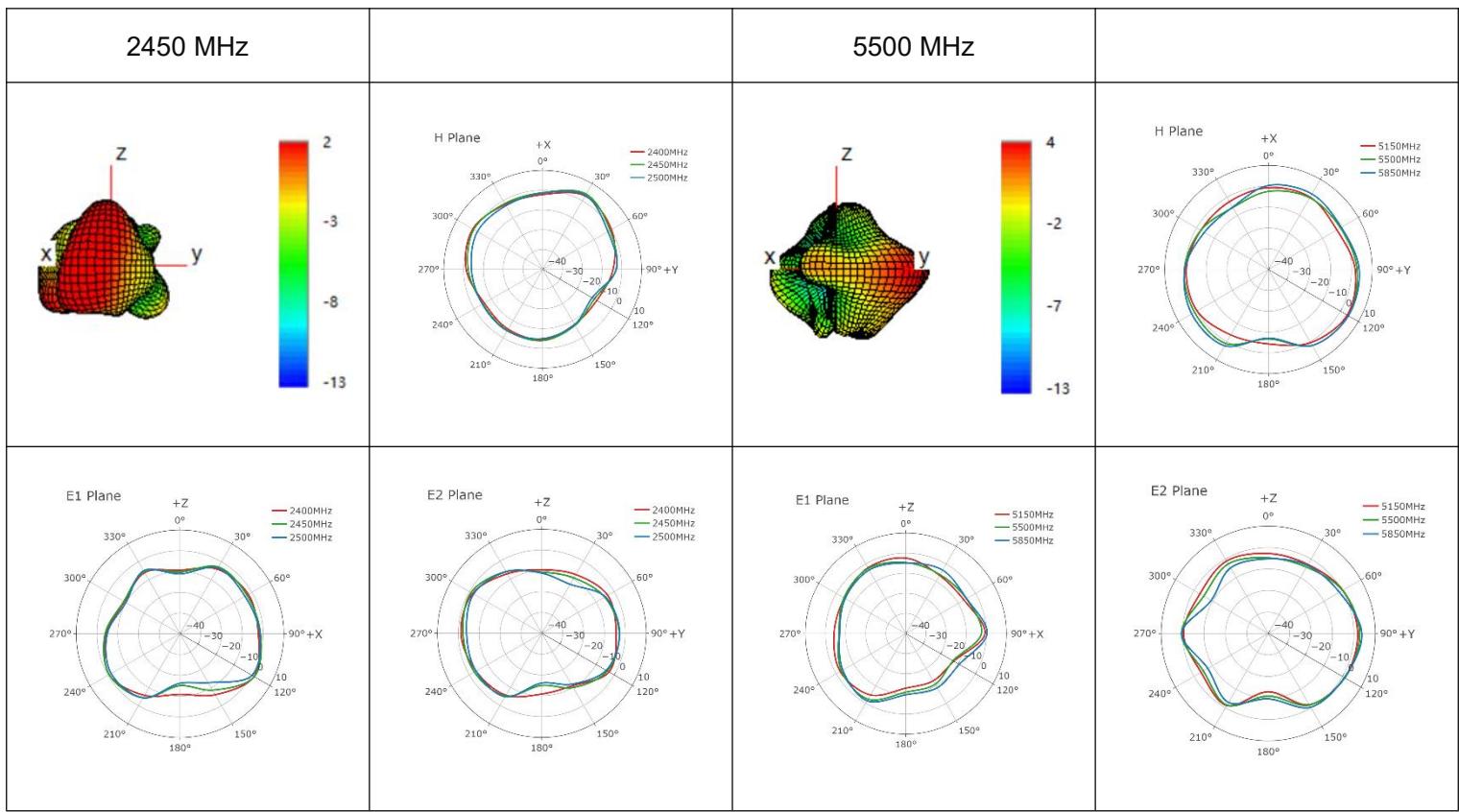
| Band | Wi-Fi 2G ABS | Wi-Fi 5G ABS | Wi-Fi 2G EVB | Wi-Fi 5G EVB |
|----------------------------|-----------------|-----------------|-----------------|-----------------|
| Frequency (MHz) | 2480 | 5590 | 2430 | 5240 |
| Max Peak Gain (dBi) | 2.1 | 3.3 | 2.0 | 3.2 |

