

# 深圳市安威无线科技有限公司

ANWEI communication Equipment Co.,Ltd

## 规格书

APPROVAL SHEET

客户 Customer	Youmi	规格型号 Specs	A13 Pro Max-4G
安威料号 Part Number		频 段 Frequency Band	G2/3/5/8/W1/2/4/5/8/BC0/BC1/1/2/3/4/5/7/8/12/13/17/18/ 19/20/25/26/28A/28B/66/34/38/39/40/41
颜 色 Color	黑油(Black Oil)	版 本 Edition	REV:A
销 售 Salesperson	Mr.Xie	设 计 Design	XU LONG
结 构 Structure	QIN YUN LIN	确 认 Confirm	
日 期 Date	2022/09/14	签字日期 Signing Date	

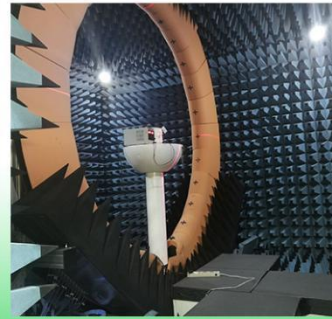
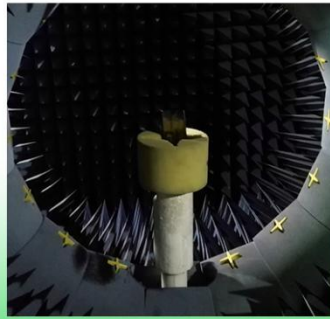
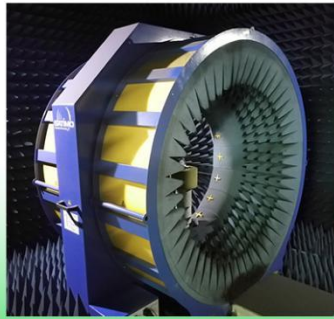
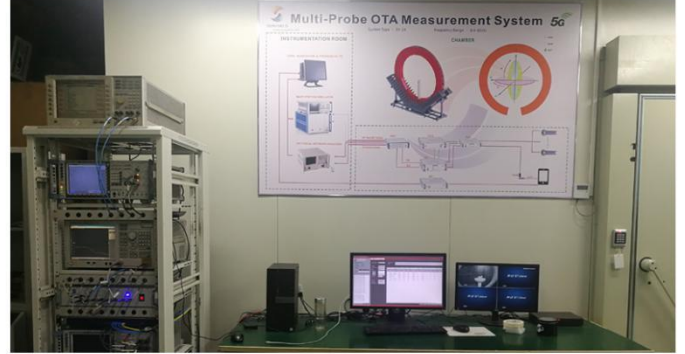
客户确认 Customer confirmation:

携手共进 共创未来

Join hands to create the future

## 项目开发环境

## Project development environment



安威无线一直都是您值得信赖且优秀的合作伙伴，我们为您提供全方位一站式的的产品以及技术服务！

“质量第一，服务至上”是安威一直以来的发展宗旨

**主集天线 (Master antenna 0)**

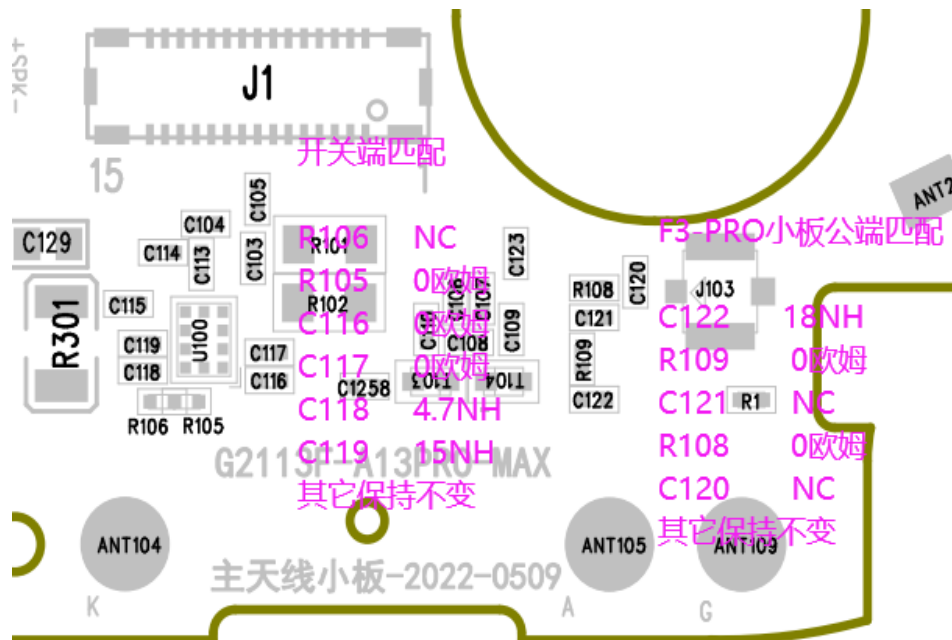
工作频段(Working frequency band): 700MHZ~960MHZ GSM850/900 WCDMB5/8  
FDD5/7/8/12/13/17/18/19/20/26/28AB CDMA BC0/38/40/41

**天线匹配(Matcheing network):**

- C122: 18NH
- R109: 0Ω
- C121: NC
- R108: 0Ω
- C120: NC

**F3-PRO-ANT0射频匹配和开关频段分路如下:**

频段	位号/开关通道	匹配	备注
GSM8/W8/FDD8 (900MHZ)	RF1 (C116)	0欧姆	
FDD7/TDD38/40/41	RF2 (C117)	0欧姆	
GSM5/W5/BC0/FDD5/18/19/20/26	RF3 (C118)	4.7NH	
12/13/17/B28A/B28B (700MHZ)	RF4 (C119)	15NH	
	R105 (进开关)	0 欧姆	
	R106	NC	



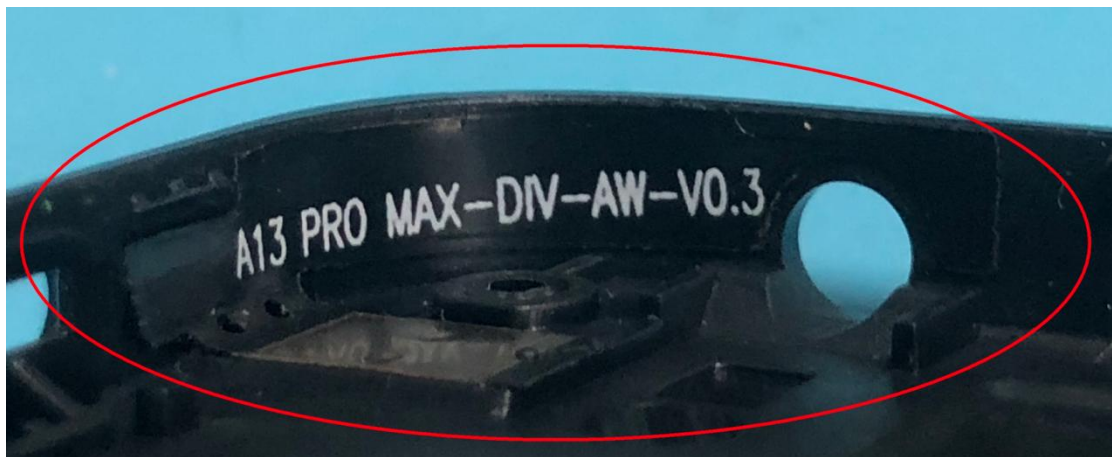
## 分集天线(Diversity antenna )

### ANT1 天线匹配 (ANT1 antenna match)



工作频段(Working frequency band):1710MHZ~2170MHZ

DCS1800/PCS1900/WCDMA1/2/4/BC1/FDD1/2/3/4/25/66/TDD34/39



### GWB 天线 (GPS/WIFI/BT antenna)

GPS 天线工作频段 (Working frequency band of GPS antenna) : 1559MHZ~1616MHZ

2.4GWIFI 工作频段 (Working frequency band): 2410MHZ~2500MHZ

5GWIFI 工作频段 (Working frequency band of 5GWIFI antenna) : 5150MHZ~5850M



NFC 天线 (NFC antenna) 工作频段 (Working frequency band): 13.56MHz



**ANWEI ANT TRP&TIS parameter Summary of F3PRO-4G**

	Channel	TRP (dBm)	TIS (dBm)		Channel	TRP (dBm)	TIS (dBm)		Channel	TRP (dBm)	TIS (dBm)	
FDD B1	18050	17.67		FDD B13	23230	17.16	-90.35	FDD B28B	27410	16.41		
	18300	17.59								27510	16.75	
	18550	17.34	-90.54							27600	17.38	-88.12
FDD B2	18650	17.59		FDD B17	23790	16.42		FDD B66	132022	16.51		
	18900	17.56			23790	16.72			132322	16.13		
	19150	17.61	-91.63		23790	17.26	-90.41		132622	17.21	-91.15	
FDD B3	19250	16.34		FDD B18	23900	16.51		TDD (B34)	36250	17.13		
	19575	17.16			23925	17.13			36275	17.49		
	19900	17.52	-91.15		23950	17.35	-90.54		36300	17.02	-91.23	
FDD B4	20000	16.41		FDD B19	24050	16.47		TDD (B38)	37850	17.42		
	20175	16.62			24075	16.72			38000	17.21		
	20350	17.26	-91.56		24100	17.23	-90.15		38150	16.03	-88.17	
FDD B5	20450	17.23		FDD B20	24200	16.31		TDD (B39)	38350	17.51		
	20525	17.31			24300	17.25			38450	17.62		
	20600	17.36	-90.42		24400	17.38	-89.46		38550	17.64	-91.56	
FDD B7	20800	17.23		FDD B25	26090	17.68		TDD (B40)	38750	15.03		
	21100	17.35			26365	17.81			39150	15.56		
	21400	17.41	-87.41		26640	17.89	-91.56		39550	16.59	-89.31	
FDD B8	21500	17.52		FDD B26	26740	17.32		TDD (B41)	40340			
	21625	17.35			26865	17.26			40620	16.13	-86.45	
	21750	17.24	-90.34		26990	17.24	-89.68		41140			
FDD B12	23060	16.35		FDD B28A	27260	16.34						
	23095	16.68			27370	16.67						
	23130	17.23	-90.34		27469	17.35	-90.21					

	Channel	TRP (dBm)	TIS (dBm)		Channel	TRP (dBm)	TIS (dBm)		Channel	TRP (dBm)	TIS (dBm)
WCDMA B1	10562	17.65		CDMA BC0	1013	17.58		GSM 850	128	25.51	
	10700	16.75			384	17.42			190	25.43	
	10838	16.21	-100.2		777	17.45	-97.23		251	26.12	-102.8
WCDMA B2	9262	17.32		CDMA BC1	777	17.62		GSM 900	1	26.68	
	9400	17.41			25	17.59			62	26.54	
	9538	17.53	-102.3		600	17.67	-100.3		124	26.42	-102.6
WCDMA B4	1312	15.12		CDMA BC10	0			DCS1800	512	23.41	
	1413	15.24			720				698	23.62	
	1513	15.71	-102.8		919				885	24.57	-103.2
WCDMA B5	4132	16.13		TD B34	10054	17.32		PCS 1900	512	25.51	
	4183	16.34			10087	17.54			661	25.49	
	4233	16.57	-102.1		10121	17.26	-103.8		810	25.23	-103.5
WCDMA B6	4162			TD B39	9404	17.52					
	4175				9500	17.64					
	4188				9596	17.68	-104.4				
WCDMA B8	2712	17.36									
	2787	16.41									
	2863	16.23	-102.3								
WCDMA B19	312										
	412										
	437										

## 2. 4G WIFI and 5G WIFI Active data

Standard	Band	Channel	Frequency	TRP	TIS
WIFI_B	B_11M	1	2412	9.67	-80.52
WIFI_B	B_11M	6	2437	9.51	-80.12
WIFI_B	B_11M	11	2462	8.91	-80.56
WIFI_A	A_54M	36	5180	8.72	-70.52
WIFI_A	A_54M	64	5320	9.12	-70.69
WIFI_A	A_54M	165	5825	9.68	-70.86

## GPS 测试(GPS Test)



SVID	Fq	CNR	Elevation	Azimuth
12 L1	29.0	34.00	69.00	
15 L1	0.0	3.00	98.00	
21 L1	0.0	3.00	314.00	
22 L1	20.8	26.00	304.00	
23 L1	25.2	67.00	135.00	
24 L1	0.0	14.00	44.00	
25 L1	42.2	52.00	119.00	
31 L1	20.8	31.00	212.00	
32 L1	40.7	41.00	330.00	
65 L1	36.2	18.00	106.00	
66 L1	0.0	48.00	45.00	
67 L1	0.0	28.00	339.00	
76 L1	37.3	43.00	33.00	
77 L1	17.1	79.00	167.00	
78 L1	0.0	22.00	202.00	
81 L1	0.0			

GPS 效率(Efficiency of GPS antenna): 30%

### 天线增益(Antenna gain)

GSM850	-0.56
EGSM900	-0.51
DCS1800	-0.39
PCS1900	-0.37
W2100	-0.37
W900	-0.51
W850	-0.56
W1900	-0.37
W1700	-0.39
W2000	
W800	
BC0	-0.56
BC1	-0.37
FDD	
B1	-0.36
B2	-0.37
B3	-0.38
B4	-0.36
B5	-0.56
B7	-0.32
B8	-0.51
B12	-0.62
B13	-0.63
B17	-0.64
B18	-0.56
B19	-0.55
B20	-0.56
B25	-0.37

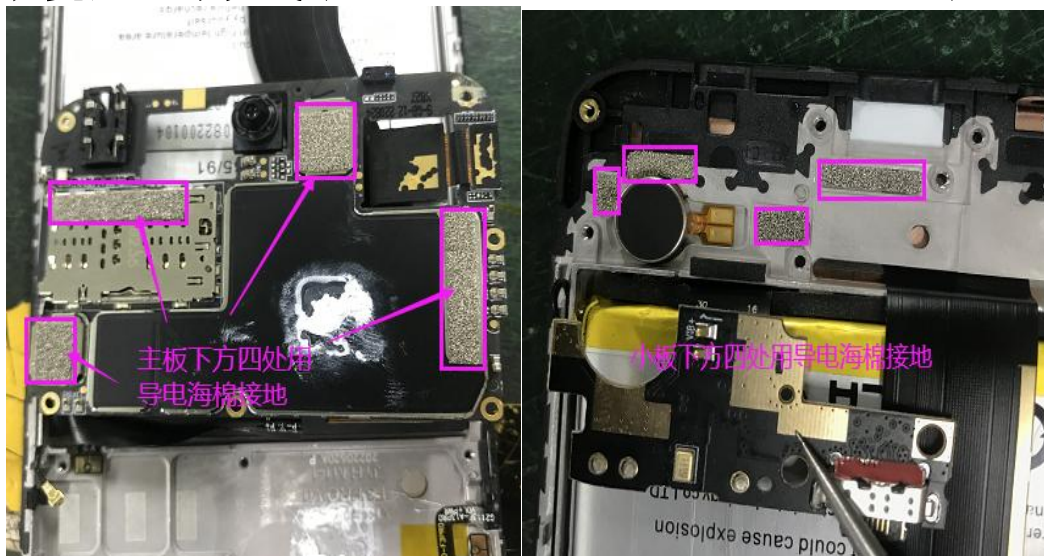
NR	
N1	
N2	
N3	
N5	
N7	
N8	
N12	
N20	
N25	
N28	
N38	
N40	
N41	
N66	
N71	
N77	
N78	

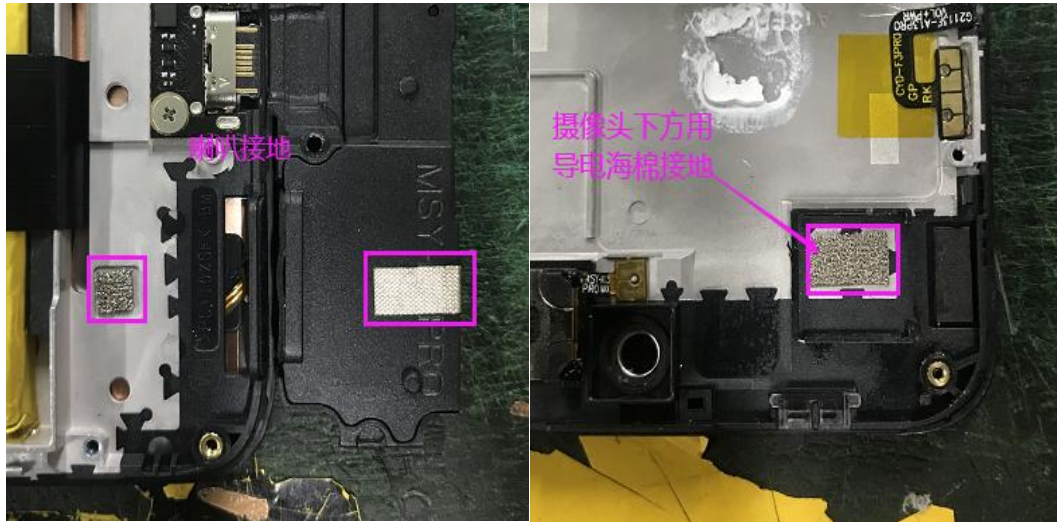


B26	-0.57
B28	-0.63
TDD	
B34	-0.34
B38	-0.31
B39	-0.32
B40	-0.34
B41	-0.32
B66	-0.46
NFC	1.42
GPS	-0.45
WIFI	-0.42
BT	-0.42
5G WIFI	0.15

