

**5G Antenna Box
YB0007AA Datasheet**

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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.

This datasheet is suitable for the following five 5G antenna box products:

- YB0007AA

2 Product Features

- 5G Antenna Box
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	700–960 MHz, 1100–2690 MHz, 3300–5000 MHz
Input Impedence	50 Ω
VSWR	≤ 4.0
Gain	≥ -0.5 dBi
Polarization Type	Linear

Mechanical Specifications

Antenna Box Size	$\Phi 120 \times 43$ mm
Cable Length	YB0007AA: 500 mm
Connector Type	SMA Male (center pin)
Shell Material	KIBILAC [®] ASA
Working Temperature	-20 °C to +80 °C
Radome Color	Black
Ingress Protection Rating	IP67
Installation method	Screw

4 Overall Performance

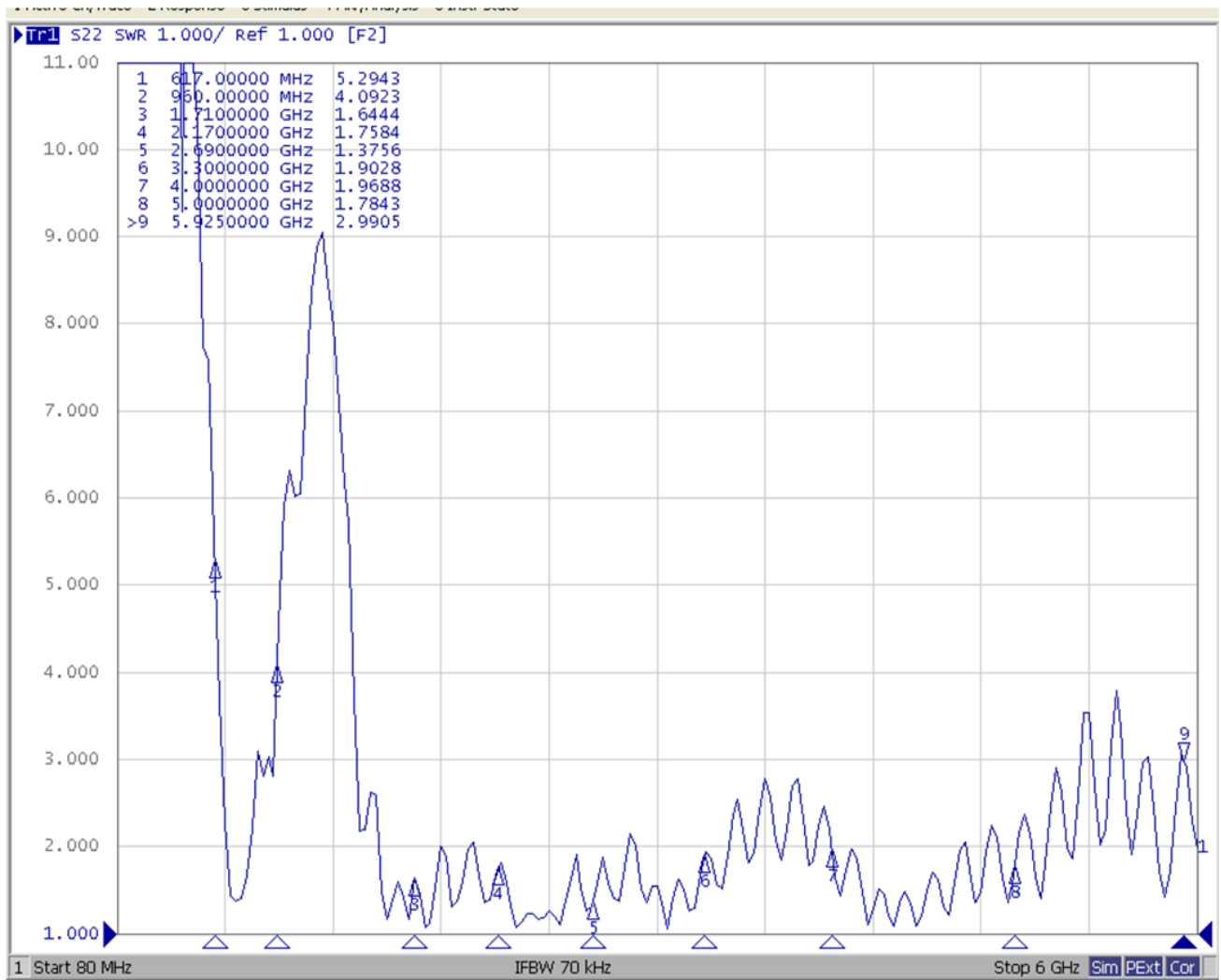
4.1. Test Environment

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



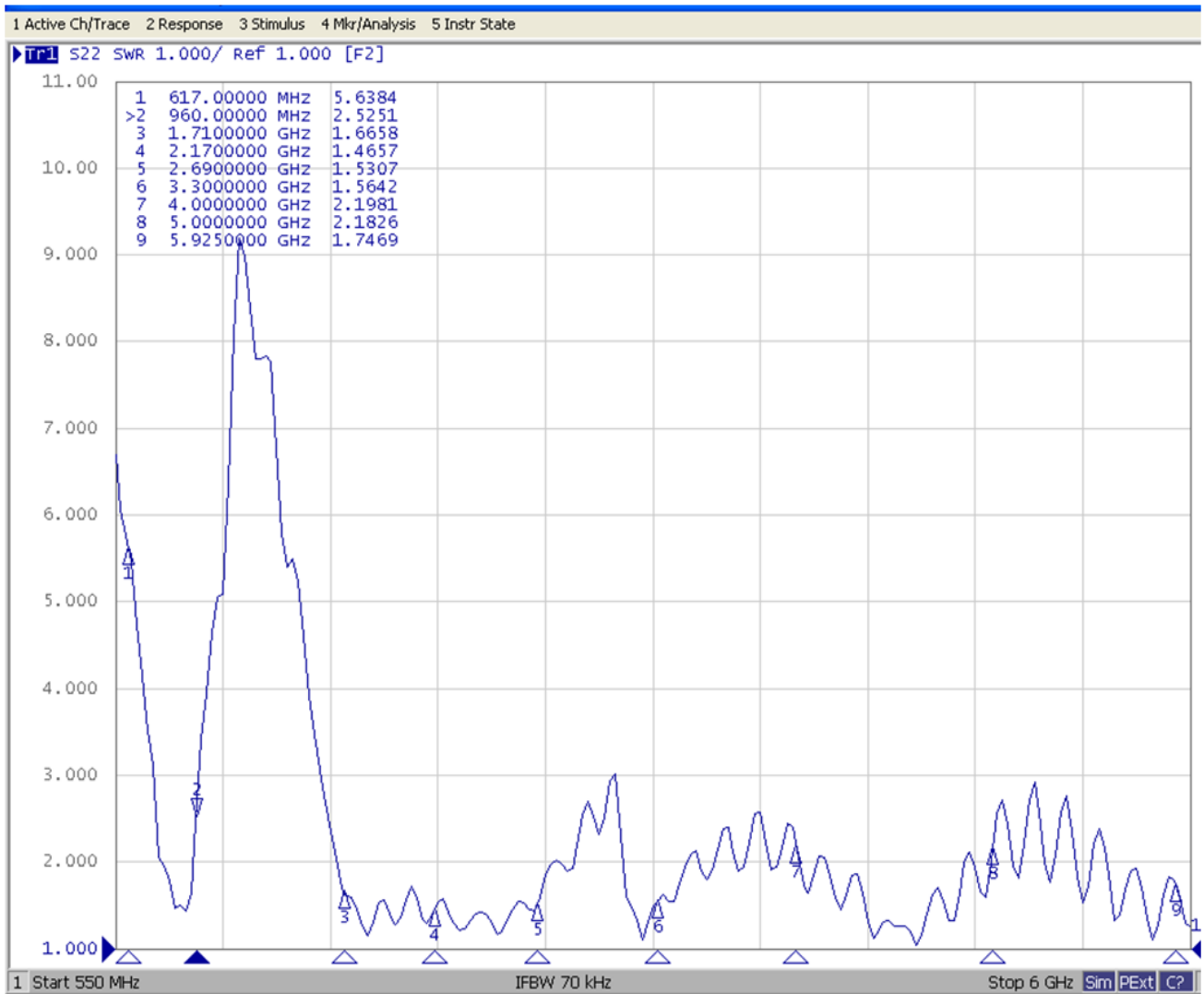
4.2. VSWR (500 mm Cable Length)

4.2.1. 4G&5G Main Antenna (LMH#)



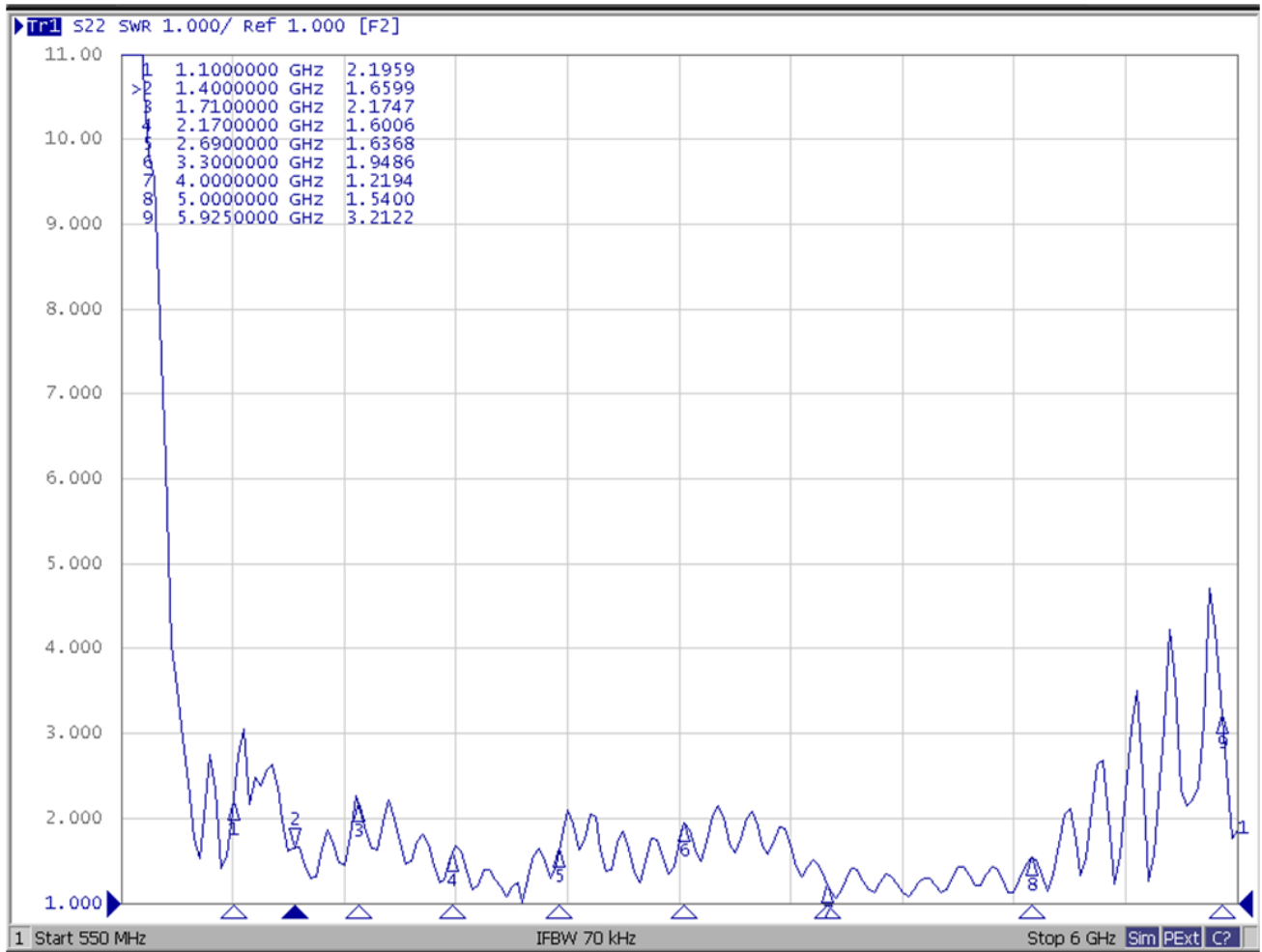
Frequency (MHz)	617	960	1710	2170	2690	3300	4000	5000	5925
VSWR	5.30	4.09	1.64	1.76	1.38	1.90	1.97	1.78	2.99

