

ShenZhen ANWEI Communication Equipment Co., Ltd

Antenna Test Report

Client Name: OUQI

Project Name: S119

FrequencyBand:

G2/3/5/8+W1/2/4/5/8+FDD1/2/3/4/5/7/8/12/13/17/18/19/20/25/26/2

8/66+TDD38/39/40/41

GSM5/8/2/3/

WCDMA1/2/4/5/6/8/19/

CDMA BC0/BC1/BC10

N1/2/3/5/7/8/12/20/25/28/38/40/41/66/71/77/78/79

WIFI:2.4G/5.0G

GPS:L1/L5

RF: Tang Di (13713280126)

DATE: 2023-07-19

1.Test Project

	Test Project	Equipment
1. S Parameter	1. Return Loss (RL) 2. VSWR	Network Analyzer: Agilent 5071B
2. RF Test (2G+3G+4G+5G+WIFI)	1. power 2. level 3. TRP/TIS	Comprehensive Test: CMW500/CMX500 Test Environment: Anechoic Chamber

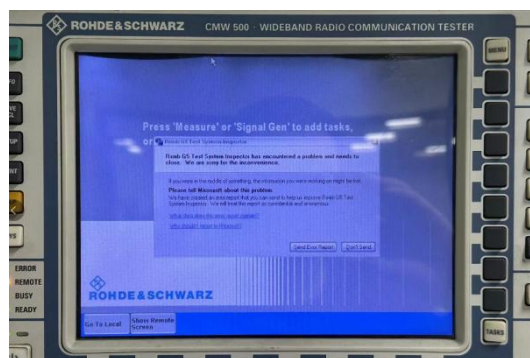
2.Test Equipment



Agilent 5071B (S Parameter (RL/VSWR) Test Equipment)