3.2.4. 3D & 2D Radiation Pattern

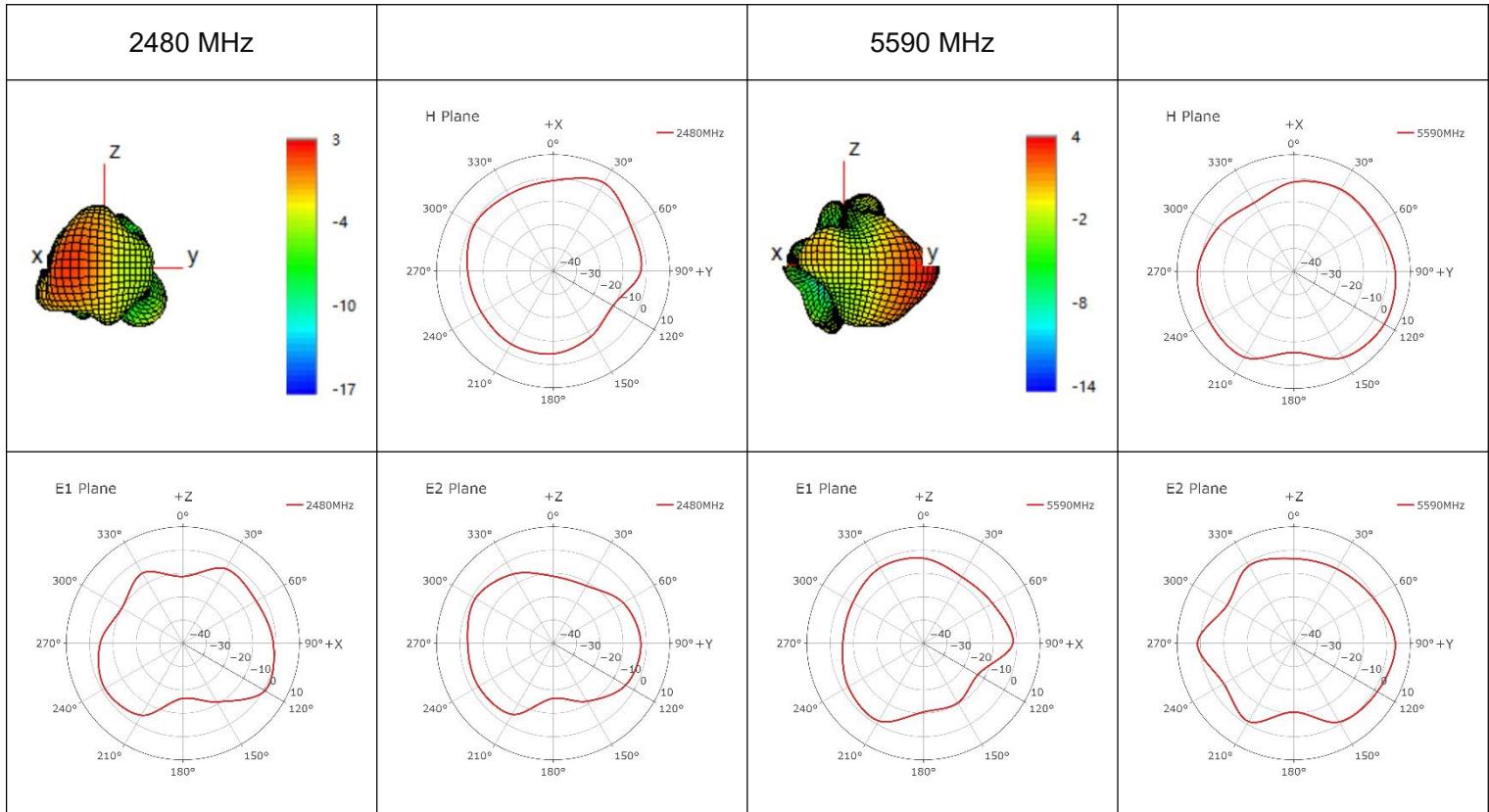
3.2.4.1. Test Condition: Stick to 3 mm Thick ABS board

