Directional Panel Antenna Data Sheet

APPROVAL SHEET

客户名称 Customer Name	
产品型号 Product Model	定向天线/Directional Panel Antenna
客户料号 Customer P/N	
规格描述 Specifications	Six frequencies, 120*60*282mm Blue 086 Cabele 10cm， SMA-J*6
料号 P/N	KS-11640-A
制作日期 Date Prepared	2026.07.10
制作版本 Revision	1.0

联兆电子		
制作（Prepare）	品质（DQE）	研发（R&D）
客户（Customer）		
采　购（PUR）	品质（QC）	研发（R&D）

Index

一、 封面 （Cover）……1

二、 目录 （Index）……2

三、 产品规格（Product Specification）……3

四、 可靠性测试（Reliability Test） ……4

五、 工程图纸（Product Drawing）……5

六、 测试设备（Test Equipment & Conditions）……6

七、 性能测试报告（Test Report）……7-17

产品规格 Product Specification

A. 电性能 Electrical Characteristics

端口 Port	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6
频率 Frequency	800-1000MHz	1100-1300MHz	1500-1700MHz	2400-2500MHz	5150-5300MHz	5700-5900MHz
电压驻波比 VSWR（带壳测试）	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
增益 Peak Gain	6.7-8.6dBi	5.5-7.8dBi	5.6-9.3dBi	11.7-12.4dBi	13.2-14dBi	12-14.2dBi
阻抗 Impedance	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm
极化 Polarization	垂直	垂直	垂直	垂直	垂直	垂直
水平波瓣宽度 Horizontal Beamwidth	61-71°	59-74°	50-60°	37-41°	31-33°	25-30°
垂直波瓣宽度 Vertical Beamwidth	55-79°	32-137°	48-80°	45-55°	24-29°	24-30°
最大功率 Max Power	50W	50W	50W	50W	50W	50W

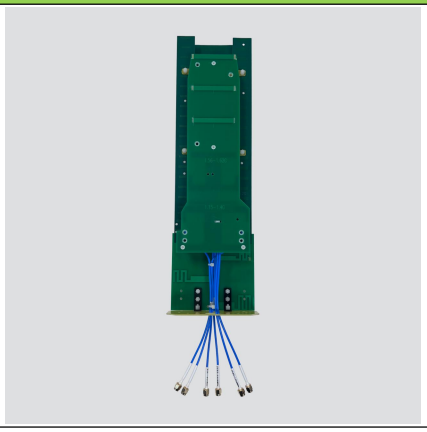
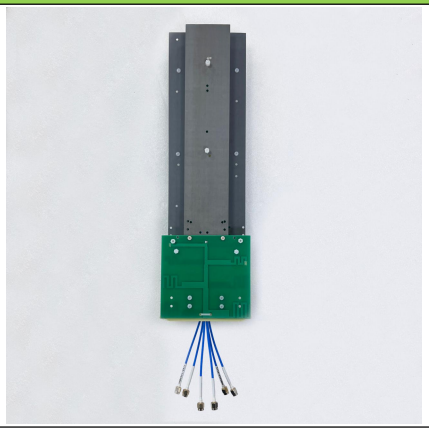
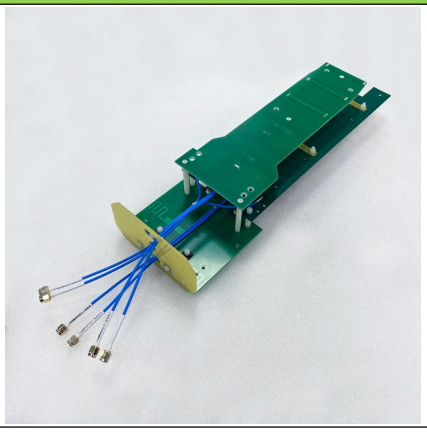
B. 材料&物理性能 Material & Mechanical

线材类型 Cable Type	蓝色 086 线 ， 出线 100±5mm
接头类型 Connector Type	SMA-J * 6
天线尺寸 Dimension	120*60*282±2mm
重量 Weight	0.277Kg

C. 环境 Environmental

工作温度 Operation Temperature	- 40˚C ~ +85 ˚C
存放温度 Storage Temperature	- 40˚C ~ +85 ˚C
湿度 Humidity	≤95%

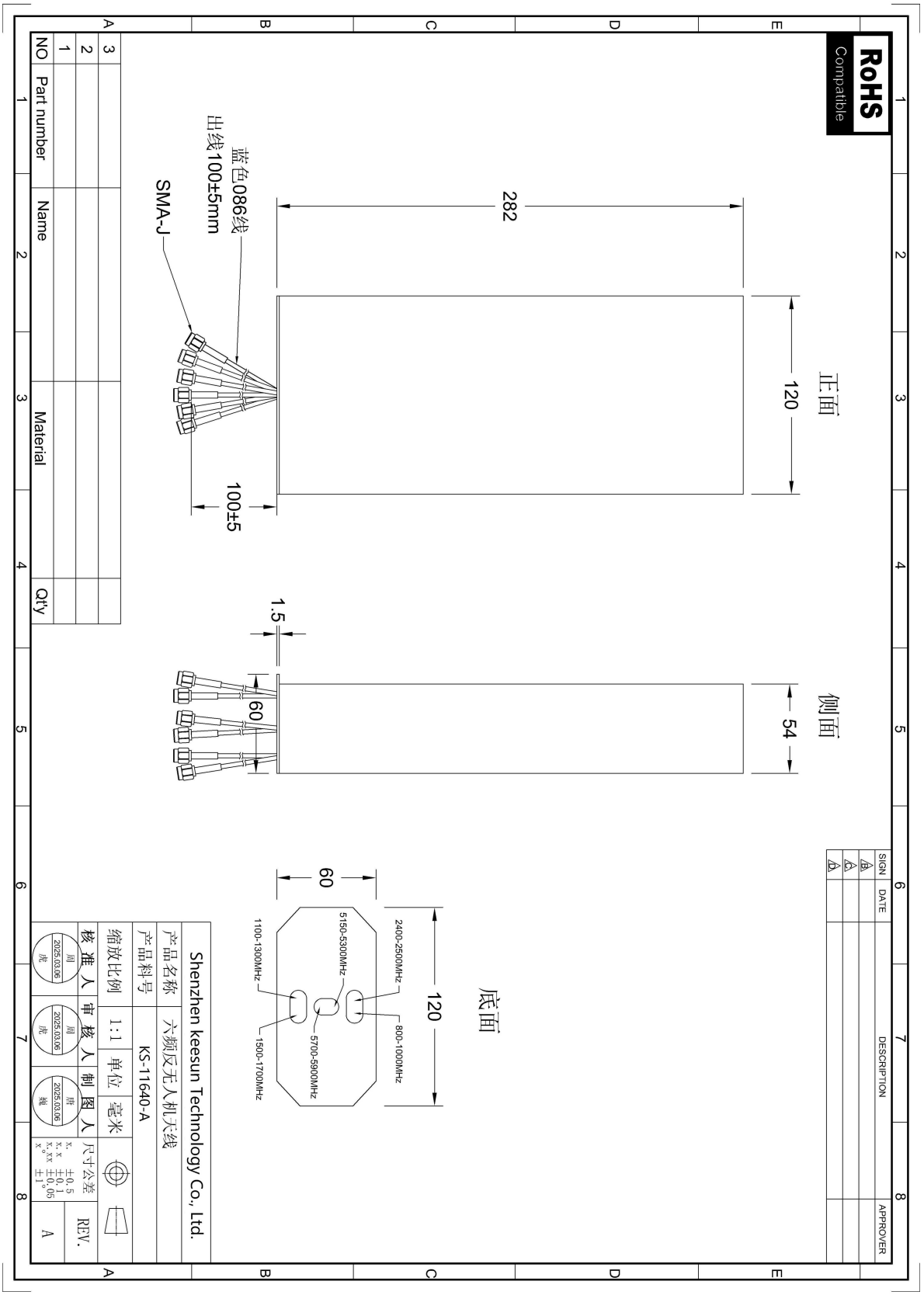
D. 产品照片 Photo

可靠性测试 Reliability Test

Item	Test Condition		Specification
Storage Environment	In the absence of specified conditions, the test temperature, humidity, and air pressure are as follows: 1. Temperature: -45°C ~ +85°C 2. Relative humidity: 45%–85% 3. Air pressure: 86 kPa–106 kPa		Normal electrical and mechanical performance
High-Low Temperature Test	Place the sample in 85°C and -45°C environments for 5 cycles (2 hours per cycle), then leave it under normal conditions for 1–2 hours, and inspect the appearance and quality.		Dimensions shall meet specifications, and mechanical & electrical performance shall be satisfied
Constant Damp Heat Test	After exposure to 95±3% relative humidity at 40°C for 2 hours, measure the electrical performance of the sample within 5 minutes after removal, then leave it under normal conditions for 1–2 hours and inspect the appearance and quality.		Dimensions shall meet specifications, and mechanical & electrical performance shall be satisfied
Vibration Test	Vibration frequency range: 10–55 Hz, displacement amplitude: 0.35 mm, acceleration amplitude: 50.0 m/s², number of sweep cycles: 30		Normal electrical and mechanical performance
Drop Test	Free fall from 1 m height; select different drop positions for different products (preferentially select directions prone to damage), 1 drop per position.		Normal electrical and mechanical performance
Pull Force Test	Test the withstand force using a push-pull force gauge: ≥ 20 N		Normal electrical and mechanical performance
Withstand Voltage Test	1. Insulation spark voltage: 1.5 kV 2. Sheath spark voltage: 1.5 kV 3. Insulation-to-sheath withstand voltage: 0.5 kV		Normal electrical and mechanical performance
Attenuation Value	2.0(nominal) 2.9(nominal) 3.2(nominal) 3.7(nominal) 4.3(nominal) 4.8(nominal) 5.3(nominal)	1GHz 2GHz 2.4GHz 3.0GHz 4.0GHz 5.0GHz 6.0GHz	3.3dB/m (at20°C)

