

Antenna Test Report

SHENZHEN KURUIJIE

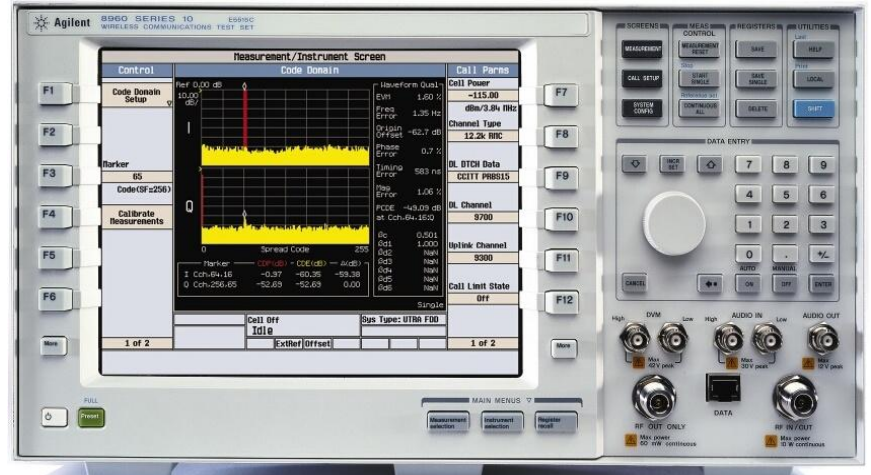
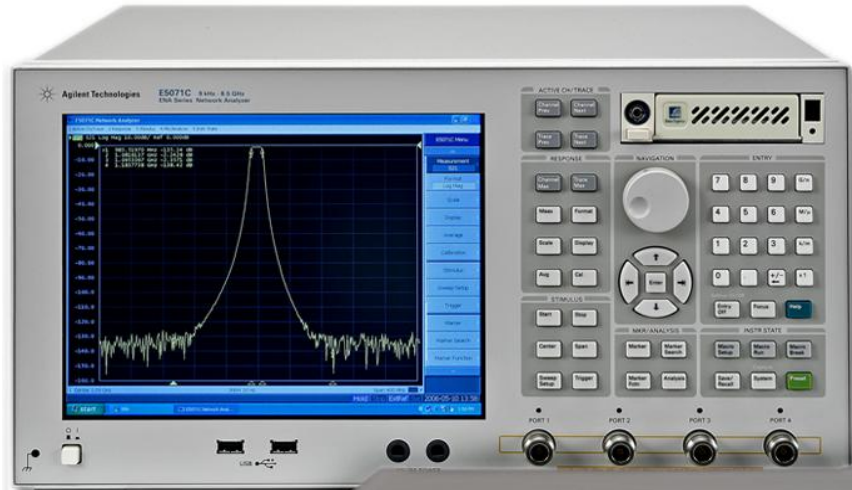
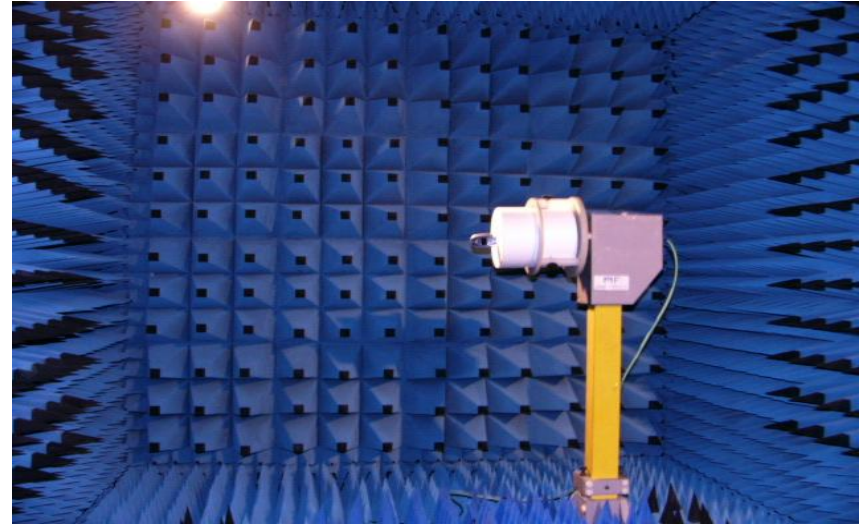
Project:K626B1

RF Engineer:zhou chao ming

Testing Date:2023.07.29

1. The Equipment of Active Test

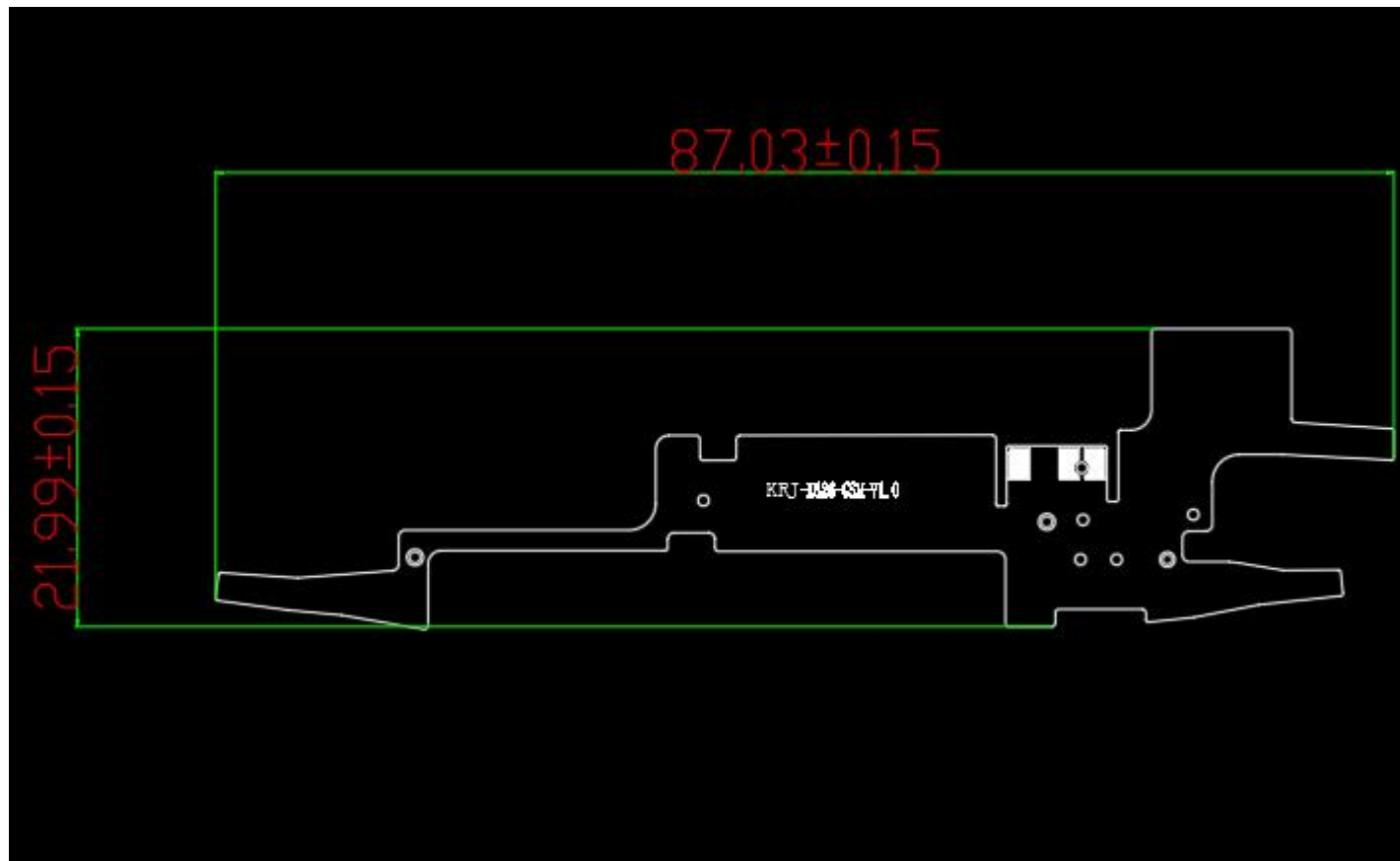
- 1: Anechoic Chamber 7x4x3 m (3D)
- 2: Rohde & Schwarz CMW500
- 3: AGILENT 8960 5515C
- 4: Network Analyzer-AGILENT ENA5071B

