# Antenna

# KGM133S-P Datasheet

**Antenna Services**

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# About the Document

## Revision History

| Version | Date | Author | Note |
|---|---|---|---|
| - | 2025-11-11 | Mayes LI | Creation of the document |
| 1.0 | 2025-11-11 | Mayes LI | 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

# 2 Product Features

- BT&WIFI
- Excellent performance

# 3 Product Specifications

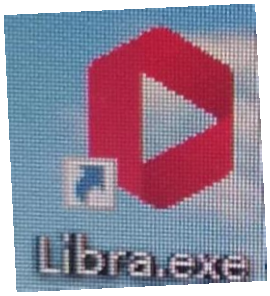
| Passive Electrical Specifications | |
|---|---|
| Frequency Range | 2400–2500 MHz |
| Input Impedance | 50 Ω |
| VSWR | ≤ 3.7 |
| Gain | ≤ 1.1 dBi |
| Polarization Type | Linear |
| Antenna type | On-Board Antenna |
| **Mechanical Specifications** | |
| Antenna Size(mm) | 12.6 mm × 4.1 mm |
| Material | FR4 |
| Color | Green |
| Working Temperature | -40 °C to +105 °C |

# 4 Overall Performance

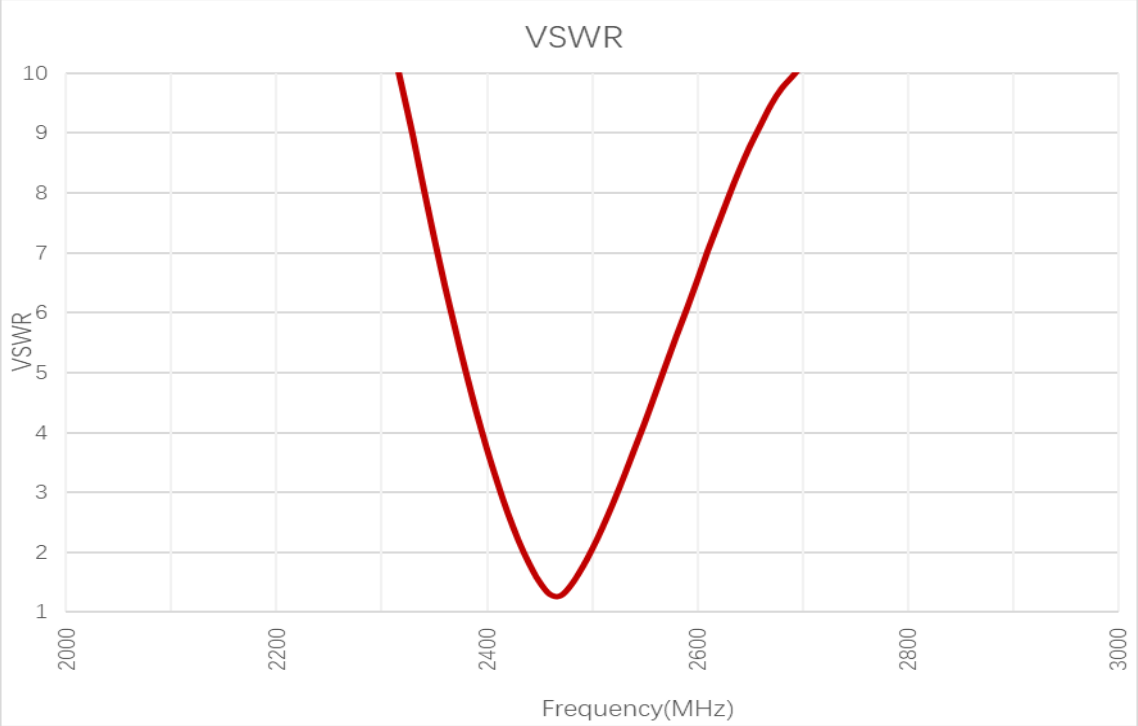
## 4.1. Test Environment

- KEYSIGHT ENA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz
- Calibration date 2023/10/30

