

Antenna

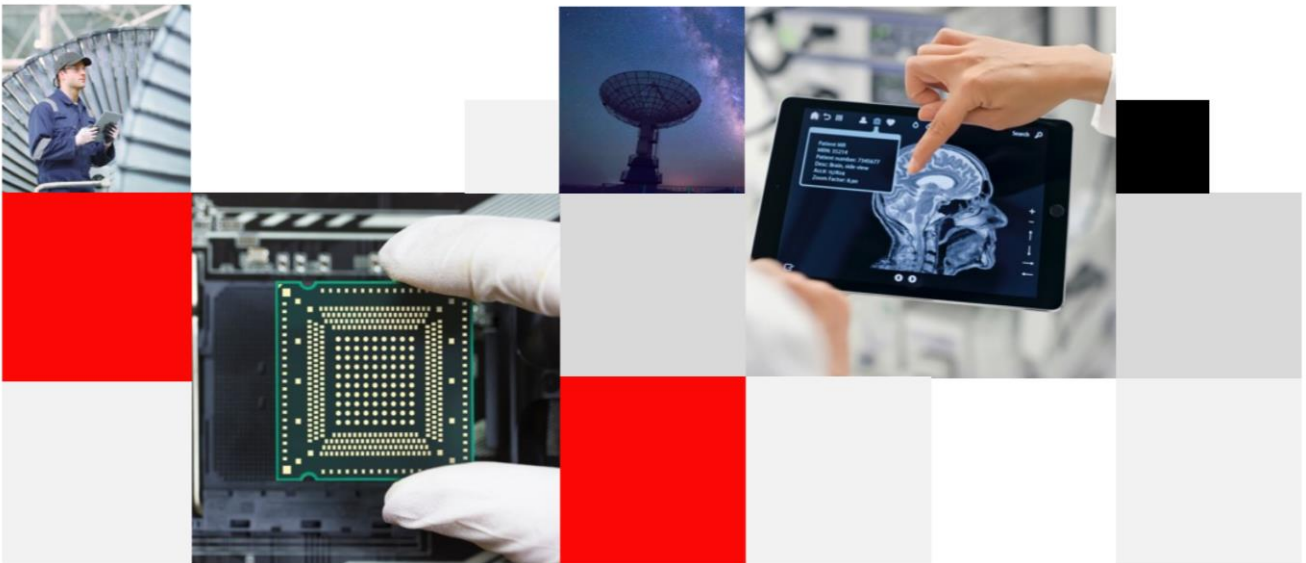
YB0031AA Datasheet

Antenna Services

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Build a Smarter World

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About the Document

Revision History

Version	Date	Author	Note
-	2021-01-28	Kenny YIN	Creation of the document
1.0	2021-01-28	Kenny YIN	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

- GPS+BD/Cellular LTE
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	LTE: 698–960 MHz; 1710–2690 MHz GNSS: 1575.42 ±5 MHz; 1561.098 ±5 MHz
Input Impedance	50 Ω
VSWR	≤ 3.0
Gain	LTE: 2.94 dBi GNSS: 28 ±2 dB
Polarization Type	LTE: Linear GNSS: RHCP

Mechanical Specifications

Antenna Size	Φ 84 mm × 17.5 mm, RG174 L = 300 mm
Casing	PC + ABS
Connector Type	SMA Male (center pin)
Working Temperature	-20 °C to +85 °C
Radome Color	Black
IP Rating	IP66
Installation Method	Adhesive

