

# Antenna

# YPA00A0AA Datasheet

**Antenna Services**

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# About the Document

## Revision History

Version	Date	Author	Note
-	2021-10-29	Xiaodong YANG/ Kenny YIN	First official release
1.0	2021-10-29	Xiaodong YANG/ Kenny YIN	Creation of the document

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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

- Iridium
- High efficiency
- Excellent performance



### 3 Product Specifications

- The antenna is tested on a 90 mm × 140 mm PCB.

#### Passive Electrical Specifications

Frequency Range	Iridium (1616–1626.5 MHz)
Input Impedence	50 Ω
VSWR	≤ 2.0
Peak Gain	< 5 dBi
Axial Ratio	< 3 dB
Polarization Type	RHCP

#### Mechanical Specifications

Antenna Size	25 mm × 25 mm × 4 mm (Ground Plane: 90 mm × 140 mm × 0.8 mm)
Casing	Ceramics
Connector Type	-
Working Temperature	-40 °C to +85 °C
Radome Colour	-
IP Rating	-

## 4 Overall Passive Performance

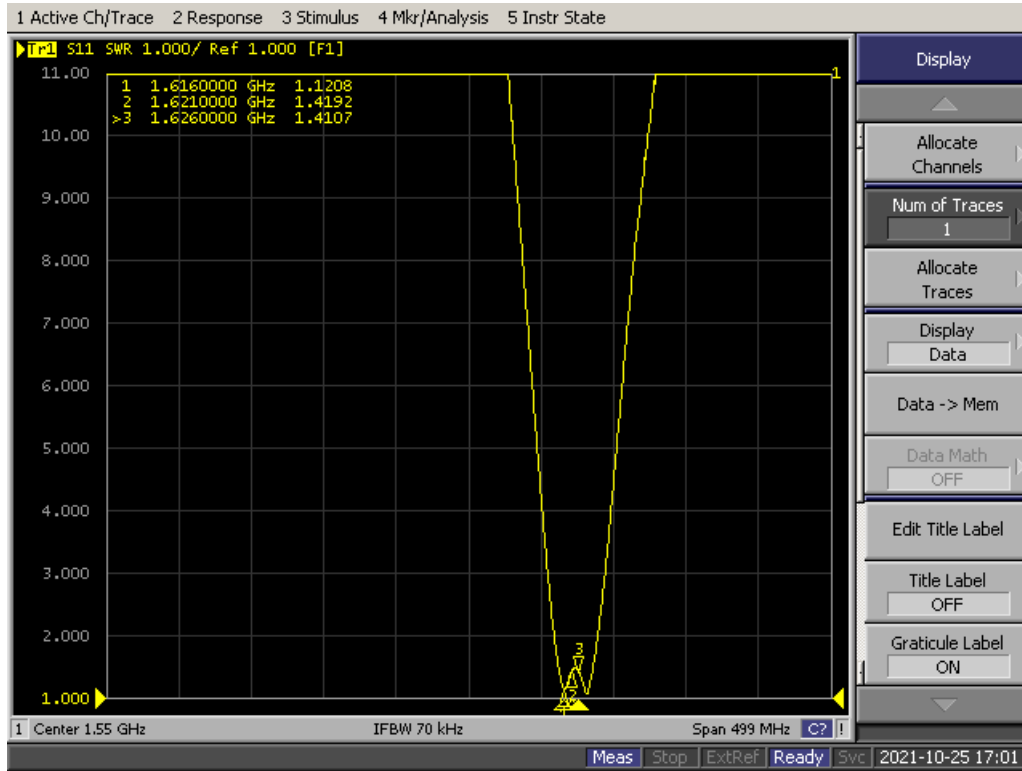
### 4.1. Test Environment

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



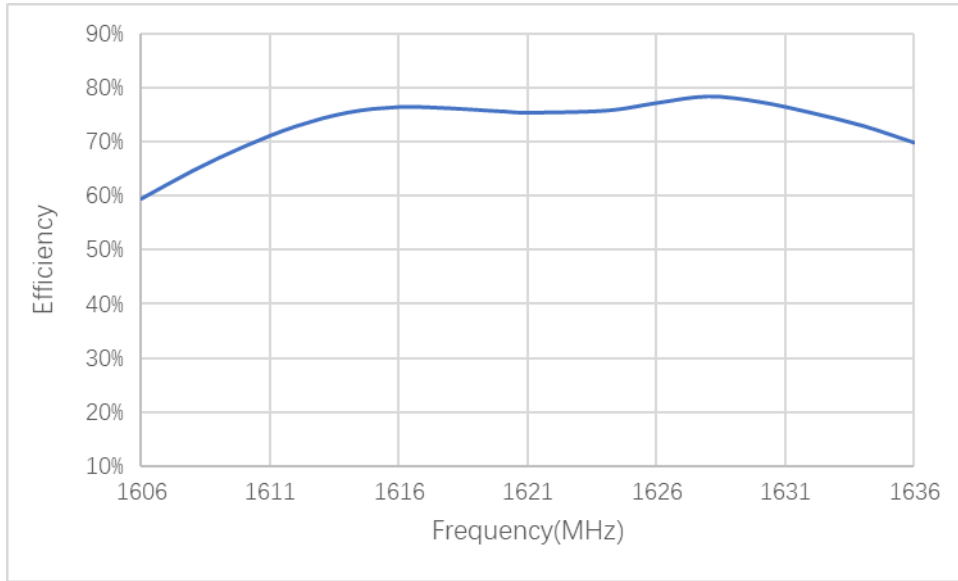


## 4.2. VSWR



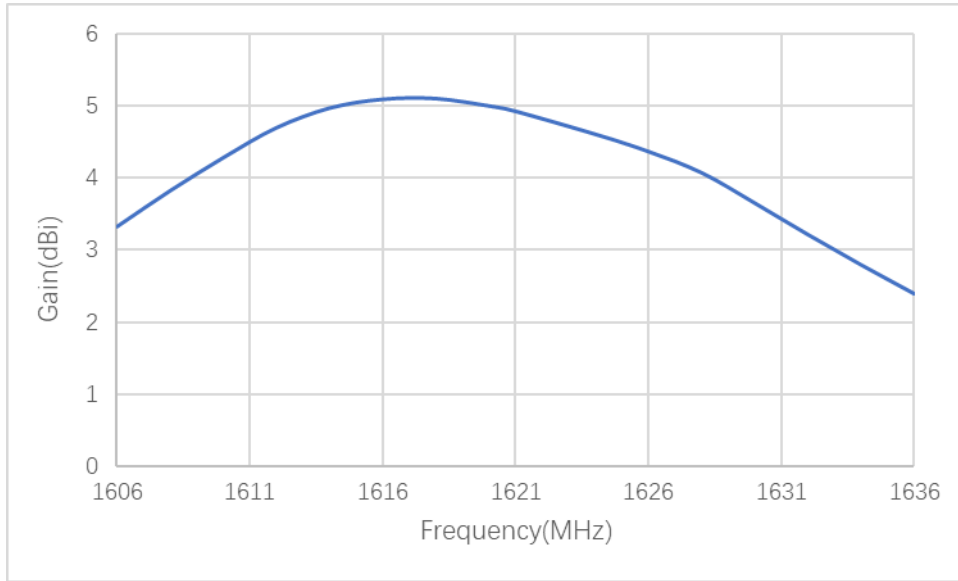
Frequency (MHz)	1616	1621	1626
VSWR	1.12	1.41	1.41

