

Antenna

YB0008AA Datasheet

Antenna Services

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Status: Released



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Quectel Wireless Solutions Co., Ltd.

Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: info@quectel.com

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About the Document

Revision History

Version	Date	Author	Note
1.0	2020-07-16	Kenny YIN	Initial
1.1	2020-12-11	Kenny YIN	Updated the antenna picture 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

- GPS + BD/Cellular LTE/4G DIV
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range (MHz)	4G MAIN: 698–960 MHz; 1710–2690 MHz GNSS: 1575.42 ±5 MHz; 1561.098±5 MHz 4G DIV: 1710–2690 MHz
Input Impedence (Ω)	50
VSWR	≤ 4.0
Gain (dBi)	LNA (28 ±2); 2/3/4G (2.94); 4G DIV (3.96)
Polarization Type	Linear (4G MAIN/4G DIV); Circular (GNSS)

Mechanical Specifications

Antenna Size (mm)	Φ 84 × 17.5
Casing	PC + ABS
Radiator	Cuprum
Connect Type	SMA (Male pin with internal thread)
Working Temperature (°C)	-20 to +80
Radome Color	Black
Waterproof Grade	IP66

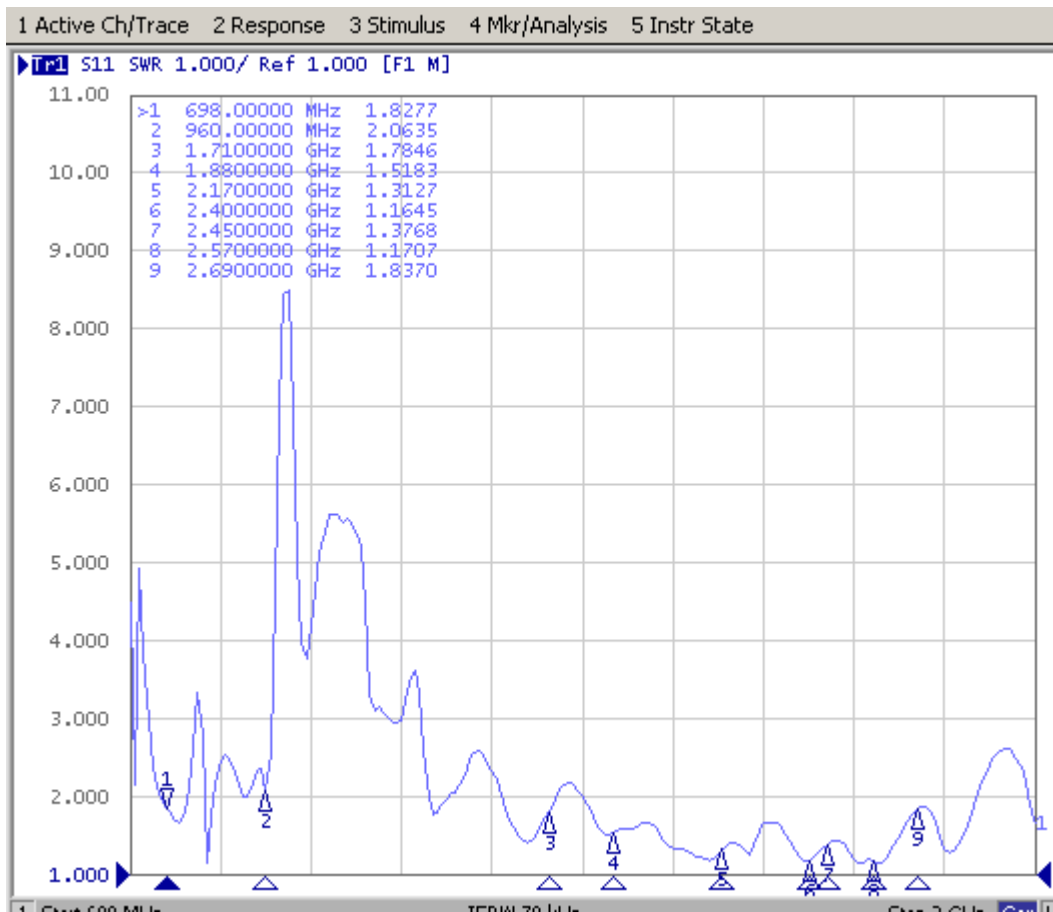
4 Overall Performance

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



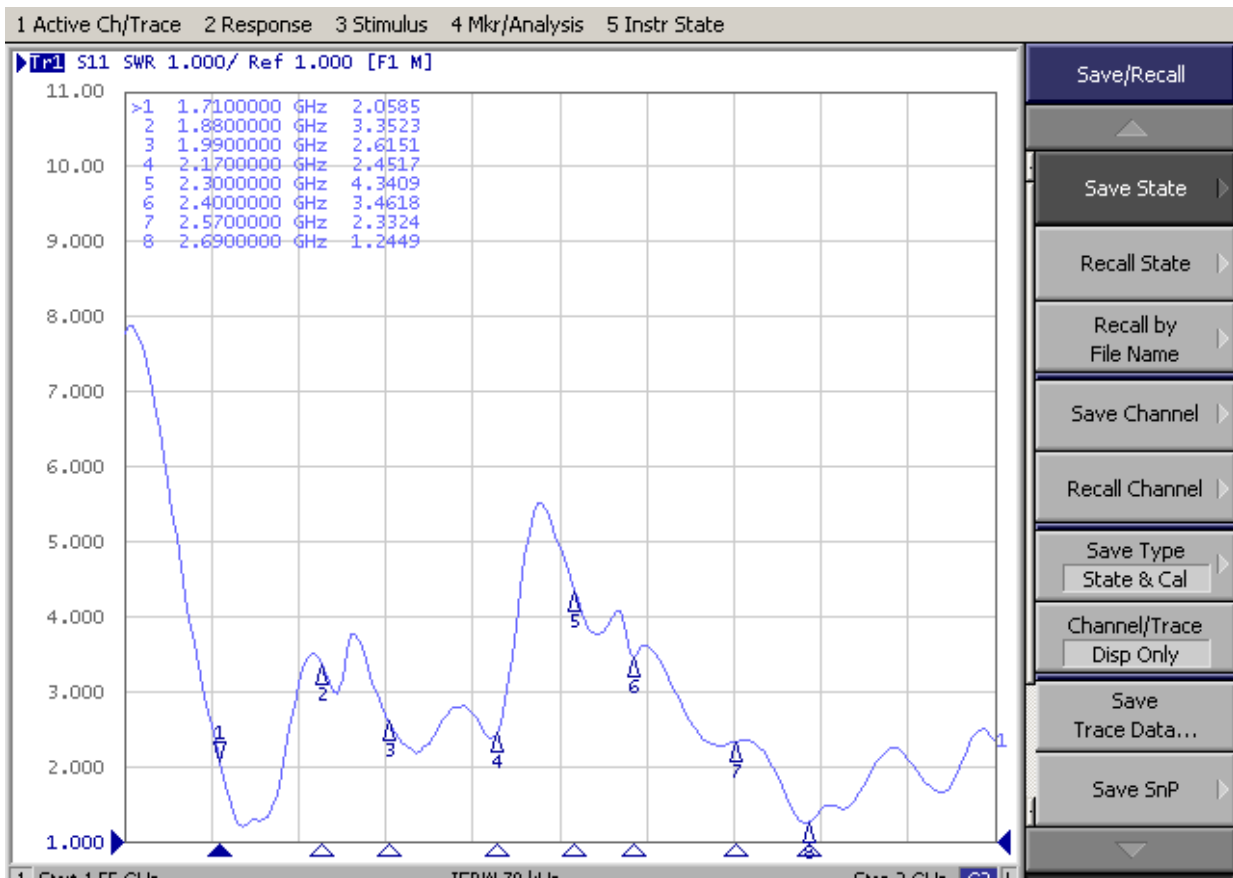
- VSWR

4G antenna



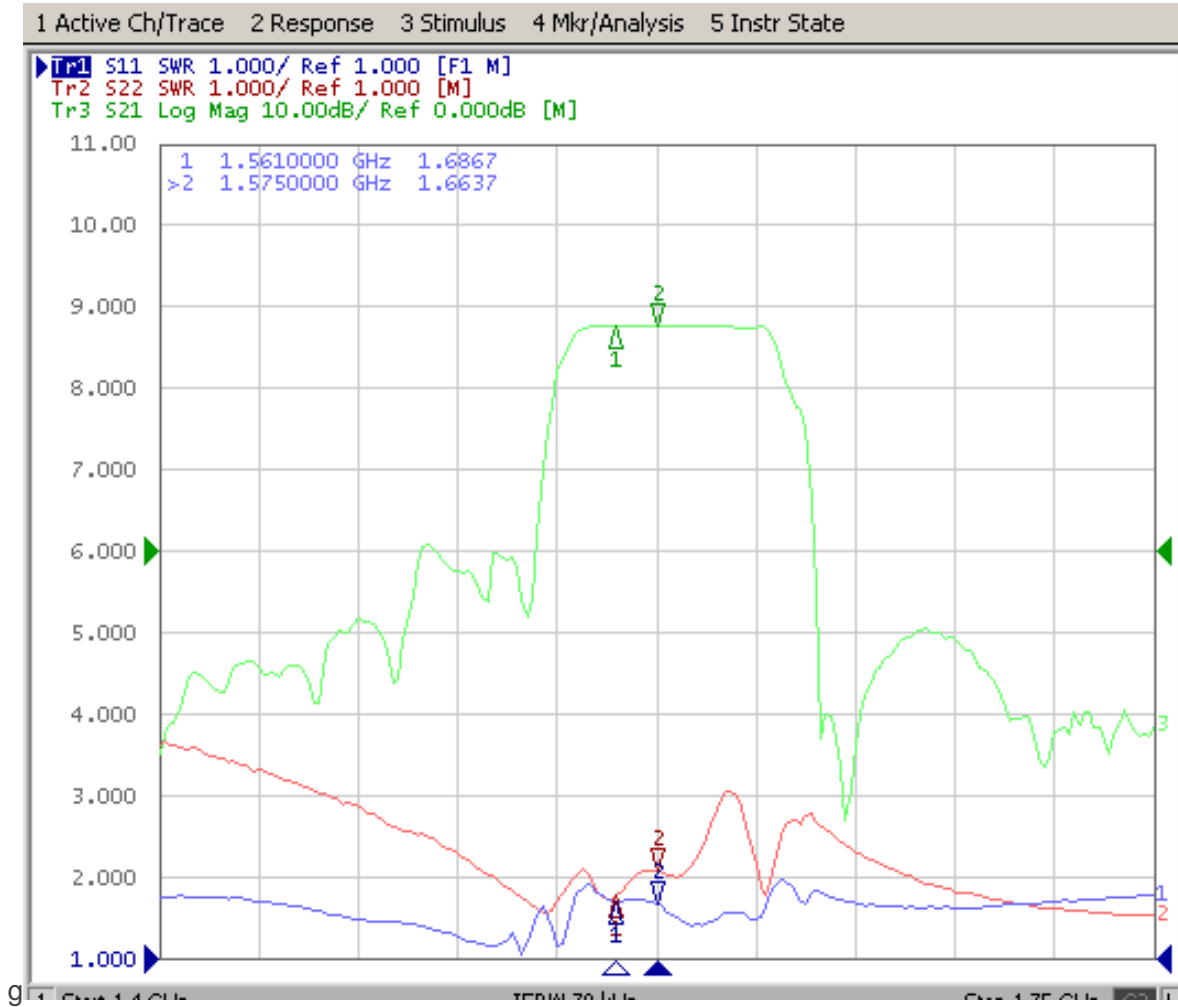
Frequency (MHz)	698	960	1710	1880	2170	2400	2450	2570	2690
VSWR	1.82	2.06	1.78	1.51	1.31	1.16	1.37	1.17	1.84

