

# Datasheet

## Amphenol Wi-Fi Antenna Test report

### Document information

|                      |                                                                                     |
|----------------------|-------------------------------------------------------------------------------------|
| File Name            | Amphenol_Wi-Fi_Antenna_Test_report                                                  |
| Manufacturer & Site  | Amphenol Shanghai                                                                   |
| Model No.            | PIOV.0MS.NRB.B                                                                      |
| Antenna Type         | PCB Antenna                                                                         |
| Test date            | 2024-02-22                                                                          |
| Created date         | 2024-02-22                                                                          |
| Total Page           | 13                                                                                  |
| Engineer's signature |  |

### Revision History

| Version | Date       | Note                               | Engineer Confirmation |
|---------|------------|------------------------------------|-----------------------|
| 1.0     | 2024-02-22 | Created                            | Jessica Li            |
| 1.1     | 2024-03-13 | Add Gain Data                      | Jessica Li            |
| 1.2     | 2024-07-25 | Add Due date and radiation pattern | Jessica Li            |
| 1.3     | 2024-08-09 | Add antenna drawing                | Jessica Li            |

## Aim of this Document

The aim of this document is to give a detailed test report of the Wi-Fi antenna.

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## 1. Test equipment and environment

Return loss was performed using an **KEYSIGHT Network Analyzer** and test fixture.

The efficiency of the antenna was measured in **Amphenol's 3D anechoic chamber** in Shanghai, China.

The chamber is a **GTS Rayzone 2800** capable of doing tests from 400MHz to 8.5GHz.

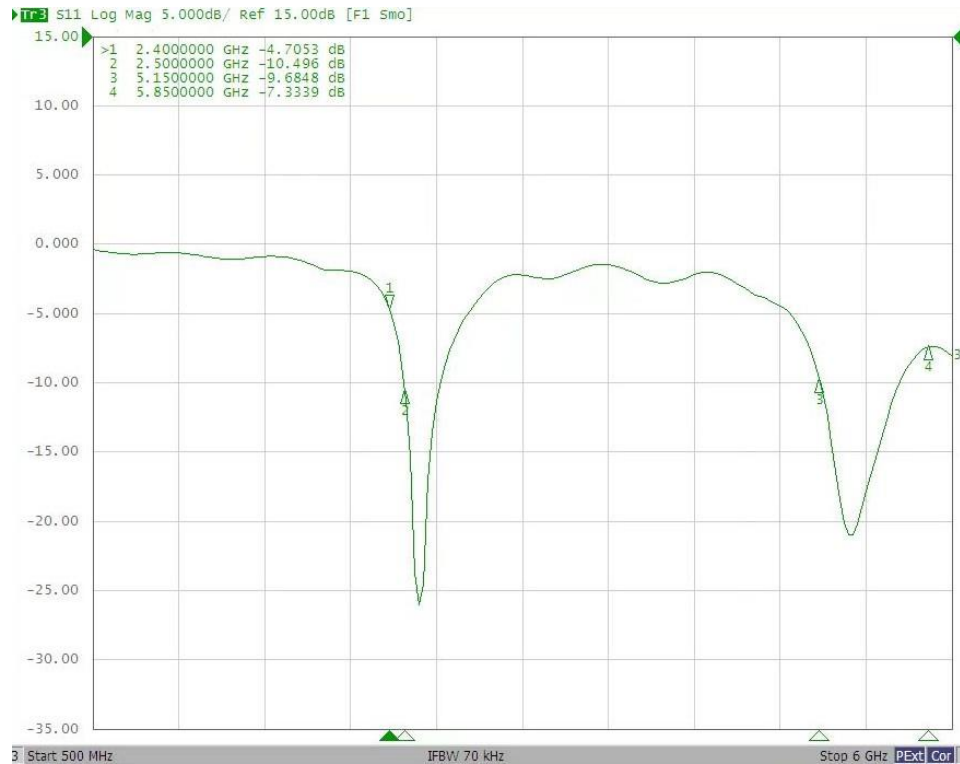
The measurement results are calibrated using dipole standards.

Test equipment:

|                       | Equipment        | Calibrate date | Due date   | Test Soft               |
|-----------------------|------------------|----------------|------------|-------------------------|
| For Return loss       | KEYSIGHT E5071C  | 2023-05-25     | 2025-05-14 | E5071C Network Analyzer |
| For Radiation Pattern | GTS Rayzone 2800 | 2023-03-01     | 2024-09-26 | Libra                   |

