

Antenna Test Report

SHENZHEN KURUIJIE

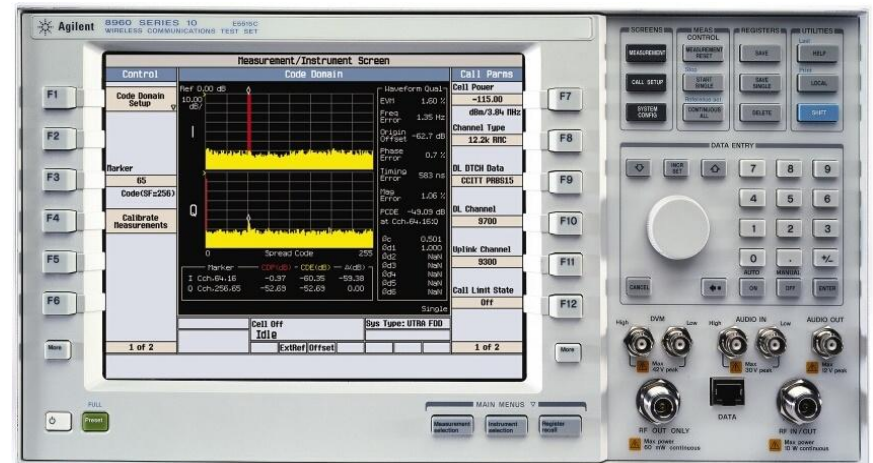
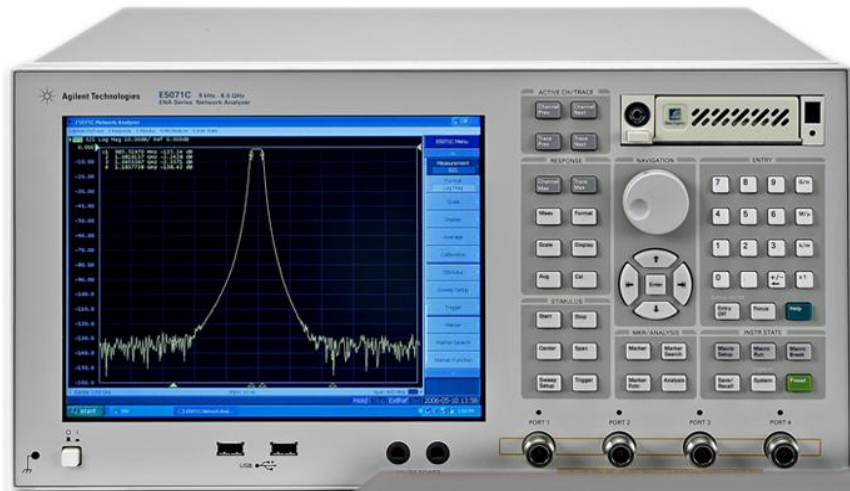
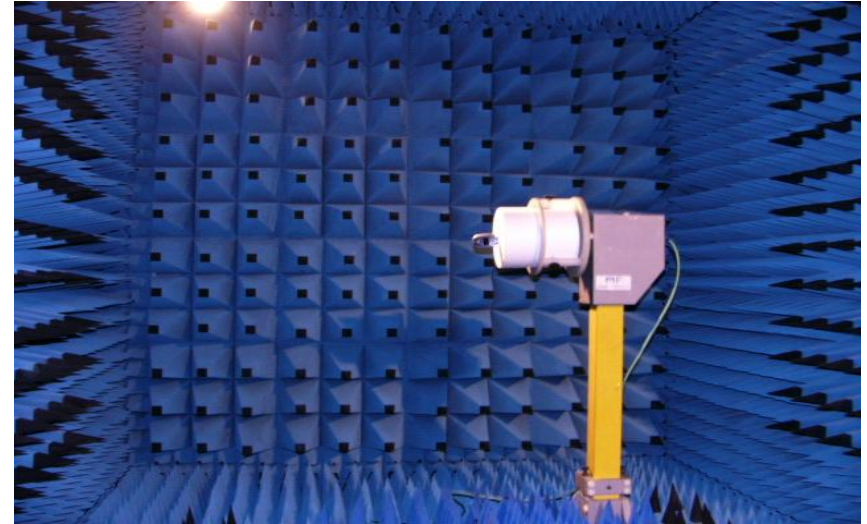
Project:K627B2