4G DIV antenna

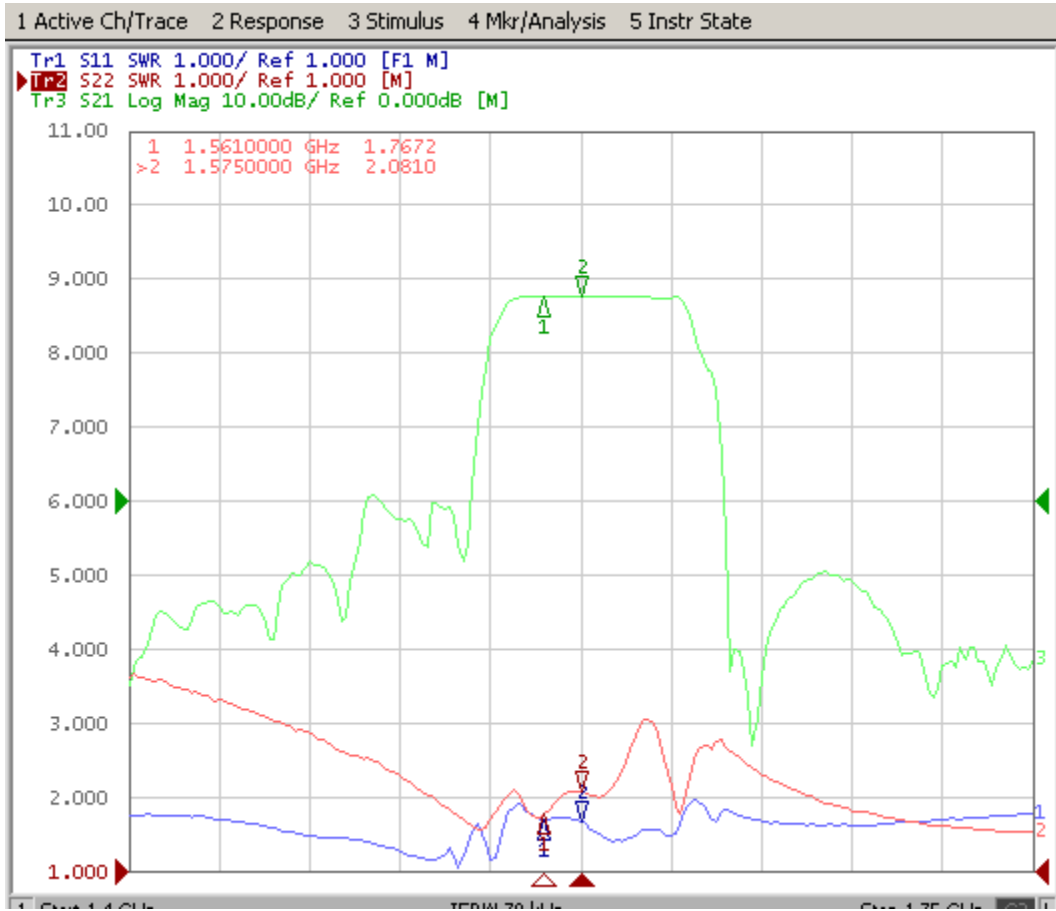


Frequency (MHz)	1710	1880	1990	2170	2300	2400	2570	2690
VSWR	20.5	3.35	2.61	2.45	4.34	3.46	2.33	1.24

