

Antenna

YB0017AA Datasheet

Antenna Services

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Status: Released



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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-09-25	Kenny YIN	Initial
1.1	2021-01-12	Kenny YIN	Updated the antenna image in Chapter 2.
1.2	2021-01-27	Kenny YIN	Added IP rating description.
1.3	2021-08-09	Aria CHU	Updated the data (Chapter 3).

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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

- GNSS
- High efficiency
- Excellent performance



3 Product Specifications

- This antenna is tested on a 200 mm x 200 mm PCB.

Electrical Specifications

Nominal Frequency	GPS L1/L5, BD B1/B2, GLONASS L1
VSWR	≤ 2.0
Efficiency	-
Gain	≥ 4.0
Polarization Type	RHCP
Axial Ratio	≤ 3
Impedance	50 Ω

LNA Electrical Properties

Center Frequency	GPS L1/L5, BD B1/B2, GLONASS L1
Gain	22 ±2 dB
Noise Figure	≤ 3.0 dB
Voltage	3.0–5.0 V
Current	≤ 40 mA
Impedance	50 Ω

Mechanical Specifications

Antenna Size	61.5 mm x 56.5 mm x 23 mm RG174 Cable Length = 3000 mm
Casing	ABS
Connector Type	SMA Male (center pin)
Working Temperature	-40 °C to +85 °C
Radome Color	Black
Mounting Type	Magnet
IP Rating	IP65

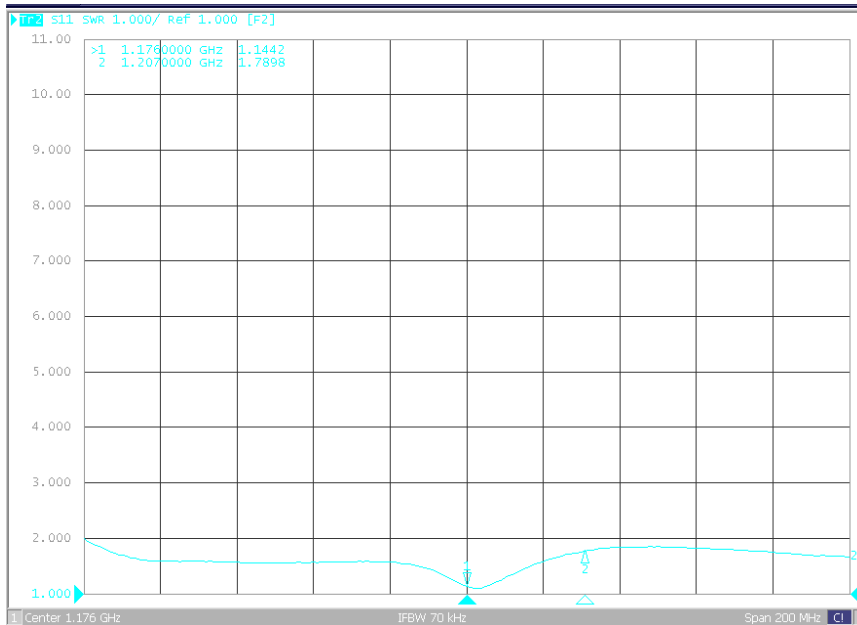
4 Overall Performance

4.1. Test Environment

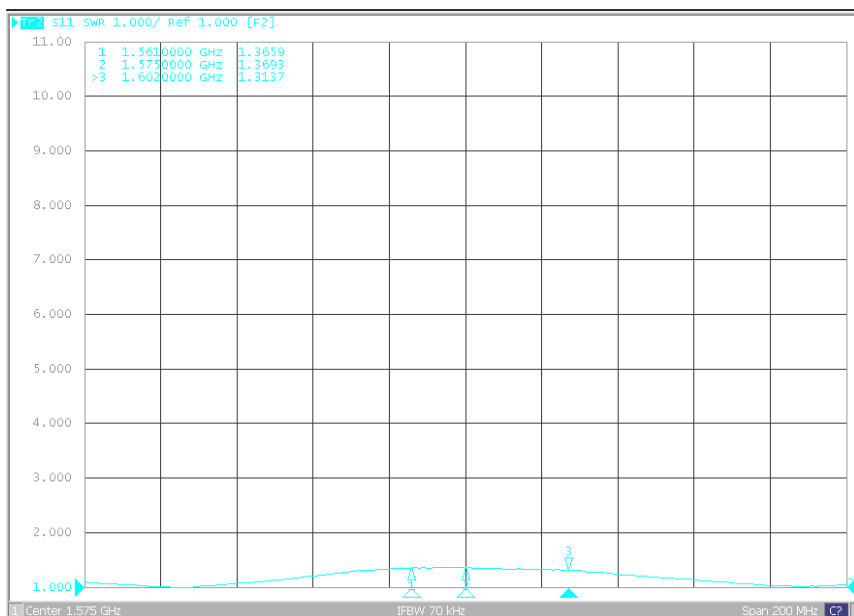
- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 8.5 GHz.
- RayZone®2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 8.0 GHz.