4.2.2. 4G&5G Diversity Antenna (LMH)



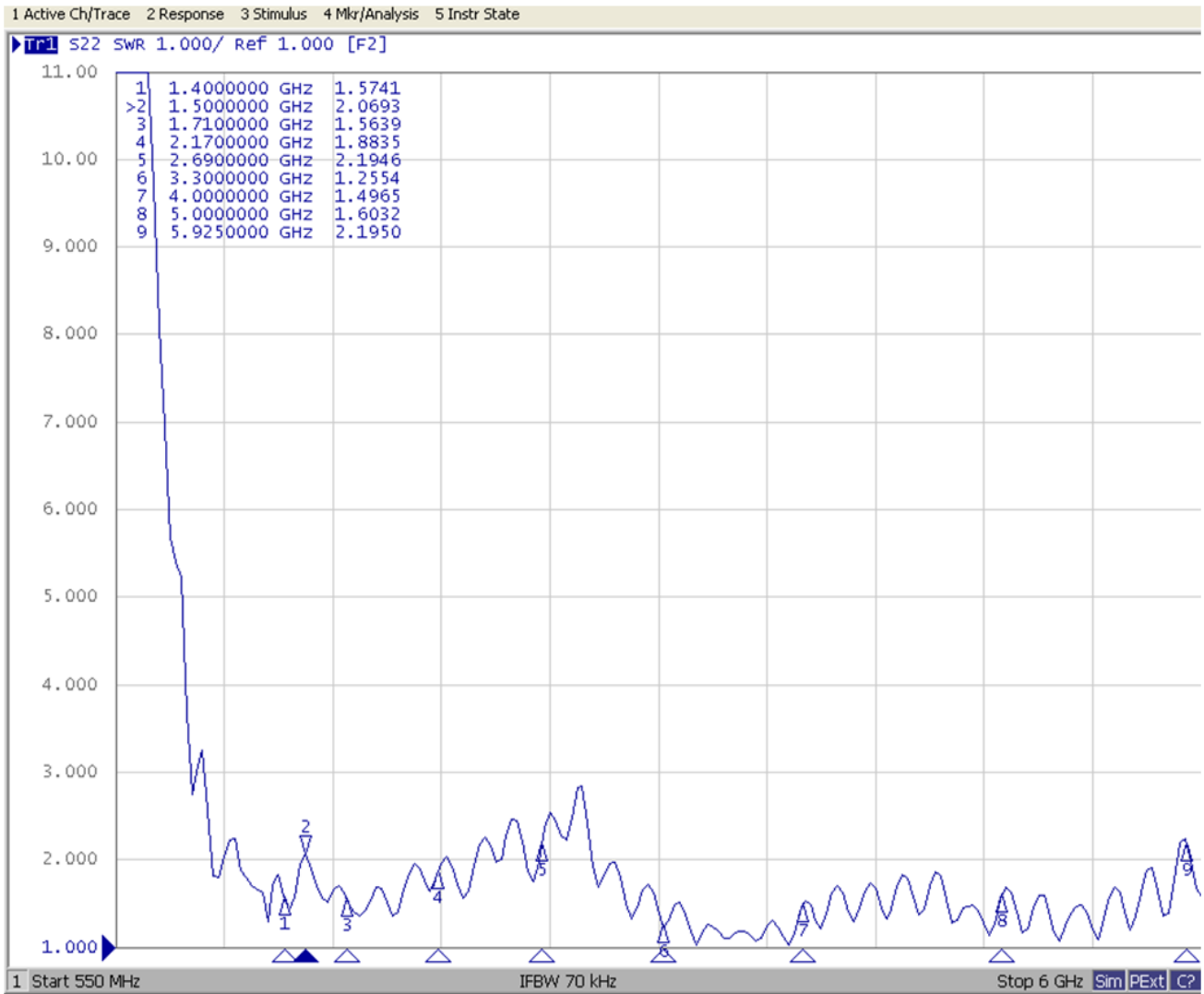
Frequency (MHz)	617	960	1710	2170	2690	3300	4000	5000	5925
VSWR	5.63	2.55	1.66	1.47	1.53	1.56	2.20	2.19	1.75

4.2.3. 5G-MIMO1 Antenna (*MH)



Frequency (MHz)	1100	1400	1710	2170	2690	3300	4000	5000	5925
VSWR	2.19	1.66	2.18	1.60	1.64	1.95	1.22	1.54	3.21

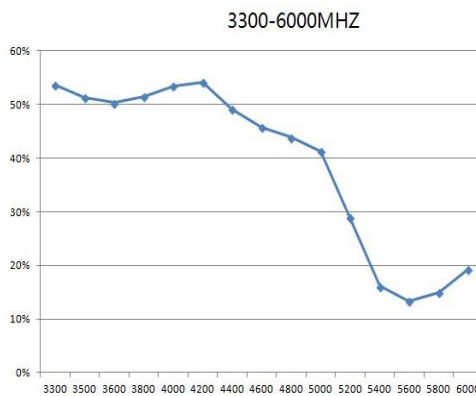
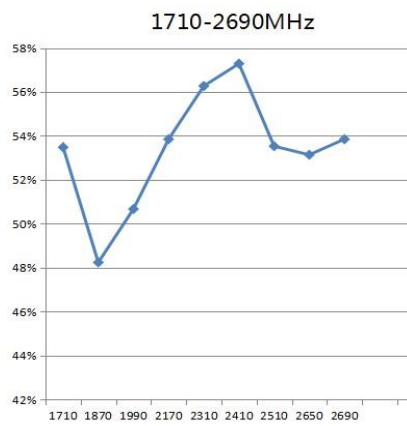
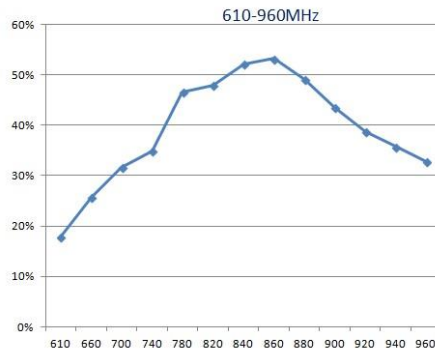
4.2.4. 5G-MIMO2 Antenna (MH)



Frequency (MHz)	1400	1500	1710	2170	2690	3300	4000	5000	5925
VSWR	1.57	2.07	1.56	1.88	2.19	1.25	1.50	1.60	2.19

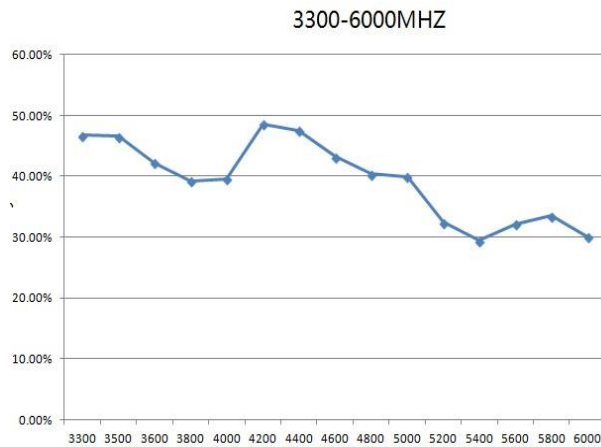
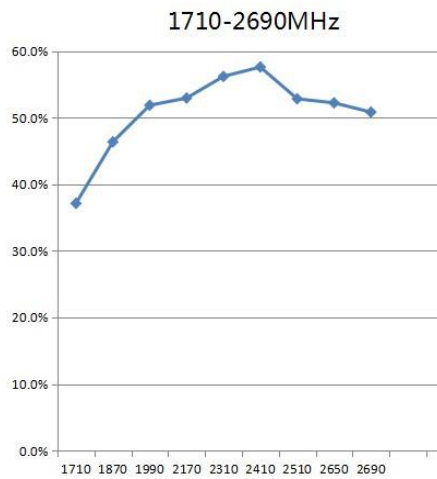
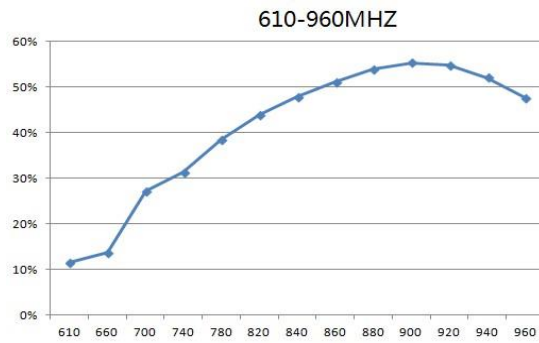
4.3. Efficiency (500 mm Cable Length)

4.3.1. 4G&5G Main Antenna (LMH#)



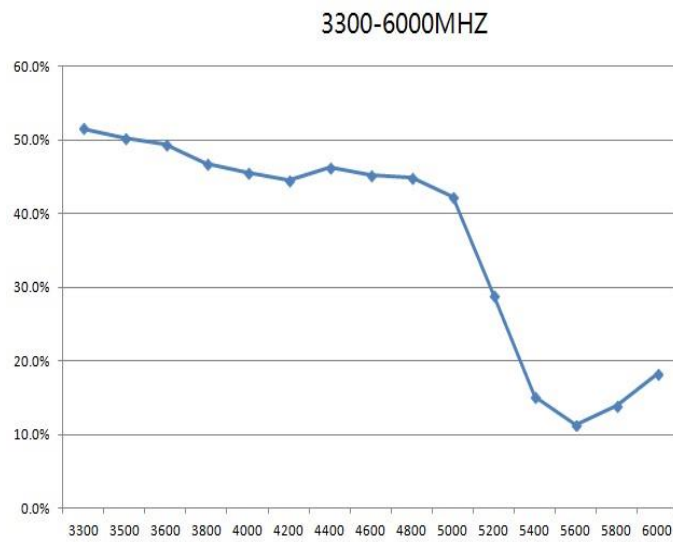
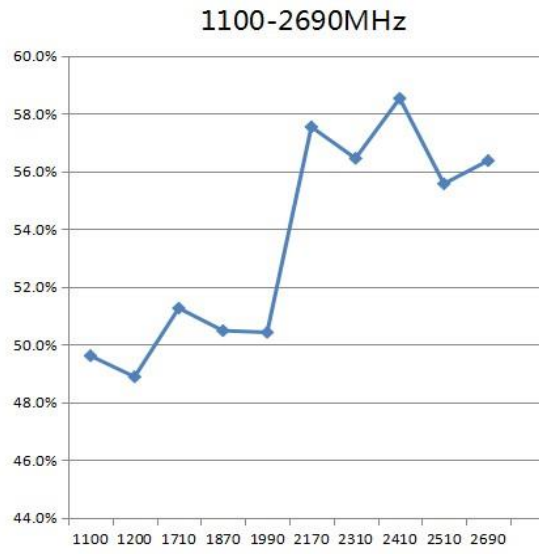
Frequency (MHz)	610	700	850	960	1710	2170	2690	3300	4000	5000	6000
Efficiency (%)	17.8	37.6	51.3	32.8	53.5	53.9	53.9	53.6	53.5	41.5	19.3

4.3.2. 4G&5G Diversity Antenna (LMH)