GNSS antenna

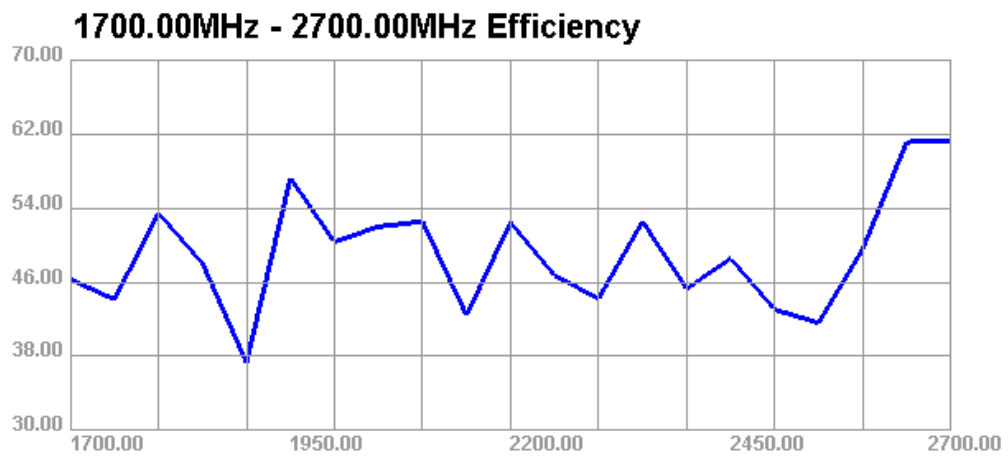
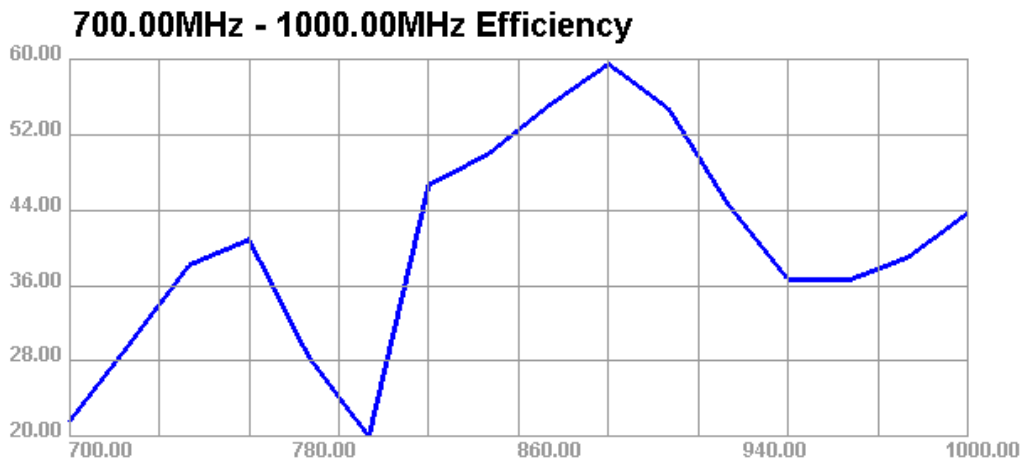


Frequency (MHz)	1561	1575
VSWR	1.68	1.66



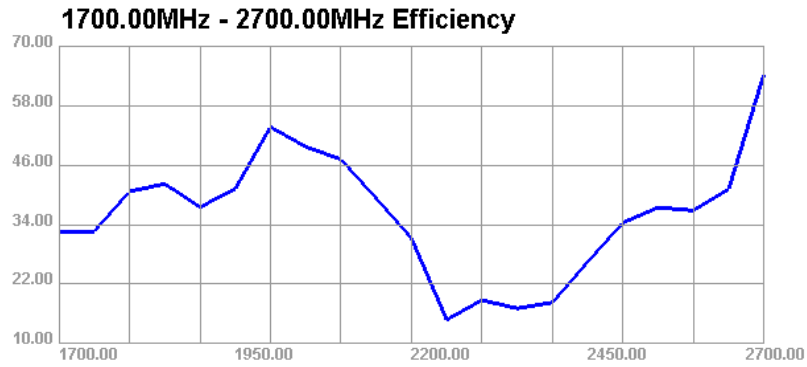
Frequency (MHz)	1561	1575
VSWR	1.76	2.08