- Test the software：Libra

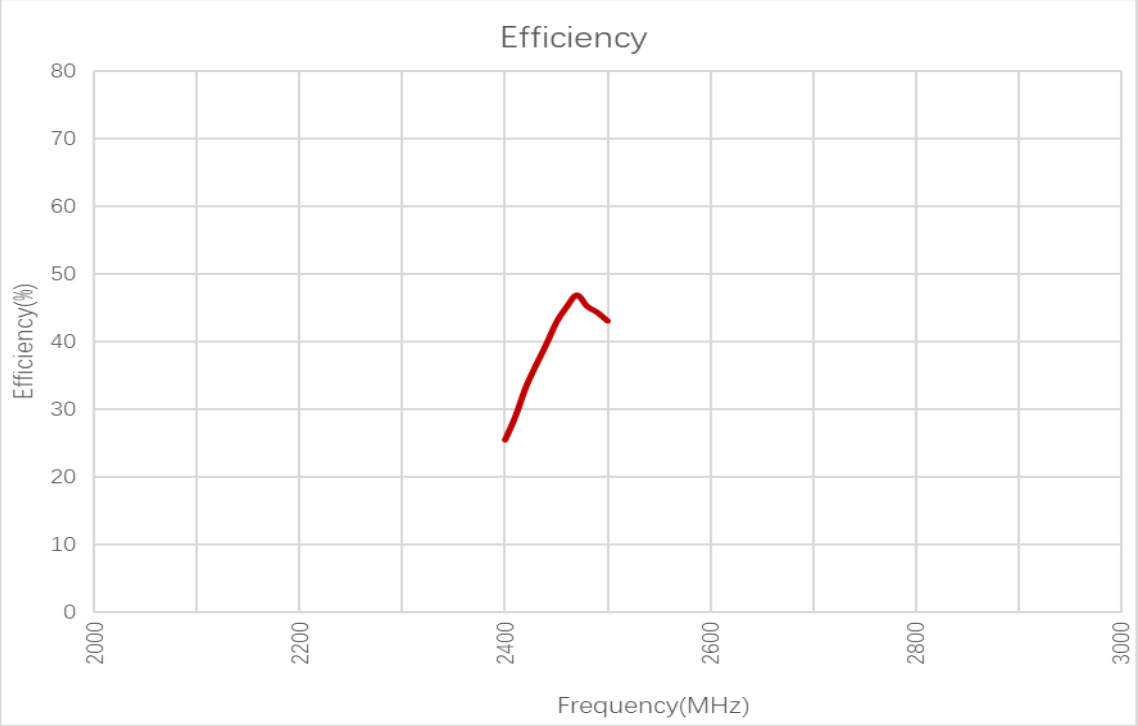


## 4.2. VSWR



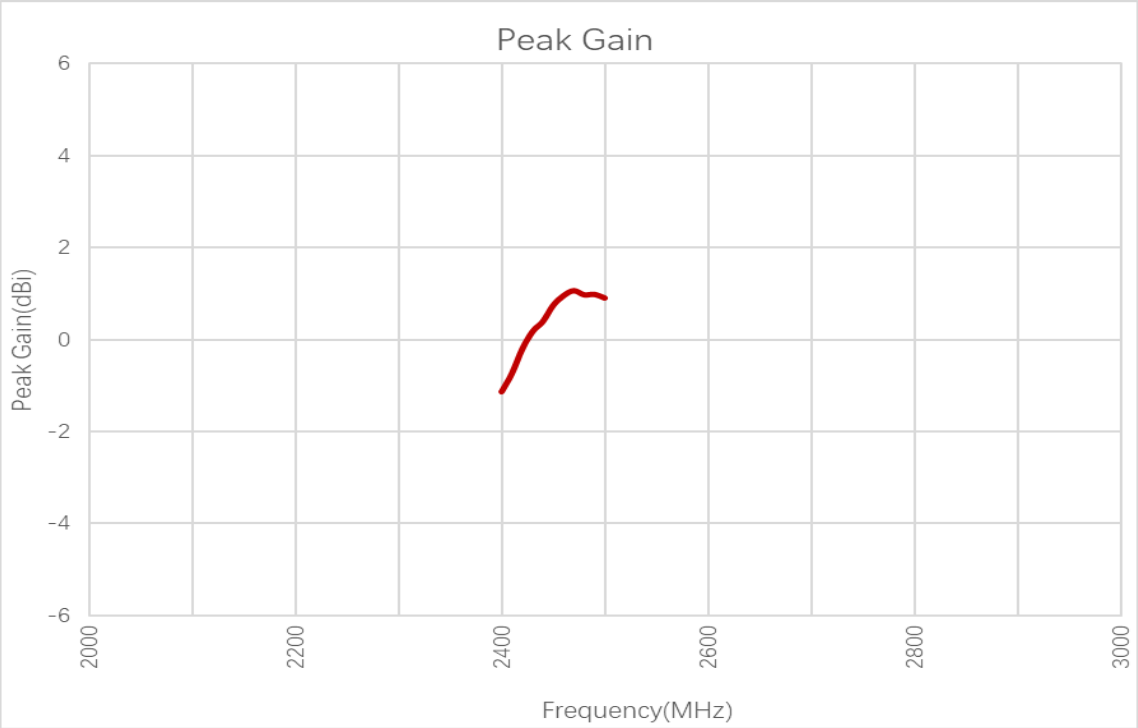

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5350 | 5500 | 5750 | 5850 |
|---|---|---|---|---|---|---|---|---|