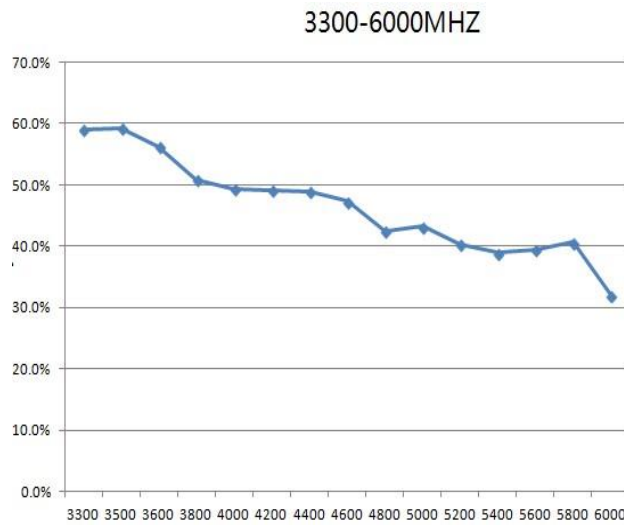
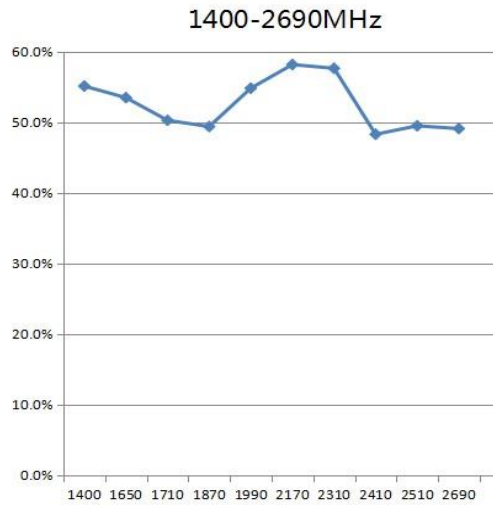
Frequency (MHz)	610	700	850	960	1710	2170	2690	3300	4000	5000	6000
Efficiency (%)	11.5	27.9	50.3	47.6	37.1	52.9	50.8	46.7	46.5	39.9	30.0

4.3.3. 5G-MIMO1 Antenna (*MH)



Frequency (MHz)	1100	1200	1710	2170	2690	3300	4000	5000	6000
Efficiency (%)	49.6	48.9	51.3	57.5	56.4	51.6	45.5	42.6	18.3

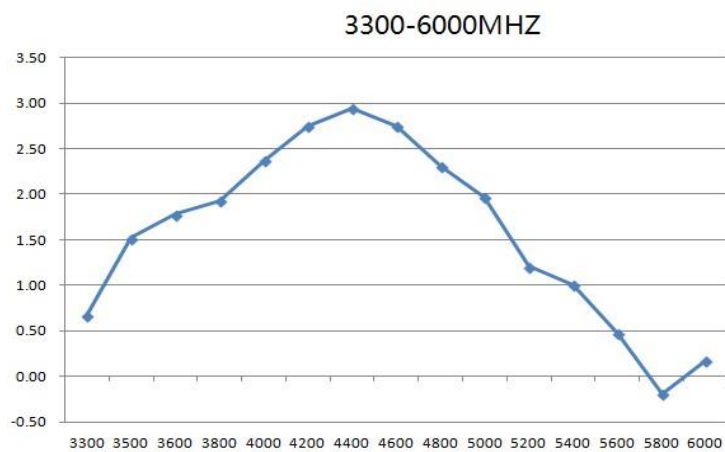
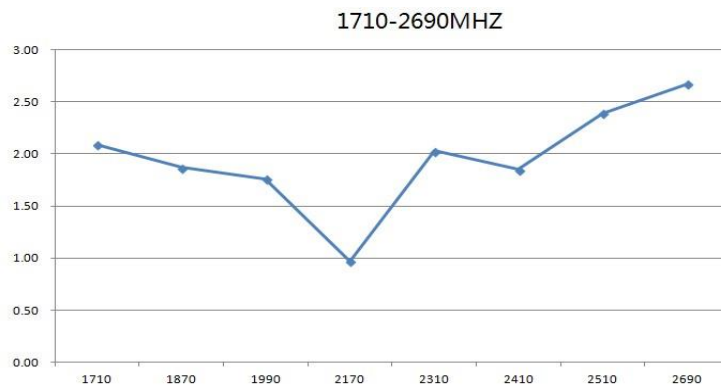
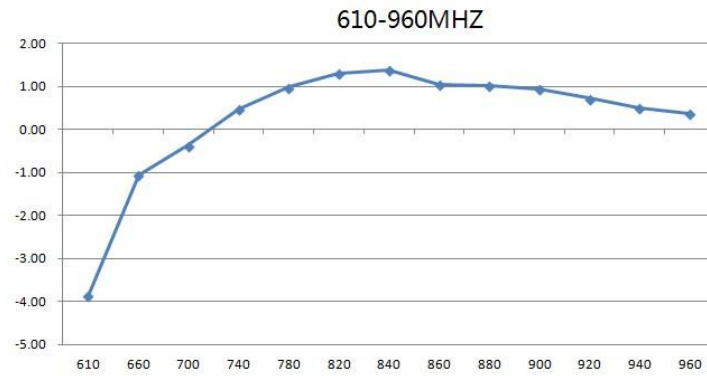
4.3.4. 5G-MIMO2 Antenna (MH)



Frequency (MHz)	1400	1650	1710	2170	2690	3300	4000	5000	6000
Efficiency (%)	55.1	53.5	50.3	58.2	49.1	59.1	49.4	43.3	32.0

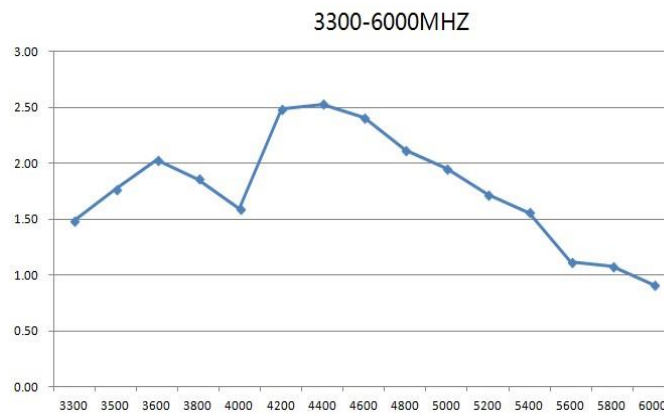
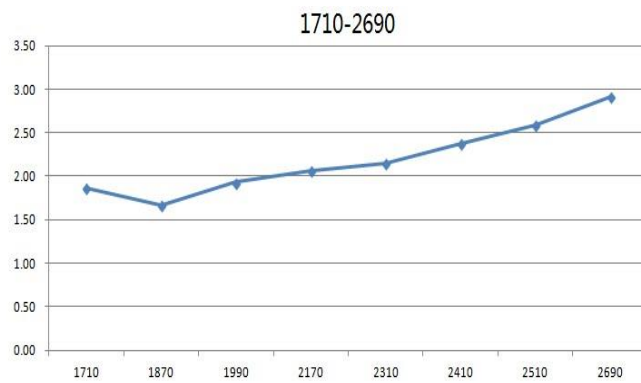
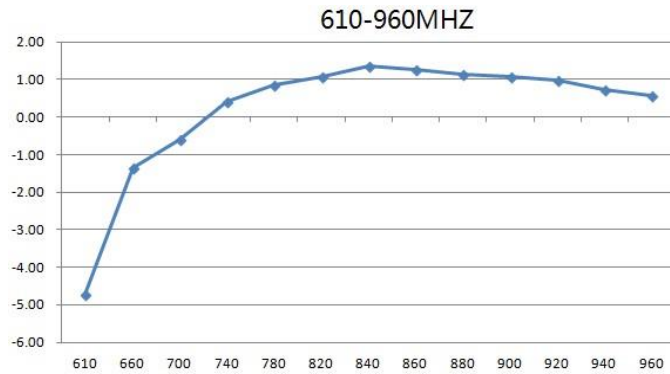
4.4. Gain (500 mm Cable Length)

4.4.1. 4G&5G Main Antenna (LMH#)



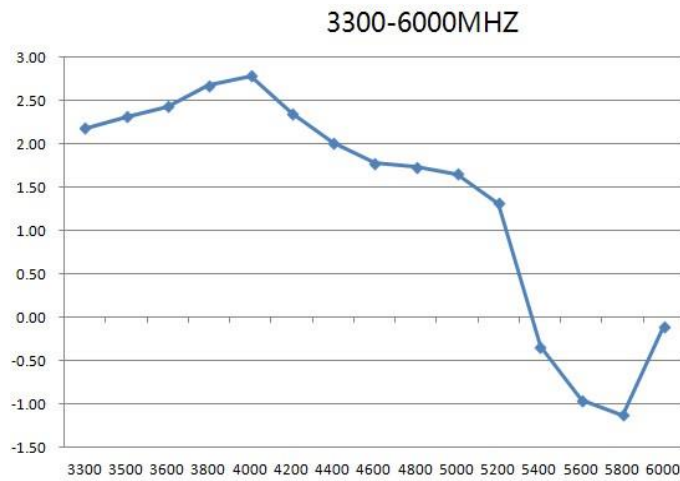
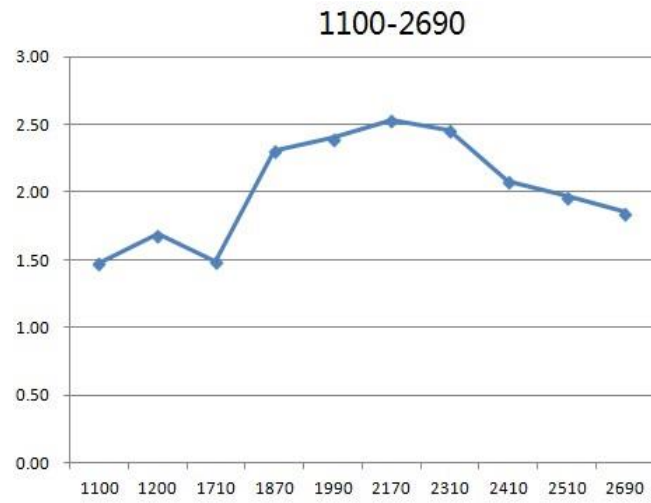
Frequency (MHz)	610	700	850	960	1710	2170	2690	3300	4000	5000	6000
Gain (dBi)	-3.87	-0.36	1.07	0.37	2.09	0.97	2.67	0.67	2.37	1.97	0.16

4.4.2. 4G&5G Diversity Antenna (LMH)



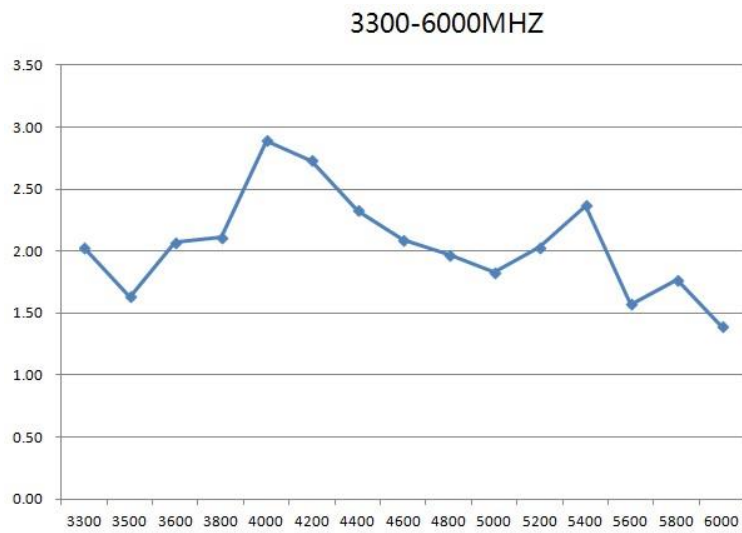
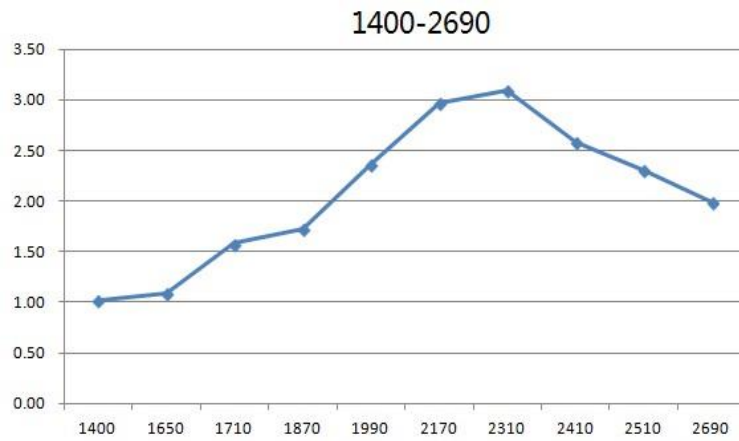
Frequency (MHz)	610	700	850	960	1710	2170	2690	3300	4000	5000	6000
Gain (dBi)	-4.72	-0.63	1.12	0.57	1.85	2.08	2.83	1.49	1.59	1.95	0.91

