

Antenna

YB0014AA Datasheet

Antenna Services

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Status: Released



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About the Document

Revision History

Version	Date	Author	Note
-	2020-09-11	Kenny YIN	Creation of the document
1.0	2020-09-11	Kenny YIN	Initial
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
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	LTE: 698–960 MHz; 1700–2700 MHz GNSS: 1561–1571 MHz; 1602–1606 MHz		
Input Impedance	50 Ω		
VSWR	≤ 4.0		
Gain	Main Antenna	698–960 MHz	< 3.0 dBi
		1700–2700 MHz	< 3.0 dBi
	DIV Antenna	698–960 MHz	< 2.5 dBi
		1700–2700 MHz	< 4.0 dBi
	GNSS	1561–1571 MHz	28 ±3 dBi
		1602–1606 MHz	
Polarization Type	4G Main/DIV	Linear	
	GNSS	RHCP	

Mechanical Specifications

Antenna Size	81 mm × 27.5 mm, RG174 L= 3000 mm		
Casing	ABS + PC		
Radiator	Cuprum		
Connector Type	SMA Male (with center pin)		
Working Temperature	-20 °C to +85 °C		
Radome Color	Black		
Waterproof Grade	IP66		

4 Overall Performance

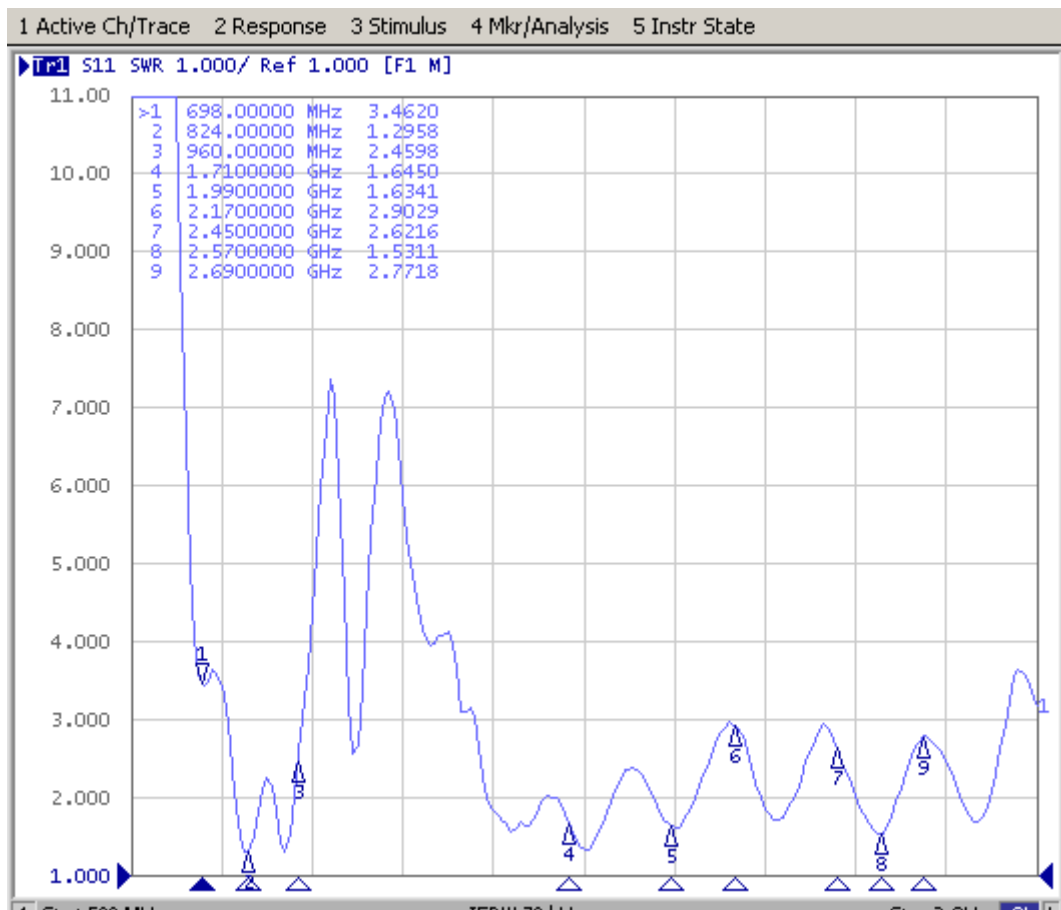
4.1. Test Environment

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



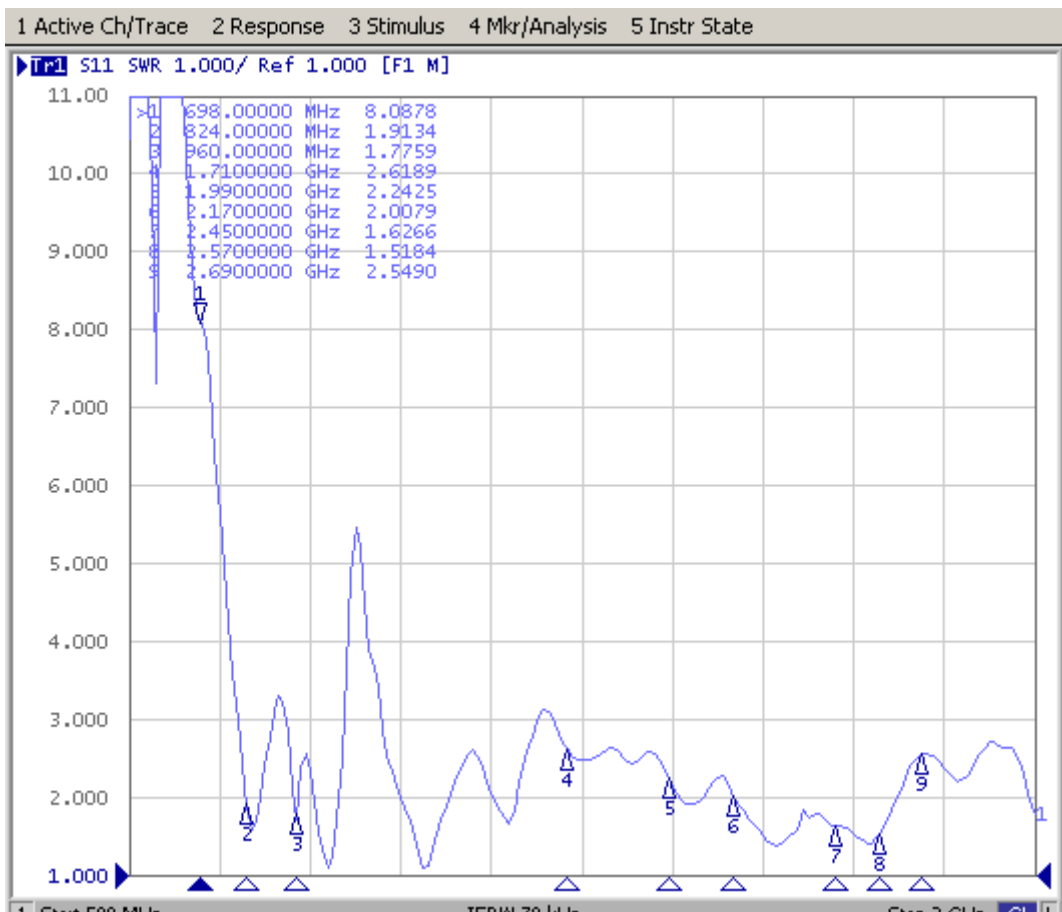
4.2. VSWR

4G



Frequency (MHz)	698	824	960	1710	1990	2170	2450	2570	2690
VSWR	3.46	1.30	2.46	1.65	1.63	2.90	2.62	1.53	2.77

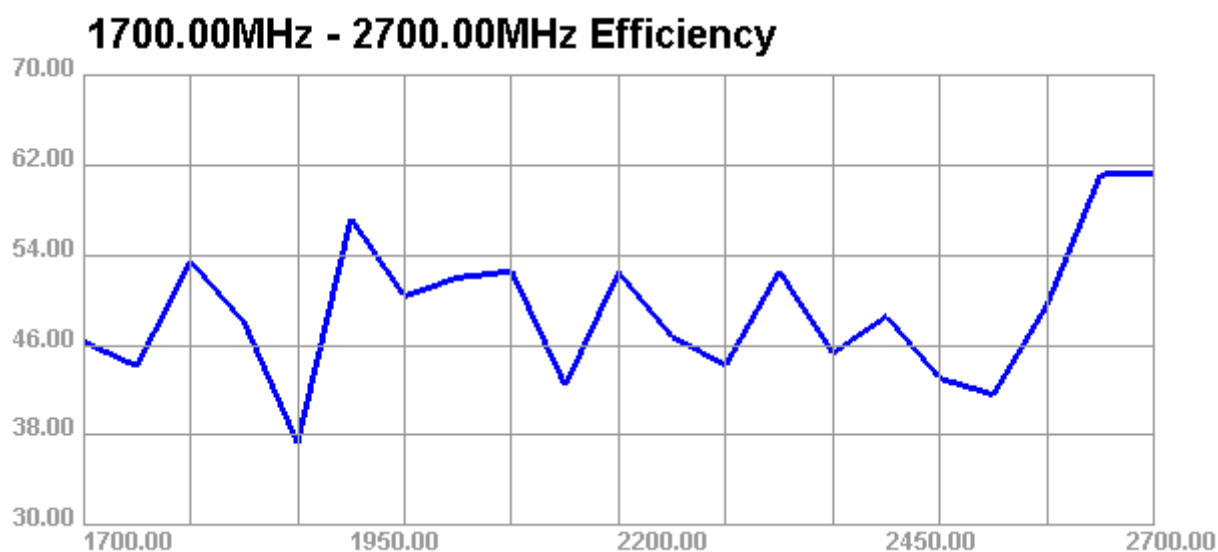
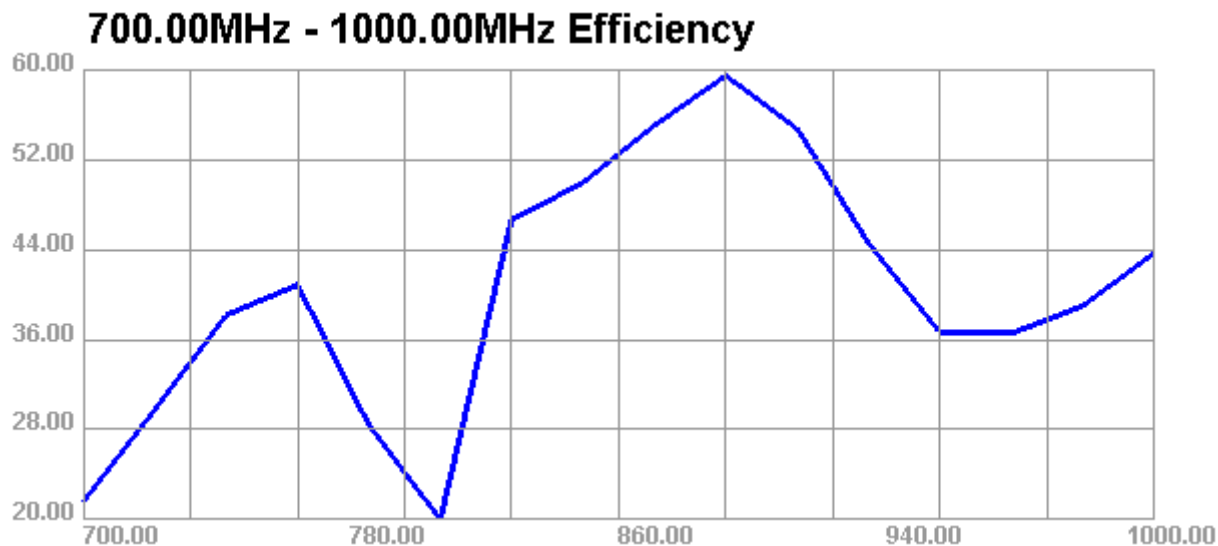
4G DIV



Frequency (MHz)	698	824	960	1710	1990	2170	2450	2570	2690
VSWR	8.09	1.91	1.78	2.62	2.24	2.01	1.63	1.52	2.55