4 Overall Performance

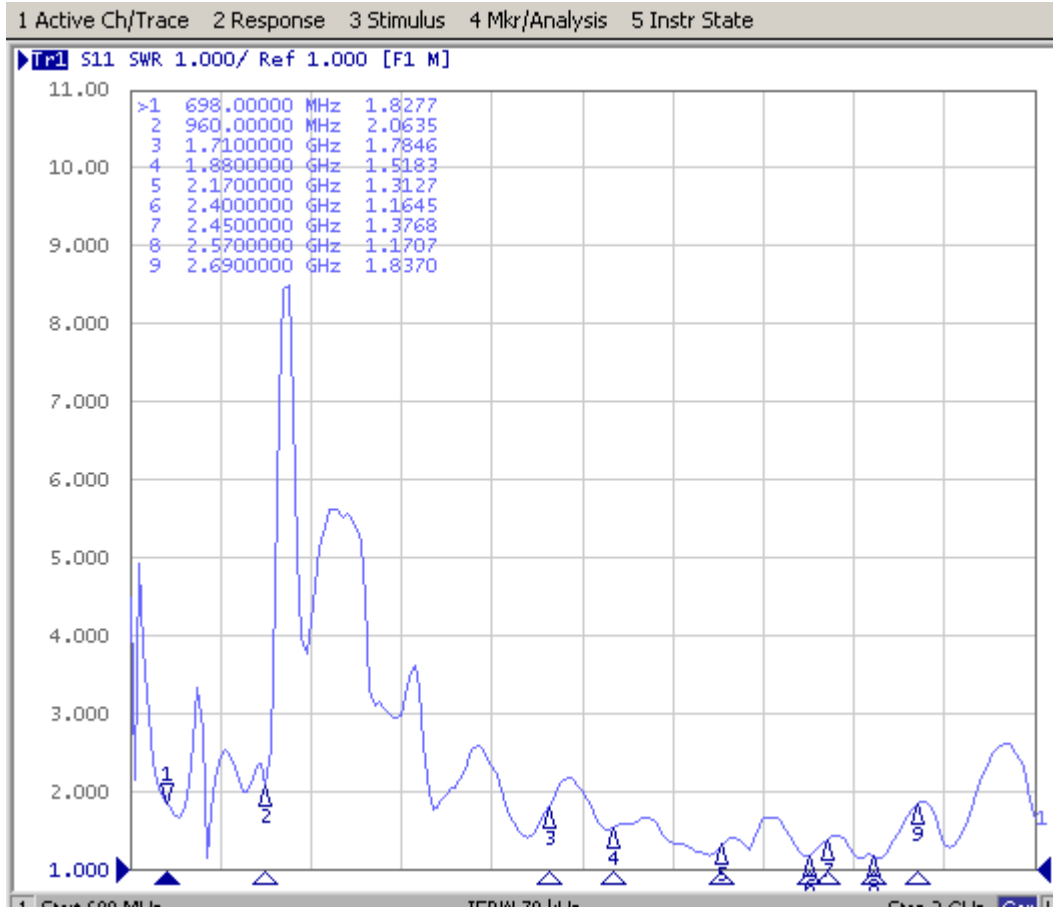
4.1. Test Environment

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



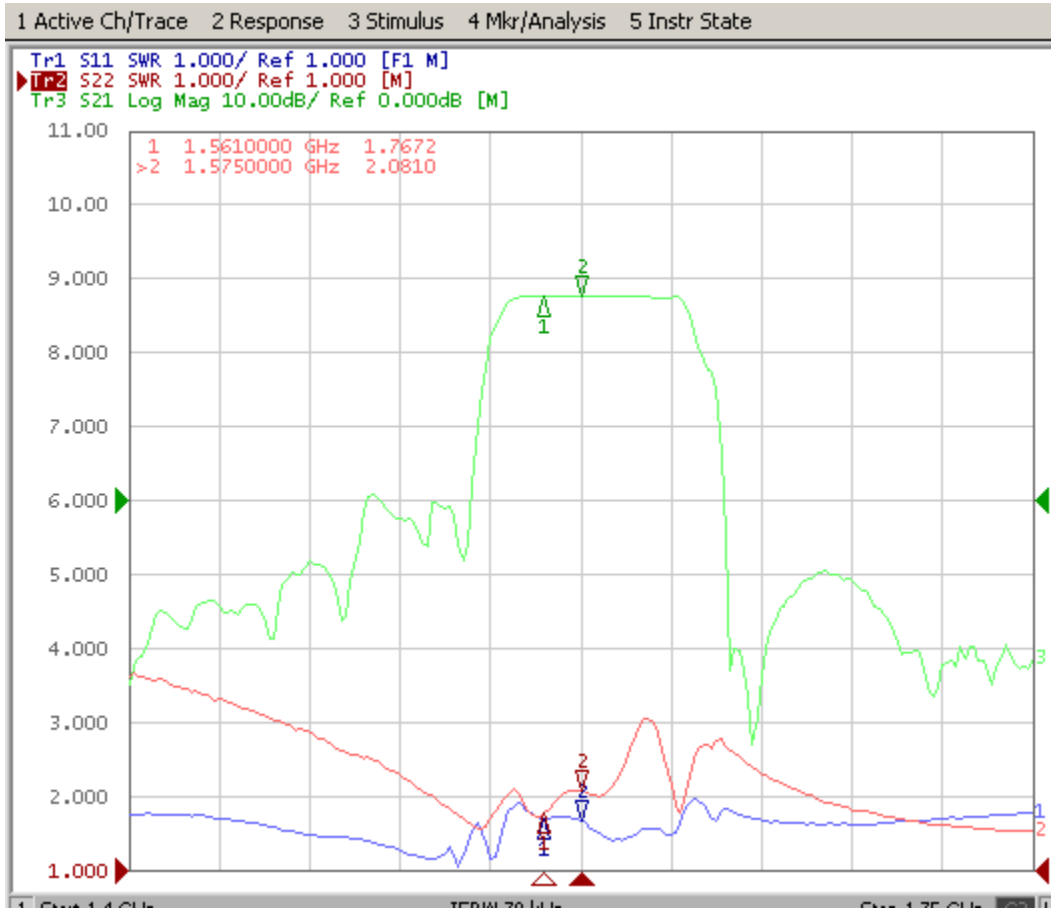
4.2. VSWR

4.2.1. LTE antenna