4.4.3. 5G-MIMO1 Antenna (*MH)



Frequency (MHz)	1100	1200	1710	2170	2690	3300	4000	5000	6000
Gain (dBi)	1.48	1.69	1.49	2.53	1.85	2.18	2.78	1.65	-0.11

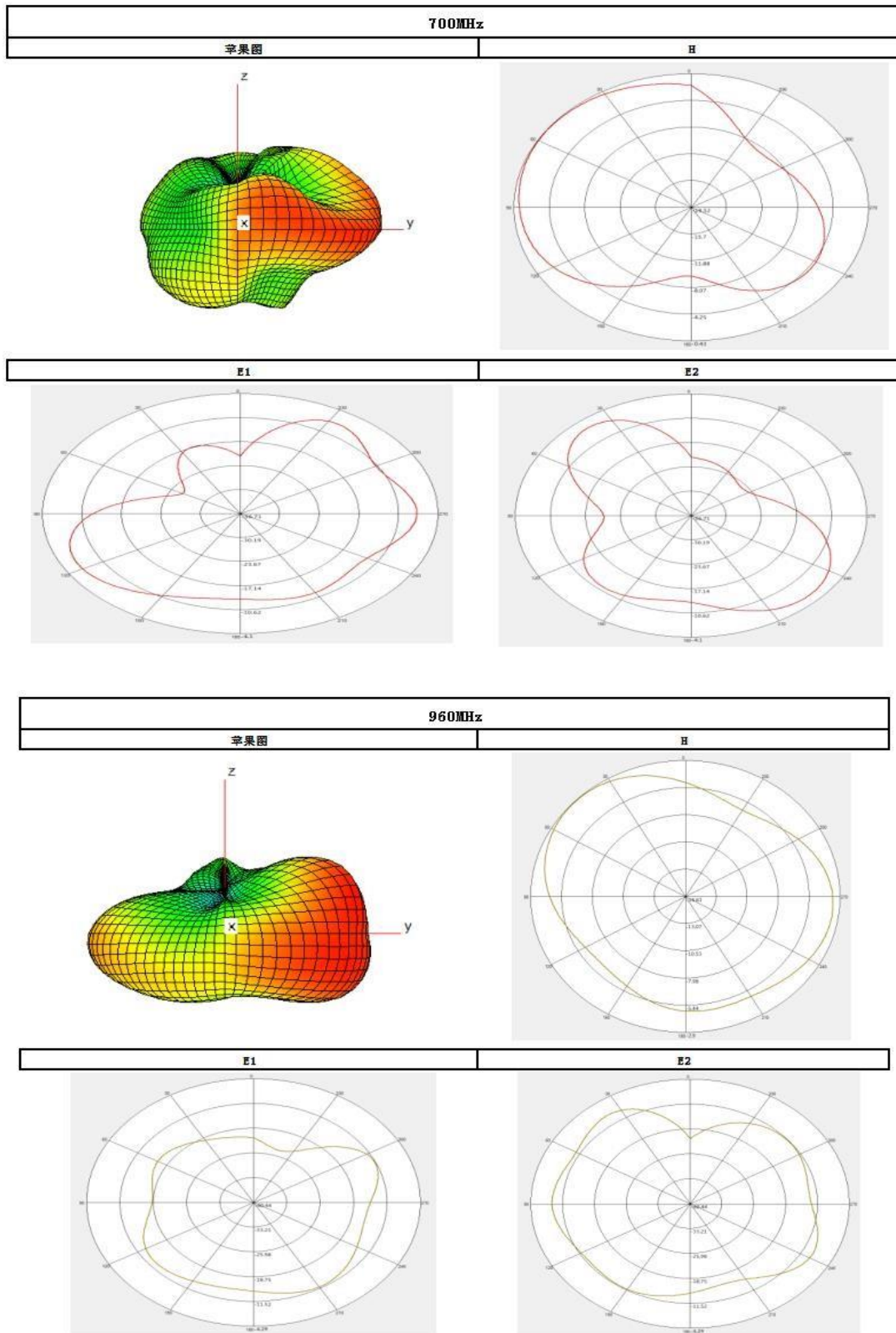
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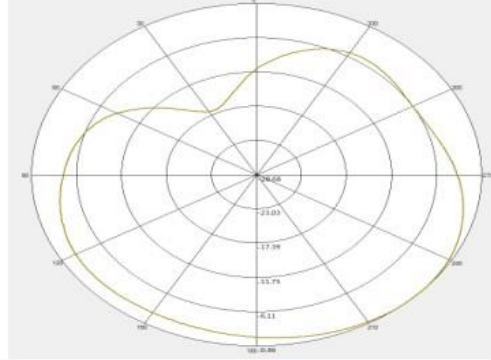
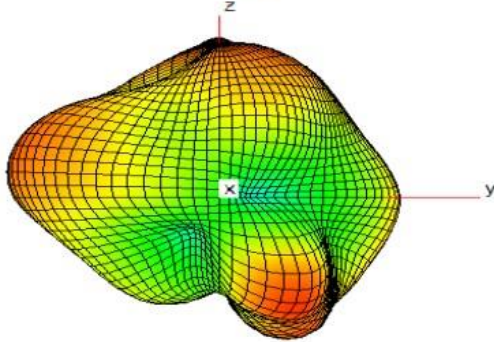
Frequency (MHz)	1400	1650	1710	2170	2690	3300	4000	5000	6000
Gain (dBi)	1.02	1.09	1.58	2.97	1.99	2.03	2.89	1.83	1.39

4.5. Radiation Patterns (500 mm Cable Length)

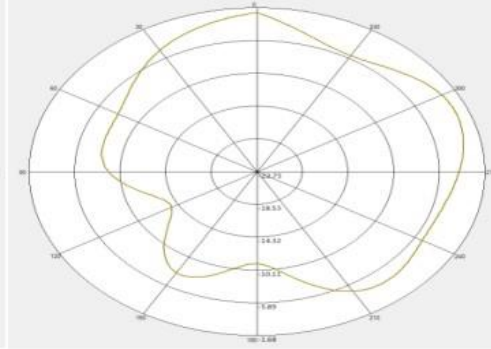
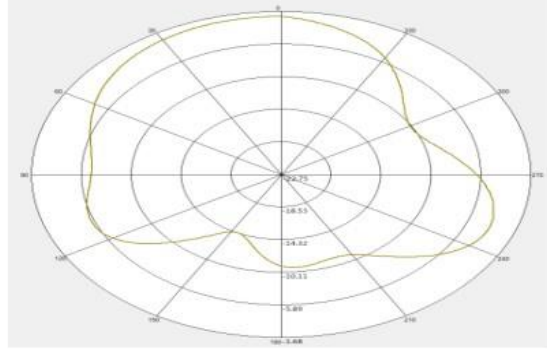
4.5.1. 4G&5G Main Antenna (LMH#)



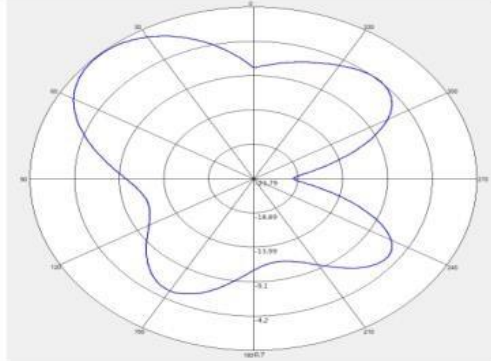
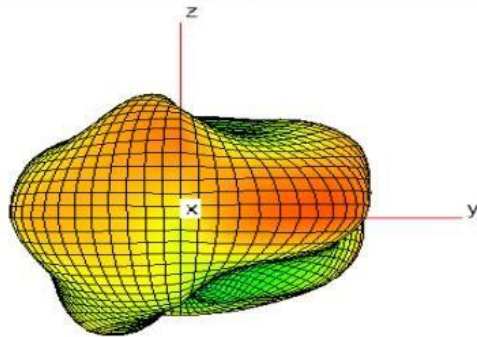
1710MHz	
苹果图	H



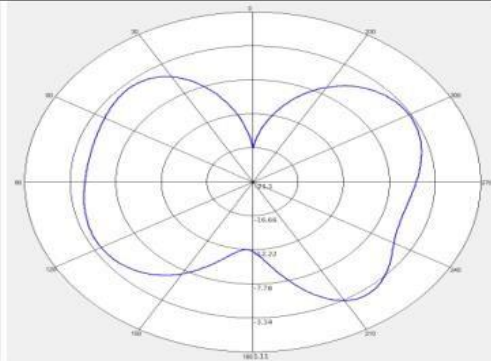
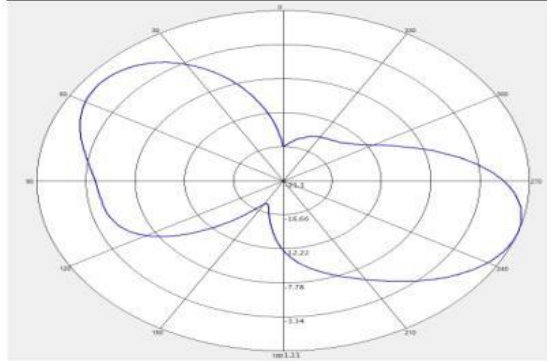
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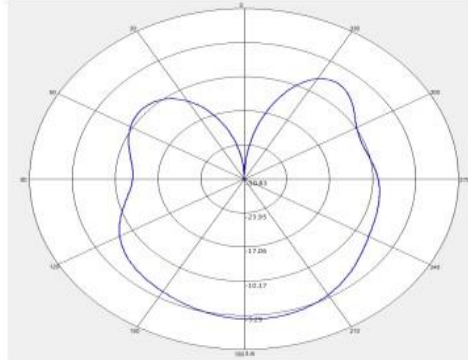
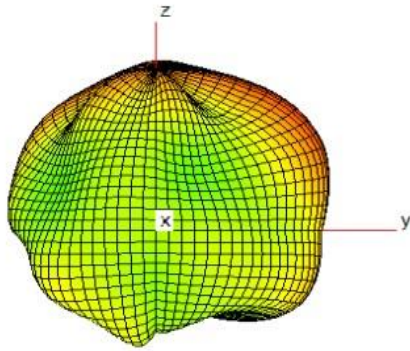
2690MHz	
苹果图	H



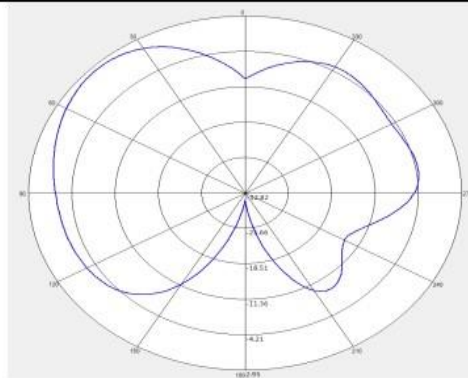
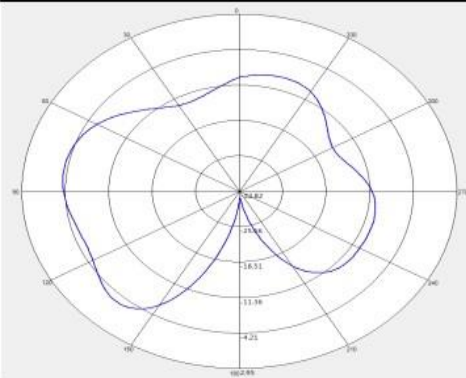
E1	E2
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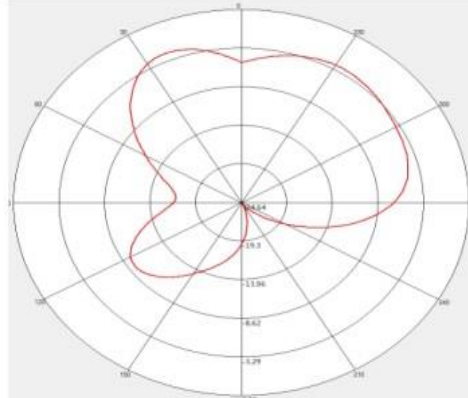
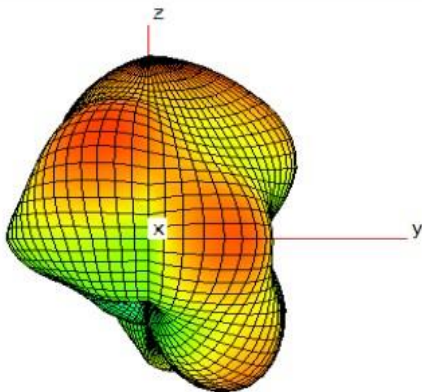
3300MHz	
苹果图	H