4.3. Efficiency

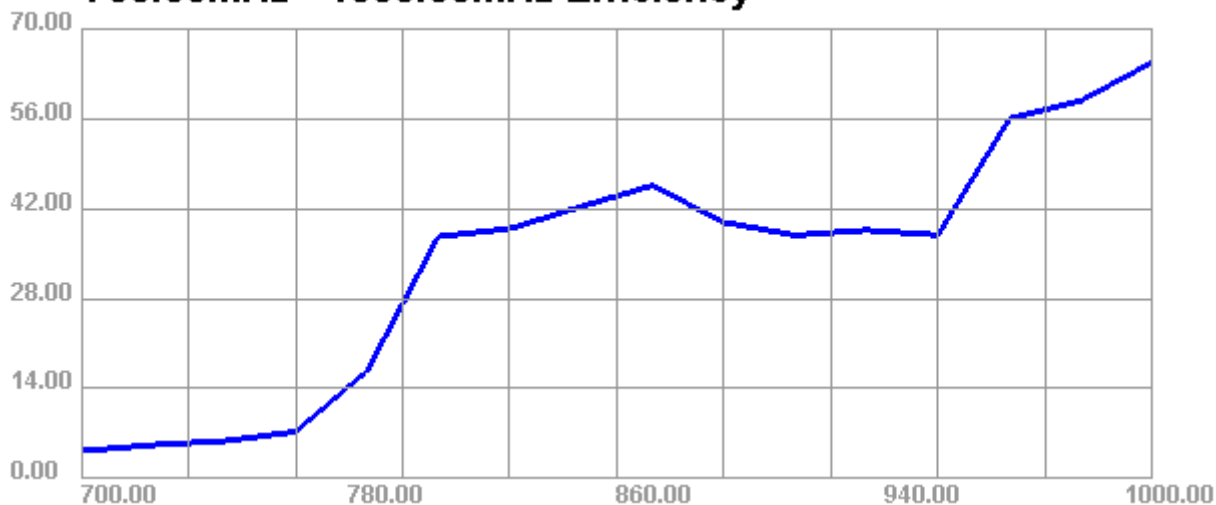
4G



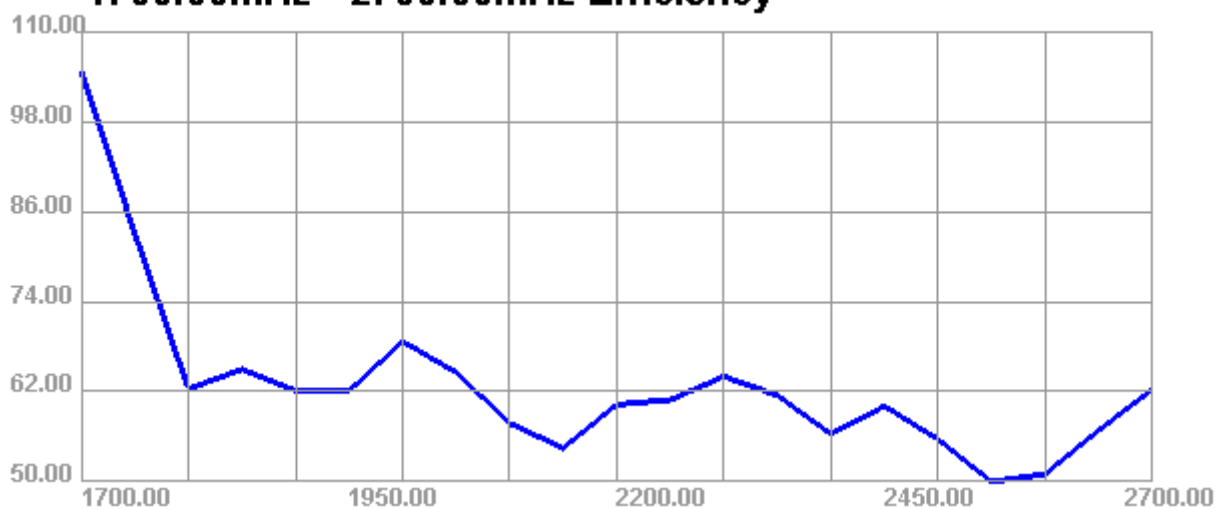
Frequency (MHz)	760	860	960	1700	1950	2200	2450	2650
Efficiency (%)	40.86	55.04	36.56	46.33	57.24	52.47	48.58	61.14