- Efficiency
4G antenna



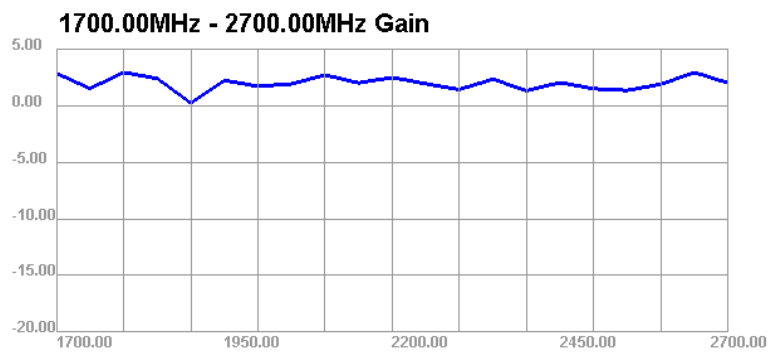
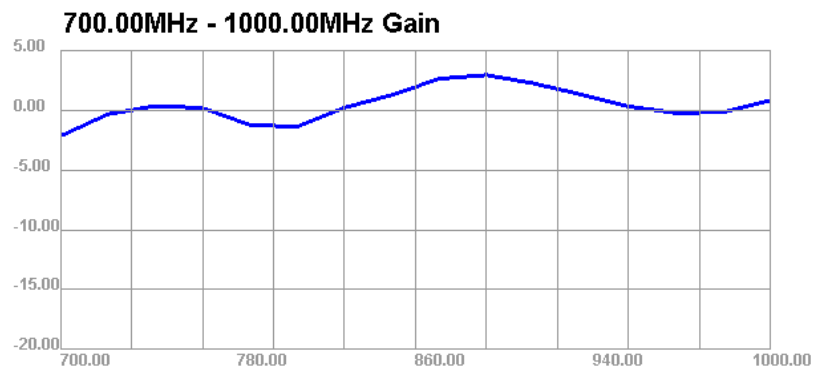
Frequency (MHz)	698	880	960	1710	1880	2170	2400	2450	2570	2690
Efficiency (%)	21.6	59.47	36.53	46.33	48.06	42.44	45.3	48.58	41.62	61.14

4G DIV antenna



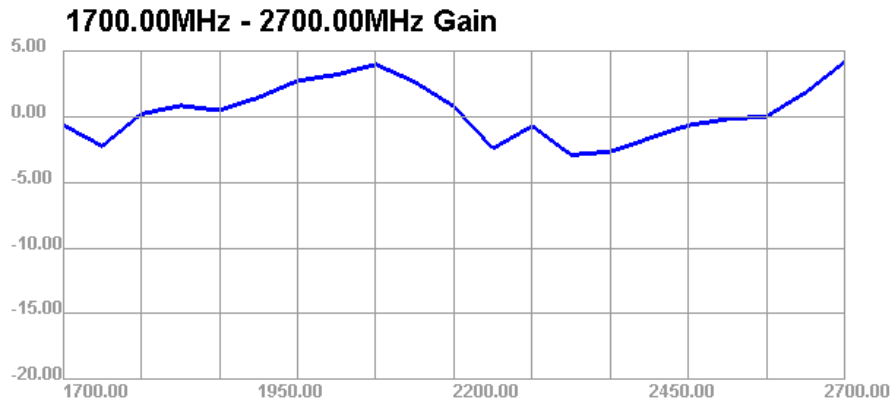
Frequency (MHz)	1710	1880	1990	2170	2300	2400	2570	2690
Efficiency (%)	36.61	42.25	53.69	31.28	18.79	18.3	37.46	64.36

- Gain
4G antenna



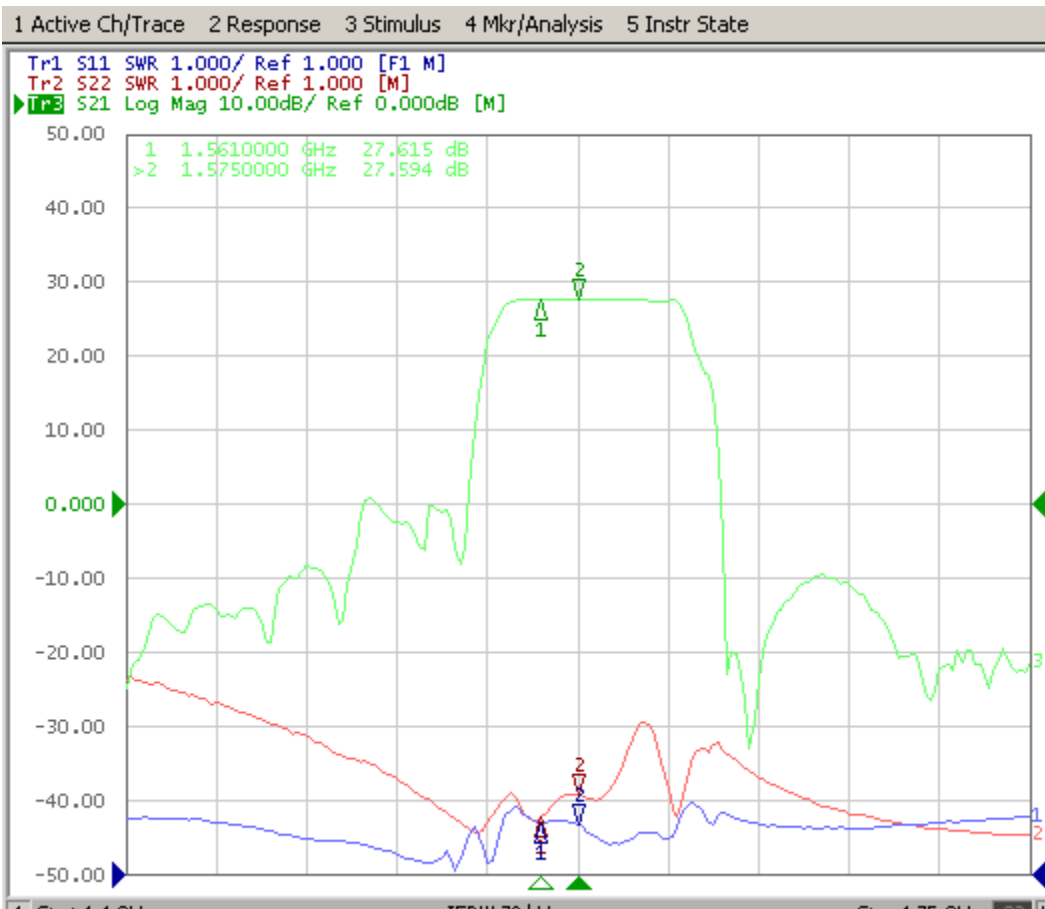
Frequency (MHz)	698	960	1710	1880	2170	2400	2450	2570	2690
Gain	-2.16	-0.23	2.85	2.4	2.48	1.31	2.04	1.34	2.93