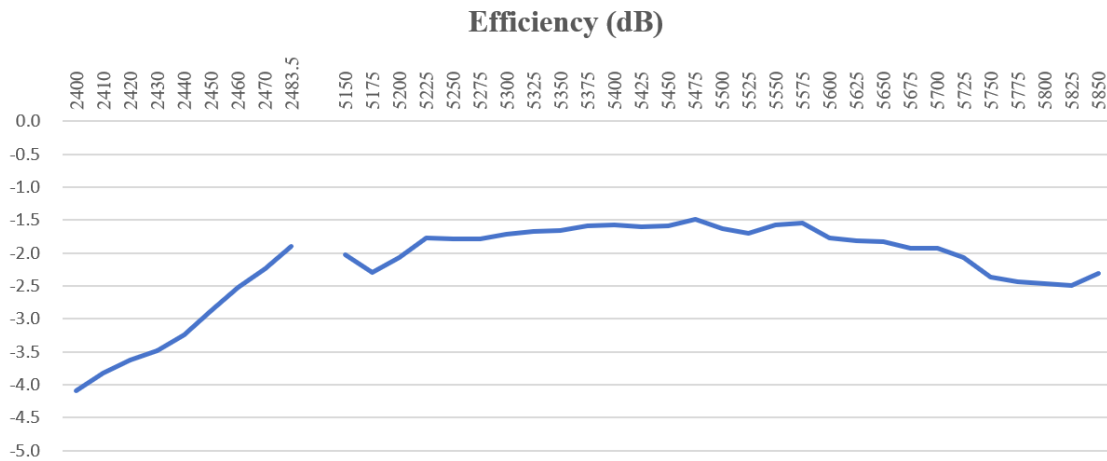
## 2. Test result - Return Loss

Return loss of the Wi-Fi Ant.

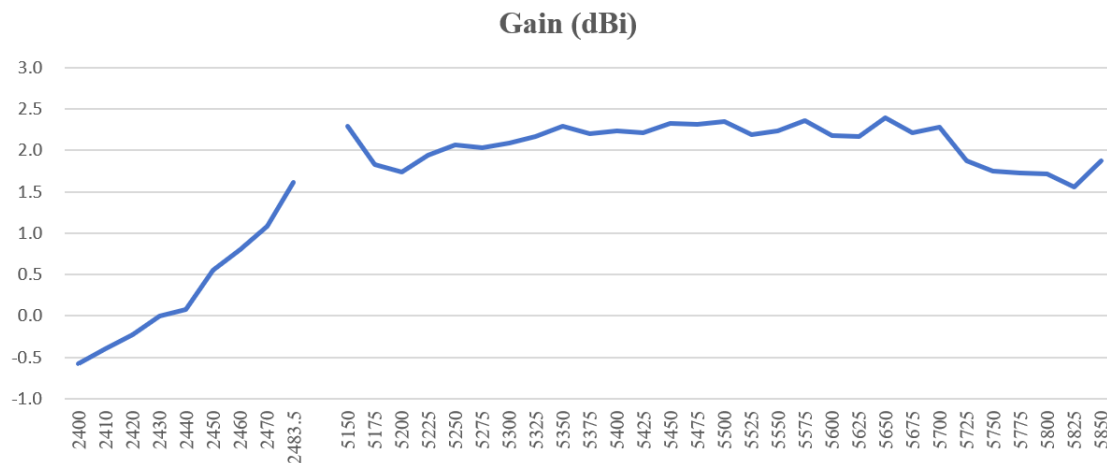


## 3. Test result – Efficiency & Peak Gain

Efficiency of Wi-Fi Ant.



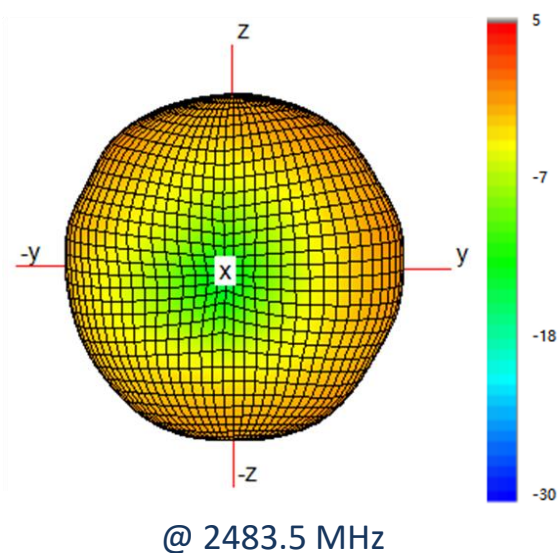
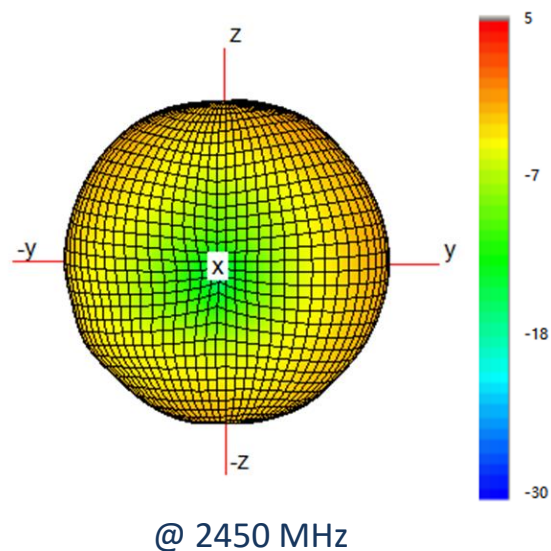
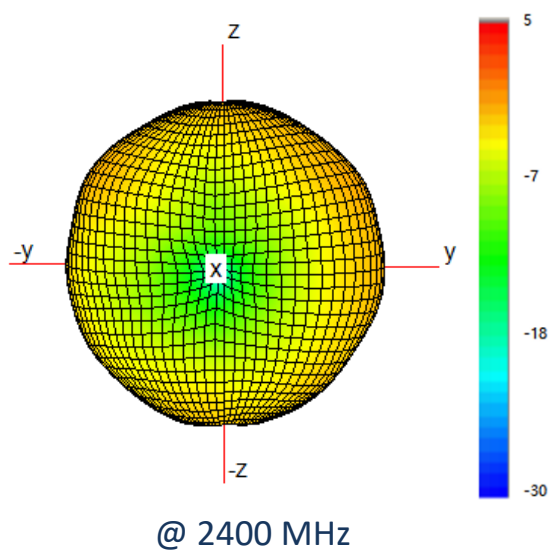
Maximum Efficiency at 5475 MHz -1.48 dB