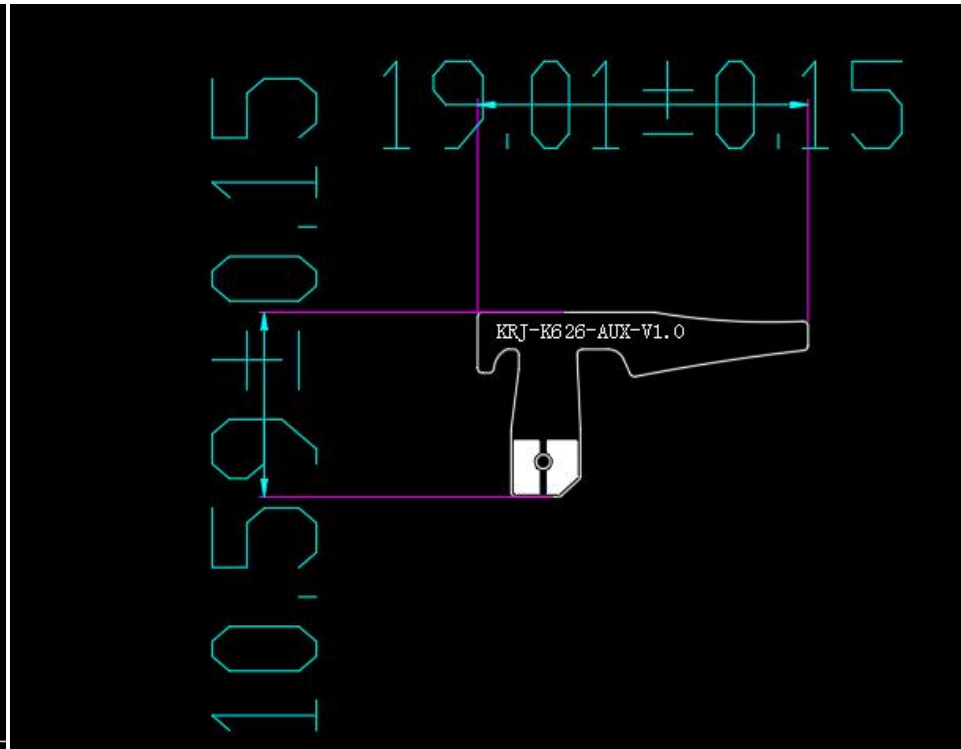
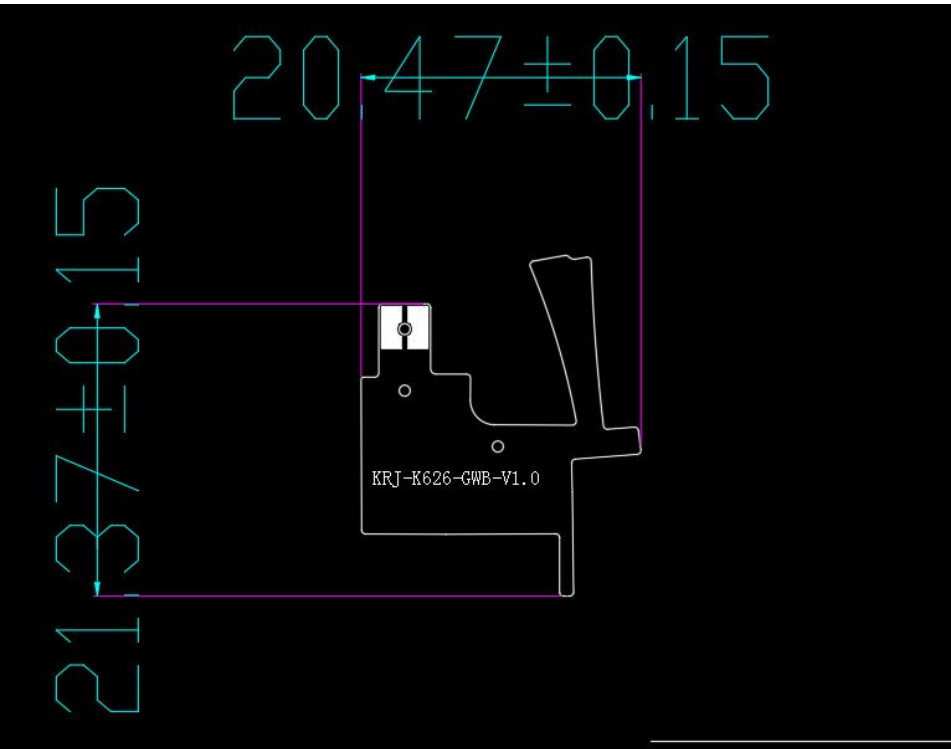


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一、产品规格(Product specification)