产品图纸Product Drawing:

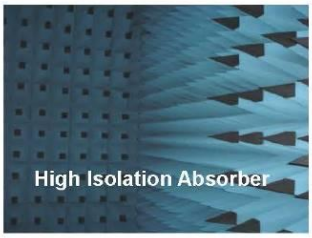


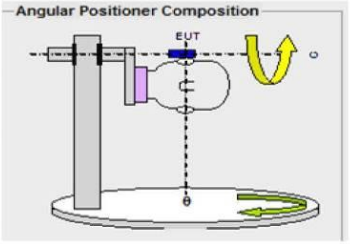
测试设备及条件Test Equipment & Conditions

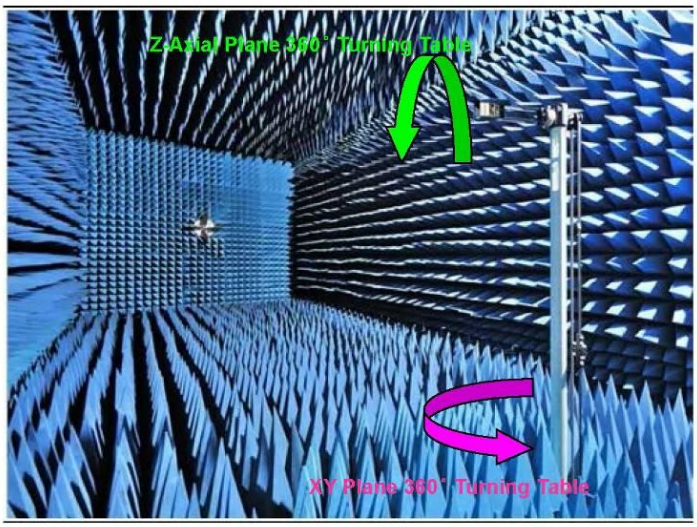
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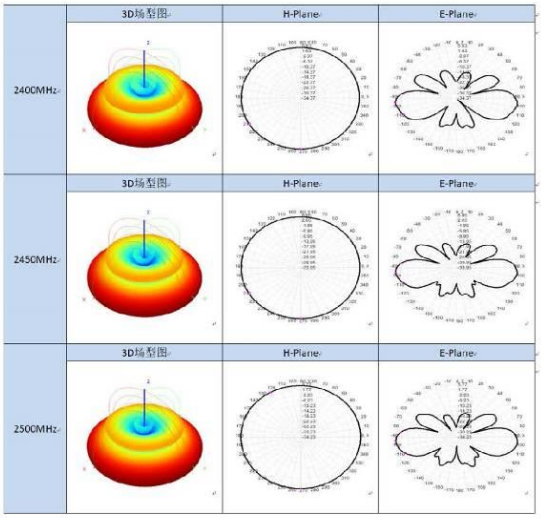
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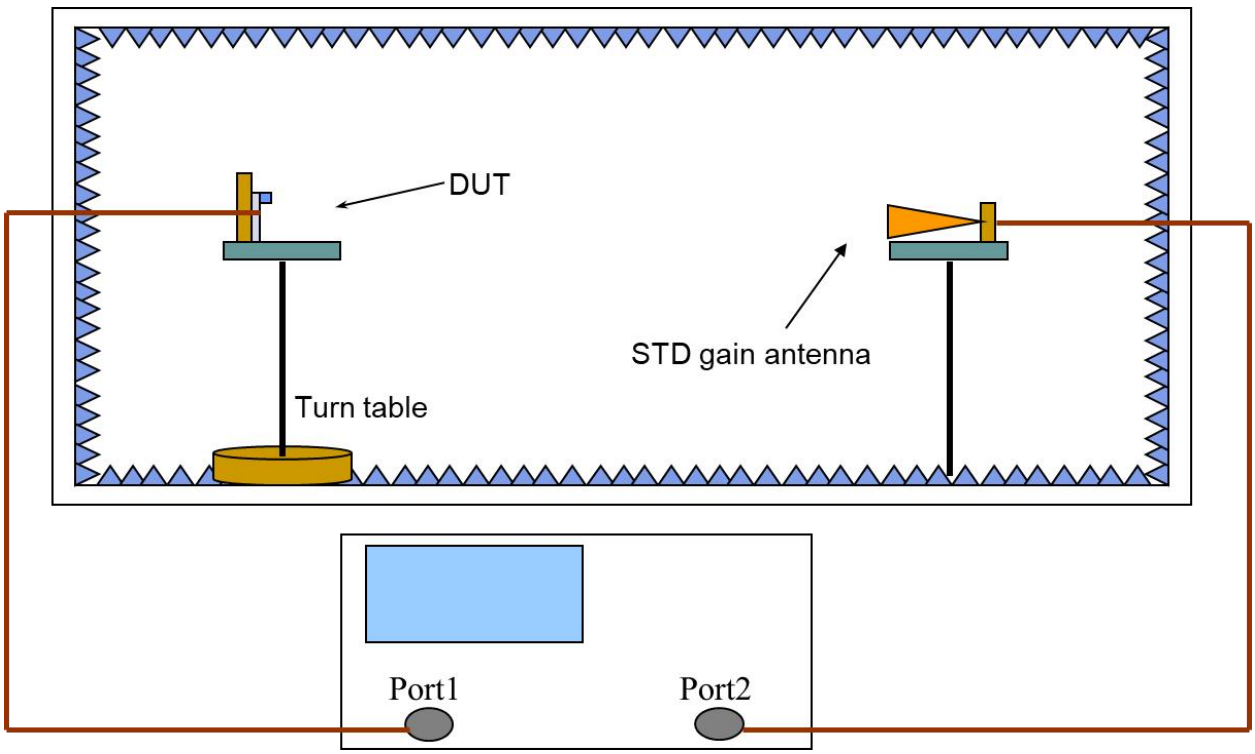
.Chamber Size: 9 x 5 x 4 m³
.Freq. Range: 0.4 ~ 18.0 GHz
.Double Ridge Horn Antenna
.VNA: Agilent E5071C
.3D Turning Table and Positioner
.ADT Solution 3D Testing Software





