

# Antenna

# YB0009AA Datasheet

## Antenna Services

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# About the Document

## Revision History

Version	Date	Author	Note
-	2020-11-10	Kenny YIN	Creation of the document
1.0	2020-11-10	Kenny YIN	First official release
1.1	2021-01-18	Kenny YIN	Updated the antenna image in Chapter 2.

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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

- Cellular LTE&GPS
- High efficiency
- Excellent performance
- Wi-Fi, Router



### 3 Product Specifications

#### Passive Electrical Specifications

Frequency Range (MHz)	4G: 824-960; 1710-2690 GPS&BD: 1575.42 ±10; 1561 ±10
Input Impedance (Ω)	50
VSWR	≤ 3.0
Gain (dBi)	≤ 2
Polarization Type	Linear (4G MAIN/BT); Circular (GNSS)

#### Mechanical Specifications

Antenna Size (mm)	33 × 48
Casing	PC + ABS
Radiator	Cuprum
Connector Type	SMA Male (with center pin)
Working Temperature (°C)	-20 to +80
Radome Color	Black
Waterproof Grade	IP66

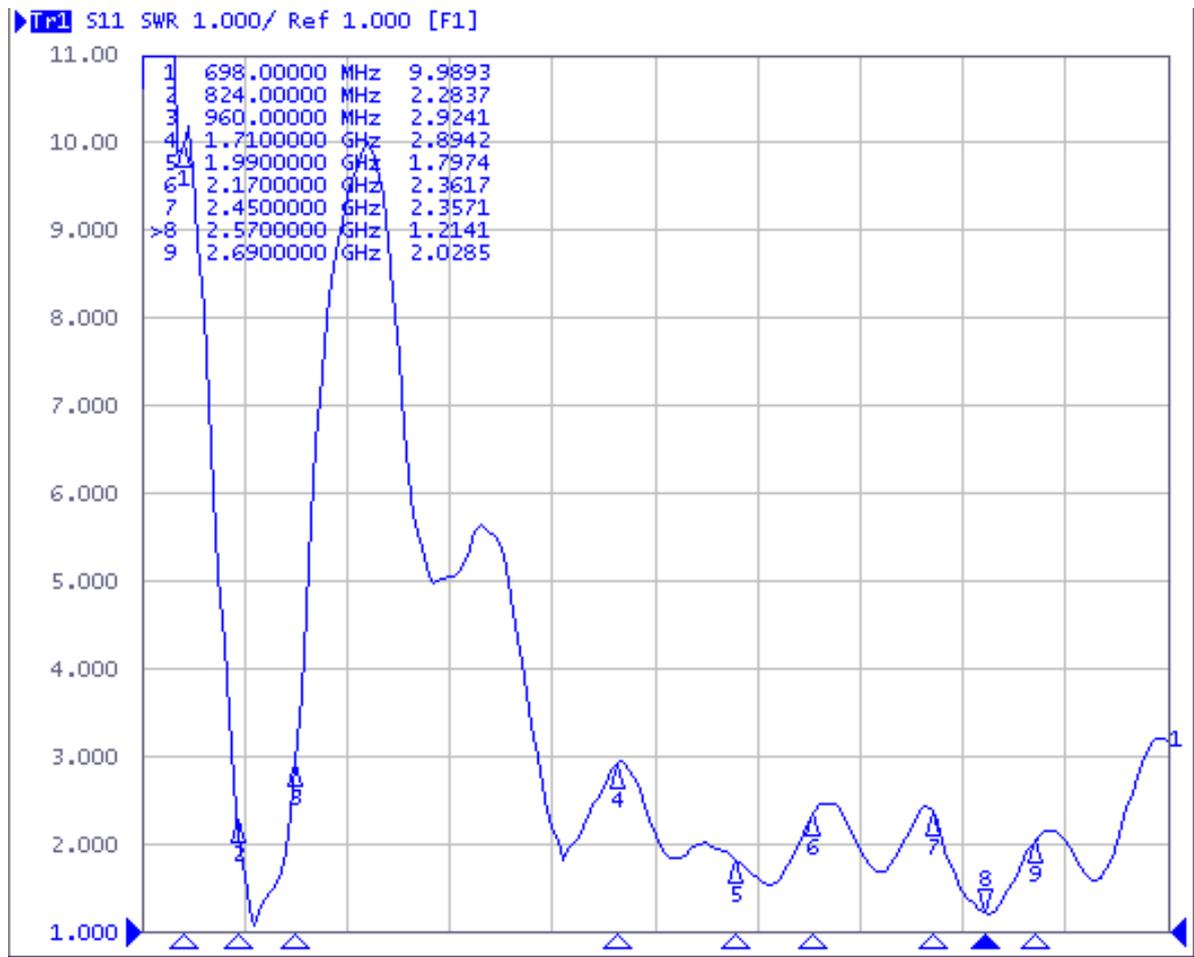
## 4 Overall Performance

- Test Environment
  - KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 6.5 GHz
  - RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 6.0 GHz



● VSWR

4G



Frequency (MHz)	824	960	1710	1990	2170	2450	2570	2690
VSWR	2.28	2.92	2.89	1.79	2.36	2.35	1.21	2.03