| VSWR | 3.7 | 1.5 | 2.0 | - | - | - | - | - |

## 4.3. Efficiency



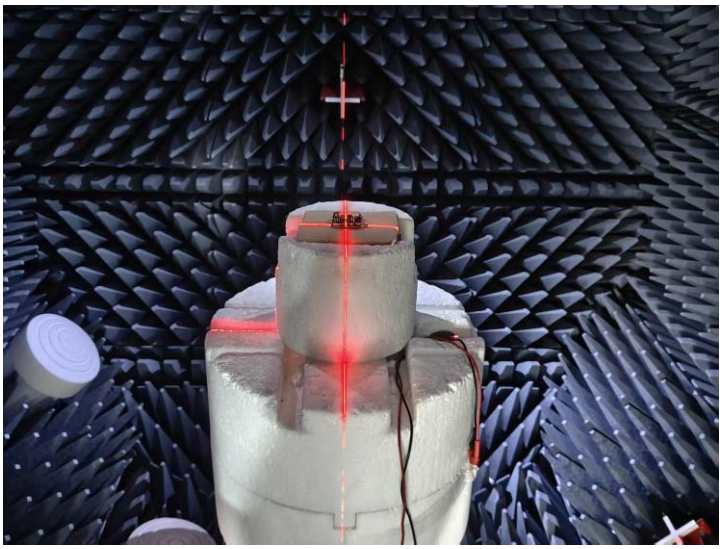

| Frequency (MHz) | 2400 | 2450 | 2500 | 5150 | 5350 | 5500 | 5750 | 5850 |
|---|---|---|---|---|---|---|---|---|
| Efficiency (%) | 25.5 | 42.9 | 43.1 | - | - | - | - | - |

