Appendix 5: Antenna test report

Version V1.0.

Zhong Tianxun			
Radio frequency	Zhao Beacon178 7542 6686	Organization	
Check	Han Zhenyu158 1473 5757	Business	Ni Jieyou186 8245 1445
Company address	Shilong Avenue, Shiyan Street, Bao'an District, Shenzhen 34Howl		
Project information			
Project name	W4F.	Model version	
Antenna type		Scheme Company	
Antenna system	2.4 G	Date	April 30, 2019
Remarks:			

Add:Shilong Avenue, Shiyan Street, Bao'an District, Shenzhen34Howl
TEL: 0755-27588360 /27572127 FAX: 0755-27588320
Website: www.chinaztx.com

Catal

- ◇ Research
- ◇ Explanation
- ◇ Assembly
- ◇ Test data
- ◇ Project

Research and development equipment

The company owns France, the most advanced in the communication industry..Satimo SG24 OTA. Test system1Set,ETS OTA. Standard test system 2Set,Bluetest. Reverberation dark room1Set,MicroPross

NFC.Test system1Set, can provide customers with accurate test reports quickly and stably, fully in line withCTIA.Standard, support GSM/CDMA/WCDMA/TD/LTE/WIFI/BT/GPS/MIMOActive and passive testing of various systems.

MicroPross NFC The system can meet the needs of each operating business test.

Try the requirements, yesNFC.The equipment conducts rapid performance tests and outputs a formal certification test report.

Explanation of nouns

DBi Decibel relative isotropic antenna

Tx. Transmission frequency

Rx. Receive frequency

TRP. Total Radiated Power

TIS. Total isotropic sensitivity

VSWR. Voltage Standing Wave Ratio

Global System for Mobile Communications Global Service for Mobile Communication

DCS. Digital Communication System.

PCS. Personal Communication System

Personal Handy-phone System Personal Handly-phone System

Special Administrative Region Specific Absorption Rate

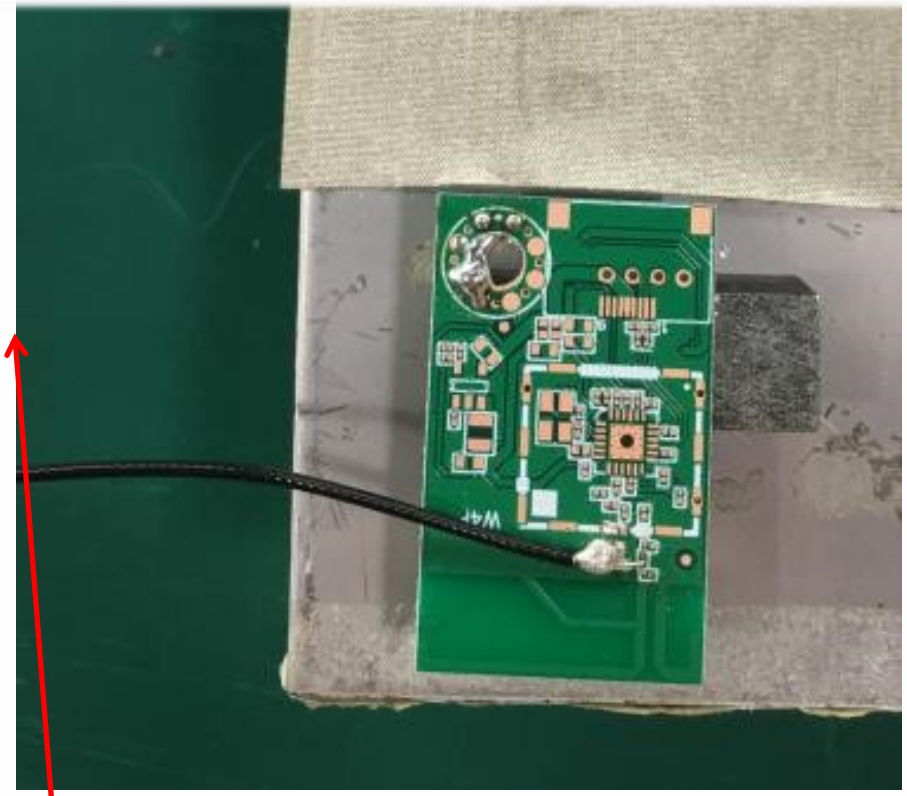
PCB. Printed Circuit Board.

Code division multiple access Code Division Multiple Access

WCDMA. Wideband Code Division Multiple Access

LTE. Long Term Evolution

Antenna position(The screw

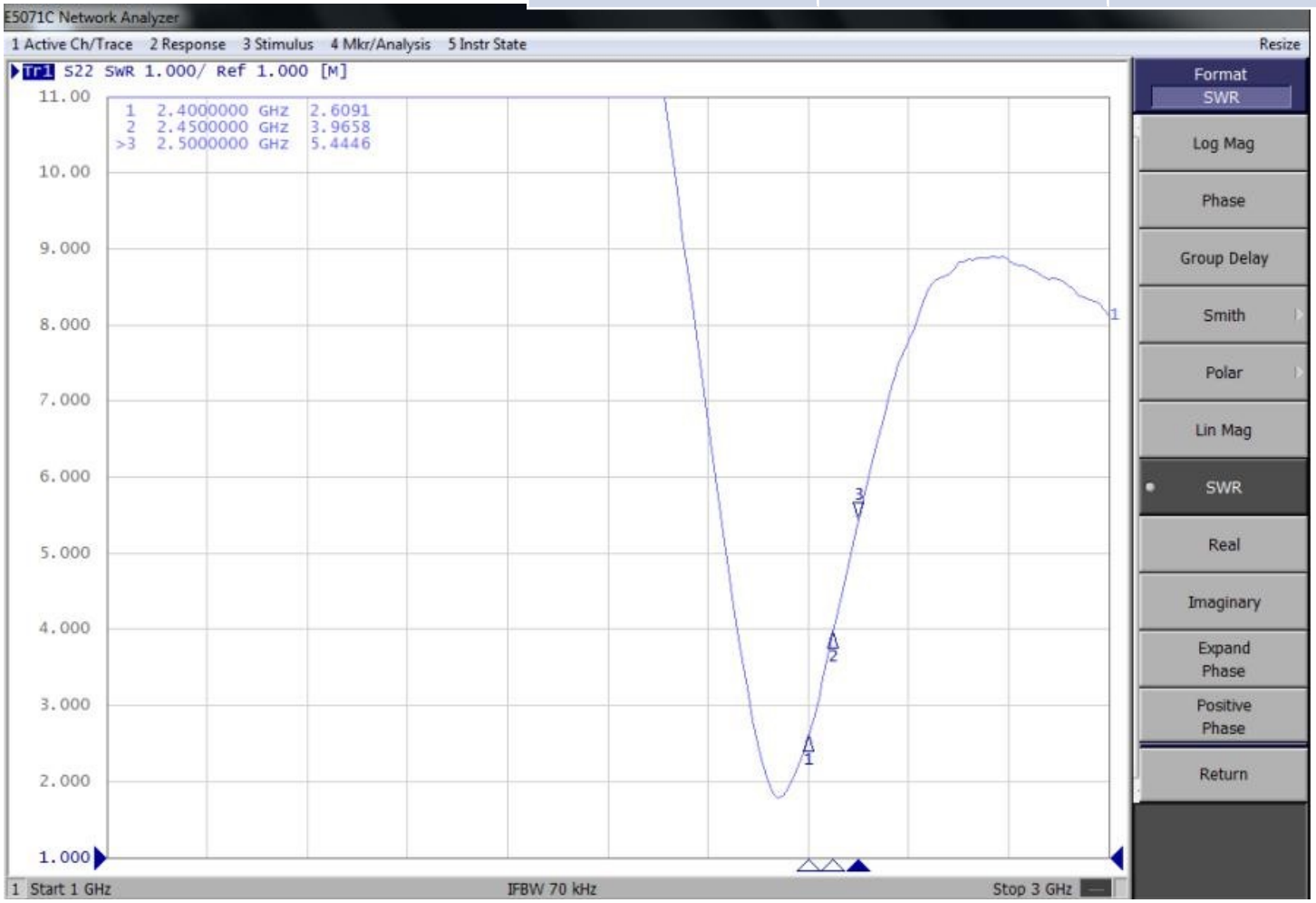


The screw hole is hanging, the height**10 mm**

天线测试数据(螺丝孔悬空)

2.4 G	.2.45 G	2.5 G
2.6091	3.9658	5.4446

VSWR.

