ANT Manufacturers: ANWEI commnuication Equipment Co.,Ltd
Address:2nd Floor, East Block, Building 5, Yifenghua Innovation Industrial Park,
Huaning Road, Dalang Street, Longhua District, Shenzhen City, Guangdong Province

APPROVAL SHEET

客户 Customer	Youmi	规格型号 Specs	A13 Tab
安威料号 Part Number	AW006-A13TAB-021-A0 AW006-A13TAB-022-A0 AW006-A13TAB-023-A0	频　　段 Frequency Band	BT&2.5G WIFI:2400~2483.5MHZ 5G WIFI:5100~5800MHZ GSM850/900/1800/1900 WCDMA1/2/4/5/8 B1.2.3.4.5.7.8.12.17.18.19.20.25.26.28.66.34.38.39.40.41
颜　色 Color	black	版　　本 Edition	REV:A0
销　售 Salesperson	Mr.Xie	设　　计 Design	WUXI
结　构 Structure	QIN YUN LIN	确　　认 Confirm	
日　期 Date	2023.4.4	签字日期 Signing Date	
客户确认 Customer confirmation:			
携手共进 共创未来 Join hands to create the future			

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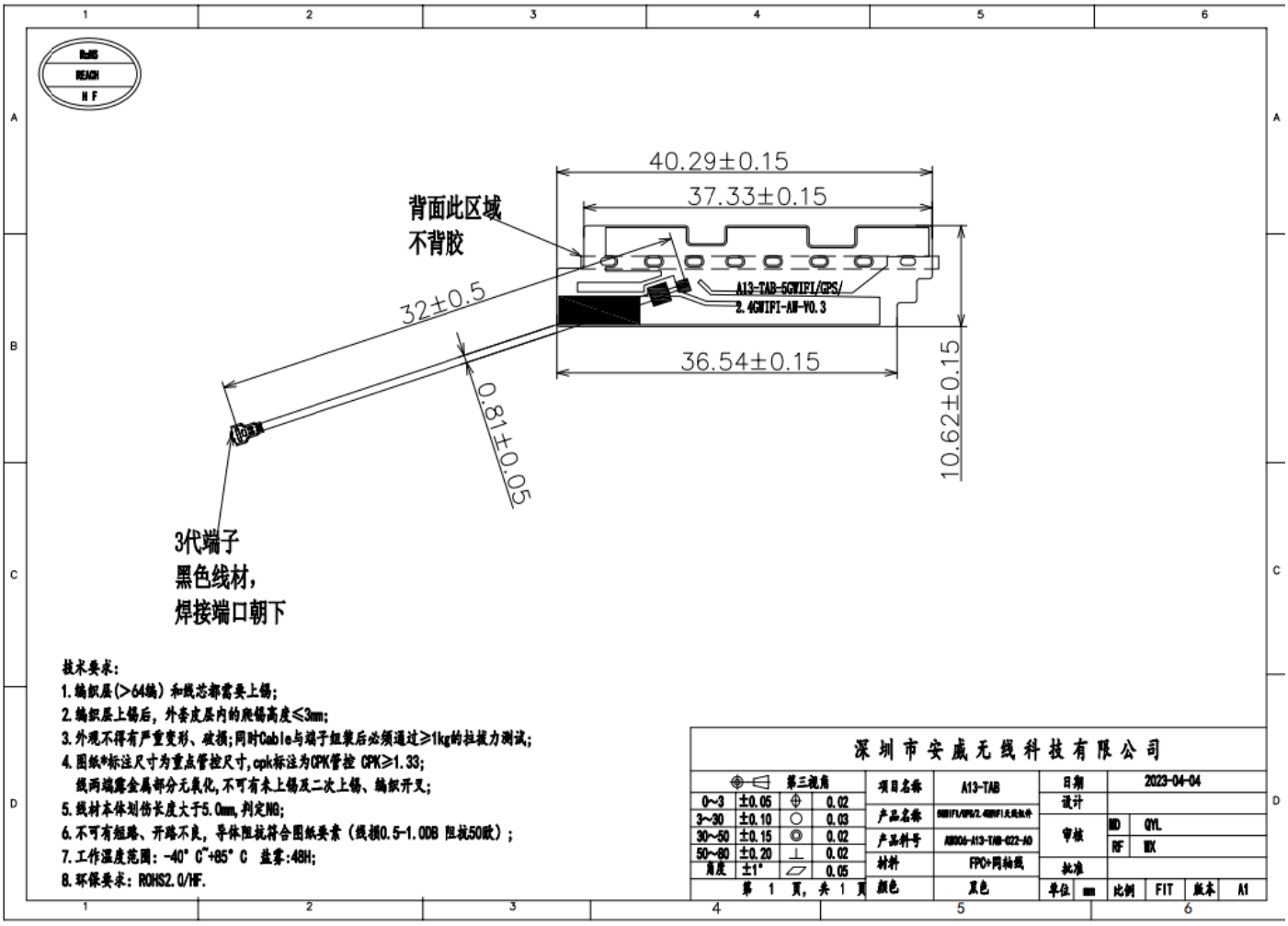
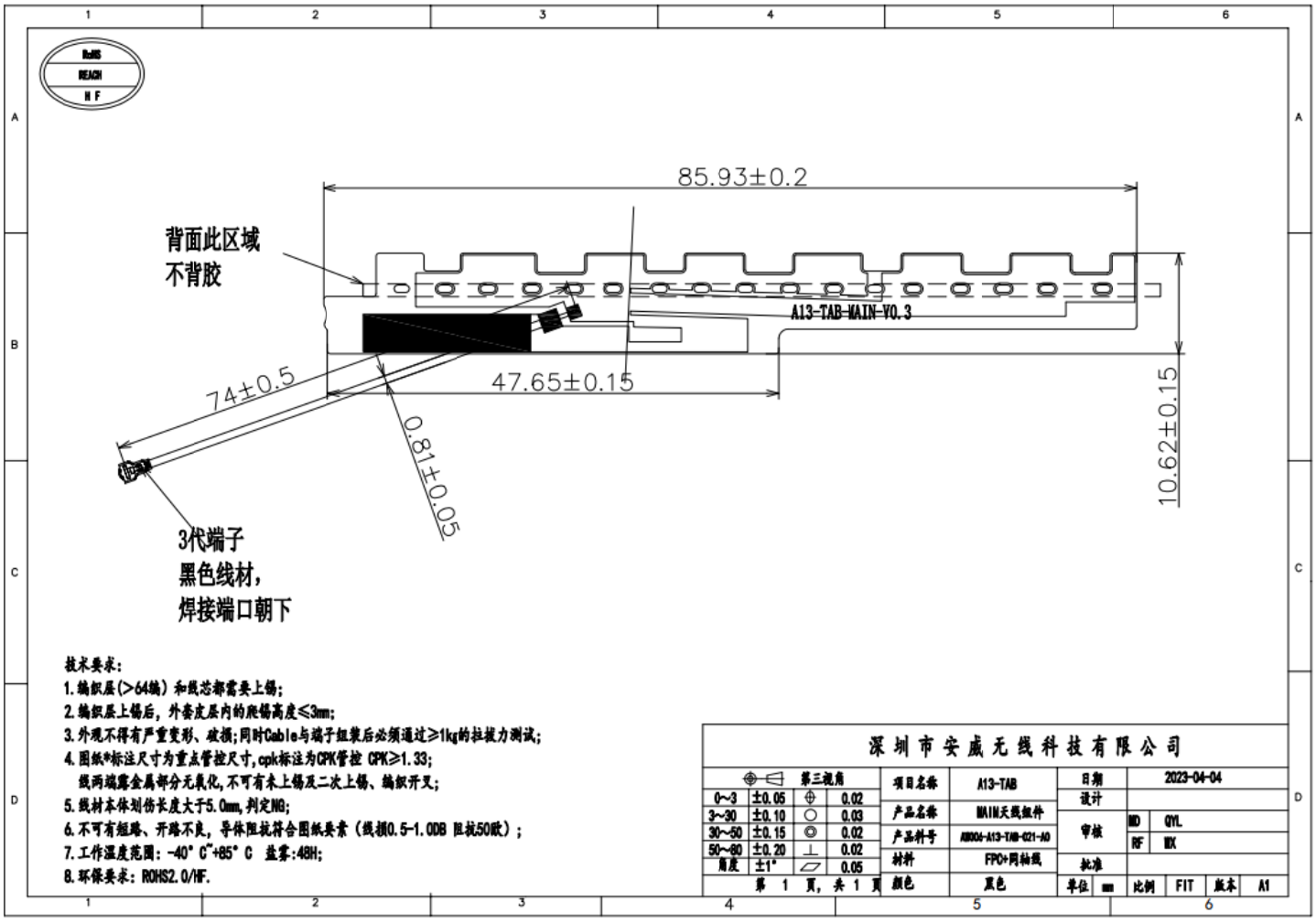
目录(Table of contents)

