# Antenna

# FGM842D-P Datasheet

**Antenna Services**

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Date: 2023-12-28

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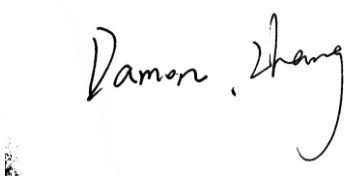

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# About the Document

## Revision History

| Version | Date | Author | Note |
|---|---|---|---|
| - | 2023-12-28 | Damon Zhang | Creation of the document |
| 1.0 | 2023-12-28 | Damon Zhang | First official release |

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# 1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

We provide comprehensive antenna design support such as simulation, testing and manufacturing for
custom antenna solutions to meet your specific application needs.

# 2 Product Features

- BT&WIFI
- High efficiency
- Excellent performance

# 3 Product Specifications

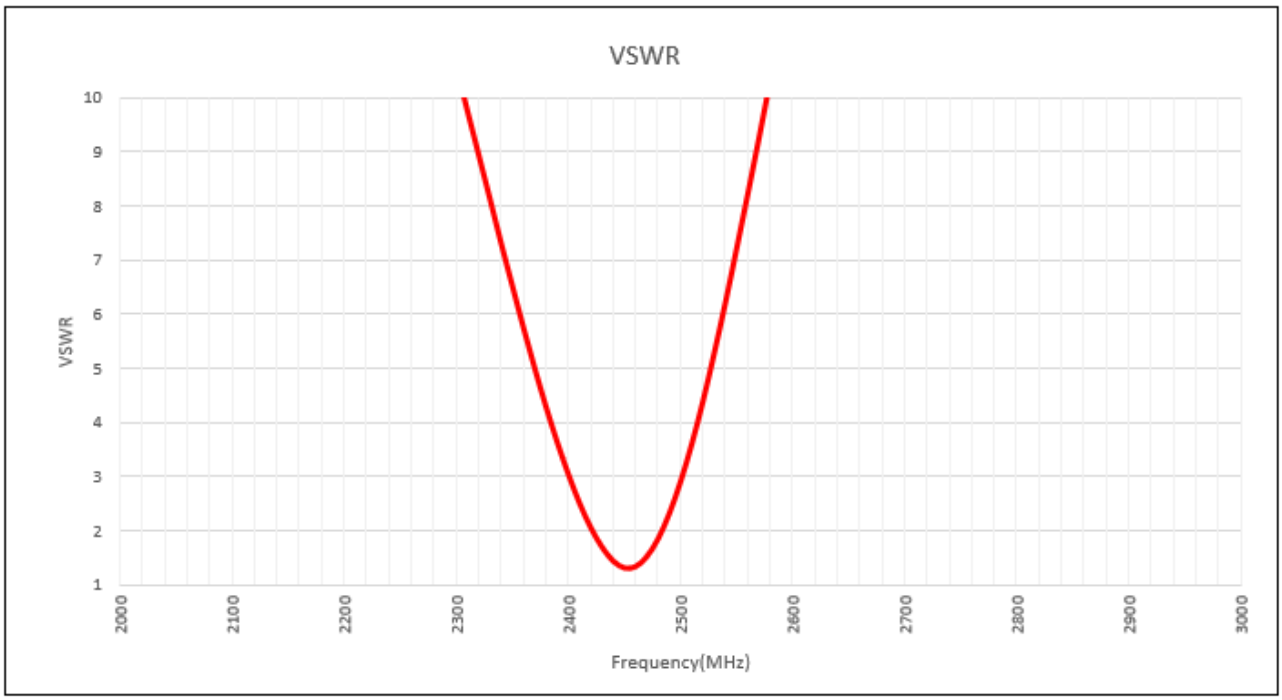
| Passive Electrical Specifications | |
|---|---|
| Frequency Range | 2400–2500 MHz |
| Input Impedance | 50 Ω |
| VSWR | ≤ 3 |
| Gain | ≤ 1.7 dBi |
| Polarization Type | Linear |
| Antenna type | PCB Printed Antenna |
| **Mechanical Specifications** | |
| Antenna Size(mm) | 12.6 × 5.1 |
| Material | FR4 |
| Color | Green |
| Working Temperature | -40 °C to +105 °C |