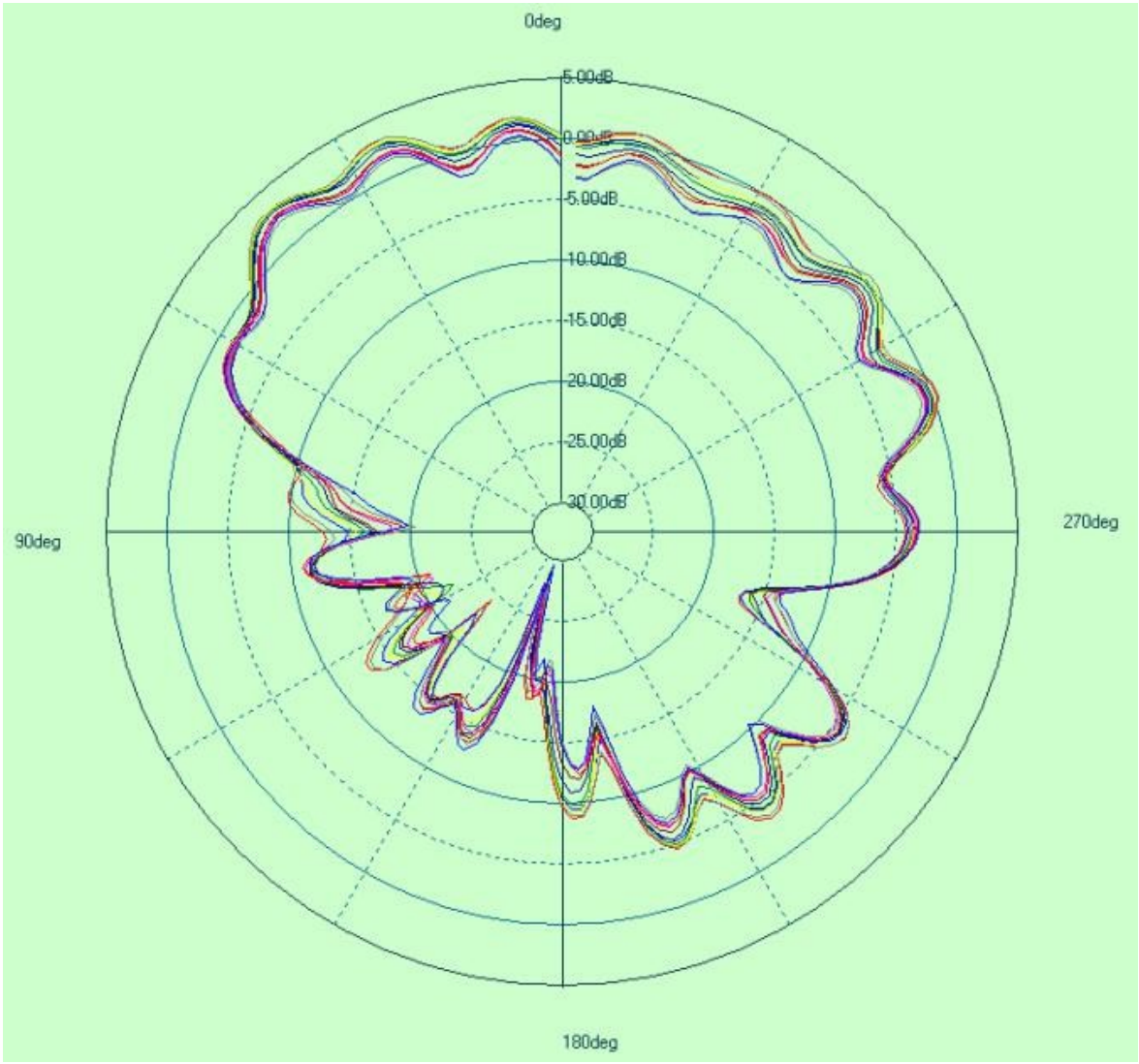


2.4 G-Efficiency and gain

Frequency	Efficiency	Efficiency . dB	Frequency	Gain dBi
2.4E+09	35%	-4.50318	2.4E+09	4.875911
2.41E+09	36%	-4.43977	2.41E+09	4.836384
2.42E+09	32%	-4.93256	2.42E+09	4.367545
2.43E+09	34%	-4.72373	2.43E+09	4.678475
2.44E+09	32%	-5.00055	2.44E+09	4.470123
2.45E+09	30%	-5.29599	2.45E+09	4.20257
2.46E+09	27%	-5.66248	2.46E+09	3.752107
2.47E+09	26%	-5.83784	2.47E+09	3.574628
2.48E+09	27%	-5.70258	2.48E+09	3.735054
2.49E+09	24%	-6.27995	2.49E+09	3.148746
2.5E+09	25%	-6.08726	2.5E+09	3.386077

2.4G-XOYFace (Theta=90deg) Direction chart

天线测试数据(螺丝孔悬空)