GPS&BD

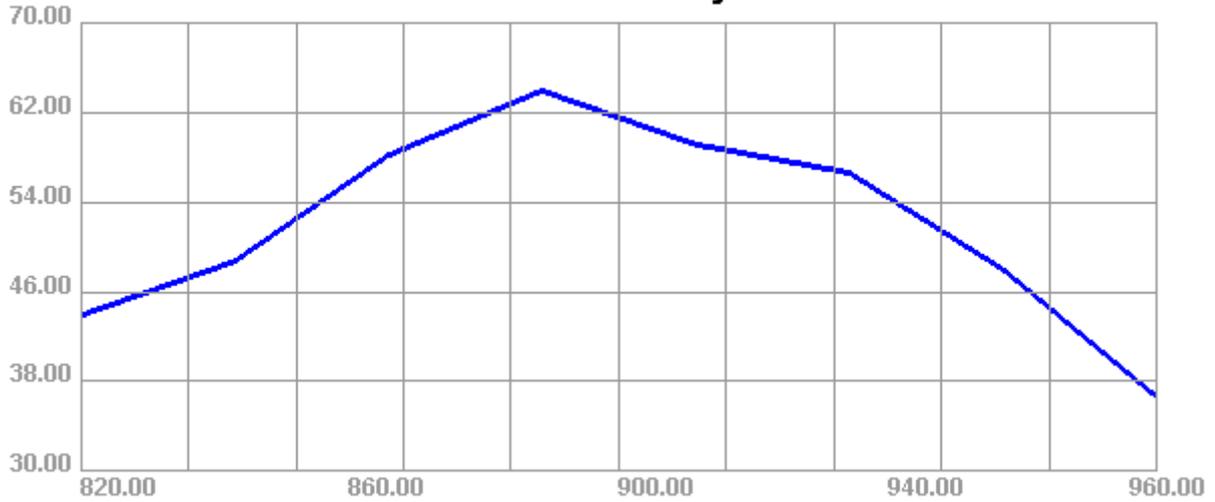


Frequency (MHz)	1561	1575
VSWR	1.68	1.23

- Efficiency

4G

**820.00MHz - 960.00MHz Efficiency**



**1700.00MHz - 2700.00MHz Efficiency**

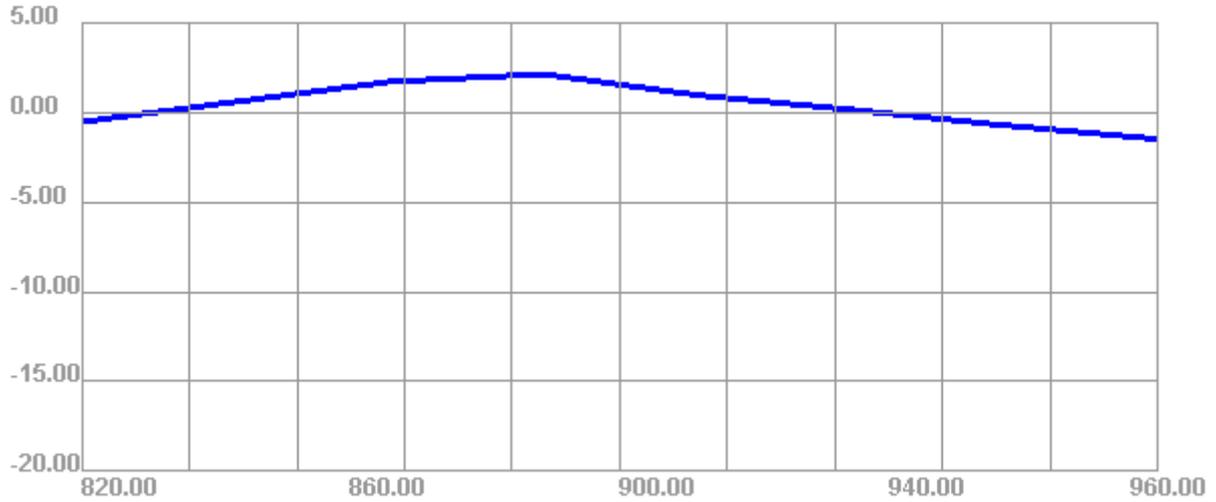


Frequency (MHz)	820	860	900	940	960	1700	1950	2200	2450	2700
Efficiency (%)	43.89	58.17	59.15	47.98	36.63	55.54	60.42	60.89	33.39	65.32