4G DIV

700.00MHz - 1000.00MHz Efficiency



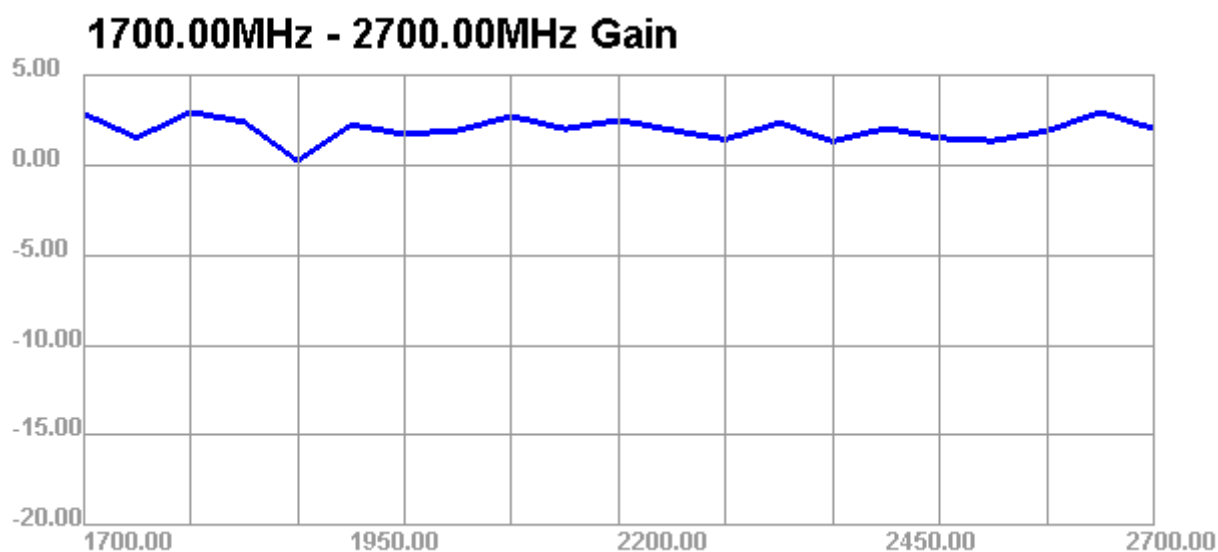
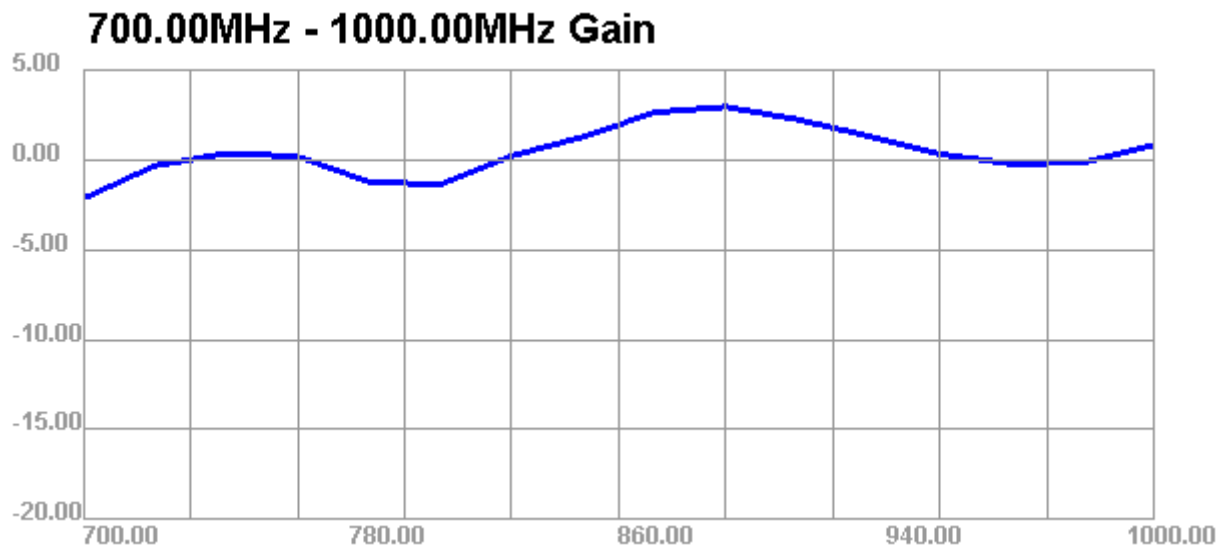
1700.00MHz - 2700.00MHz Efficiency



Frequency (MHz)	760	860	960	1700	1950	2200	2450	2650
Efficiency (%)	7.3	45.62	55.99	104.74	62.14	60.29	60.08	56.85

4.4. Gain

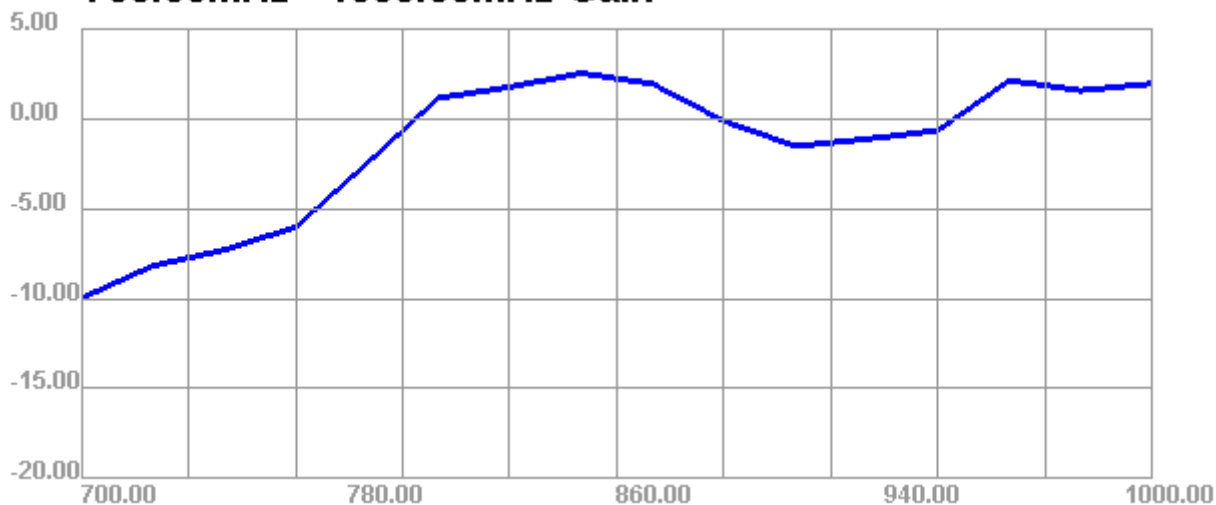
4G



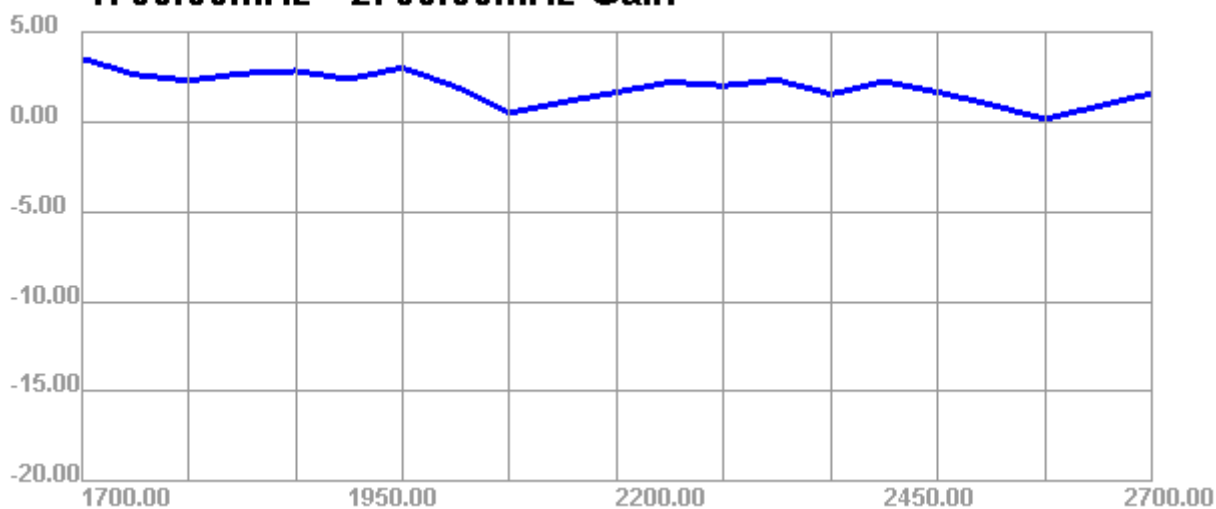
Frequency (MHz)	760	860	960	1700	1950	2200	2450	2650
Gain (dBi)	0.19	2.63	-0.23	2.85	2.22	2.48	2.04	2.93