Frequency (MHz)	698	960	1710	1880	2170	2400	2450	2570	2690
VSWR	1.82	2.06	1.78	1.51	1.31	1.16	1.37	1.17	1.84

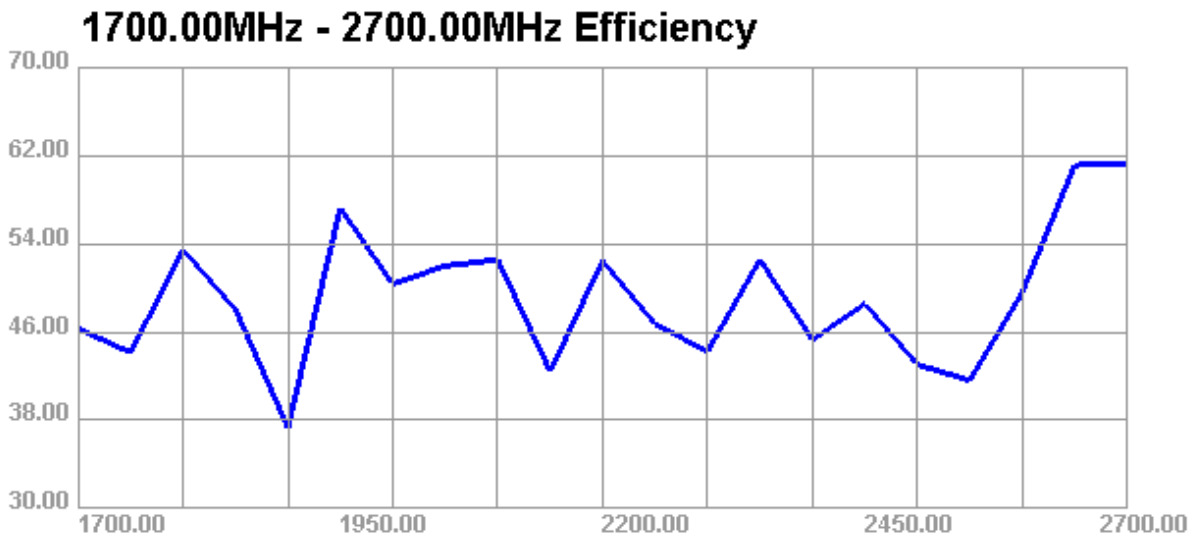
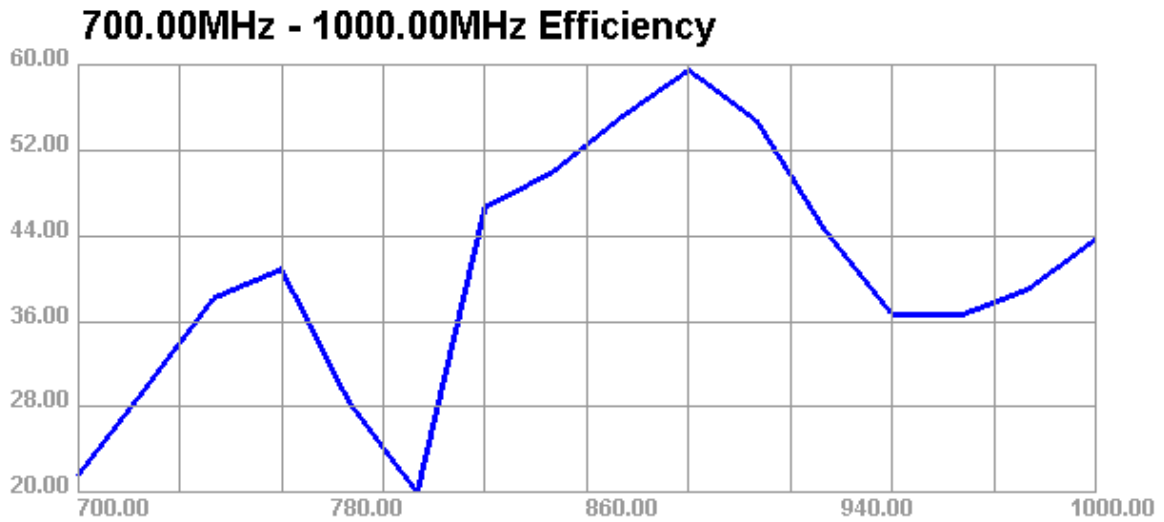
4.2.2. GNSS antenna