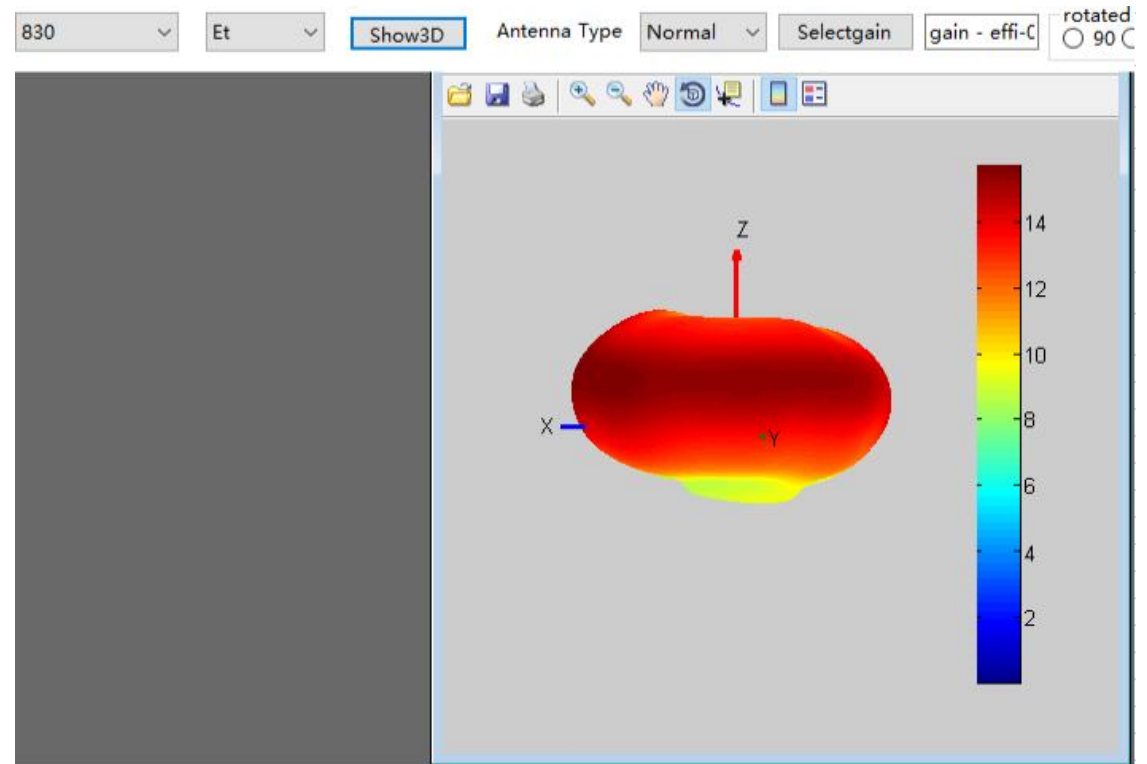
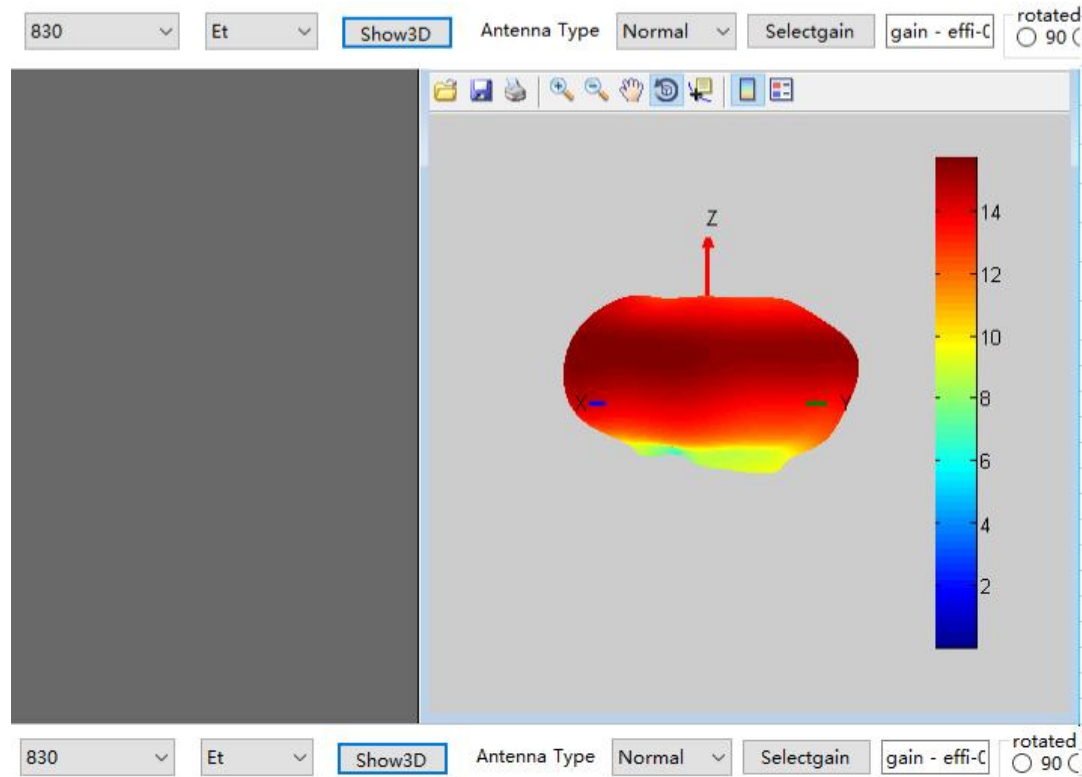
Unit: dBi

## 环境处理方式(Environmental treatment)

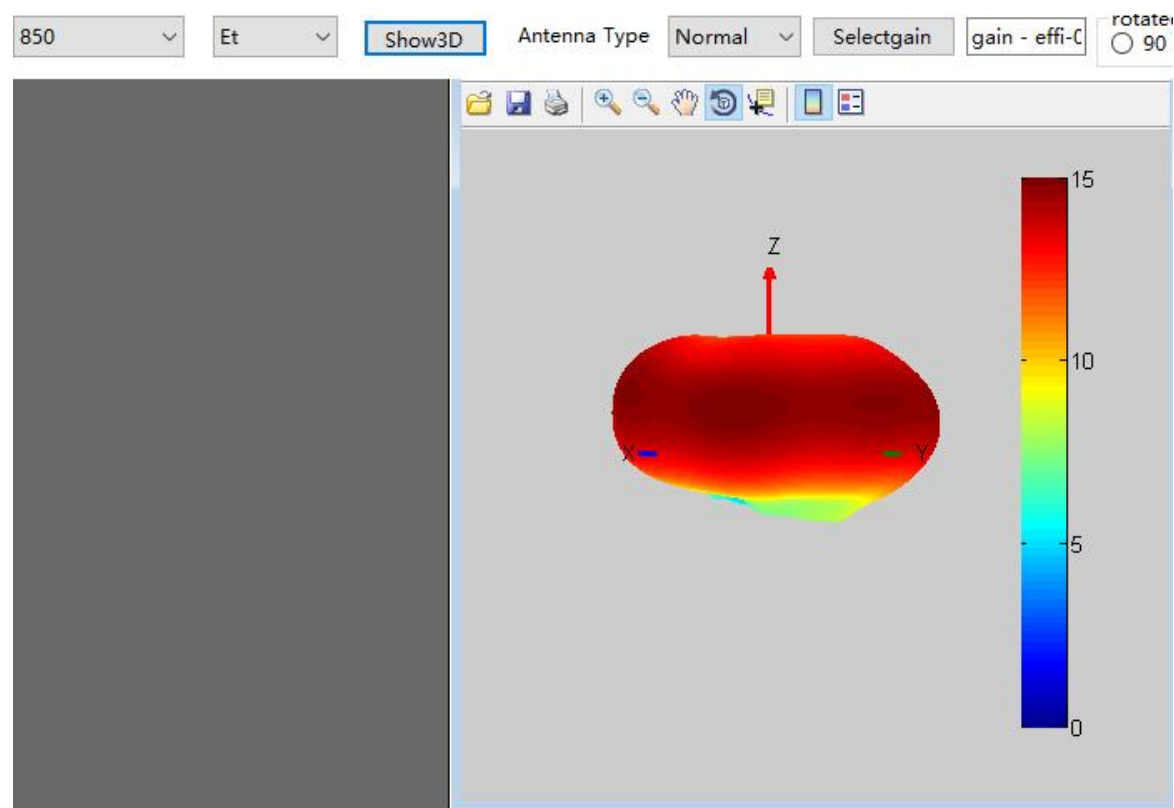
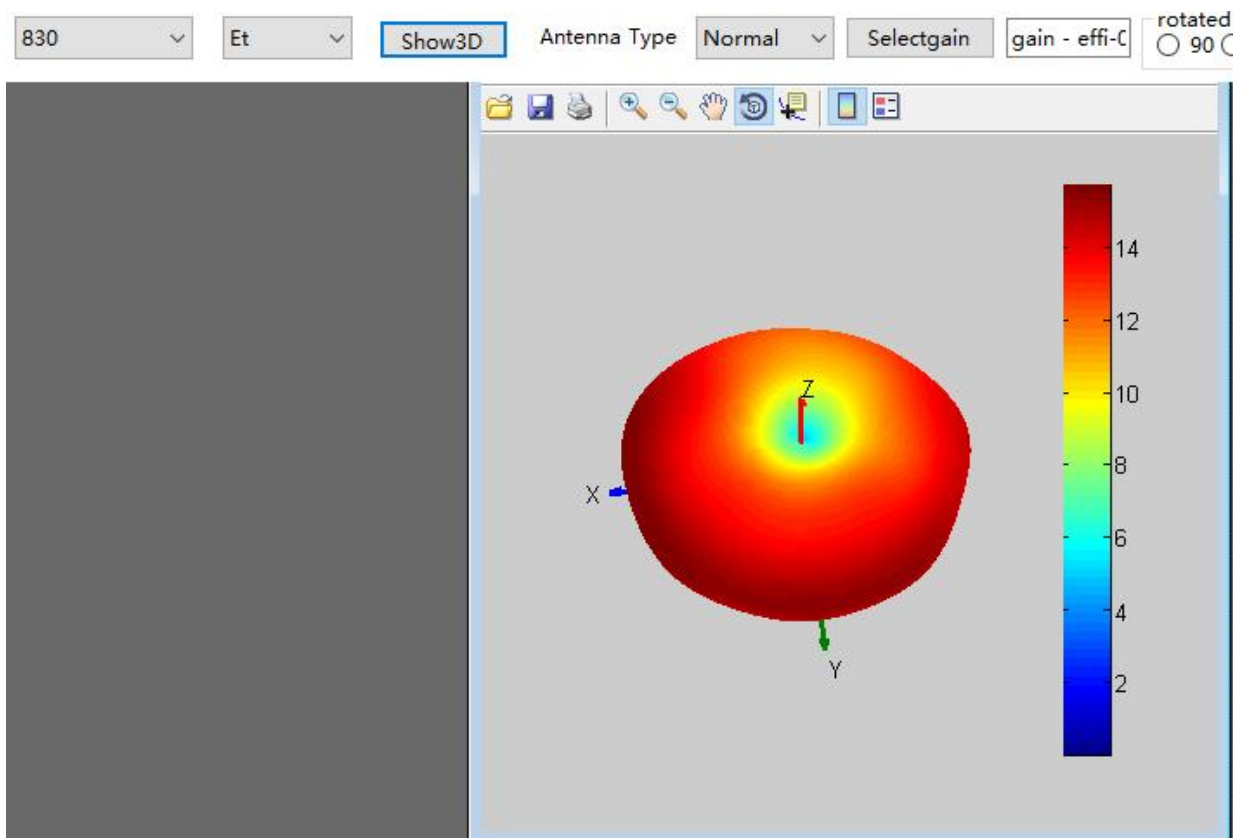




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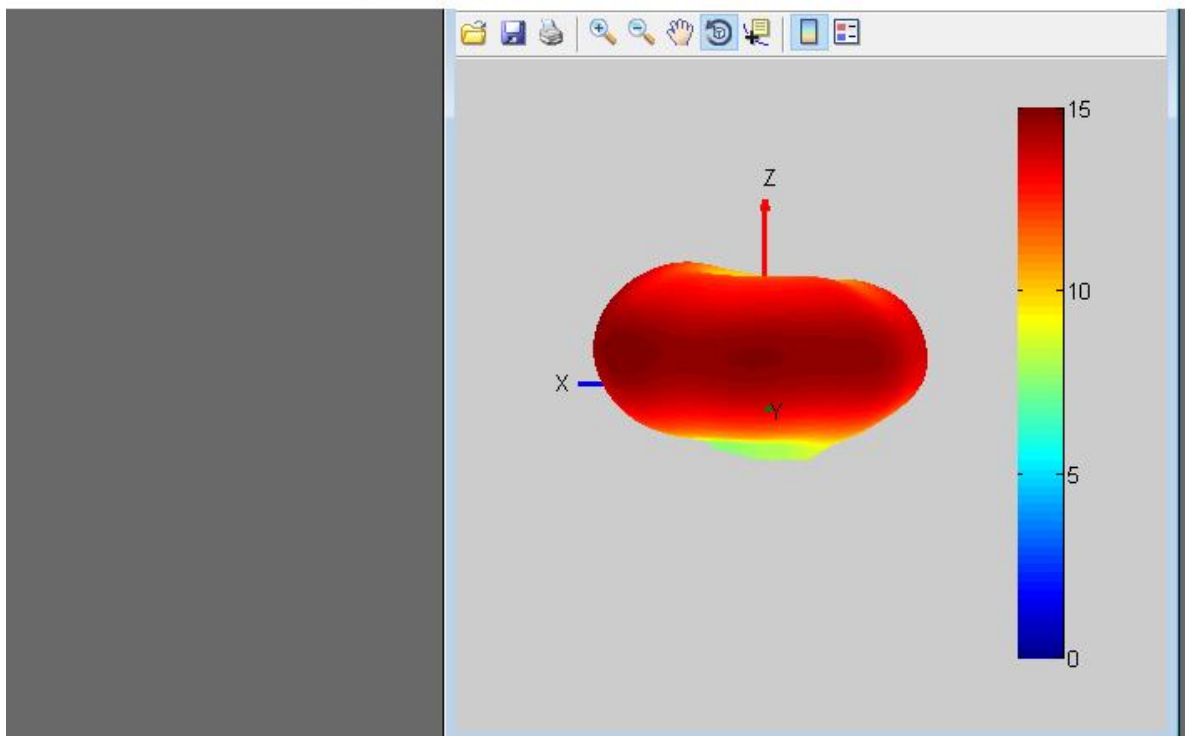


# GSM850 WB5 LTE B5

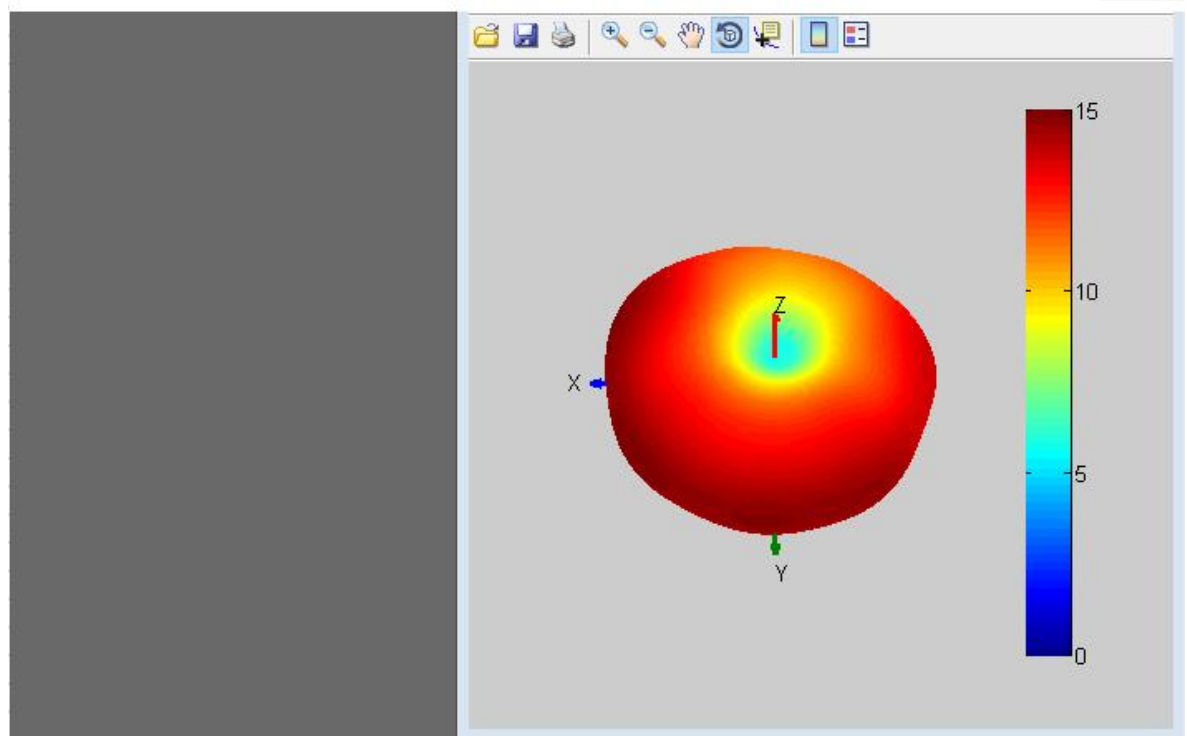


# GSM850 WB5 LTE B5

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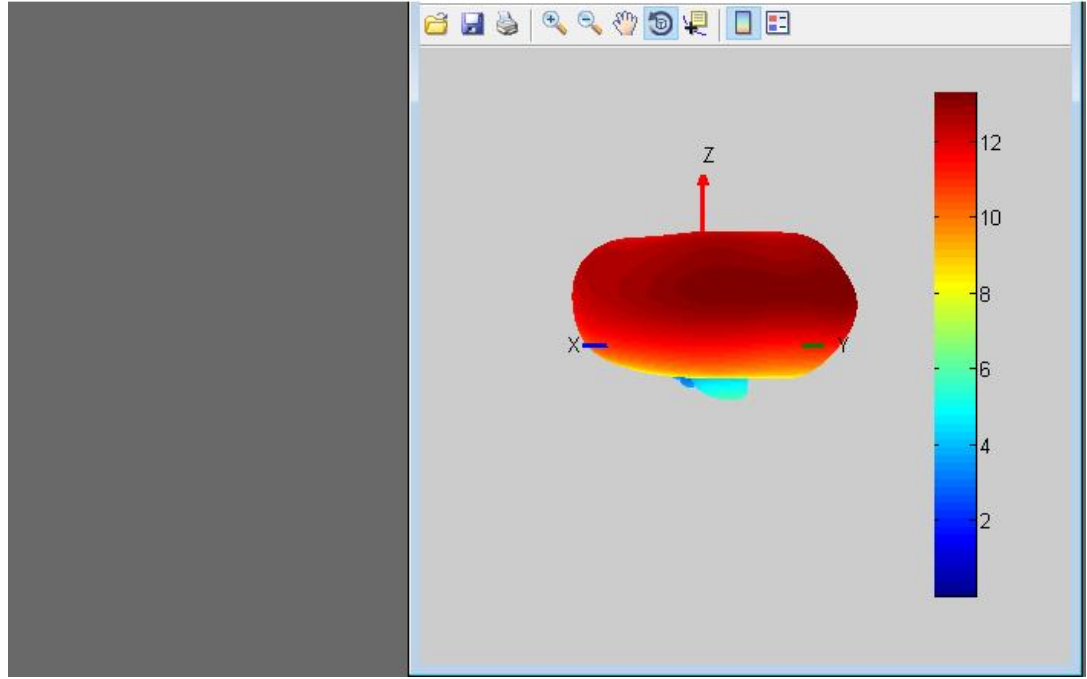