RF Engineer:zhou chao ming

Testing Date:2023.07.28

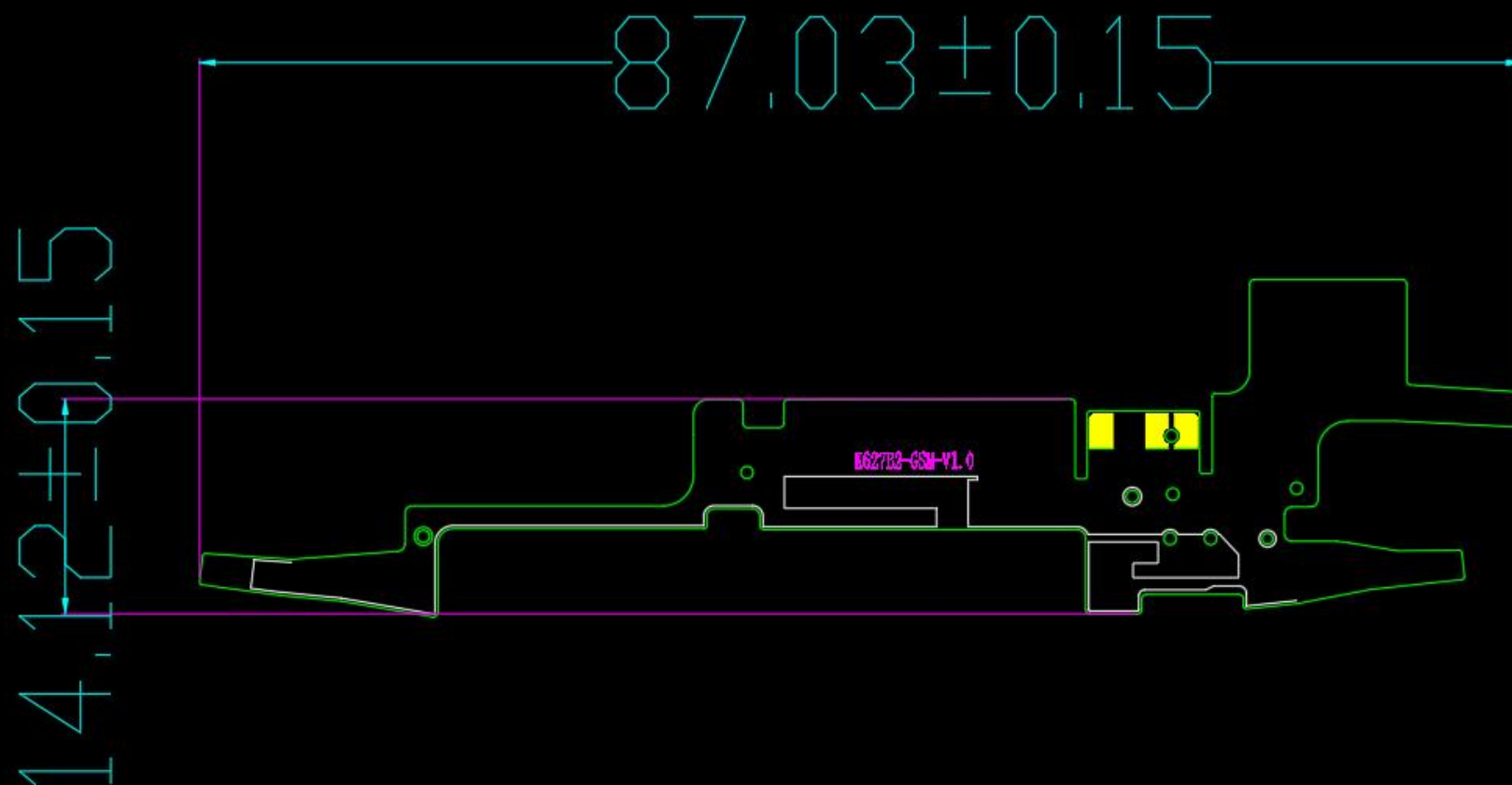
1. The Equipment of Active Test

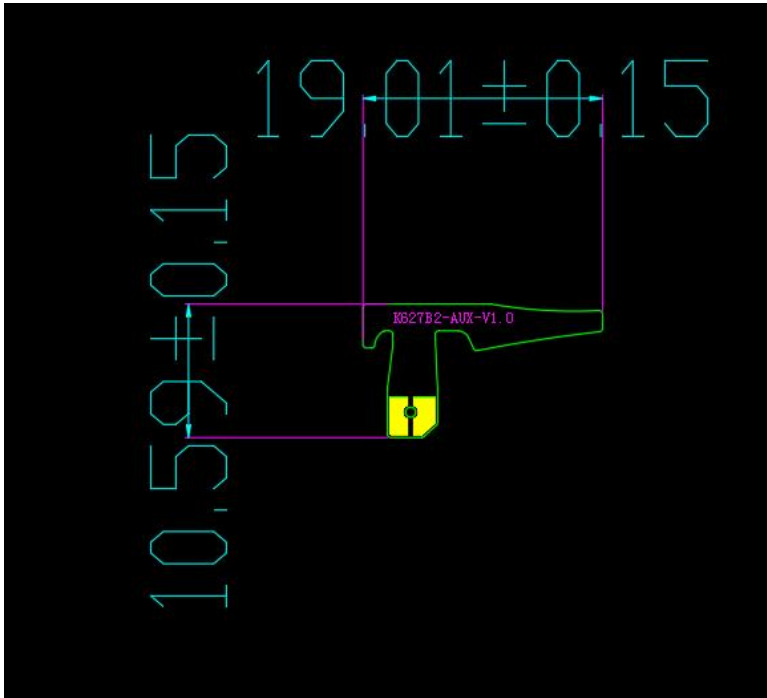
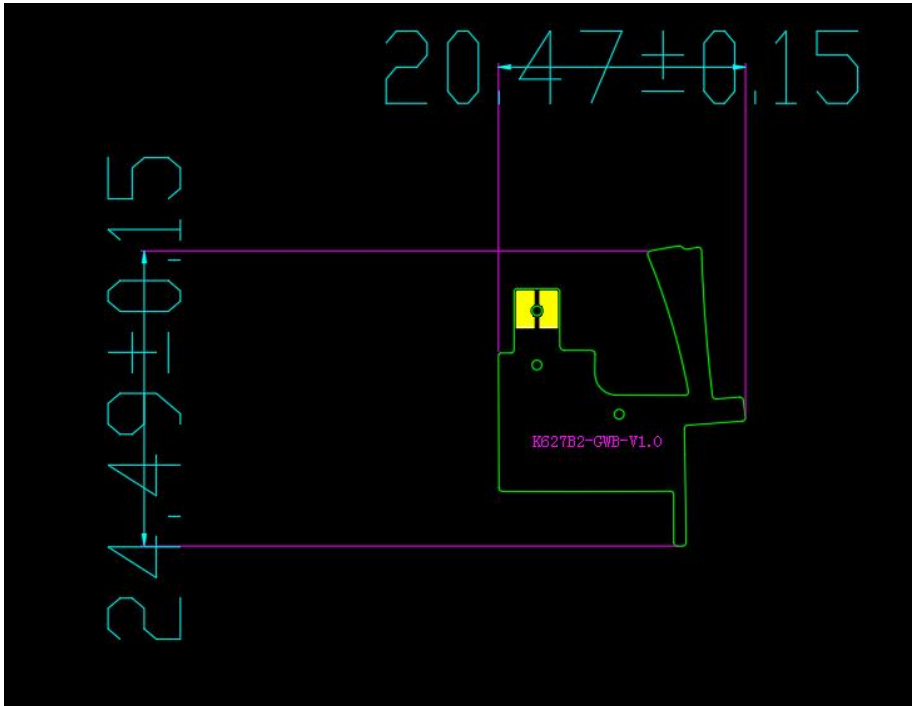
- 1: Anechoic Chamber 7x4x3 m (3D)
- 2: Rohde & Schwarz CMW500
- 3: AGILENT 8960 5515C
- 4: Network Analyzer-AGILENT ENA5071B



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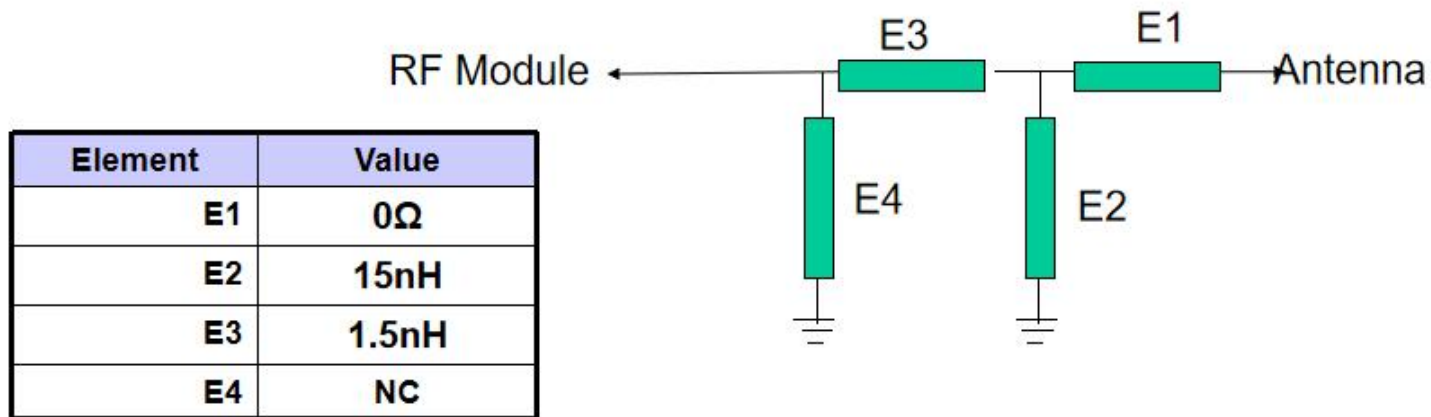