Frequency (MHz)	1561	1575
VSWR	1.76	2.08

4.3. Efficiency

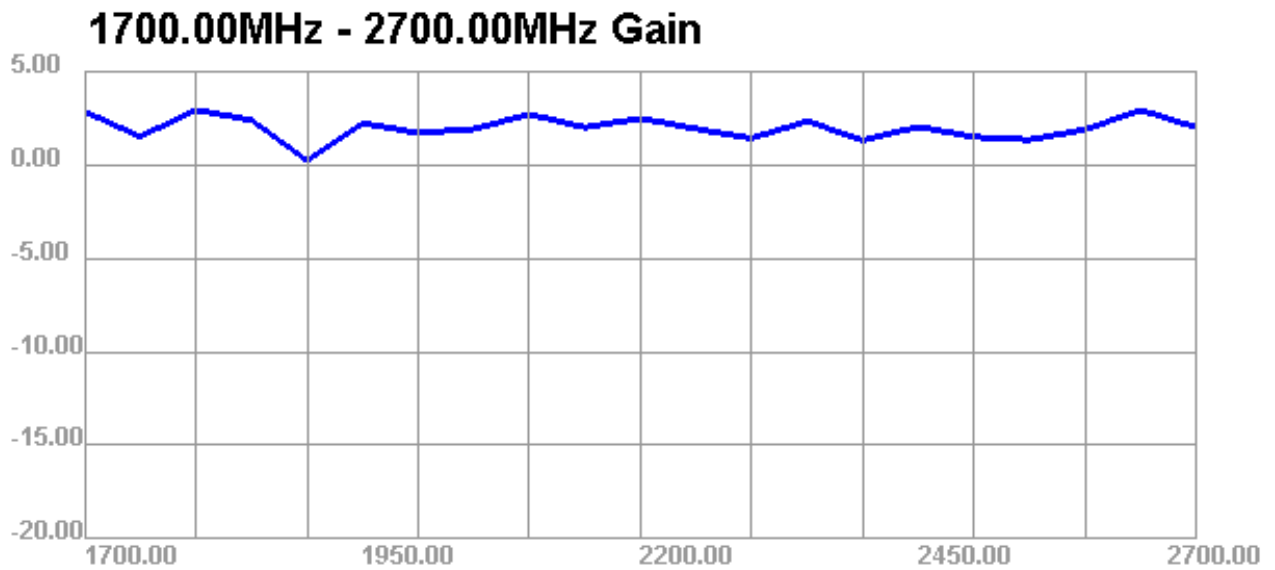
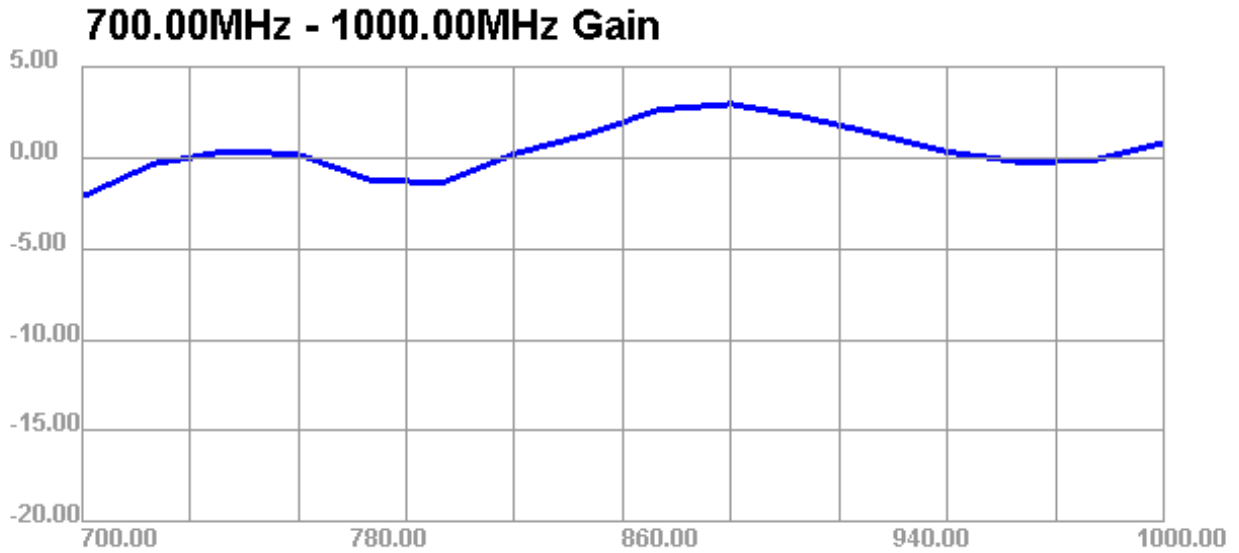
4.3.1. 4G antenna