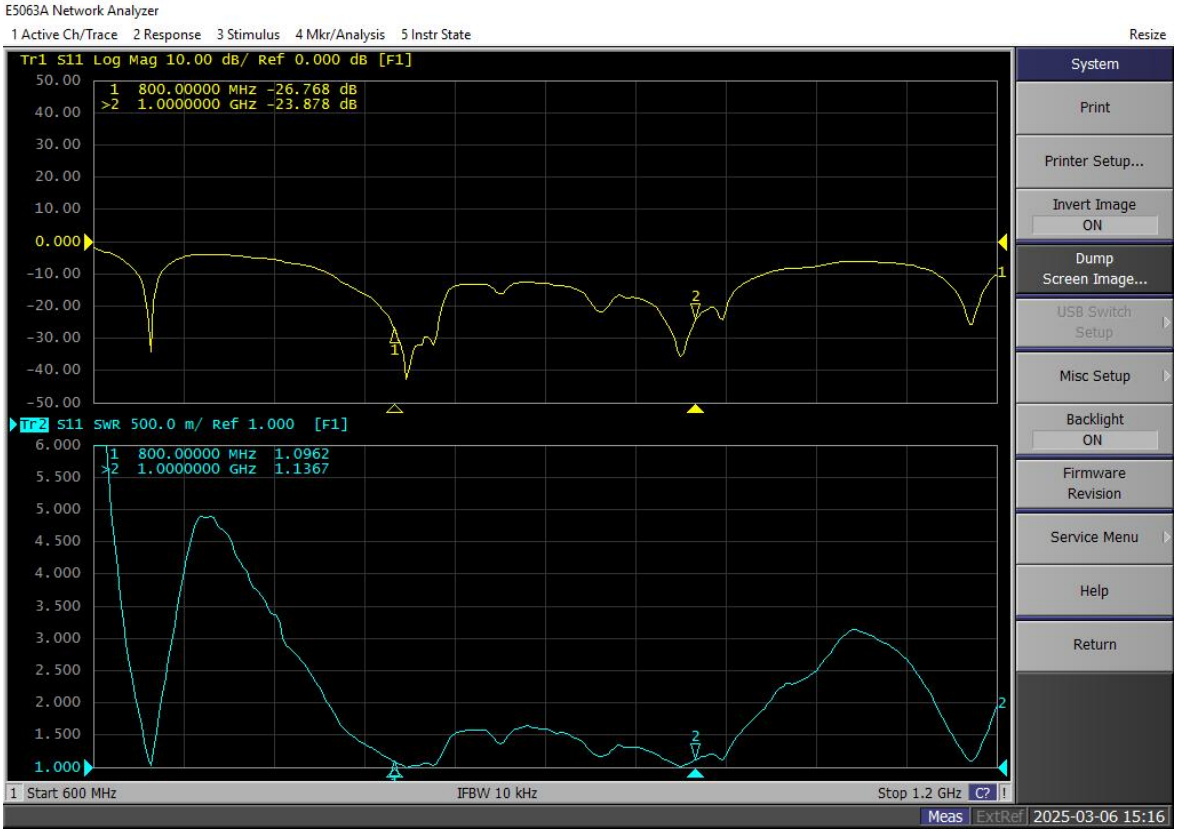




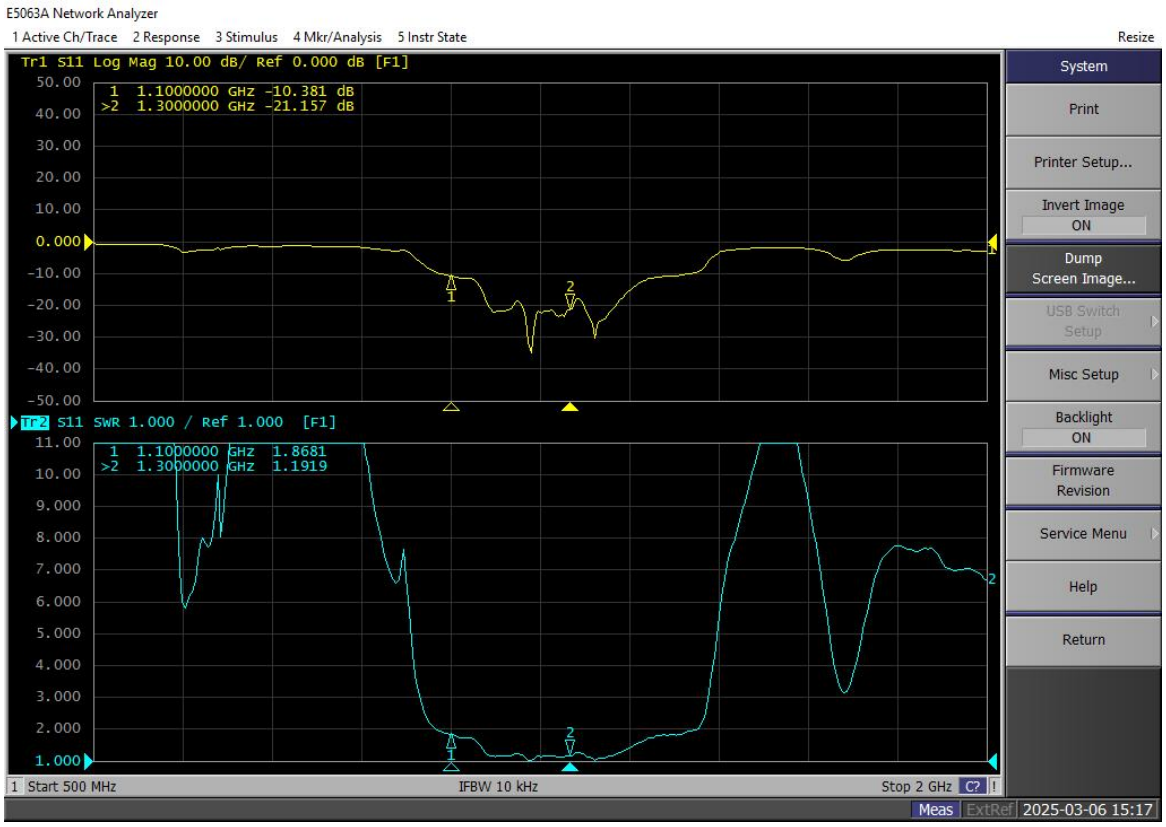


电压驻波比 VSWR

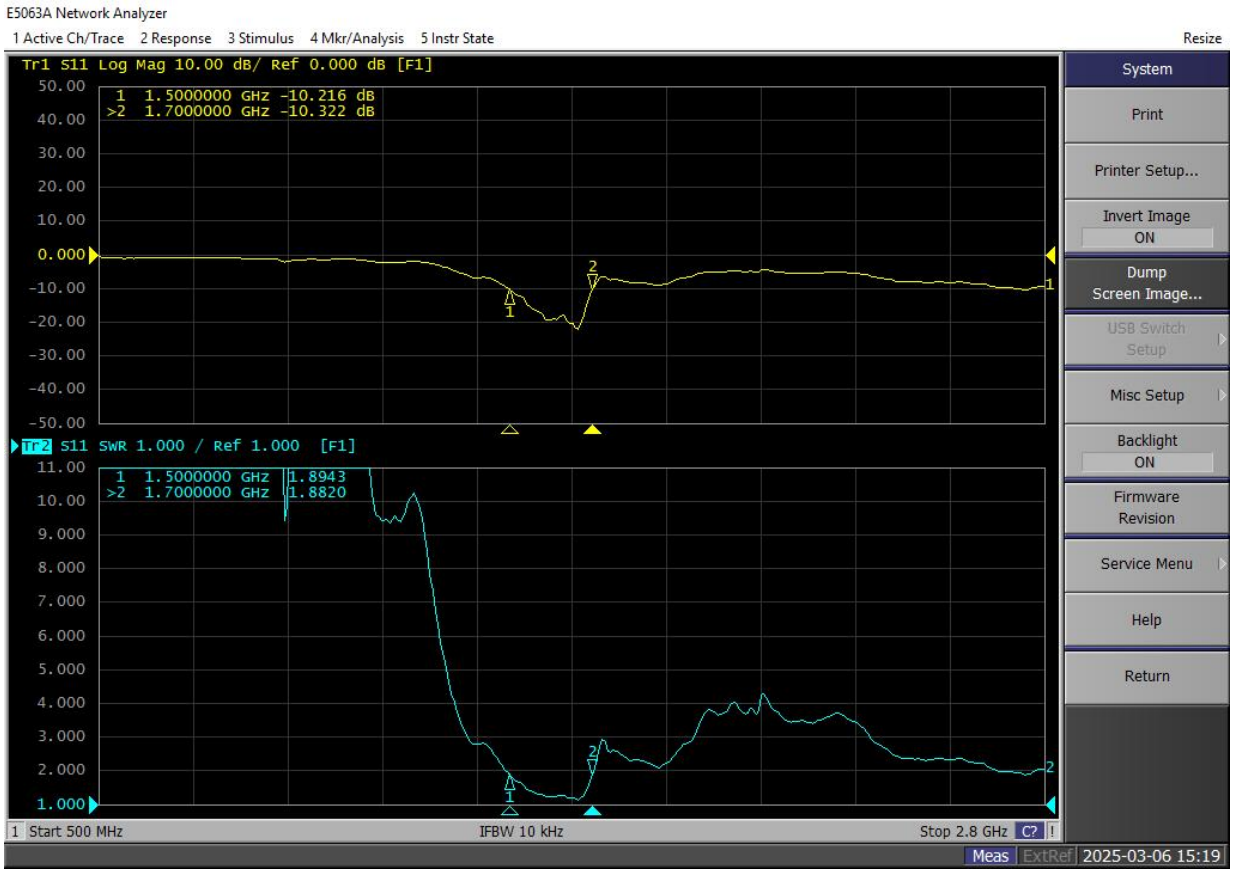
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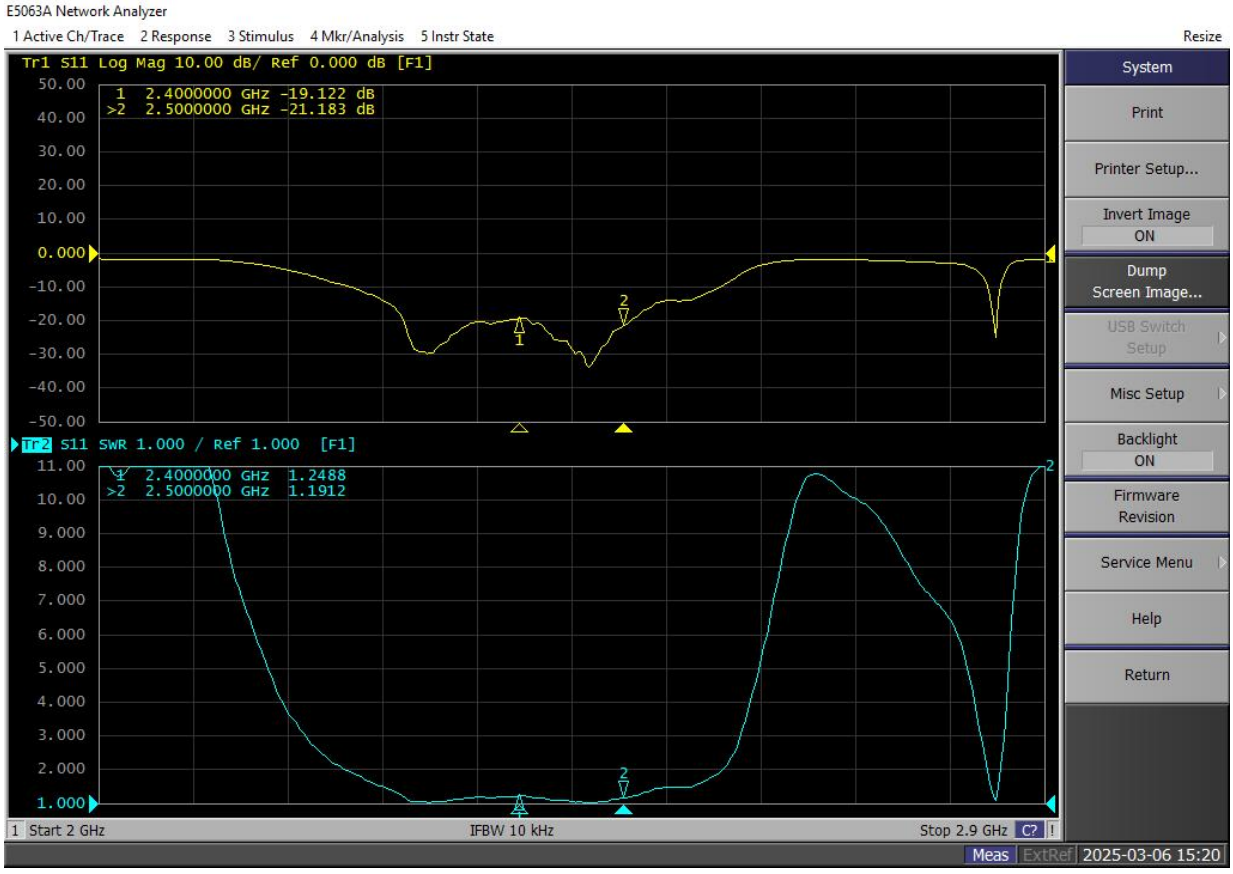
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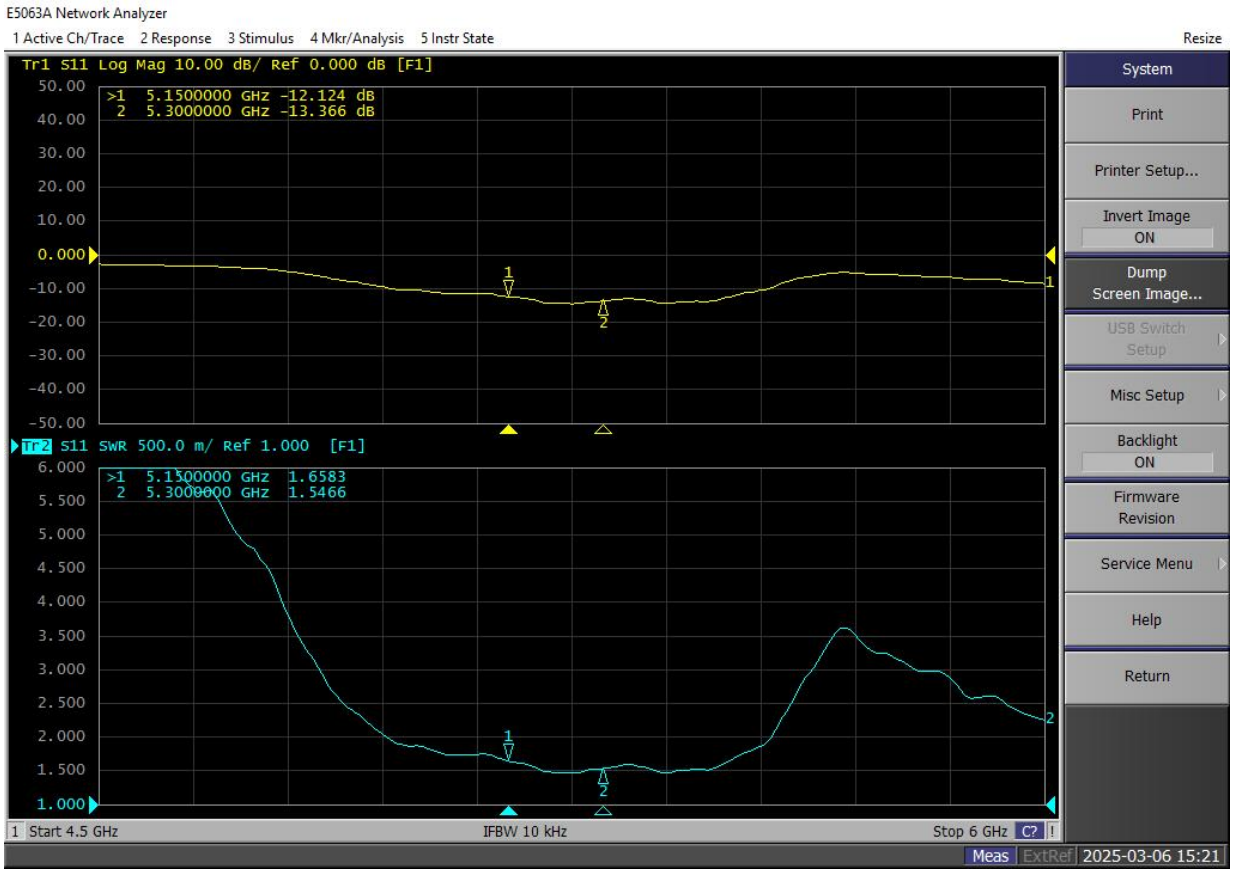
Port 3