一、产品规格(Product specification)

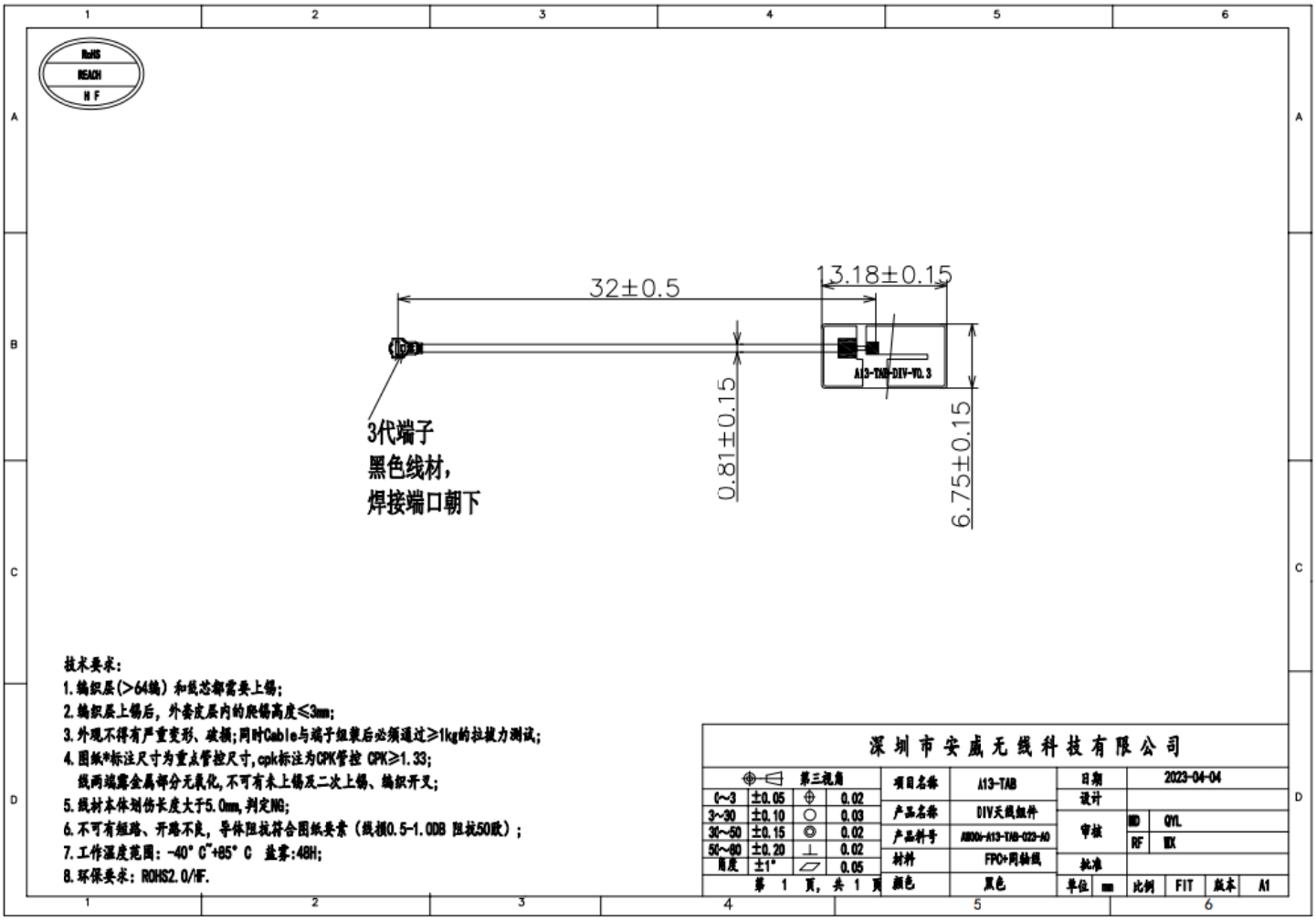
The report mainly provides the parameter test of A13 Tab antenna performance. The A13 Tab antenna is a 4G antenna. (As shown below)



BT&WIFI&GNSS ANT


85.93±0.2
背面此区域
不背胶
A13-TAB-MAIN-V0.3
74±0.5
47.65±0.15
0.81±0.05
10.62±0.15
3代端子
黑色线材，
焊接端口朝下
技术要求：
1.编织层(>64编)和线芯都需要上锡；
2.编织层上锡后，外套皮层内的爬锡高度≤3mm；
3.外观不得有严重变形、破损;同时Cable与端子组装后必须通过≥1kg的拉拔力测试；
4.图纸*标注尺寸为重点管控尺寸,cpk标注为CPK管控 CPK≥1.33；
线两端露金属部分无氧化,不可有未上锡及二次上锡、编织开叉；
5.线材本体划伤长度大于5.0mm,判定NG；
6.不可有短路、开路不良，导体阻抗符合图纸要求（线损0.5-1.0DB 阻抗50欧）；
7.工作温度范围：-40°C~+85°C 盐雾:48H；
8.环保要求：ROHS2.0/HF.
深圳市安威无线科技有限公司
第三视角
0~3 ±0.05 0.02
3~30 ±0.10 0.03
30~50 ±0.15 0.02
50~80 ±0.20 0.02
角度 ±1° 0.05
第 1 页，共 1 页
项目名称 A13-TAB
产品名称 MAIN天线组件
产品料号 AB004-A13-TAB-021-A0
材料 FPC+同轴线
颜色 黑色
日期 2023-04-04
设计
审核
批准
MD QYL
HF HX
单位 mm
比例 FIT
版本 A1