Frequency (MHz)	698	880	960	1710	1880	2170	2400	2450	2570	2690
Efficiency (%)	21.6	59.47	36.53	46.33	48.06	42.44	45.3	48.58	41.62	61.14

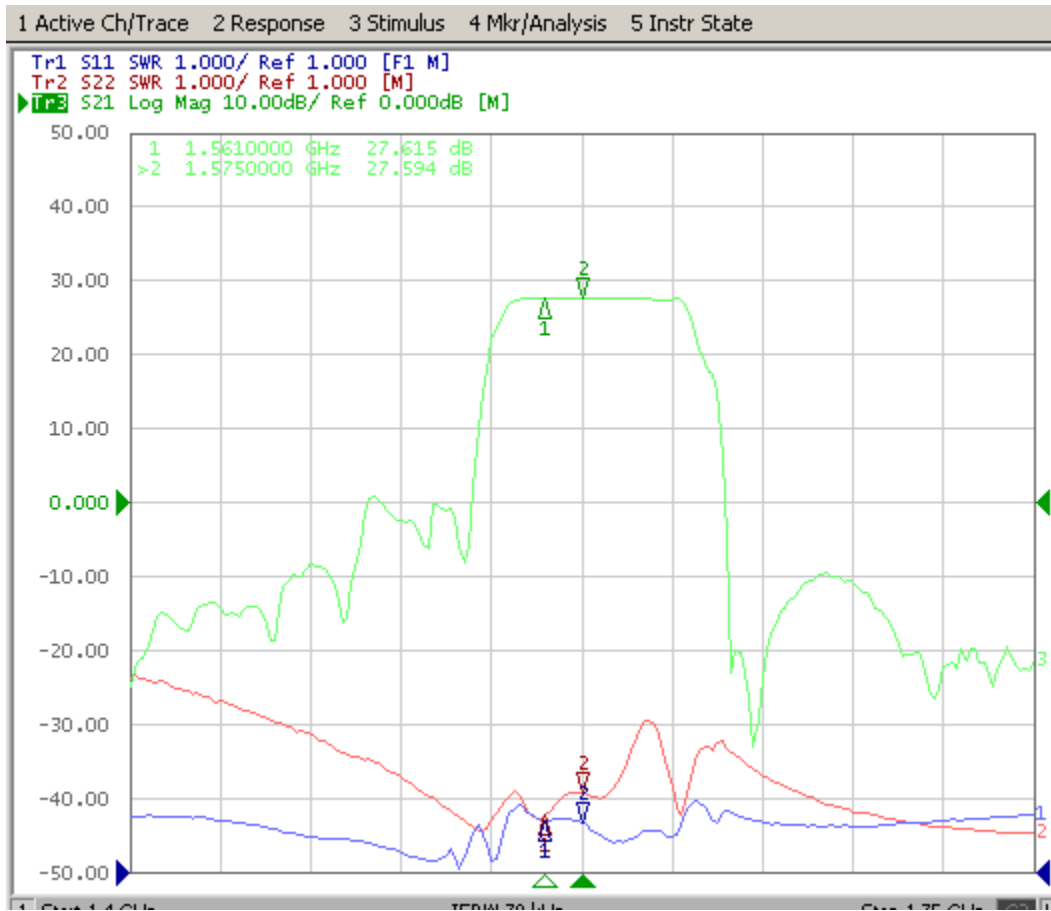
4.4. Gain

4.4.1. 4G antenna



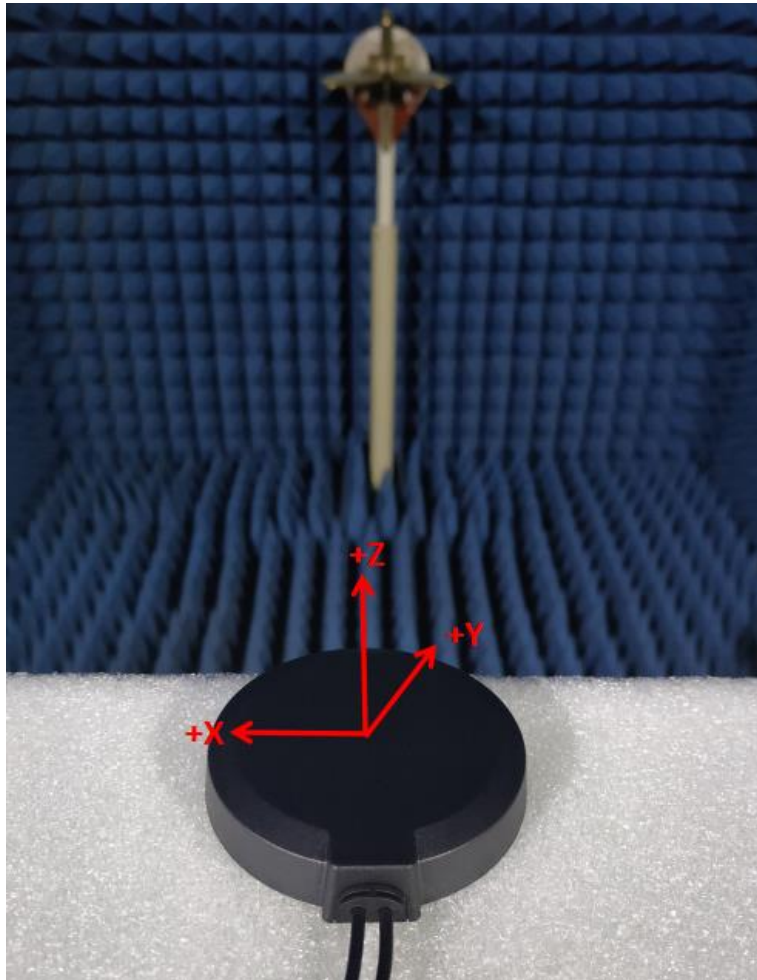
Frequency (MHz)	698	960	1710	1880	2170	2400	2450	2570	2690
Gain (dBi)	-2.16	-0.23	2.85	2.4	2.48	1.31	2.04	1.34	2.93

4.4.2. GNSS antenna