E5063A Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 Log Mag 10.00 dB/ Ref 0.000 dB [F1]
1 1.5000000 GHz -10.216 dB
>2 1.7000000 GHz -10.322 dB
Tr2 S11 SWR 1.000 / Ref 1.000 [F1]
1 1.5000000 GHz 1.8943
>2 1.7000000 GHz 1.8820
1 Start 500 MHz
IFBW 10 kHz
Stop 2.8 GHz
Meas ExtRef 2025-03-06 15:19
System
Print
Printer Setup...
Invert Image ON
Dump Screen Image...
USB Switch Setup
Misc Setup
Backlight ON
Firmware Revision
Service Menu
Help
Return

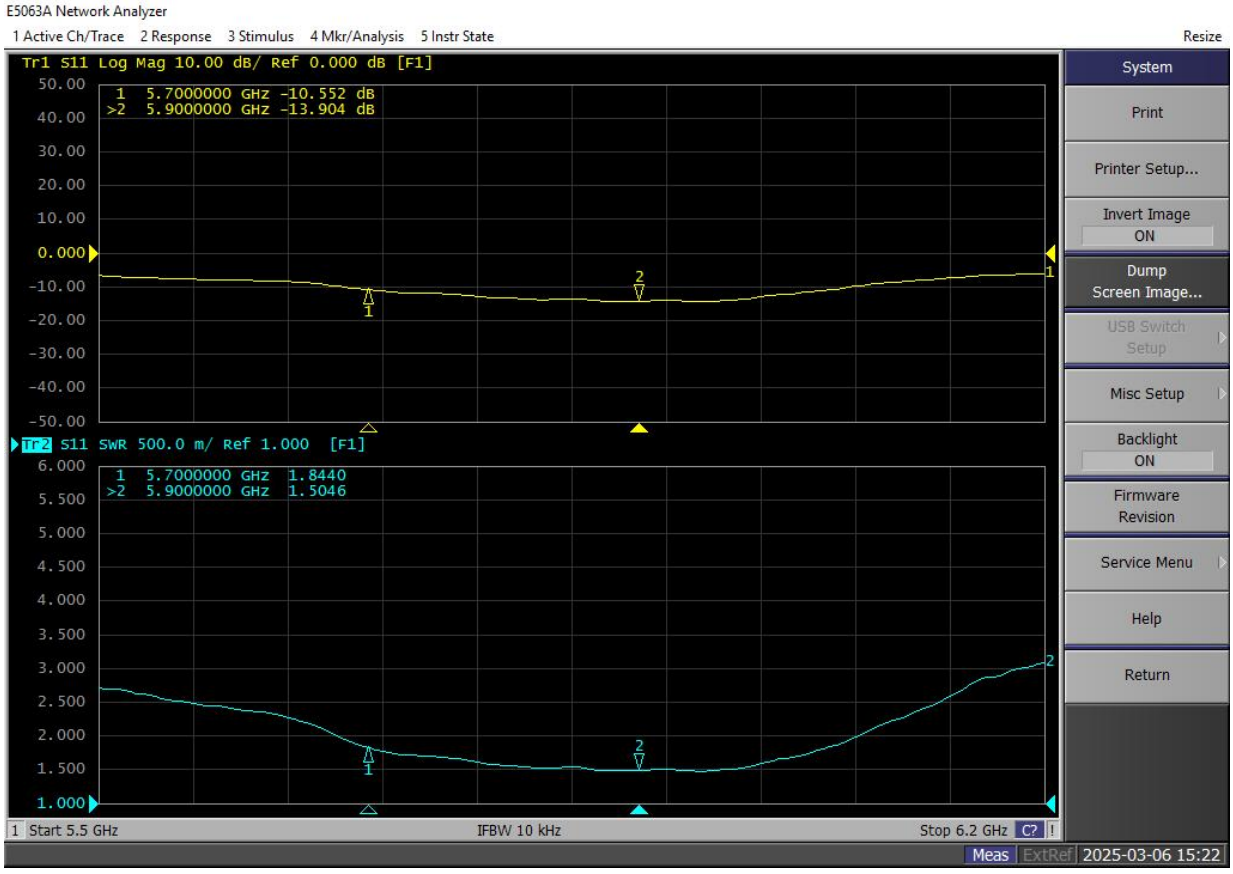
Port 4


E5063A Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 Log Mag 10.00 dB/ Ref 0.000 dB [F1]
1 2.4000000 GHz -19.122 dB
>2 2.5000000 GHz -21.183 dB
Tr2 S11 SWR 1.000 / Ref 1.000 [F1]
1 2.4000000 GHz 1.2488
>2 2.5000000 GHz 1.1912
1 Start 2 GHz
IFBW 10 kHz
Stop 2.9 GHz
Meas ExtRef 2025-03-06 15:20
System
Print
Printer Setup...
Invert Image ON
Dump Screen Image...
USB Switch Setup
Misc Setup
Backlight ON
Firmware Revision
Service Menu
Help
Return

Port 5


E5063A Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 Log Mag 10.00 dB/ Ref 0.000 dB [F1]
>1 5.1500000 GHz -12.124 dB
2 5.3000000 GHz -13.366 dB
Tr2 S11 SWR 500.0 m/ Ref 1.000 [F1]
>1 5.1500000 GHz 1.6583
2 5.3000000 GHz 1.5466
1 Start 4.5 GHz
IFBW 10 kHz
Stop 6 GHz
System
Print
Printer Setup...
Invert Image ON
Dump Screen Image...
USB Switch Setup
Misc Setup
Backlight ON
Firmware Revision
Service Menu
Help
Return
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Port 6