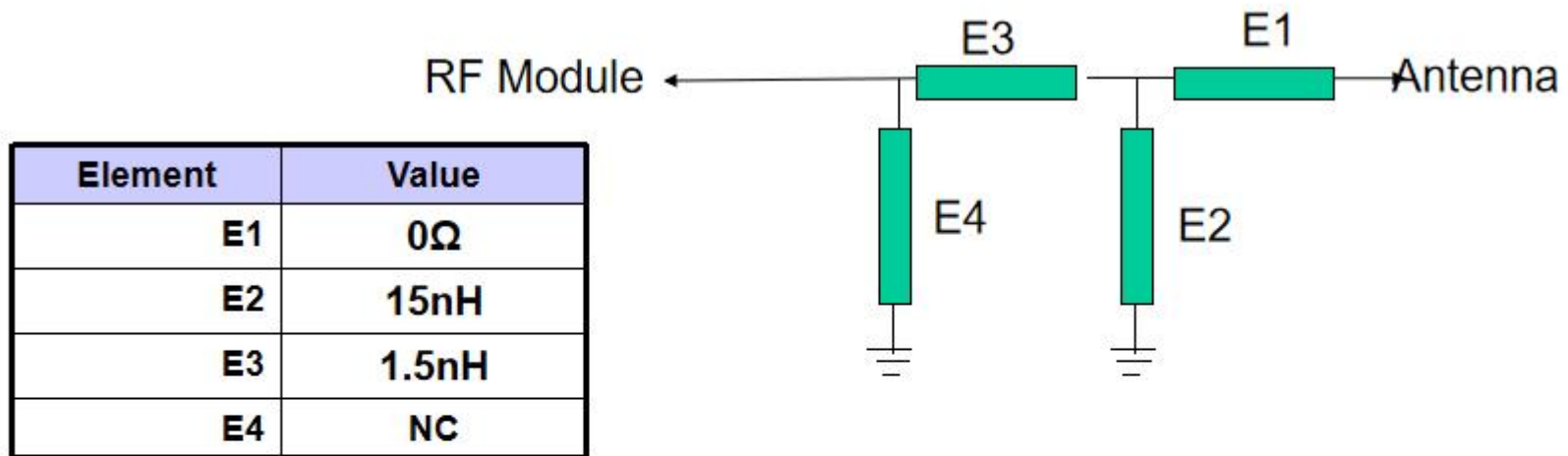




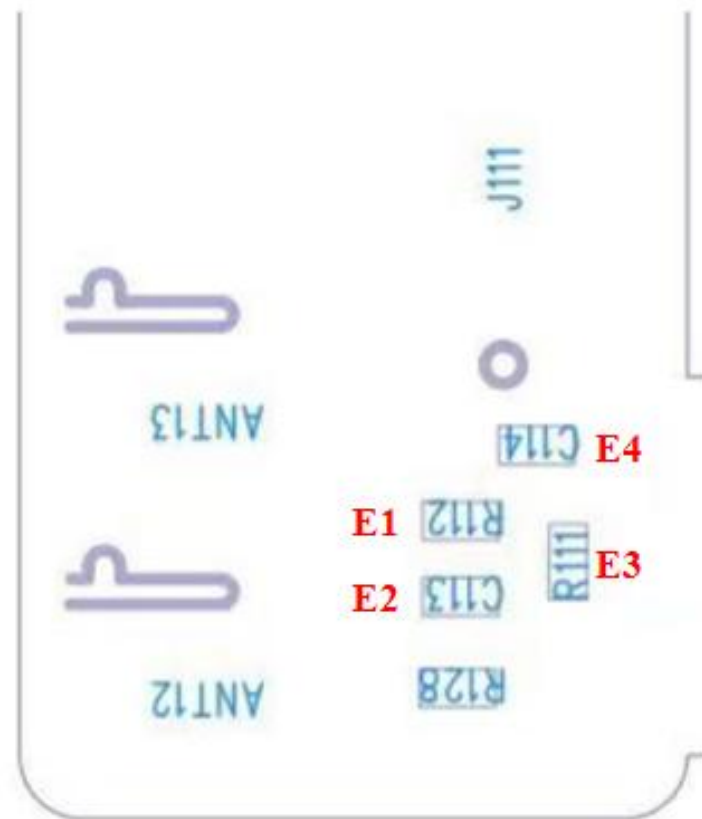
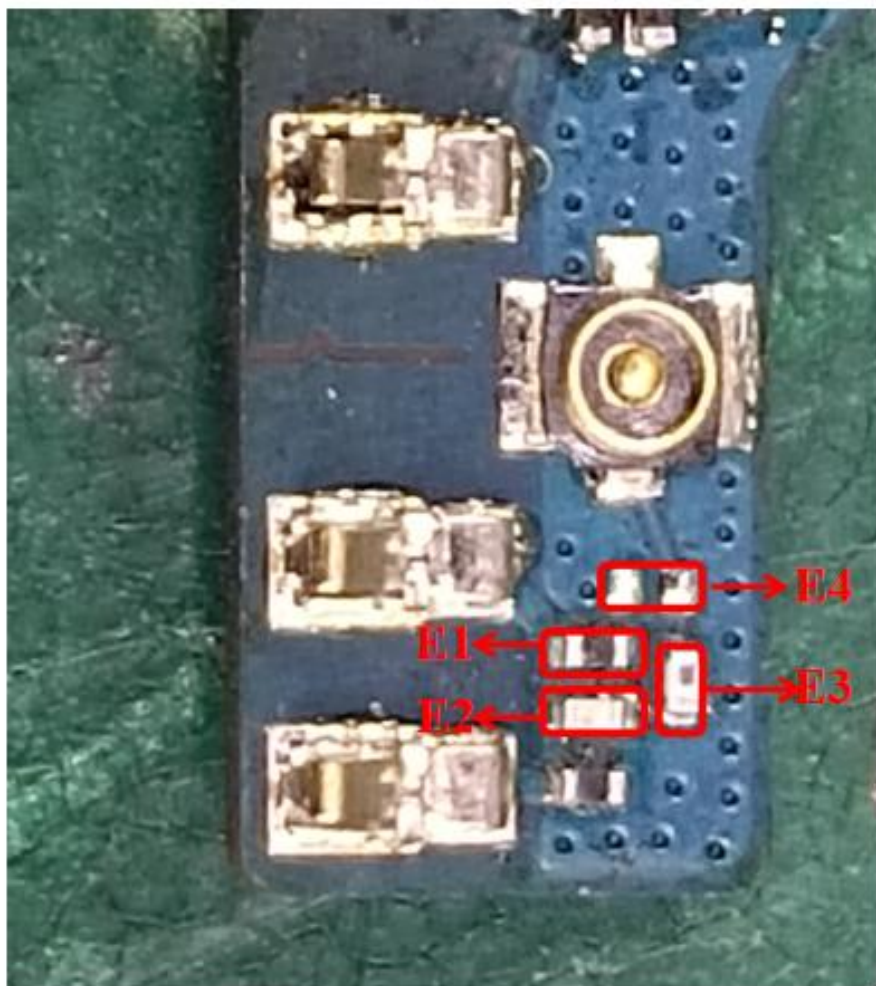
二、Electrical performance

1.Specifications

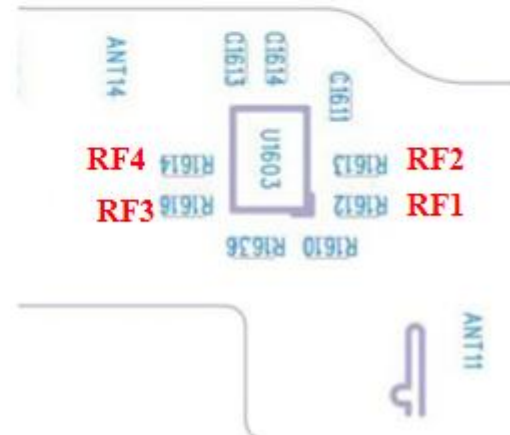
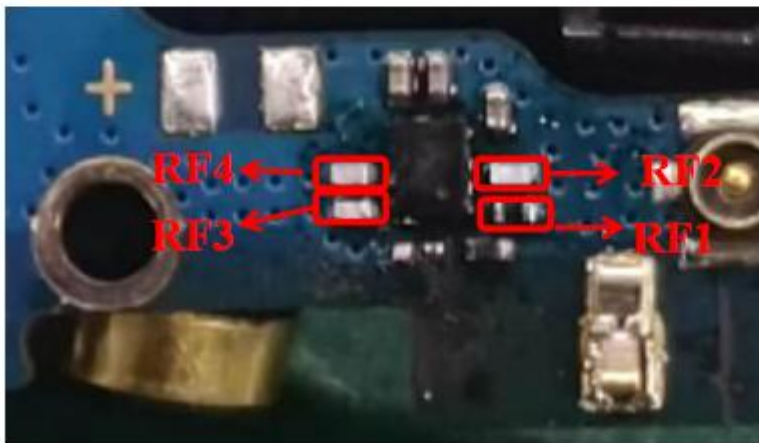
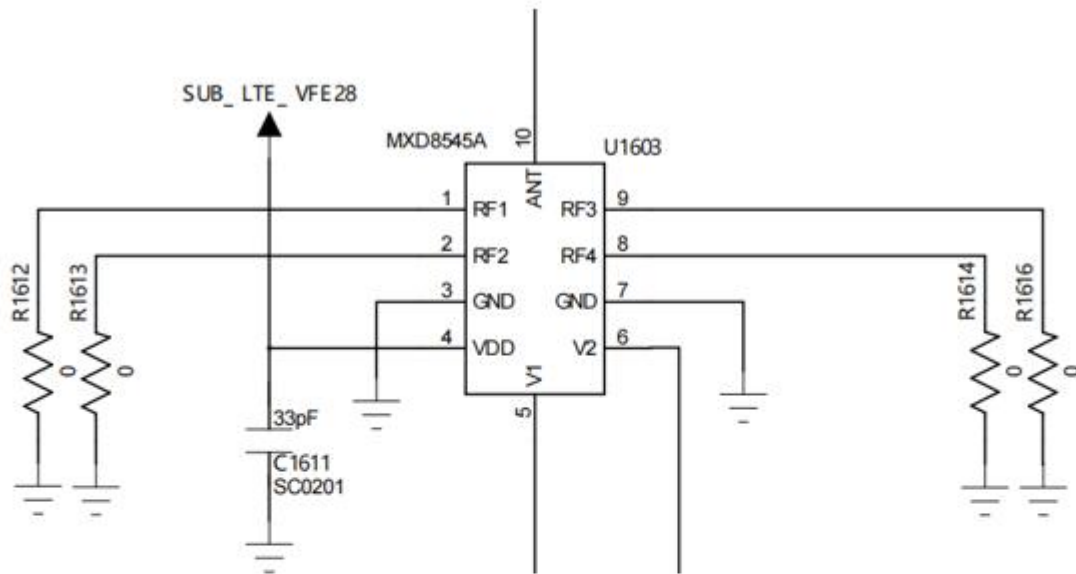
The operating frequency band of K626B1 antenna is 617~960MHZ and 1710~2700MHZ, in which resonance occurs.



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	850/900/1900	B2/5/8	B2/5/41
	RF2-R1613	0欧姆	1800		B4/66
	RF3-R1616	18nH			4G=B12/17
	RF4-R1614	33nH			4G=B71



所有天线弹脚未改动。



三、 Test of parameters

1. Test settings

The connection of VSWR test device is:

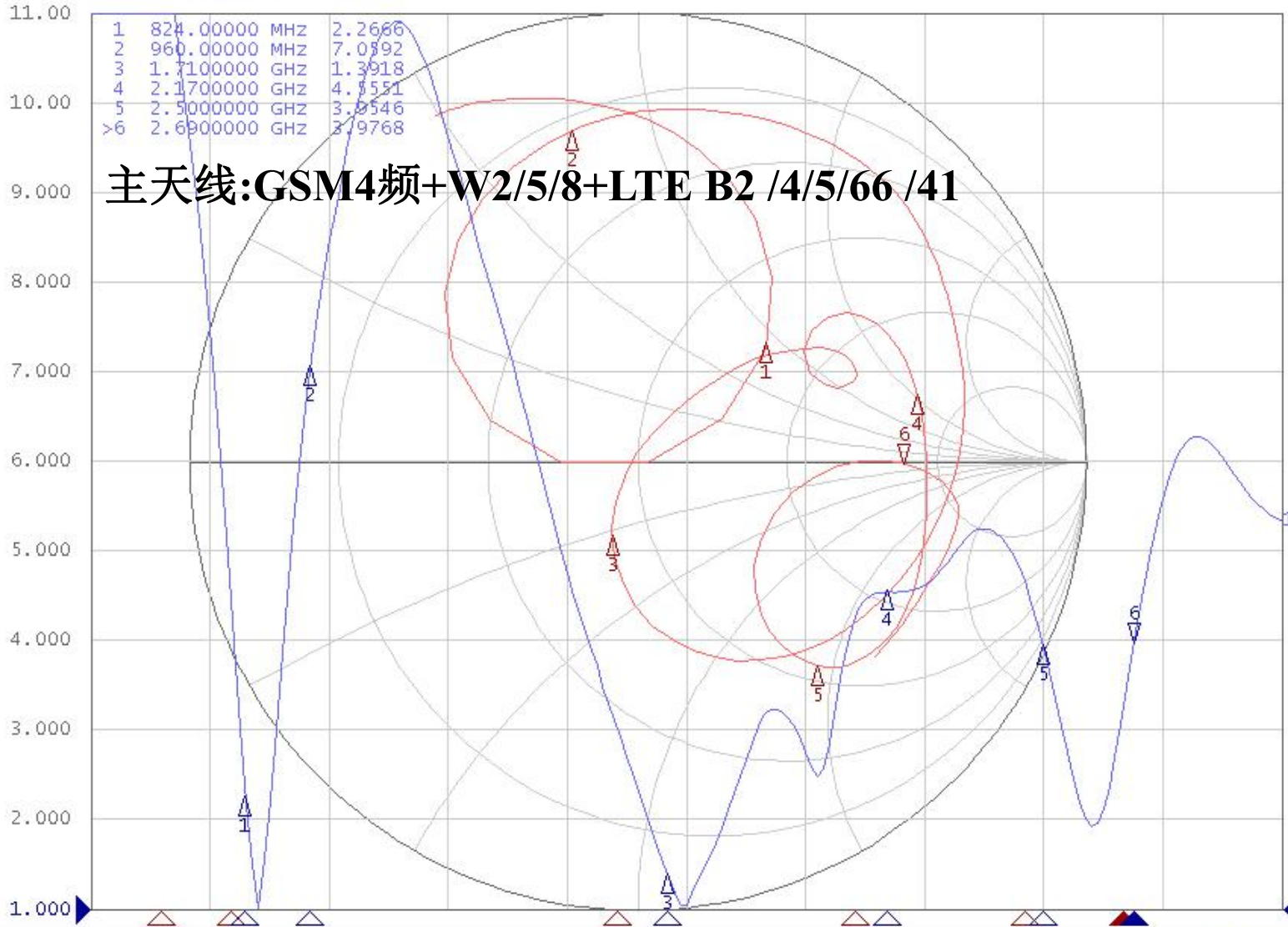
E5071C network analyzer → 50 Ohmic coaxial Cable → 110mm Long copper tube → Test fixture

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]



主天线:GSM4频+W2/5/8+LTE B2 /4/5/66 /41

Display

Allocate Traces

Display Mem

Data -> Mem

Data Math OFF

Equation Editor...

Equation OFF

Edit Title Label

Title Label OFF

Graticule Label ON

Invert Color ON

Frequency ON

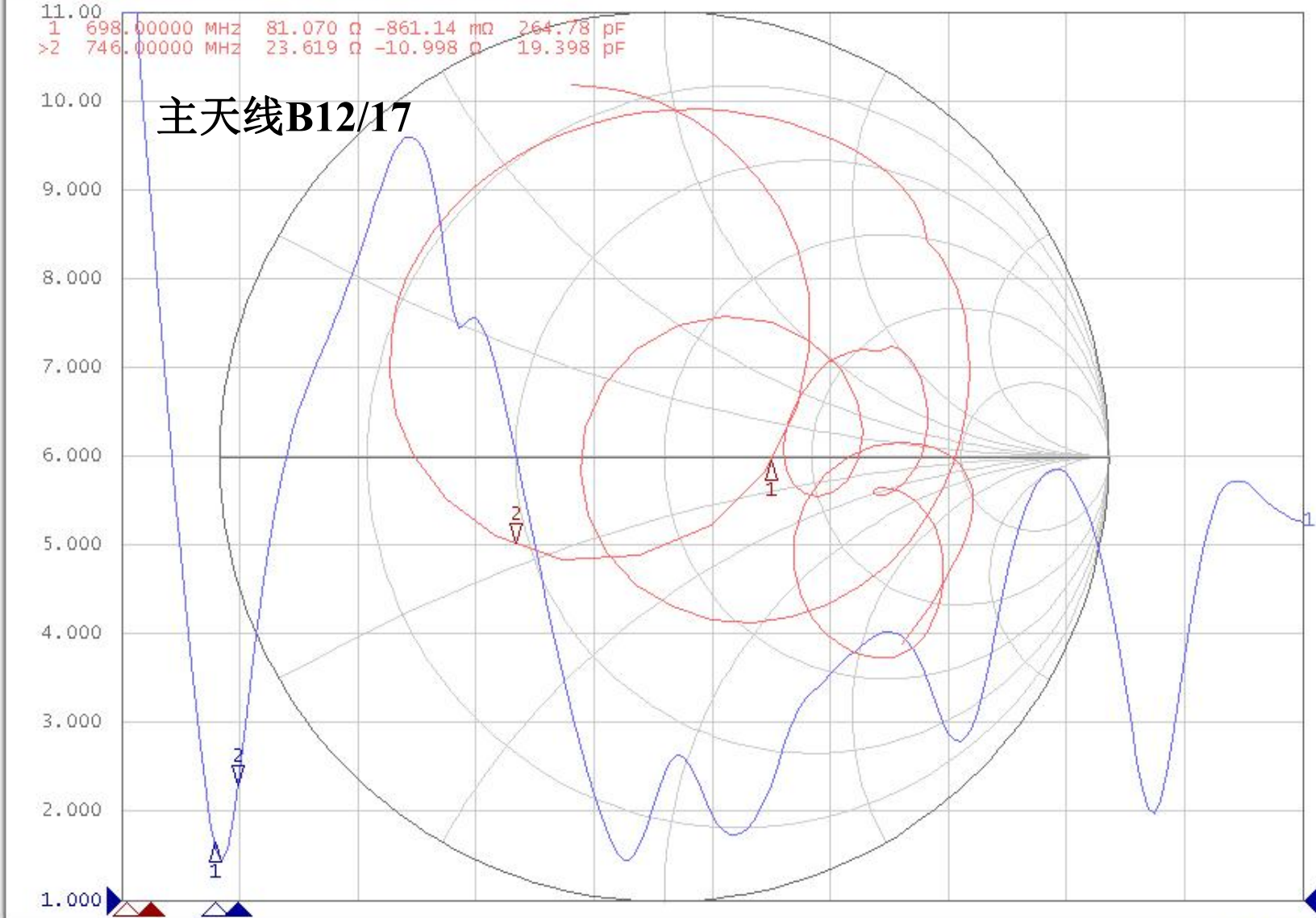
Update ON

1 Start 500 MHz IFBW 70 kHz Stop 3 GHz PExt C? !

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B12/17



1 Start 500 MHz IFBW 70 kHz Stop 3 GHz PExt C? |

Display

Allocate Channels

Num of Traces 2

Allocate Traces

Display Mem

Data -> Mem

Data Math OFF

Equation Editor...

