

Antenna

HCM320Z Datasheet

Antenna Services

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About the Document

Revision History

| Version | Date | Author | Note |
|---------|------------|-------------|--------------------------|
| - | 2025-07-17 | Damon Zhang | Creation of the document |
| 1.0 | 2025-07-17 | 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

- BLE/BR/EDR
- High efficiency
- Excellent performance

3 Product Specifications

Passive Electrical Specifications

| | |
|-------------------|------------------|
| Frequency Range | 2400–2500 MHz |
| Input Impedance | 50 Ω |
| VSWR | ≤ 3.1 |
| Gain | ≤ -0.24 dBi |
| Polarization Type | Linear |
| Antenna type | PCB Antenna |

Mechanical Specifications

| | |
|---------------------|------------------|
| Antenna Size(mm) | 10.9 × 4.2 |
| Material | FR4 |
| Color | Green |
| Working Temperature | -40 °C to +85 °C |

4 Overall Performance

4.1. Test Environment

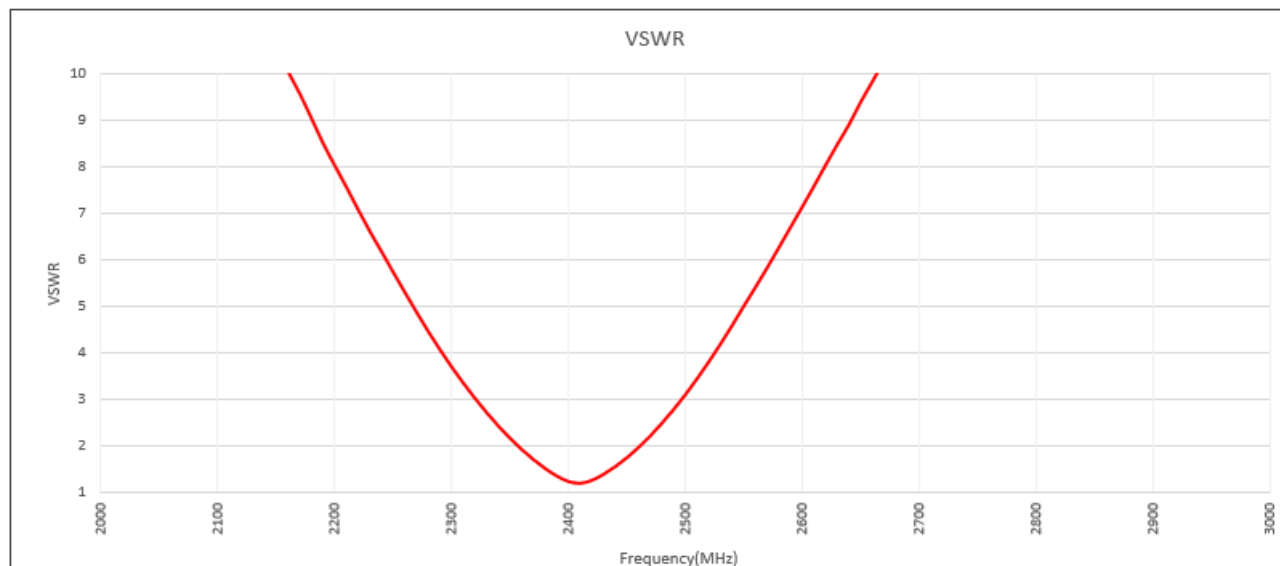
- KEYSIGHT ENA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz
- Calibration date 2025/03/08
- Due date 2026/03/08