850 ▾ Et ▾ Show3D Antenna Type Normal ▾ Selectgain gain - effi-C rotated 90 C

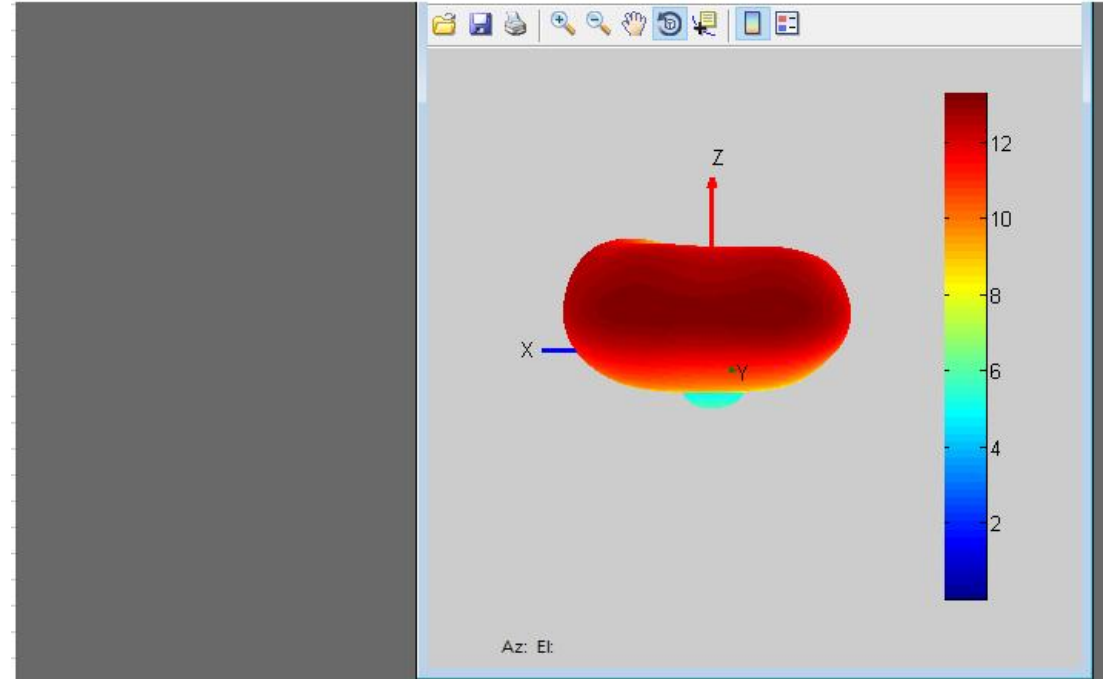


# GSM850 WB5 LTE B5

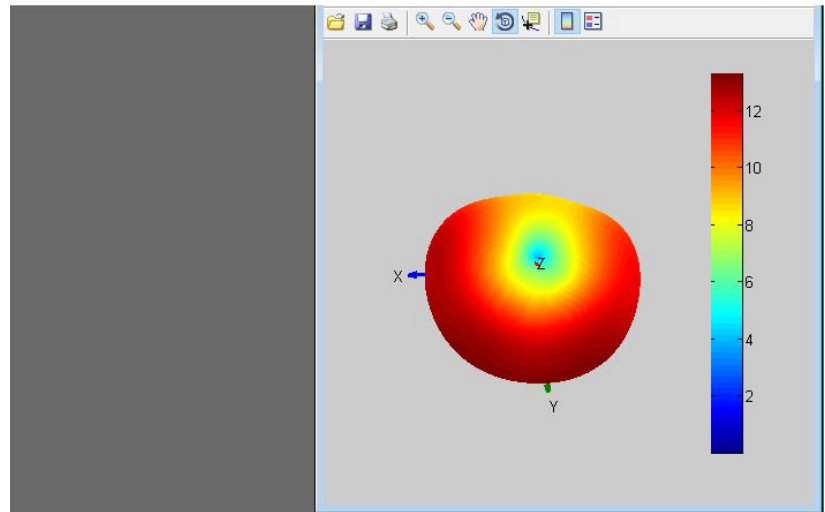
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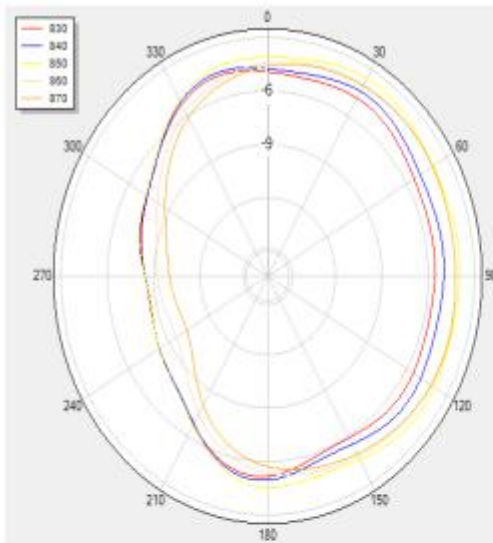
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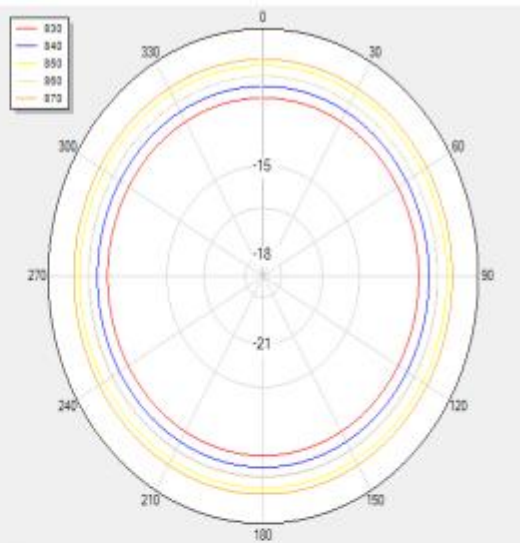
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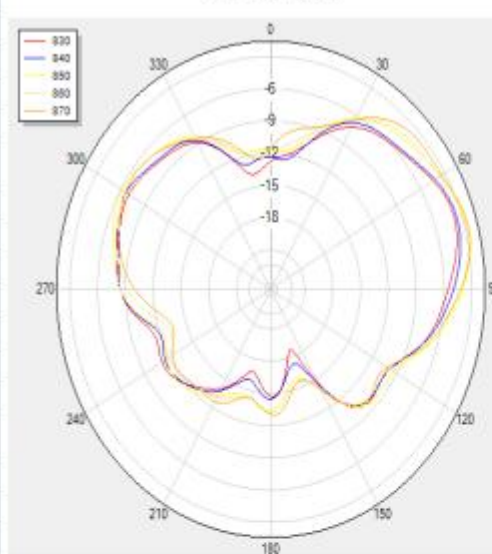
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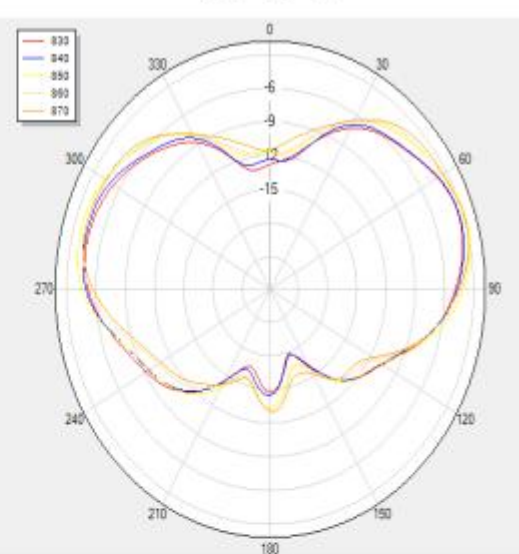
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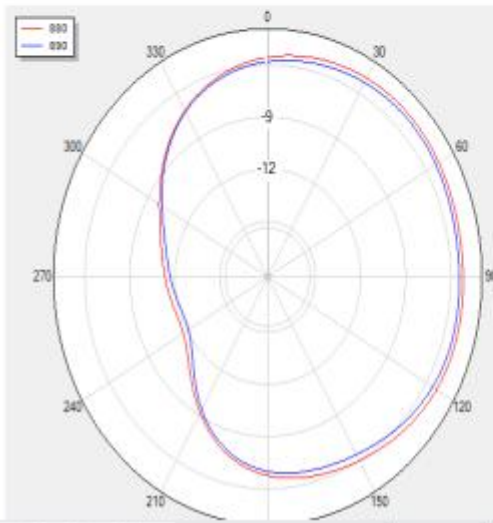
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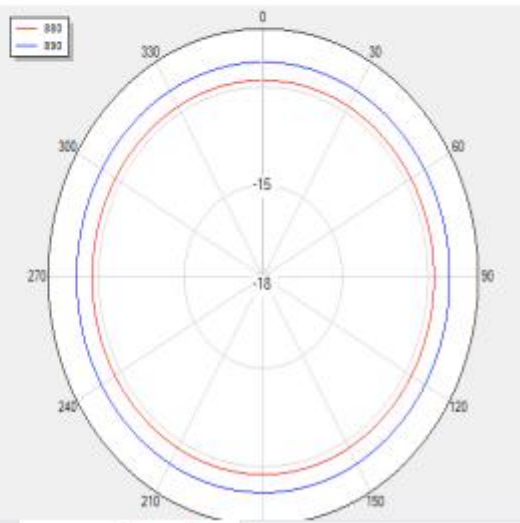
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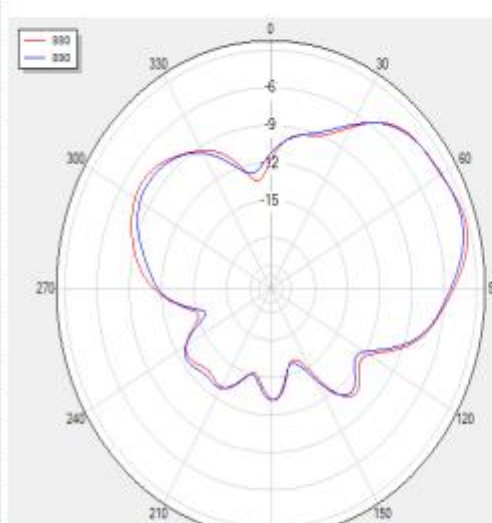
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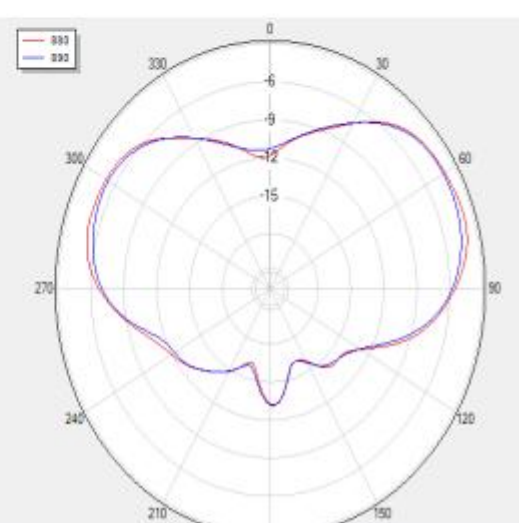
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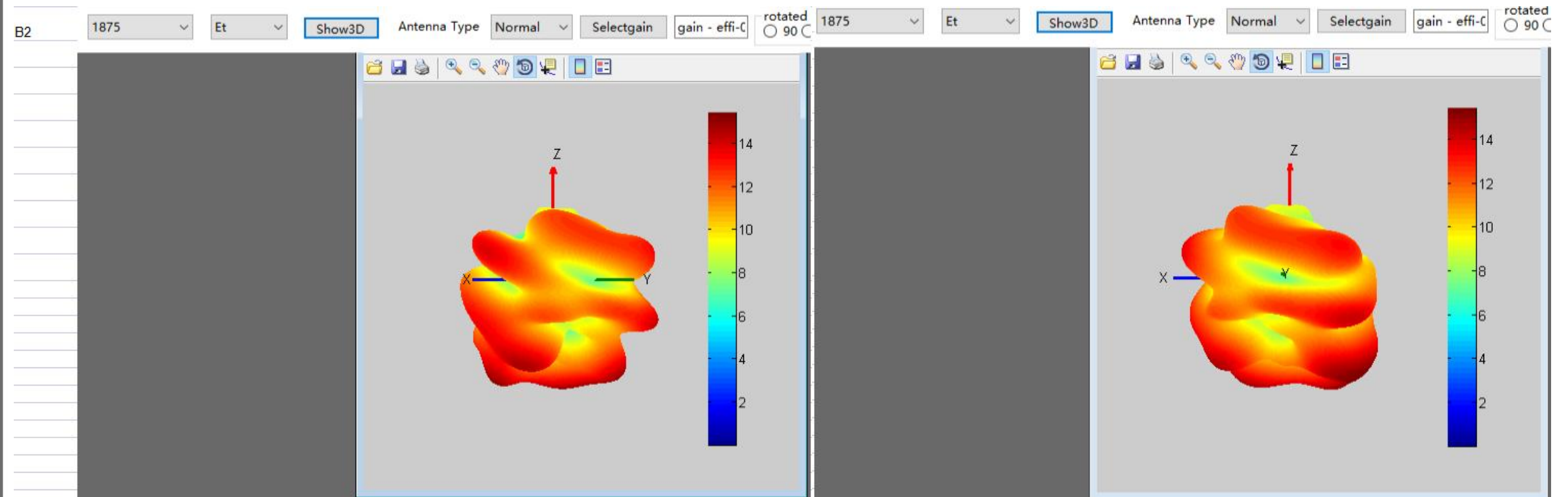
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V Phi=0

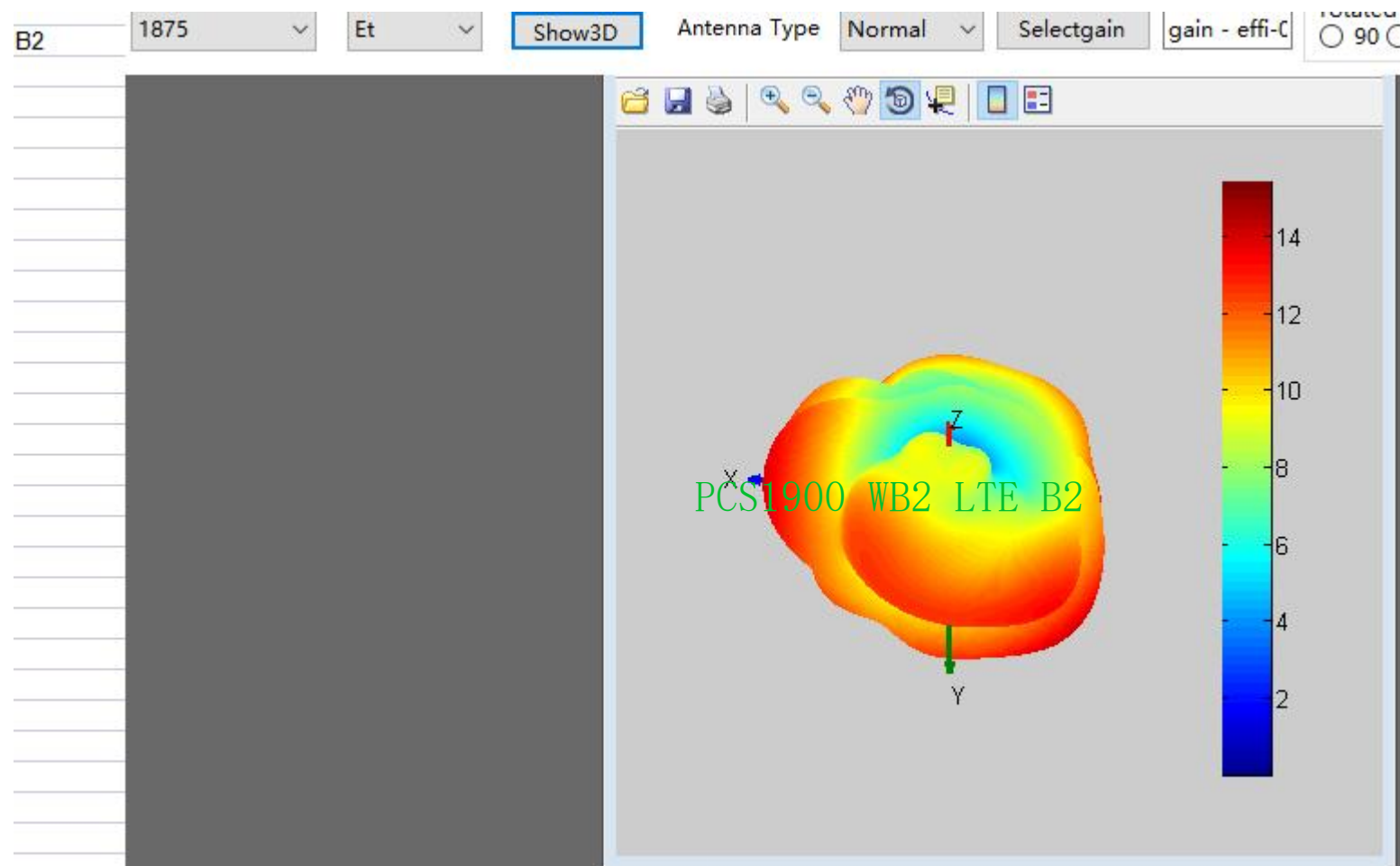


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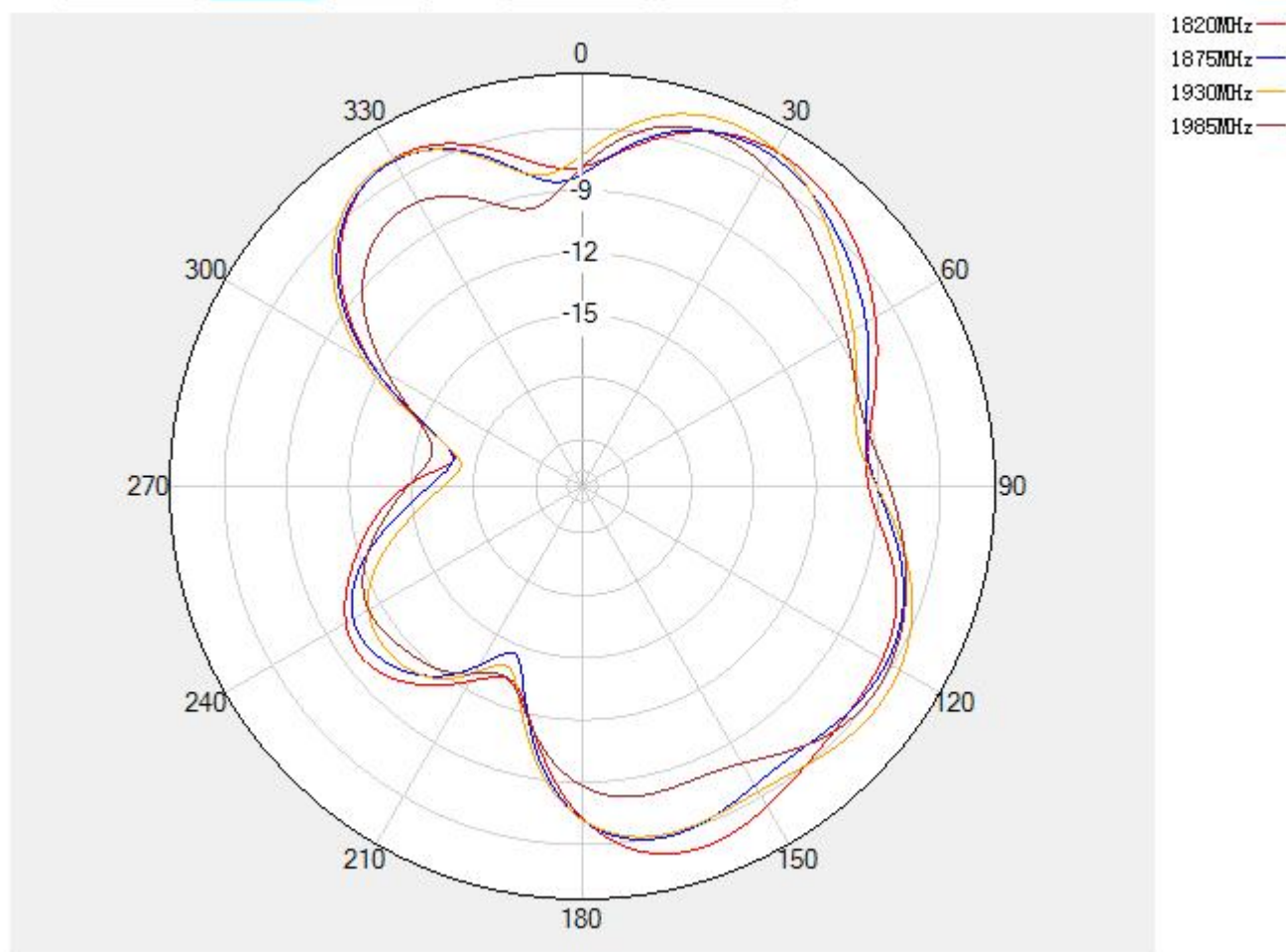