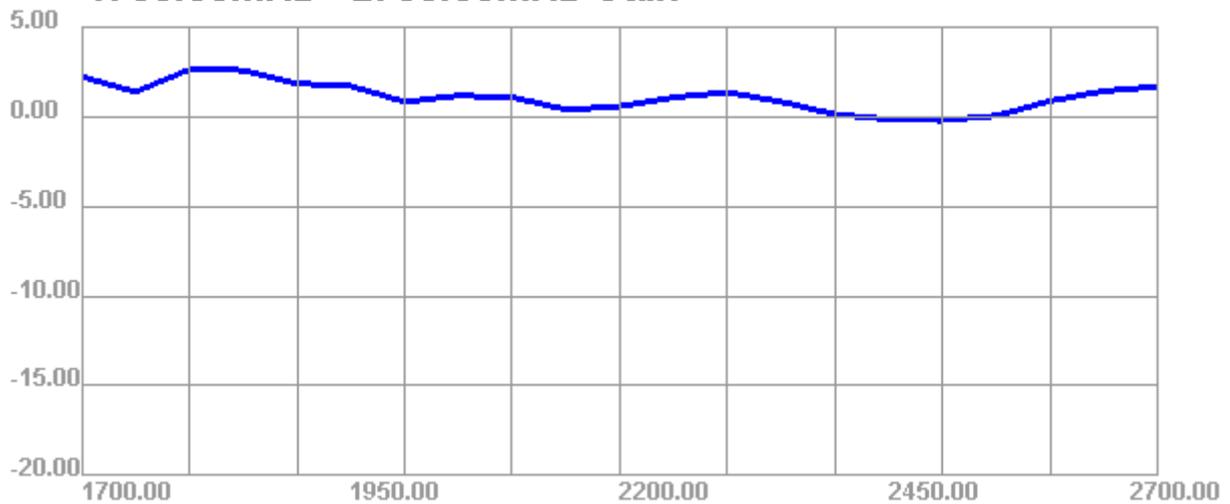
- Gain

4G

**820.00MHz - 960.00MHz Gain**

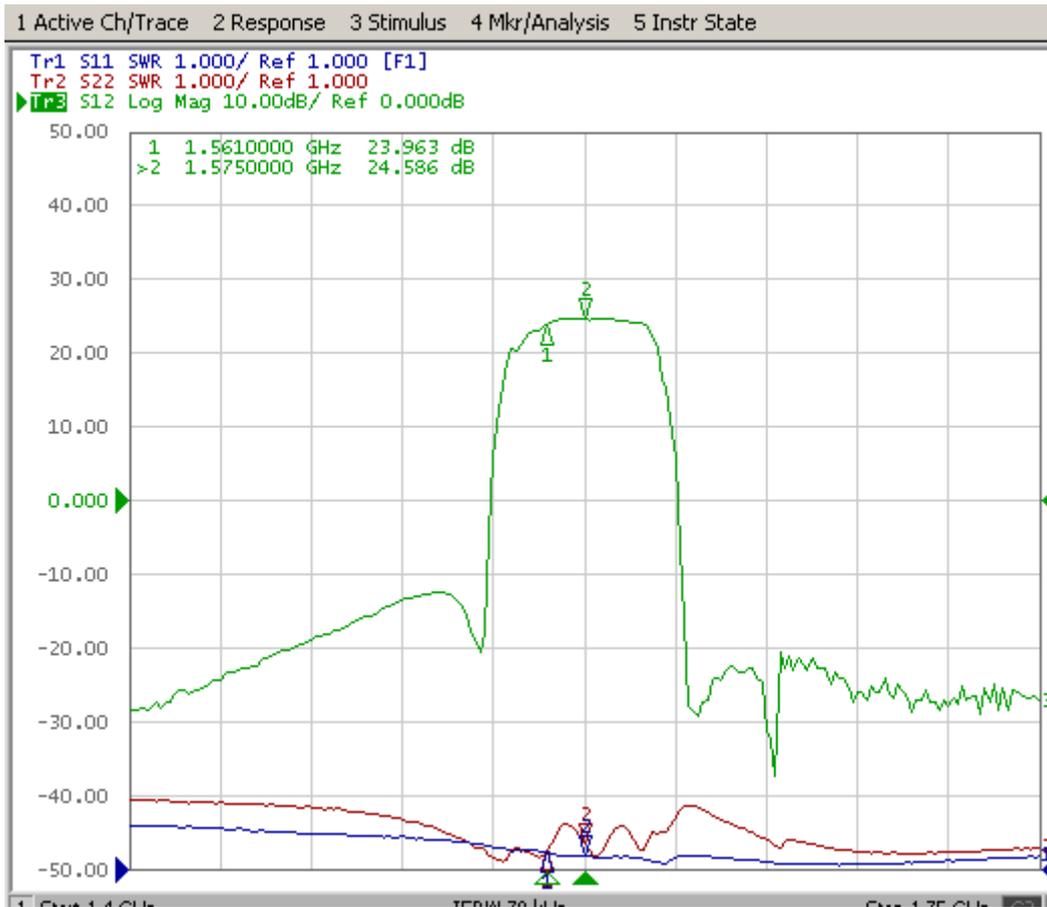


**1700.00MHz - 2700.00MHz Gain**



Frequency (MHz)	820	860	900	940	960	1700	1950	2200	2450	2700
Gain	-0.53	1.71	0.97	-0.72	-1.49	2.23	1.7	0.56	-0.15	1.67