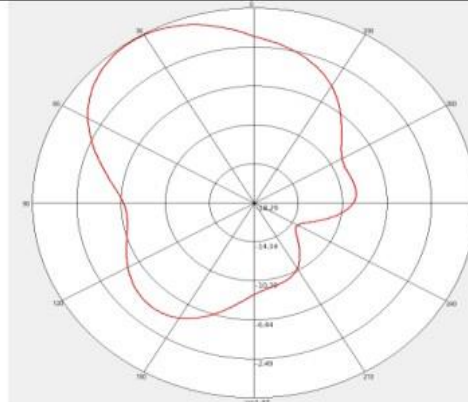
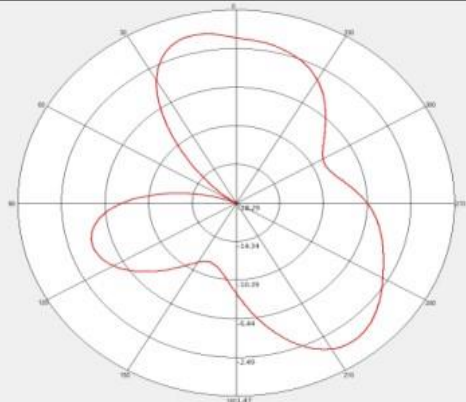
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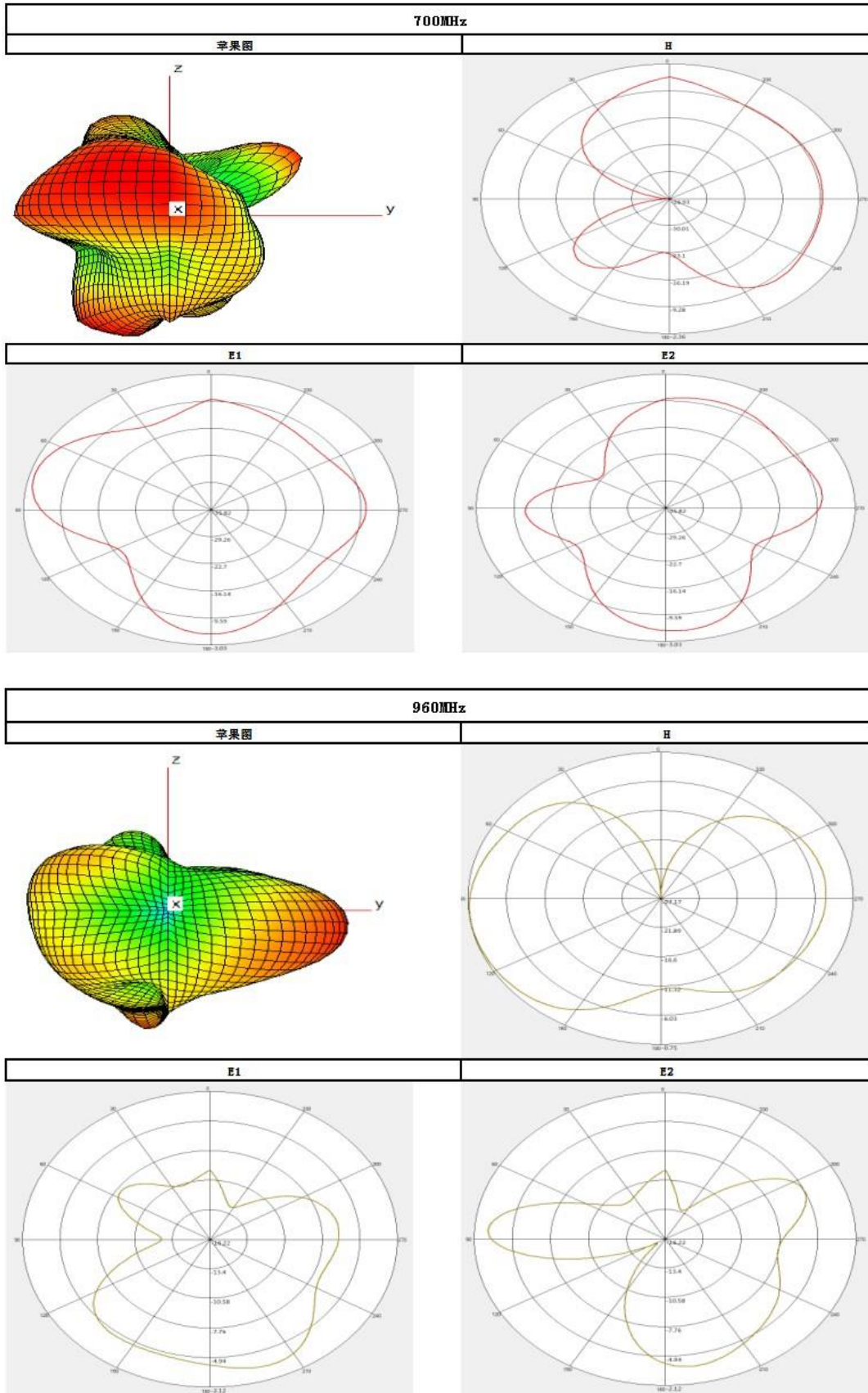
5000MHz	
苹果图	H



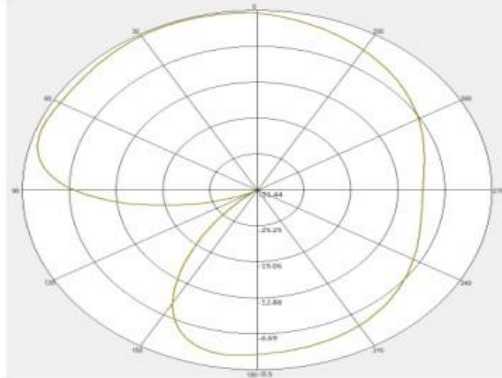
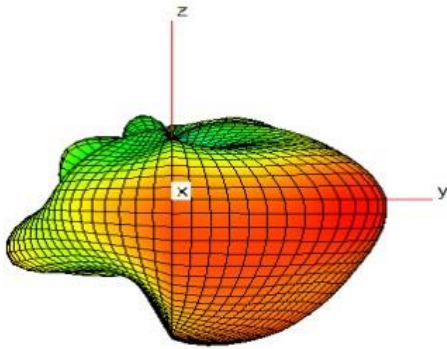
E1	E2
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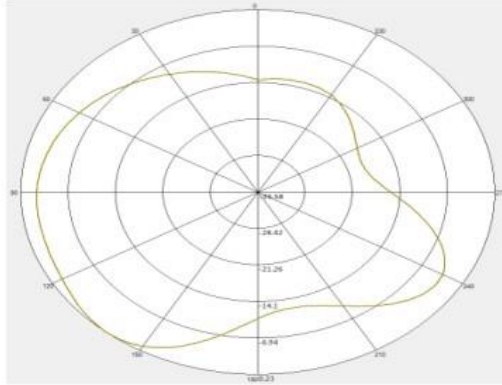
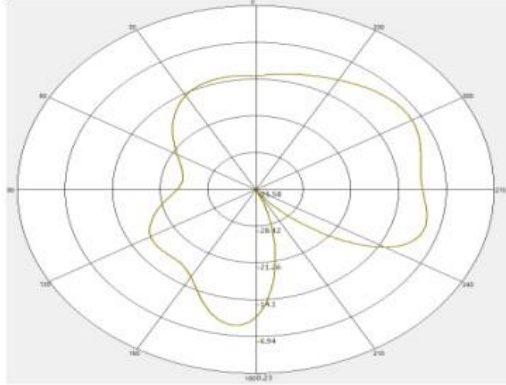
4.5.2. 4G&5G Diversity Antenna (LMH)



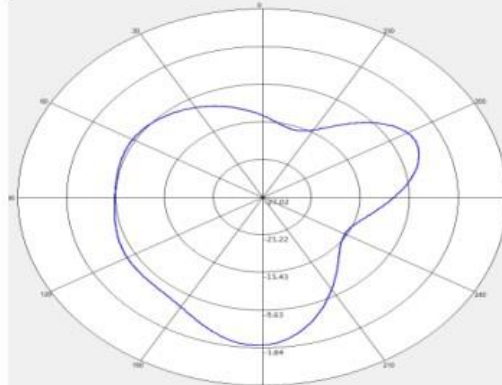
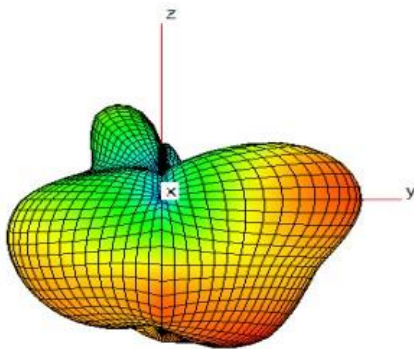
1710MHz	
苹果图	H



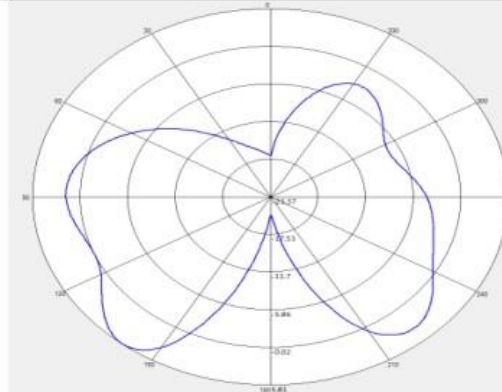
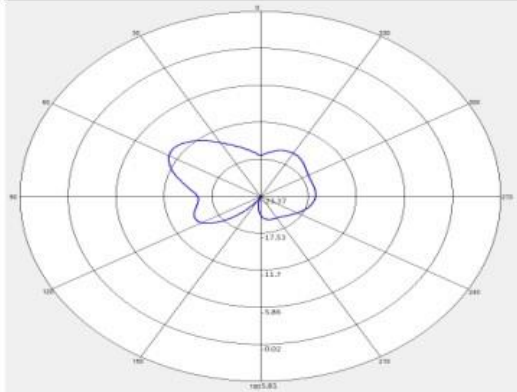
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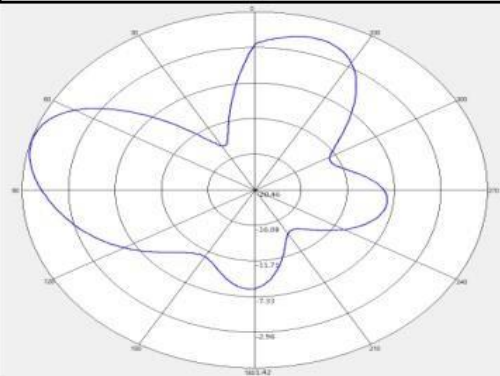
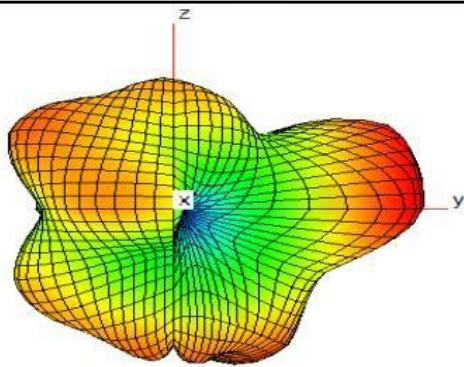
2690MHz	
苹果图	H