4G DIV

700.00MHz - 1000.00MHz Gain

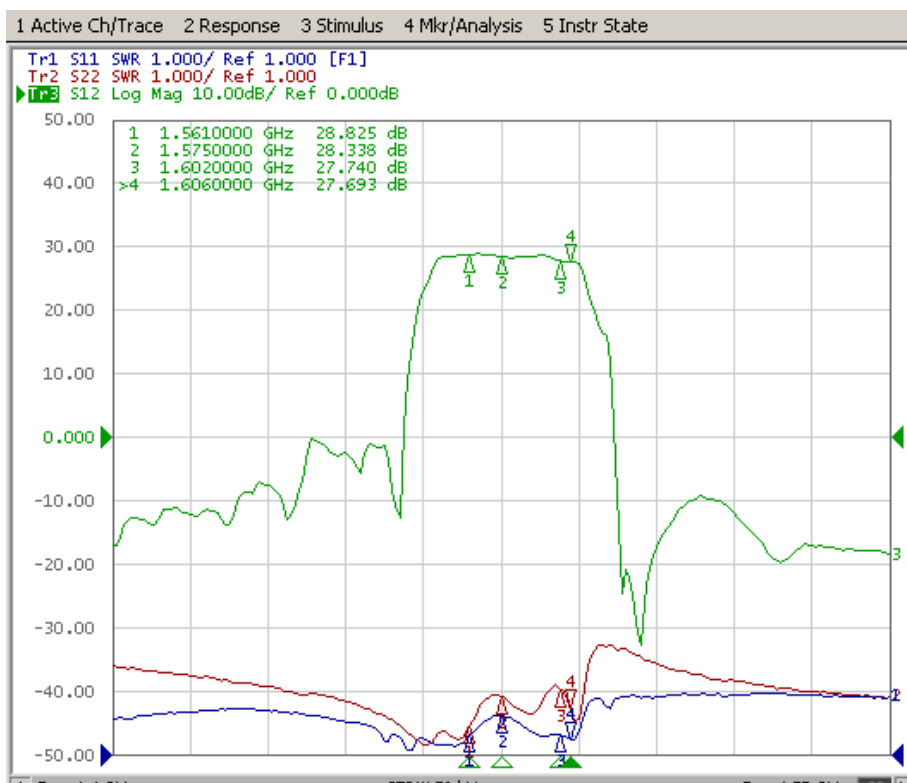


1700.00MHz - 2700.00MHz Gain



Frequency (MHz)	760	860	960	1700	1950	2200	2450	2650
Gain (dBi)	-6.02	1.95	2.12	3.52	2.37	1.63	2.24	0.87