# 4 Overall Performance

## 4.1. Test Environment

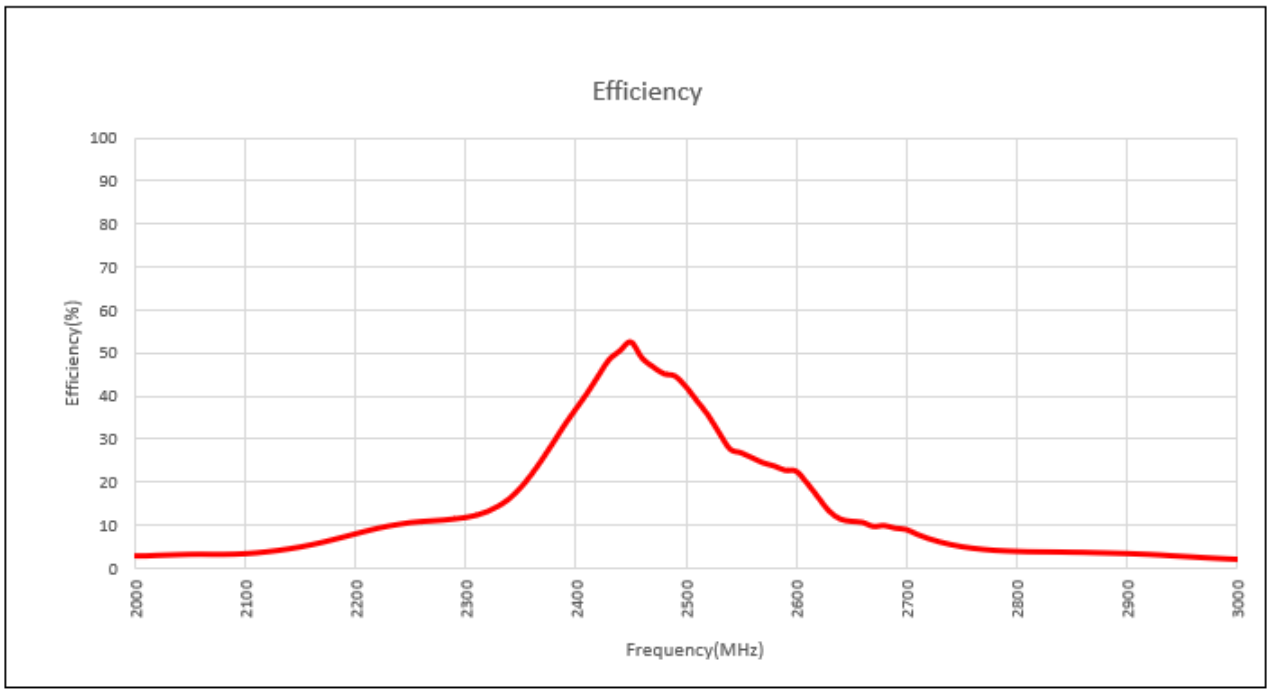
- KEYSIGHT ENA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz

## 4.2. VSWR



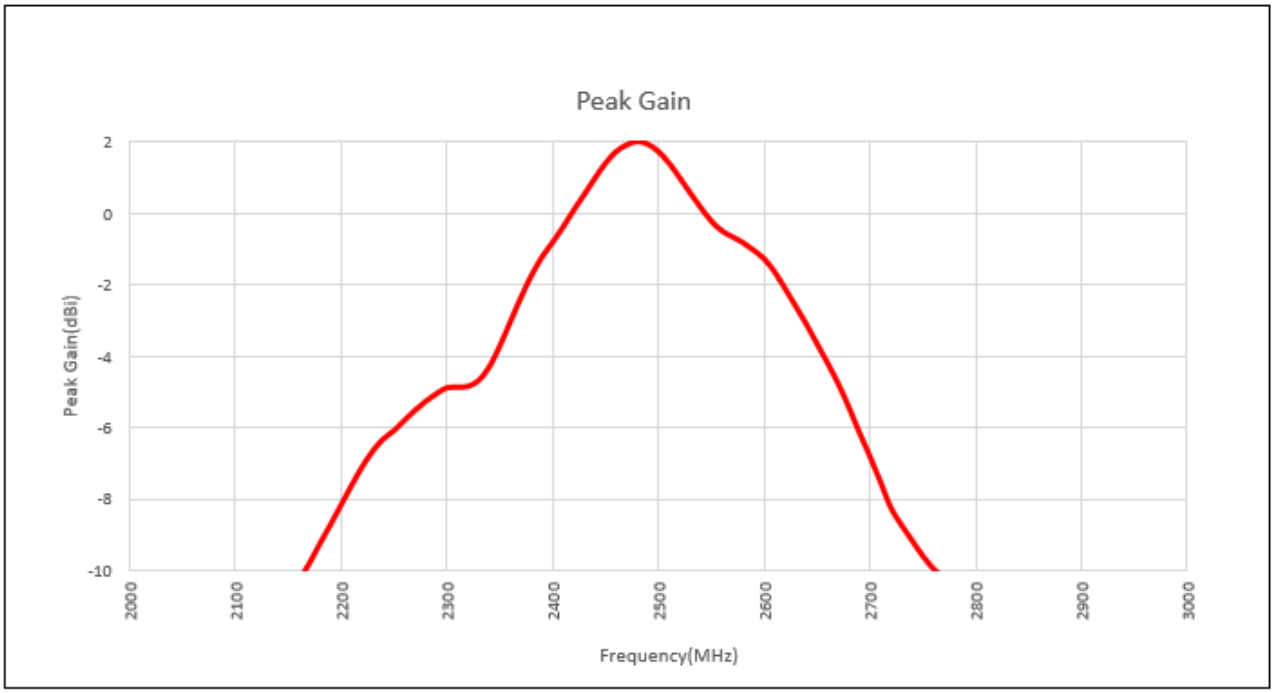

| Frequency (MHz) | 2400 | 2450 | 2500 |
|---|---|---|---|
| VSWR | 3.0 | 1.3 | 3.0 |