- Test the software: Libra

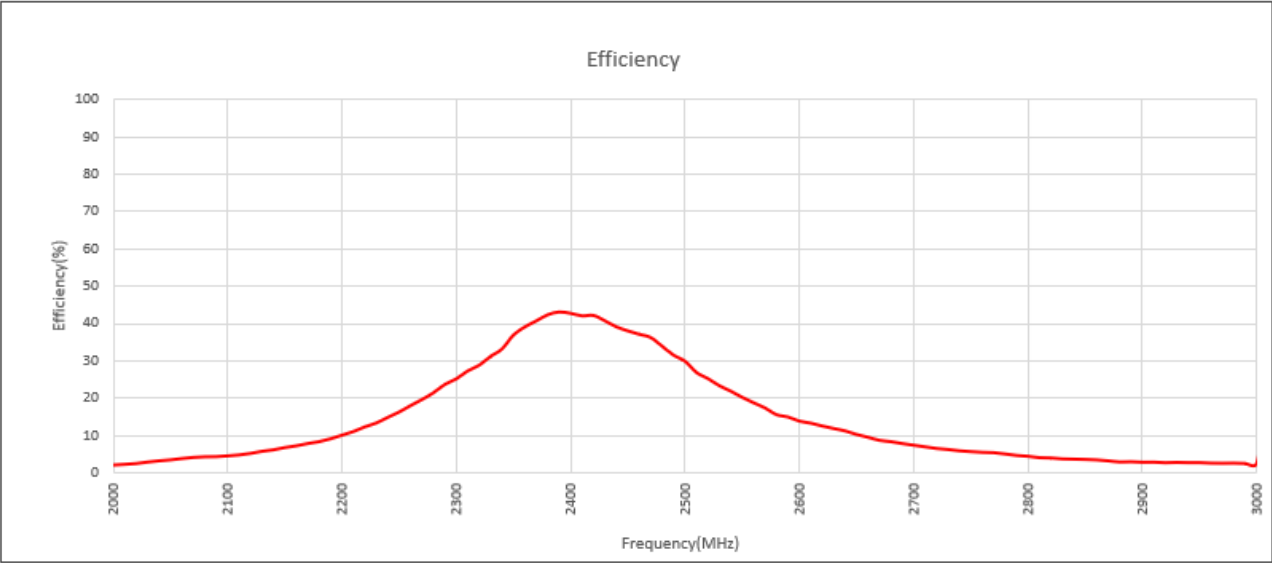


4.2. VSWR



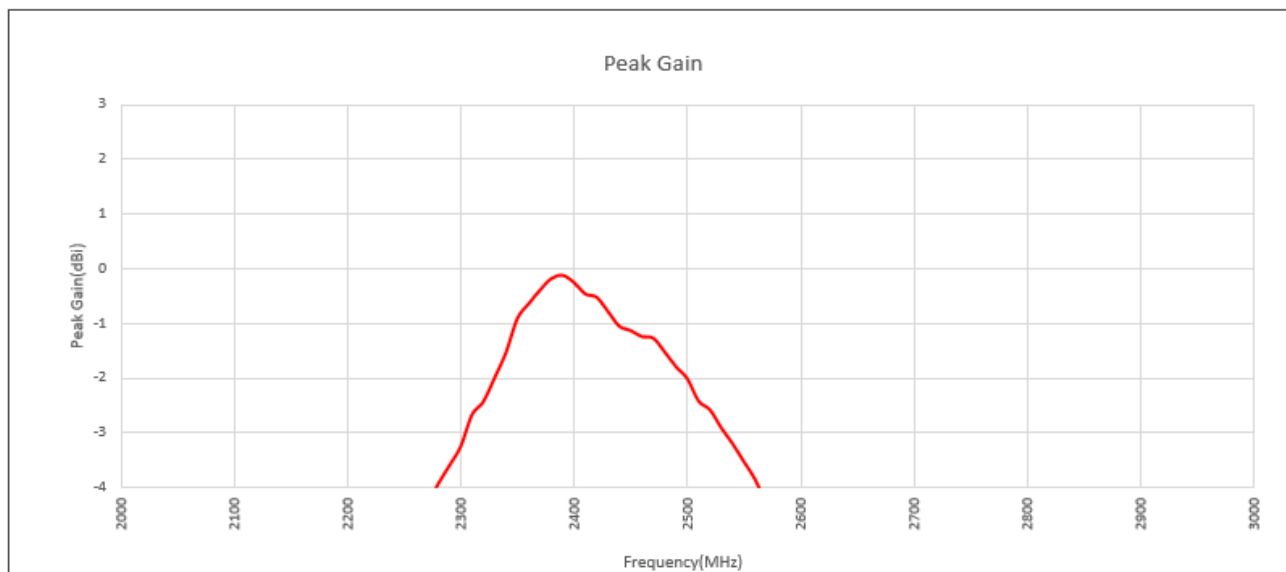
| Frequency (MHz) | 2400 | 2450 | 2500 |
|-----------------|------|------|------|
| VSWR | 1.2 | 1.7 | 3.1 |