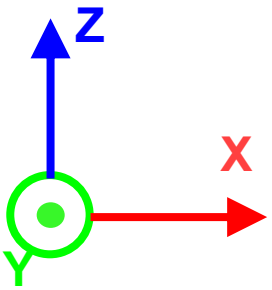
## 4.4. Gain

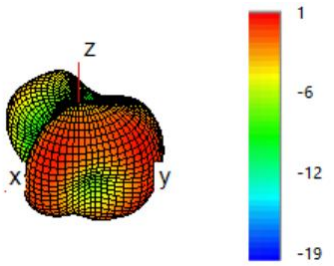
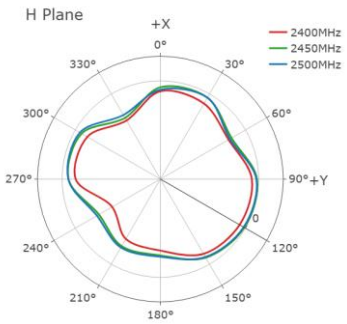
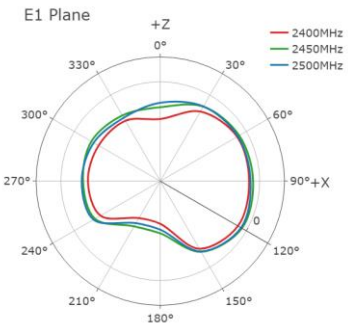
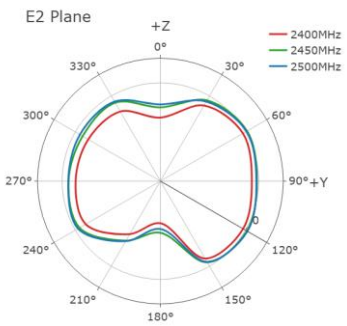
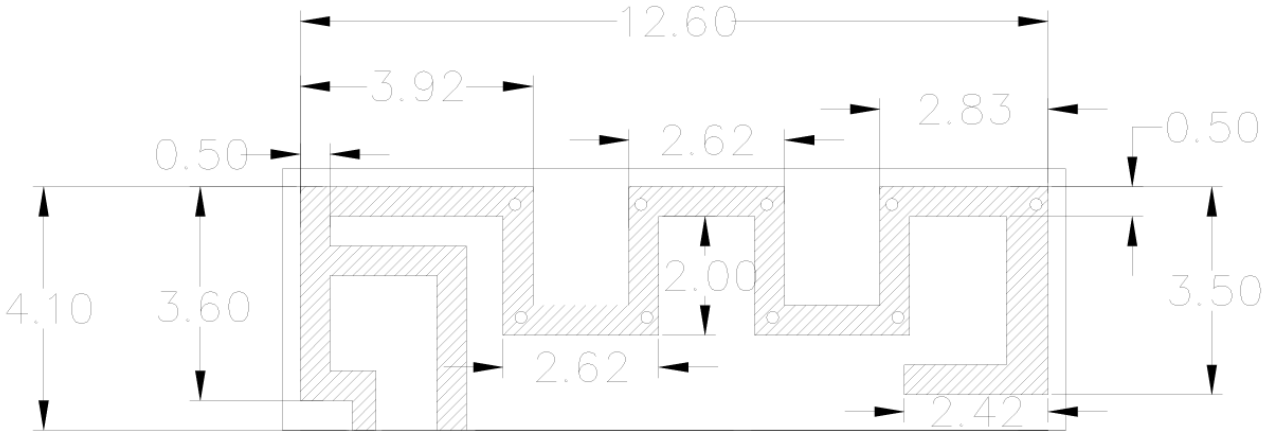



| Frequency (MHz) | 2400-2450 | 2450-2500 | 5150-5250 | 5250-5350 | 5470-5725 | 5725-5850 |
|---|---|---|---|---|---|---|
| Max Gain (dBi) | 0.7 | 1.1 | - | - | - | - |

## 4.5. Radiation Pattern





| 2450 MHz | | | |
|---|---|---|---|
|  Z<br>X<br>y<br>1<br>-6<br>-12<br>-19 |  H Plane<br>+X<br>0°<br>30°<br>60°<br>90°+Y<br>120°<br>150°<br>180°<br>210°<br>240°<br>270°<br>300°<br>330°<br>2400MHz<br>2450MHz<br>2500MHz | | |
|  E1 Plane<br>+Z<br>0°<br>30°<br>60°<br>90°+X<br>120°<br>150°<br>180°<br>210°<br>240°<br>270°<br>300°<br>330°<br>2400MHz<br>2450MHz<br>2500MHz |  E2 Plane<br>+Z<br>0°<br>30°<br>60°<br>90°+Y<br>120°<br>150°<br>180°<br>210°<br>240°<br>270°<br>300°<br>330°<br>2400MHz<br>2450MHz<br>2500MHz | | |

# 5 Product Size（mm）