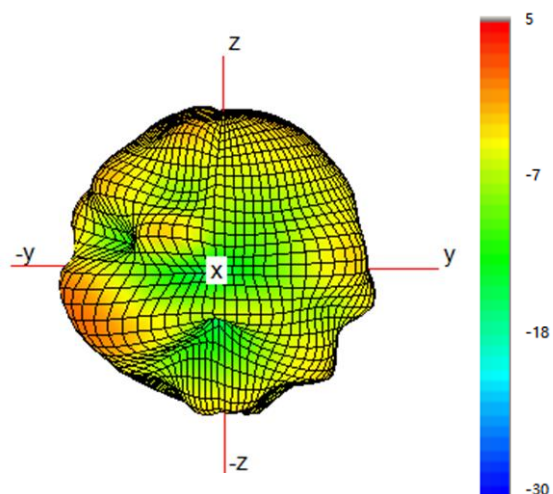


Maximum Peak Gain at 5650 MHz: 2.39 dBi

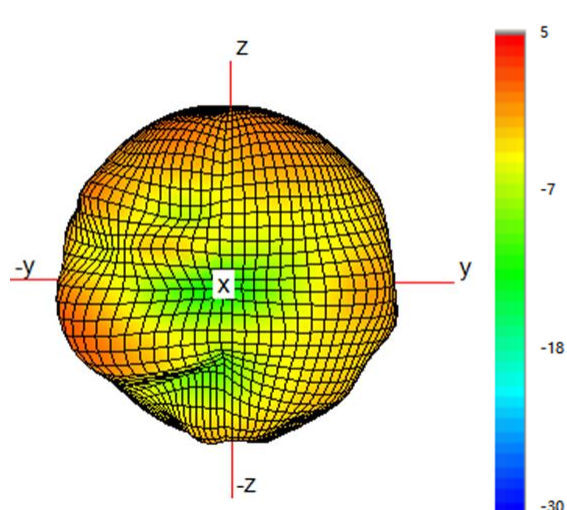
## 4. Test result – 3D & 2D Radiation Patterns

3D Patterns of Wi-Fi Ant.