2.4G-XOZFace (Phi=0deg) Direction chart

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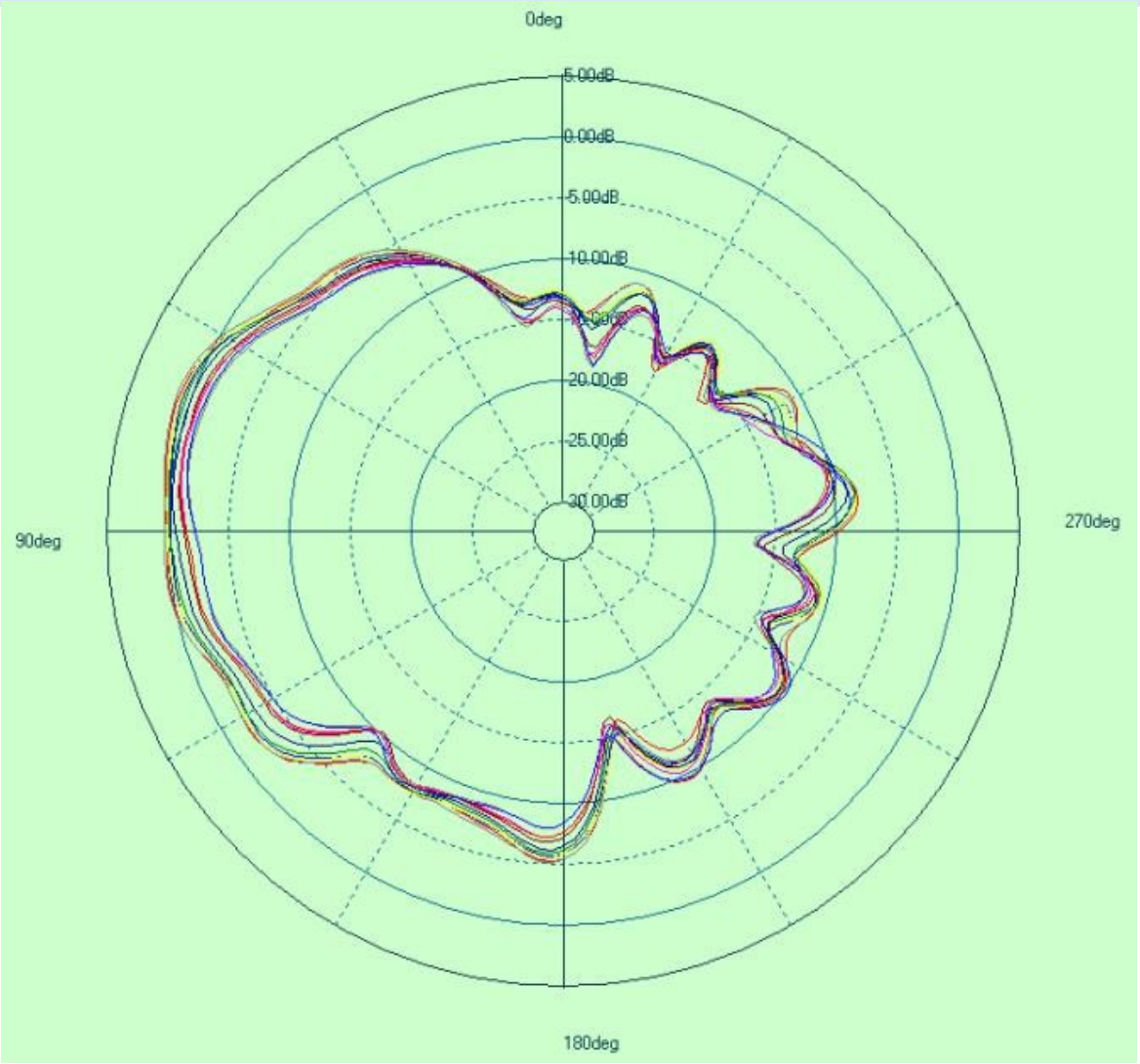
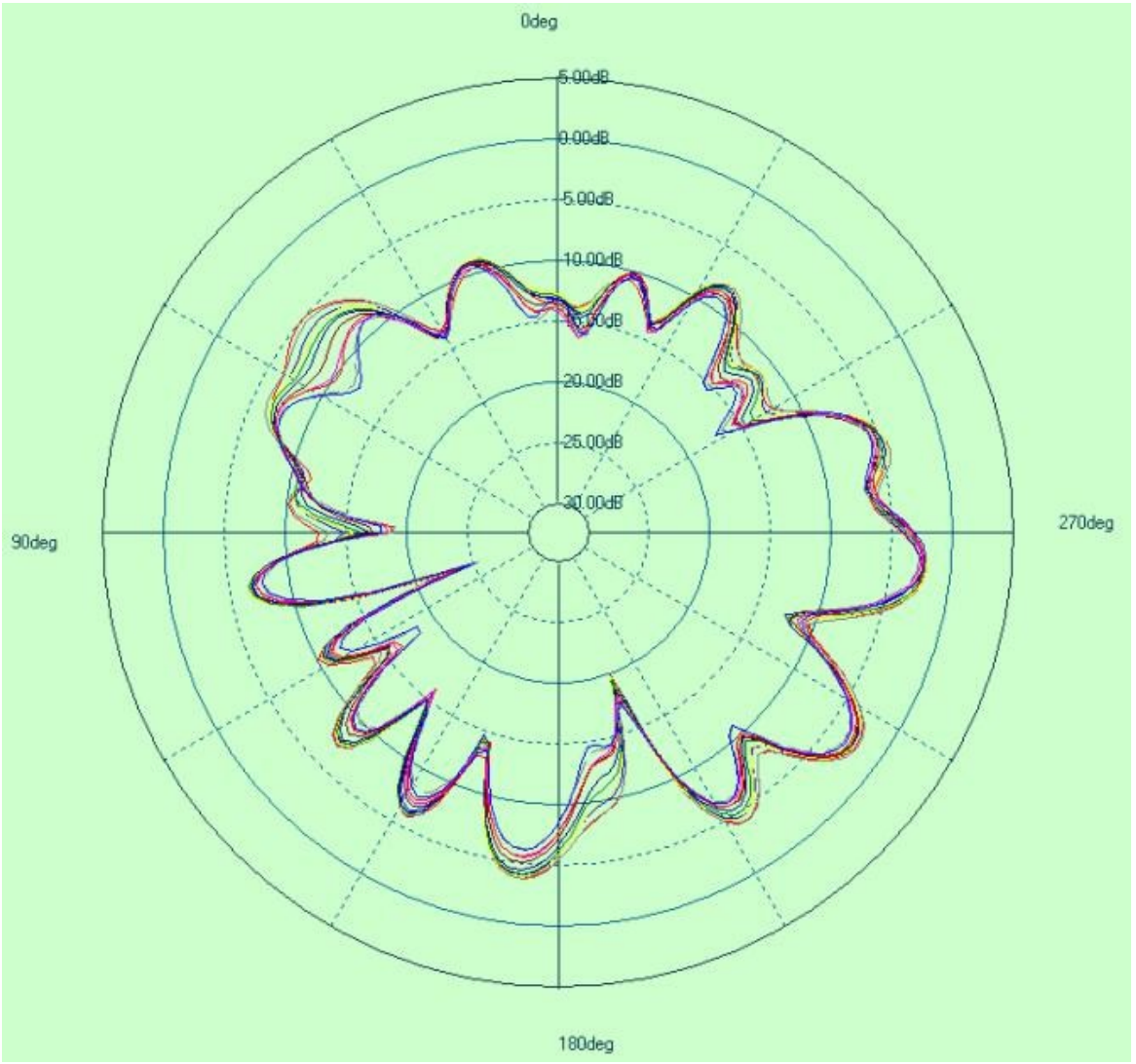
天线测试数据(螺丝孔悬空)



2.4G-YOZFace (Phi=90deg) Direction chart

天线测试数据(螺丝孔悬空)



2450 MHz-3DDirection map

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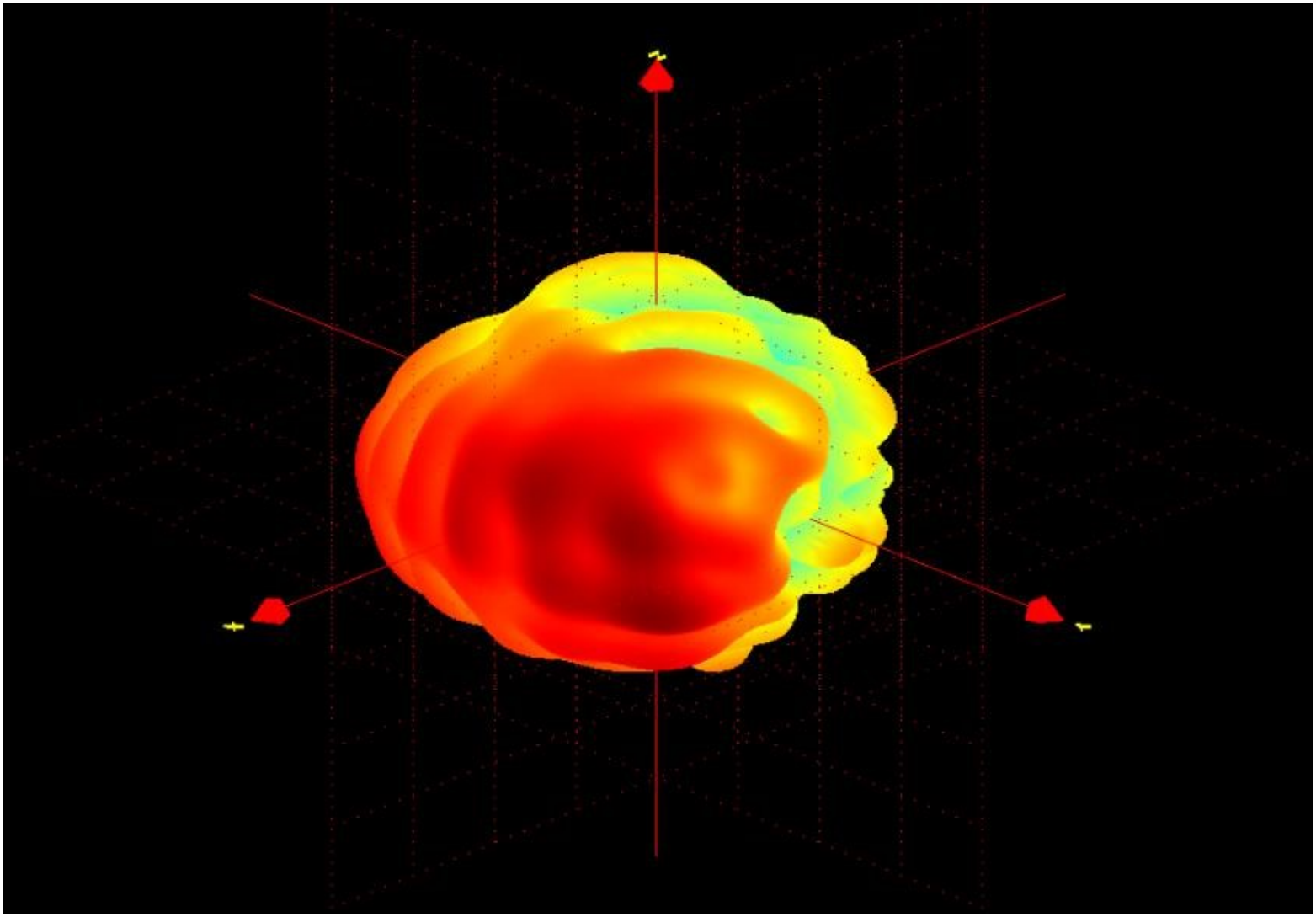
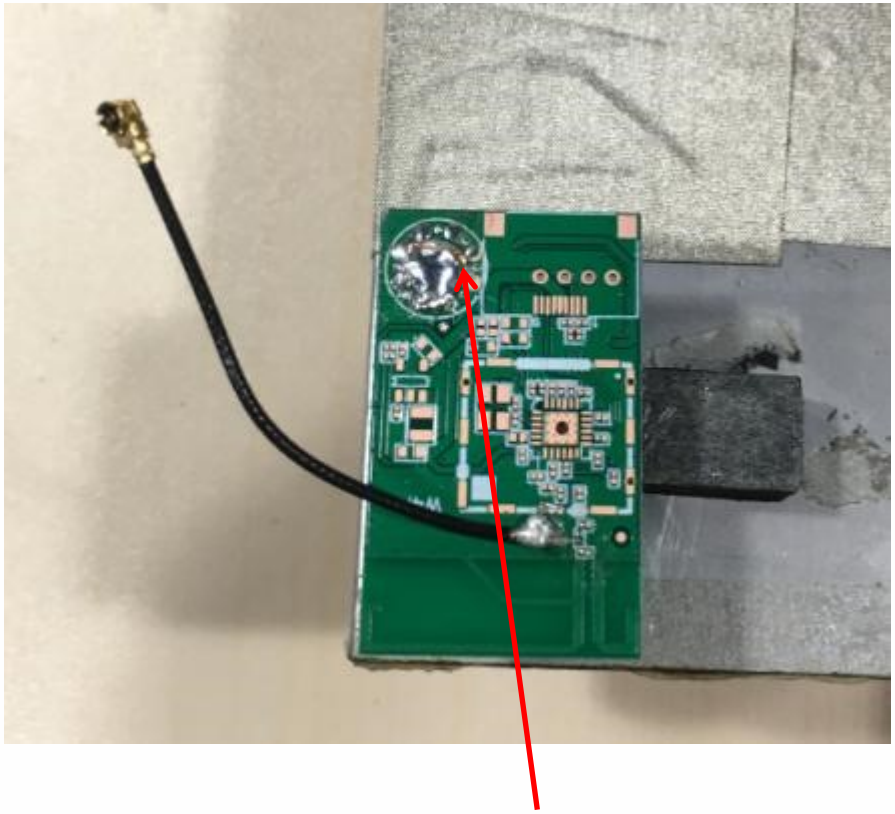
天线测试数据(螺丝孔悬空)