4.2. VSWR

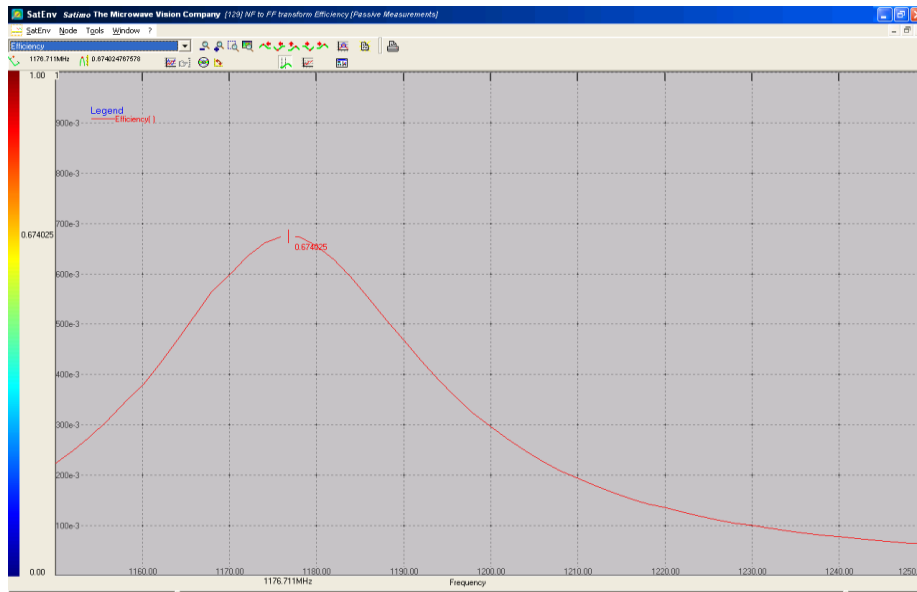


Frequency (MHz)	1176	1207
VSWR	1.14	1.78

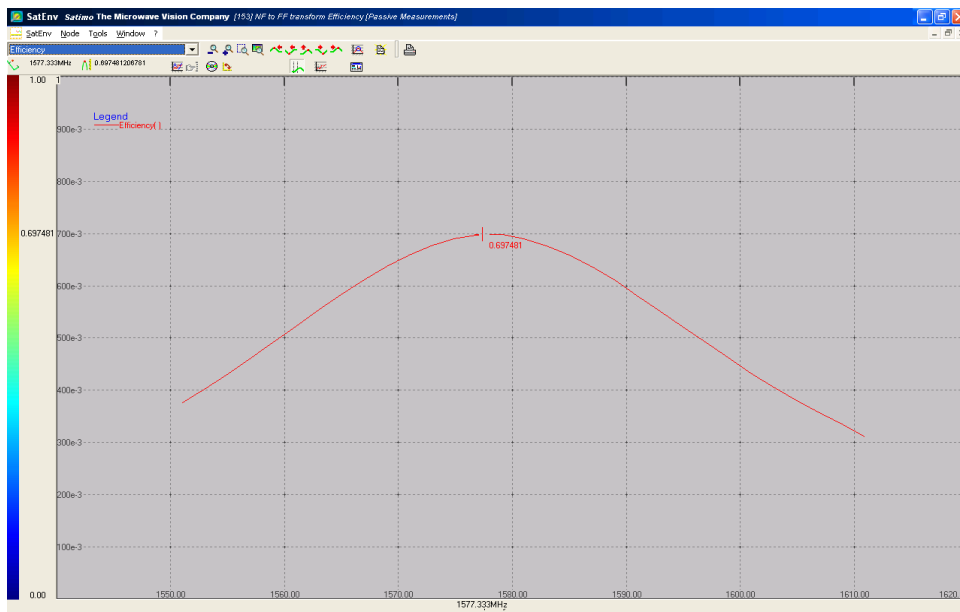


Frequency (MHz)	1561	1575	1602