GNSS Antenna

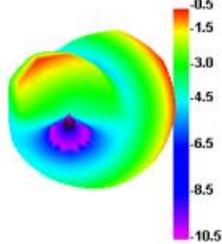


<b>Frequency (MHz)</b>	1561	1575
<b>Gain</b>	23.96	24.58

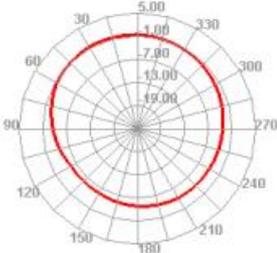
- Radiation Patterns

4G

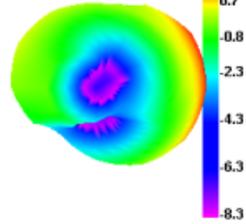
**820.000MHz**



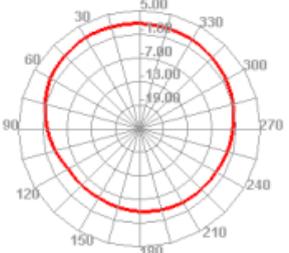
**820.000MHz H**



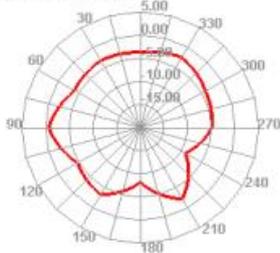
**860.000MHz**



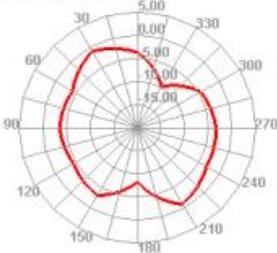
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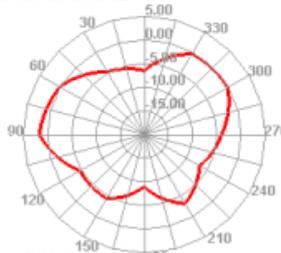
**820.000MHz E1**



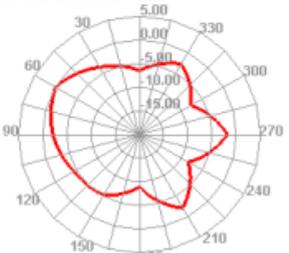
**820.000MHz E2**



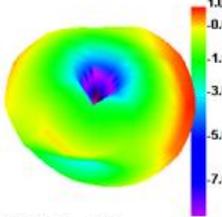
**860.000MHz E1**



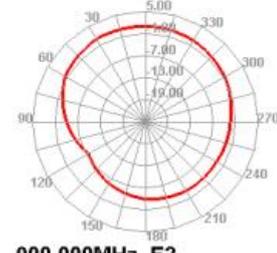
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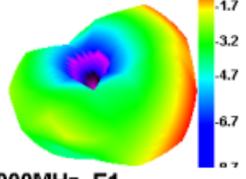
**900.000MHz**



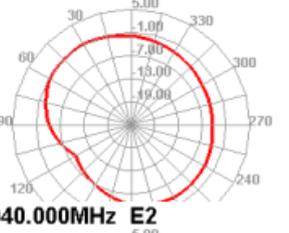
**900.000MHz H**



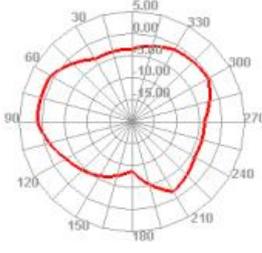
**940.000MHz**



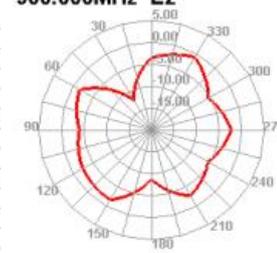
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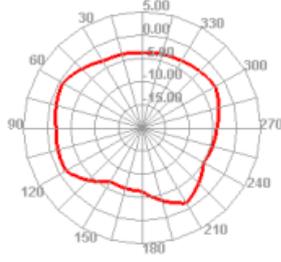
**900.000MHz E1**