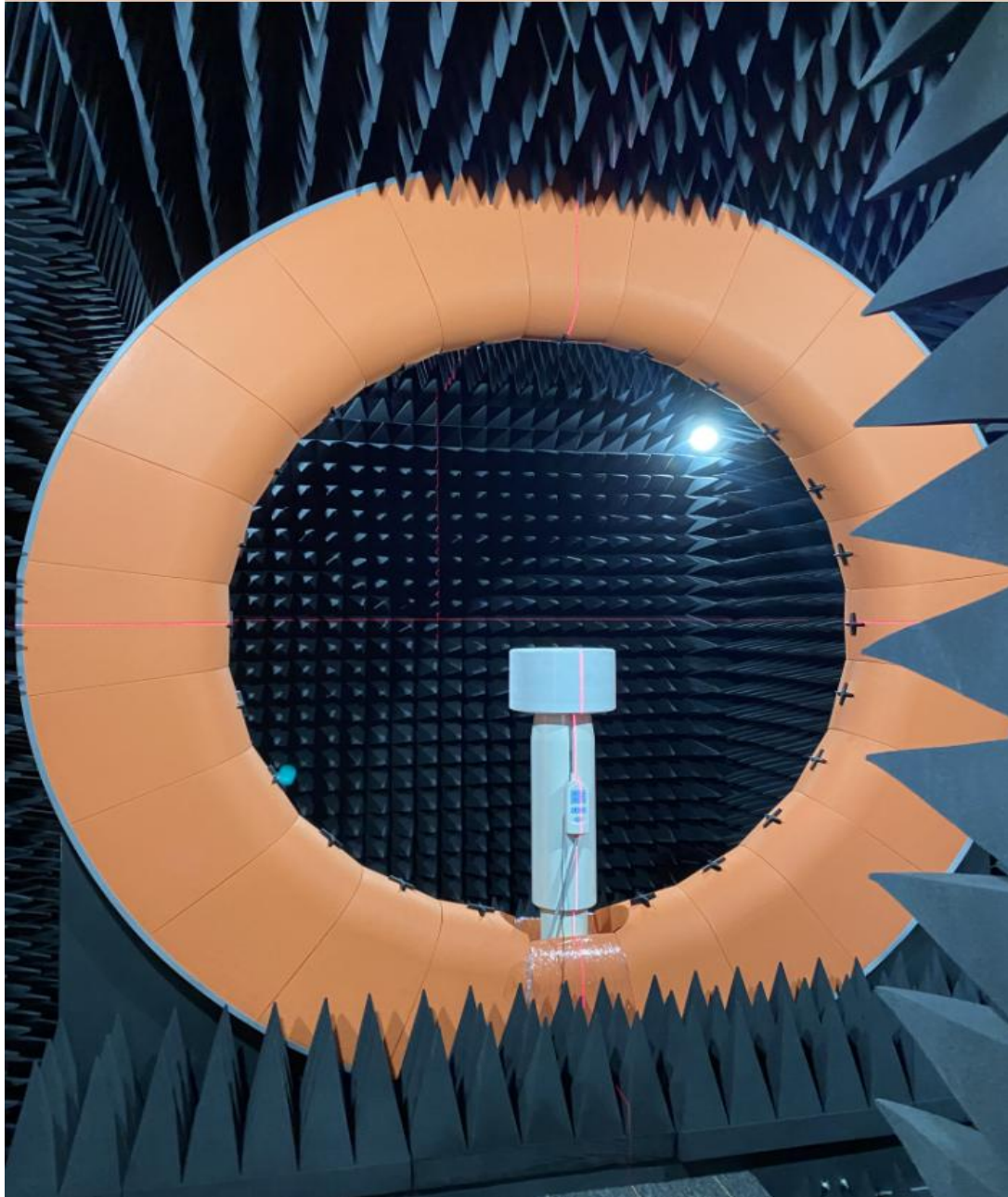


CMX500 (5G Test Equipment)



CMW 500 (WIFI/2G/3G/4G Test Equipment)