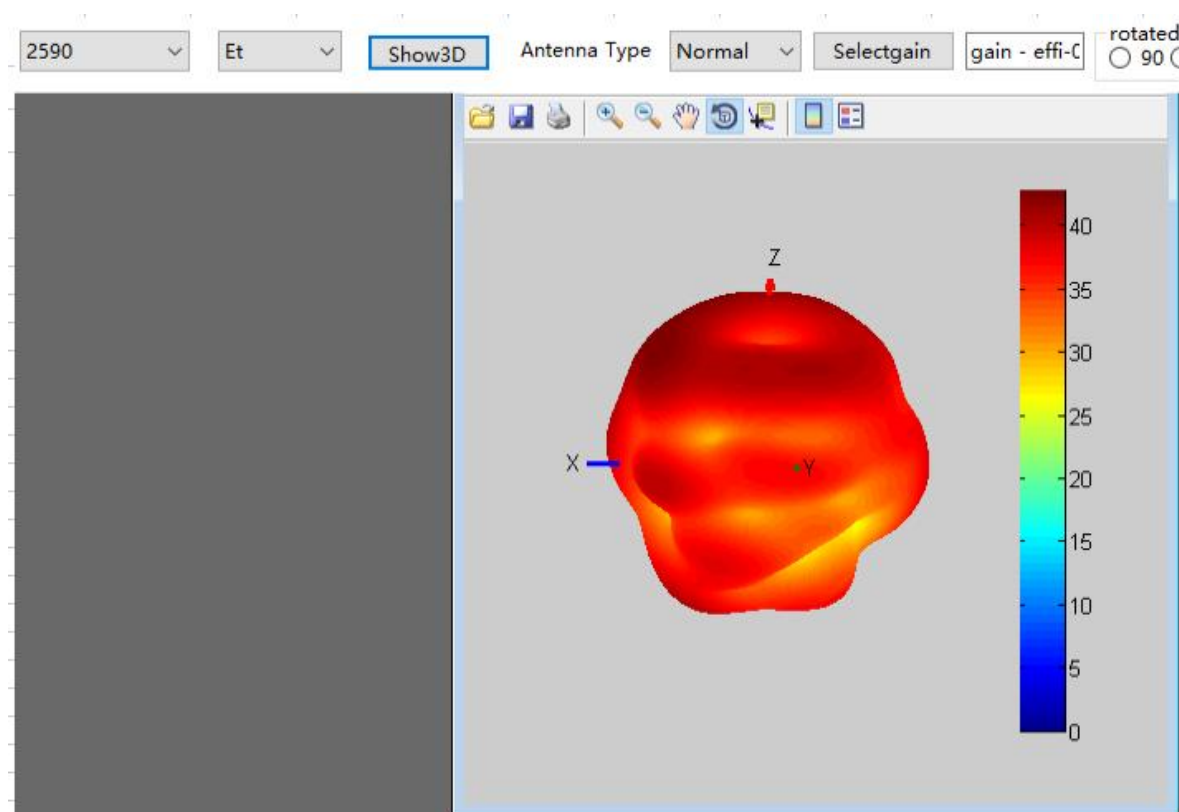
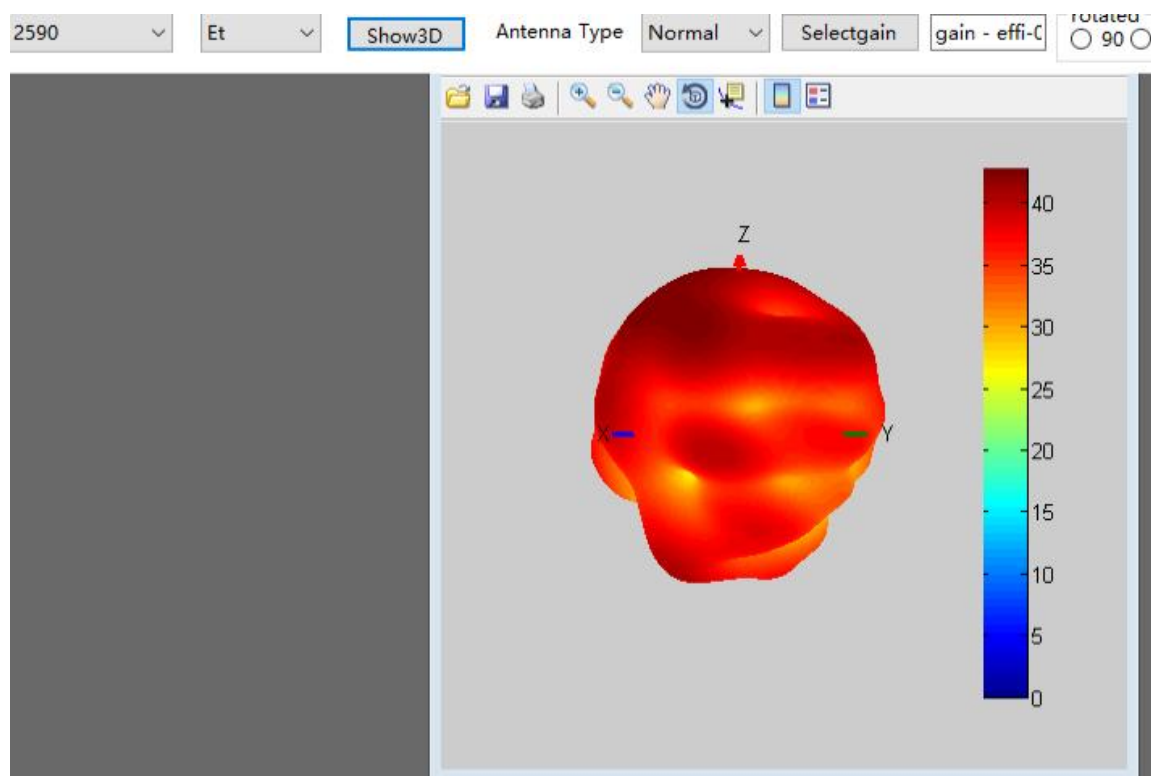
PCS1900 WB2 LTE B2

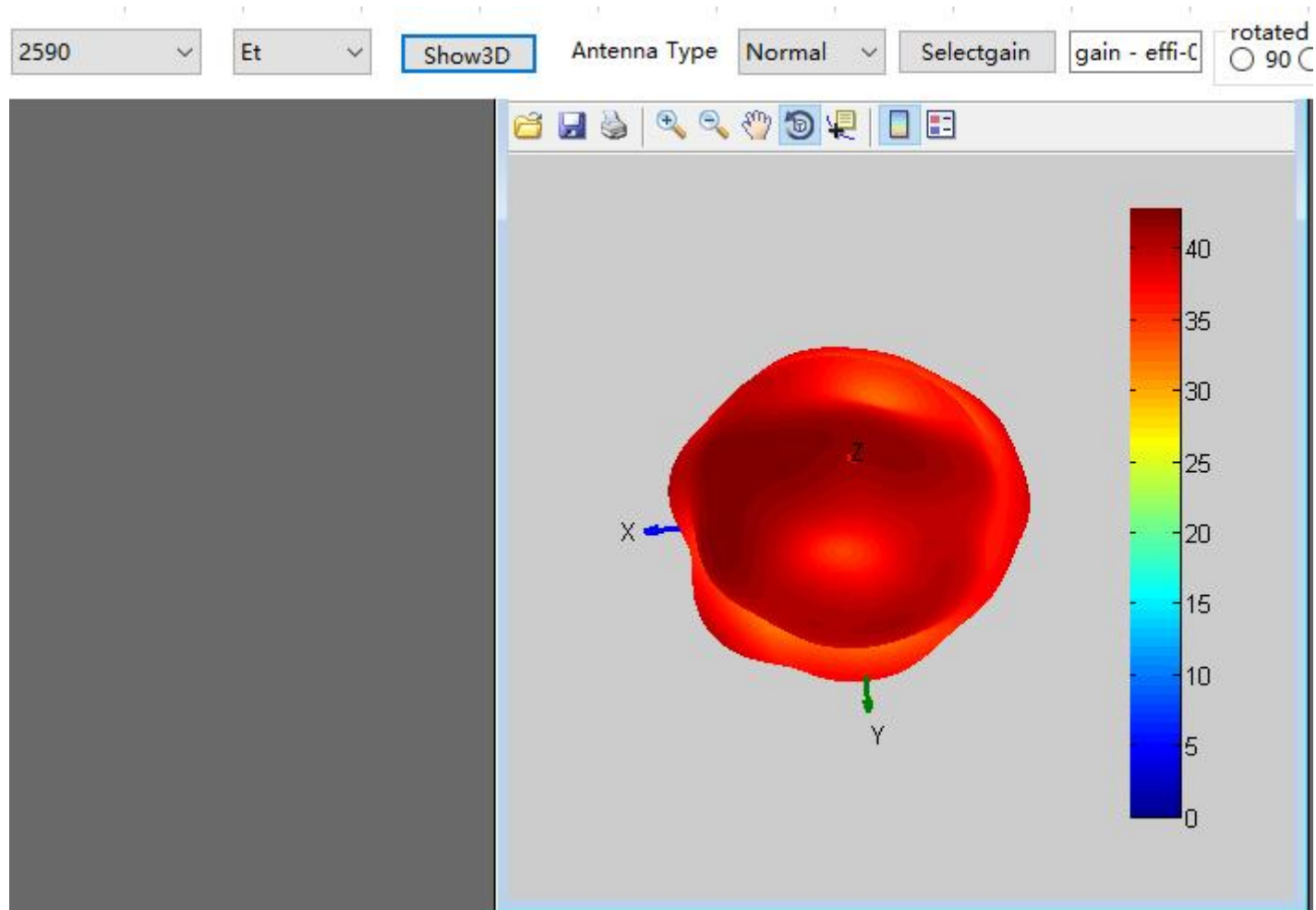


PCS1900 WB2 LTE B2

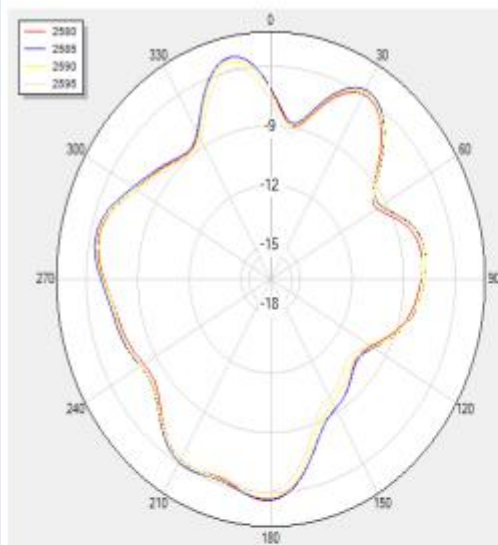


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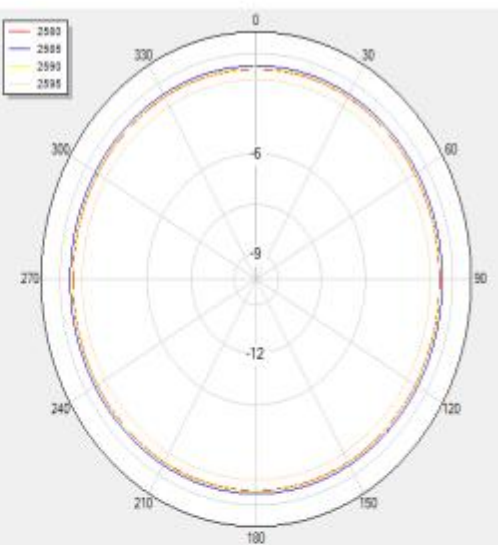




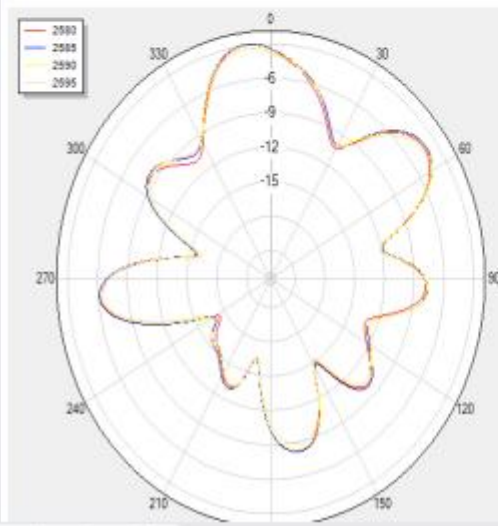
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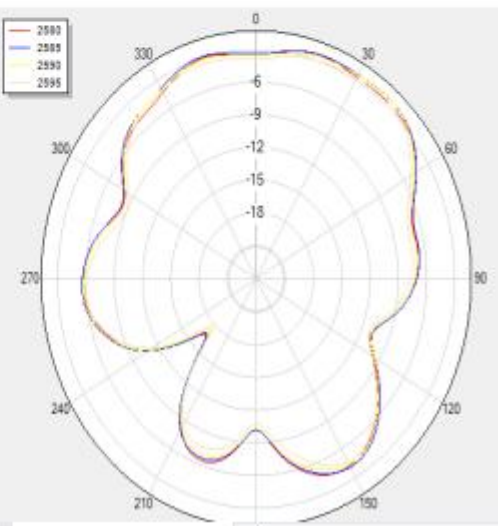
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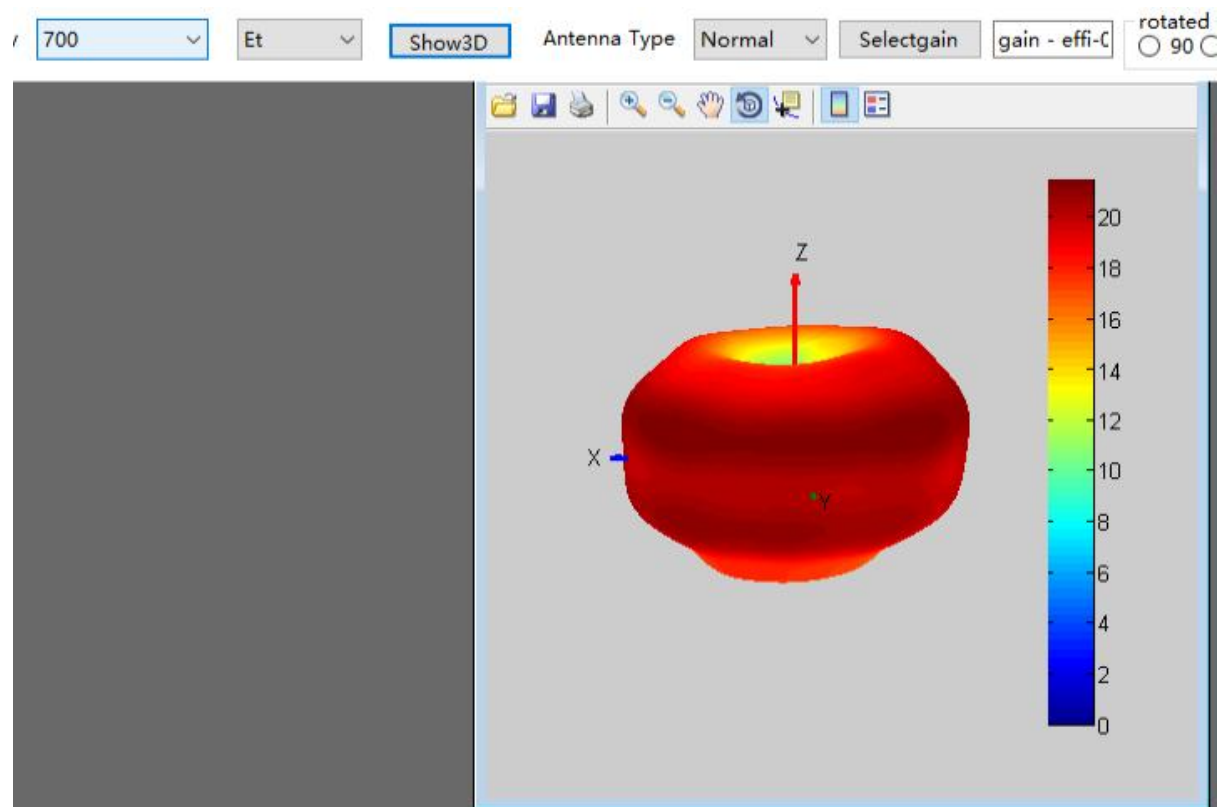
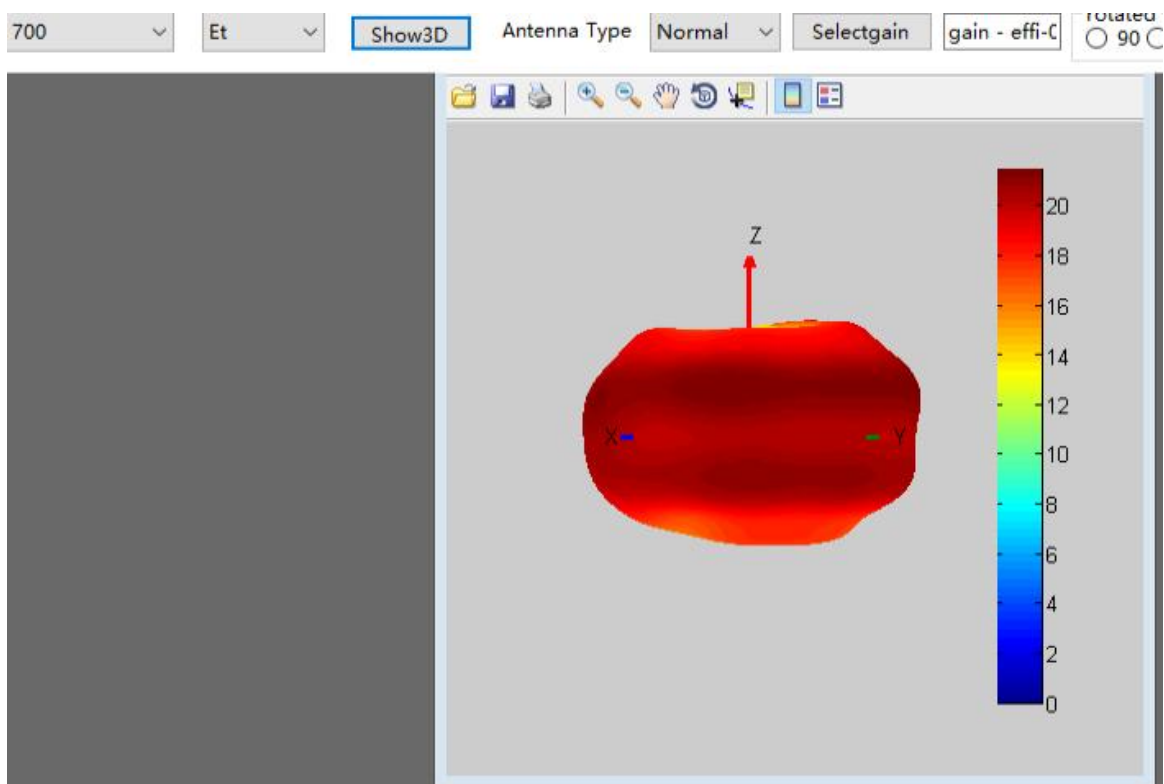
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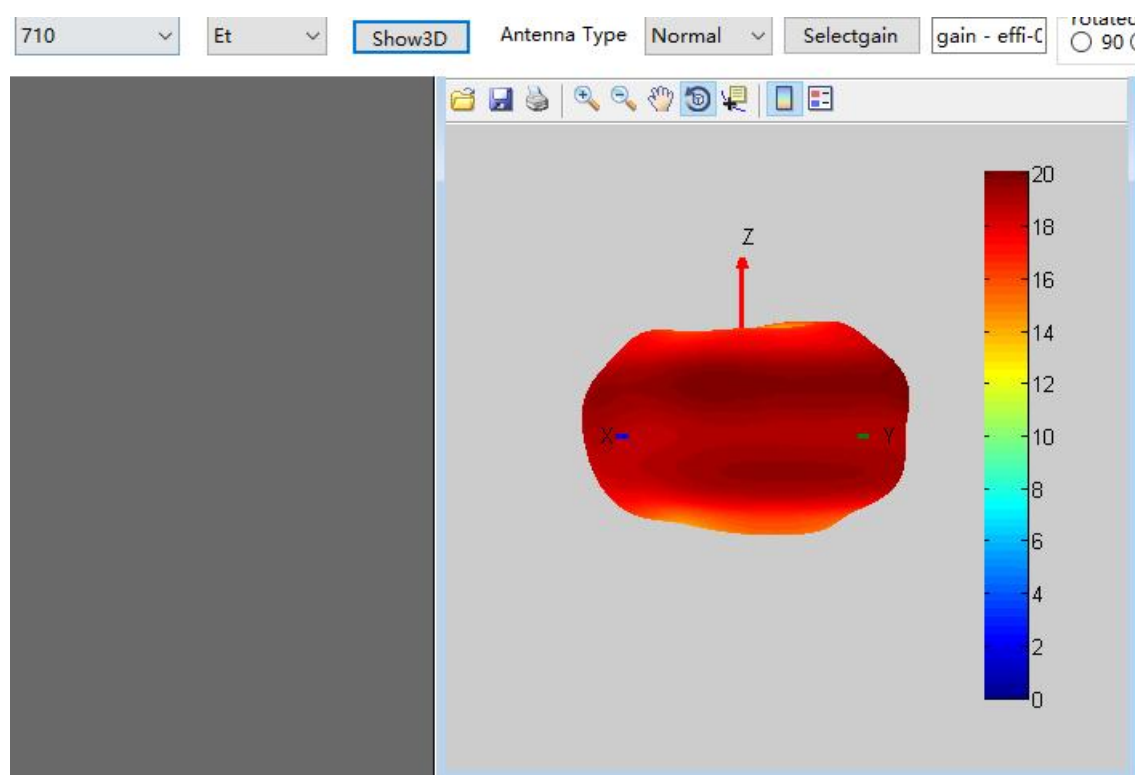
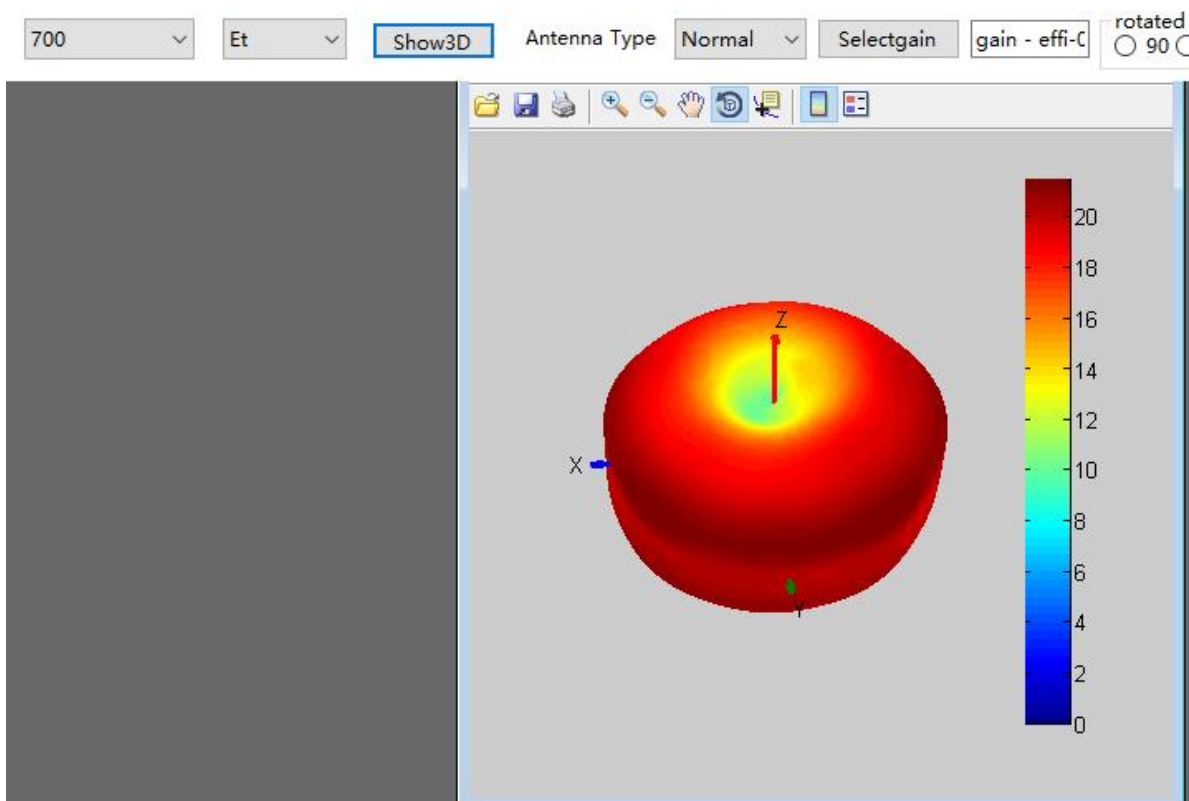