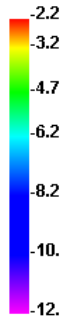
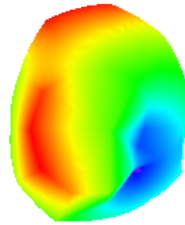
Frequency (MHz)	1561	1575
Gain (dB)	27.61	27.59

4.5. Radiation Patterns

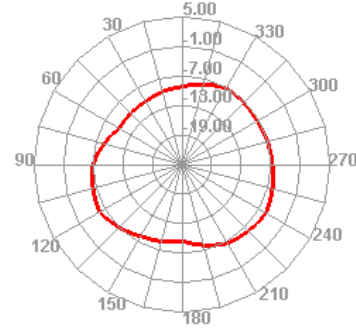


4.5.1. LTE antenna

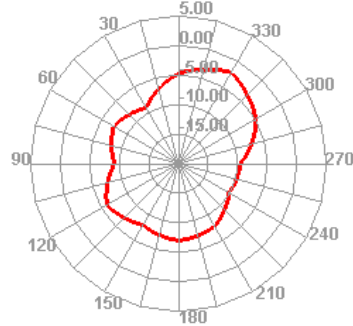
700.000MHz



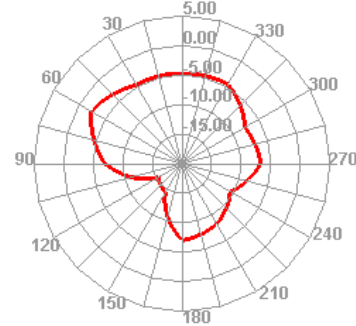
700.000MHz H



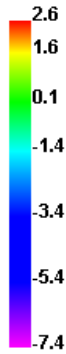
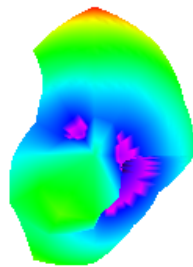
700.000MHz E1