### 4.3. Efficiency



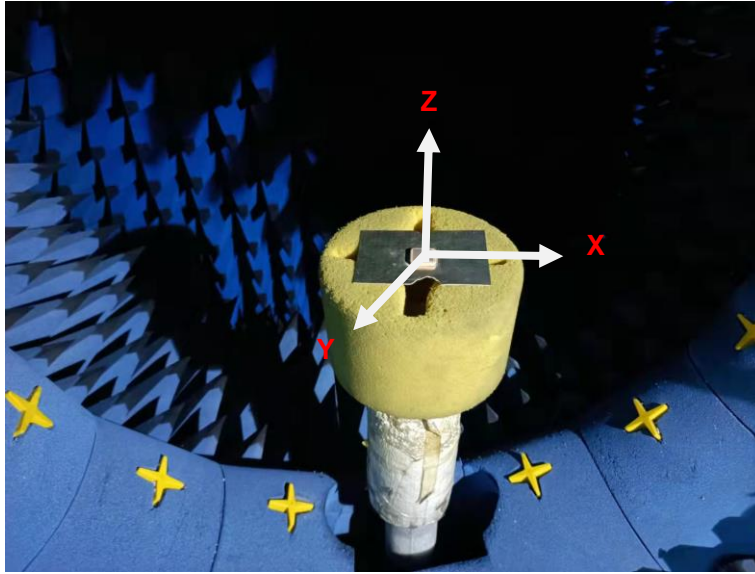
<b>Frequency (MHz)</b>	1616	1621	1626
<b>Efficiency (%)</b>	76	75	77

#### 4.4. Gain



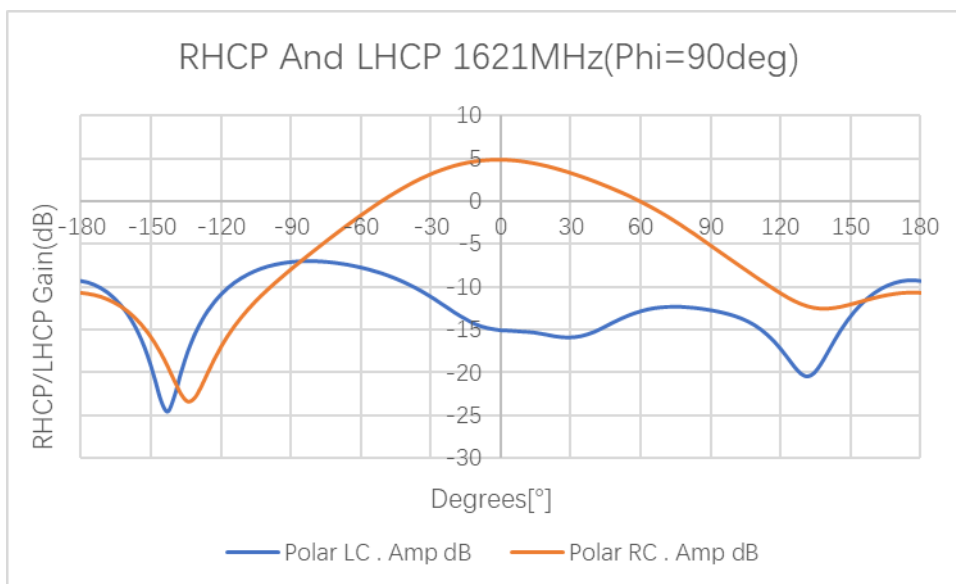
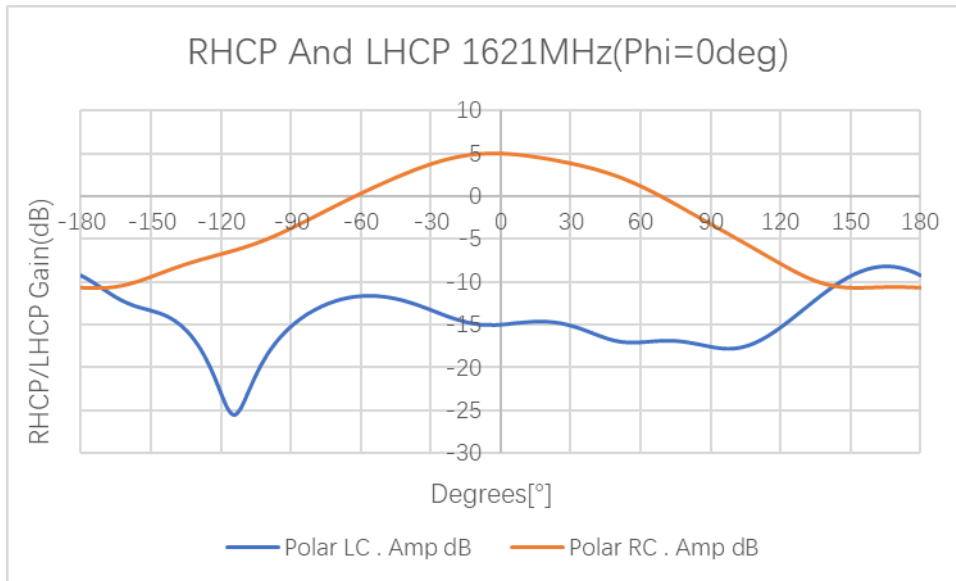
<b>Frequency (MHz)</b>	1616	1621	1626
<b>Gain (dBi)</b>	5.09	4.92	4.36