Antenna position one(The



The screw hole is hanging,

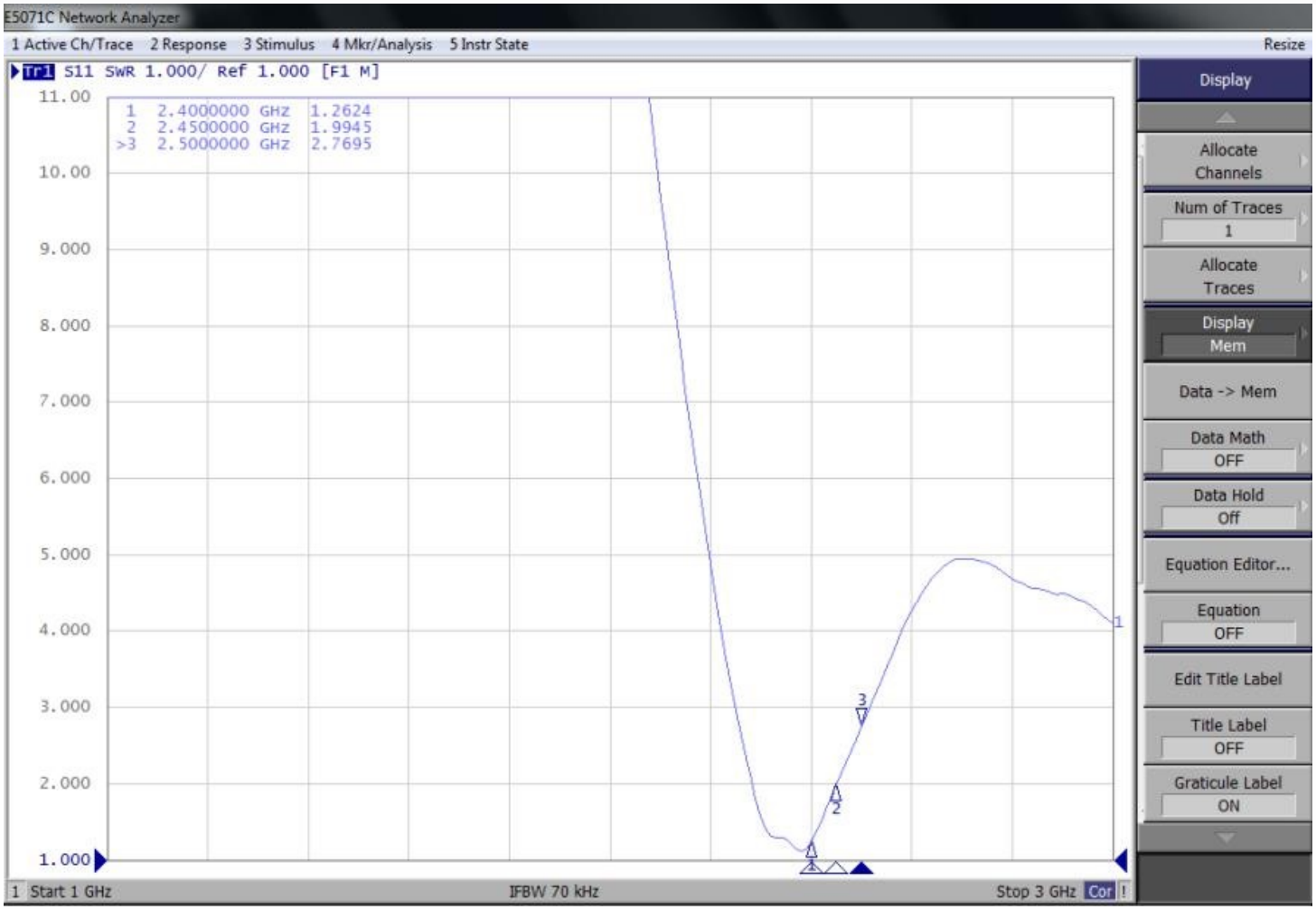
2.4 G	.2.45 G	2.5 G
1.2624	1.9945	2.7695

the height**20 mm**

VSWR.

移动终端天线制造与技术服务提供商

天线测试数据(天线位置一：螺丝孔悬空)



天线测试数据(天线位置一：螺丝孔悬空)