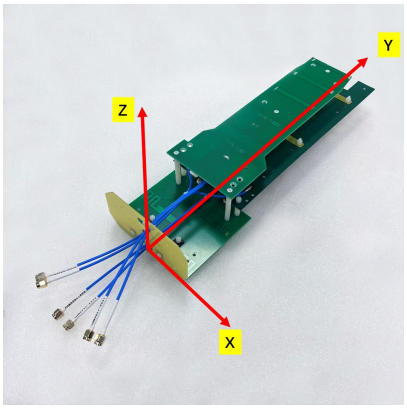
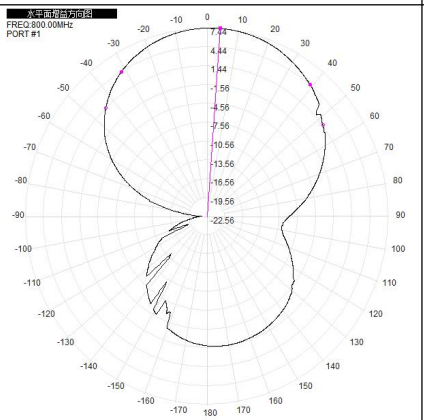
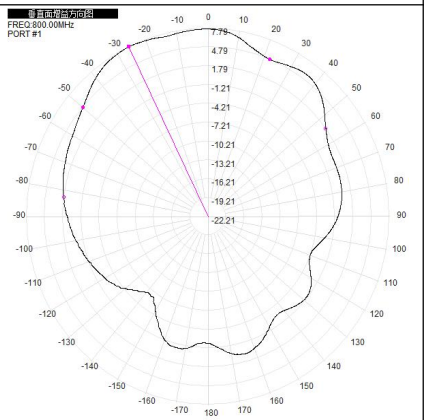
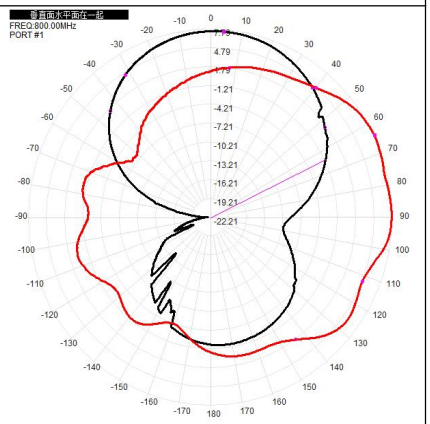
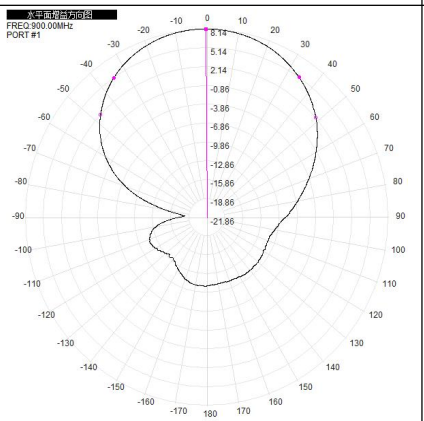
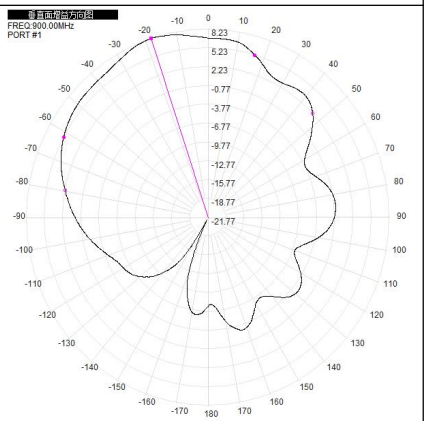
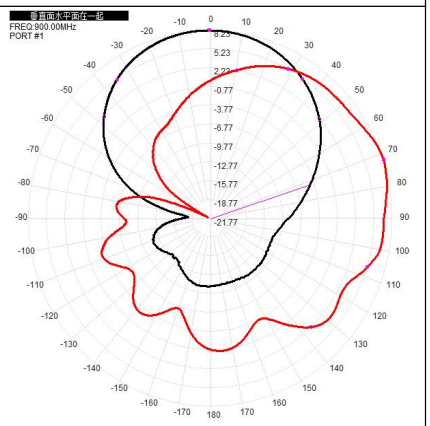
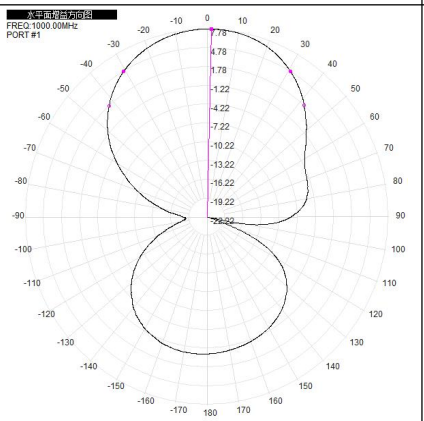
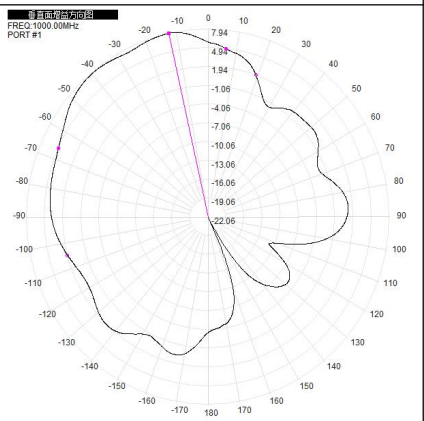
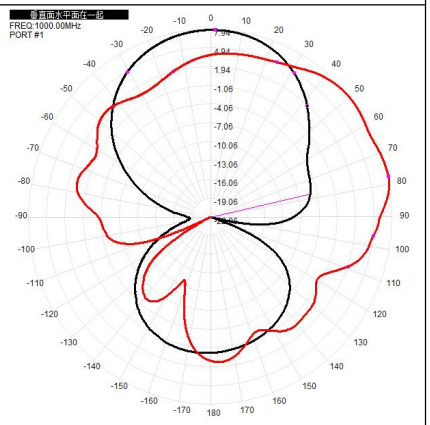