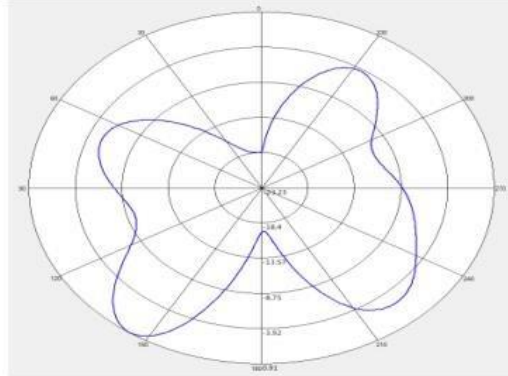
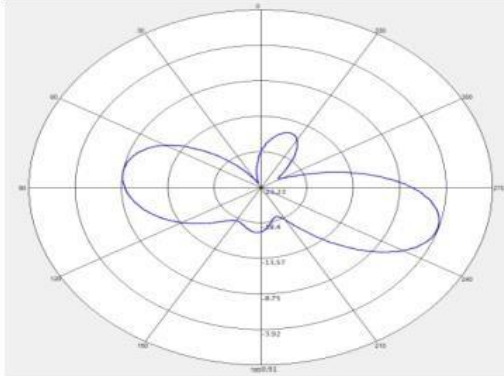
E1	E2
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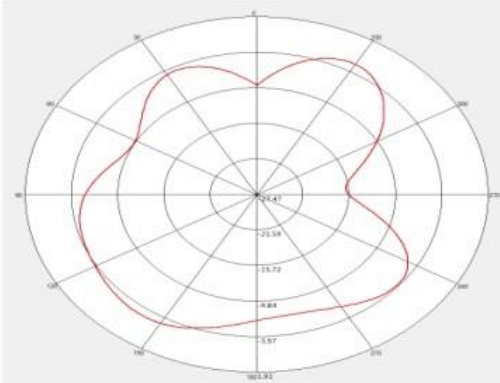
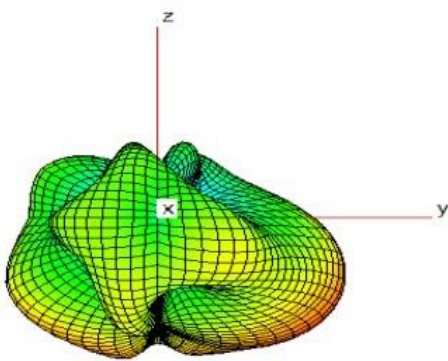
3300MHz	
苹果图	H



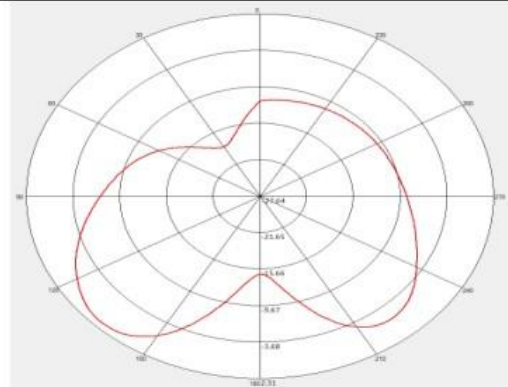
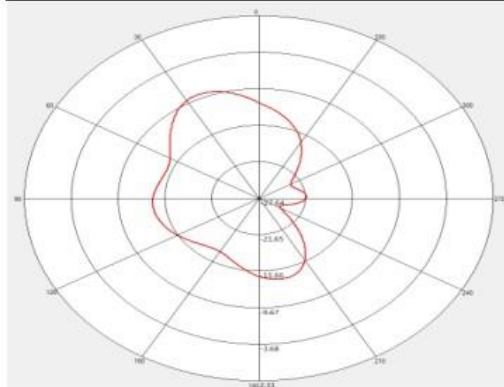
E1	E2
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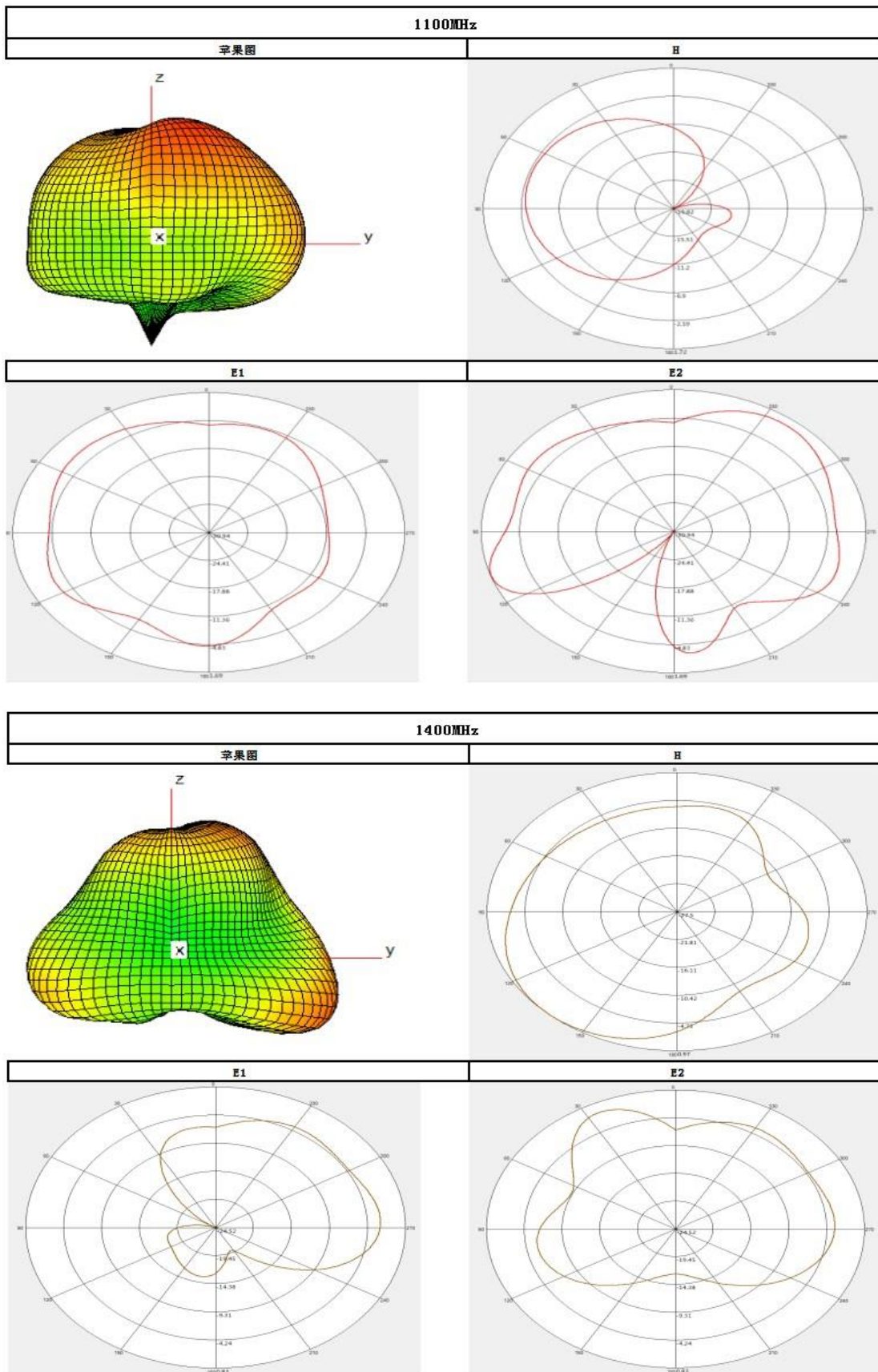
5000MHz	
苹果图	H



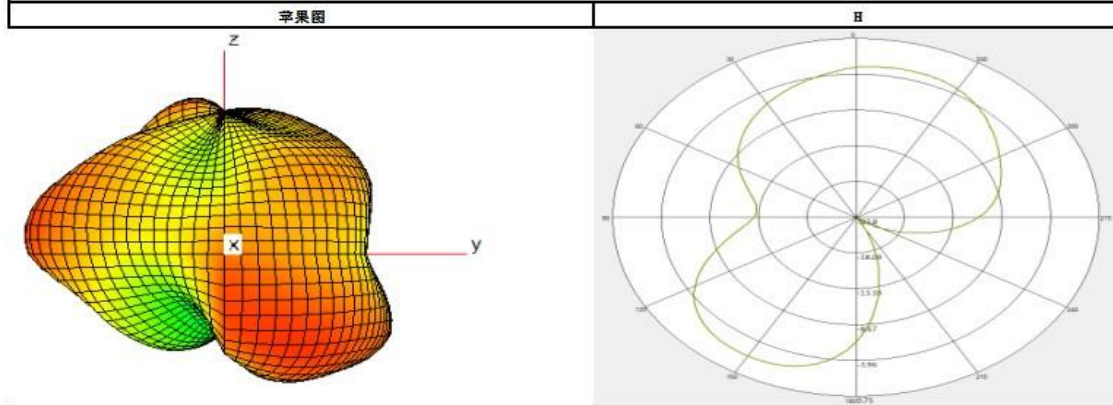
E1	E2
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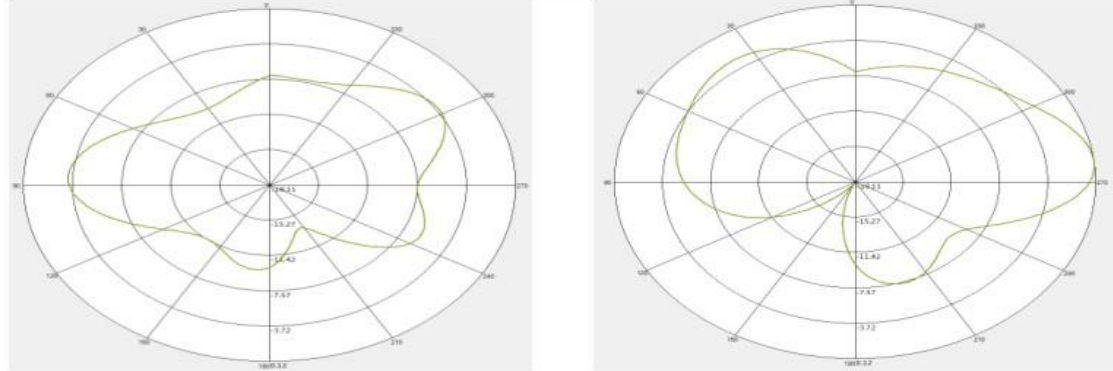
4.5.3. 5G-MIMO1 Antenna (*MH)