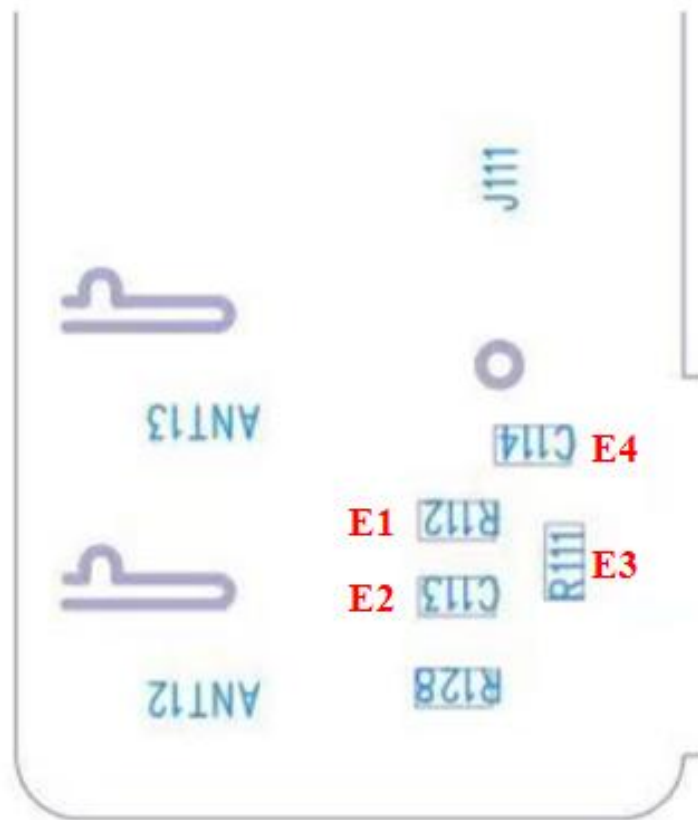
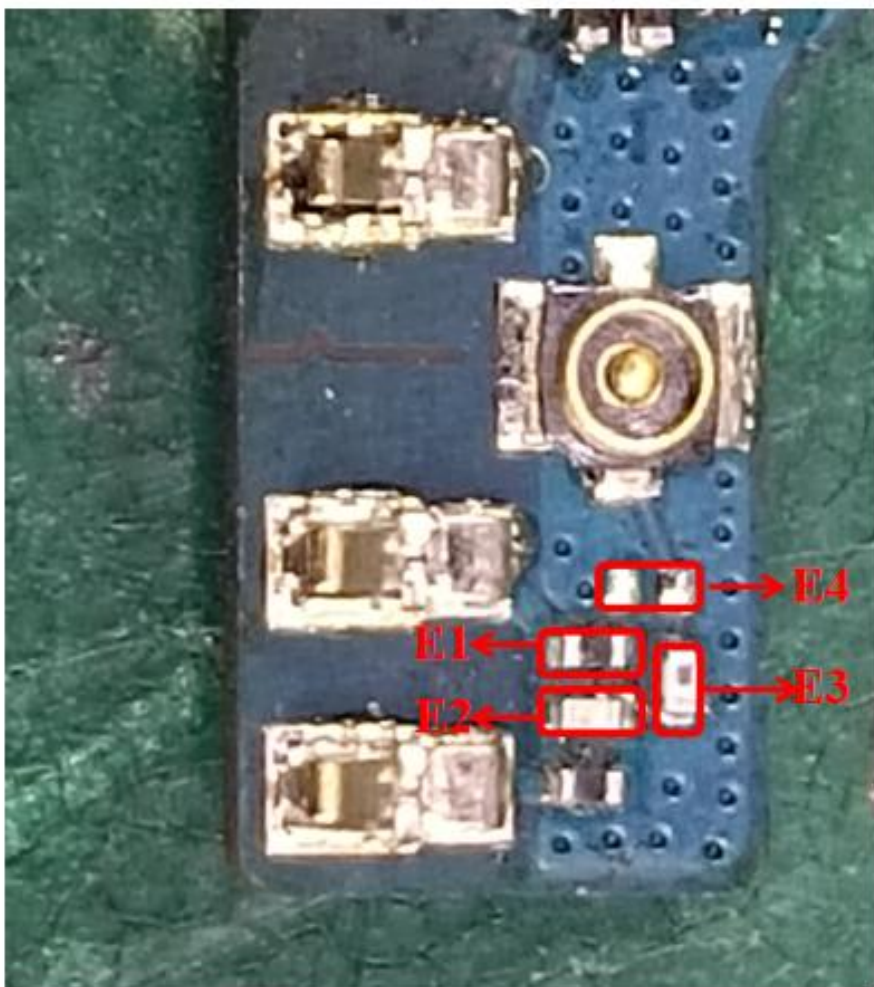
二、Electrical performance

1.Specifications

The operating frequency band of K627B2 antenna is 617~960MHZ and 1710~2700MHZ, in which resonance occurs.



开关匹配逻辑	开关路径	匹配值	2G频率	3G频率	4G频率
	RF1-R1612	0欧姆	850/900/1800/1900	B2/4/5	B2/4/5/25/26/66/41
	RF2-R1613	9.1nH			B13
	RF3-R1616	18nH			B12
	RF4-R1614	33nH			B71



所有天线弹脚未改动。

三、Test of parameters

1.Test settings

The connection of VSWR test device is:

E5071C network analyzer→50 Ohmic coaxial Cable→110mm Long copper tube→Test fixture

Treatment of test fixture:

Use a hard cable to lead out the SMA-J connector from the 50 ohm test point of the antenna on the mobile phone PCB, connect it to the copper tube with a choke, and then connect other devices in turn.

Structure of antenna: FPC

Tr1 S22 SWR 1.000/ Ref 1.000 [F1 M]
Tr2 S22 Smith (R+jX) Scale 1.000u [F1 M]

11.00

10.00

9.000

8.000

7.000

6.000

5.000

4.000

3.000

2.000

1.000

1	824.00000	MHZ	2.2686
2	960.00000	MHZ	7.0892
3	1.7100000	GHZ	1.3918
4	2.1700000	GHZ	4.8551
5	2.5000000	GHZ	3.8546
>6	2.6900000	GHZ	3.9768

主天线:GSM4频+W2/4/5+LTE B2 /4 /5/ 25/ 26/ 66 /41

1 Start 500 MHz

IFBW 70 kHz

Stop 3 GHz PExt C? !

Meas Stop ExtRef Svc 2023-07-28 10:03

Display

Allocate
TracesDisplay
Mem

Data -> Mem

Data Math
OFF

Equation Editor...