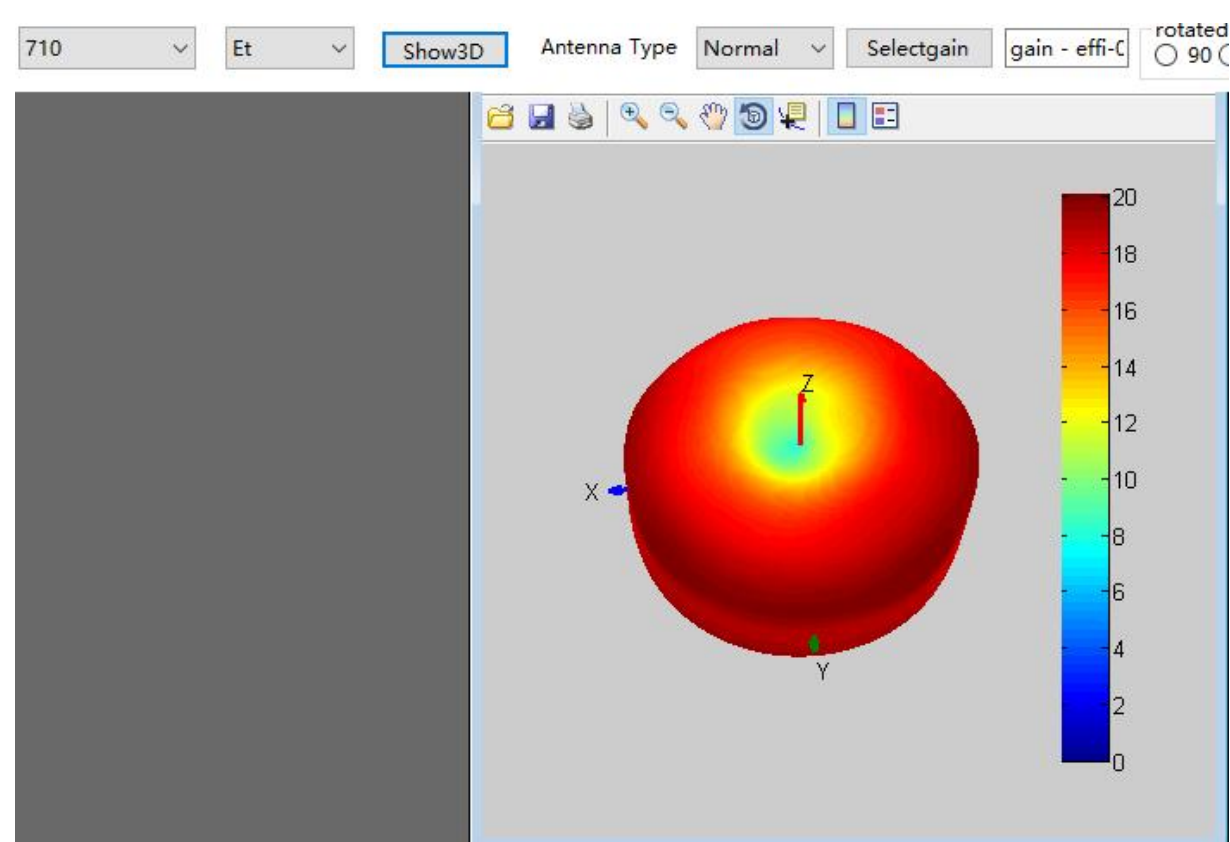
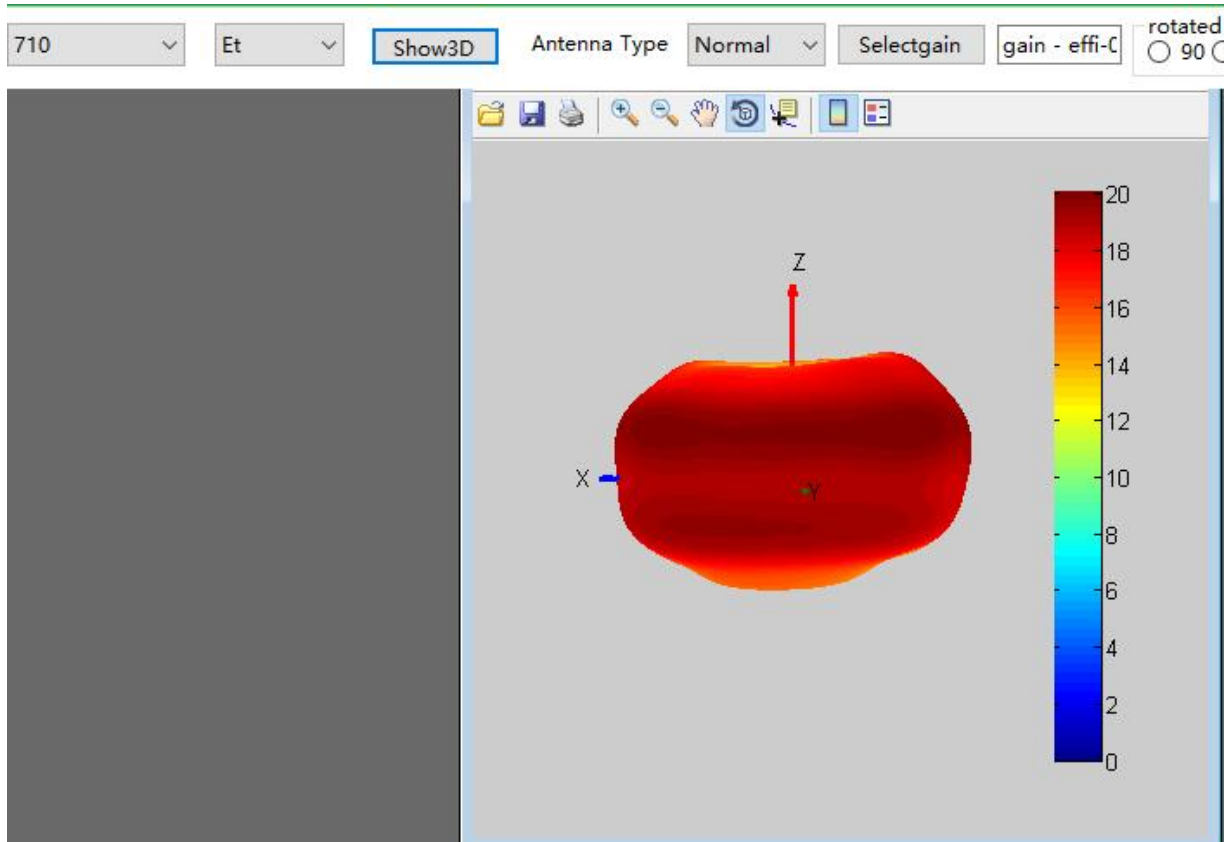
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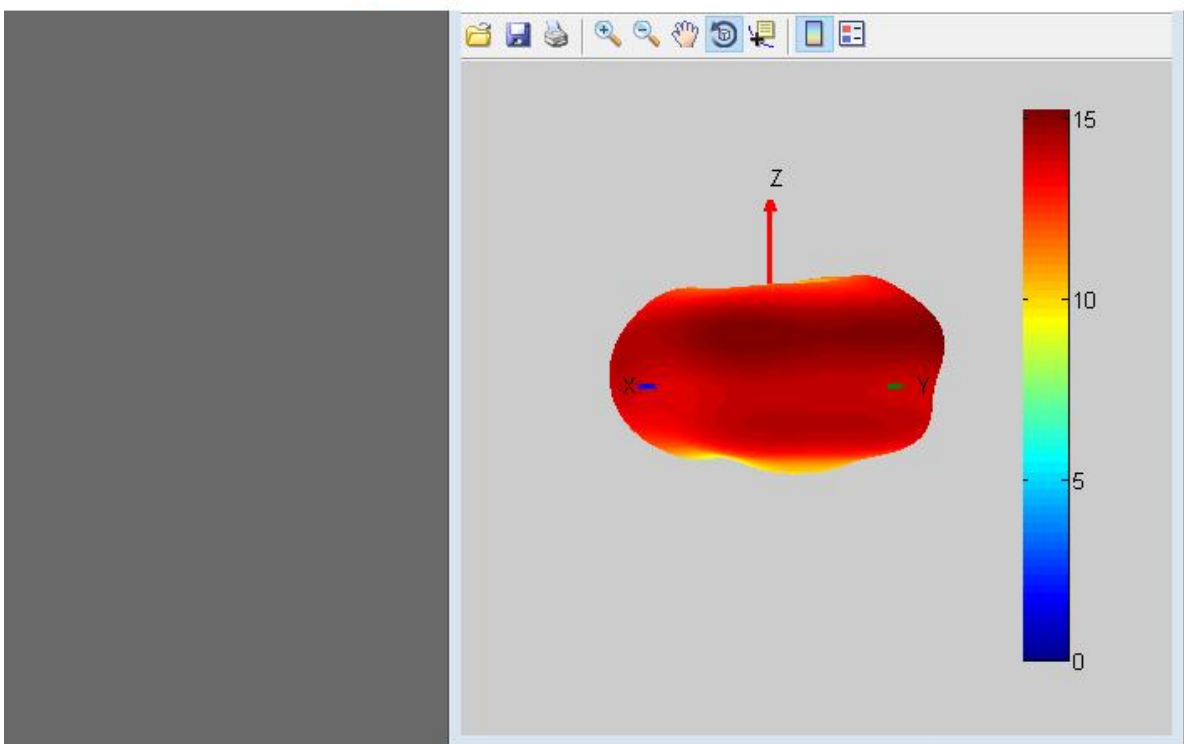