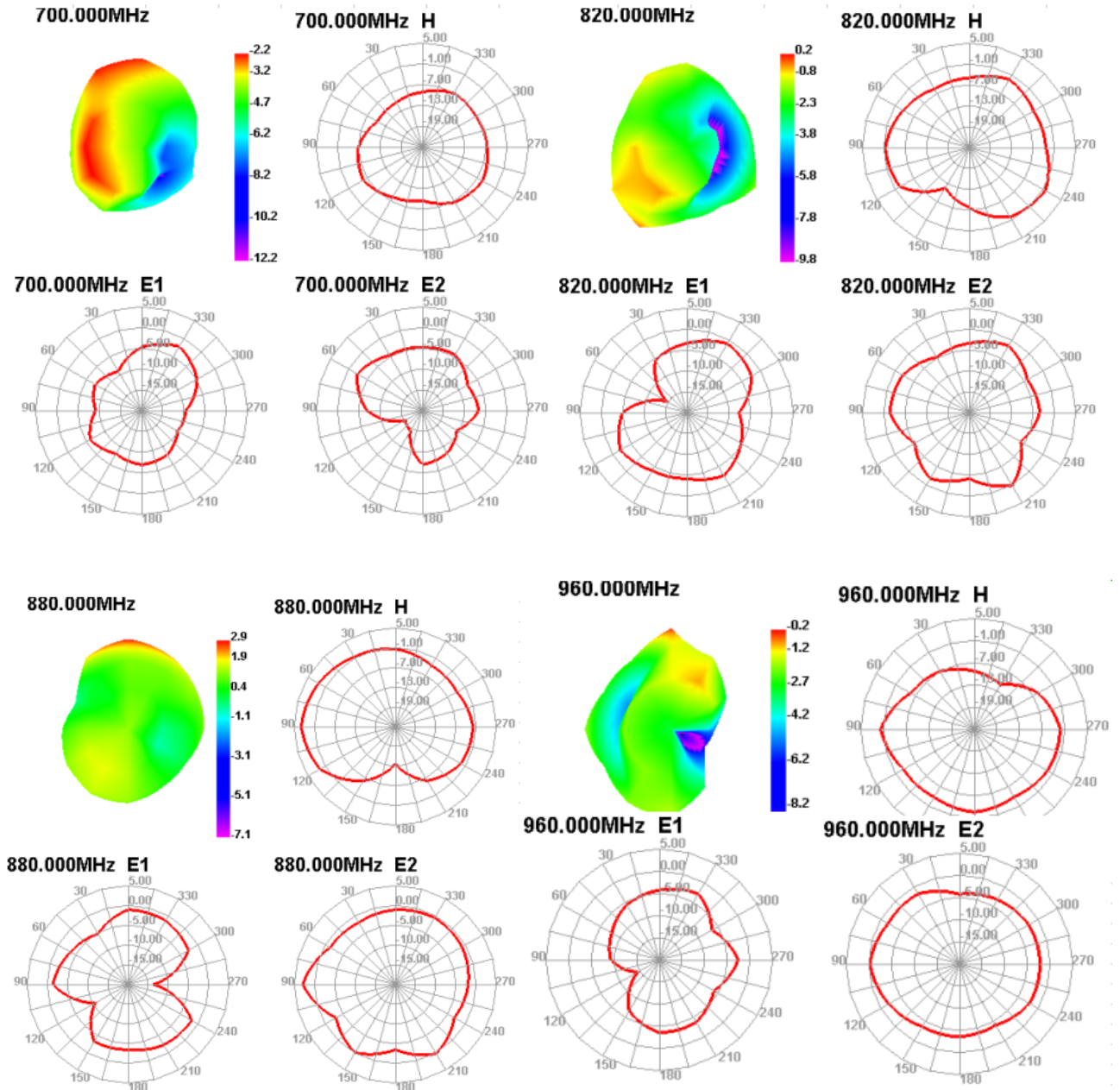
GNSS



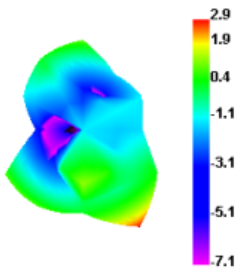
Frequency (MHz)	1561	1575	1602	1606
Gain (dBi)	28.82	28.34	27.74	27.69