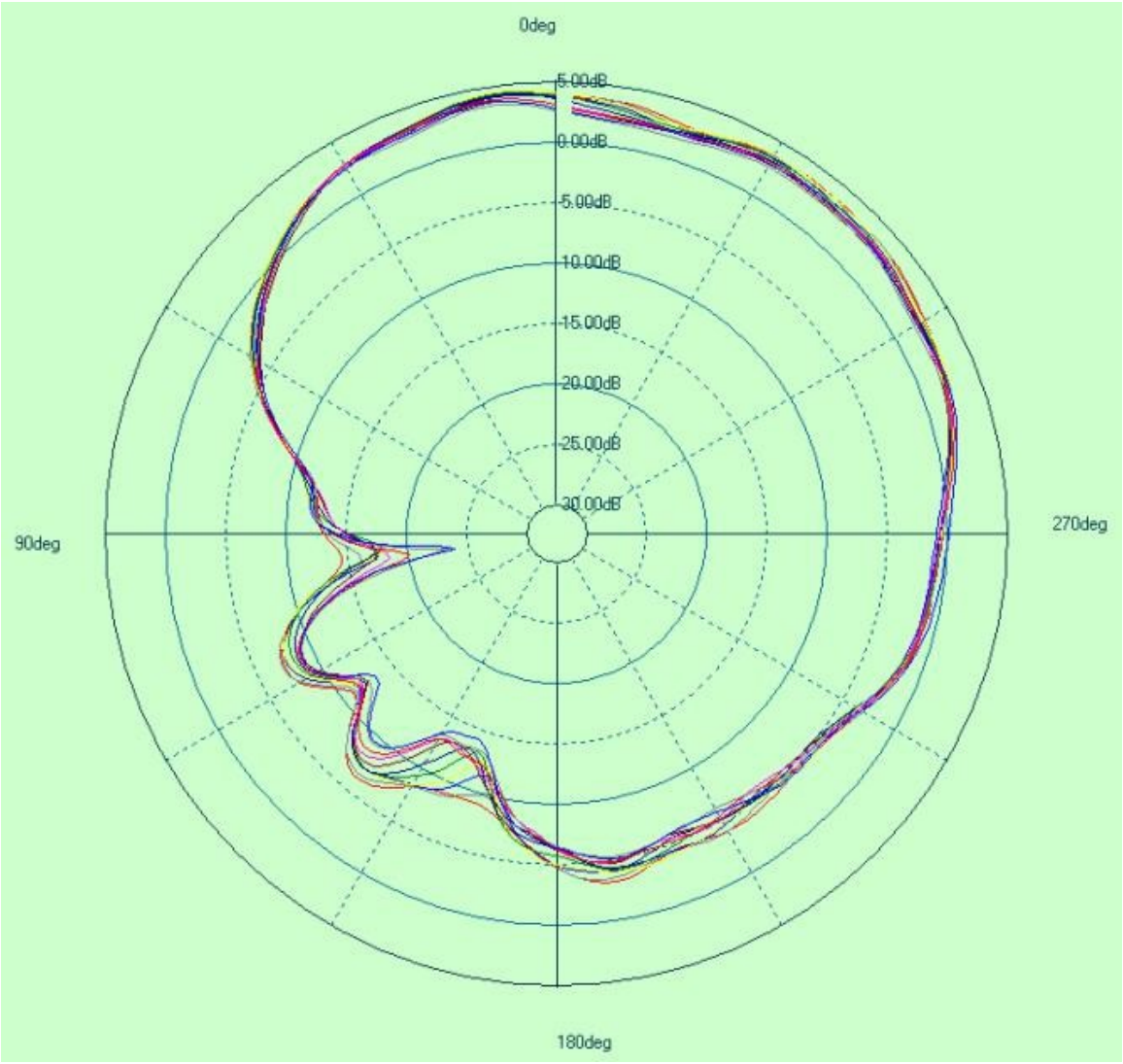
2.4 G-Efficiency and gain

Frequency	Efficiency	Efficiency . dB	Frequency	Gain dBi
2.4E+09	66%	-1.8146	2.4E+09	4.929059
2.41E+09	66%	-1.82863	2.41E+09	4.984383
2.42E+09	62%	-2.0702	2.42E+09	4.761325
2.43E+09	66%	-1.81923	2.43E+09	5.099043
2.44E+09	62%	-2.07025	2.44E+09	5.005863
2.45E+09	60%	-2.21362	2.45E+09	4.850523
2.46E+09	56%	-2.49575	2.46E+09	4.492653
2.47E+09	58%	-2.3957	2.47E+09	4.57682
2.48E+09	59%	-2.31706	2.48E+09	4.620025
2.49E+09	54%	-2.67947	2.49E+09	4.222291
2.5E+09	57%	-2.47129	2.5E+09	4.434236

2.4G-XOYFace (Theta=90deg)

Direction chart

天线测试数据(天线位置一：螺丝孔悬空)

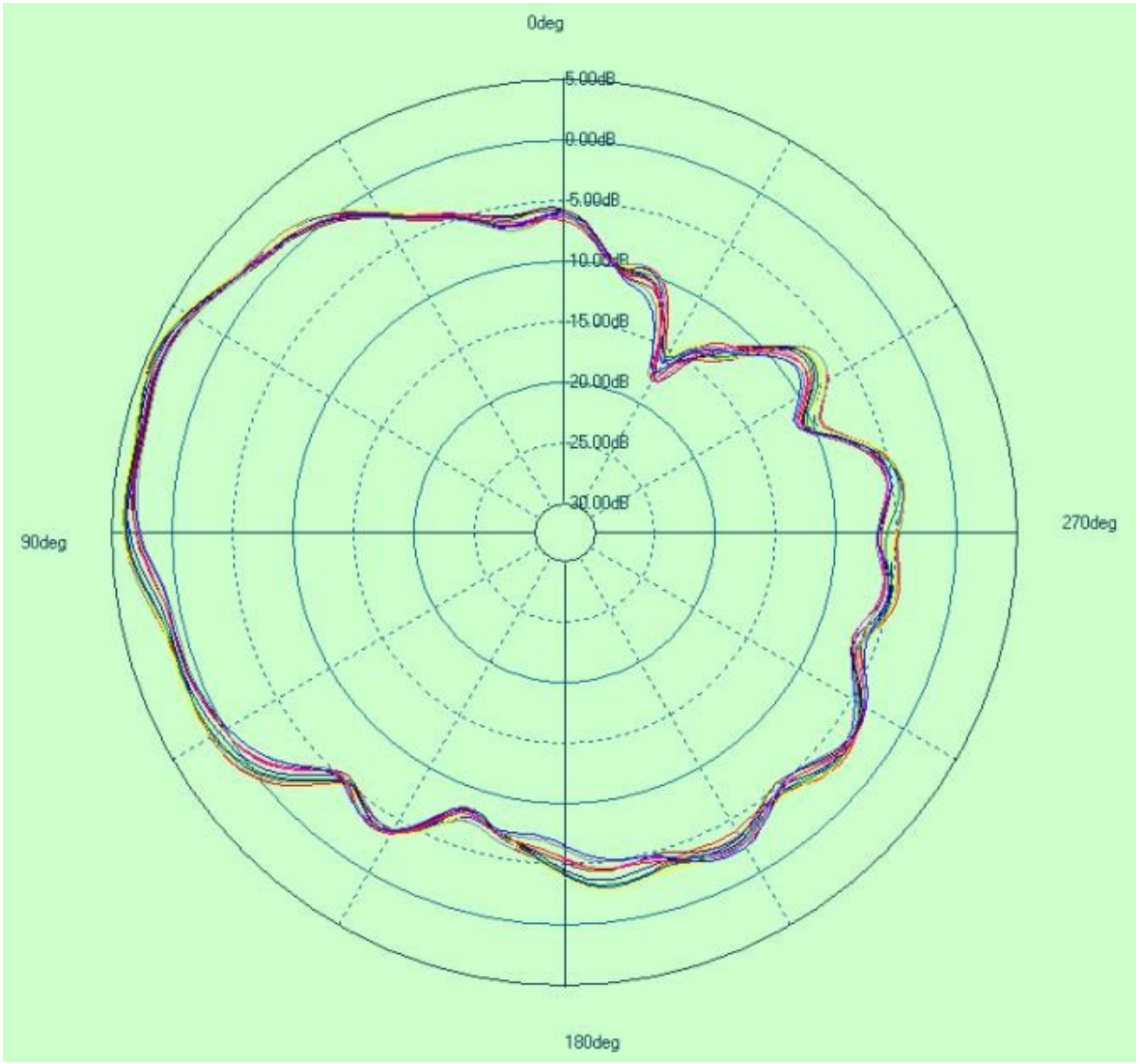


天线测试数据(天线位置一：螺丝孔悬空)

2.4G-XOZFace （Phi=0deg）

Direction chart

天线测试数据(天线位置一：螺丝孔悬空)