- Test Chamber: GL-G-1



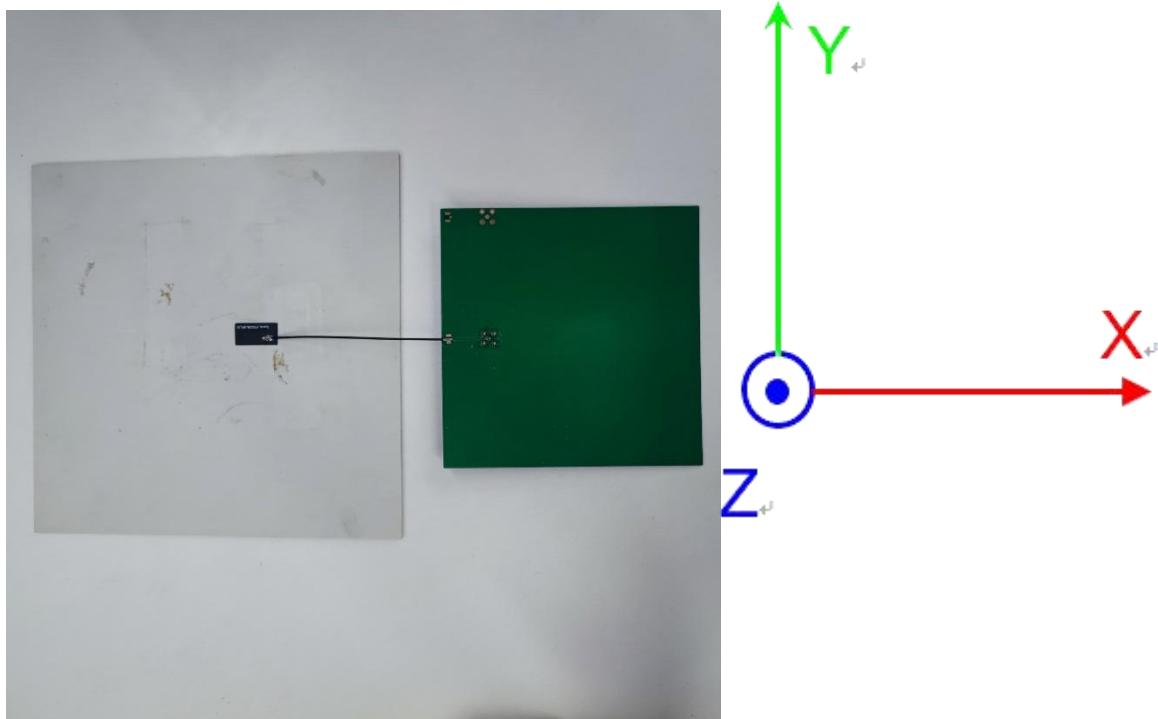


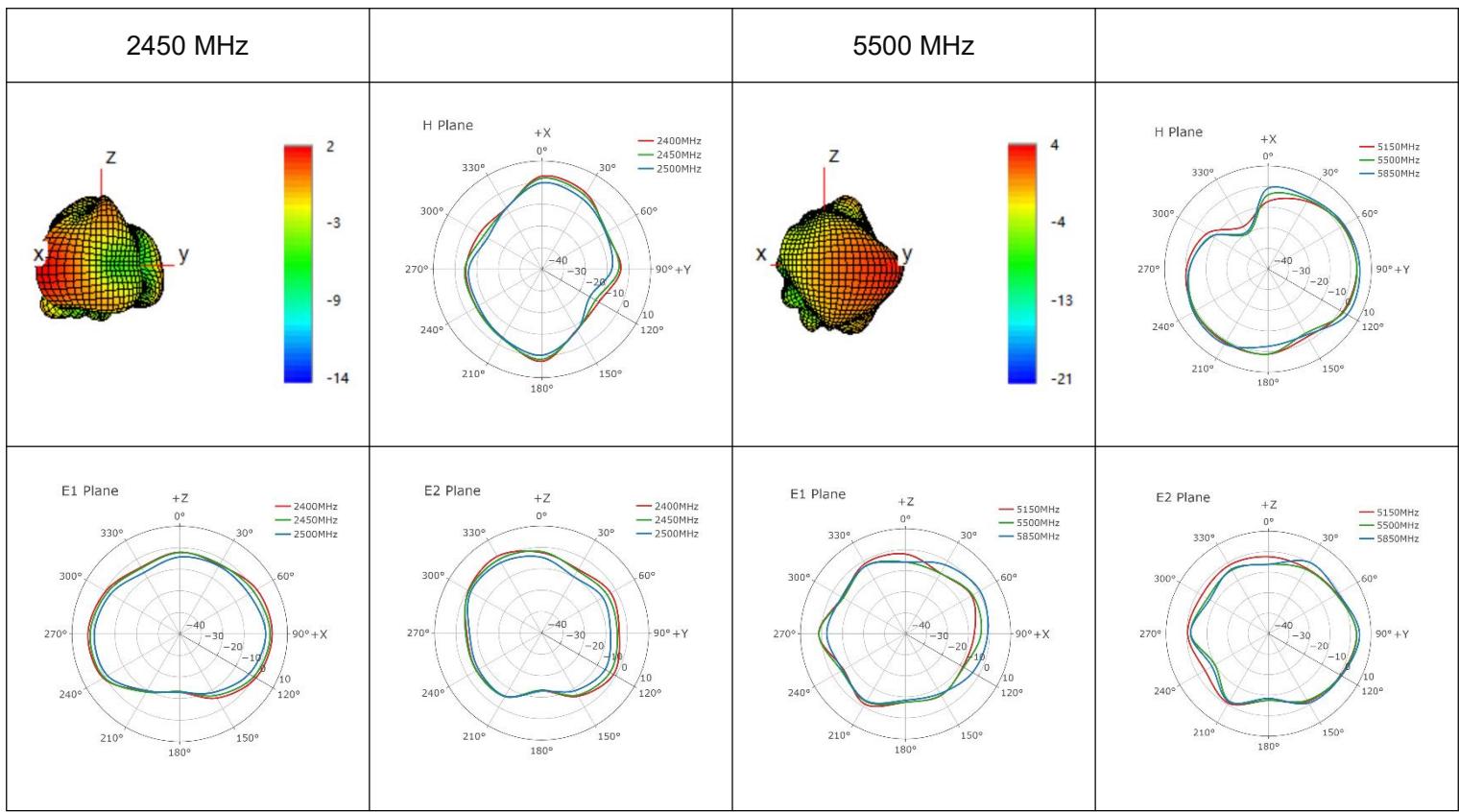
● Max Peak Gain



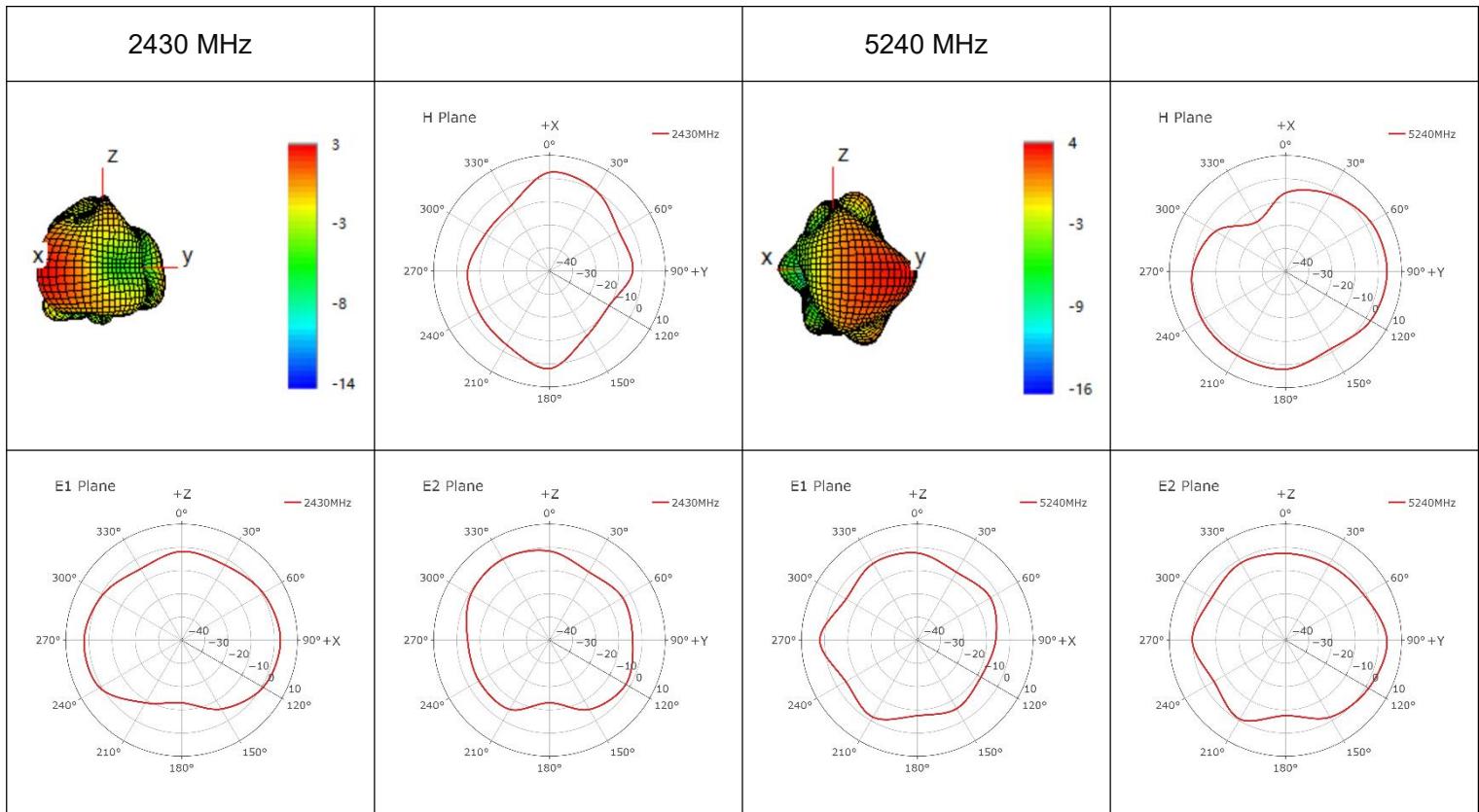
3.2.4.2. Test Condition: Stick to 3 mm Thick ABS board on 130 mm × 130 mm EVB

- Test Chamber: GL-G-1





● Max Peak Gain



Contact Us

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Revision History

| Version | Date | Author | Note |
|---------|------------|--|--------------------------|
| - | 2024-11-18 | Edwin XIAO/ Steven MO/ Rainey LIAO | Creation of the document |
| 1.0 | 2024-11-18 | Edwin XIAO/ Steven MO/ Rainey LIAO | First official release |



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