Equation OFF

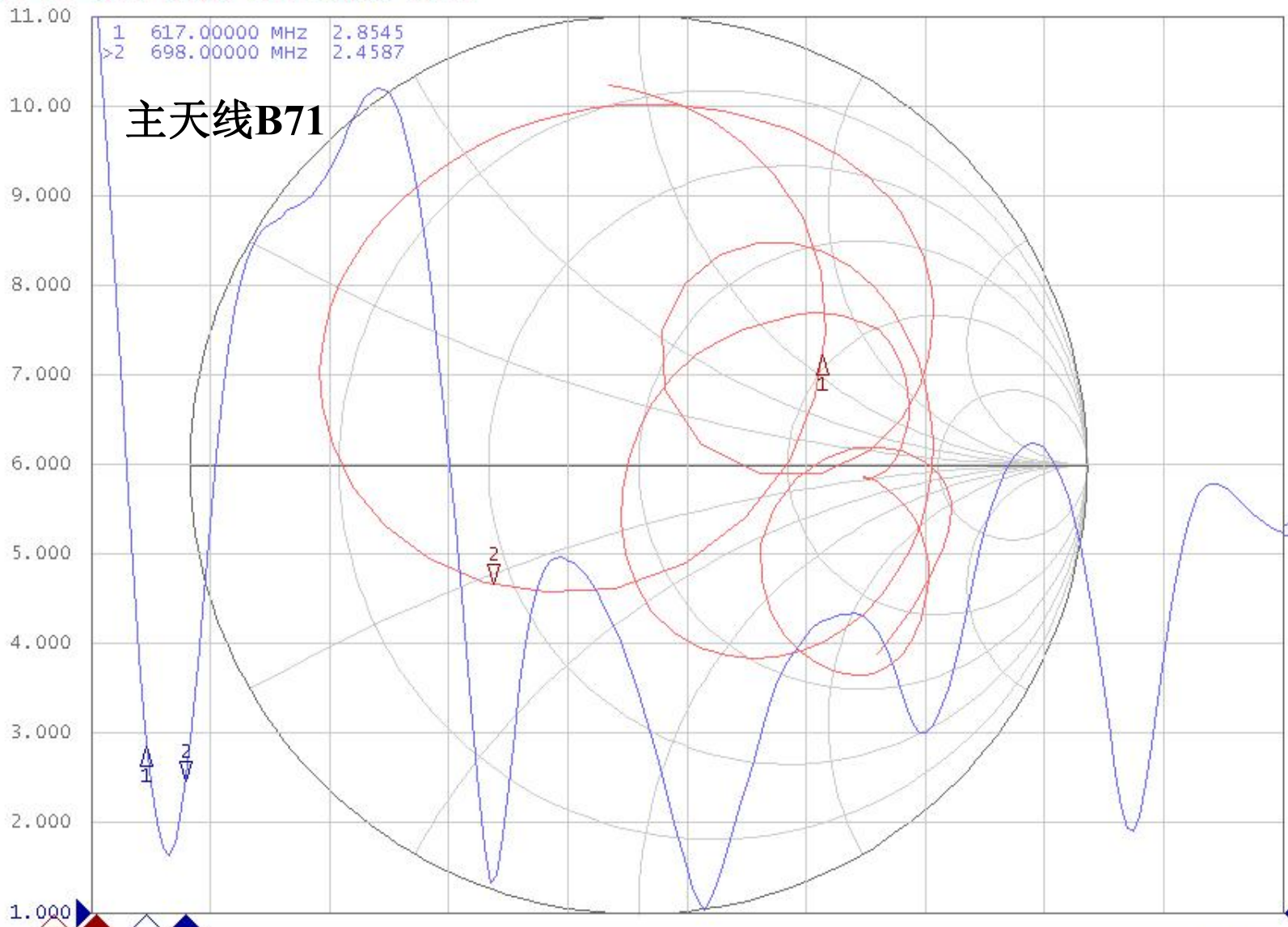
Edit Title Label

Title Label OFF

Graticule Label ON

Invert Color ON

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

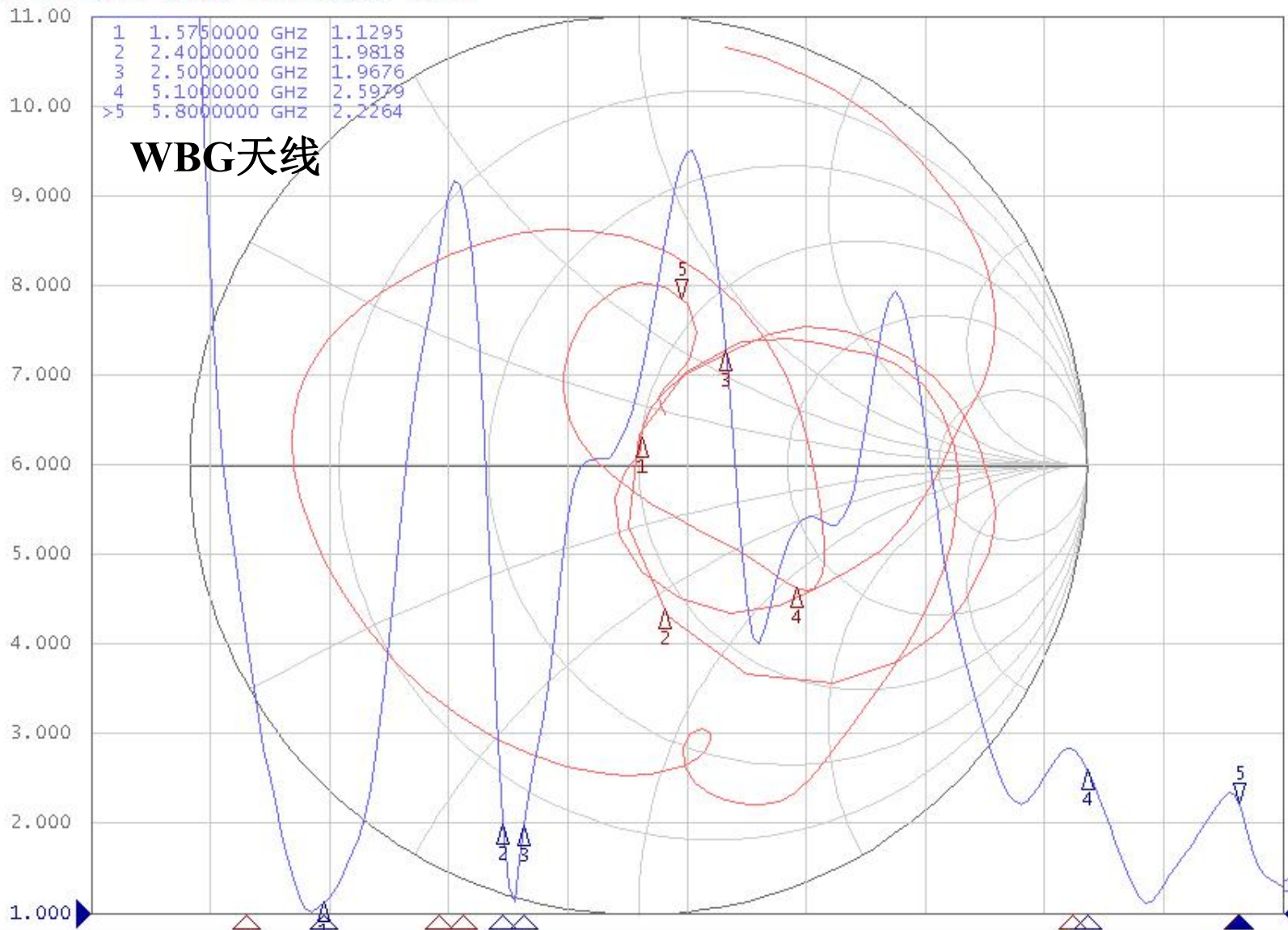


- Save/Recall
- Save State
- Recall State
- Recall by File Name
- Save Channel
- Recall Channel
- Save Type State & Cal
- Channel/Trace Disp Only
- Save Trace Data...
- Save SnP
- Explorer
- Return

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

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



Display

Allocate Channels

Num of Traces
2

Allocate Traces

Display Mem

Data -> Mem

Data Math
OFF

Equation Editor...

Equation
OFF

Edit Title Label

Title Label
OFF

Graticule Label
ON

Invert Color
ON

Passive parameters of main antenna:

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

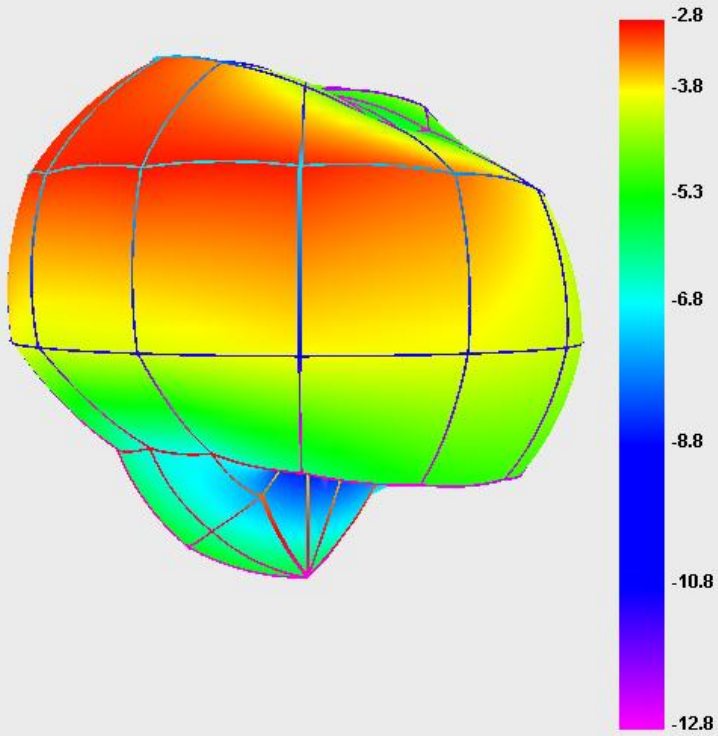
GSM850/900/1800/1900

WCDMA:B2/B5/B8

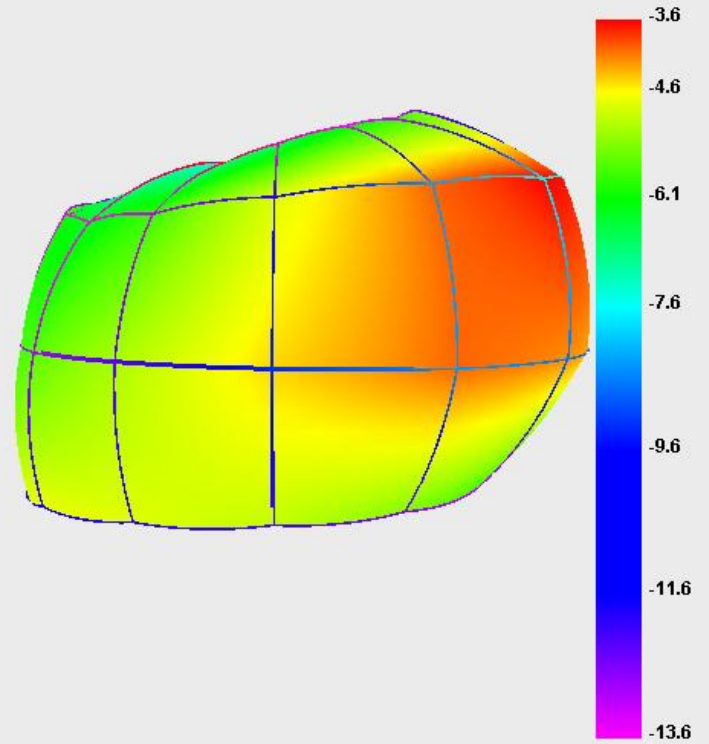
LTE:B2/B4/B5/B12/17/B66/B71/B41

频段Band	效率 (Effi)	gain增益(dBi)
GSM900/WCDMA B8	30%	0.4DBI
GSM850/WCDMA B5/LTE B5	40.3%	0.5DBI
DCS1800	42.3%	2.0DBI
PCS1900, WCDMA B2. LTE B2	45.5%	2.0DBI
LTE B4/B66	43.8%	2.0DBI
LTE B41	51%	2.3DBI
LTE B12/B17	36.4%	0.3DBI
LTE B71	30.1%	0.2DBI
GPS	45.6%	1.5DBI
2.4GWIFI/BT	46.3%	2.5DBI
5GWIFI	50.2%	2.4DBI