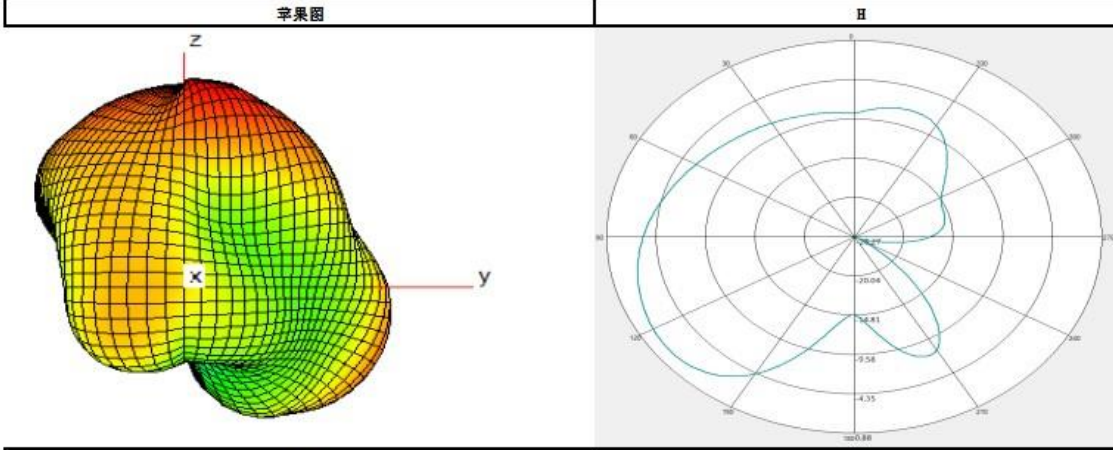
1710MHz



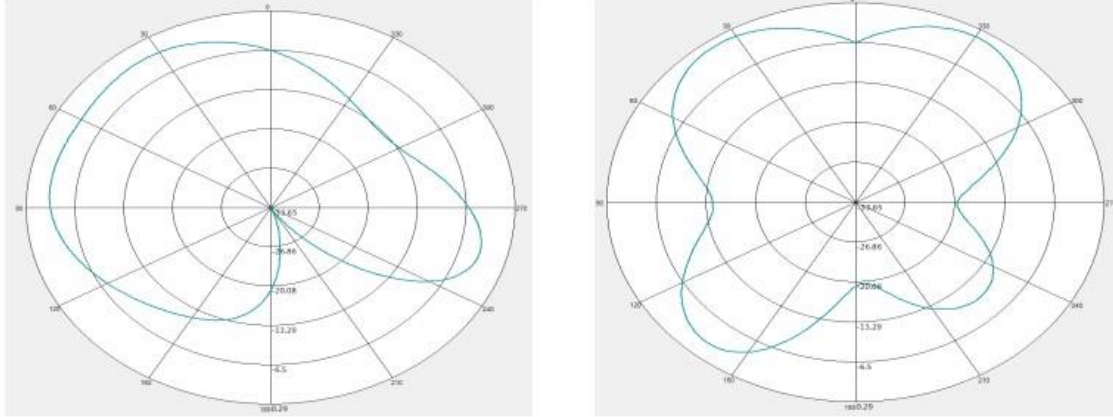
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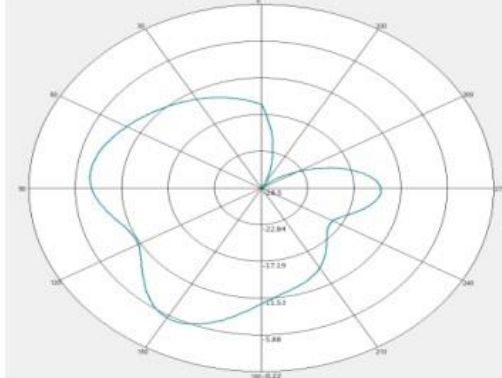
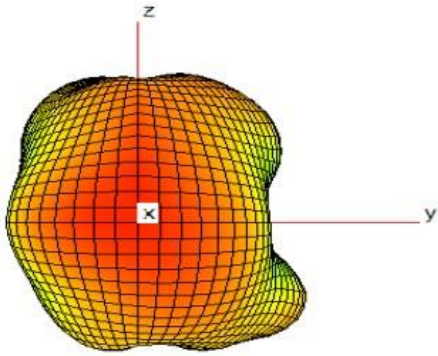
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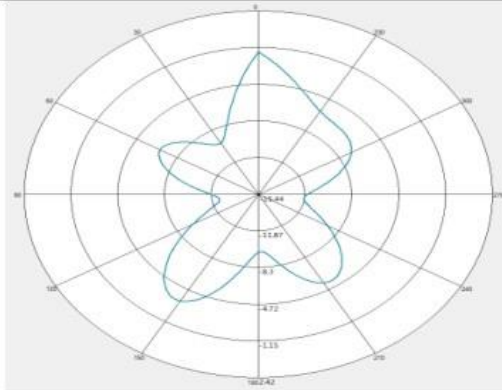
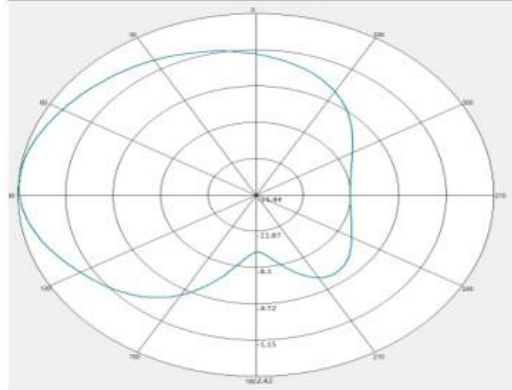
E1	E2
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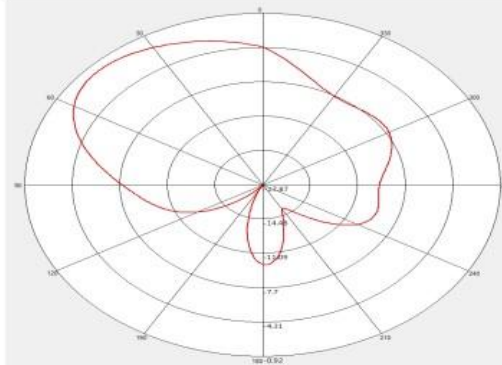
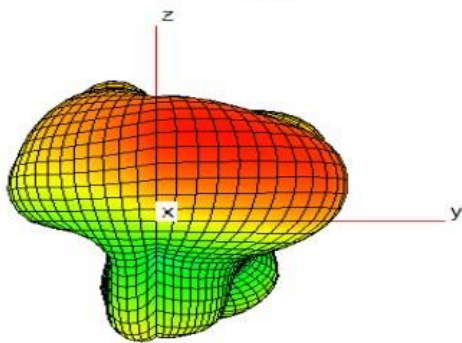
3300MHz	
苹果图	H



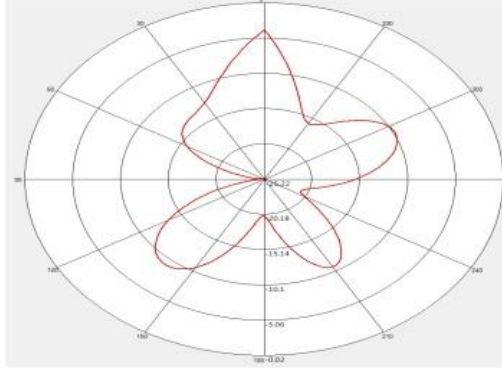
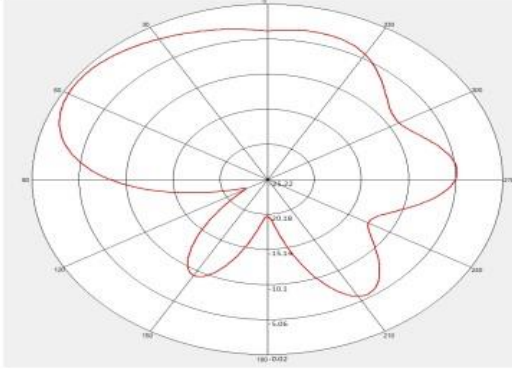
E1	E2
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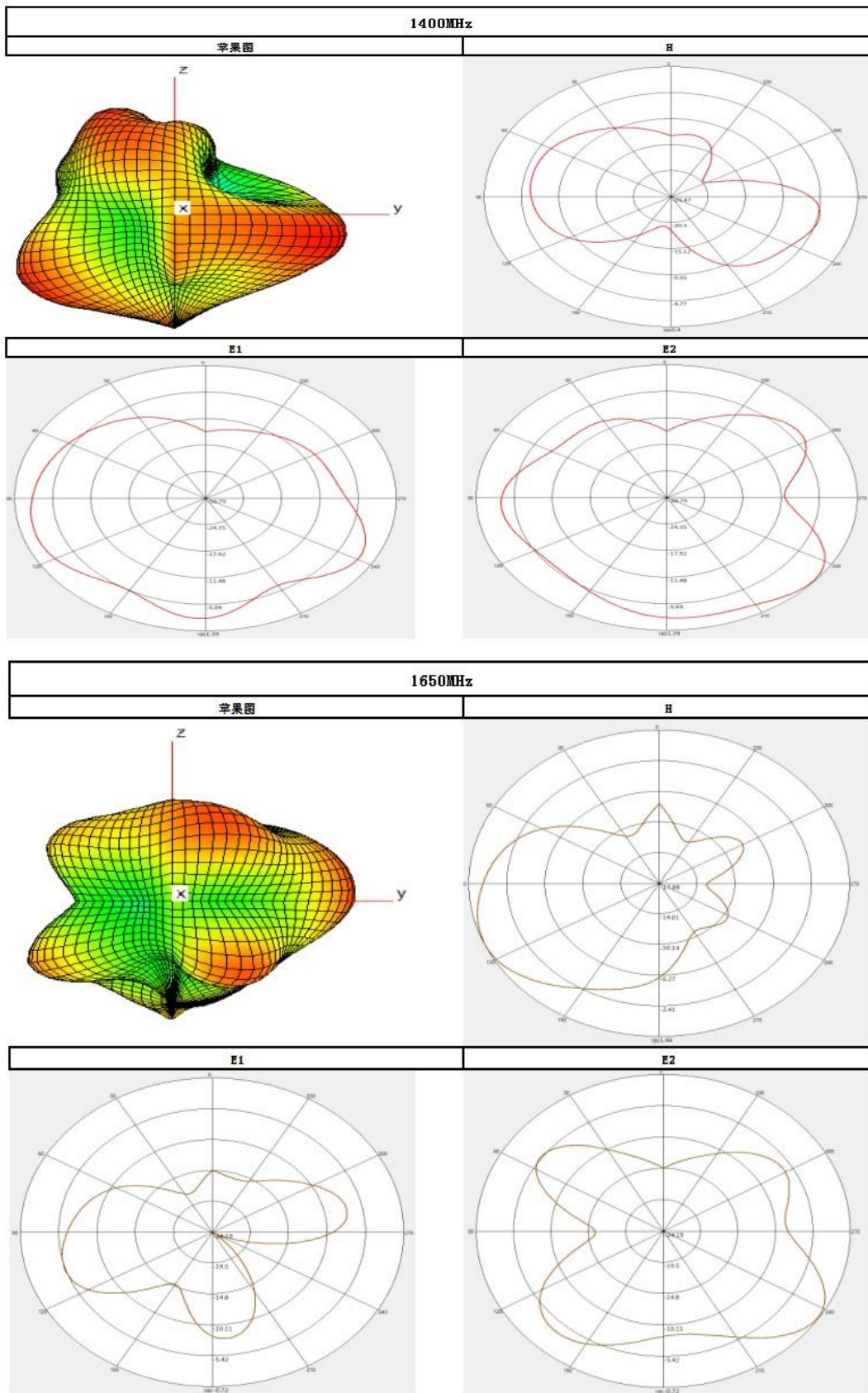
5000MHz	
苹果图	H