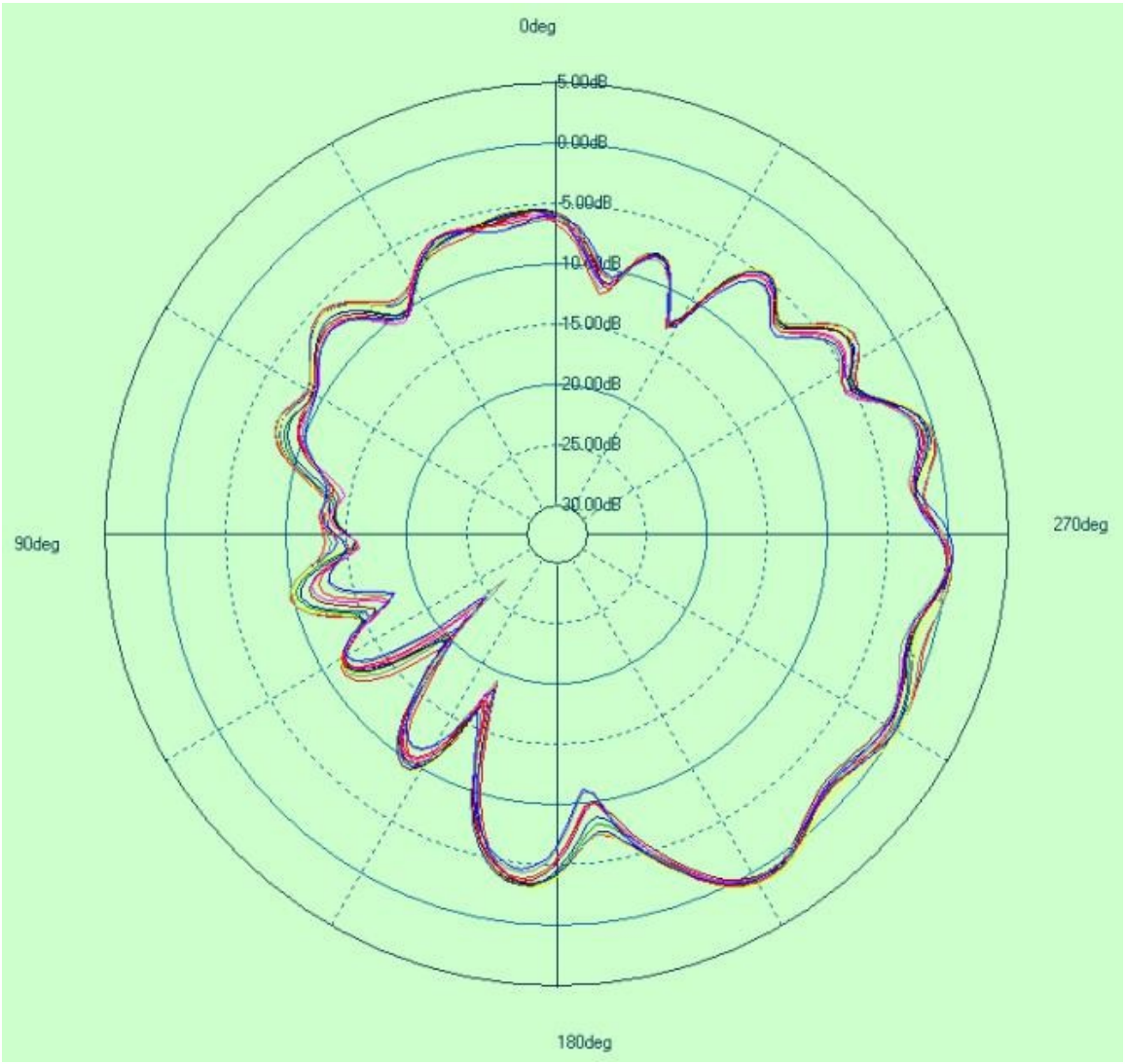


天线测试数据(天线位置一：螺丝孔悬空)

2.4G-YOZFace (Phi=90deg)

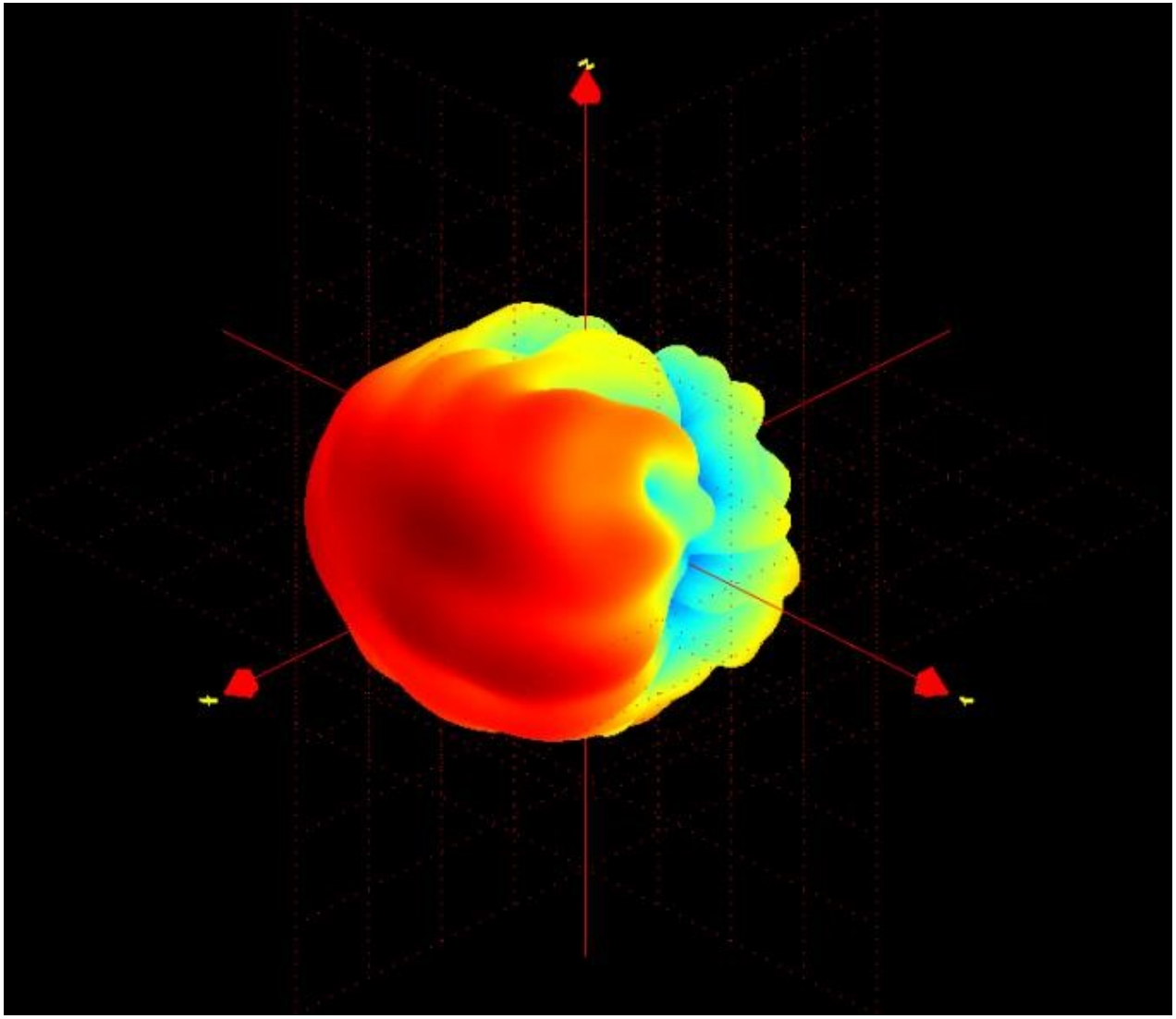
Direction chart

天线测试数据(天线位置一：螺丝孔悬空)

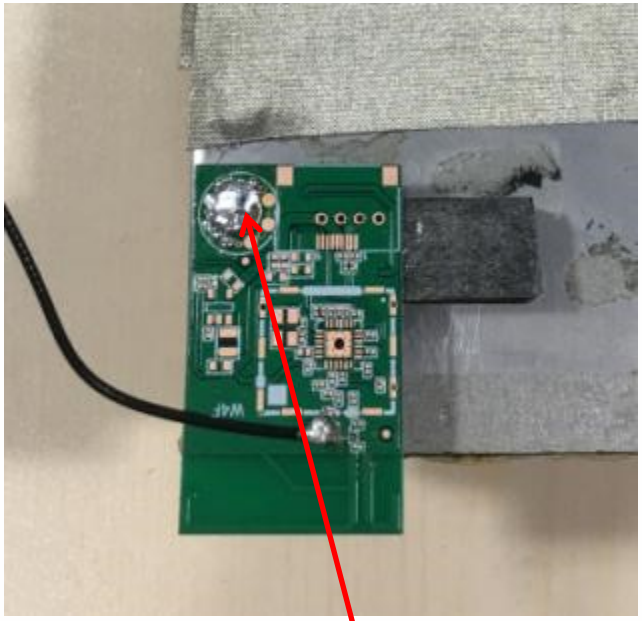


2450 MHz-3DDirection map

天线测试数据(天线位置一：螺丝孔悬空)