E5063A Network Analyzer
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Resize
Tr1 S11 Log Mag 10.00 dB/ Ref 0.000 dB [F1]
1 5.7000000 GHz -10.552 dB
>2 5.9000000 GHz -13.904 dB
Tr2 S11 SWR 500.0 m/ Ref 1.000 [F1]
1 5.7000000 GHz 1.8440
>2 5.9000000 GHz 1.5046
1 Start 5.5 GHz
IFBW 10 kHz
Stop 6.2 GHz
System
Print
Printer Setup...
Invert Image ON
Dump Screen Image...
USB Switch Setup
Misc Setup
Backlight ON
Firmware Revision
Service Menu
Help
Return
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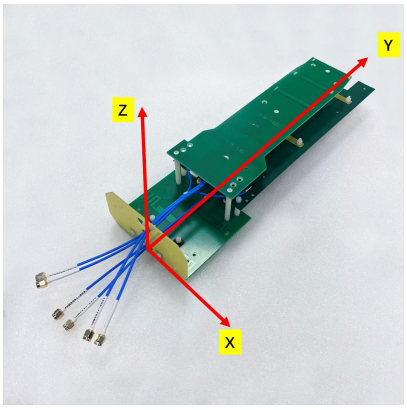
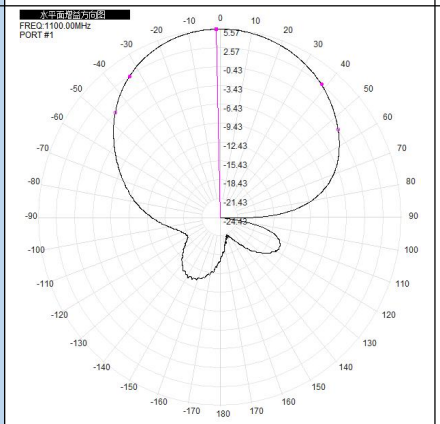
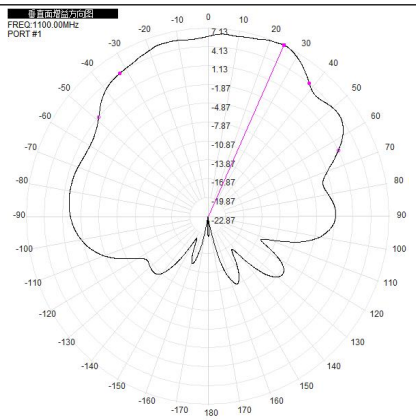
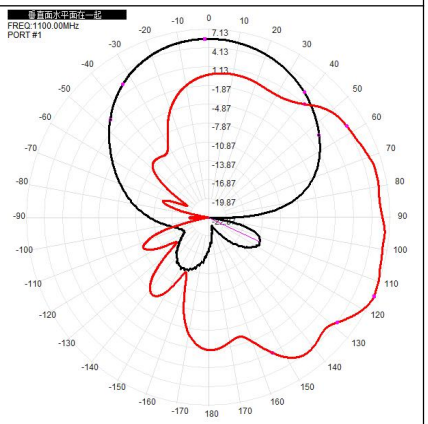
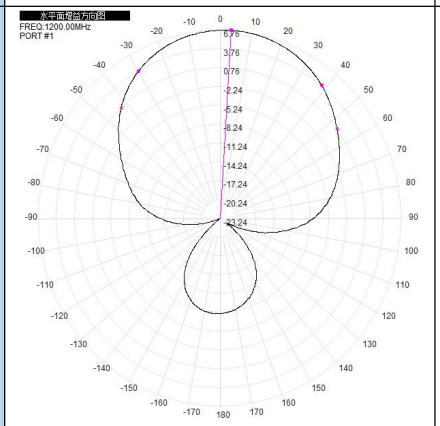
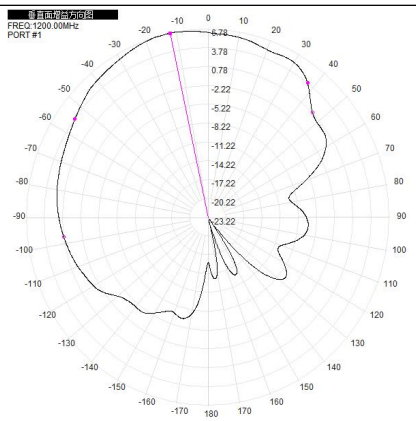
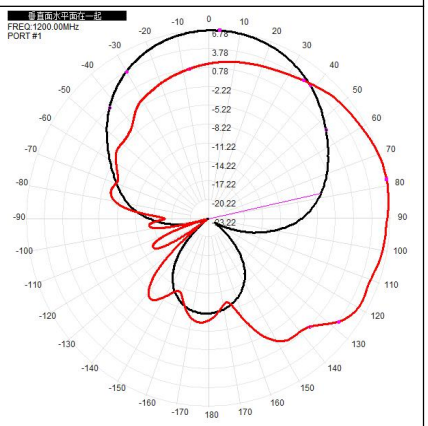
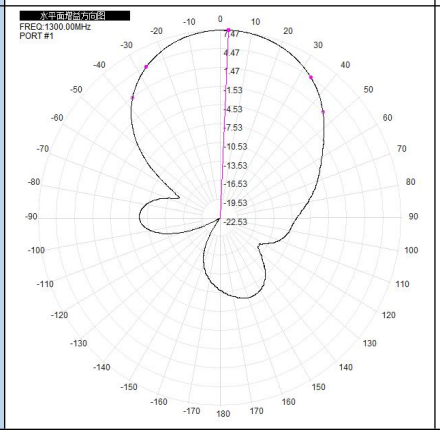
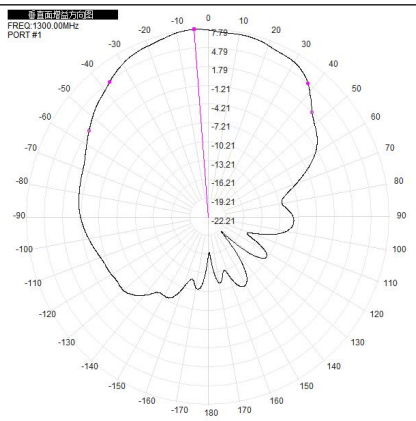
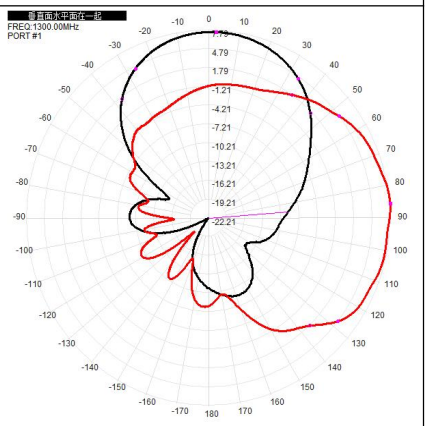
效率&增益Total Efficiency& Gain:

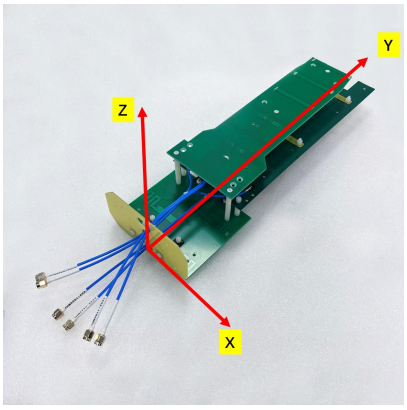
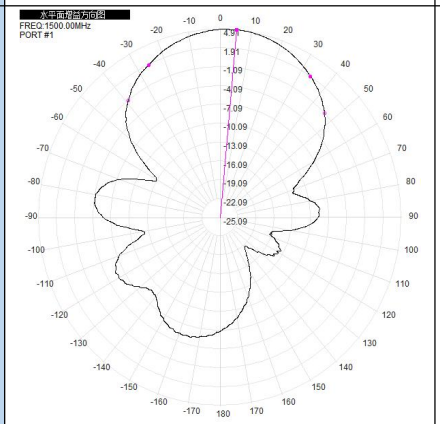
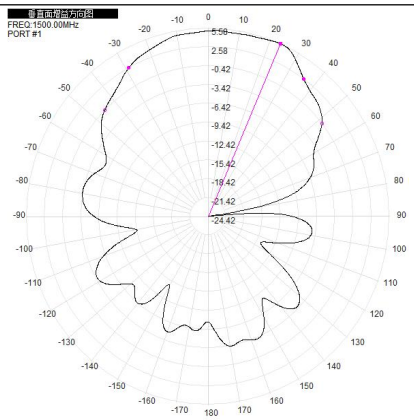
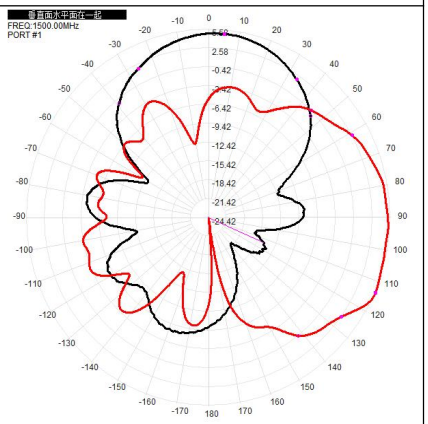
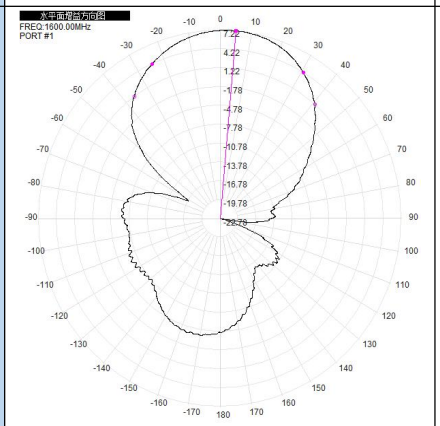
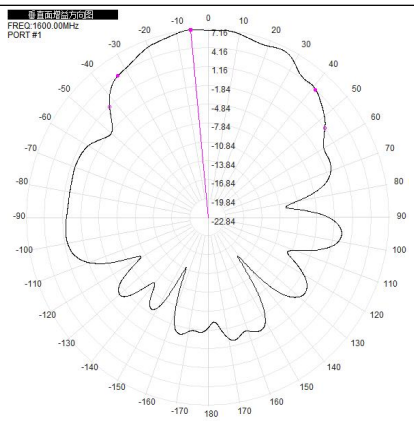
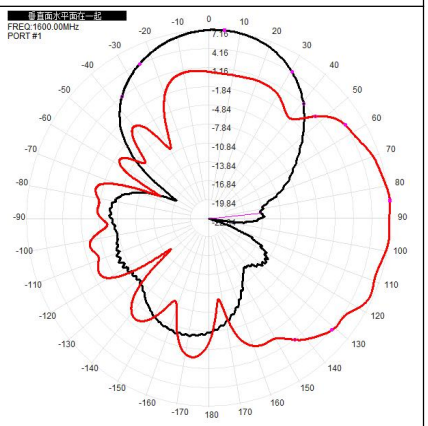
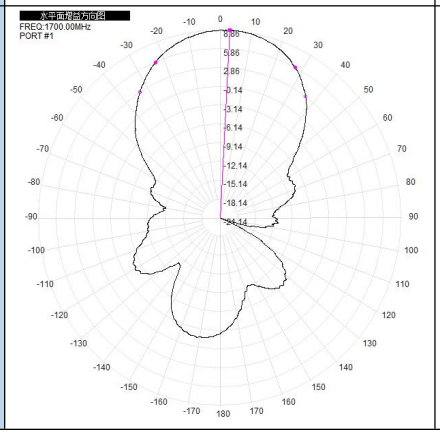
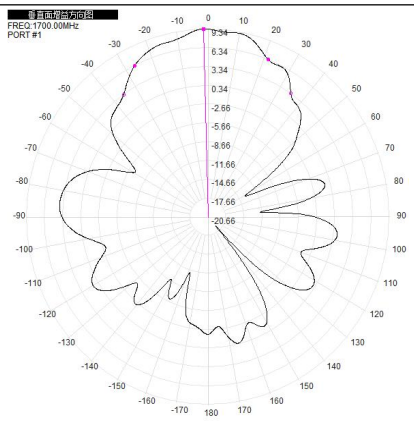
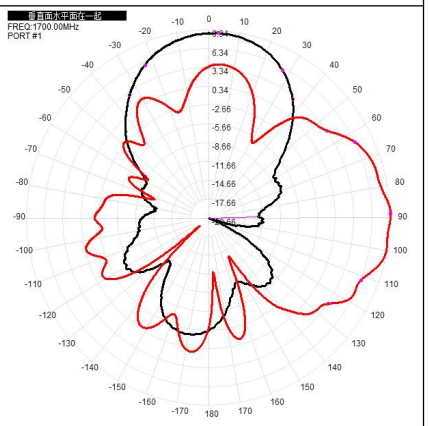
Port 1		Port 2		Port 3		Port 4	
Frequency(MHz)	Gain(dBi)	Frequency(MHz)	Gain(dBi)	Frequency(MHz)	Gain(dBi)	Frequency(MHz)	Gain(dBi)
800	7.8	1100	7.1	1500	5.6	2400	11.7
820	7.9	1120	7.1	1520	6.0	2410	11.7
840	6.9	1140	6.7	1540	6.2	2420	11.7
860	6.7	1160	5.5	1560	6.3	2430	12.0
880	7.5	1180	6.7	1580	6.9	2440	12.0
900	8.2	1200	6.8	1600	7.2	2450	12.0
920	8.6	1220	6.6	1620	7.4	2460	12.2
940	8.0	1240	7.2	1640	7.8	2470	12.2
960	8.4	1260	7.6	1660	8.1	2480	12.4
980	8.2	1280	7.6	1680	8.3	2490	12.2
1000	7.9	1300	7.8	1700	9.3	2500	12.4