Main ANT



DIV ANT

二、电器性能(Electrical performance)

1.规格标准(Specification standard)

The working frequency band of A13 Tab antenna is 699~960MHZ, 1710~2700MHZ, and resonance occurs in this frequency band

The structure of the antenna: FPC

三、参数的测试(Parameter test)

1.测试的设置(Test settings)

The connections of the VSWR test setup in turn are:

E5071B Network Analyzer → 50 ohm coaxial Cable → 110mm long copper pipe → Test Fixture

Handling of test fixtures:

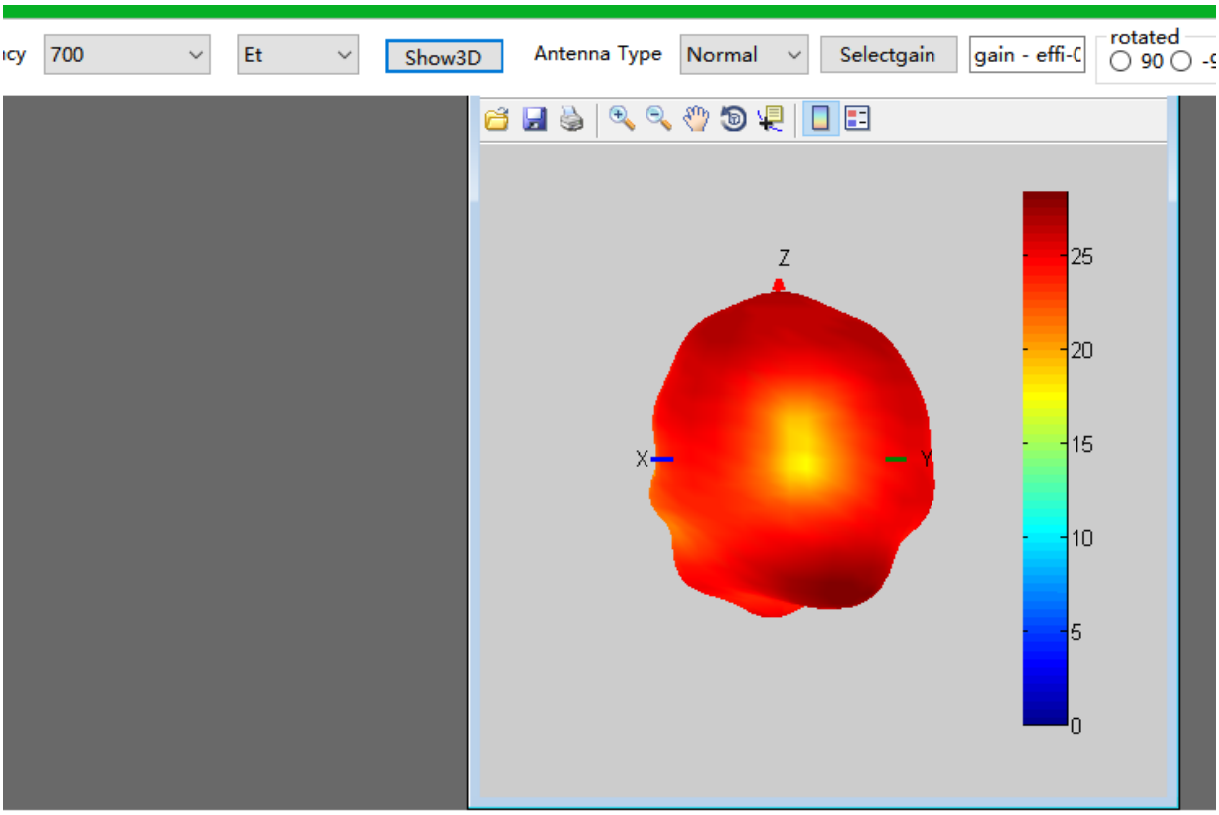
Use a hard cable to lead out the SMA-J connector from the 50 ohm test point of the antenna on the mobile phone PCB, connect it to the copper tube covered with the choke coil, and then connect to other devices in turn.

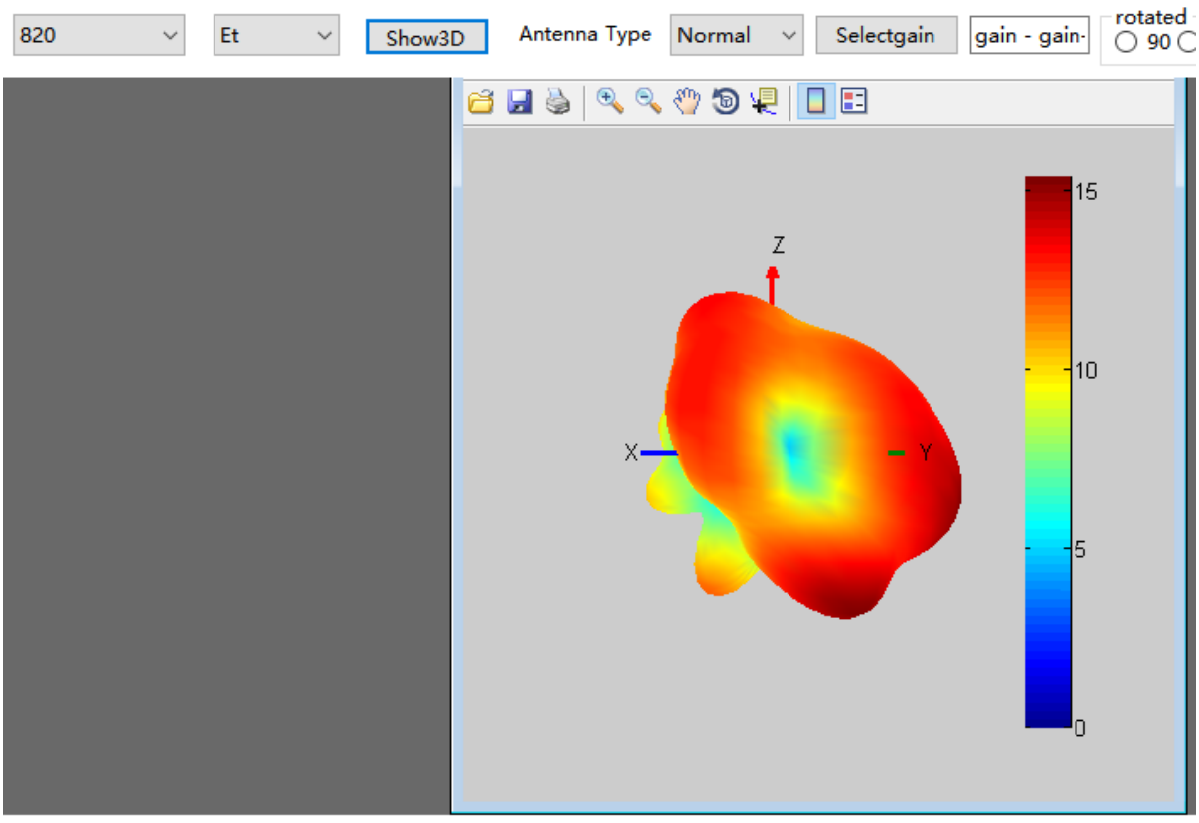
Main antenna passive parameters:

工作频段(**Working frequency band**)：699~960MHZ，1710~2700MHZ

2G	2/3/5/8
3G	1/2/4/5/8
4G	B1/2/3/4/5/7/8/12/17/18/19/20/25/26/28/66/34/38/39/40/41
BT/WIFI	2.4G+5G
GPS	1575.42MHz

频段 Band	gain 增益 (dBi)	
LTE-B12//B17/B28	-8.7	700MHZ
GSM850,WCDMA-B5/,LTE-B5/B18/B19/B20/B26	-5.8	820MHZ
GSM900,WCDMA-B8,LTE-B8	-8.1	960MHZ
DCS1800,LTE-B3,WCDMA-B4,LTE-B4/B66	0.42	1720MHZ
PCS1900,WCDMA-B2,LTE-B2/B25/B39	0.2	1980MHZ
WCDMA-B1,LTE-B1/B34	-0.95	2160NHZ
LTE-B7/B38/B41,	2.47	2680MHZ
LTE-B40	0.91	2380MHZ
GPS	0.7	1575MHZ
2.4G WIFI/BT	2.1	2400MHZ
5G WIFI	0.8	5100MHZ


icy
700
Et
Show3D
Antenna Type
Normal
Selectgain
gain - effi-C
rotated
90
Z
X
Y
25
20
15
10
5
0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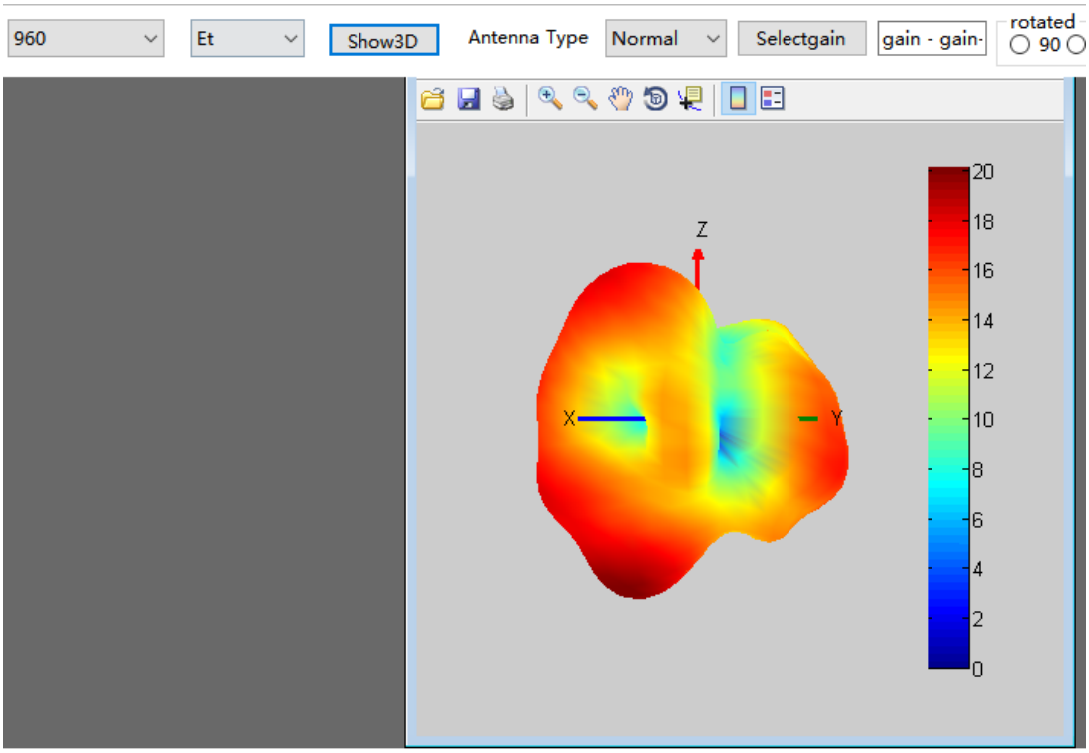
10
5
0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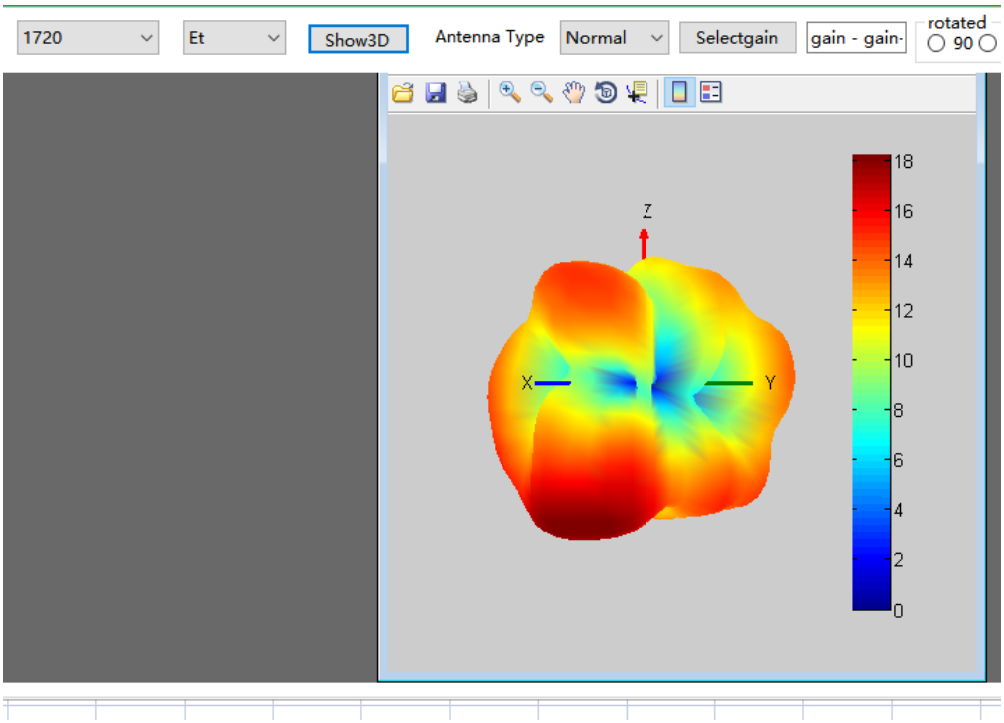