4.5. Radiation Patterns

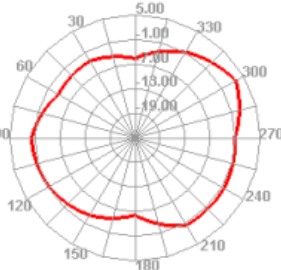
4G



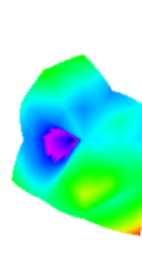
1700.000MHz



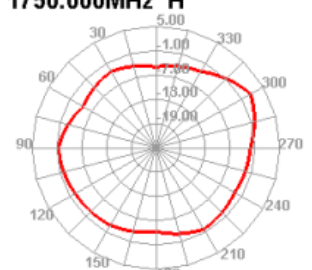
1700.000MHz H



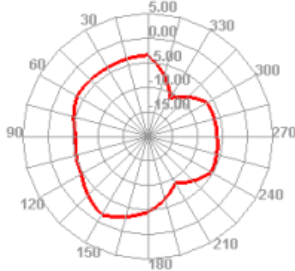
1750.000MHz



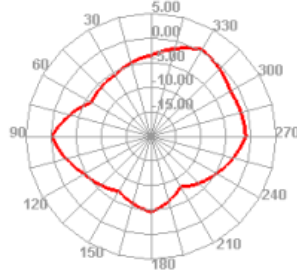
1750.000MHz H



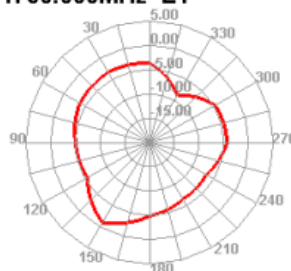
1700.000MHz E1



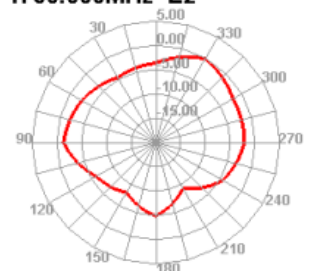
1700.000MHz E2



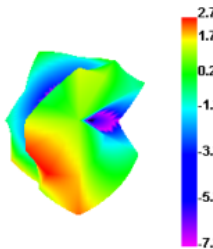
1750.000MHz E1



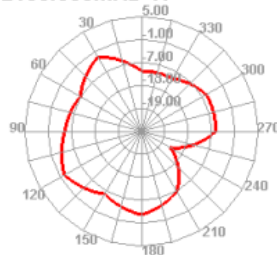
1750.000MHz E2



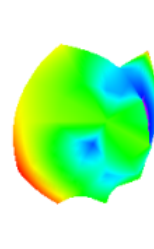
2100.000MHz



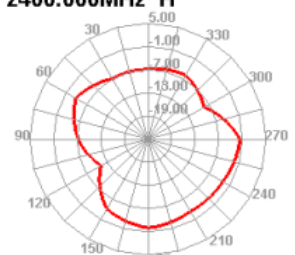
2100.000MHz H



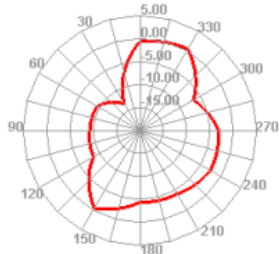
