

Antenna

YE0019AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-08-13	Kenny YIN	Initial
1.1	2020-12-15	Kenny YIN	Updated the antenna image in Chapter 2.
1.2	2021-01-27	Kenny YIN	Added IP rating description in Chapter 3.
2.0	2021-06-09	Aria CHU	Updated all test data in this datasheet.
2.1	2021-12-03	Aria CHU	Updated the product description in Chapter 1.
2.2	2022-10-17	Aria CHU	Deleted the IP rating.

Contents

About the Document.....	3
Contents.....	4
1 Product Description.....	5
2 Product Features	5
3 Product Specifications	6
4 Overall Performance.....	7
4.1. Test Environment	7
4.2. VSWR.....	8
4.3. Efficiency	9
4.4. Gain.....	9
4.5. Radiation Pattern	10
4.5.1. 450 MHz	10
4.5.2. 470 MHz.....	11
5 Product Size	12

1 Product Description

Quectel provides a range of antenna products that support the ISM radio band. These antennas are mounted outside the device to minimize the interference of the devices' internal environment. With the antenna performance and This ensures a better efficiency, gain and omni-directional radiation, offering a superior user experience. Quectel also offers flexible installation with custom cable length and connector options.

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

- 450–470 MHz
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	450–470 MHz
Input Impedance	50 Ω
VSWR	≤ 2.0
Gain	≤ 4.5 dBi
Polarization Type	Linear

Mechanical Specifications

Antenna Size	109 mm \times 10 mm
Casing	ABS
Connector Type	SMA Male (Center Pin)
Working Temperature	-40 $^{\circ}$ C to +85 $^{\circ}$ C
Radome Color	Black