VSWR	1.36	1.36	1.31

4.3. Efficiency

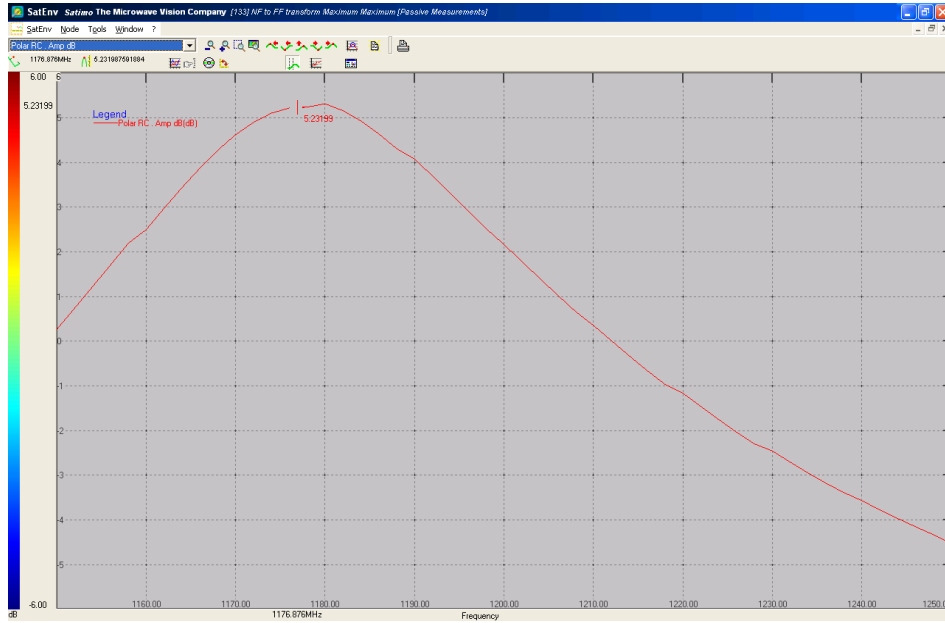


Frequency (MHz)	1176	1207
Efficiency (%)	67	23

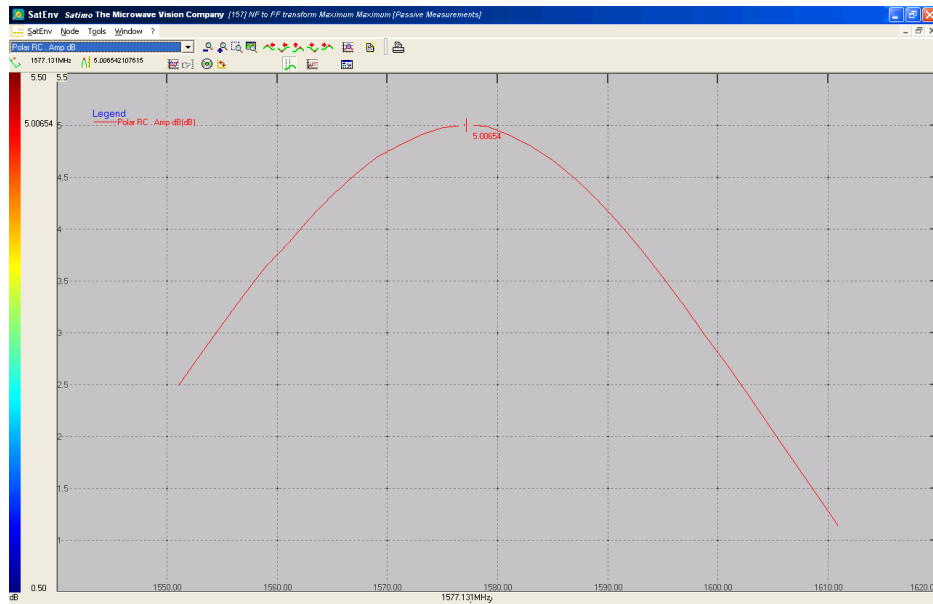