4G DIV antenna



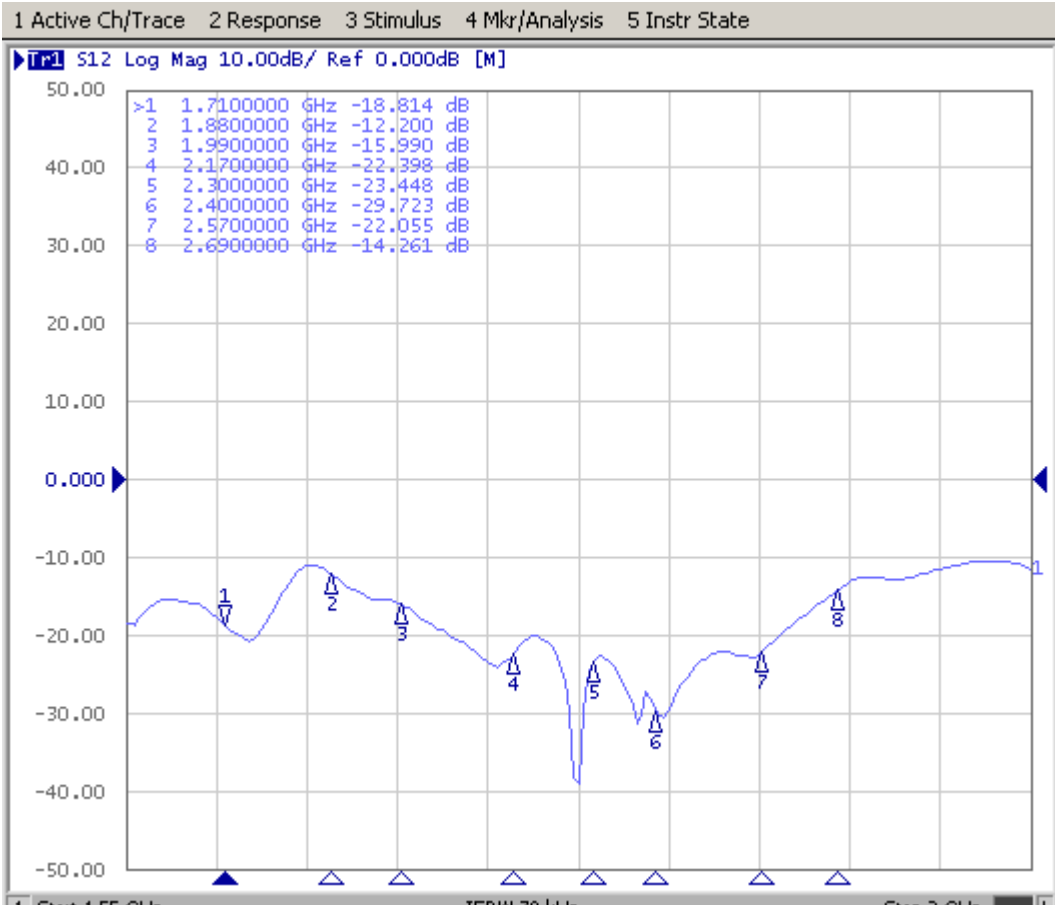
Frequency (MHz)	1710	1880	1990	2170	2300	2400	2570	2690
Gain	-0.64	0.82	2.72	2.63	-0.72	-2.67	-0.18	1.18