## 4.3. Efficiency



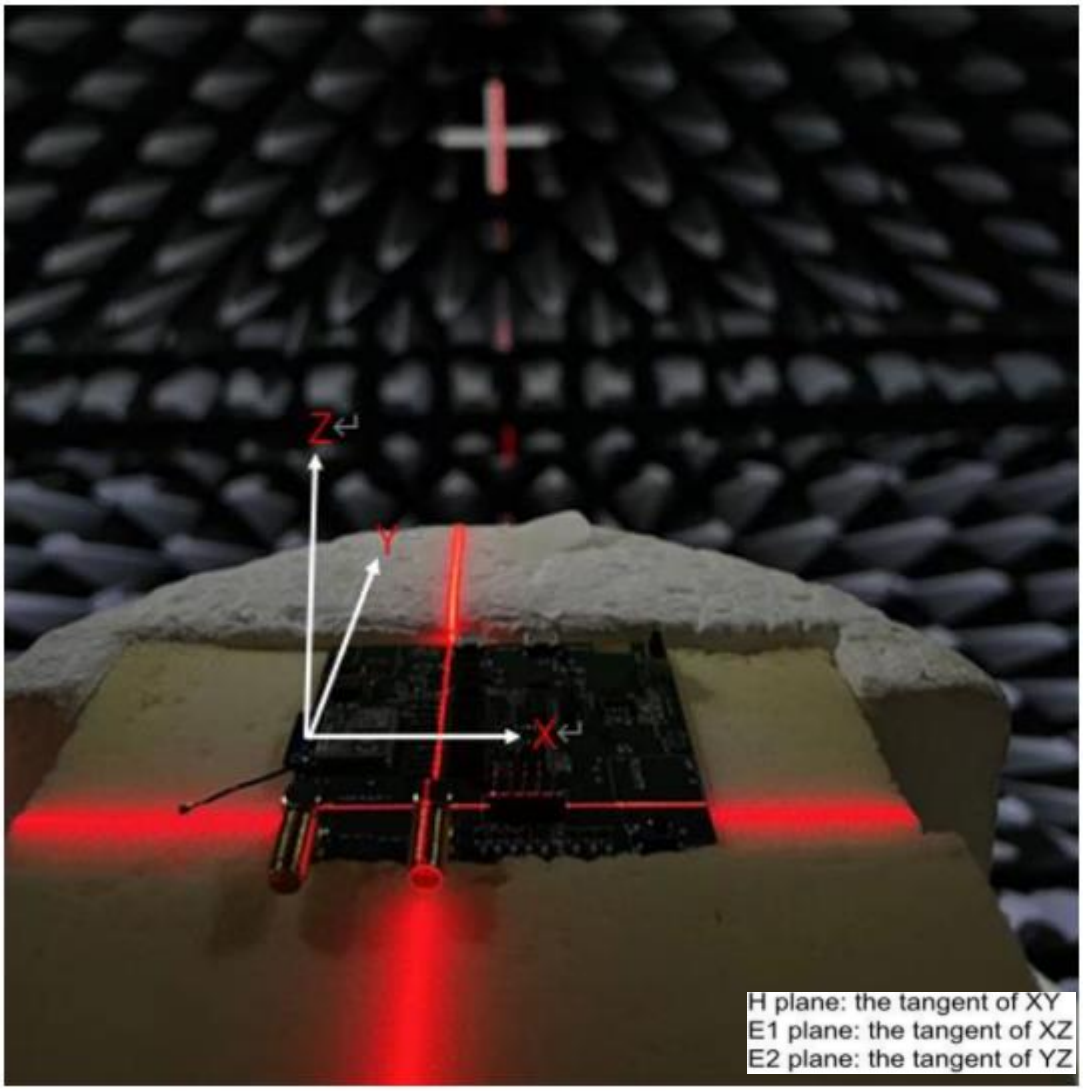

| Frequency (MHz) | 2400 | 2450 | 2500 |
|---|---|---|---|
| Efficiency (%) | 37.2 | 52.5 | 42.6 |

## 4.4. Gain

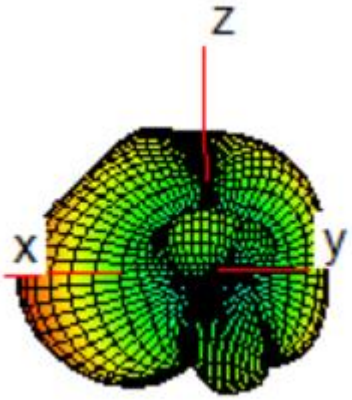


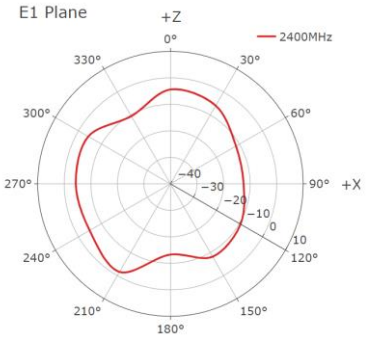

| Frequency (MHz) | 2400 | 2450 | 2500 |
|---|---|---|---|
| Gain (dBi) | -0.8 | 1.4 | 1.7 |