Frequency (MHz)	1561	1575	1602
Efficiency (%)	51	69	42

4.4. Gain

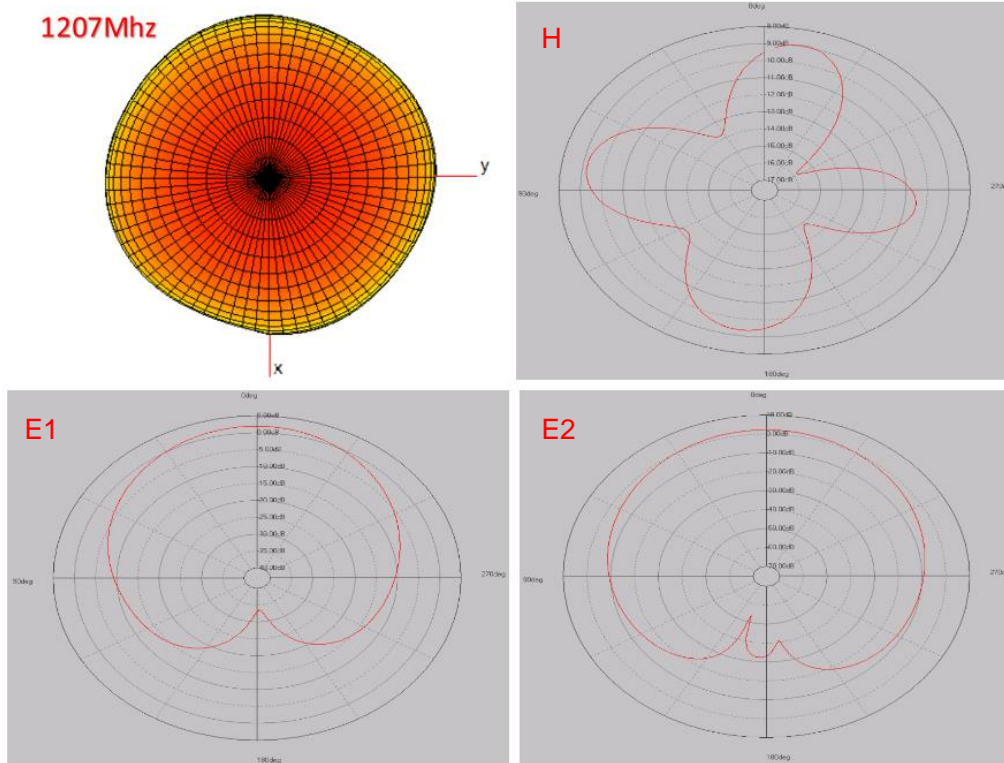
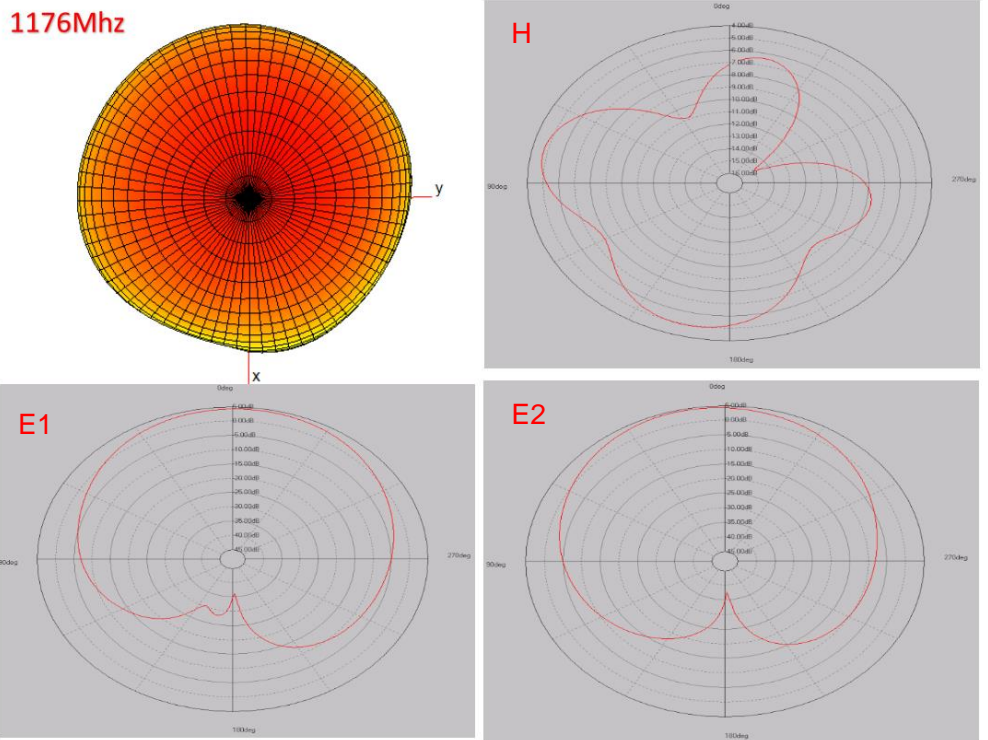