#### 4.5. Test in Chamber



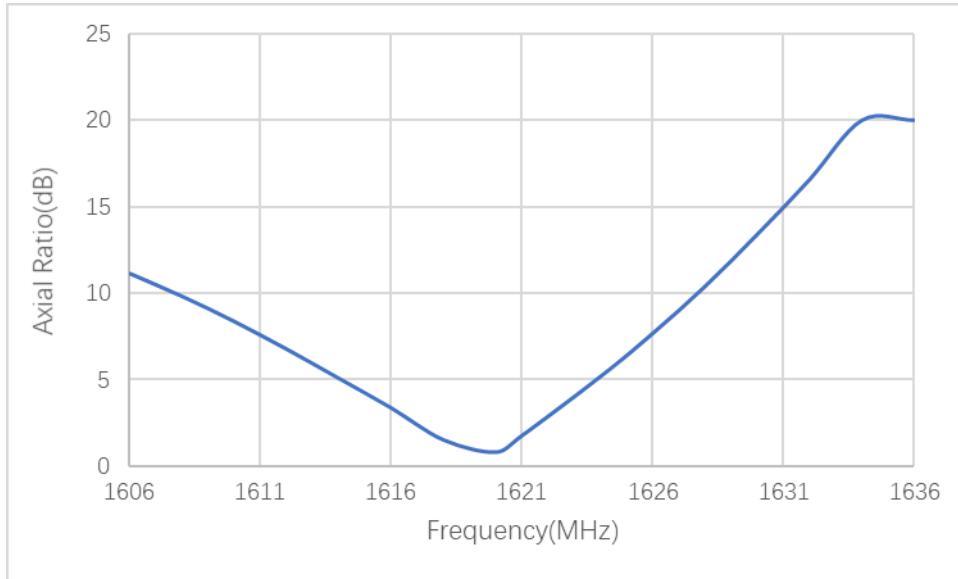
H plane: the tangent of XY  
E1 plane: the tangent of XZ  
E2 plane: the tangent of YZ