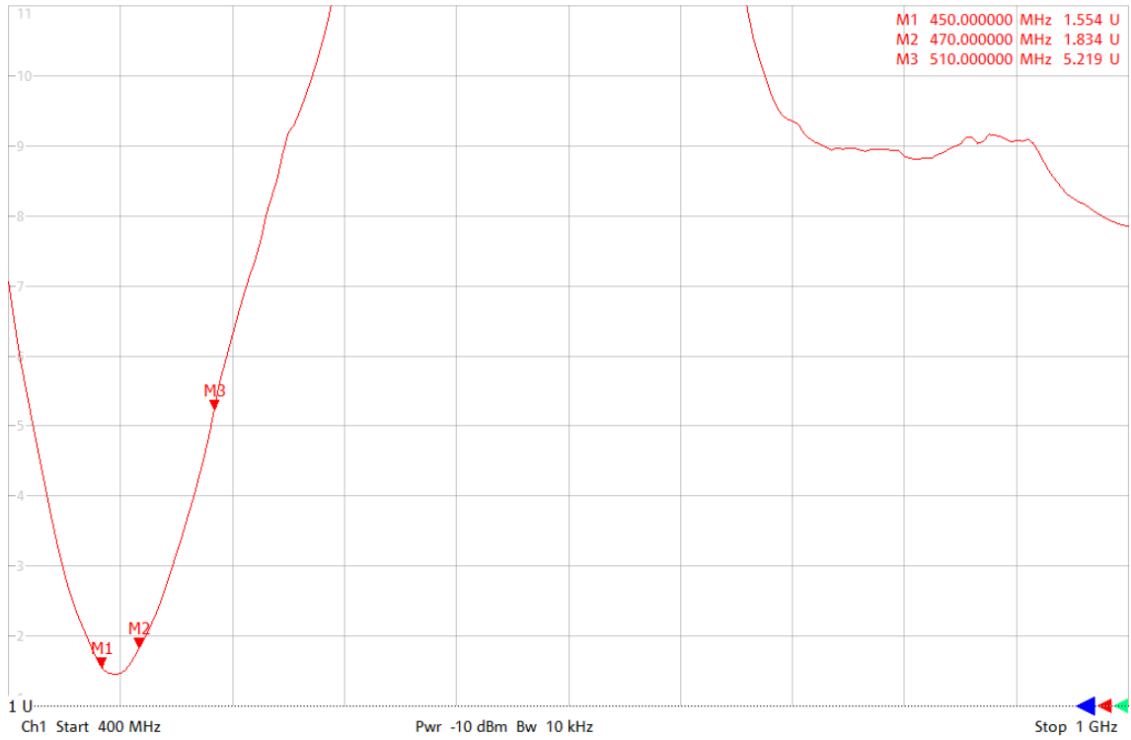
4 Overall Performance

4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 8.0 GHz

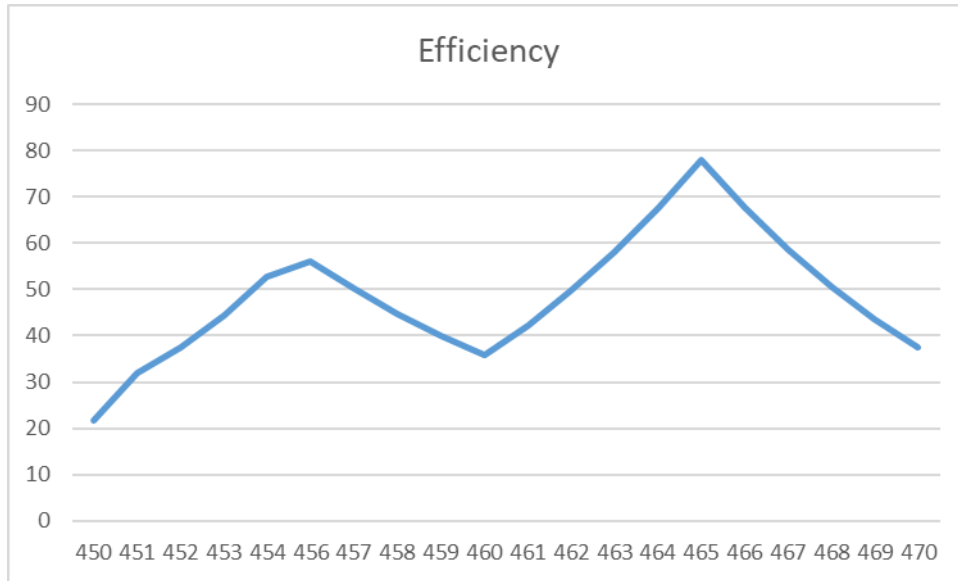


4.2. VSWR



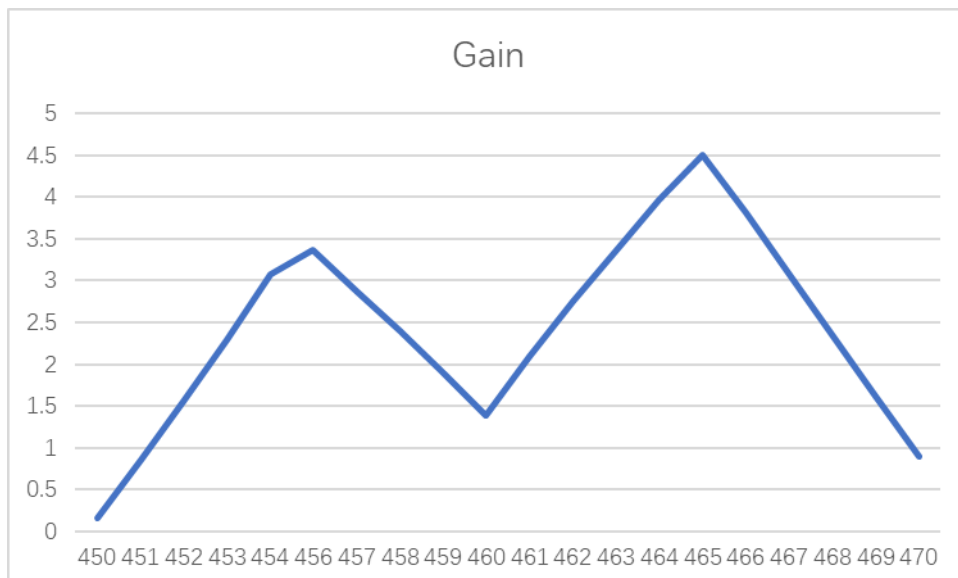
Frequency (MHz)	450	470
VSWR	1.55	1.83

4.3. Efficiency



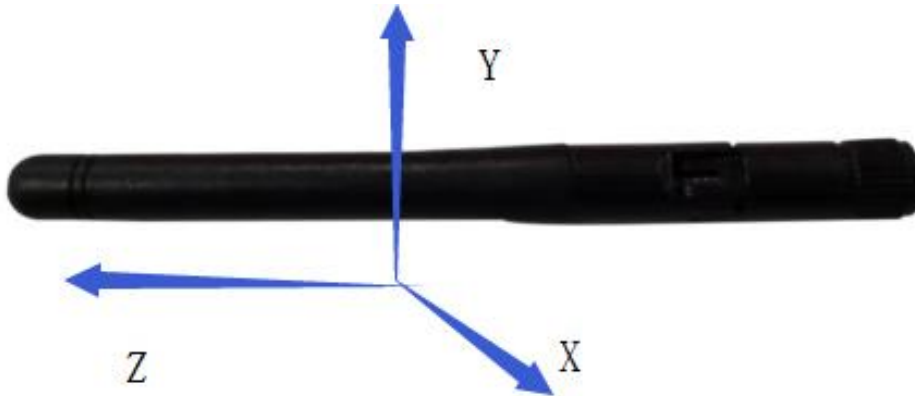
Frequency (MHz)	450	470
Efficiency(%)	27.41	37.51