Frequency (MHz)	1176	1207
Gain (dBi)	5.2	0.7

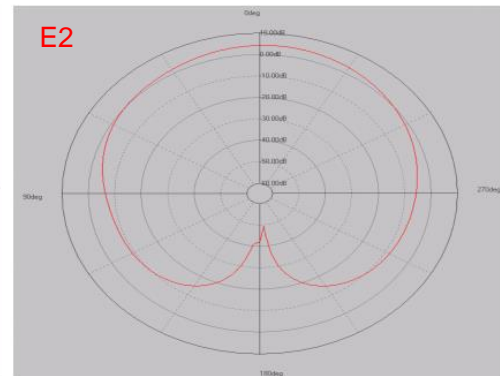
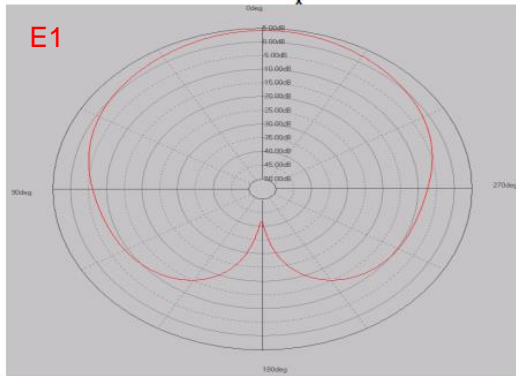
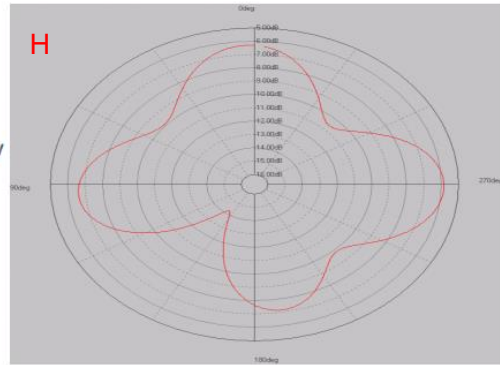
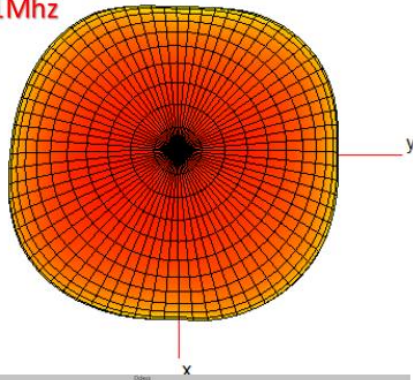