GNSS antenna



Frequency (MHz)	1561	1575
Gain	27.61	27.59

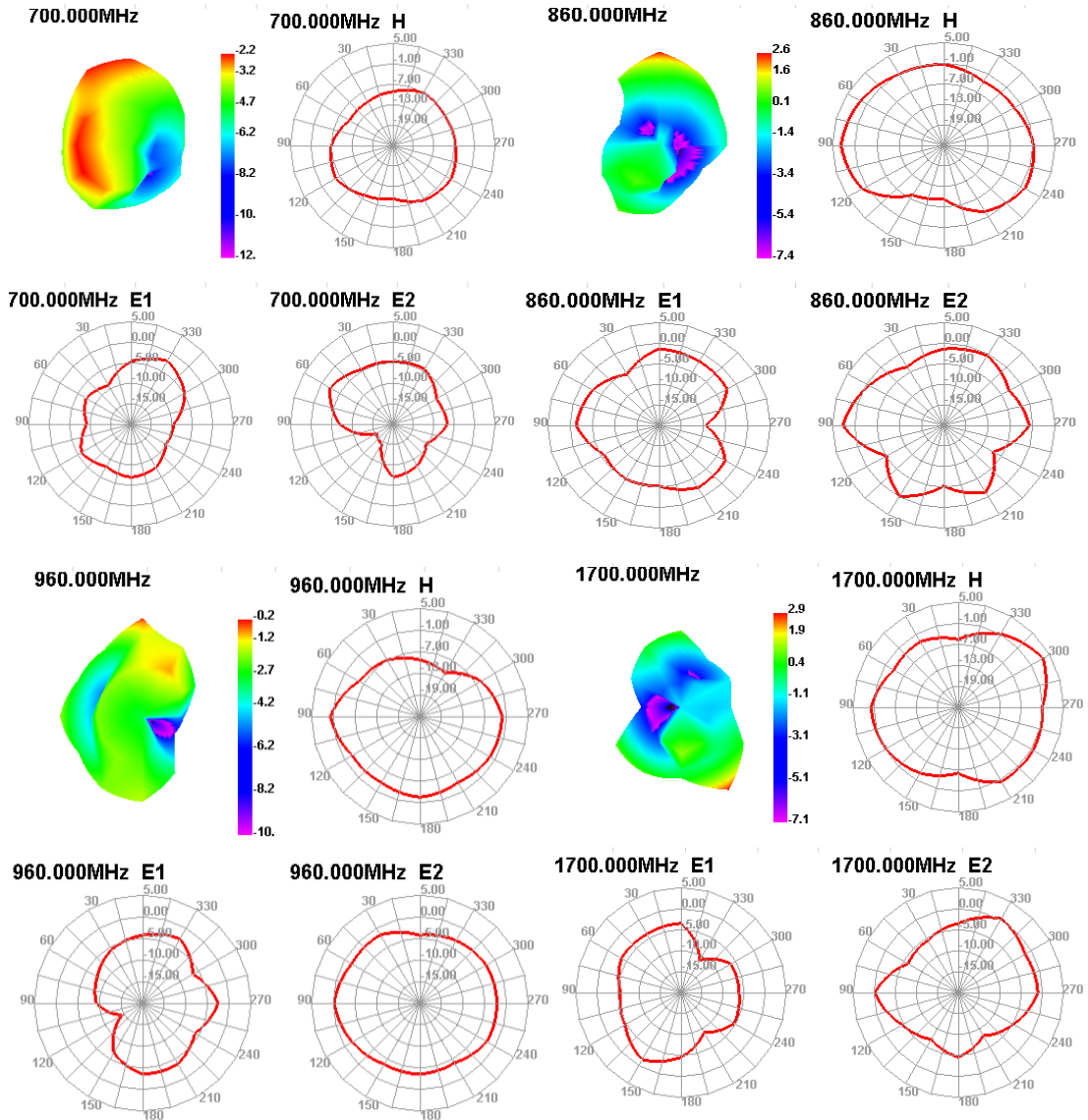
● Isolation

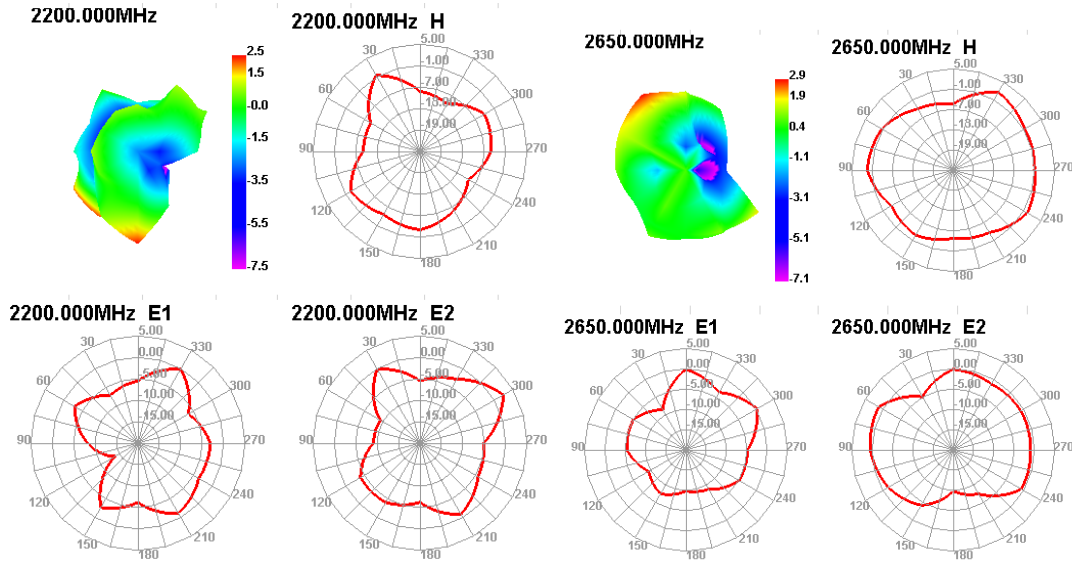