4.3. Efficiency



| | | | |
|-----------------|------|------|------|
| Frequency (MHz) | 2400 | 2450 | 2500 |
| Efficiency (%) | 43 | 38 | 30 |

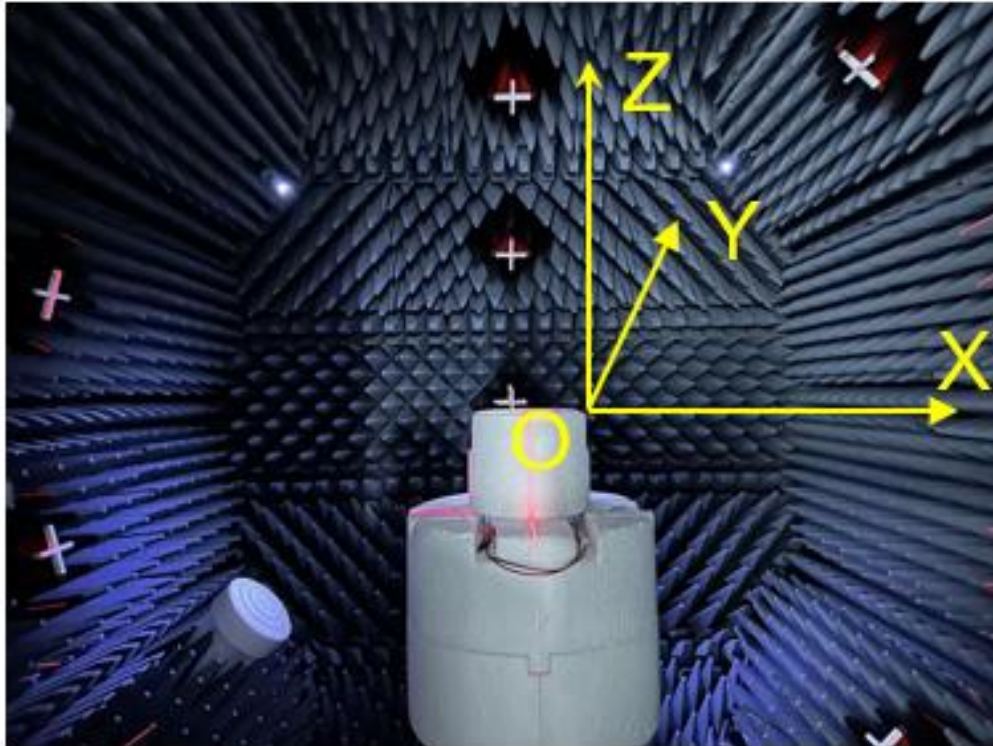
4.4. Gain



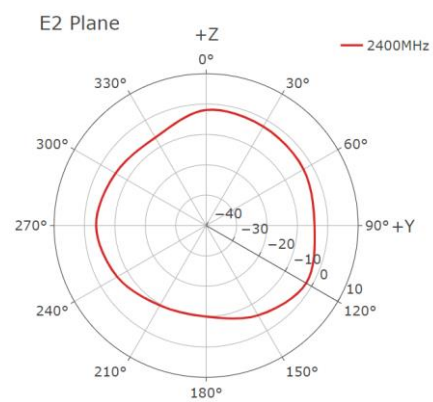
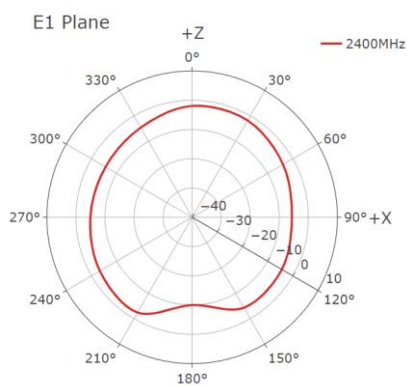
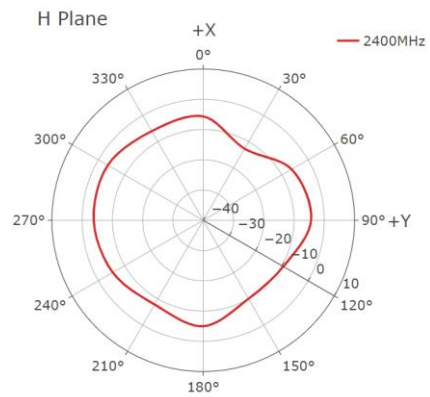
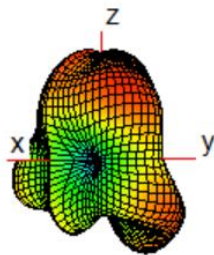
| Frequency (MHz) | 2400 | 2450 | 2500 |
|-----------------|-------|-------|------|
| Gain (dBi) | -0.24 | -1.12 | -2 |