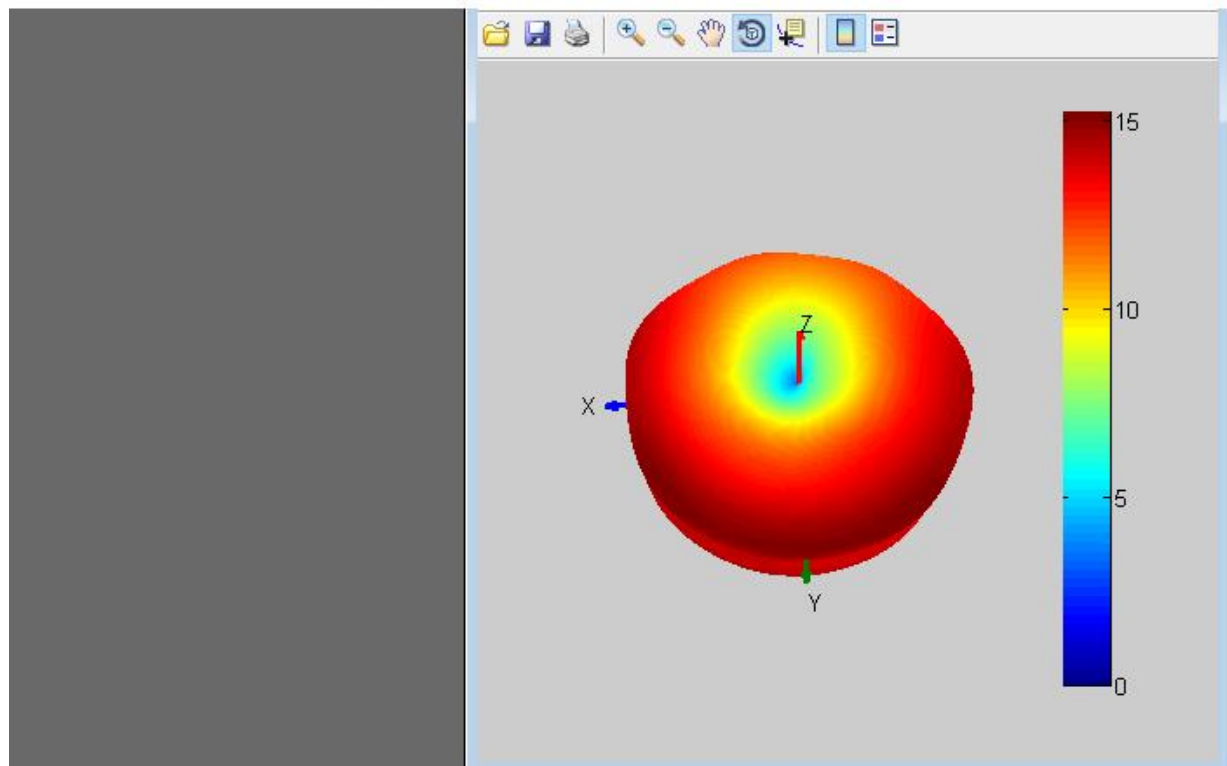


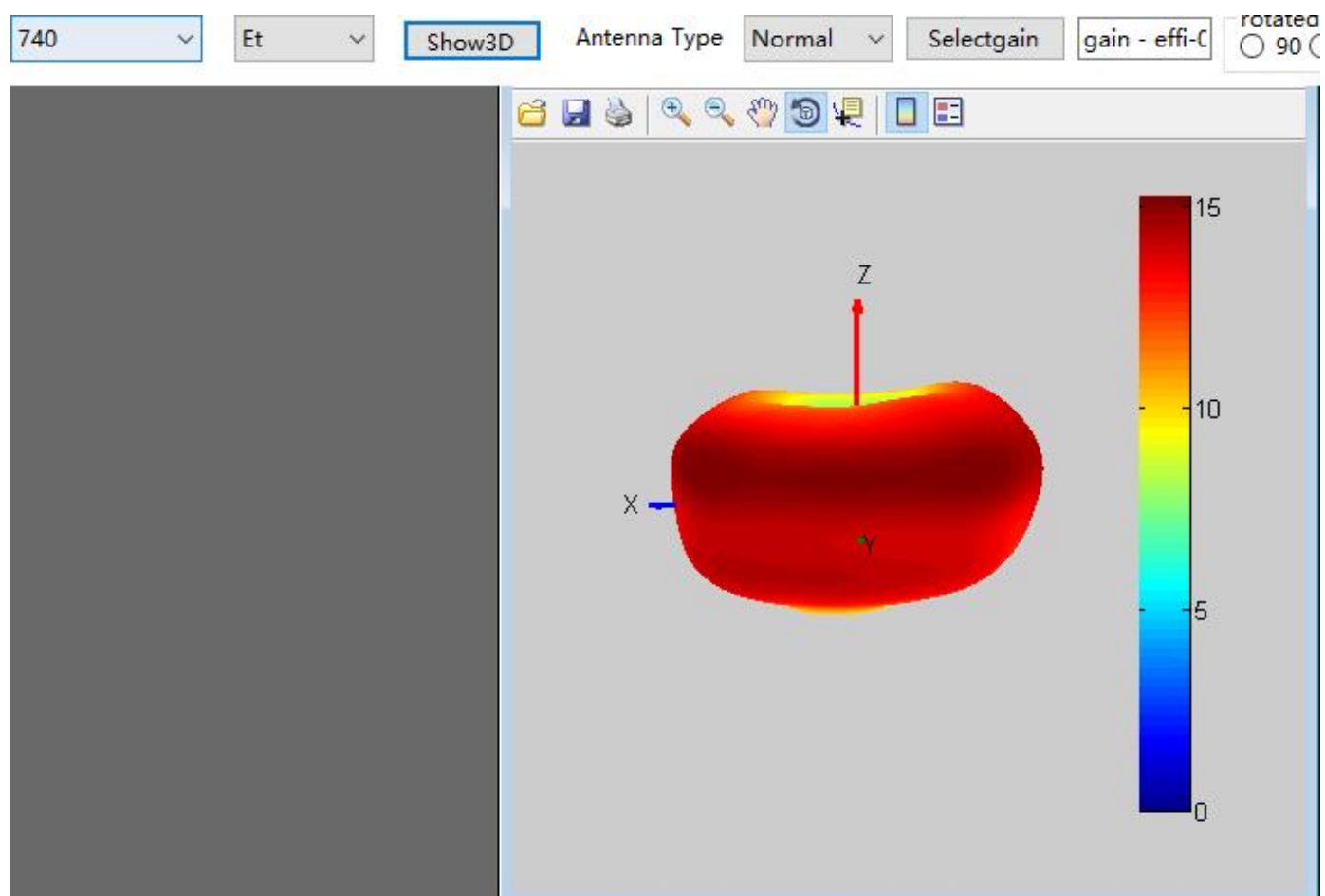
# LTE B12

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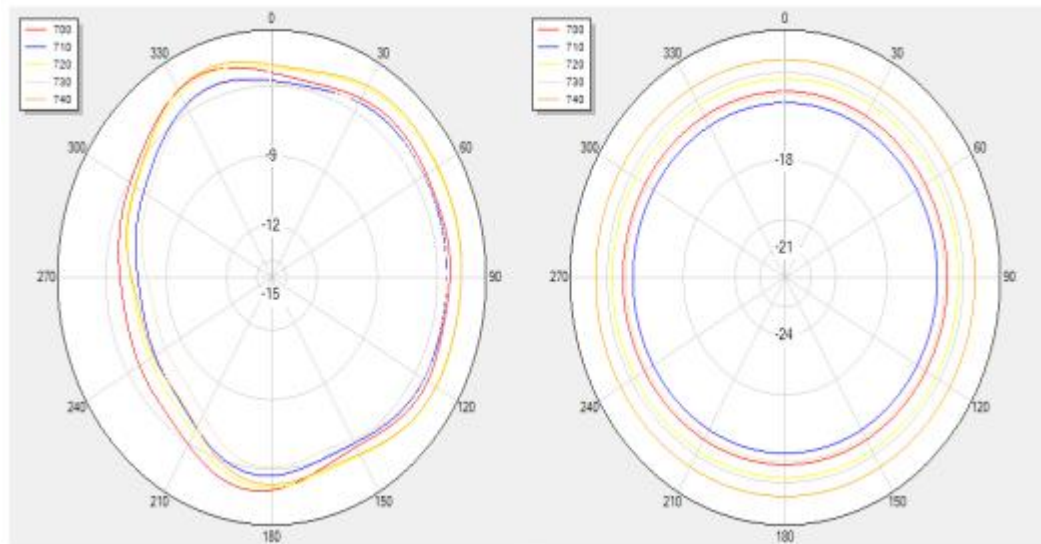
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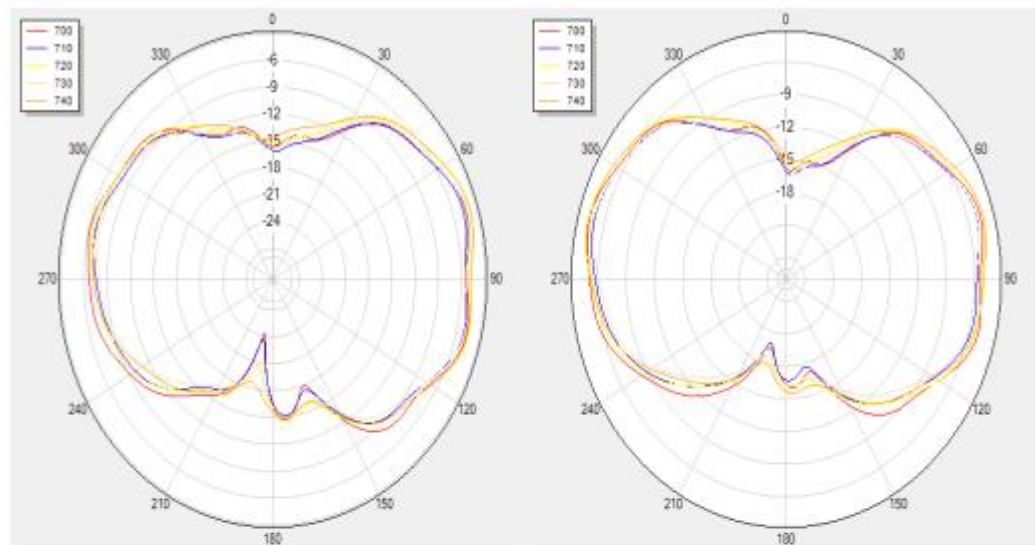
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H Theta=0



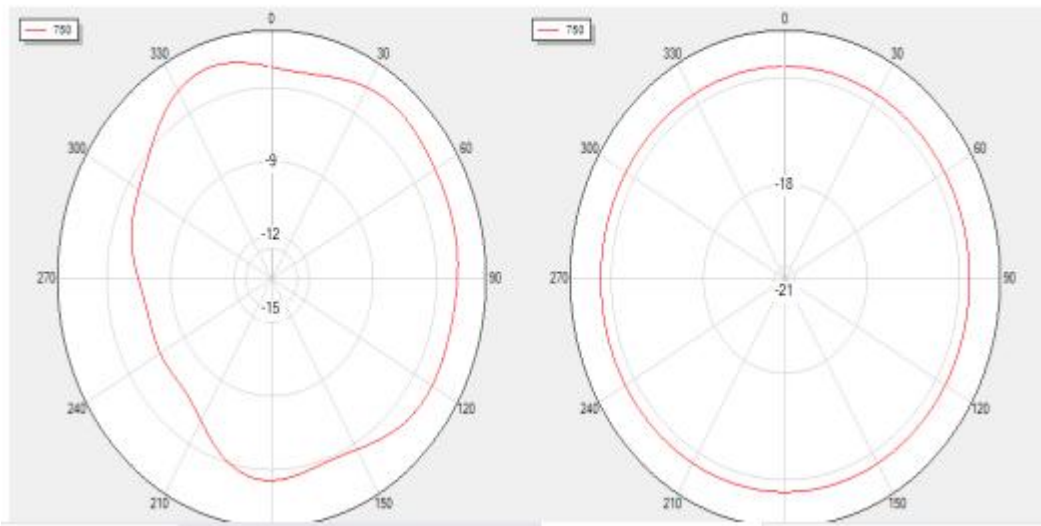
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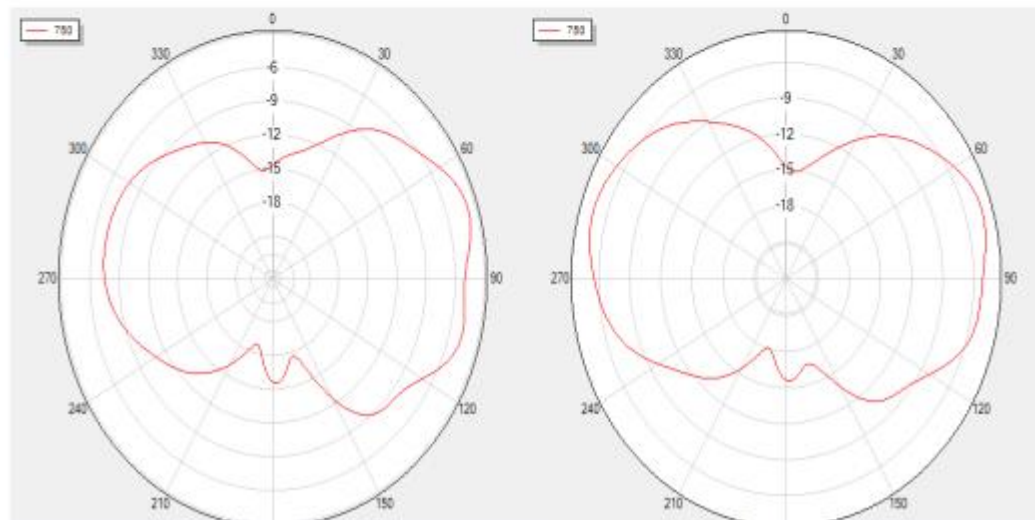
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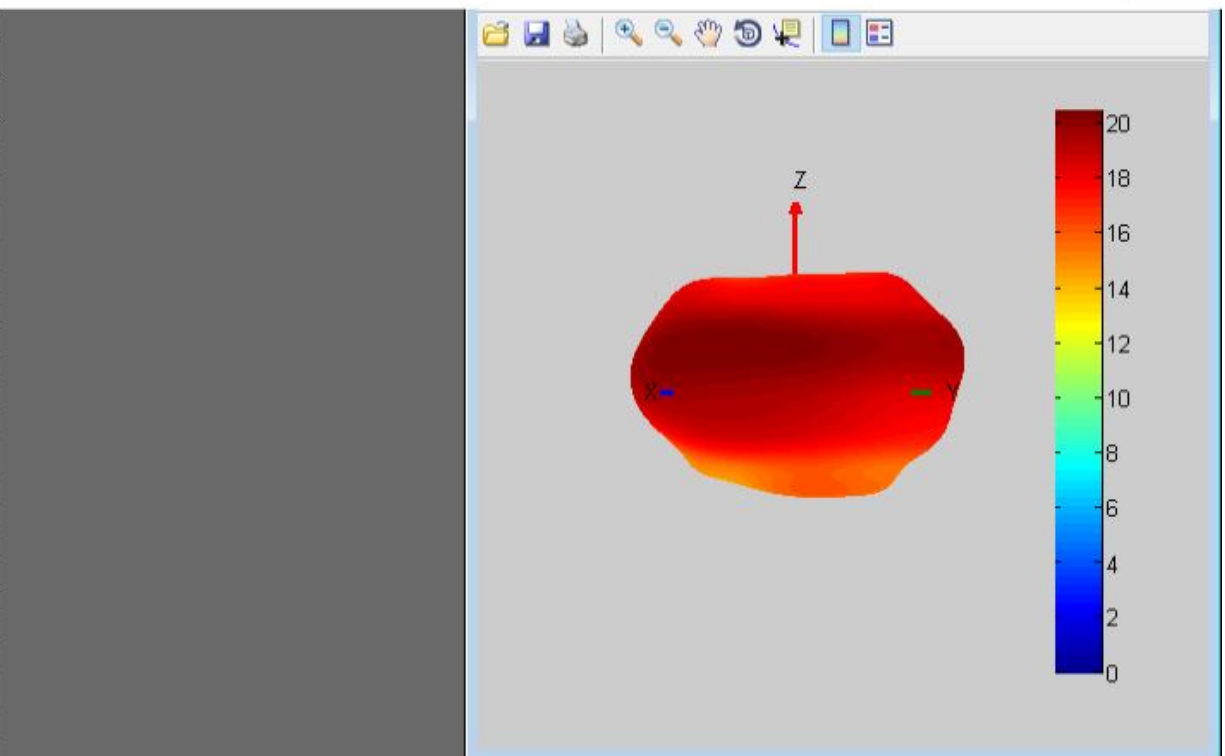
V Phi=90

V Phi=0

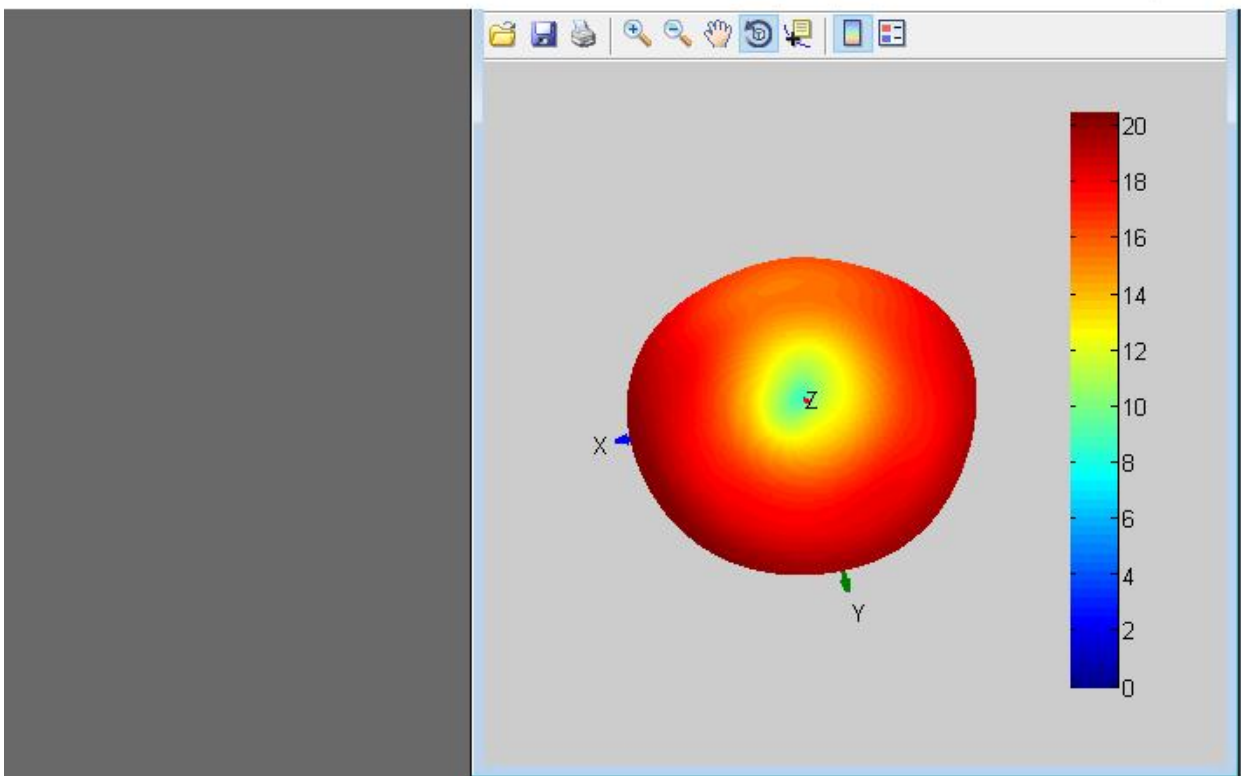


# LTE B13

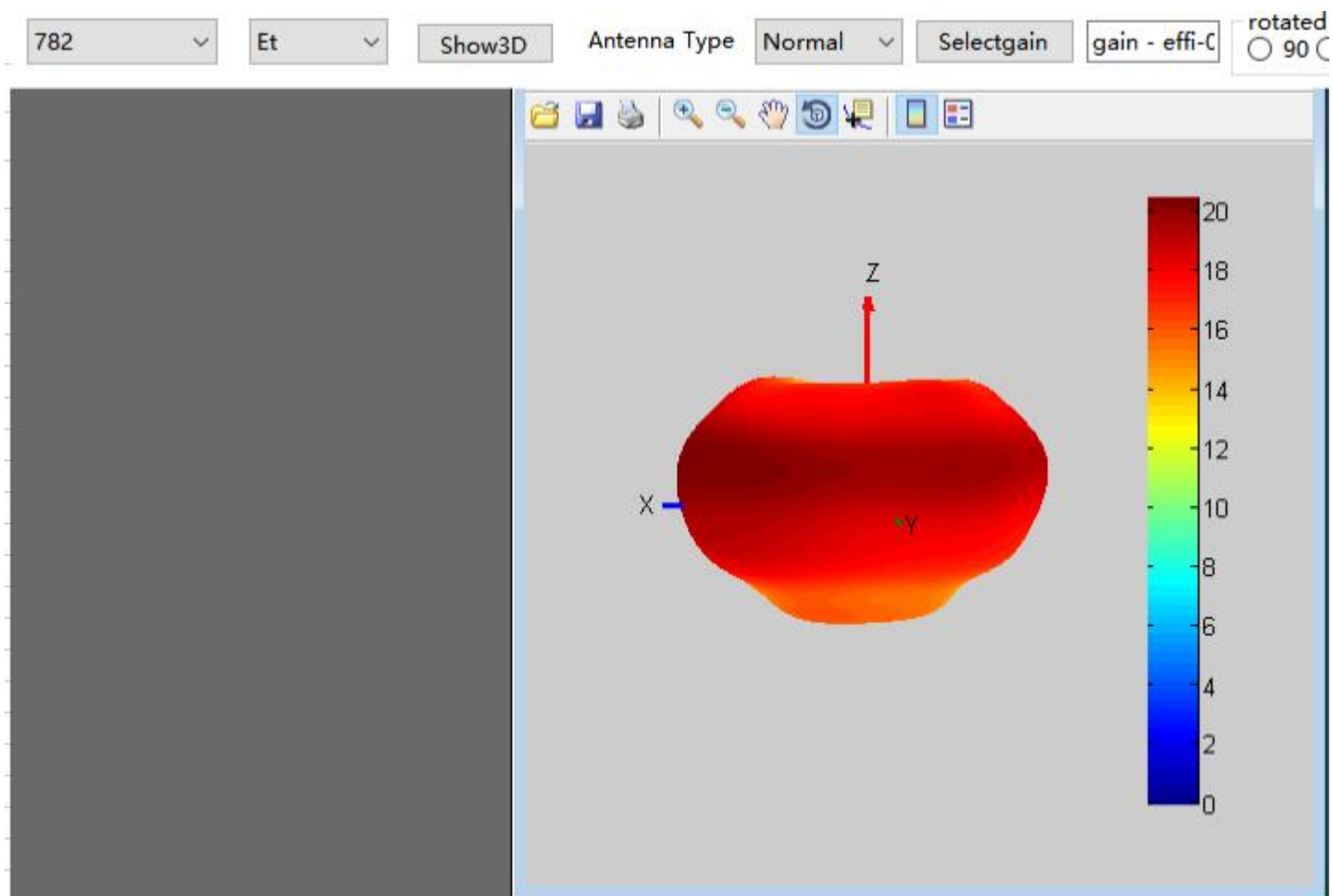
782 Et Show3D Antenna Type Normal Selectgain gain - effi-C rotated 90