14
12
10
8
6
4
2
0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Y
18
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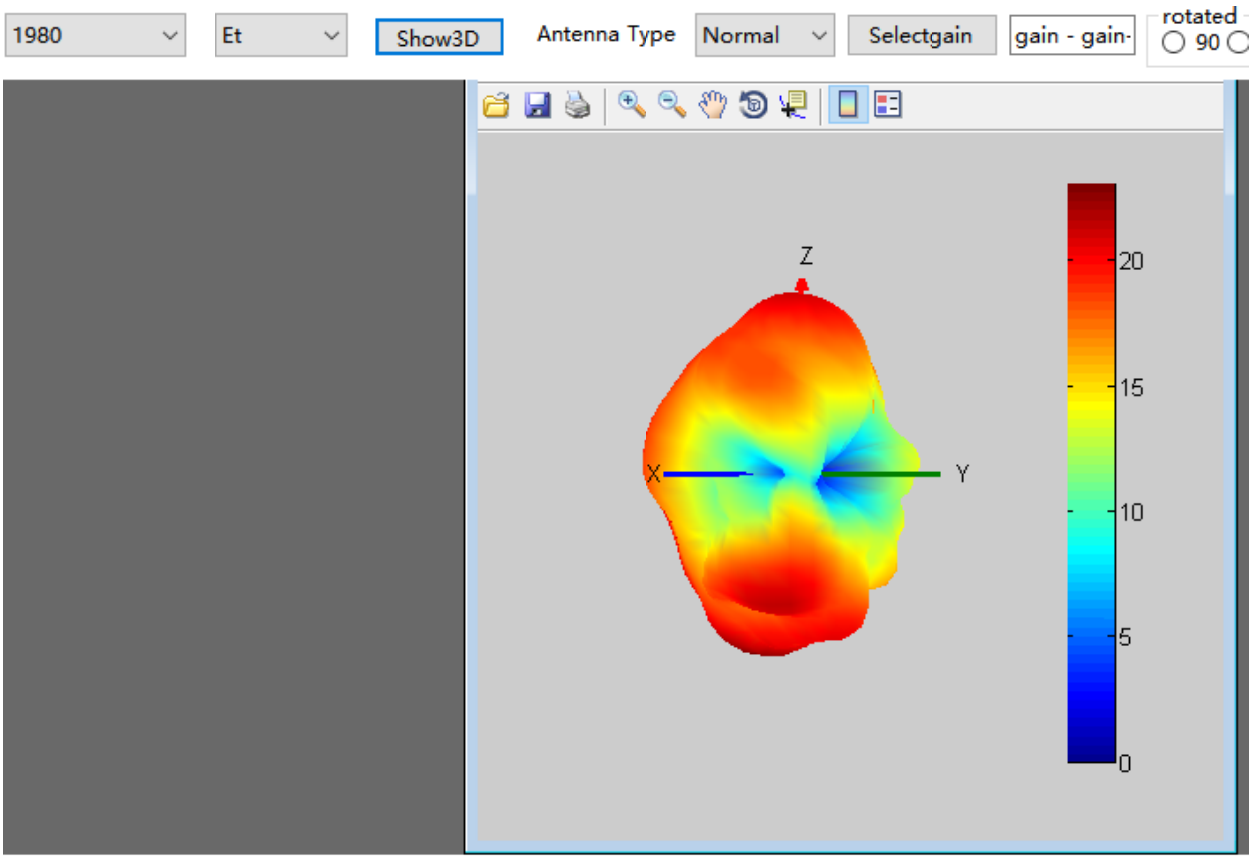
14
12
10
8
6
4
2
0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5
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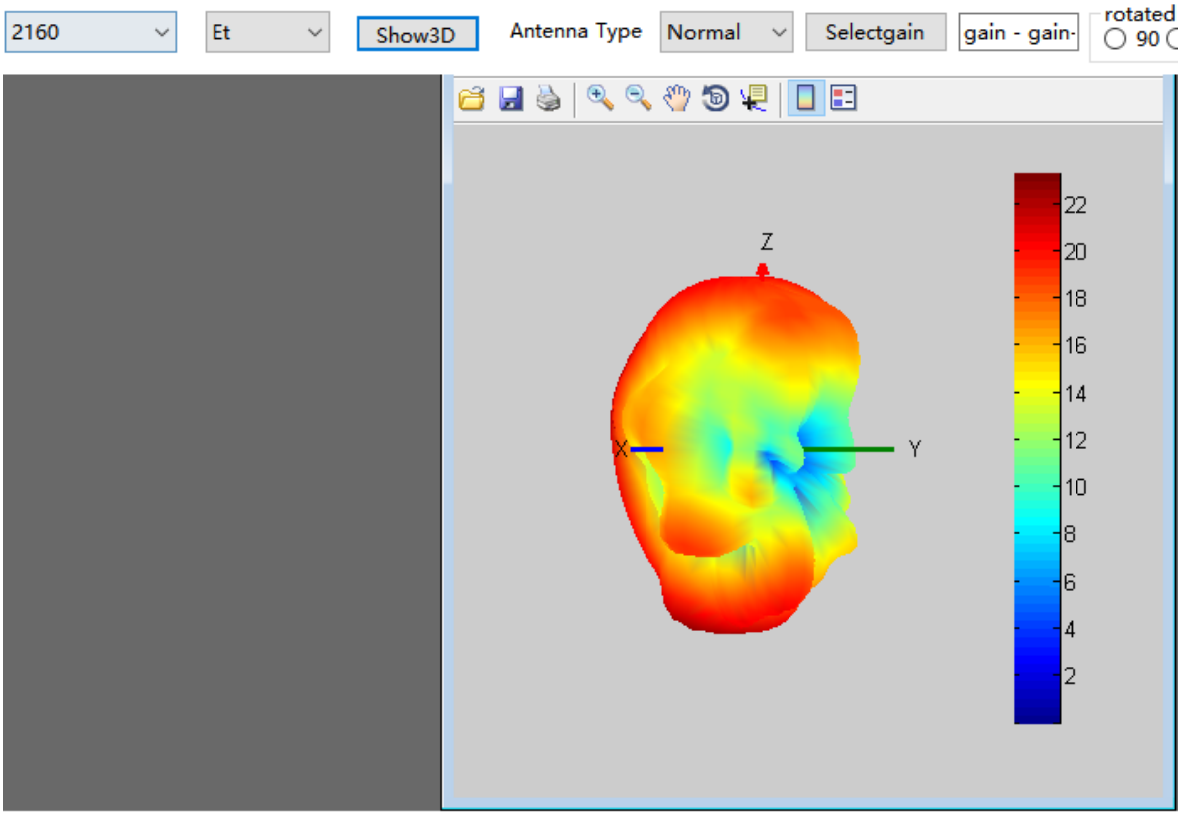
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8
6
4
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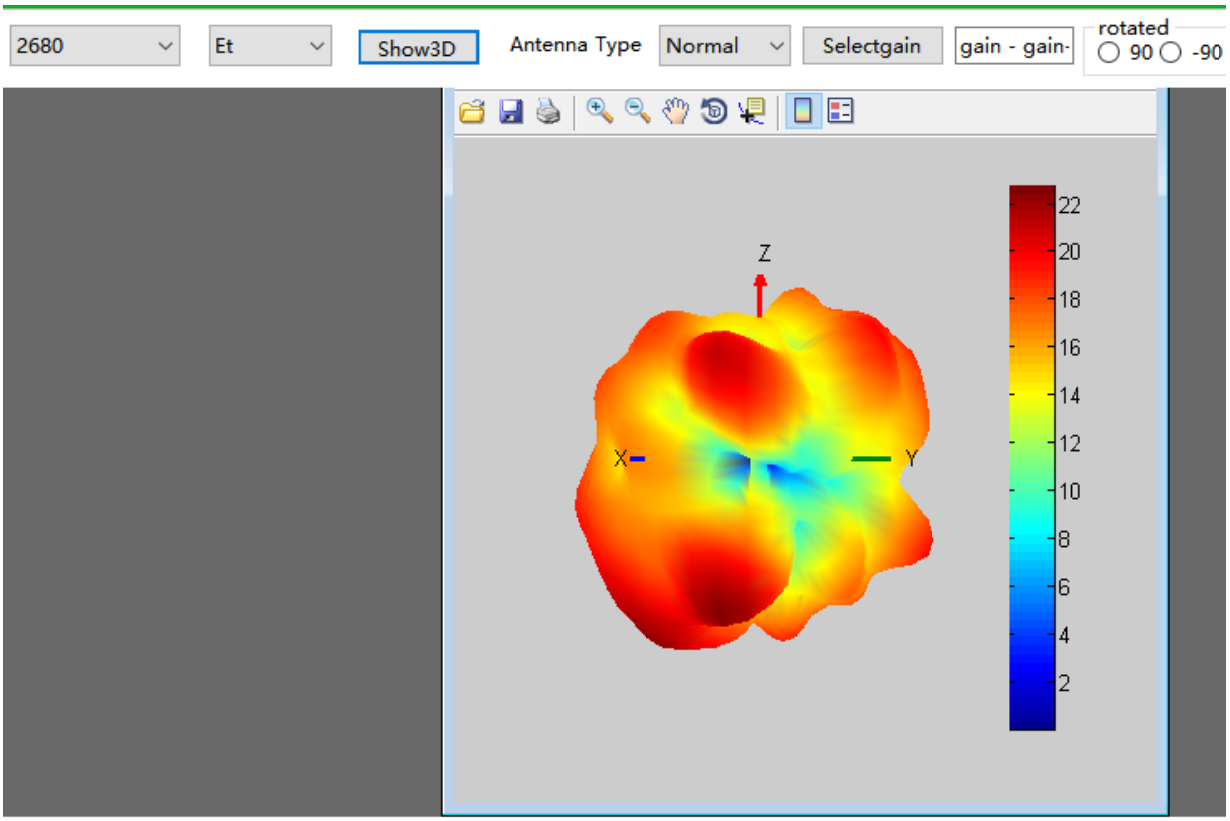
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Normal
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-90
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X
Y
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20
18
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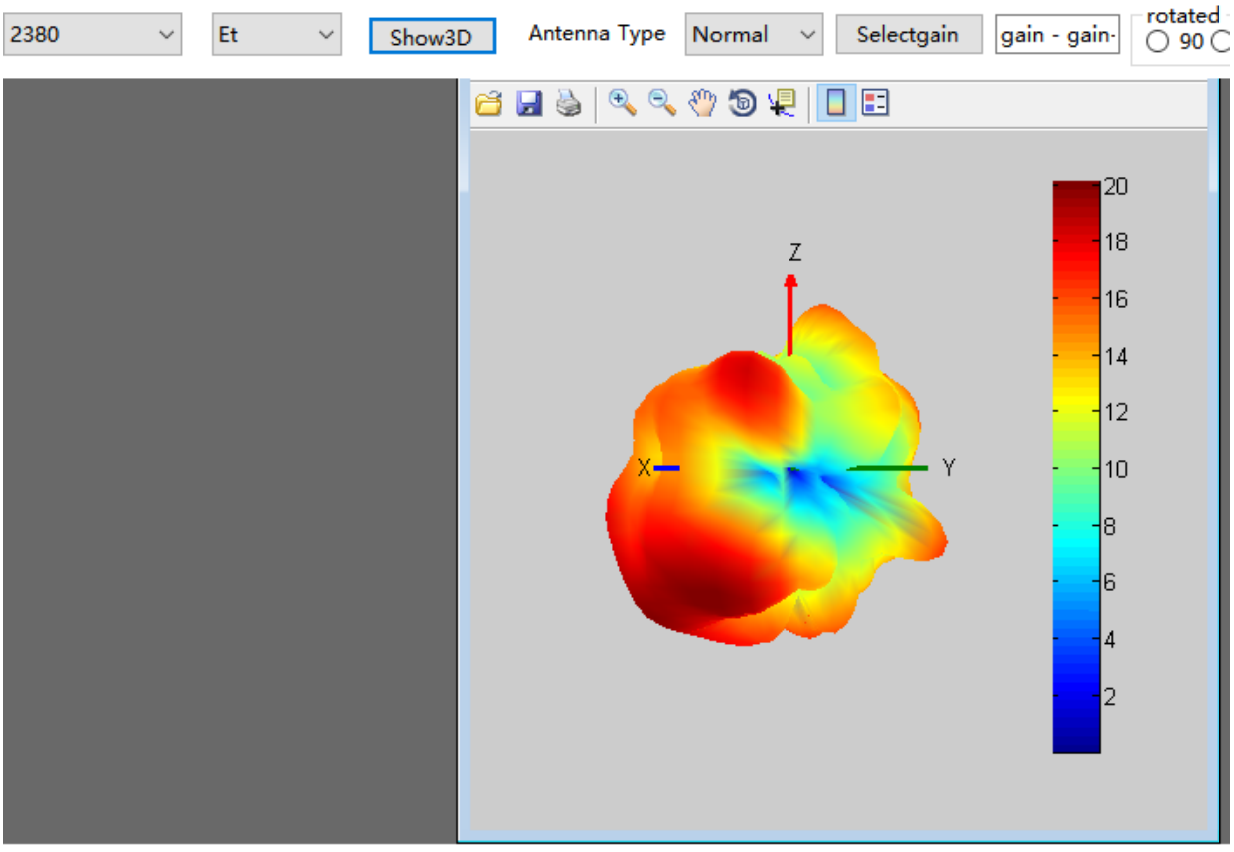
14
12
10
8
6
4
2