Equation
OFF

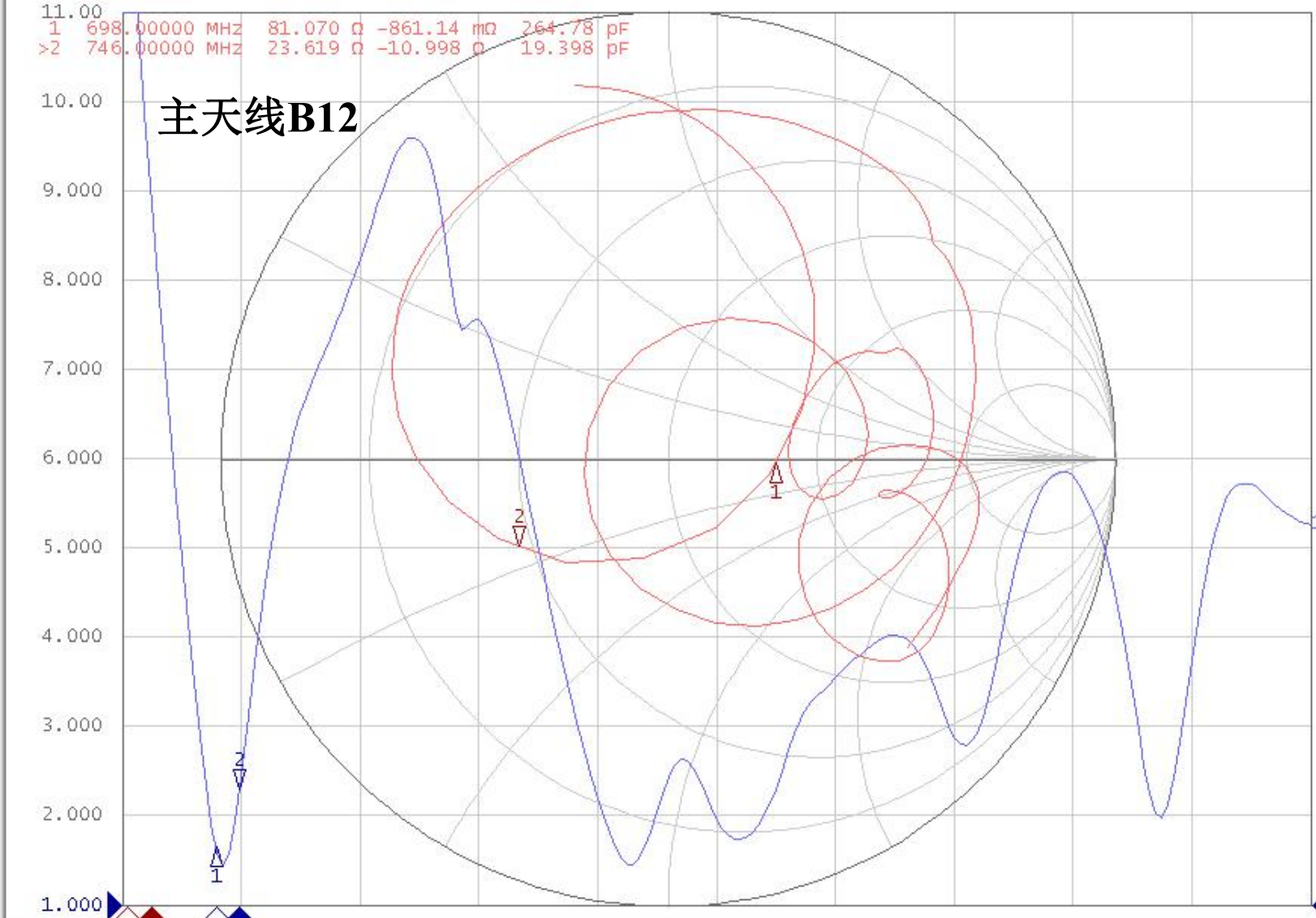
Edit Title Label

Title Label
OFFGraticule Label
ONInvert Color
ONFrequency
ONUpdate
ON

Tr1 S22 SWR 1.000 / Ref 1.000 [F1 M]
▶ Tr2 S22 Smith (R+jX) scale 1.000u [F1 M]

11.00
1 698.00000 MHz 81.070 Ω -861.14 $m\Omega$ 264.78 pF
>2 746.00000 MHz 23.619 Ω -10.998 Ω 19.398 pF

主天线B12



1 Start 500 MHz

IFBW 70 kHz

Stop 3 GHz PExt C? I

Meas

Stop

ExtRef

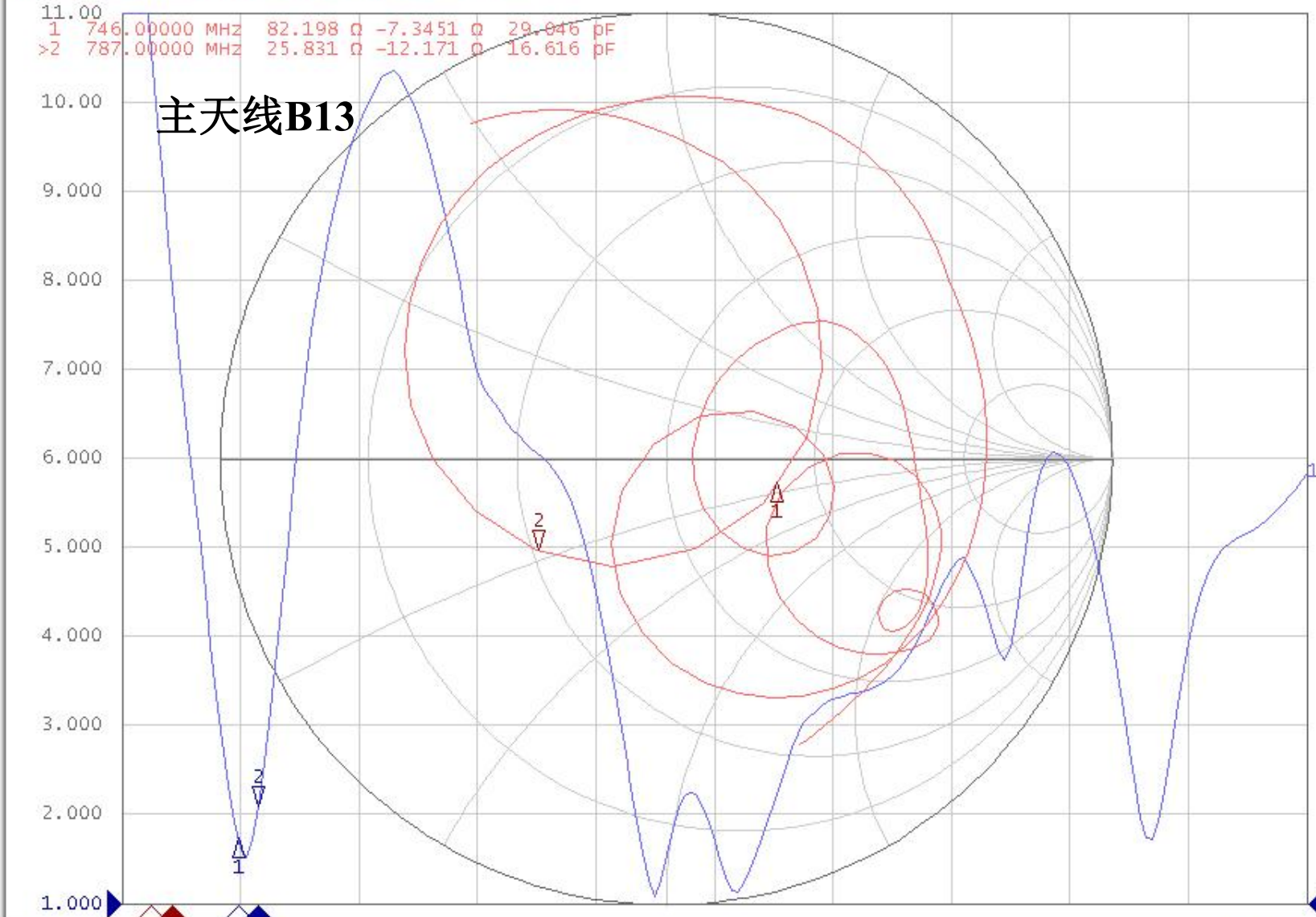
Svc

2023-07-28 10:07

Tr1 S22 SWR 1.000/ Ref 1.000 [F1 M]
Tr2 S22 Smith (R+jX) scale 1.000U [F1 M]