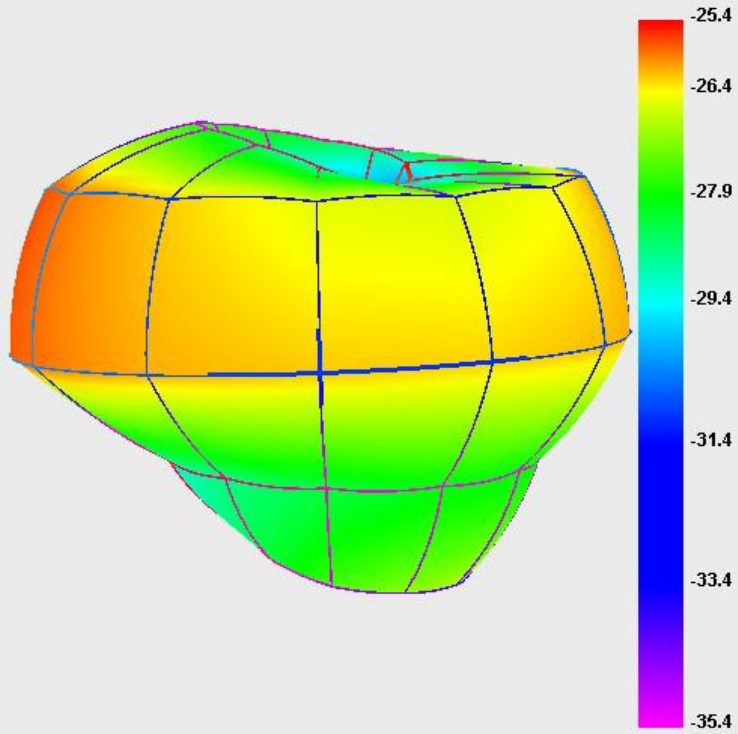
900.000MHz



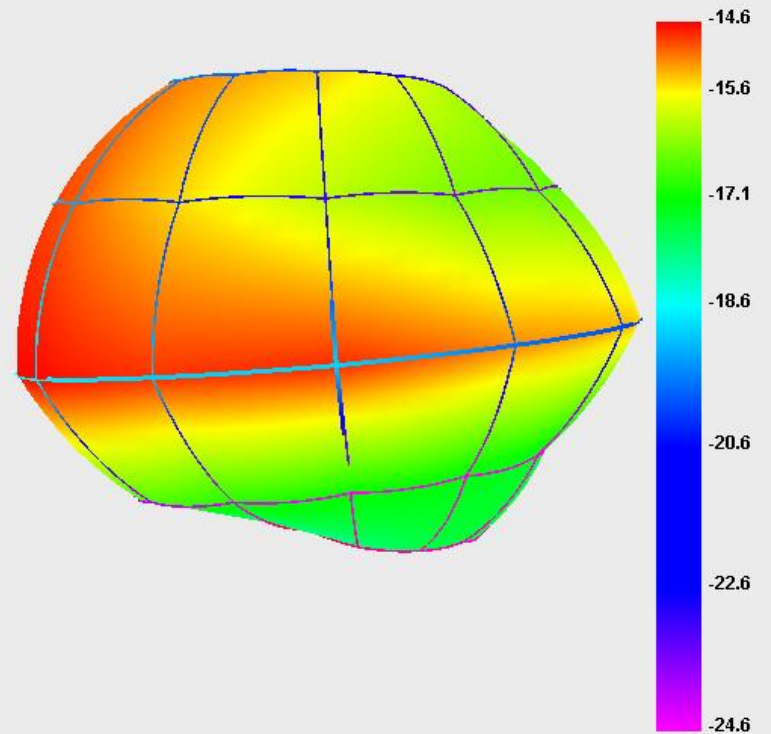
830.000MHz



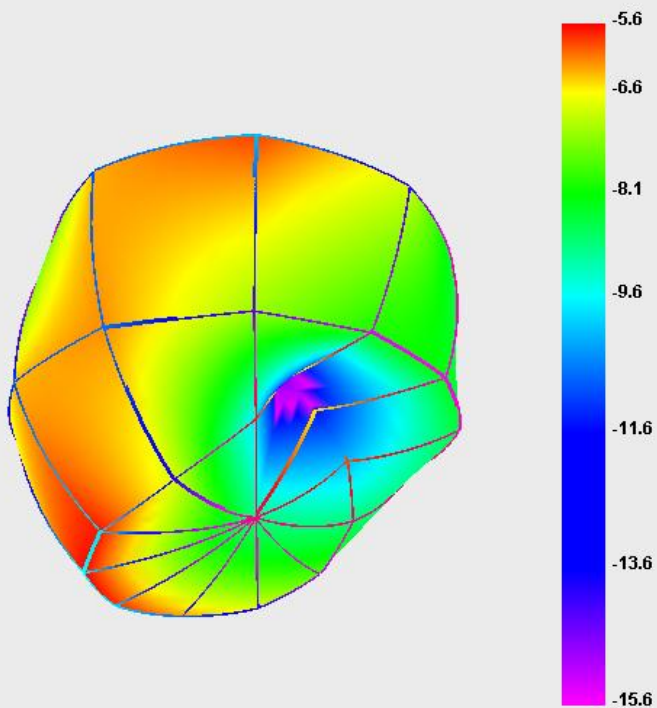
630.000MHz



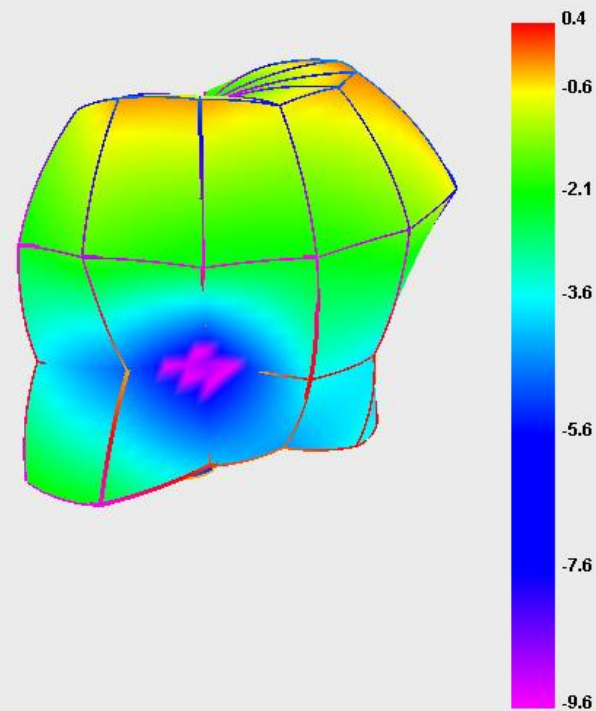
740.000MHz



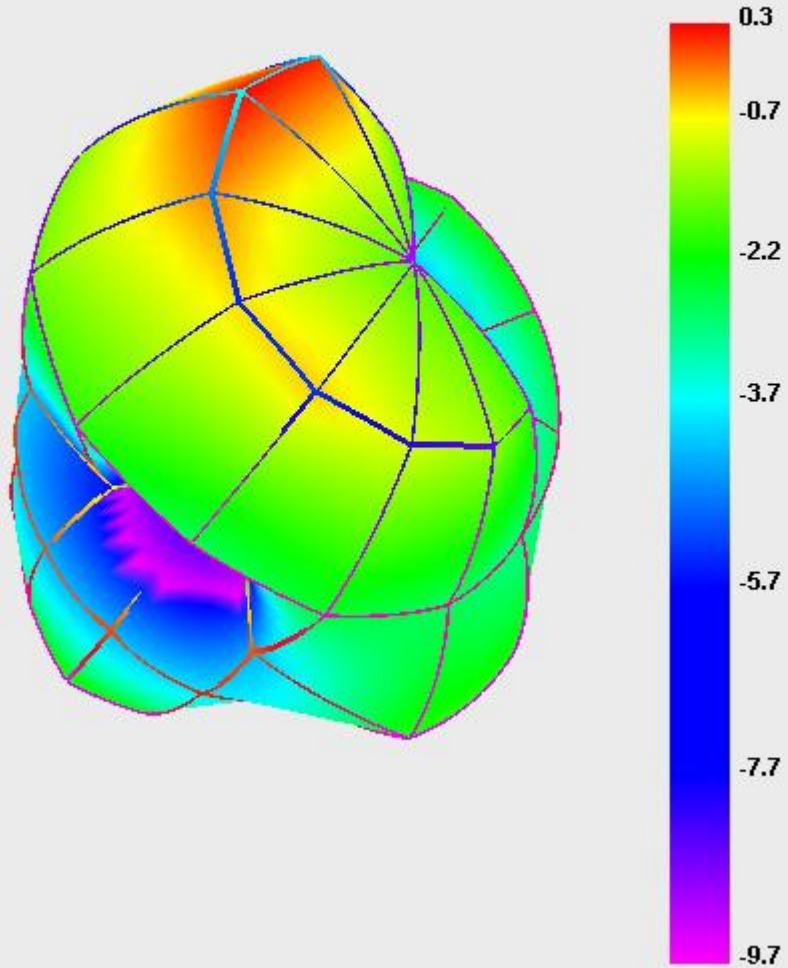
1710.000MHz



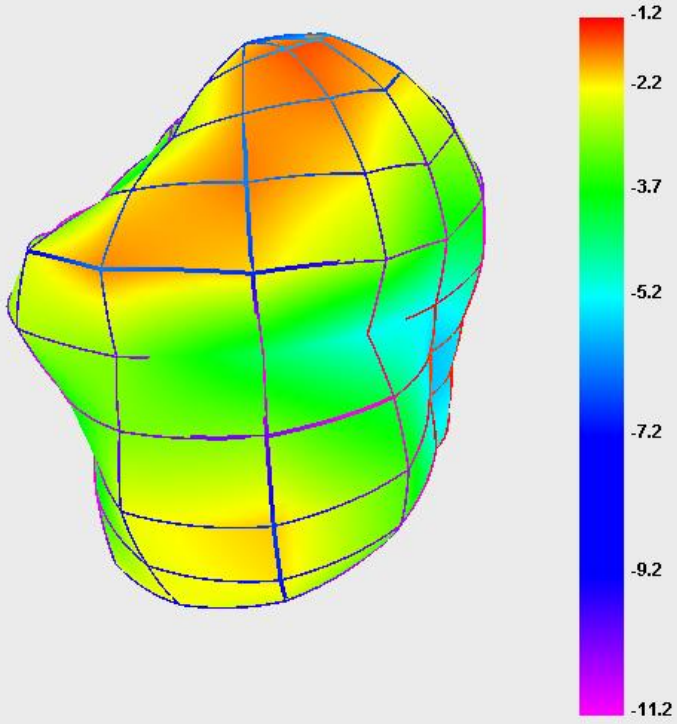
1880.000MHz



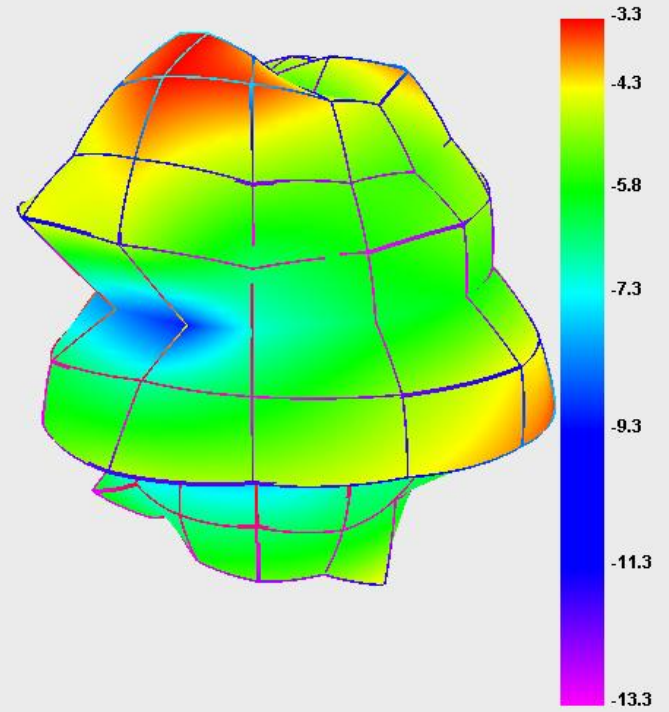
2170.000MHz



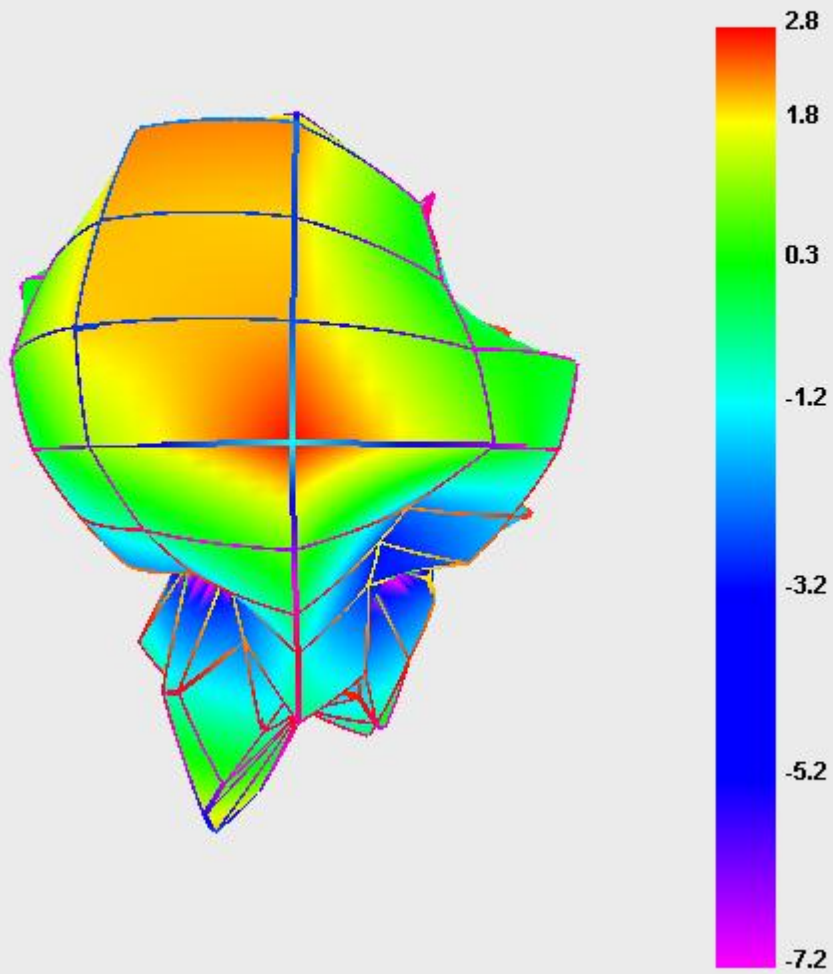
1575.000MHz



2450.000MHz



5500.000MHz



GPS/WIFI/BTPassive parameters of antenna:

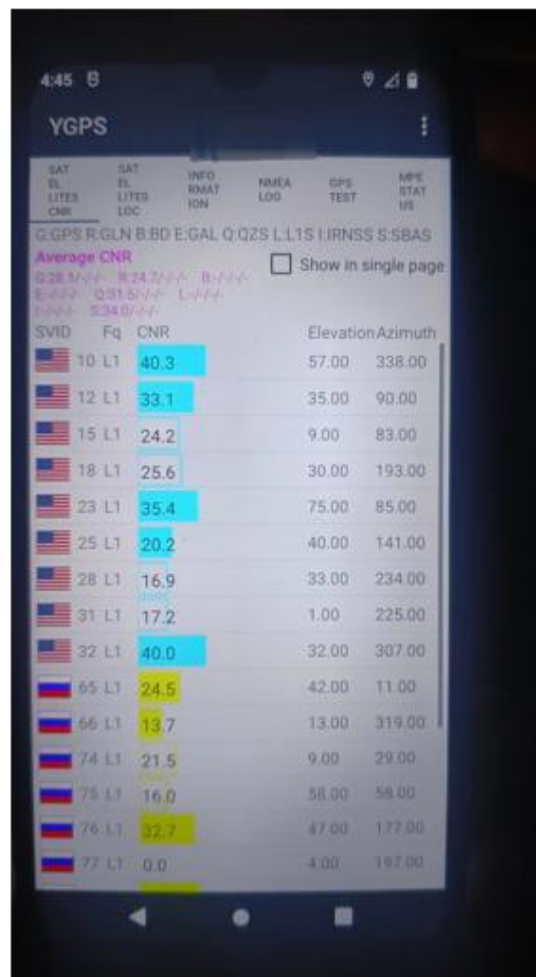
工作频段(Working frequency band): 1560~1580MHZ,
2400~2500MHZ, 5100~5800MHZ

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

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.

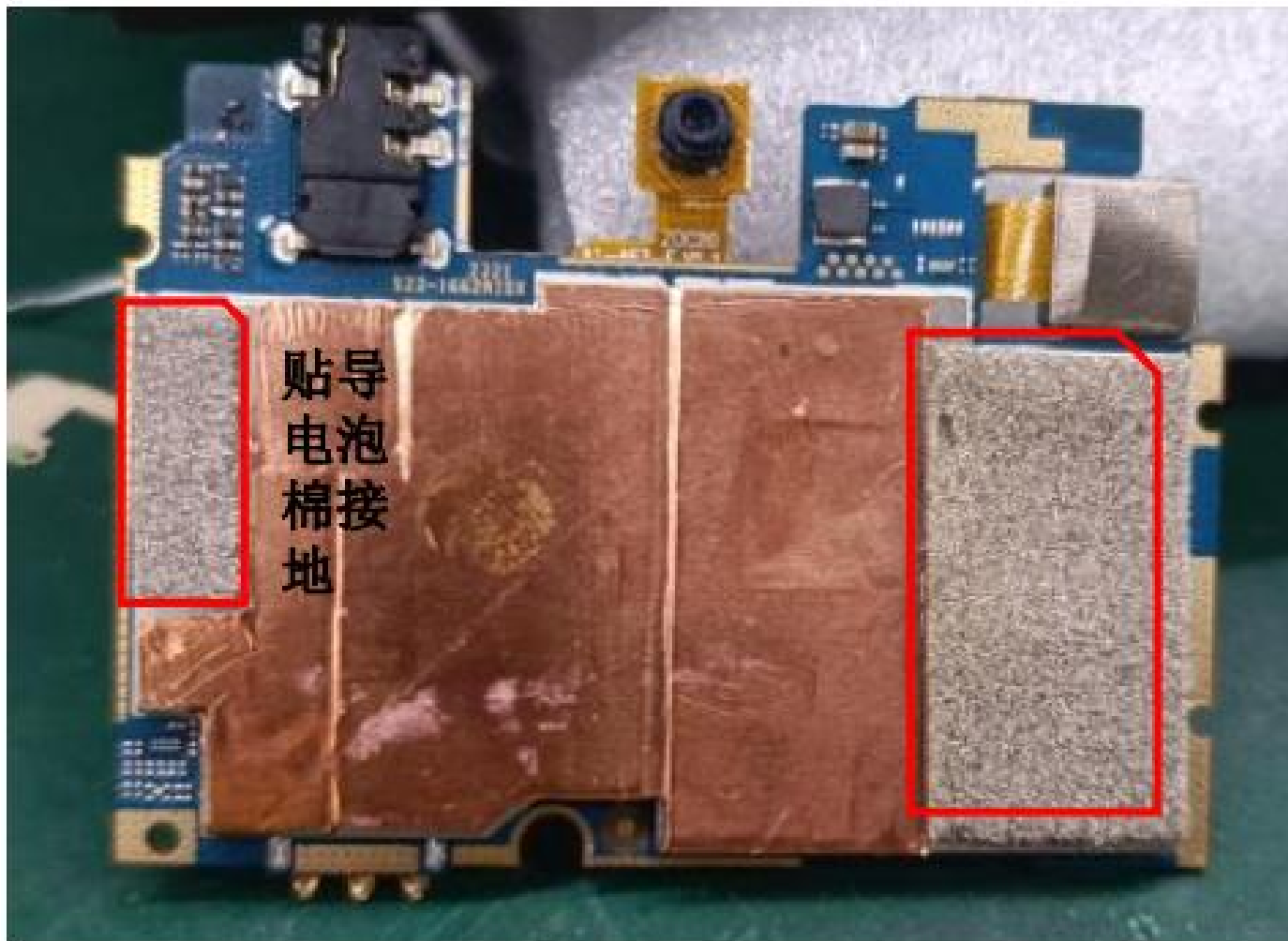
2.test result

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 K626B1 mobile phone main antenna:

	TRP	TIS		TRP	TIS
GSM850	24.74	-102.33	LTE B2	17.19	-90.54
	25.42	-101.62		16.55	-90.23
	26.1	-101.2		16.3	-90.3
GSM900	23.37	-98.14	LTE B4	17.03	-89.47
	22.53	-96.75		17.62	-89.66
	21.12	-95.46		18.08	-89.31
DCS1800	22.52	-104.93	LTE B5	17.59	-89.01
	22.84	-104.58		17.98	-88.93
	23.32	-104.39		18.38	-88.37
PCS1900	23.29	-102.66	LTE B12	17.25	-89.67
	22.96	-102.24		17.21	-89.35
	22.21	-101.41		17.35	-89.26
WCDMA B2	16.75	-106.01	LTE B17	17.38	-89.41
	16.52	-105.63		17.43	-89.53
	16.11	-105.33		17.69	-89.11
WCDMA B5	16.87	-102.88	LTE B66	17.72	-88.99
	16.62	-102.05		18.16	-88.69
	16.38	-101.57		18.68	-88.12
WCDMA B8	15.2	-98.91	LTE B71	15.87	-89.01
	14.78	-97.66		16.11	-88.67
	14.31	-96.32		16.42	-88.13
			LTE B41	21.39	-90.54
				21.0	-90.35
				20.5	-90.3

五、环境处理(Environmental treatment)



贴导电泡棉接地

大片贴铜箔接地，并盖住屏蔽罩上芯片开孔位置。再贴导电泡棉接地

五、环境处理(Environmental treatment)

此处贴导电布加
海绵将摄像头与
主板接地处理



五、环境处理(Environmental treatment)

此处做绝缘处理
贴导电布将听筒
和摄像头与主板
接地处理



五、环境处理(Environmental treatment)

屏两边和中框接地，（注意屏幕钢片和外框钢片上可能存有油污，容易导致接地不良。）



五、 环境处理(Environmental treatment)



五、环境处理(Environmental treatment)

此区域要减掉，已经压到
GPS天线