2380
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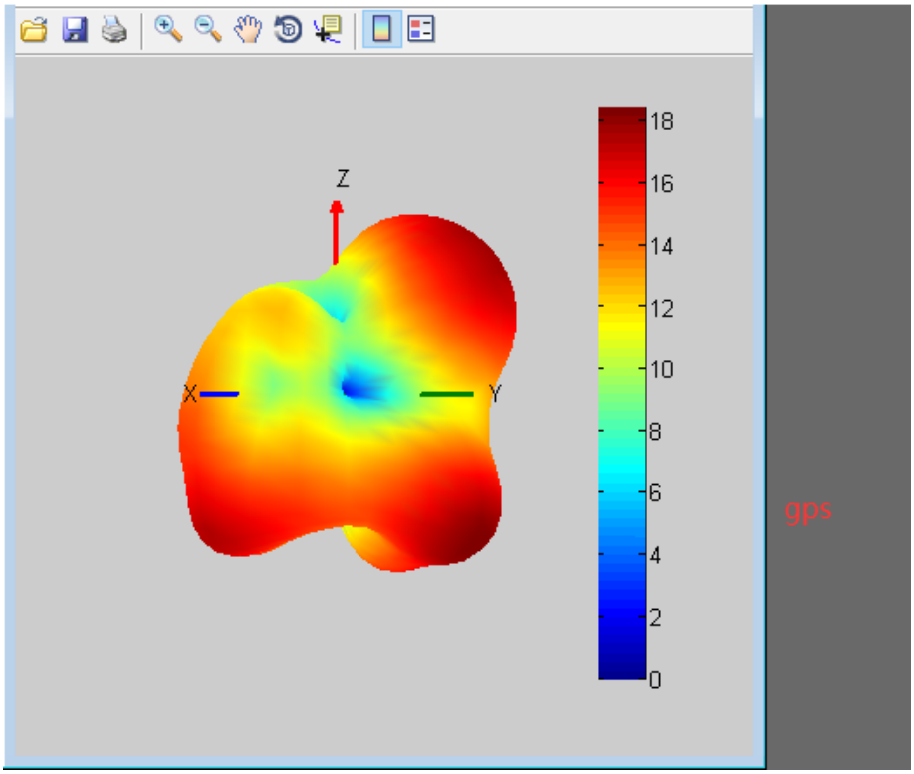
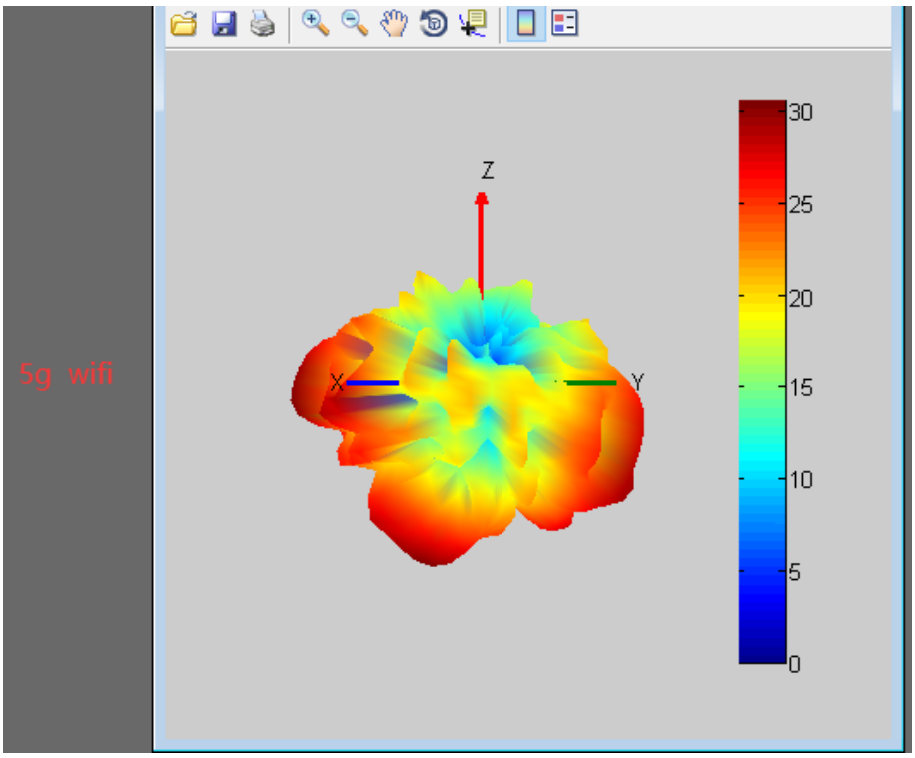
Show3D
Antenna Type
Normal
Selectgain
gain - gain-
rotated
90
Z
X
Y
20
18
16
14
12
10
8
6
4
2