11.00
1 746.00000 MHz 82.198 Ω -7.3451 Ω 29.046 pF
>2 787.00000 MHz 25.831 Ω -12.171 Ω 16.616 pF

主天线B13



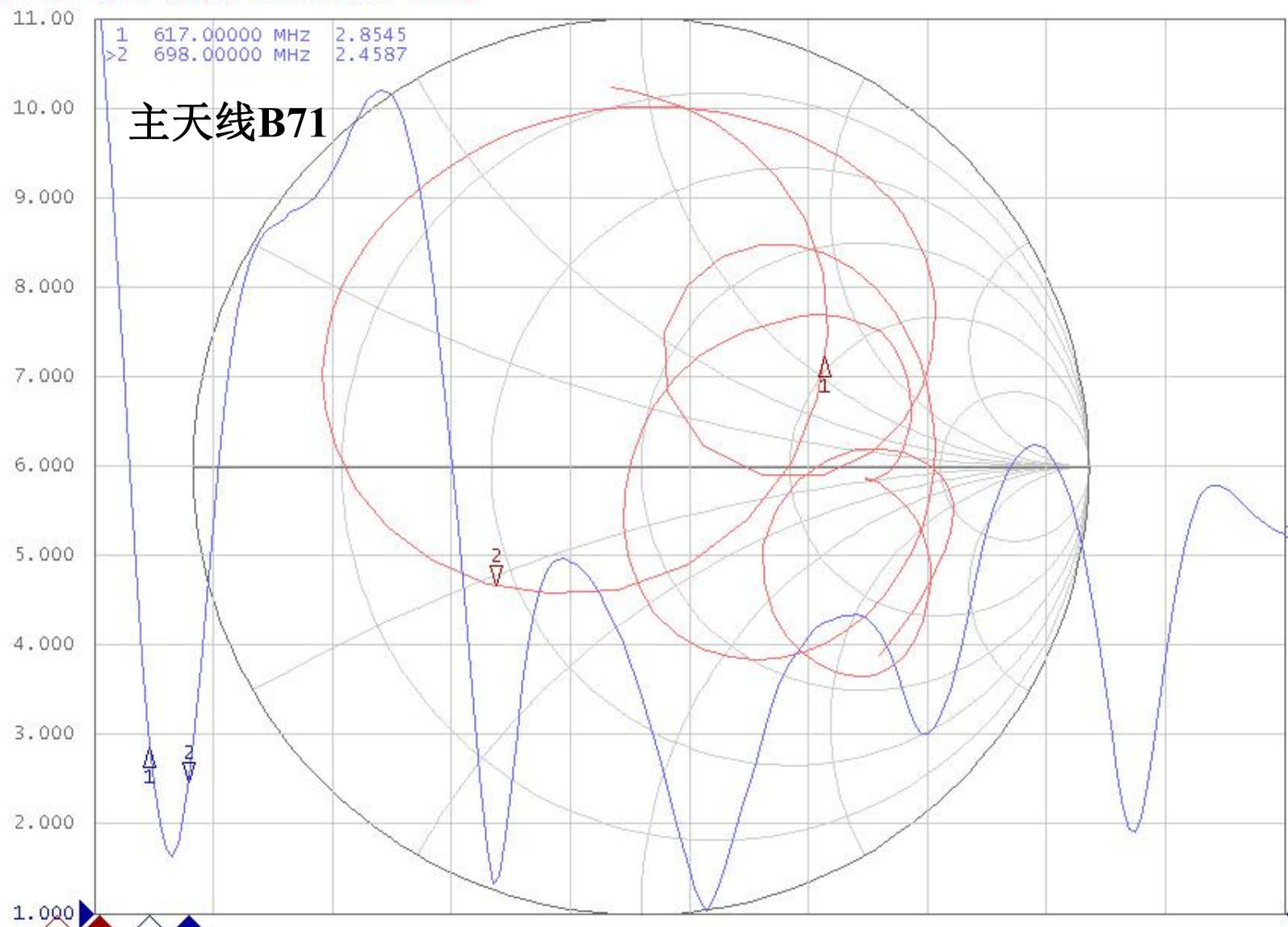
1 Start 500 MHz

IFBW 70 kHz

Stop 3 GHz PExt C?

Meas Stop ExtRef Svc 2023-07-28 11:48

Tr1 S22 SWR 1.000/ Ref 1.000 [F1 M]
Tr2 S22 Smith (R+jX) scale 1.000U [F1 M]



Save/Recall

Save State

Recall State

Recall by
File Name

Save Channel

Recall Channel

Save Type
State & CalChannel/Trace
Disp OnlySave
Trace Data...

Save SnP

Explorer

Return

1 Start 500 MHz

IFBW 70 kHz

Stop 3 GHz PExt C? I

Meas Stop ExtRef Svc

2023-07-28 10:09

Tr1 S22 SWR 1.000/ Ref 1.000 [F1 M]
Tr2 S22 Smith (R+jX) scale 1.000U [F1 M]

11.00

10.00

9.000

8.000

7.000

6.000

5.000

4.000

3.000

2.000

1.000

1	1.5750000	GHZ	1.1295
2	2.4000000	GHZ	1.9818
3	2.5000000	GHZ	1.9676
4	5.1000000	GHZ	2.5979
>5	5.8000000	GHZ	2.2264

WBG天线

1 Start 500 MHz

IFBW 70 kHz

Stop 6 GHz PExt C? I

Meas

Stop

ExtRef

Svc

2023-07-28 11:12

Passive parameters of main antenna:

工作频段(Working frequency band): 617~960MHZ,
1710~2700MHZ

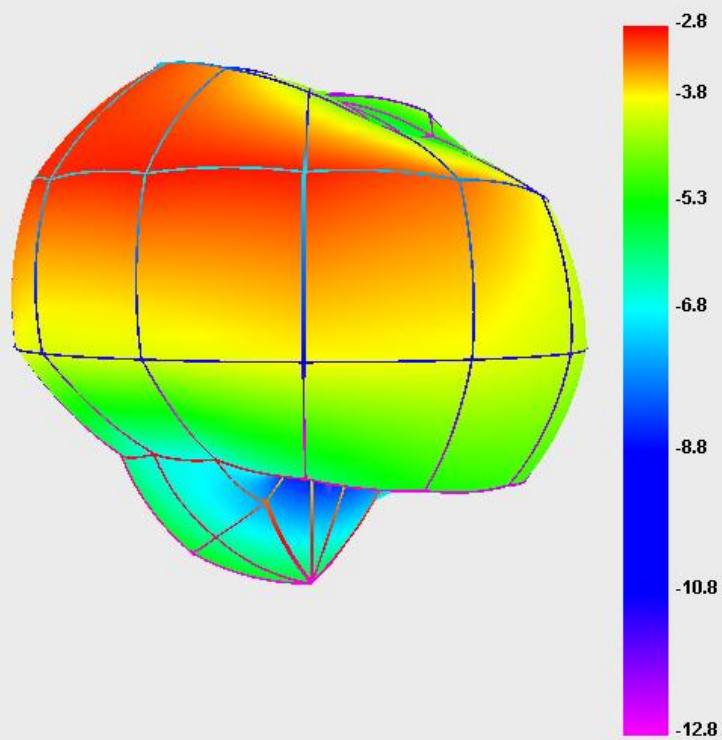
GSM850/900/1800/1900

WCDMA:B2/B4/B5

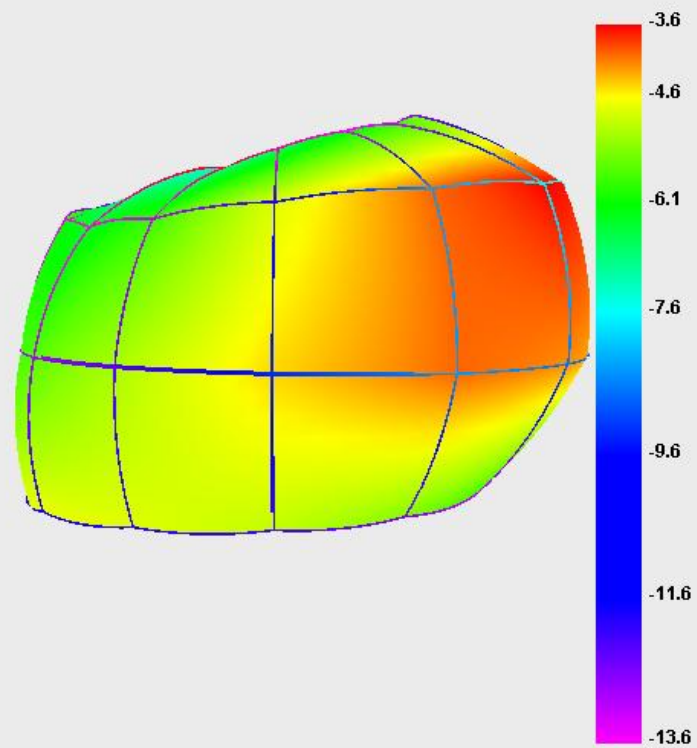
LTE:B2/B4/B5/B12/B13/25/B26/B66/B71/B41

Gain	
频段Band	gain增益(dBi)
GSM900	0.4DBI
GSM850/WCDMA B5	0.5DBI
DCS1800	2.0DBI
PCS1900, WCDMA B2 , LTE B2 B25	2.0DBI
WCDMA B4, LTE B4 B66	2.0DBI
LTE B41	2.3DBI
LTE B12	0.3DBI
LTE B13	0.3DBI
LTE B71	0.2DBI
GPS	1.5DBI
2.4G WIFI/BT	2.5DBI
5G WIFI	2.4DBI