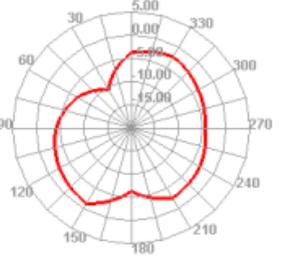
**900.000MHz E2**



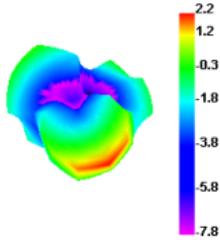
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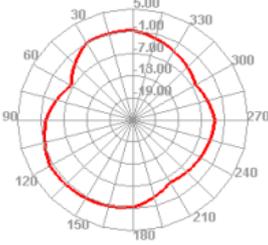
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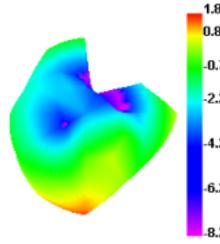
1700.000MHz



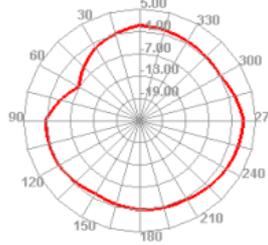
1700.000MHz H



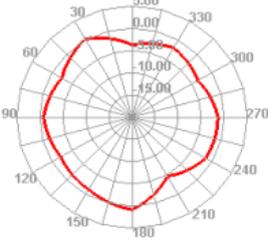
1900.000MHz



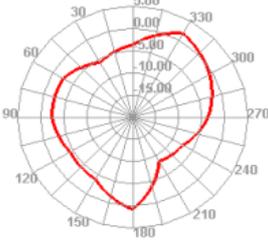
1900.000MHz H



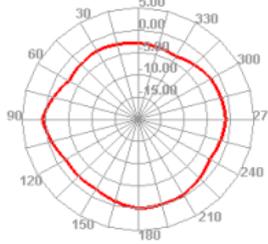
1700.000MHz E1



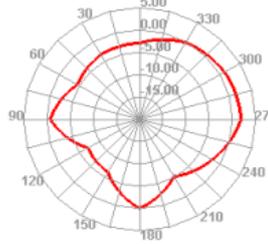
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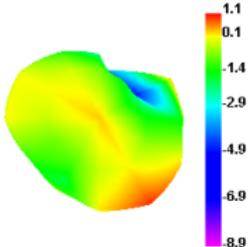
1900.000MHz E1



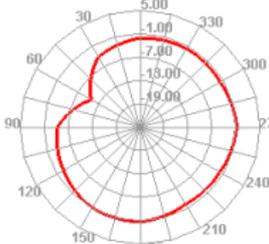
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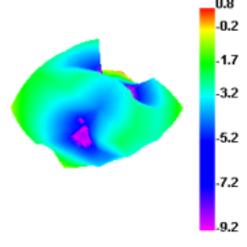
2100.000MHz