Frequency (MHz)	1710	1880	1990	2170	2300	2400	2570	2690
Isolation	-18	-12	-15	-22	-23	-29	-22	-14

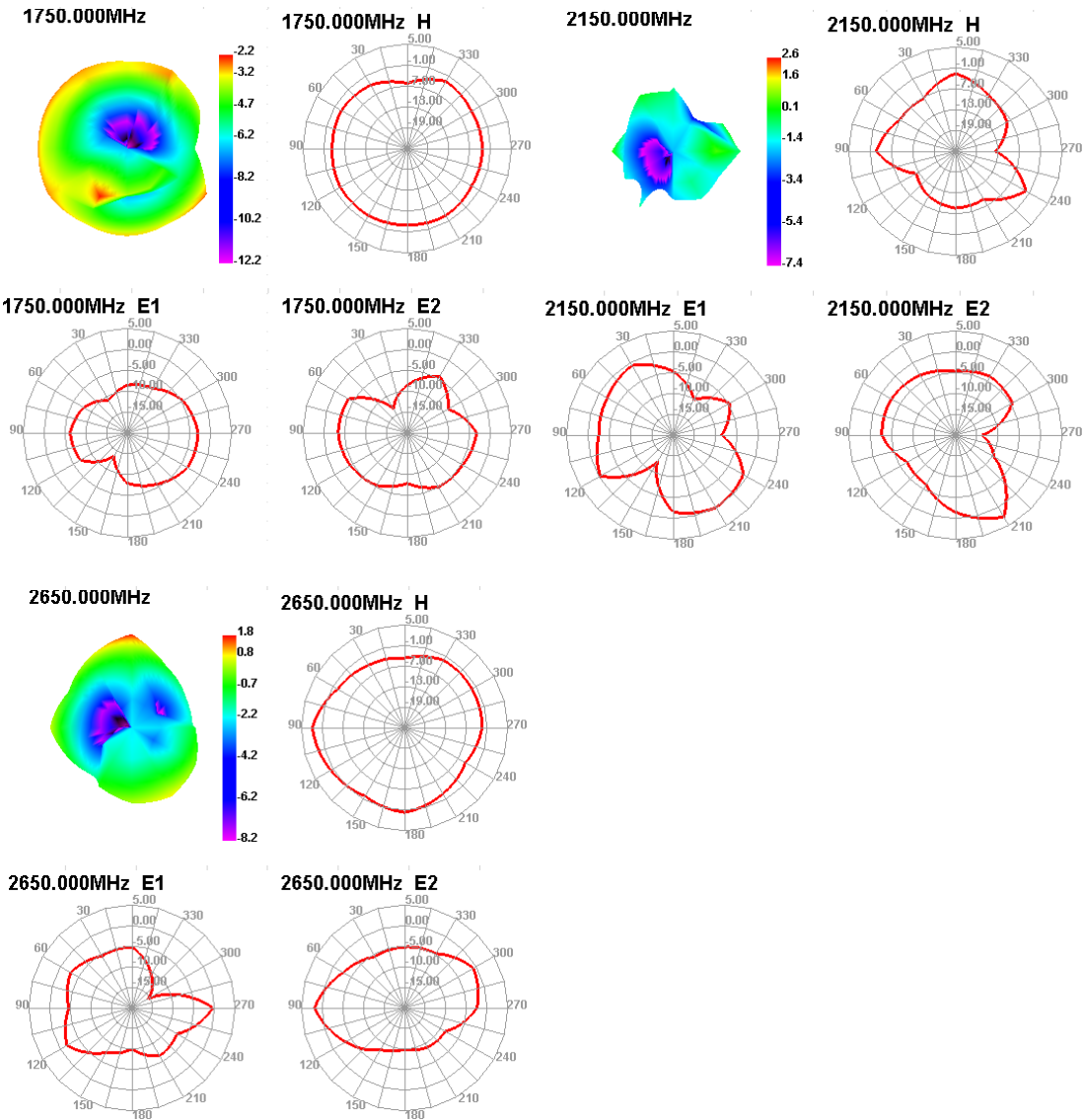
● Radiation Patterns

4G antenna





4G DIV antenna



5 Product Size