4.4. Gain



Frequency (MHz)	450	470
Gain	0.16	0.89

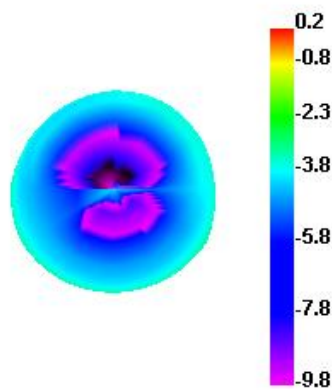
4.5. Radiation Pattern



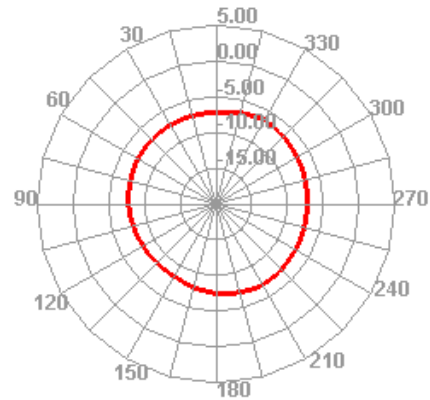
- H Plane: XY
- E1 Plane: XZ
- E2 Plane: YZ

4.5.1. 450 MHz

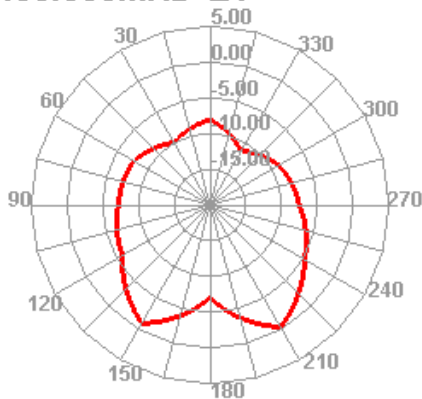
450.000MHz



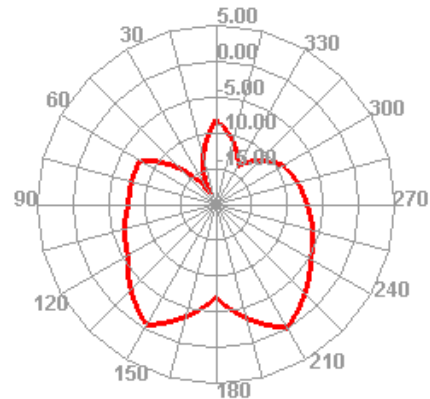
450.000MHz H



450.000MHz E1

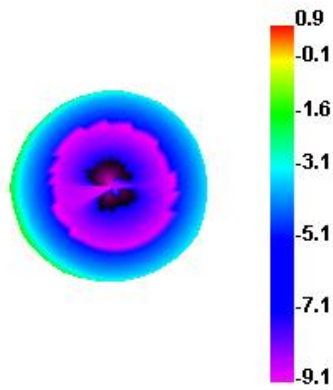


450.000MHz E2