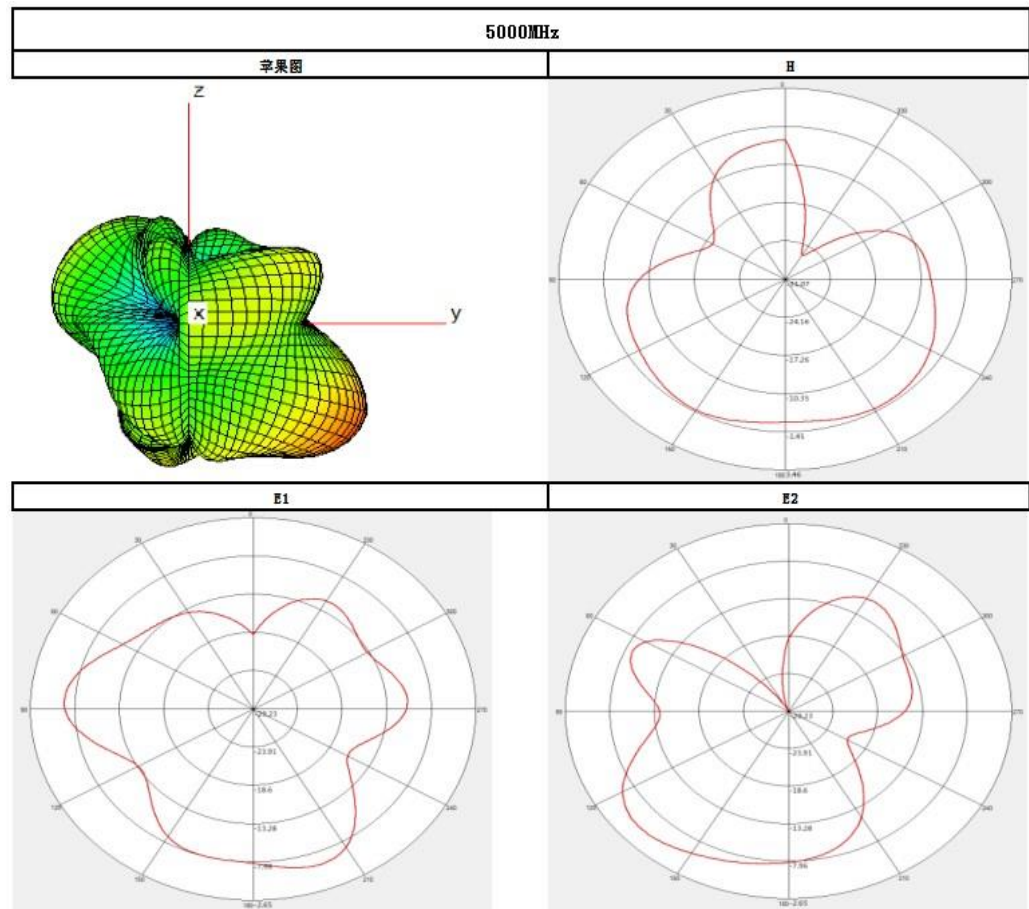
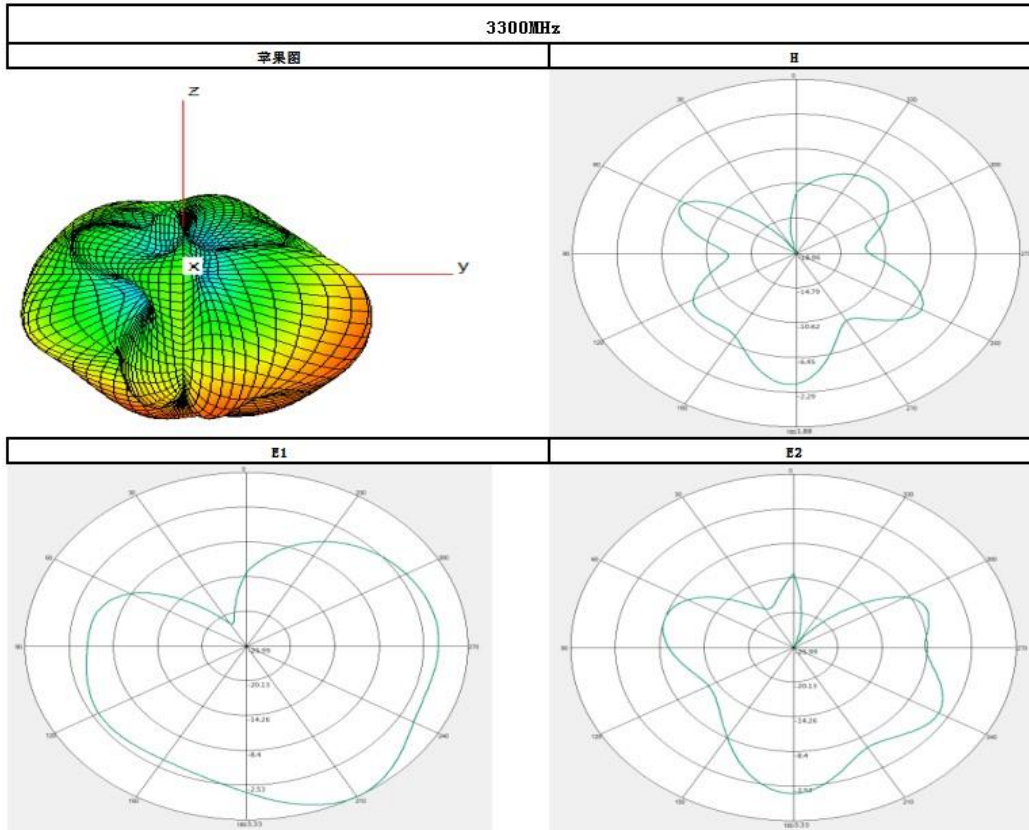


E1	E2
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4.5.4. 5G-MIMO2 Antenna (MH)





4.6. OTA Data (Base Module: RM500Q-GL; Cable Length: 500 mm)

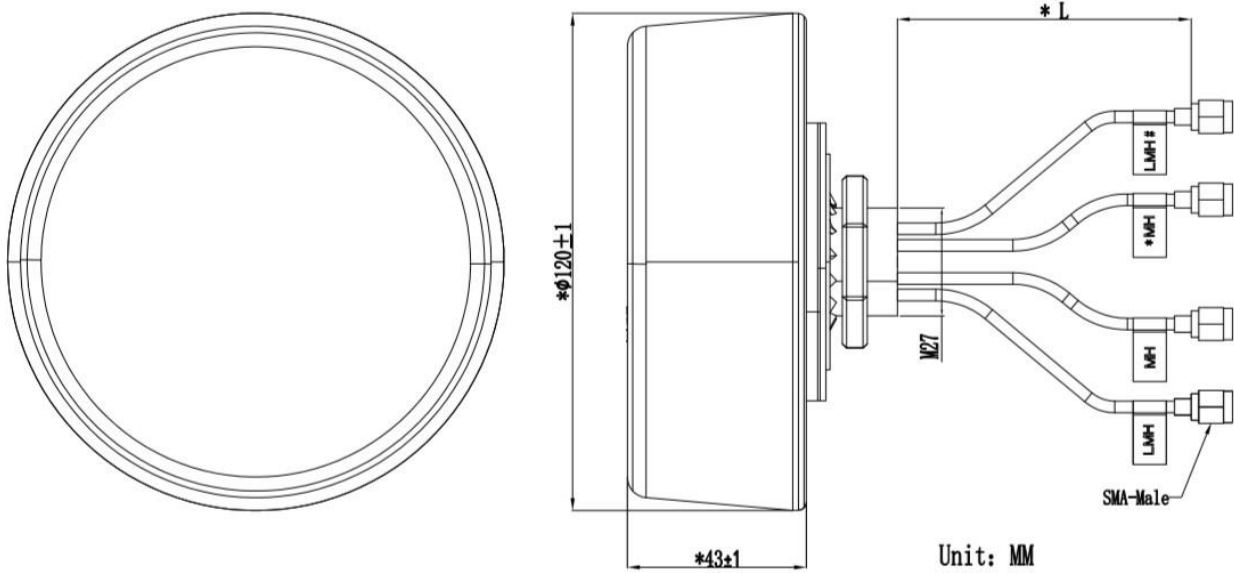
Test Condition		Free Space		
Band		Channel	TIS	TRP
LTE	1 (10 MHz)	18050	-100.6	20.2
		18300	-100.5	20.6
		18550	-100.3	20.5
	2 (10 MHz)	18650	-99.8	20.2
		18900	-100.1	19.6
		19150	-99.7	19.8
	3 (10 MHz)	19250	-100.4	20.2
		19575	-100.5	20.2
		19900	-100.8	20.1
	4 (10 MHz)	20000	-98.2	19.8
		20176	-98.1	20
		20350	-98	19.6
	5 (10 MHz)	20450	-97.3	20.1
		20525	-96.9	19.6
		20600	-96.8	19.3
	7 (10 MHz)	20850	-99.9	20.5
		21100	-99.7	20.7
		21350	-99.6	20.9
	8 (10 MHz)	21500	-97.9	20.5
		21625	-97.8	19.7
		21750	-97.5	19.3
	14 (10 MHz)	/		
		23330	-89.1	21.1
		/		
	17 (10 MHz)	23780	-93.1	19.3
		23790	-93.2	19.4
		23800	-93.1	19.1
	18 (10 MHz)	/		
		23925	-97.6	19.4
		/		
19 (10 MHz)	/			
	24075	-97.1	19.5	
	/			
20 (10 MHz)	24200	-97.8	19.5	
	24300	-97.9	19.3	
	24400	-97.6	19.5	
25 (10 MHz)	/			
	26365	-99.7	18.9	
	/			
26 (10 MHz)	/			
	26865	-97.8	19.5	
	/			

28 (10 MHz)	27260	-97.3	18.1
	27435	-97.6	17.2
	27610	-97.4	18.5
29 (10 MHz)	/		
	26865	-95.5	17
	/		
66 (10 MHz)	132022	-99.5	21.3
	132322	-99.9	20.8
	132622	-99.7	20.4
71 (10 MHz)	133175	-89.5	16.1
	133297	-91.2	15.6
	133405	-92.8	17.9

Band	Channel	TIS	TRP	
5G	499200	-86.7	21.3	
	N41 (100 MHz)	518600	-86.4	21.1
		537999	-86.2	20
		620000	-85.6	20.7
	N77 (100 MHz)	650000	-85.9	21.5
		680000	-85.7	20.9
		620000	-86.9	21.1
	N78 (100 MHz)	636667	-86.7	21.6
		653333	-86.4	21.7
		693334	-85.2	19.7
	N79 (100 MHz)	713334	-85.3	20.2
		733333	-85.1	20.1

5 Product Size

RoHS



OC	L
YB0007AA	500 ±30 mm

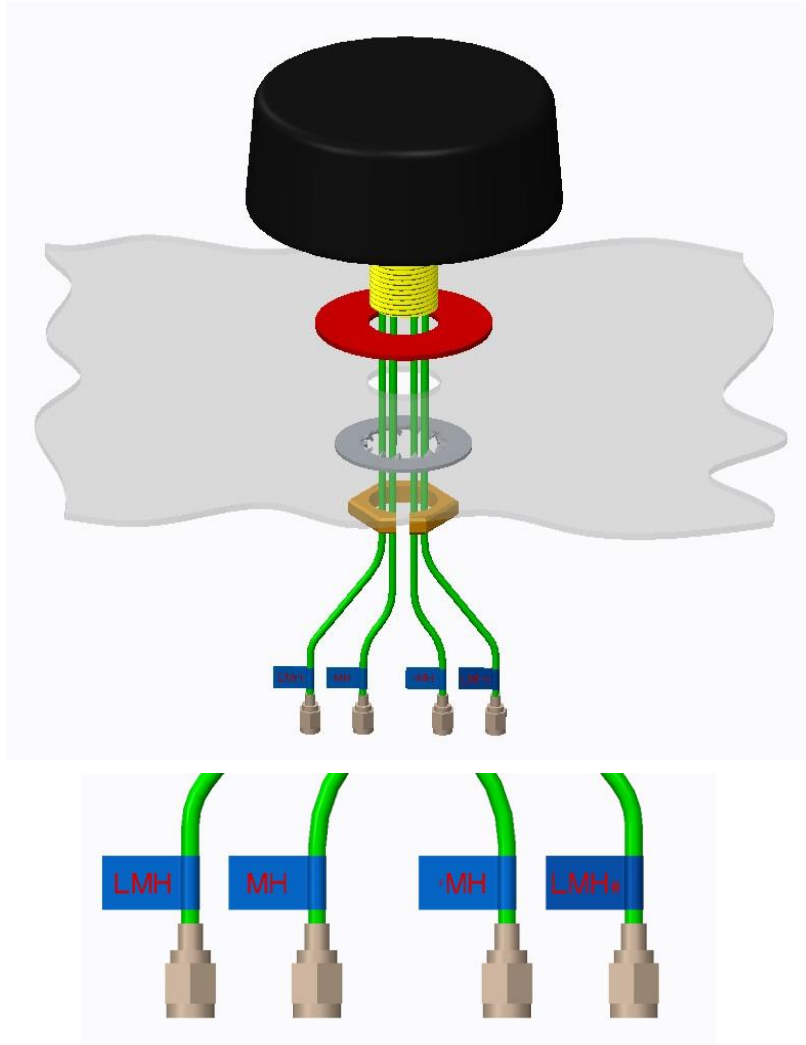
6 Connect Description

As follows, the default SMA Male (center pin) is usually the setting that most users would probably choose.



7 Installation

- Recommended hole size: $\varnothing 28.0 \pm 0.5$ mm;
- Recommended wall thickness size: 3.0 ± 1.0 mm;



Antenna Labels are as follows:

Connector	Frequency
LMH#	600–5000 MHz
*MH	1100–6000 MHz
MH	1400–6000 MHz
LMH	600–5000 MHz