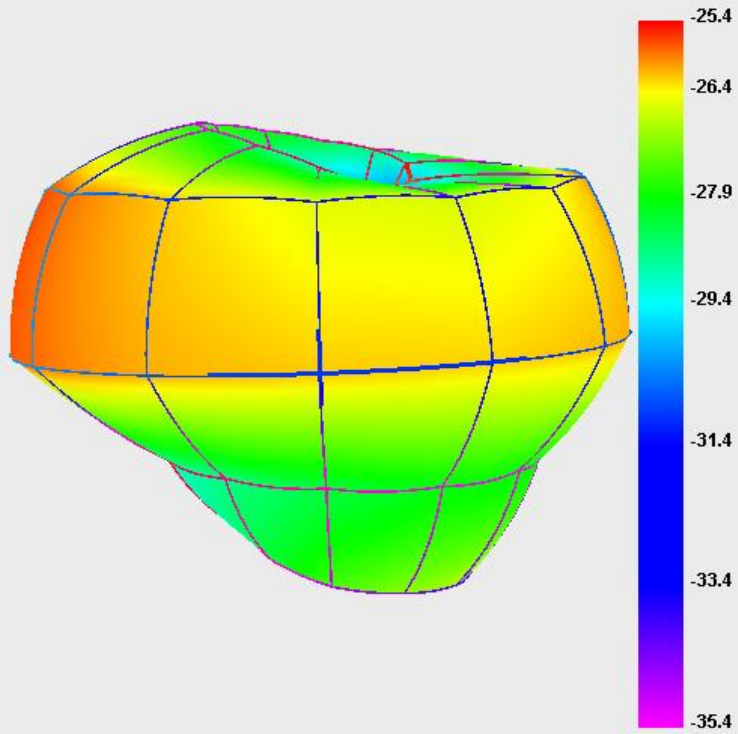
900.000MHz



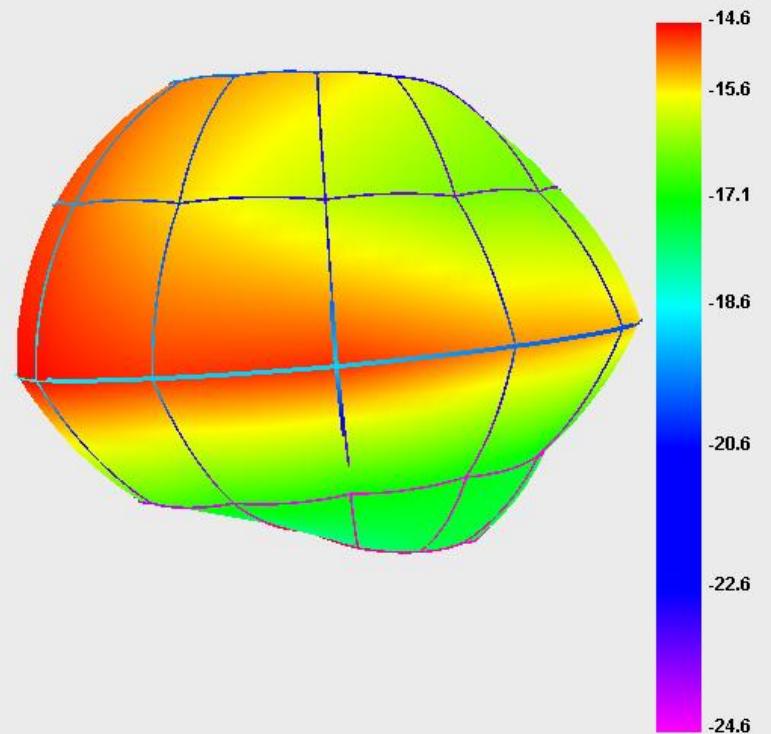
830.000MHz



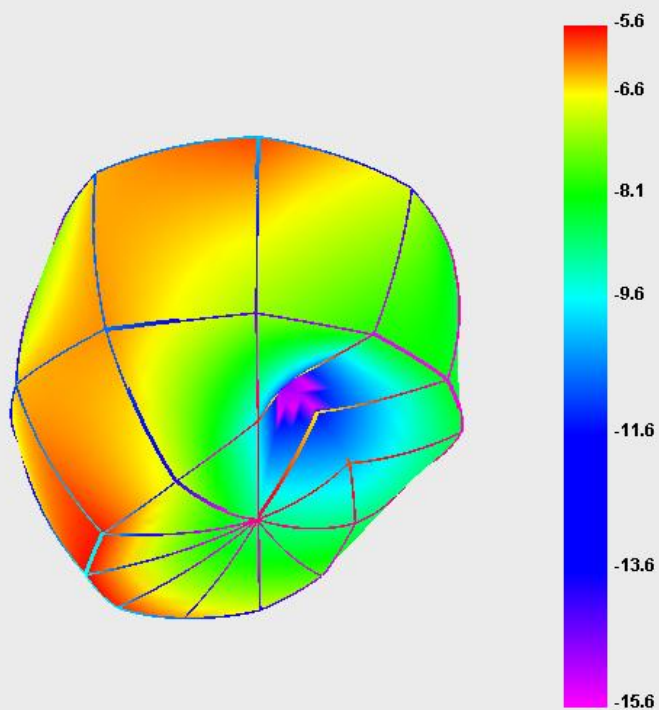
630.000MHz



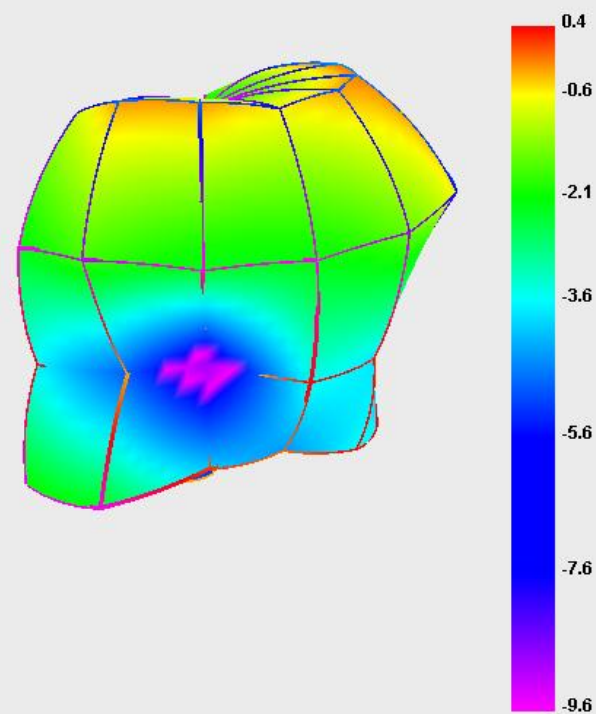
740.000MHz



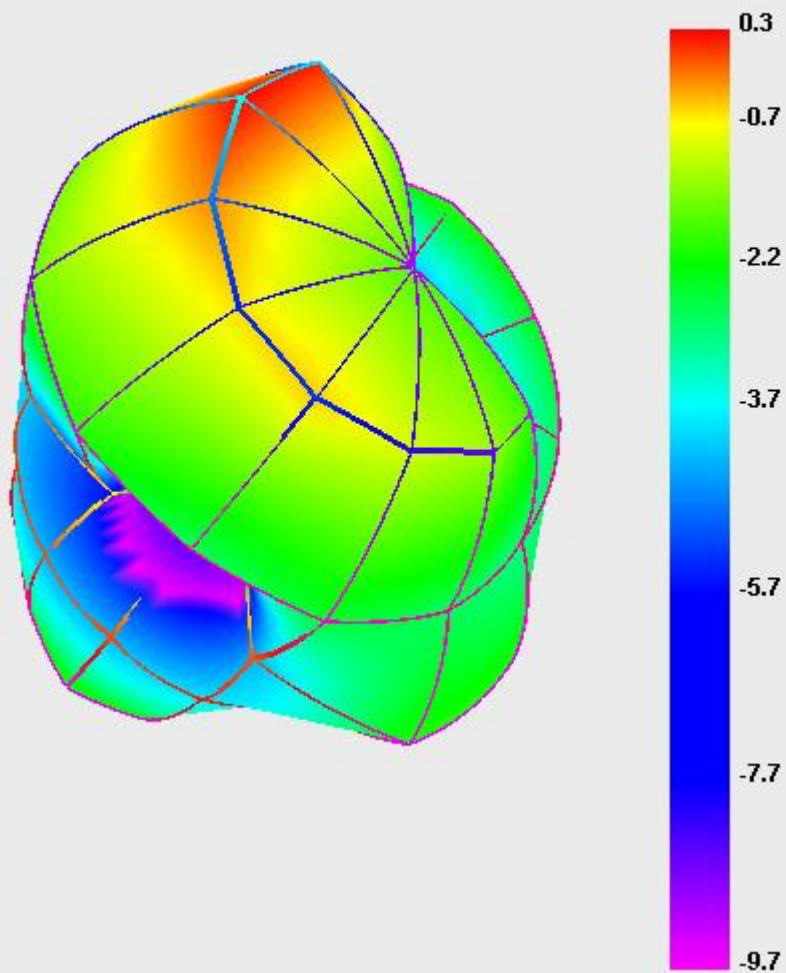
1710.000MHz



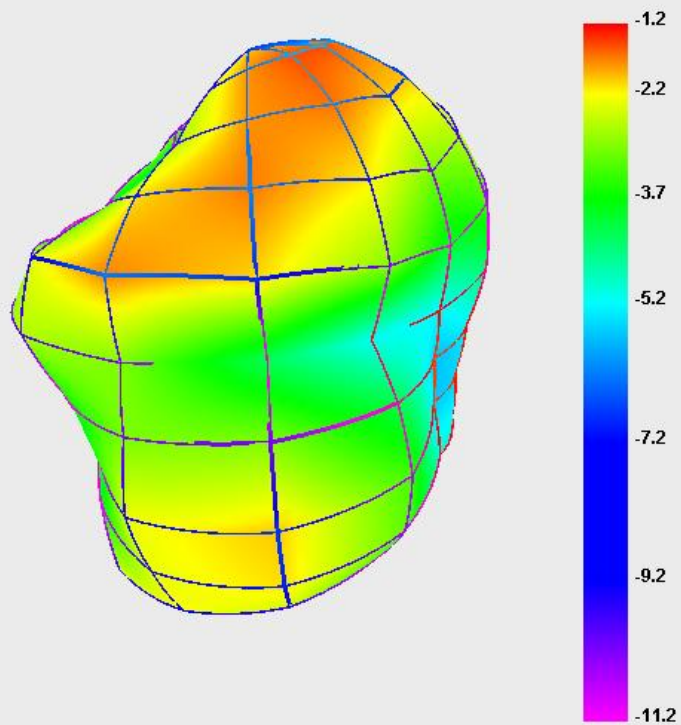
1880.000MHz



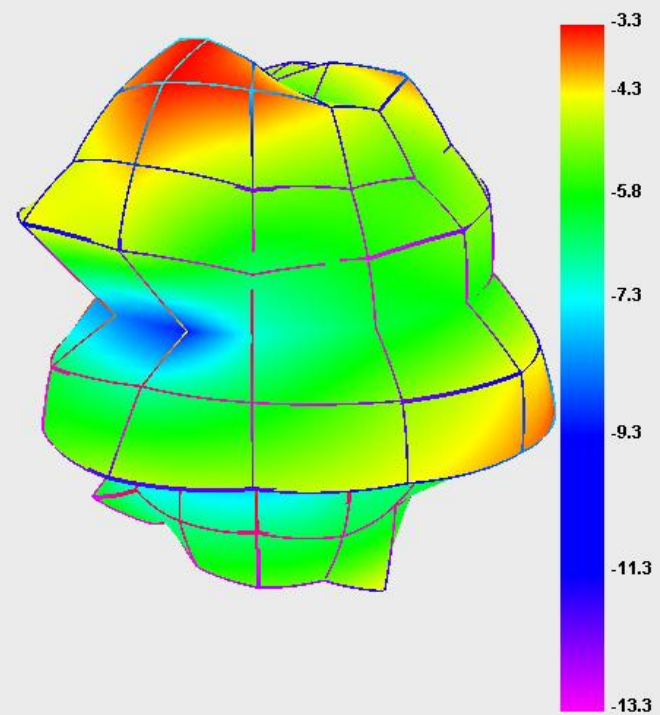
2170.000MHz



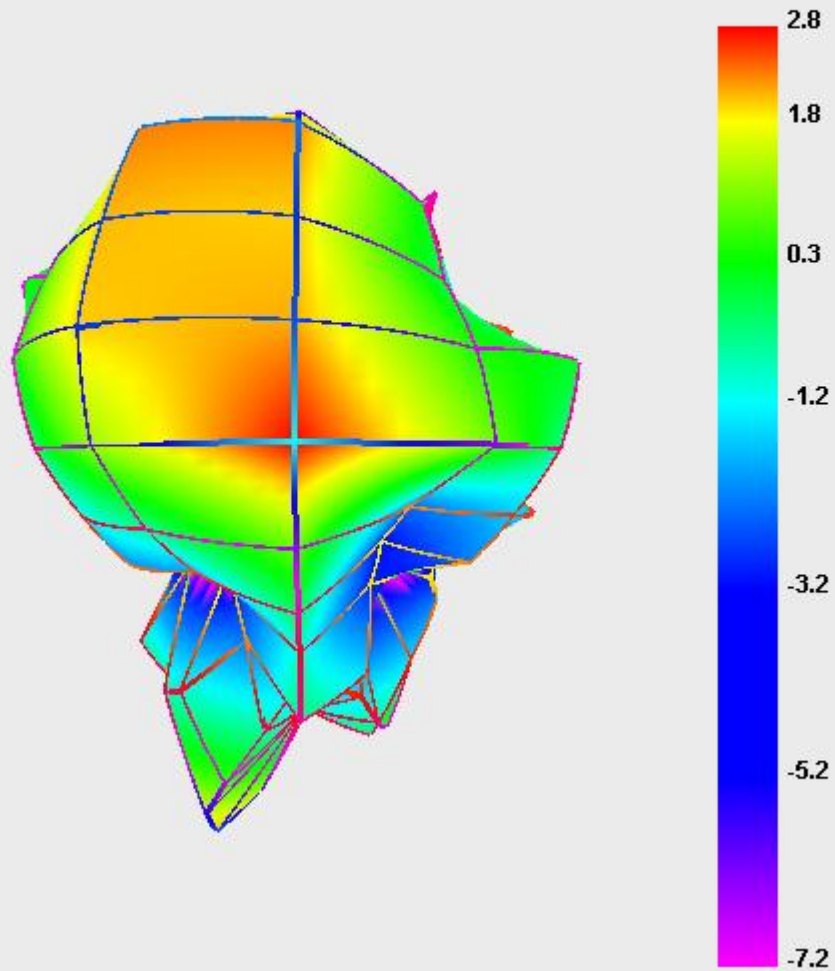
1575.000MHz



2450.000MHz



5500.000MHz



GPS/WIFI/BTPassive parameters of antenna:

工作频段(Working frequency band): 1560~1580MHZ,
2400~2500MHZ, 5100~5800MHZ

2.test result

GPS / WIFI / BT

GPS实测报告	
位 置	测试结果
我司2楼平台	冷启动80秒定位, 最大CN值40.6

WIFI实测报告	
位 置	测试结果
10M+一堵墙	三格信号,网页浏览,视频播放顺畅

BT实测报告	
位 置	测试结果
10米	范围内正向语音通话清晰



四、Active test setup

The active test devices are sequentially connected as follows:

Agilent8960→50Ohmic coaxialCable→guangping system→Mobile phone to be tested

1.Test site

AW microwave anechoic chamber: the test frequency range is 400MHz - 6GHz, the quiet zone range is 40cm circumference, and the reflectivity is less than - 90 dB.

2.test result