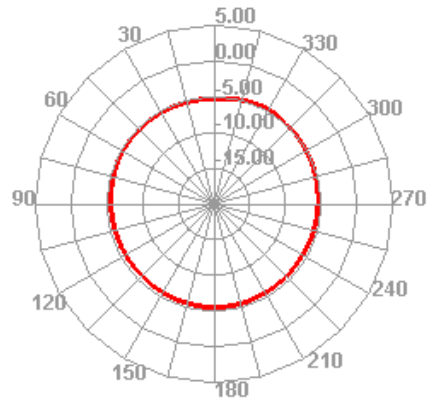


4.5.2. 470 MHz

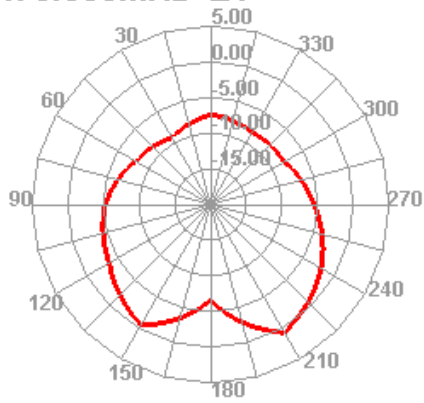
470.000MHz



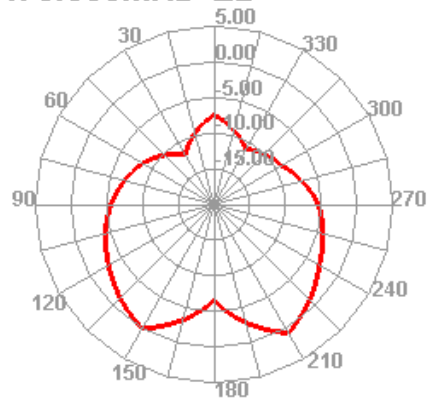
470.000MHz H



470.000MHz E1

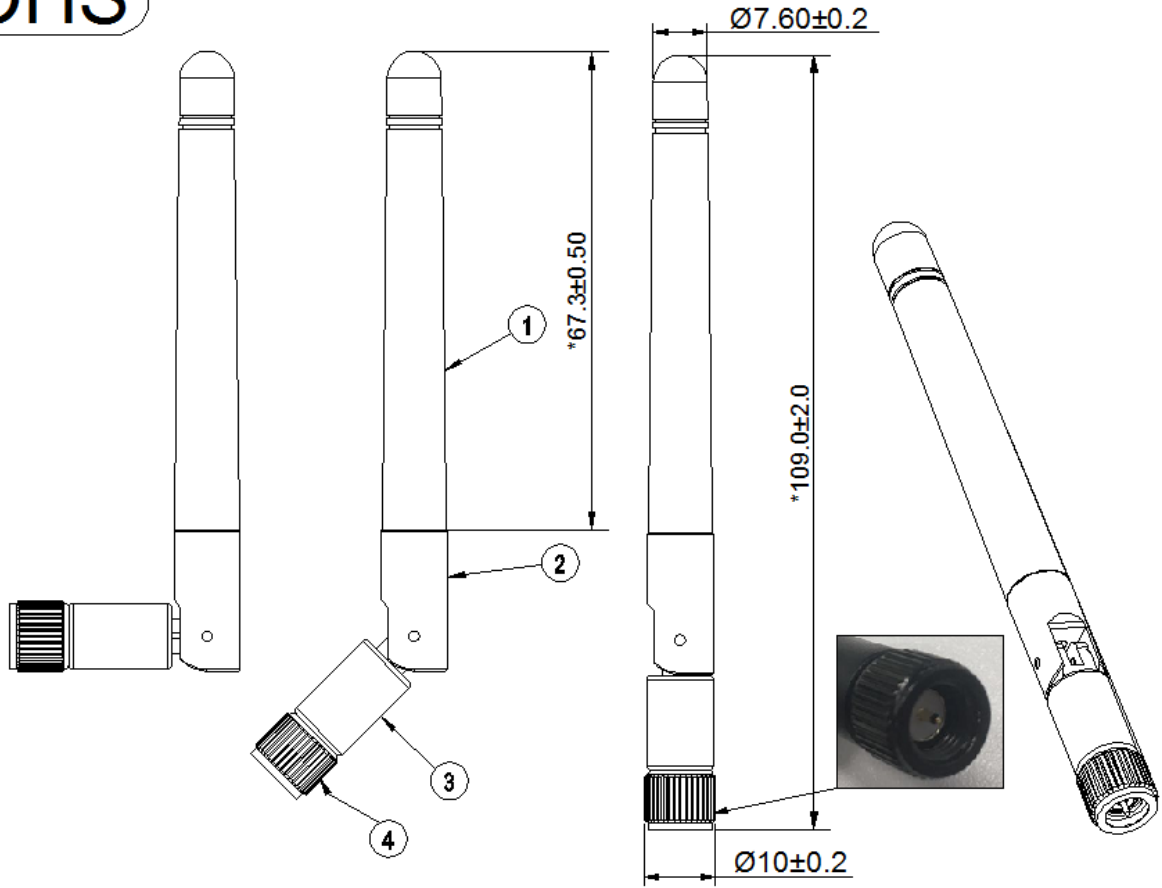


470.000MHz E2



5 Product Size

ROHS



SN	Component Name	Specification	Color	Quantity
1	Noumenon	ABS	Black	1
2	Upper Firmware	ABS	Black	1
3	Lower Firmware	ABS	Black	1
4	SMA	SMA-J	Black	1