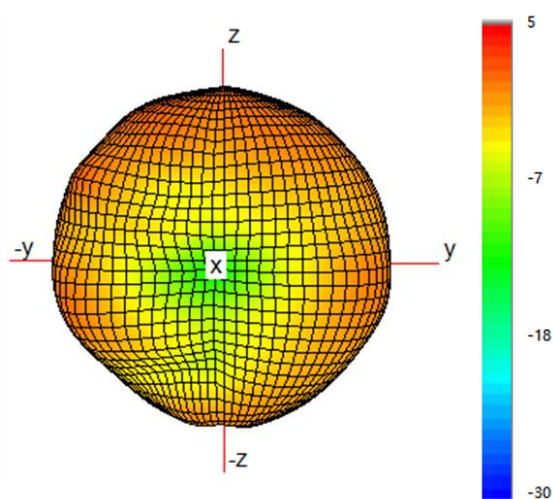




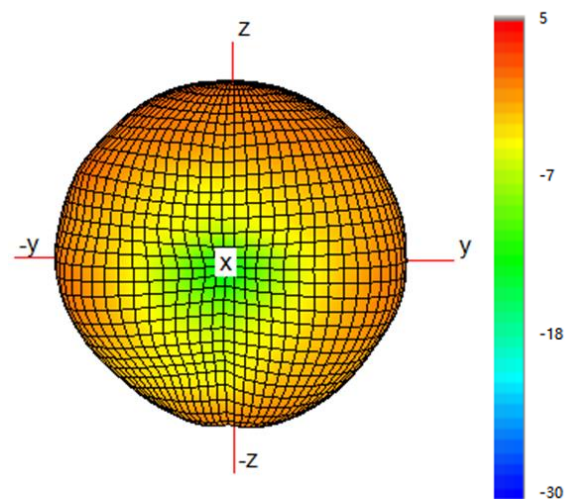
@ 5150 MHz



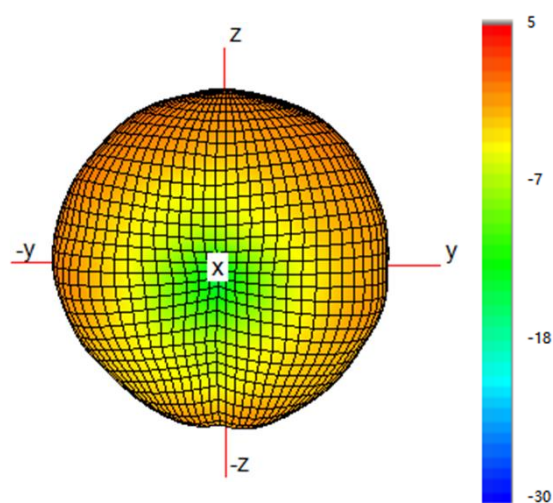
@ 5350 MHz



@ 5500 MHz

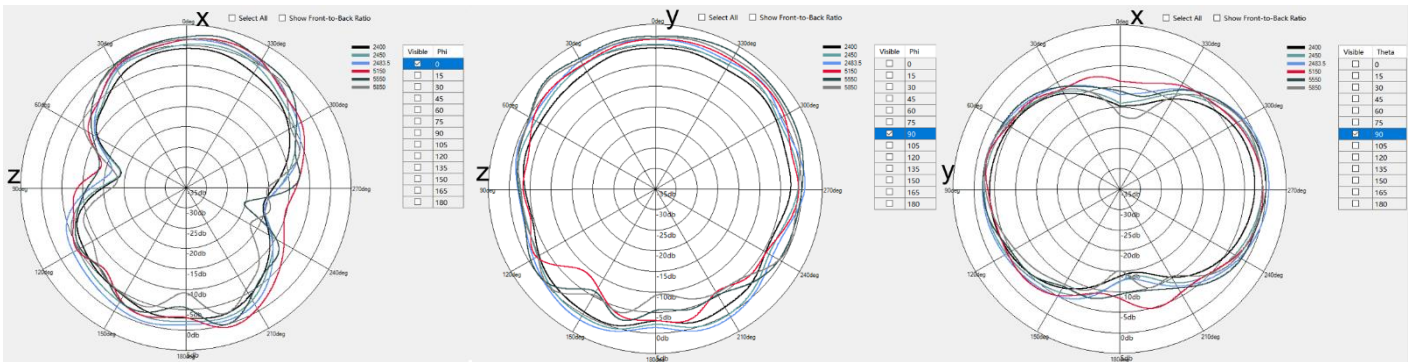


@ 5650 MHz



@ 5850 MHz

## 2D Patterns and test date of the Wi-Fi Ant.



|                 | ZX plane  |       |               | ZY plane  |       |               | XY plane  |       |               |
|-----------------|-----------|-------|---------------|-----------|-------|---------------|-----------|-------|---------------|
| Frequency [MHz] | Max [dBi] | Value | Average [dBi] | Max [dBi] | Value | Average [dBi] | Max [dBi] | Value | Average [dBi] |
| 2400            | -0.68     |       | -6.81         | -0.58     |       | -2.08         | -2.57     |       | -7.24         |
| 2450            | 0.28      |       | -5.78         | 0.54      |       | -0.94         | -0.82     |       | -6.04         |
| 2483.5          | 1.44      |       | -4.61         | 1.62      |       | -0.01         | 0.81      |       | -4.91         |
| 5150            | 2.29      |       | -4.76         | 1.97      |       | -2.46         | -0.64     |       | -4.68         |
| 5350            | 2.10      |       | -4.43         | 2.29      |       | -1.19         | 0.00      |       | -4.34         |
| 5500            | 2.35      |       | -4.71         | 2.33      |       | -0.73         | 0.06      |       | -4.80         |
| 5650            | 2.39      |       | -5.08         | 2.38      |       | -0.58         | -0.21     |       | -5.49         |
| 5850            | 1.58      |       | -6.16         | 1.87      |       | -1.02         | -0.78     |       | -6.66         |