4.5. Radiation Pattern

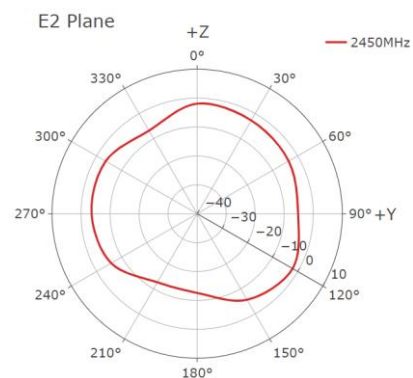
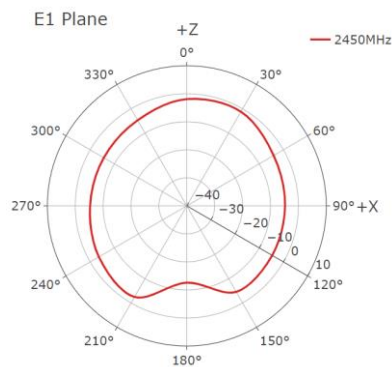
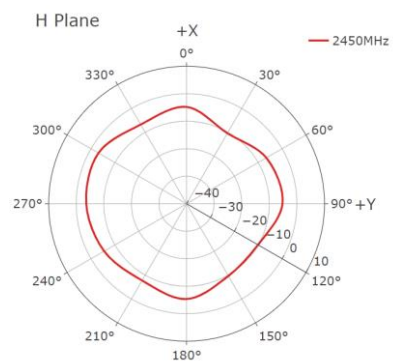
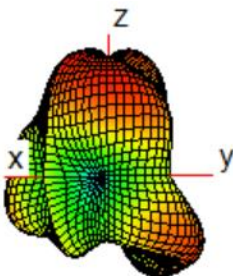
H Plane: XY
E1 Plane: XZ
E2 Plane: YZ



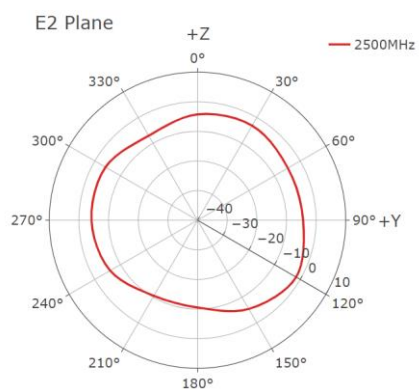
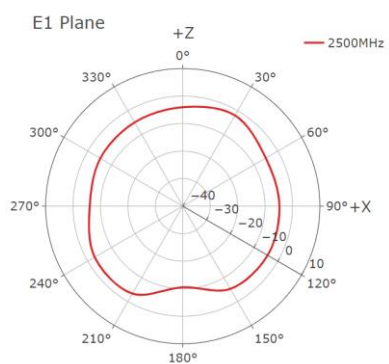
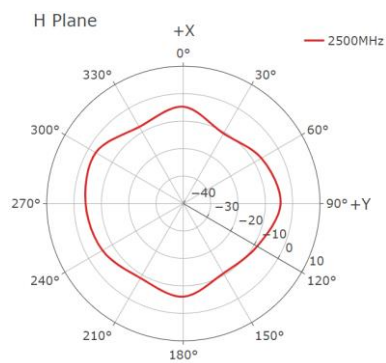
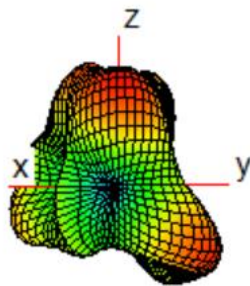
2400MHz



2450MHz



2500MHz



5 Product Size (mm)