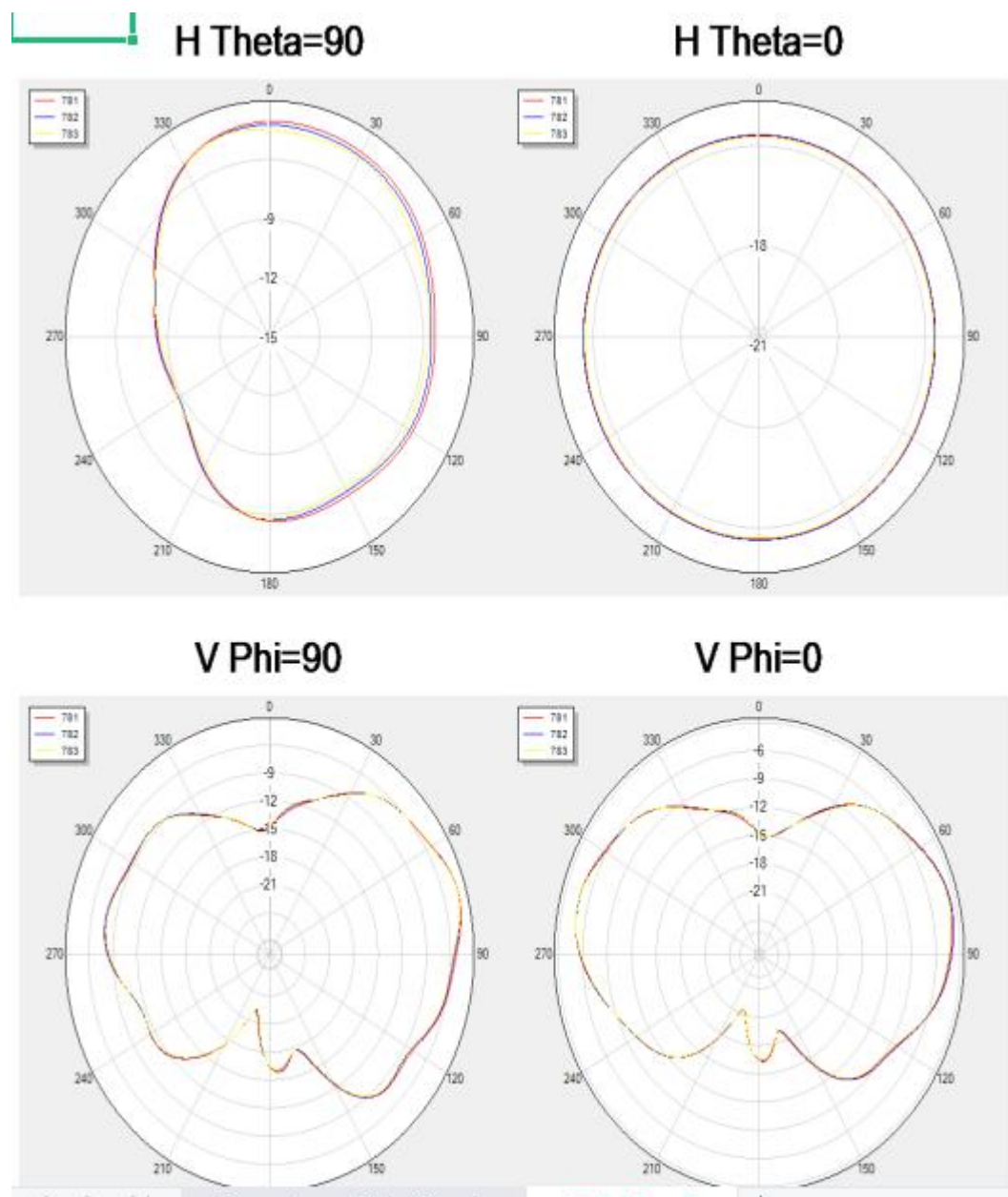


782 Et Show3D Antenna Type Normal Selectgain gain - effi-C rotated 90

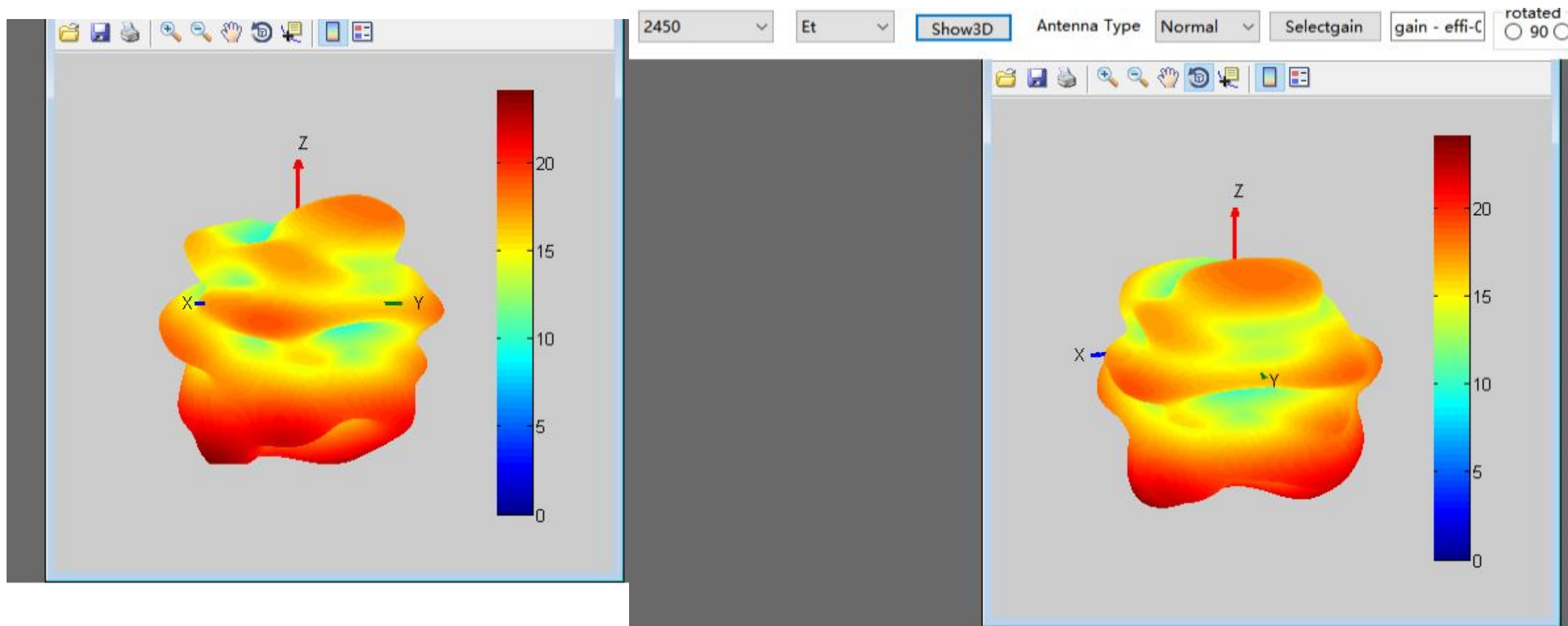


# LTE B13

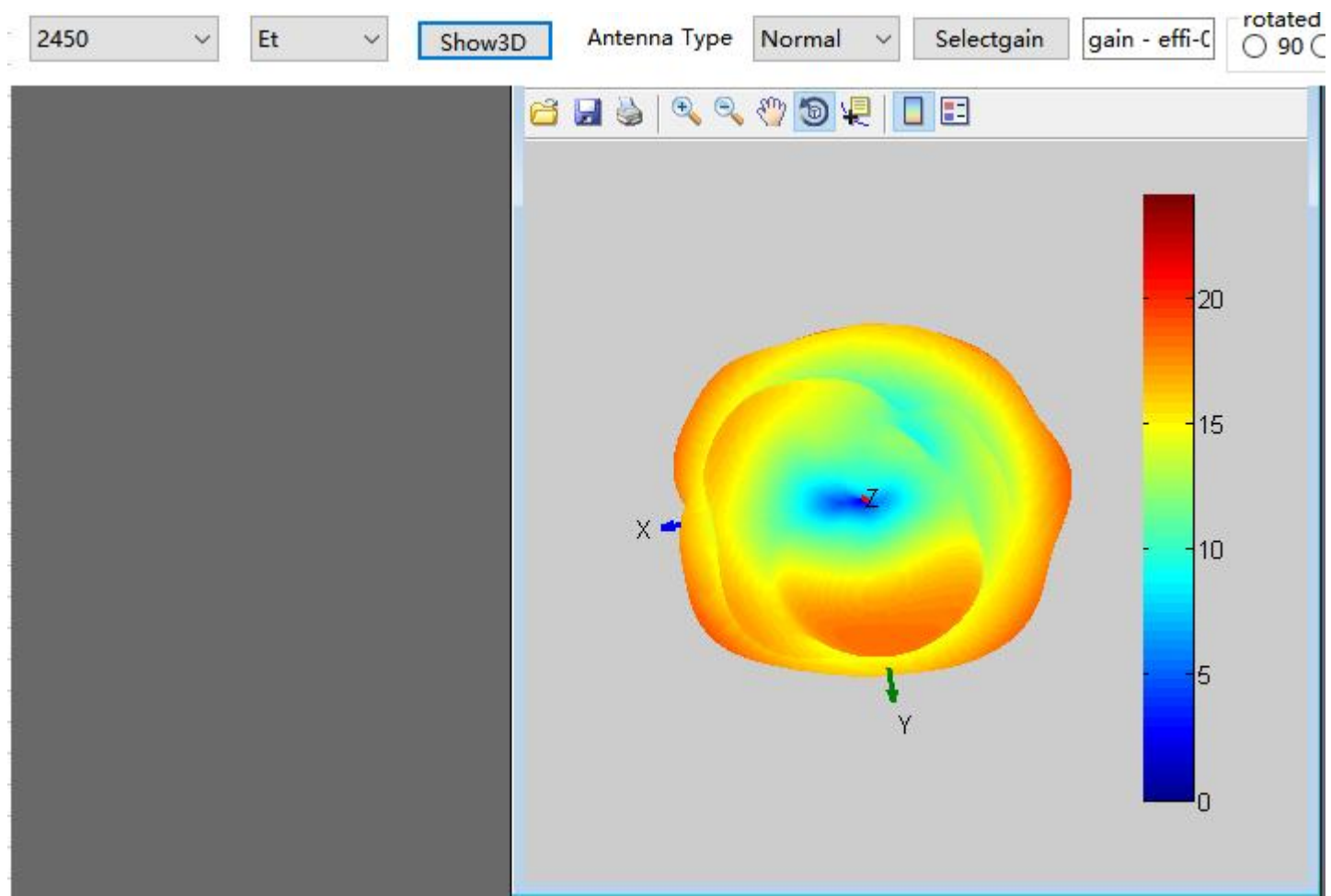




# BT @ 2.4GWIFI



# BT @ 2.4GWIFI

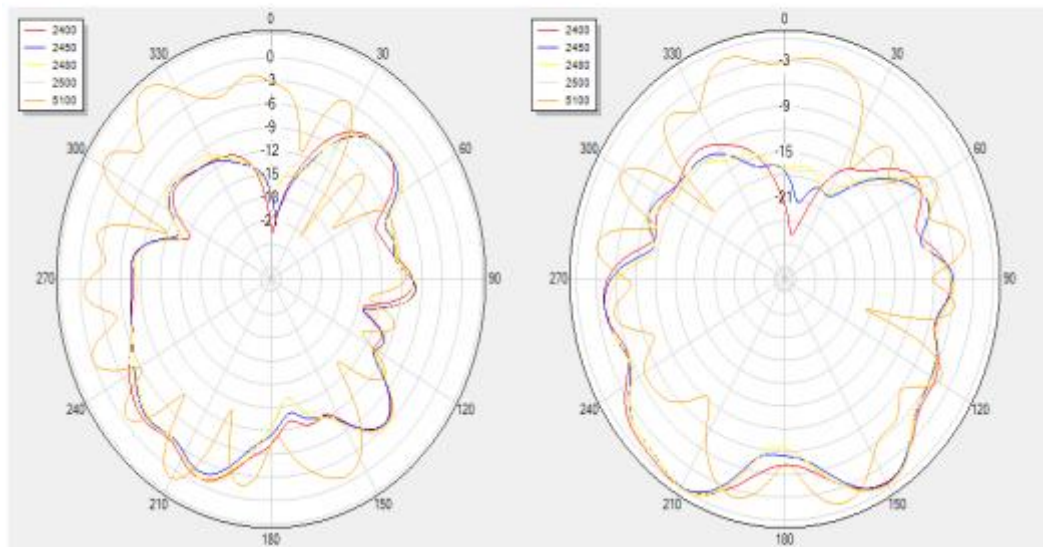




# BT @ 2.4GWIFI

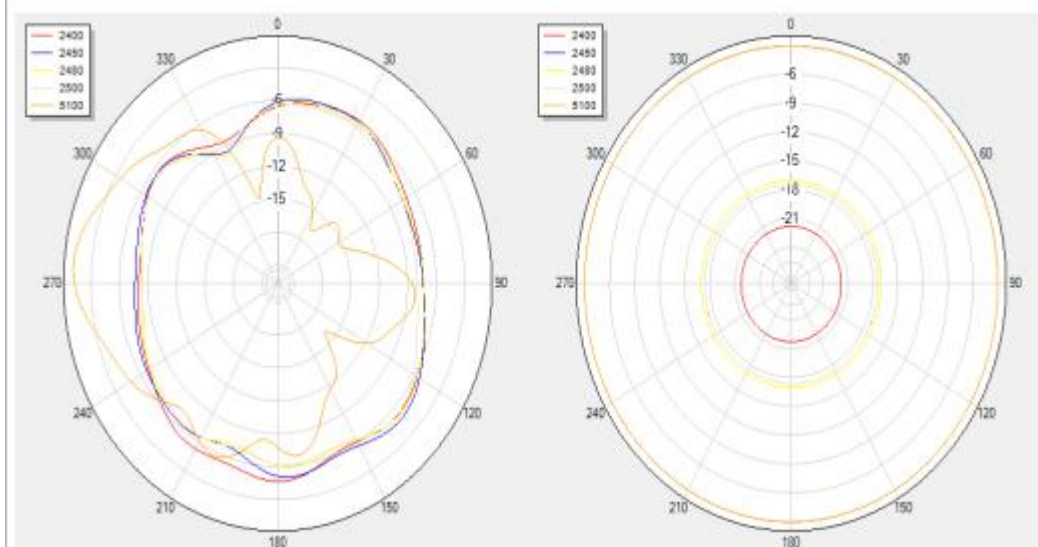
V Phi=90

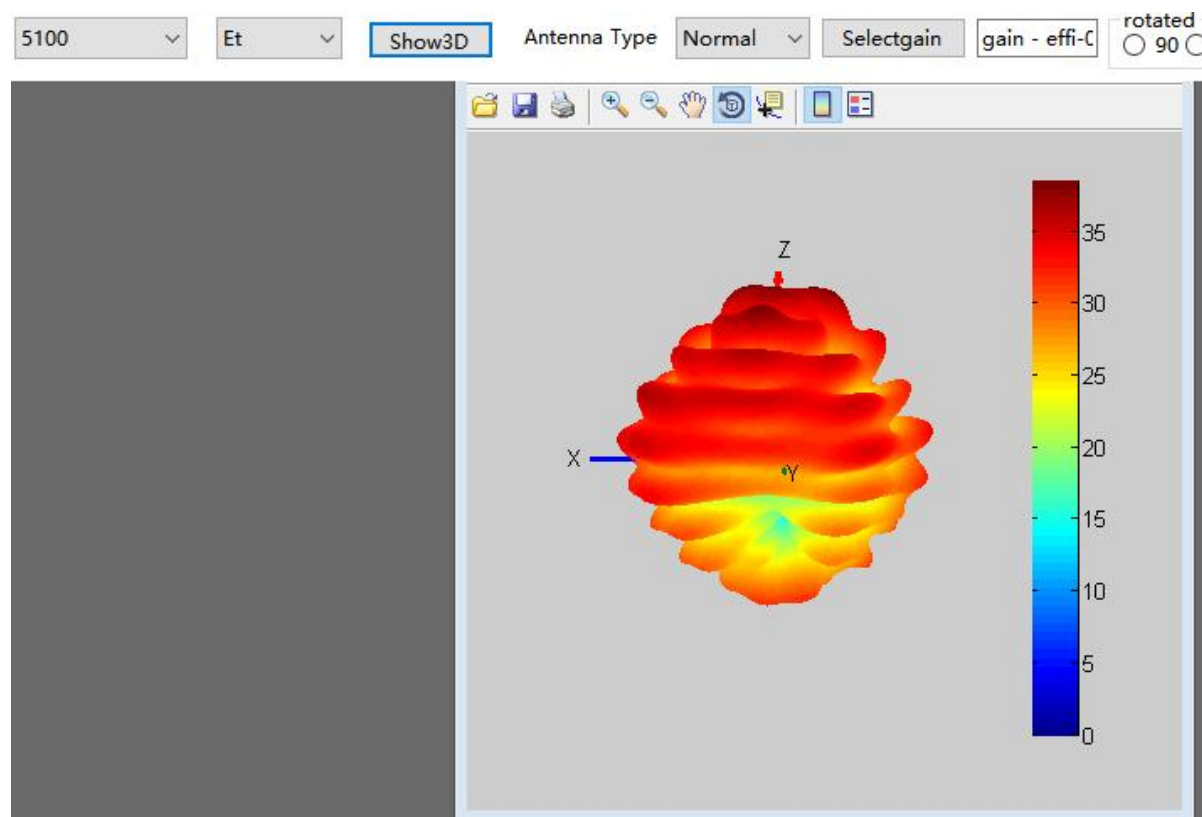
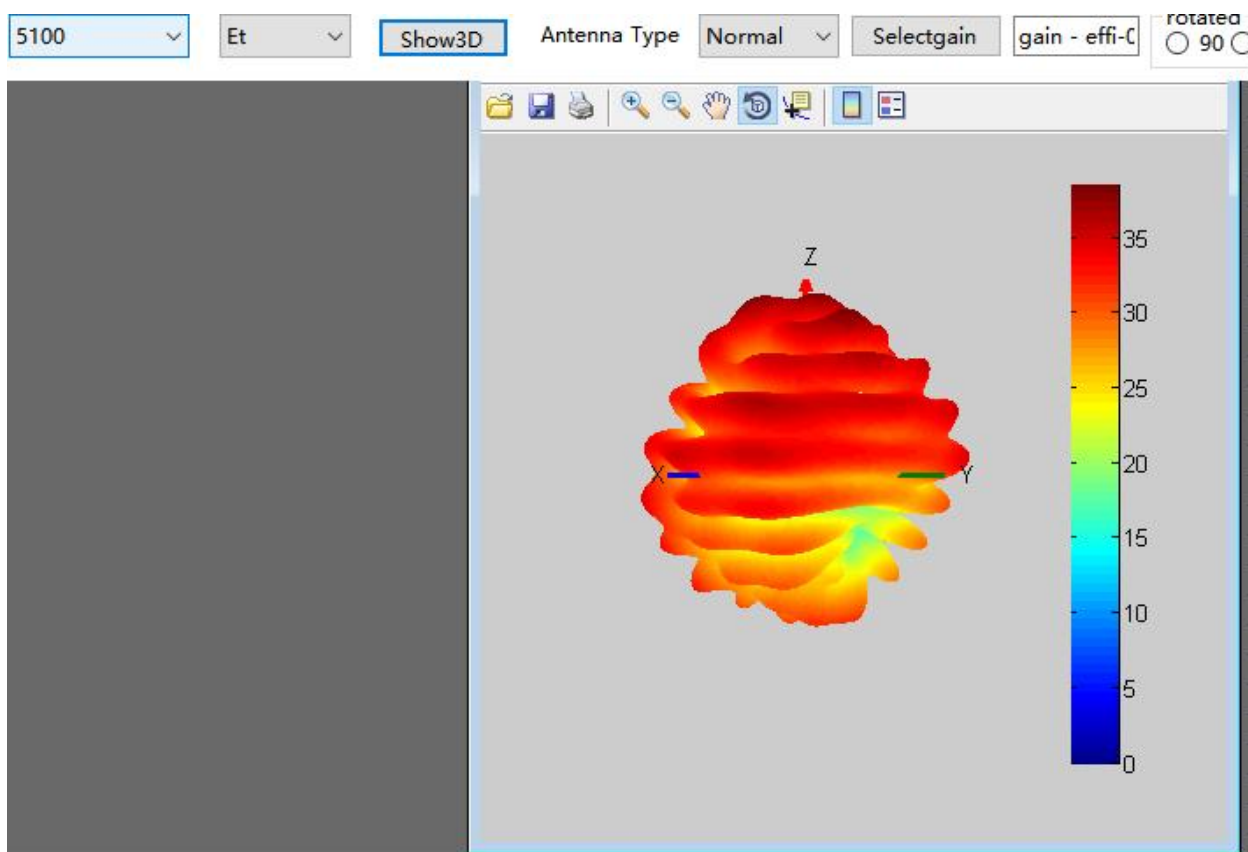
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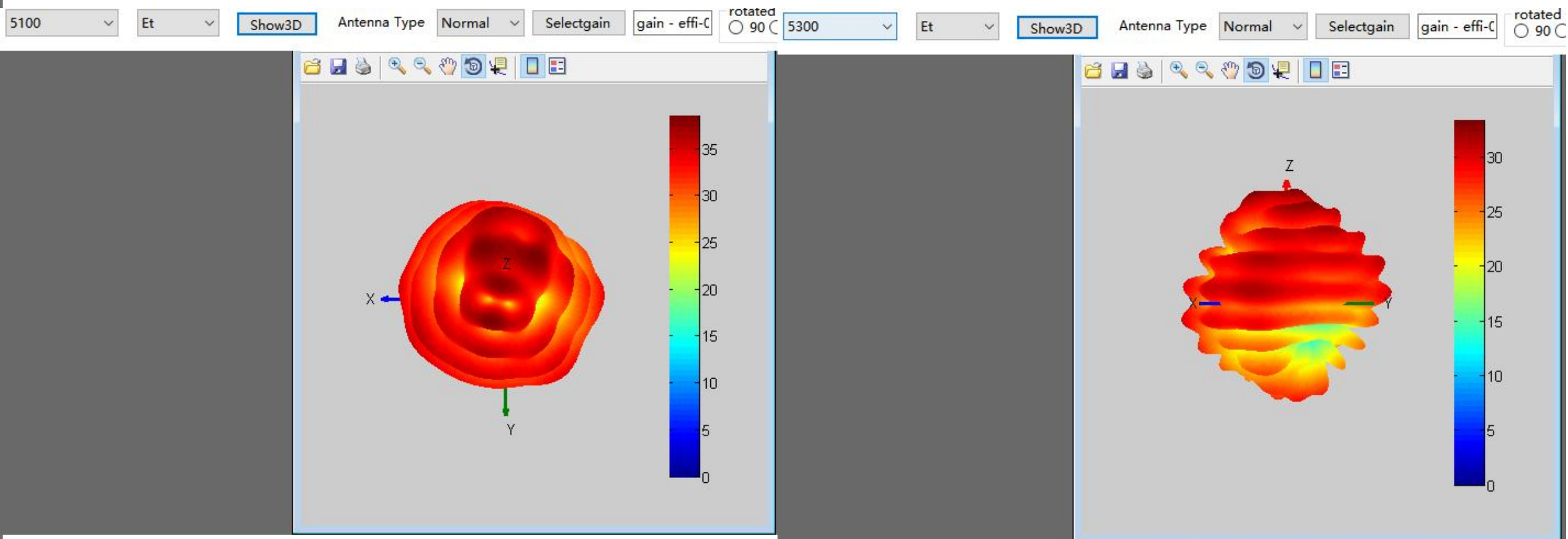