Antenna position two(The



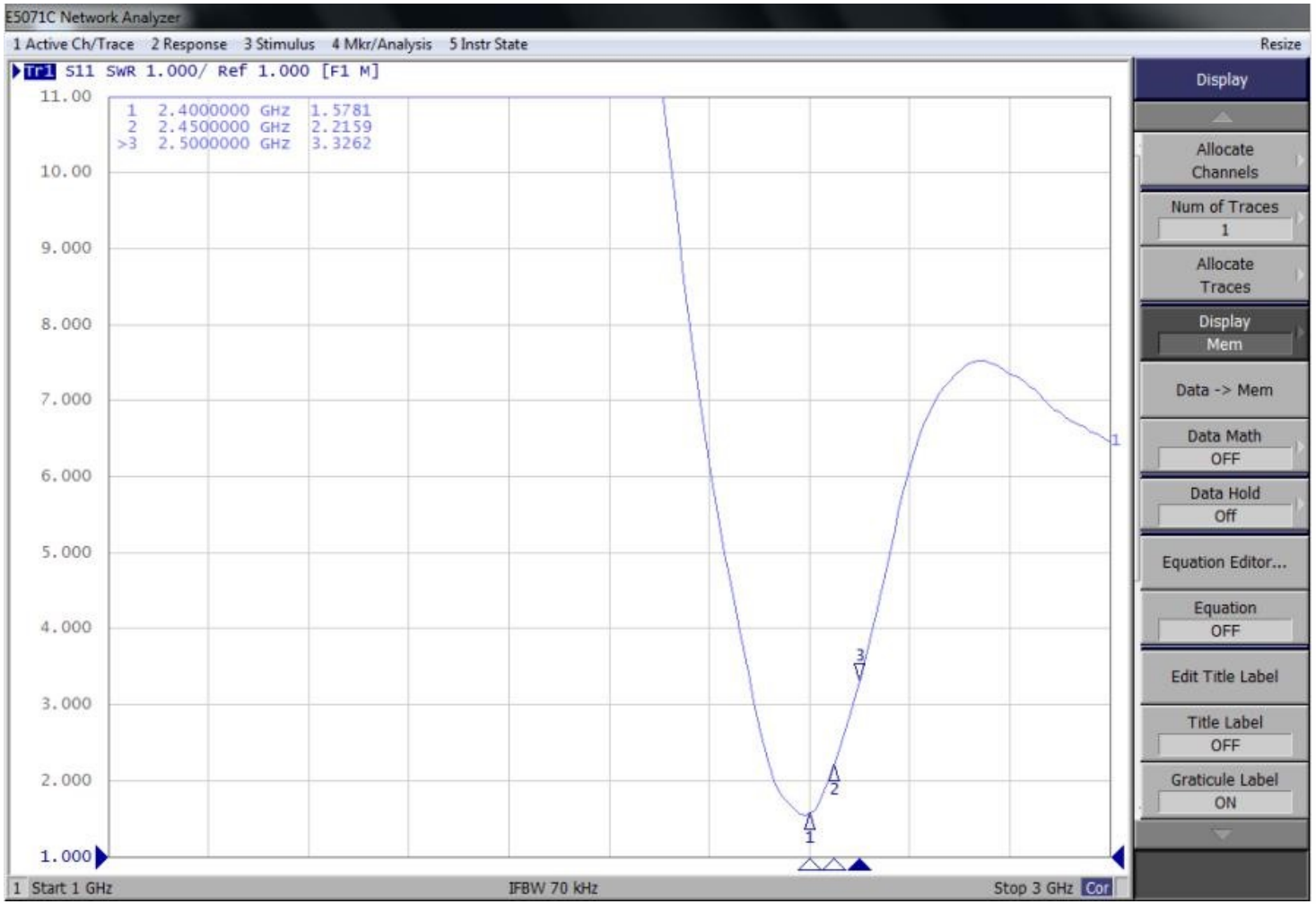
The screw hole is

2.4 G	.2.45 G	2.5 G
1.5781	2.2159	3.3262

天线测试数据(天线位置二：螺丝孔悬空)

hanging, the height**10 mm**

VSWR.

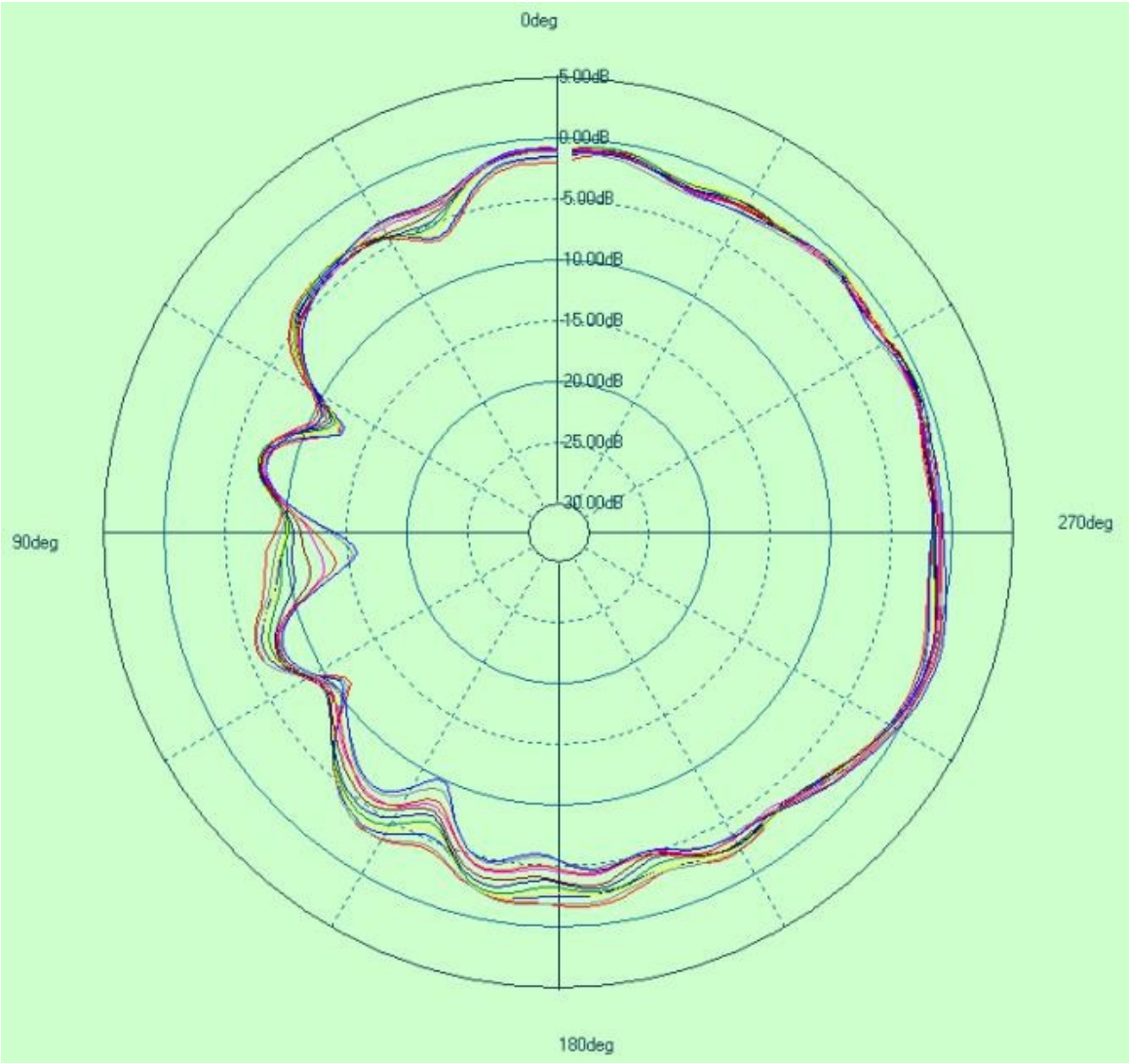


2.4 G-Efficiency and gain

Frequency	Efficiency	Efficiency . dB	Frequency	Gain dBi
2.4E+09	51%	-2.9603	2.4E+09	3.191825
2.41E+09	52%	-2.83876	2.41E+09	3.014556
2.42E+09	51%	-2.94284	2.42E+09	3.172148
2.43E+09	53%	-2.79355	2.43E+09	3.46337
2.44E+09	51%	-2.90925	2.44E+09	3.502027
2.45E+09	49%	-3.06238	2.45E+09	3.47258
2.46E+09	48%	-3.20358	2.46E+09	3.312029
2.47E+09	47%	-3.30983	2.47E+09	3.286007
2.48E+09	48%	-3.153	2.48E+09	3.447952
2.49E+09	45%	-3.49127	2.49E+09	3.143881
2.5E+09	46%	-3.41574	2.5E+09	3.14445