The maximum radiation power and maximum receiving sensitivity reflect the maximum power radiation value and the optimal receiving performance of the antenna in the entire radiation space. TRP and TIS reflect the average radiation power and average receiving sensitivity of the antenna, that is, the overall receiving performance of the antenna.

The following is the active test result of K626B2 mobile phone main antenna:

	TRP	TIS		TRP	TIS		TRP	TIS
GSM850	24.15	-101.89	LTE B2	17.07	-89.29	LTE B71	15.37	-88.07
	24.74	-101.47		16.57	-89.49		16.12	-89.17
	24.91	-101.4		16.33	-88.81		16.87	-88.66
GSM900	22.41	-99.63	LTE B4	18.08	-90.24	LTE B41	21.01	-90.45
	22.13	-97.32		17.82	-90.48		20.99	-90.39
	21.87	-95.44		17.7	-89.79		21.05	-90.1
DCS1800	22.18	-104.78	LTE B5	18.28	-88.75			
	23.56	-104.09		18.55	-88.56			
	23.94	-103.58		18.63	-88.07			
PCS1900	23.78	-103.09	LTE B12	17.16	-89.15			
	23.31	-103.68		17.29	-89.34			
	22.69	-103.83		17.32	-88.75			
WCDMA B2	16.95	-105.9	LTE B13					
	16.56	-105.68		17.52	-88.36			
	16.14	-105.33						
WCDMA B4	17.61	-104.94	LTE B25	18.7	-90.22			
	17.02	-104.32		18.34	-89.93			
	16.57	-103.16		17.76	-89.73			
WCDMA B5	16.93	-103.64	LTE B26	16.35	-88.94			
	16.73	-103.32		16.57	-88.47			
	16.26	-102.65		16.87	-88.49			
			LTE B66	16.63	-89.49			
				16.31	-88.95			
				16.06	-88.24			