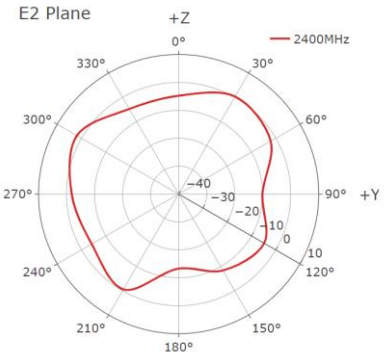
## 4.5. Radiation Pattern

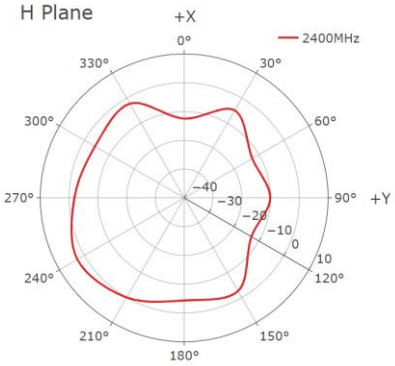


2400MHz

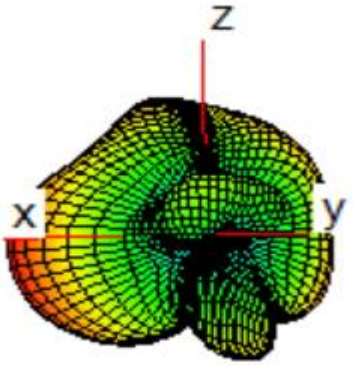


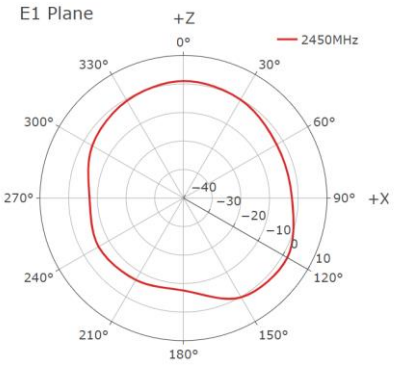



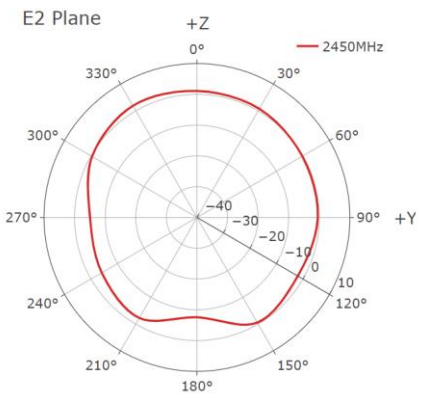



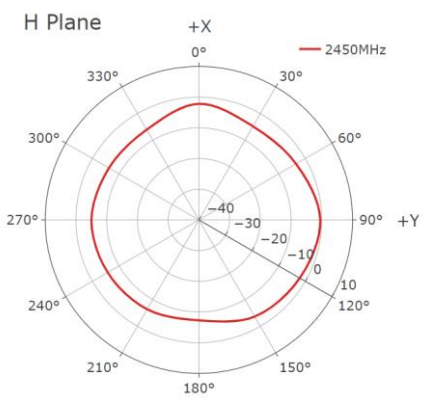




2450MHz

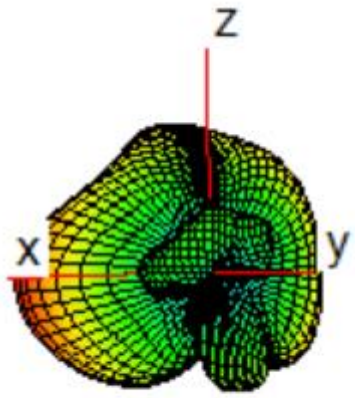


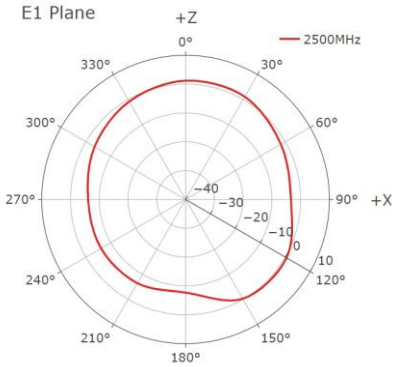



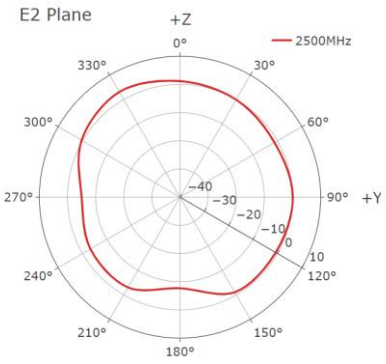

E2 Plane
+Z
2450MHz
0°
30°
60°
90°
+Y
120°
150°
180°
210°
240°
270°
300°
330°
−40
−30
−20
−10
0
10

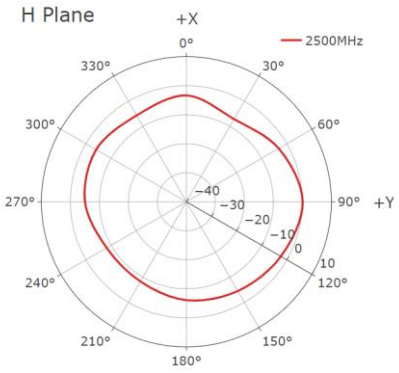

H Plane
+X
2450MHz
0°
30°
60°
90°
+Y
120°
150°
180°
210°
240°
270°
300°
330°
−40
−30
−20
−10
0
10

2500MHz


Z
x
y


E1 Plane
+Z
2500MHz
0°
30°
60°
90°
+X
120°
150°
180°
210°
240°
270°
300°
330°
−40
−30
−20
−10
0
10


E2 Plane
+Z
2500MHz
0°
30°
60°
90°
+Y
120°
150°
180°
210°
240°
270°
300°
330°
−40
−30
−20
−10
0
10


H Plane
+X
2500MHz
0°
30°
60°
90°
+Y
120°
150°
180°
210°
240°
270°
300°
330°
−40
−30
−20
−10
0
10

# 5 Product Size（mm）