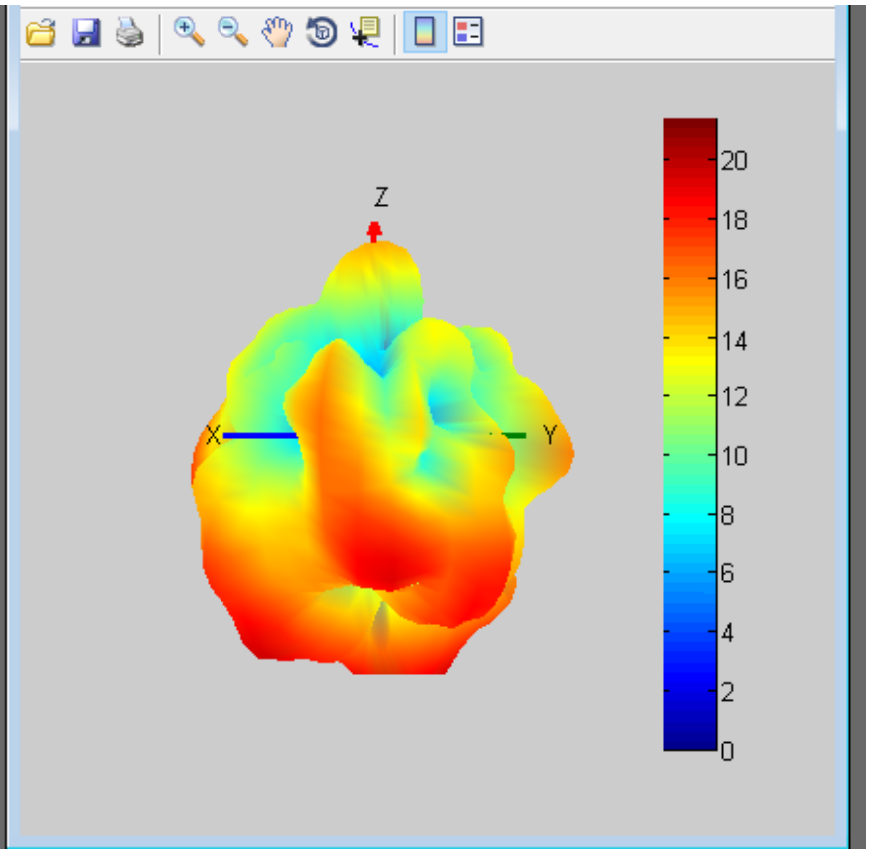
GPS/WIFI/BT antenna passive parameters:

工作频段(**Working frequency band**)：1560~1580MHZ，2400~2500MHZ,5180~8525MHZ

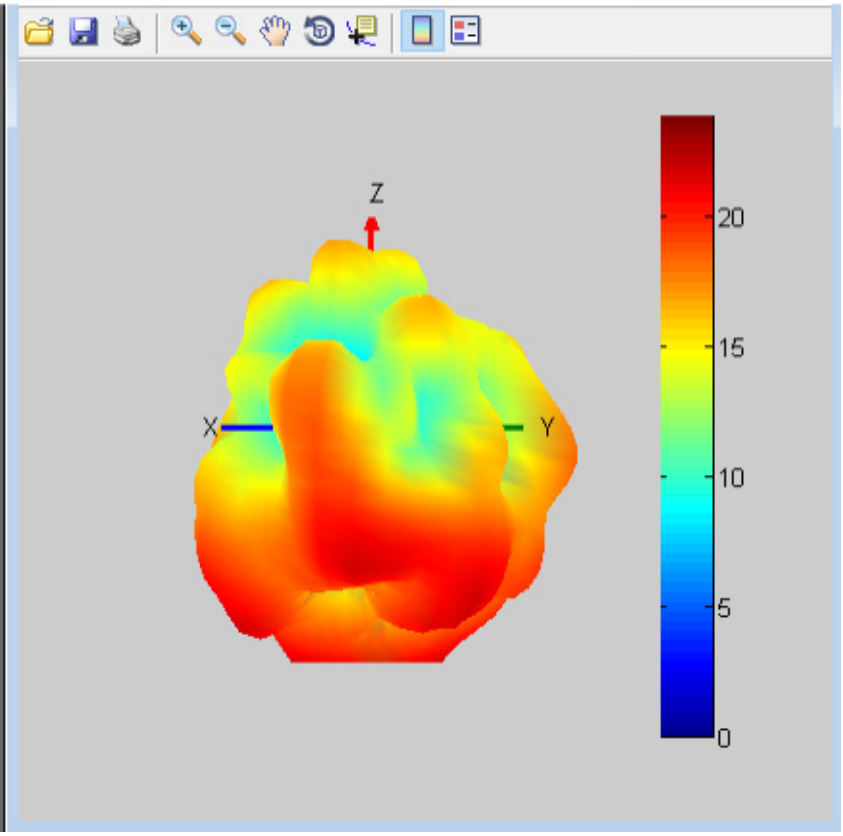




2.4g wifi



bt



2.测试结果(Test result)

everything is normal.

四、有源测试的设置(Active test setup)

The connections of the active test device in turn are:

Agilent8960→50 ohm coaxial cable→Satimo SG16 Test System→device under test

1.测试的场地(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.测试结果(Test result)

The maximum radiated power and maximum receiving sensitivity reflect the maximum power radiation value and the best 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, reflect the overall receiving performance of the antenna.

The following are the active test results of the main antenna of the A13 Tab Smart Tablet Computer:

主天线暗室数据

	Channel	TRP (dBm)	TIS (dBm)
FDD B1	LOW	16.38	
	medium	16.34	
	high	16.05	-90.2
FDD B2	LOW	17.12	
	medium	17.32	
	high	17.01	-90.3
FDD B3	LOW	14.16	
	medium	14.06	
	high	15.03	-90.2
FDD B4	LOW	15.35	
	medium	14.07	
	high	15.14	-89.5
FDD B5	LOW	15.04	
	medium	15.11	
	high	15.26	-90.2
FDD B7	LOW	17.4	
	medium	17.08	
	high	17.03	-90.5
FDD B8	LOW	16.36	
	medium	15.53	
	high	15.04	-90
FDD B12	LOW	13.55	
	medium	14.12	
	high	14.23	-88.1

FDD B17	LOW	14.19	
	medium	14.14	
	high	14.08	-85.4
FDD B18	LOW	14.57	
	medium	14.91	
	high	14.95	-90.3
FDD B19	LOW	14.81	
	medium	15.4	
	high	15.61	-90.5
FDD B20	LOW	15.59	
	medium	15.16	
	high	15.6	-87.5
FDD B25	LOW	14.78	
	medium	14.25	
	high	14.86	-86.8
FDD B26	LOW	14.13	
	medium	14.88	
	high	15.33	-90.3
FDD B28A	LOW	14.11	
	medium	14.09	
	high	15.18	-86.1
FDD B28B	LOW	14.11	
	medium	15.07	
	high	16.14	-87.2

	Channel	TRP (dBm)	TIS (dBm)
FDD B66	LOW	15.13	
	medium	15.11	
	high	15.21	-88.5
TDD B38	LOW	17.31	
	medium	16.04	
	high	15.55	-86
TDD B40	LOW	16.22	
	medium	16.4	
	high	17.08	-85
TDD B41	LOW		
	medium	16.05	-84.2
	high		

主天线暗室数据

GSM 850	128	25.52	
	190	24.17	
	251	24.05	-101.2
GSM 900	1	24.15	
	62	23.50	
	124	23.09	-102.3
DCS 1800	512	23.01	
	698	22.12	
	885	22.1	-103.1
PCS 1900	512	23.34	
	661	23.24	
	810	23.24	-102.2

W 1	LOW	17.29	
	medium	17.1	
	high	16.57	-103.
W 2	LOW	16.06	
	medium	17.19	
	high	17.62	-102.0
W 4	LOW	15.3	
	medium	15.31	
	high	15.1	-103.3
W 5	LOW	15.17	
	medium	15.78	
	high	15.11	-102.5
W 8	LOW	15.13	
	medium	14.01	
	high	14.62	-101.5

WIFI测试效果：

BAND	2.4GWIFI			5GWIFI		
CHANNEL	low	medium	high	low	medium	high
TRP(dBm)	12.42	12.24	12.1	9.74	10.42	11.35
TIS（dBm）	-80.3	-81.5	-81.35	-70.78	-70.9	-71

GPS天线实际测试效果：

Recommendations and Conclusions

This report is based on the electrical performance of the antenna measured by the mobile phone provided by the customer, please review it carefully.

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