2400.000MHz



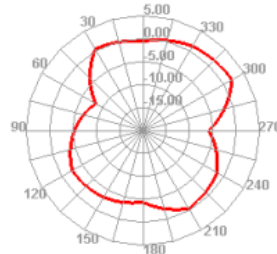
2400.000MHz H



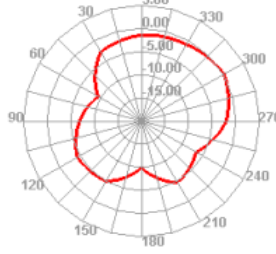
2100.000MHz E1



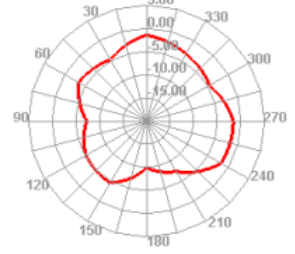
2100.000MHz E2



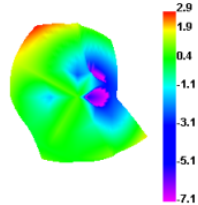
2400.000MHz E1



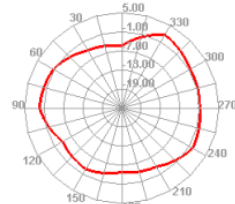
2400.000MHz E2



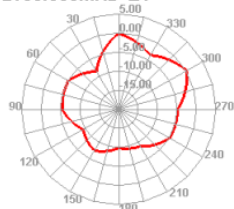
2650.000MHz



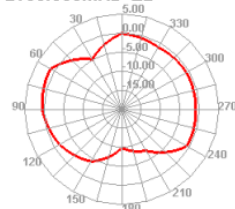
2650.000MHz H



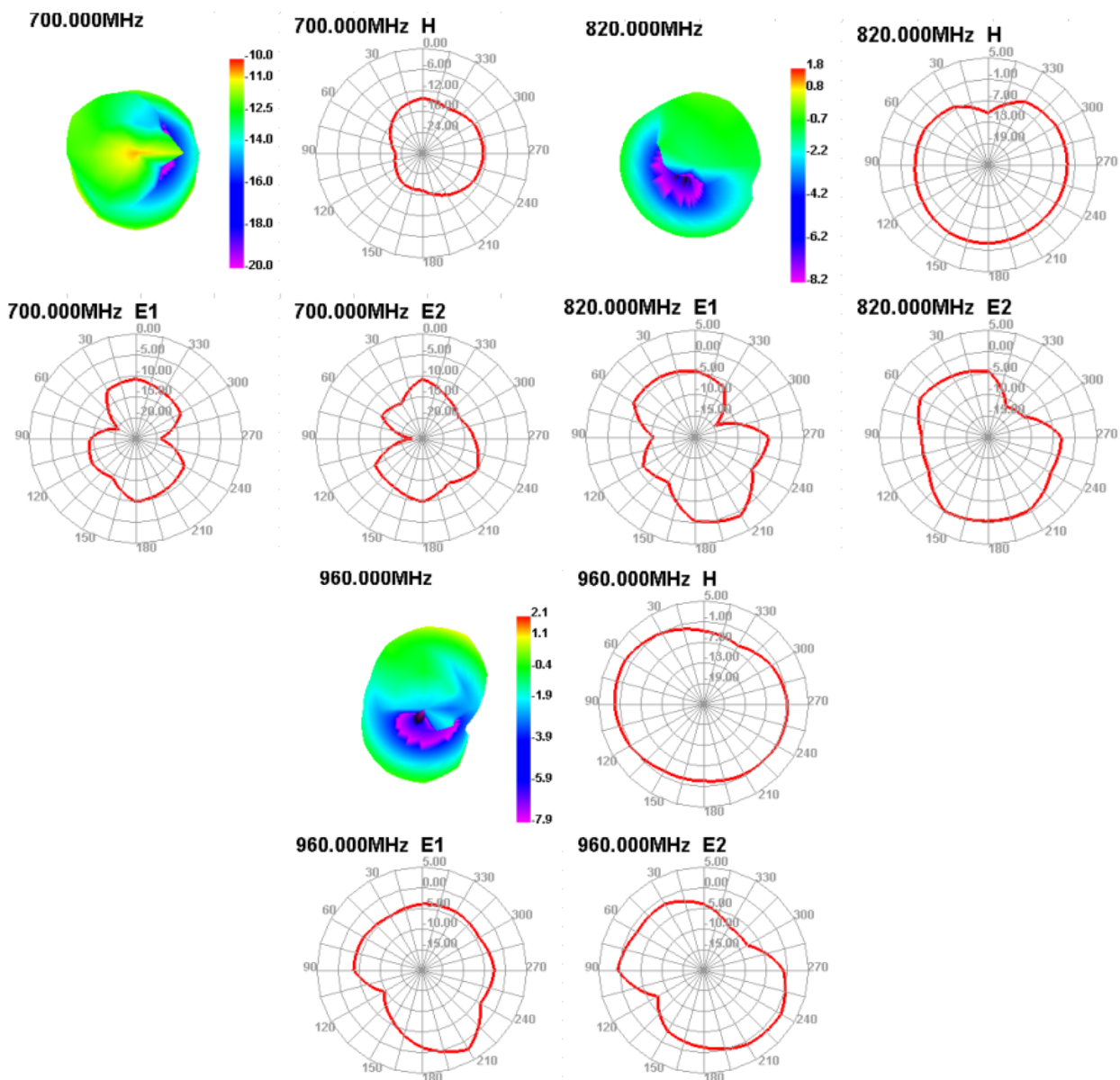
2650.000MHz E1

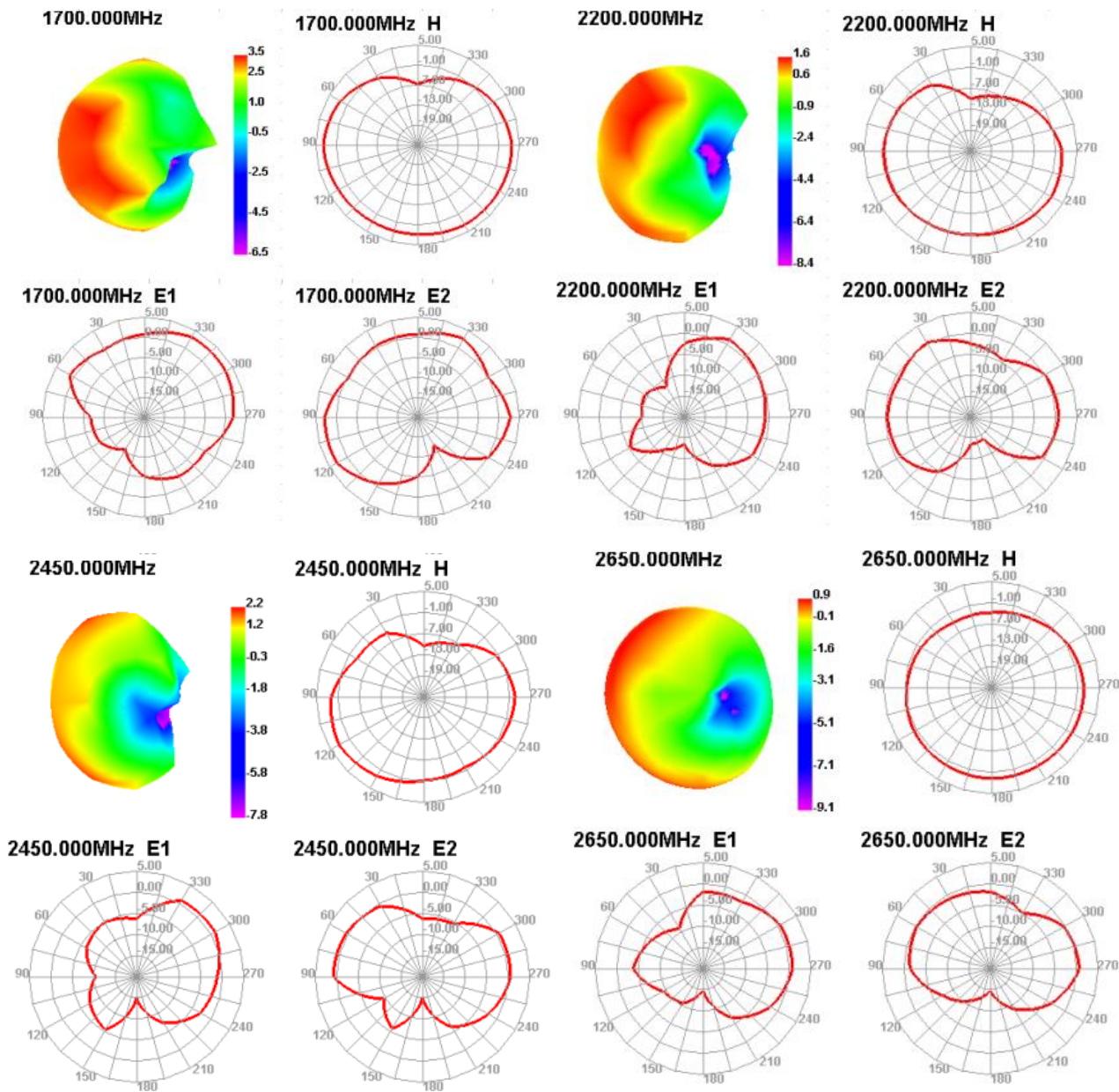


2650.000MHz E2

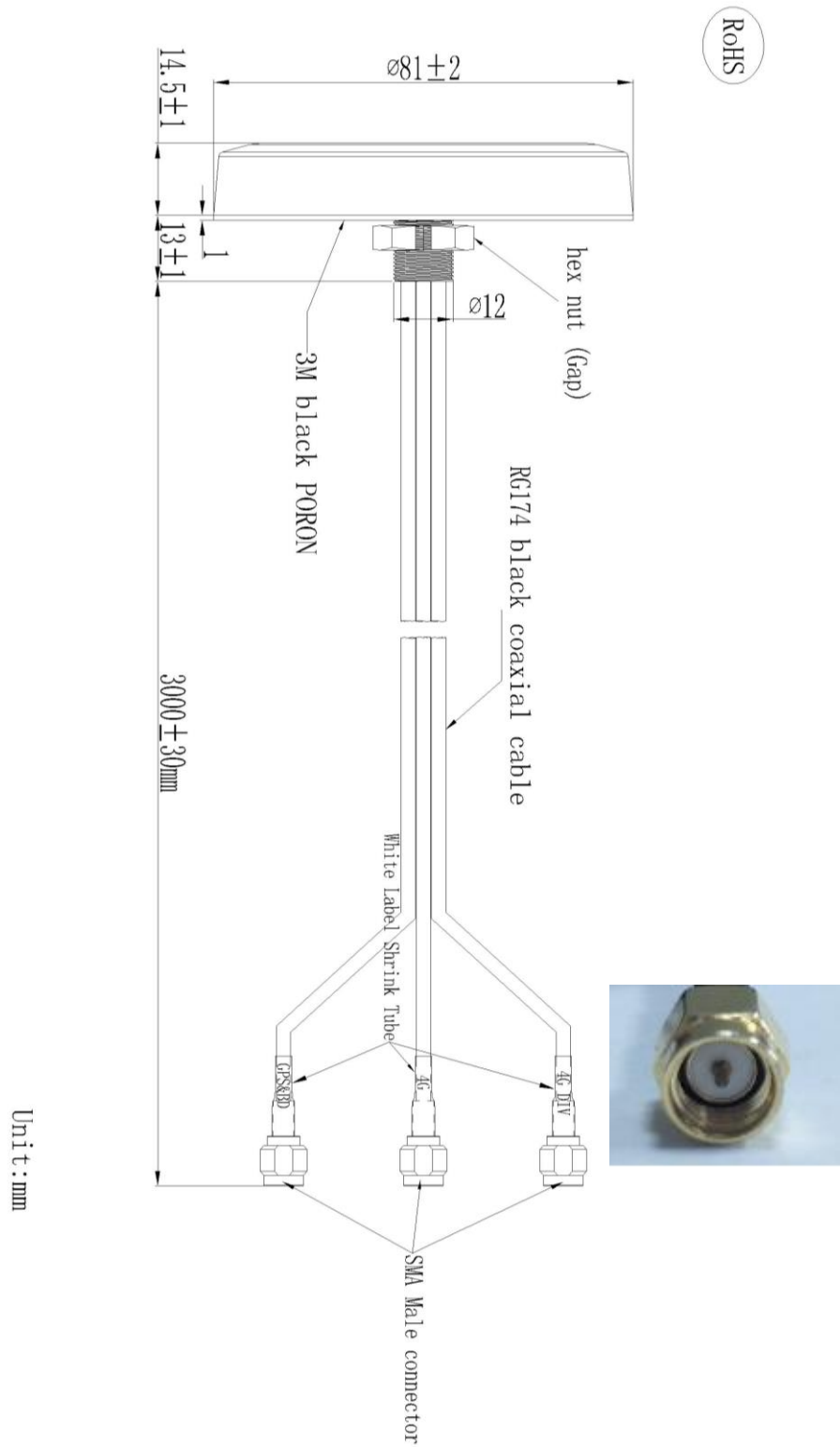


4G DIV





5 Product Size



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