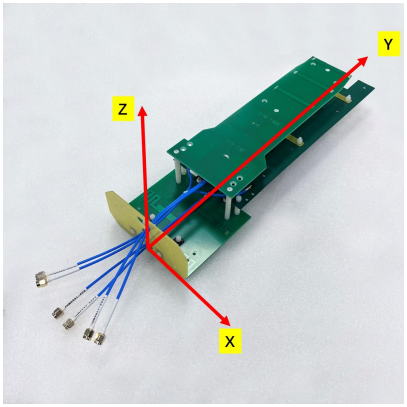
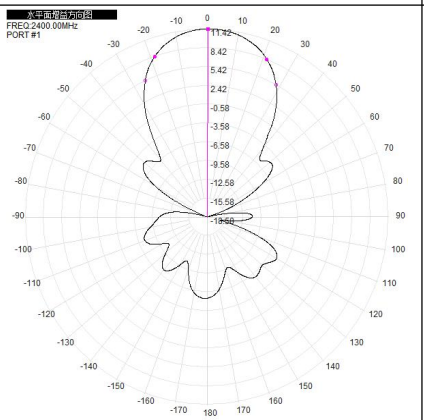
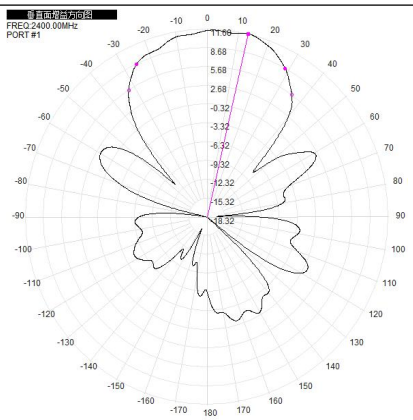
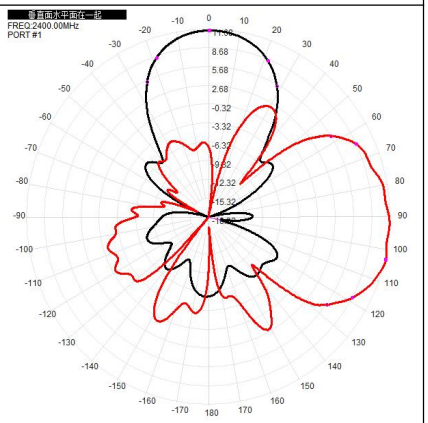
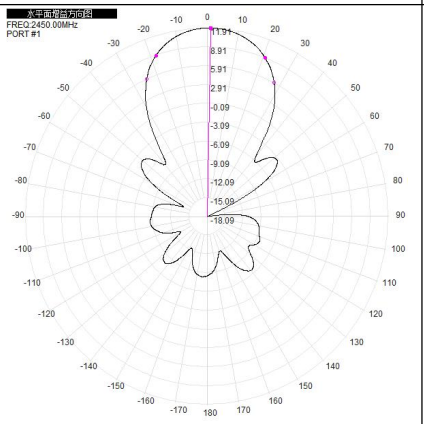
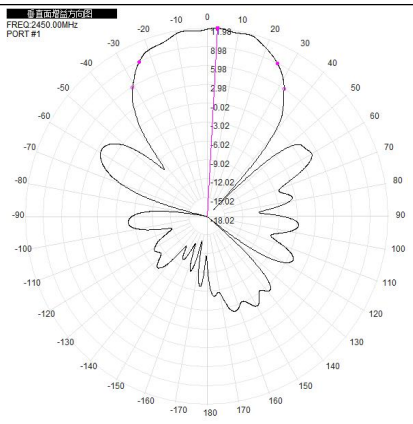
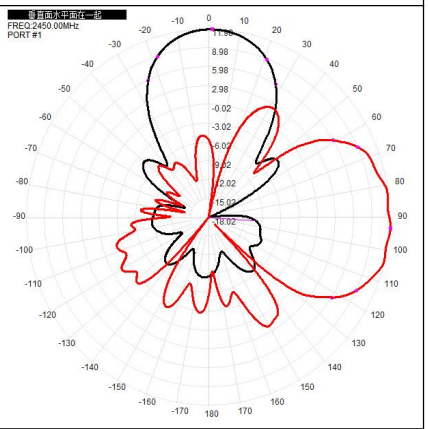
Port 5		Port 6	
Frequency(MHz)	Gain(dBi)	Frequency(MHz)	Gain(dBi)
5150	13.4	5700	12.2
5175	13.4	5725	12.7
5200	13.5	5750	13.0
5225	13.5	5775	13.4
5250	13.7	5800	14.1
5275	13.2	5825	13.5
5300	14.0	5850	13.7
		5875	14.1
		5900	14.2

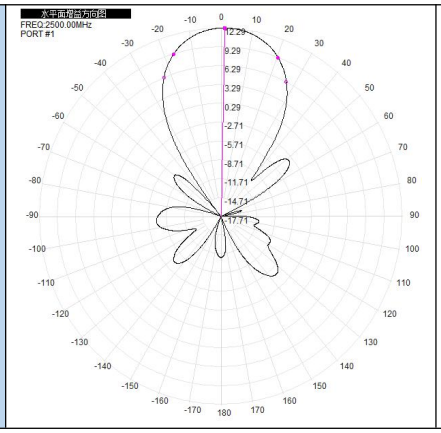
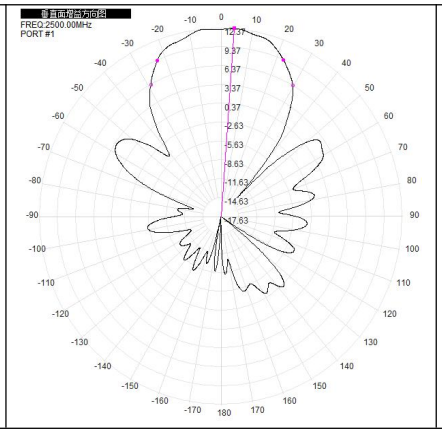
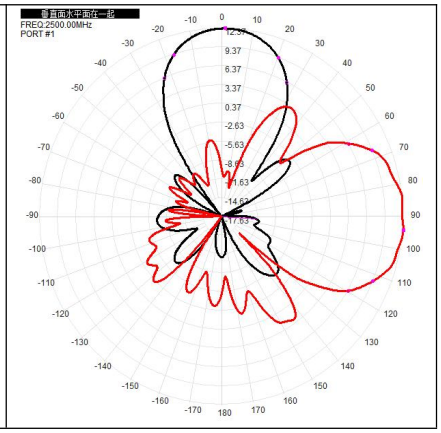
场型图

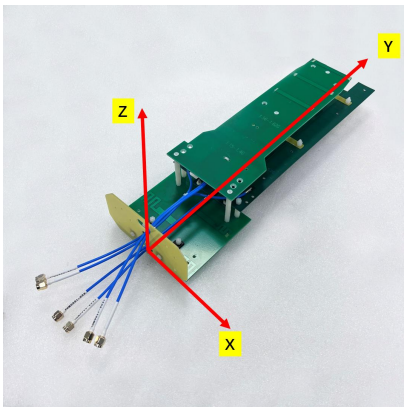
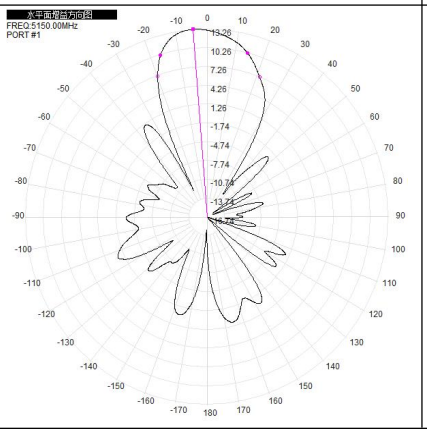
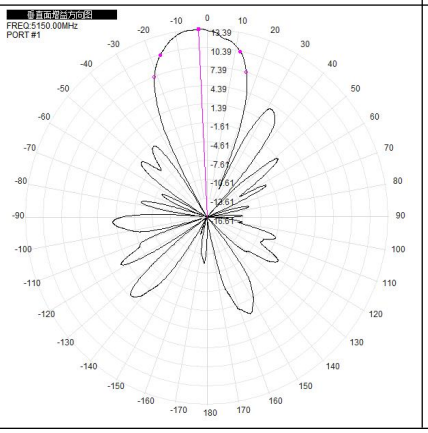
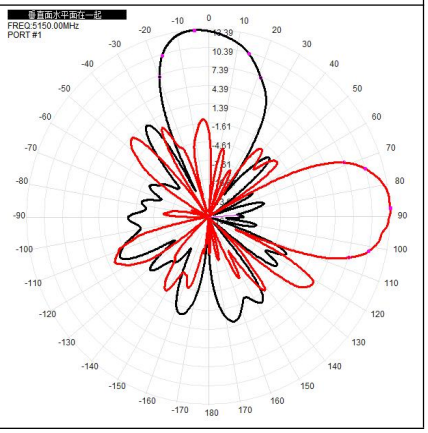
Port 1	2D-水平面 H	2D-垂直面 V	两个面放一起看
轴的定义	XY	YZ	
800MHz			
900MHz			
1000MHz			