Frequency (MHz)	1561	1575	1602
Gain (dBi)	3.8	5.0	2.5

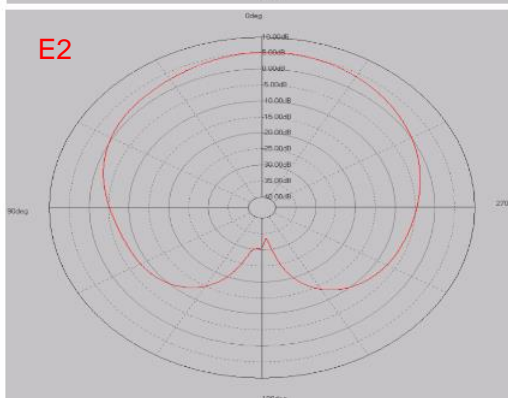
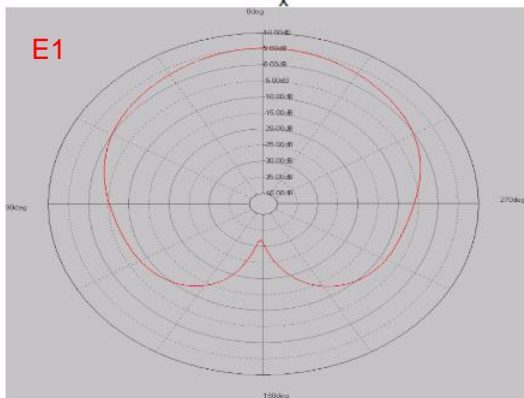
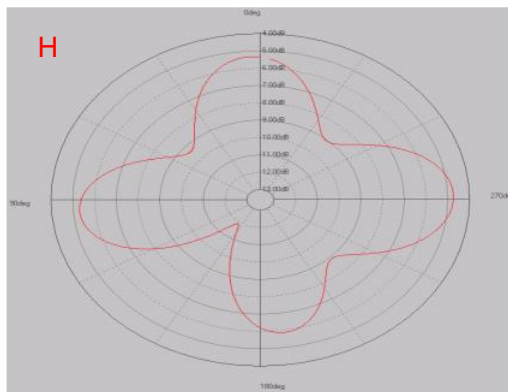
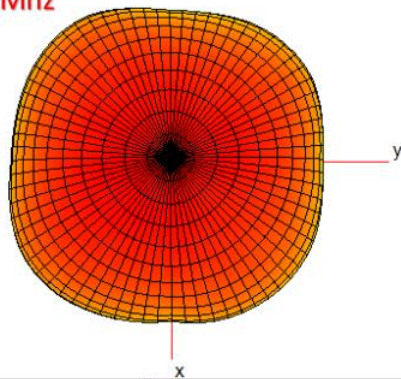
4.5. Radiation Pattern