### 4.6. 2D RHCP and LHCP Gain

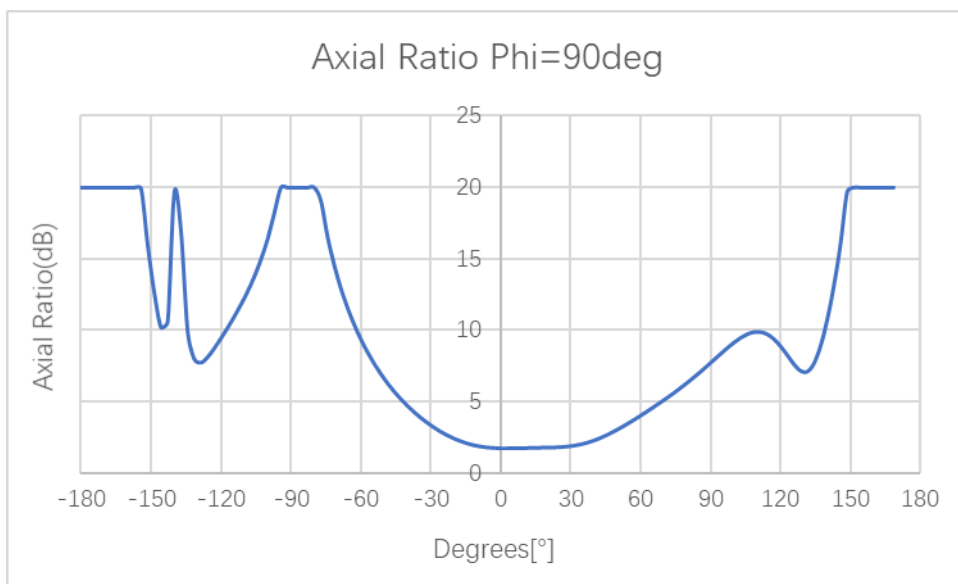
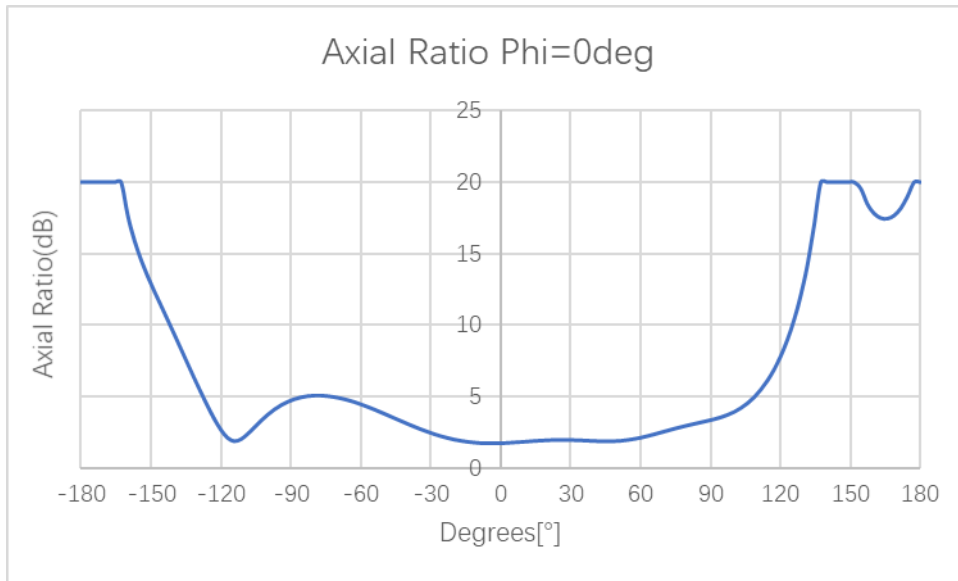


Frequency (MHz)	1621
RC Gain (dB) Phi = 0 (deg) Theta = 0 (deg)	4.92
RC Gain (dB) Phi = 90 (deg) Theta = 0 (deg)	4.92
LC Gain (dB) Phi = 0 (deg) Theta = 0 (deg)	-15.02
LC Gain (dB) Phi = 90 (deg) Theta = 0 (deg)	-15.02