H Theta=90

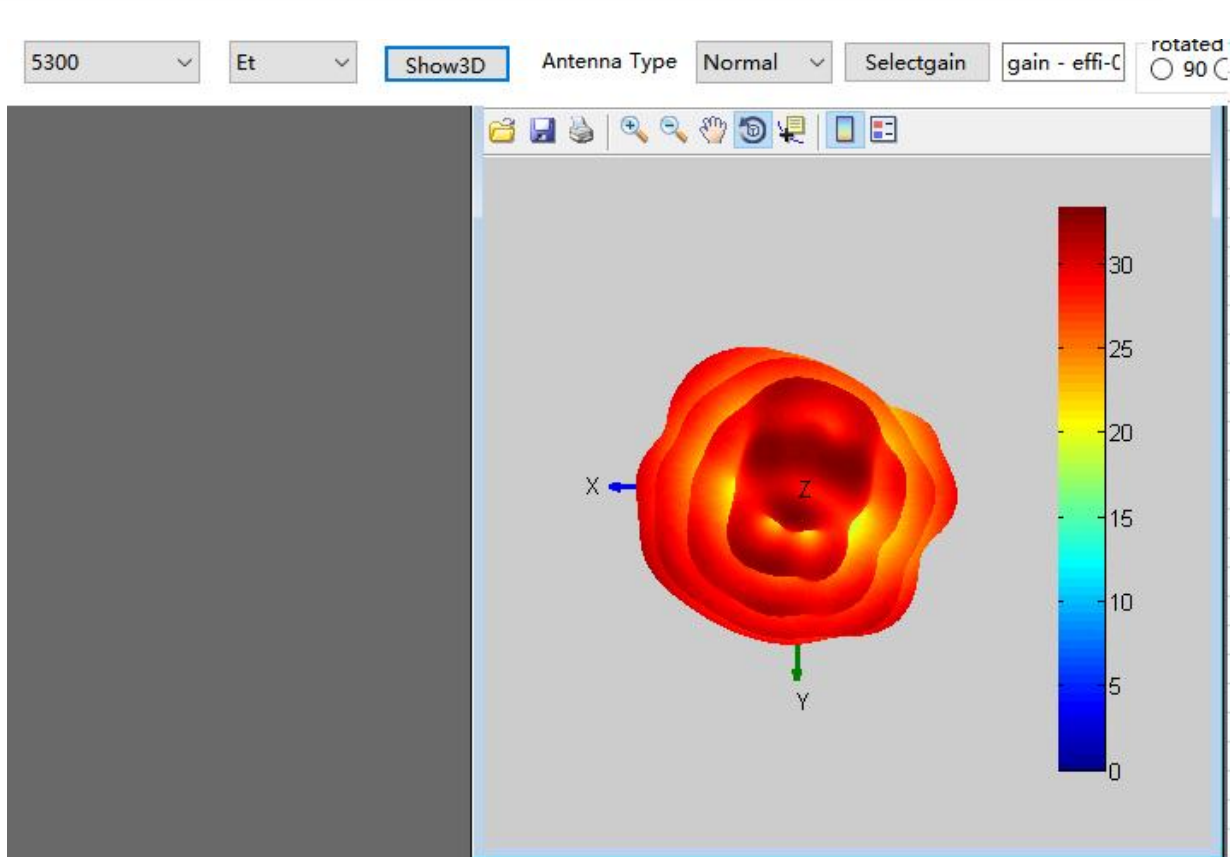
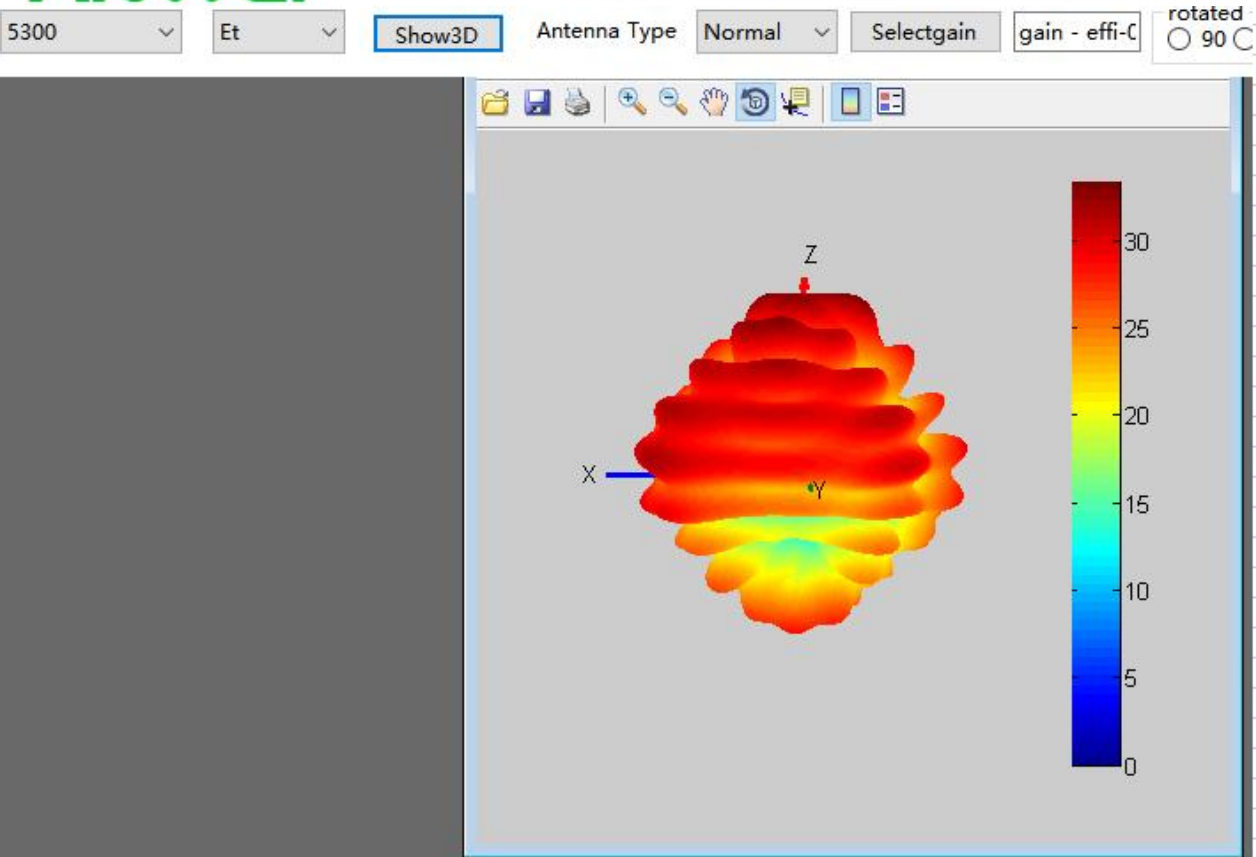
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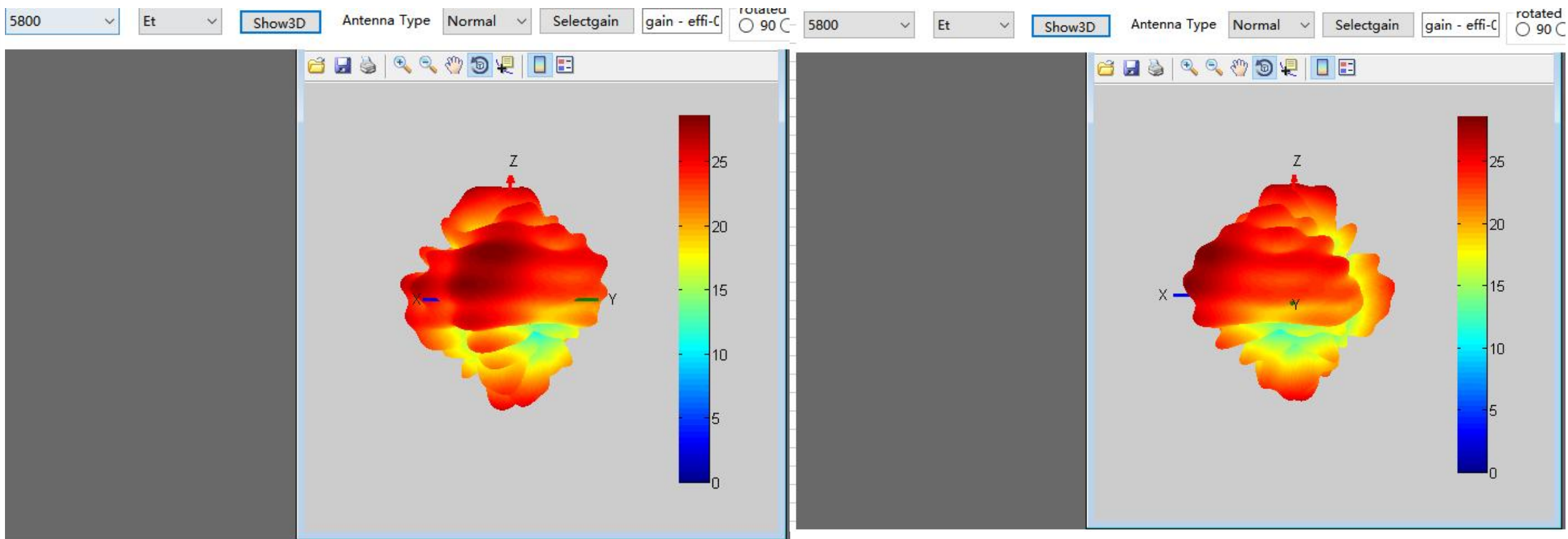


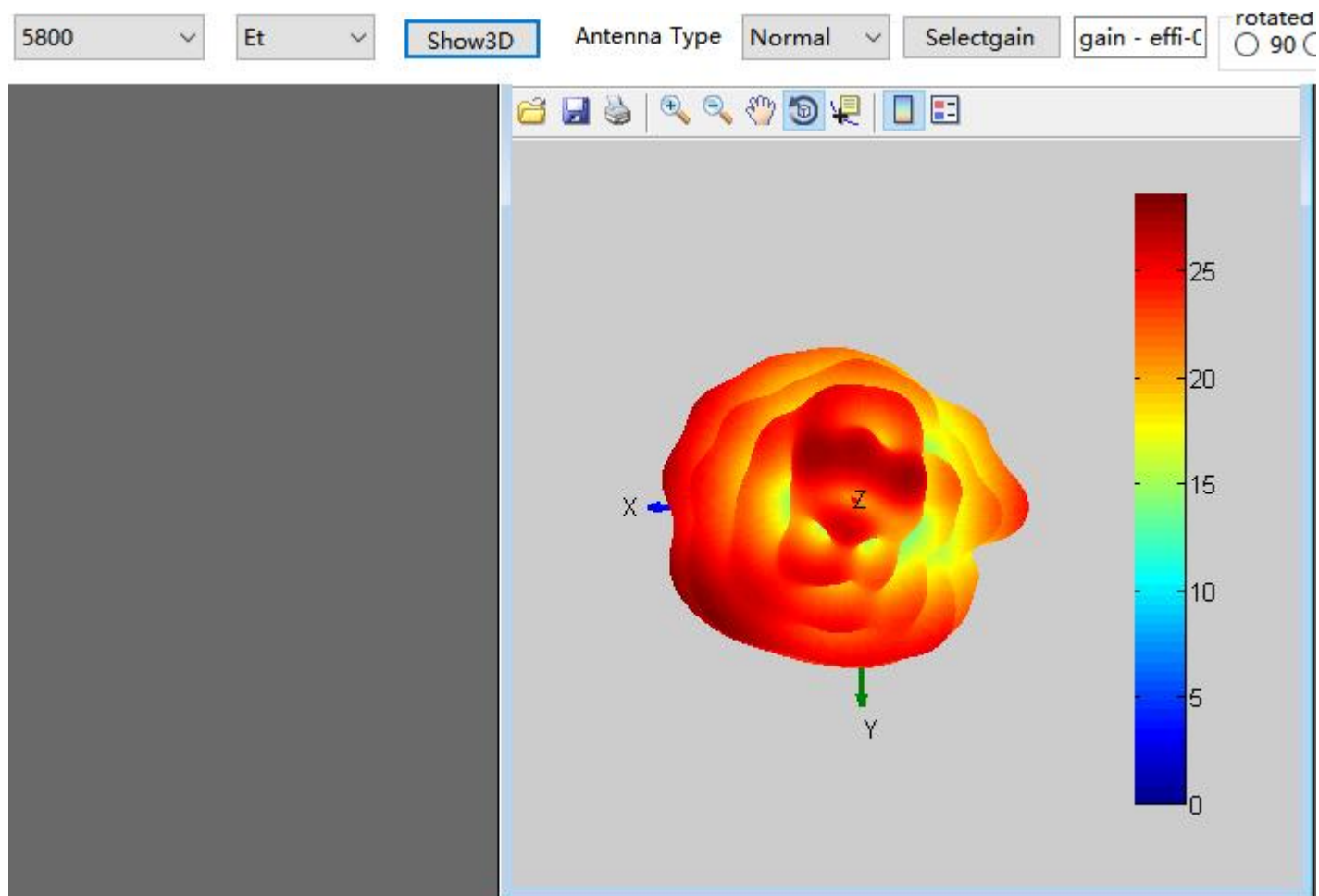


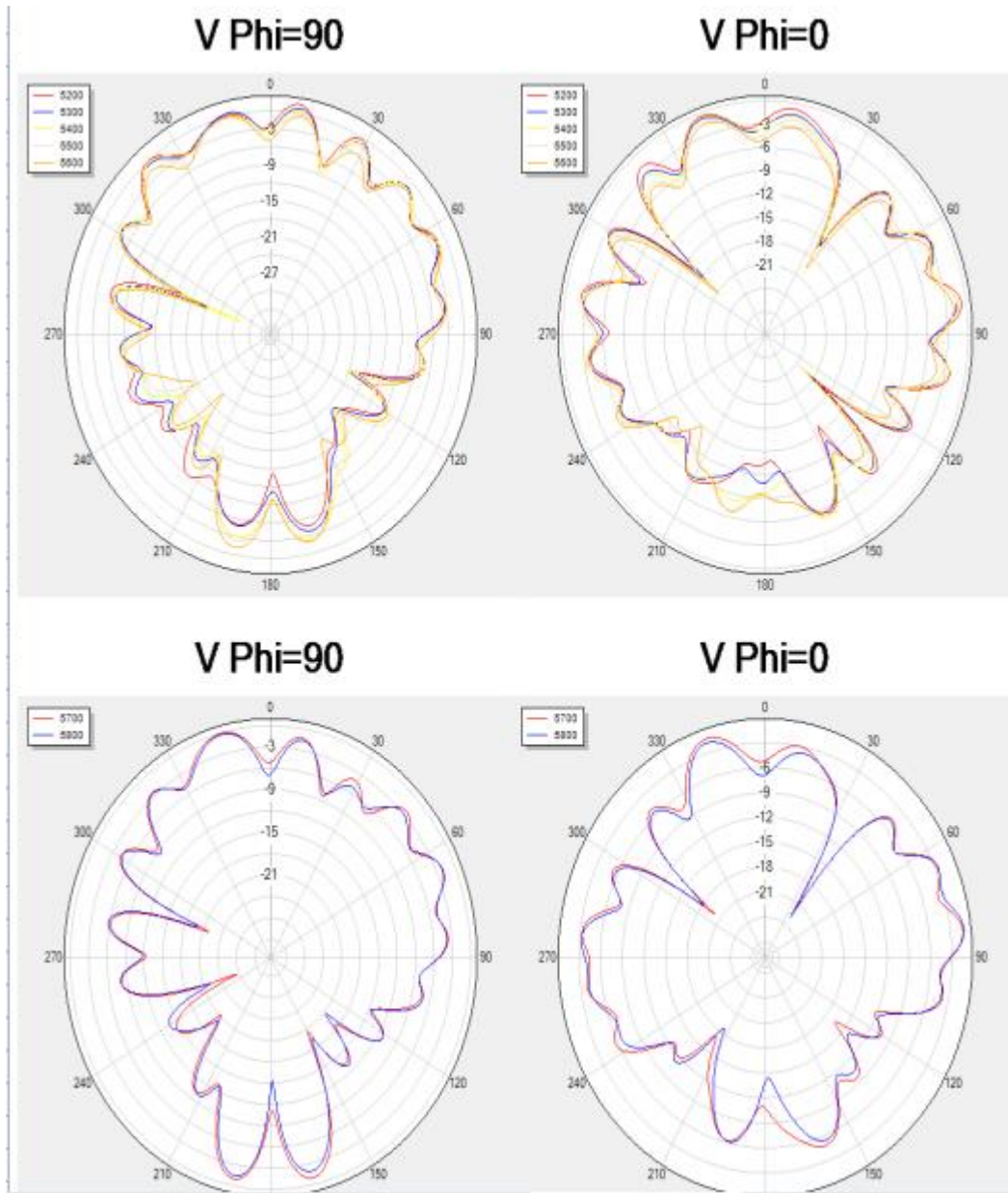


# 5GWIFI











深圳市安威无线科技有限公司

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The End

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