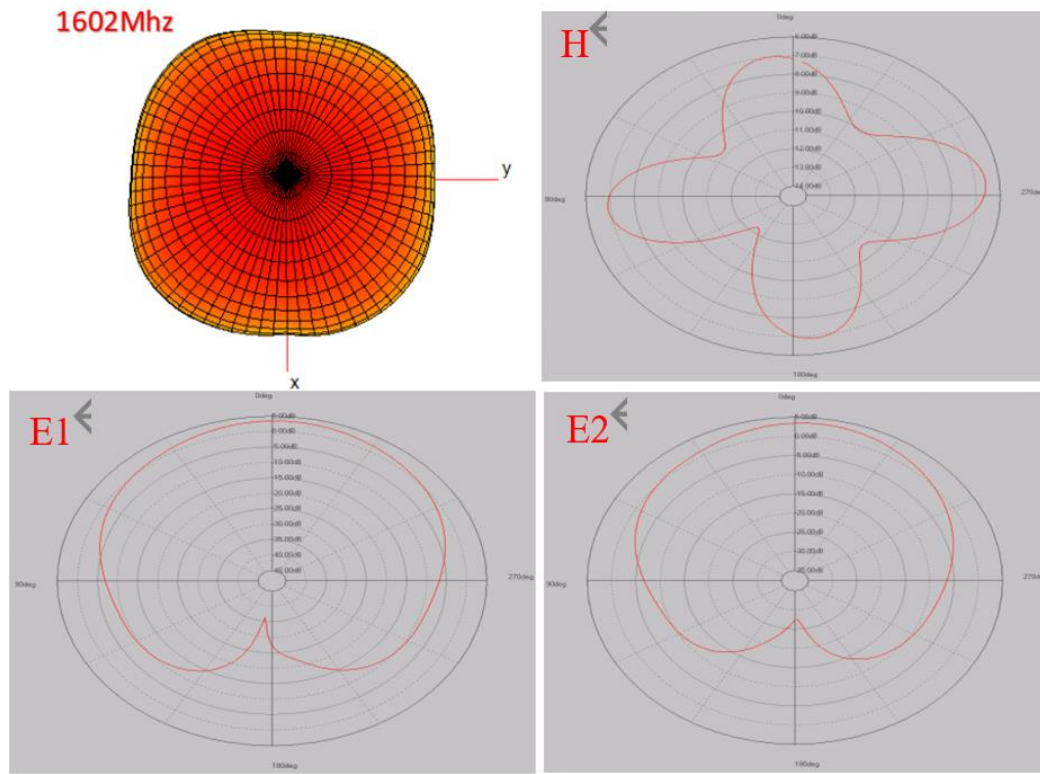


1561Mhz

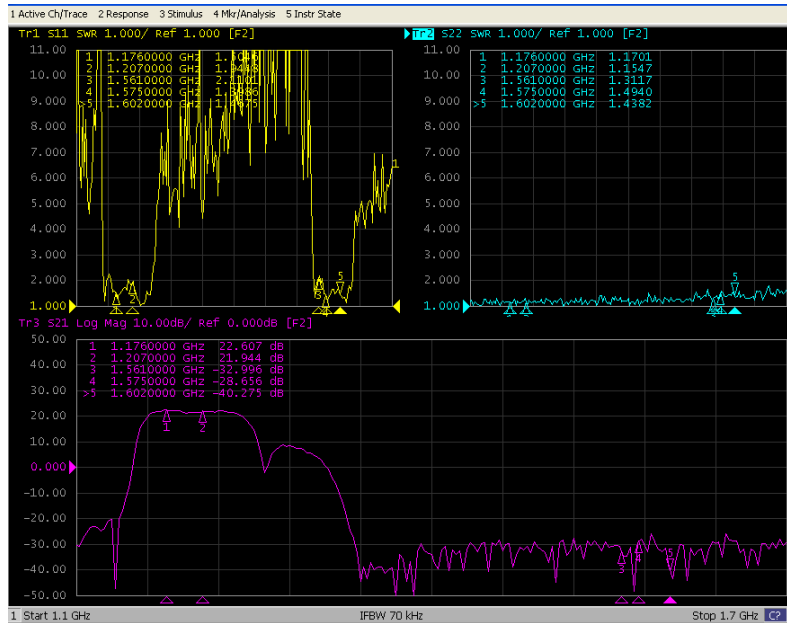


1575Mhz

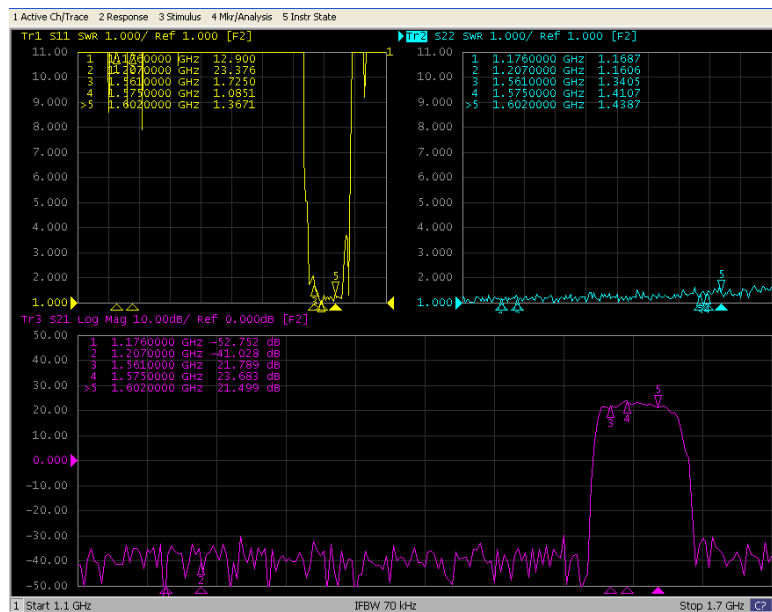




4.6. LNA



Frequency	1176	1207
Gain	22.6	21.9



Frequency	1561	1575	1602
Gain	21.7	23.6	21.4

5 Product Size