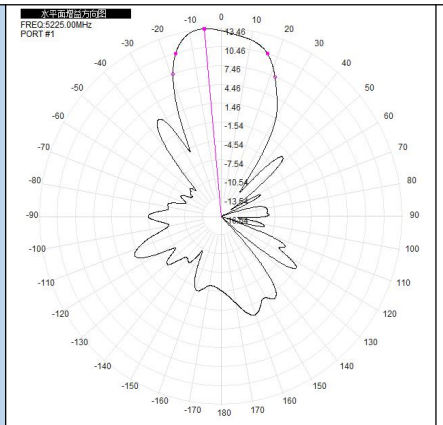
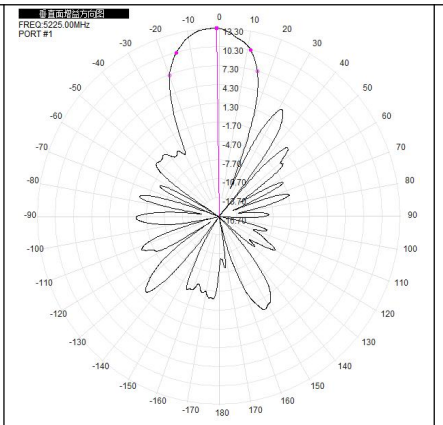
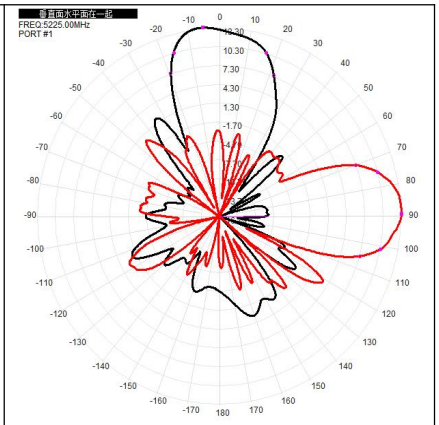
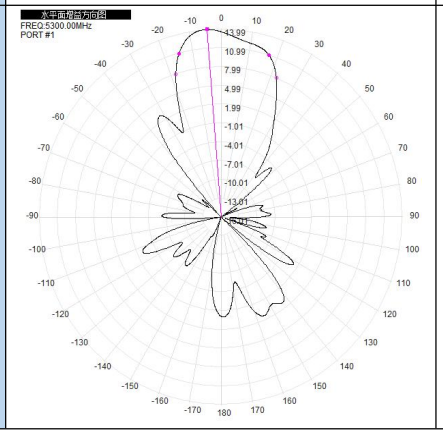
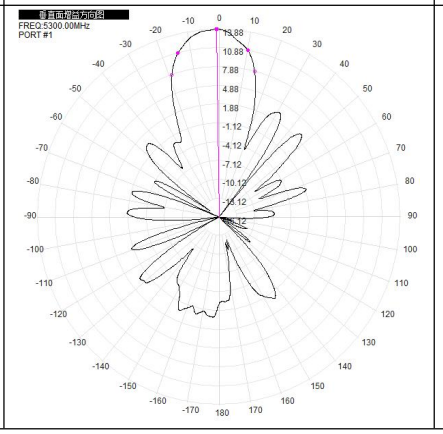
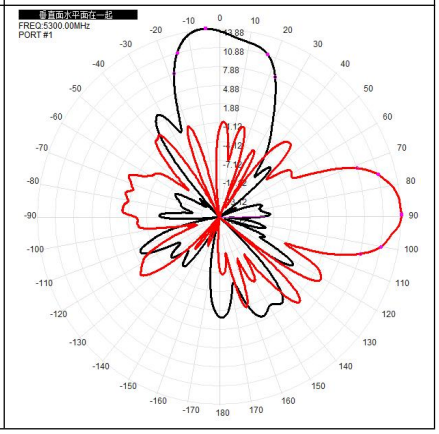
Port 2	2D-水平面 H	2D-垂直面 V	两个面放一起看
轴的定义	XY	YZ	
1100MHz			
1200MHz			
1300MHz			

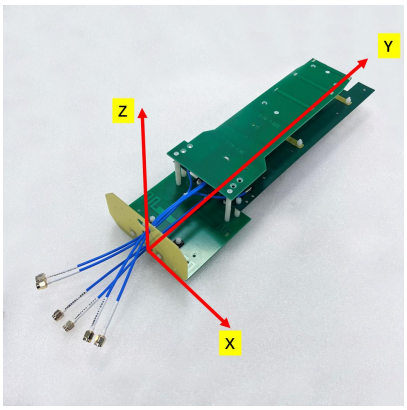
Port 3	2D-水平面 H	2D-垂直面 V	两个面放一起看
轴的定义	XY	YZ	
1500MHz			
1600MHz			
1700MHz			

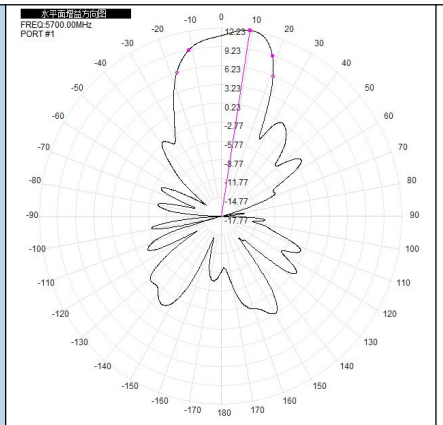
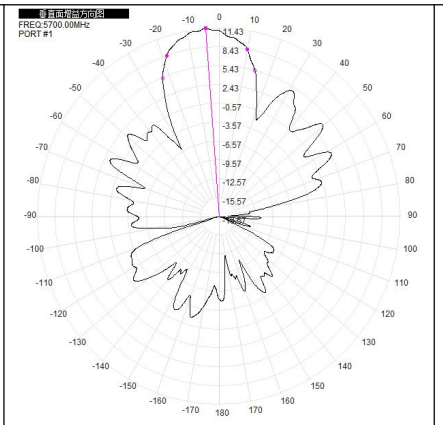
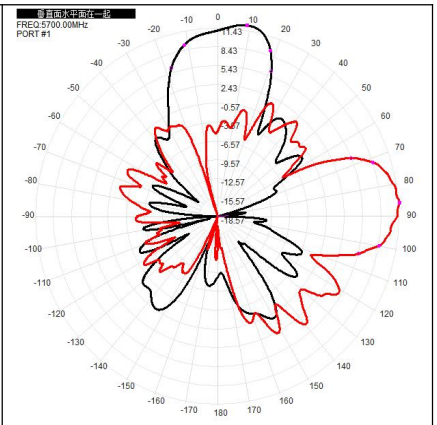
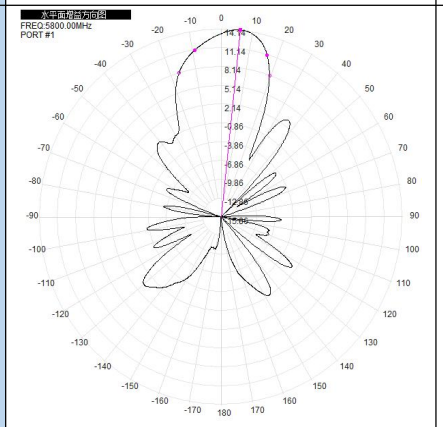
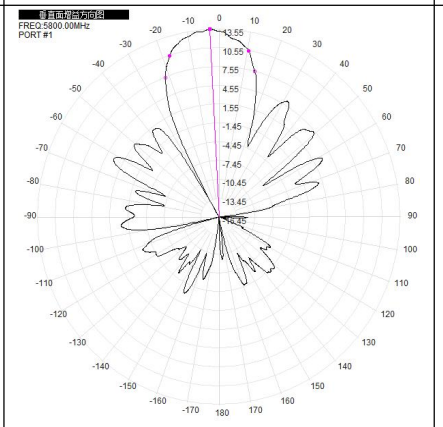
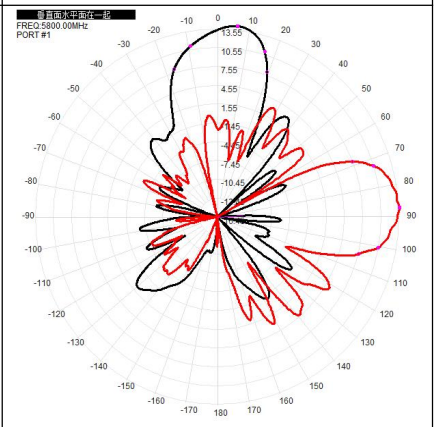
Port 4	2D-水平面 H	2D-垂直面 V	两个面放一起看
轴的定义	XY	YZ	
2400MHz			
2450MHz			

2500MHz			

Port 5	**2D-水平面 H**	**2D-垂直面 V**	**两个面放一起看**
轴的定义	XY	YZ	
5150MHz			

5225MHz			
5300MHz			

Port 6	2D-水平面 H	2D-垂直面 V	两个面放一起看
轴的定义	XY	YZ	

5700MHz			
5800MHz			
5900MHz	