2.4G-XOYFace (Theta=90deg) Direction chart

天线测试数据(天线位置二：螺丝孔悬空)

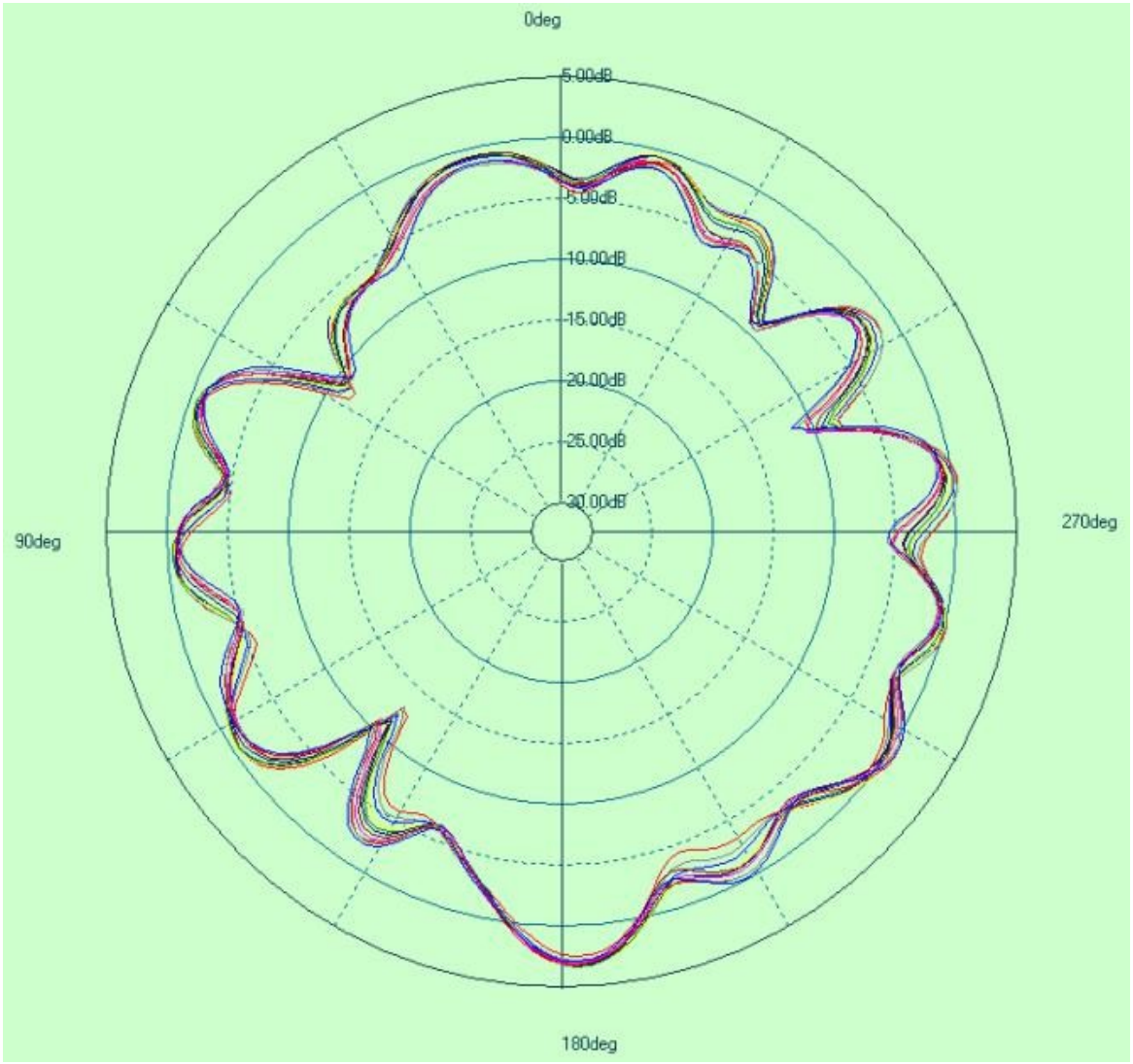


天线测试数据(天线位置二：螺丝孔悬空)

2.4G-XOZFace （Phi=0deg)

Direction chart

天线测试数据(天线位置二：螺丝孔悬空)

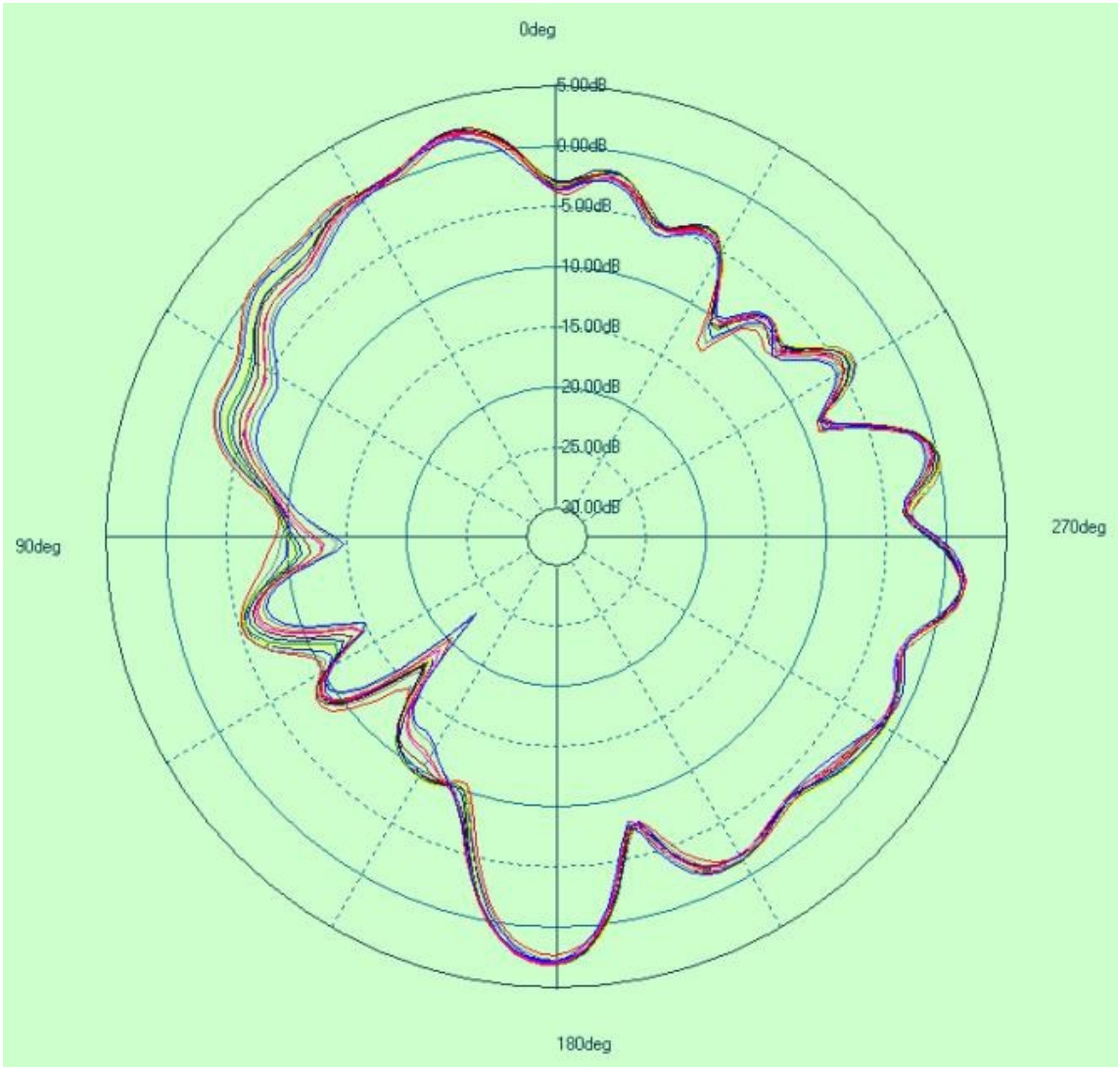


天线测试数据(天线位置二：螺丝孔悬空)

2.4G-YOZFace （Phi=90deg）

Direction chart

天线测试数据(天线位置二：螺丝孔悬空)



2450 MHz-3DDirection map

天线测试数据(天线位置二：螺丝孔悬空)