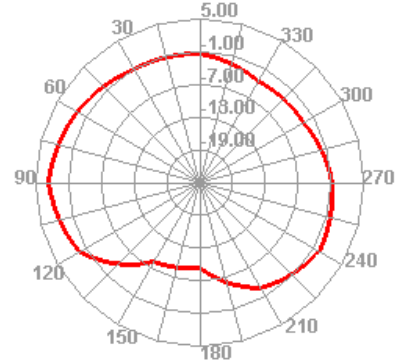
700.000MHz E2



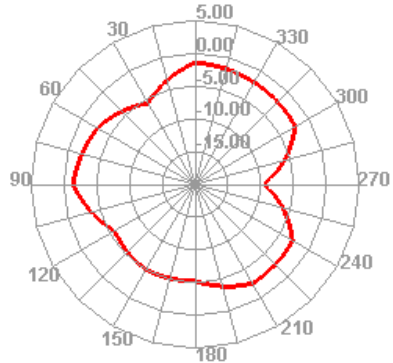
860.000MHz



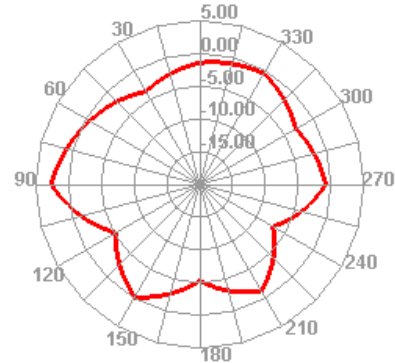
860.000MHz H



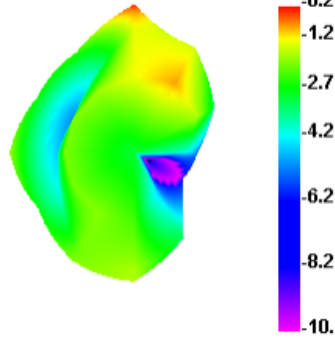
860.000MHz E1



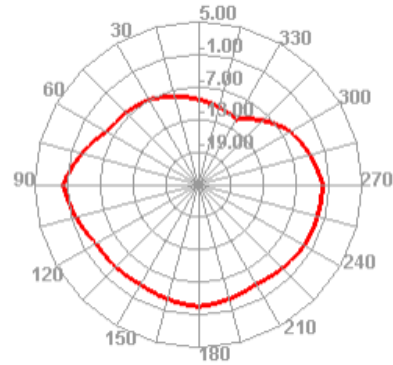
860.000MHz E2



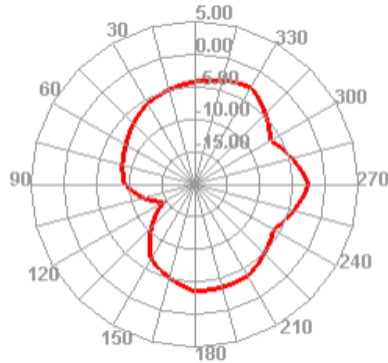
960.000MHz



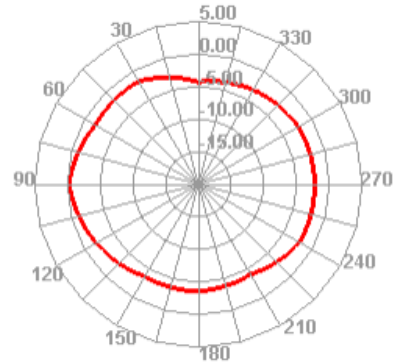
960.000MHz H



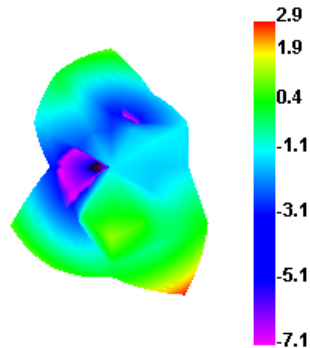
960.000MHz E1



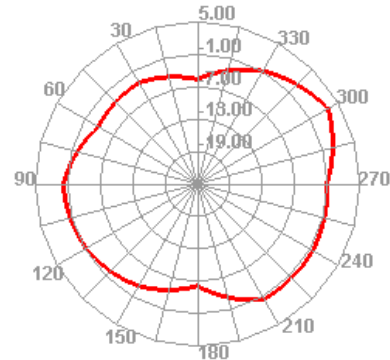
960.000MHz E2



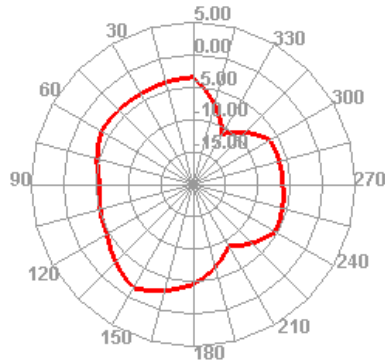
1700.000MHz