### 4.7. Axial Ratio

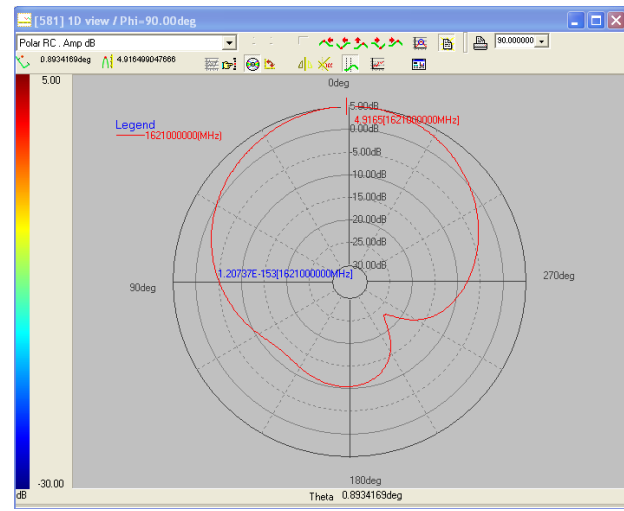
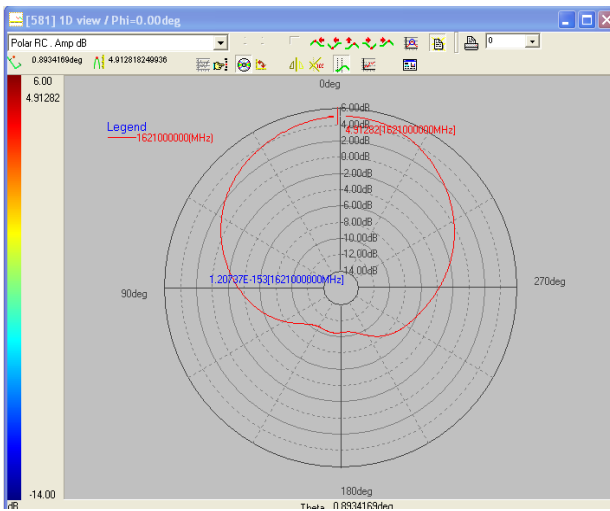
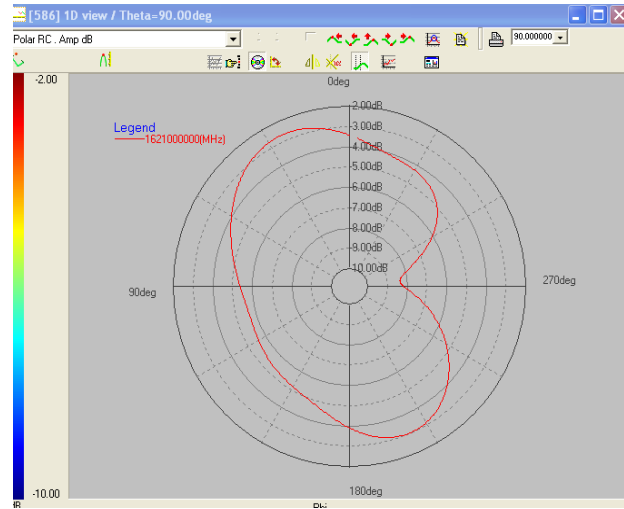
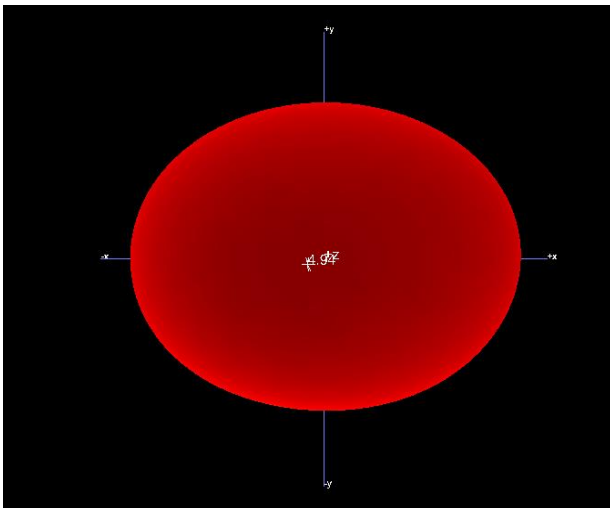


### 4.8. Axial Ratio in XOZ/YOZ



Frequency (MHz)	1621
AR (dB) Phi = 0(deg) Theta = 0 (deg)	1.75
AR (dB) Phi = 90 (deg) Theta = 0 (deg)	1.75

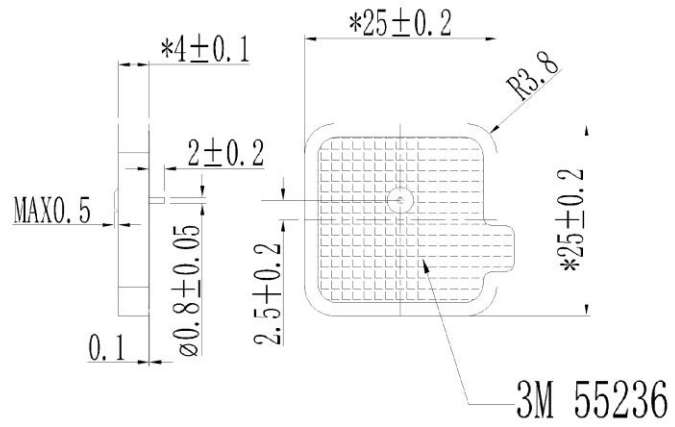
### 4.9. 2D and 3D Radiation





## 5 Product Size

RoHS



Unit:mm

## 6 PCB Footprint Recommendation