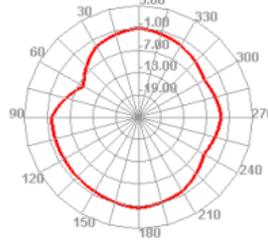
2100.000MHz H



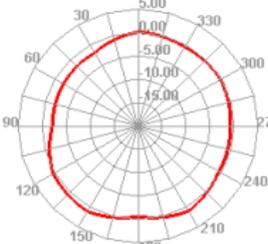
2350.000MHz



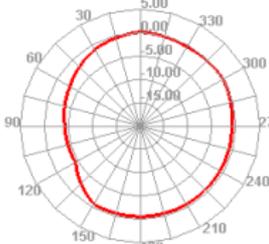
2350.000MHz H



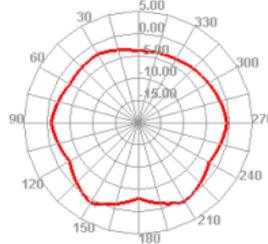
2100.000MHz E1



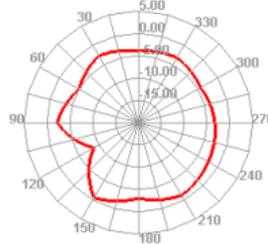
2100.000MHz E2



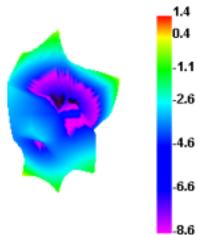
2350.000MHz E1



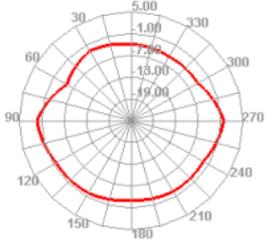
2350.000MHz E2



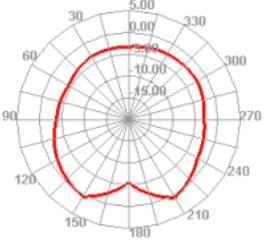
2650.000MHz



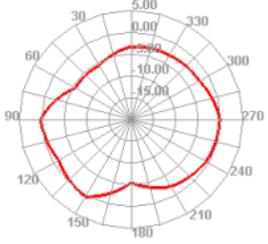
2650.000MHz H



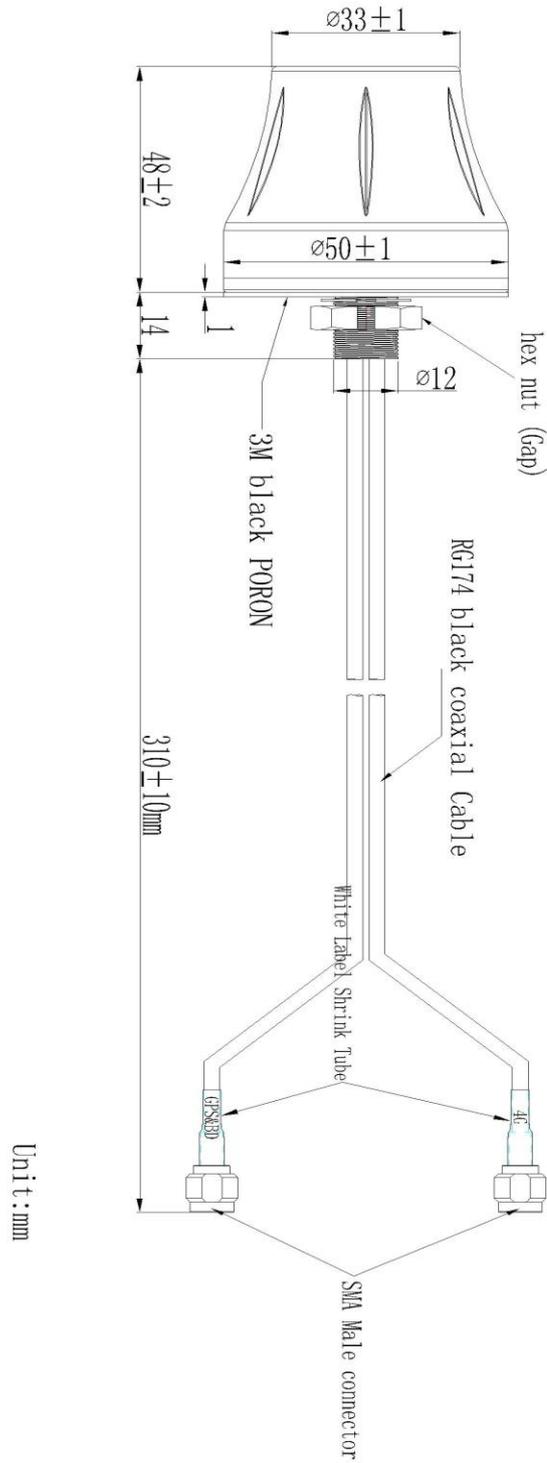
2650.000MHz E1



2650.000MHz E2



## 5 Product Size



RoHS



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