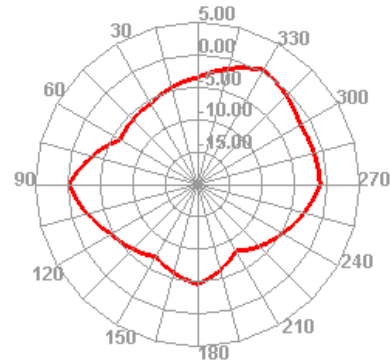
1700.000MHz H



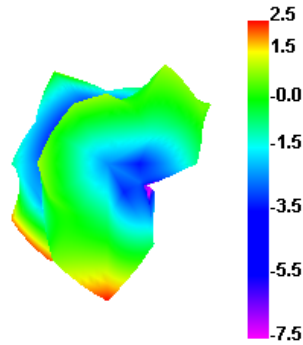
1700.000MHz E1



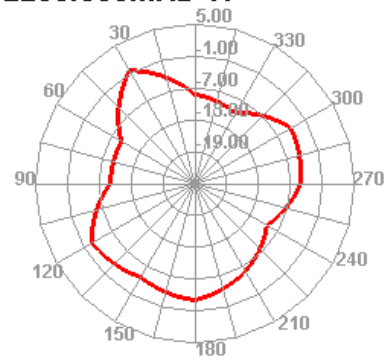
1700.000MHz E2



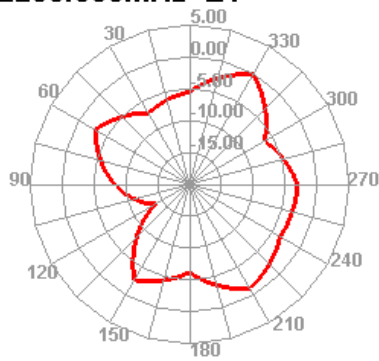
2200.000MHz



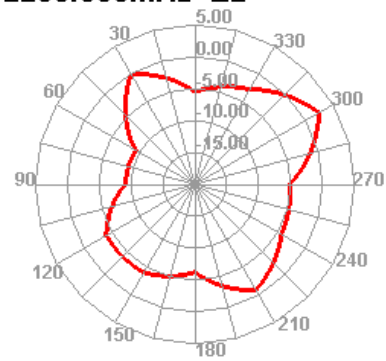
2200.000MHz H



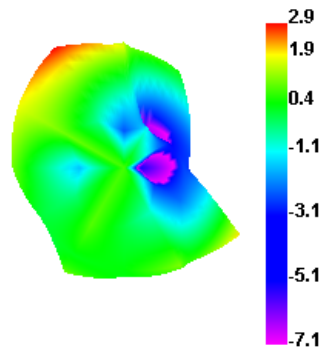
2200.000MHz E1



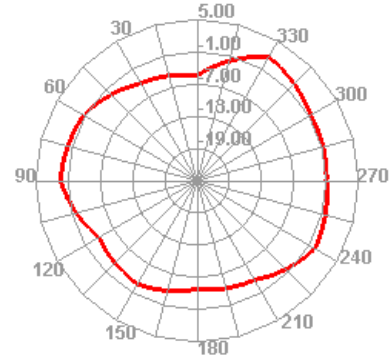
2200.000MHz E2



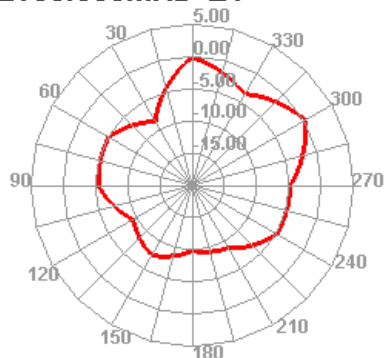
2650.000MHz



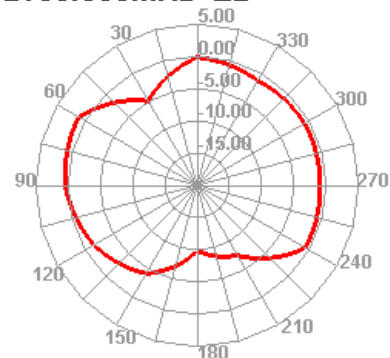
2650.000MHz H



2650.000MHz E1



2650.000MHz E2



5 Product Size