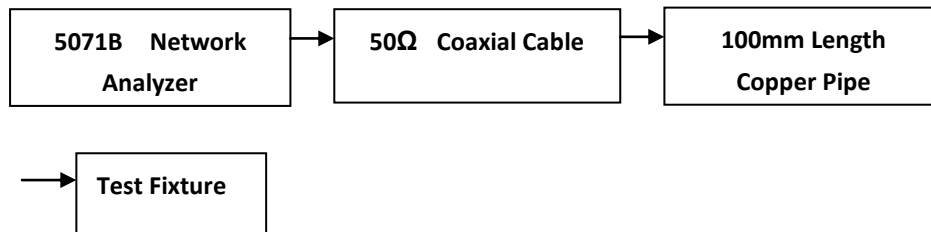
3. TestEnvironment



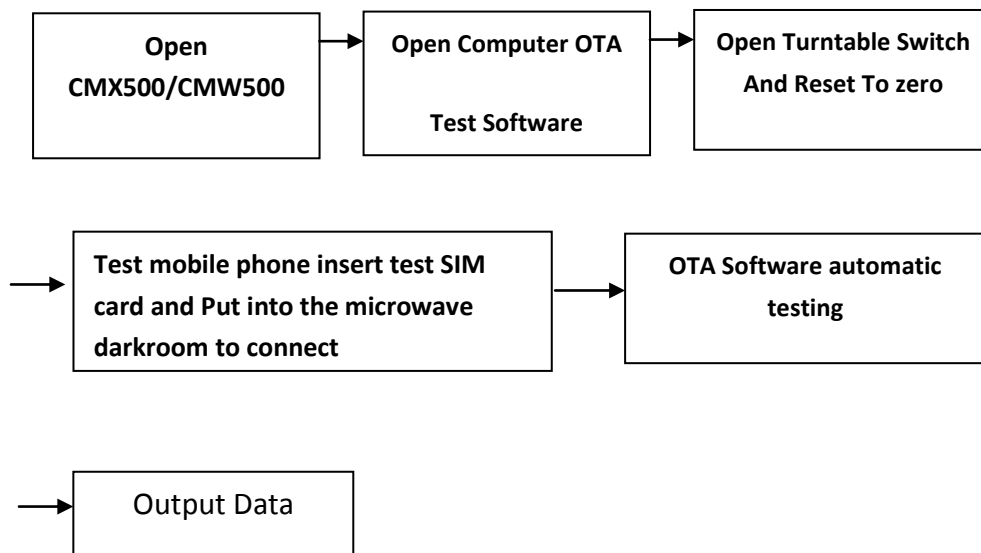
Microwave Anechoic Chamber

4.Test Steps

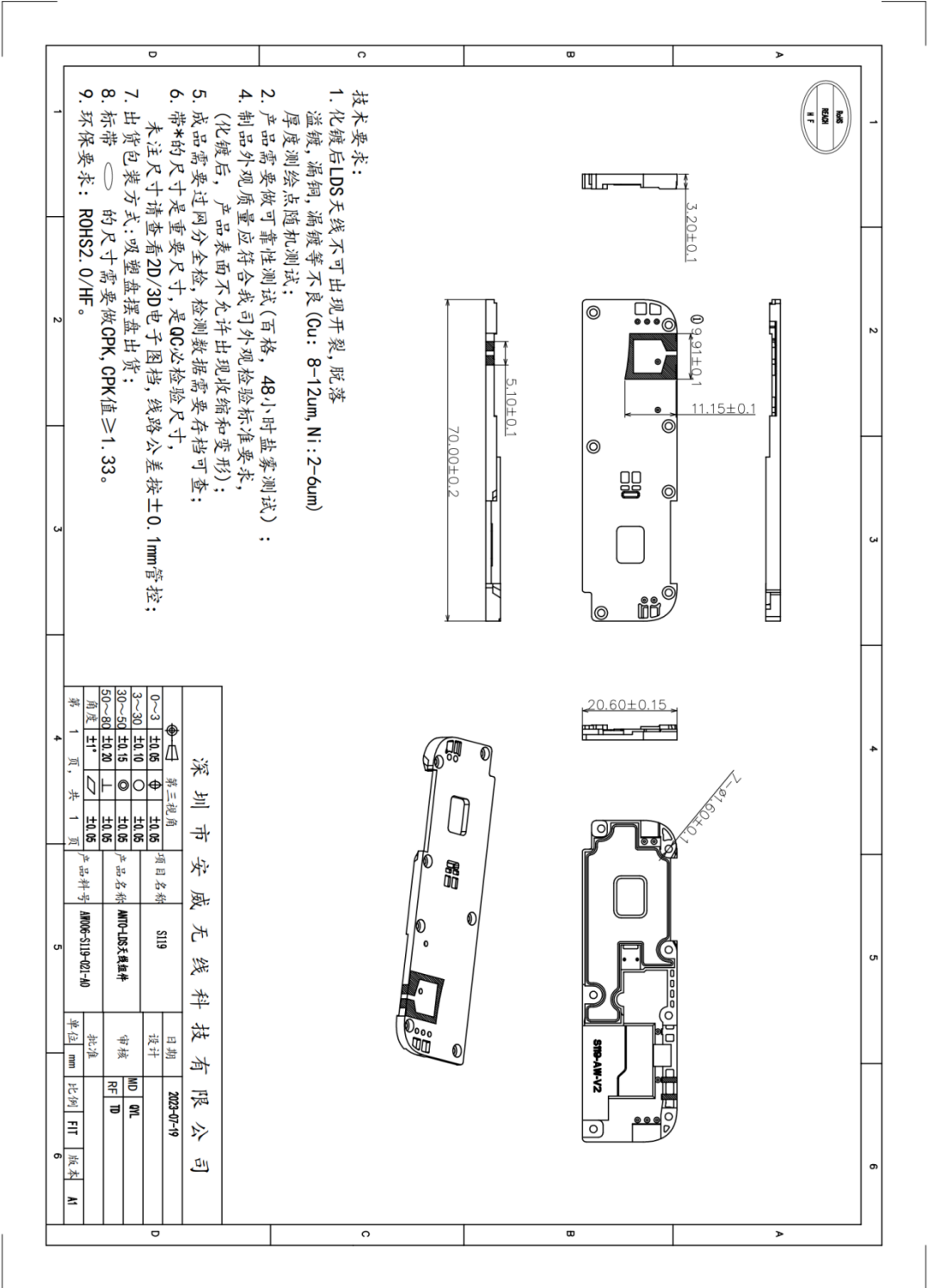
Passive VSWR/RL Test Steps:

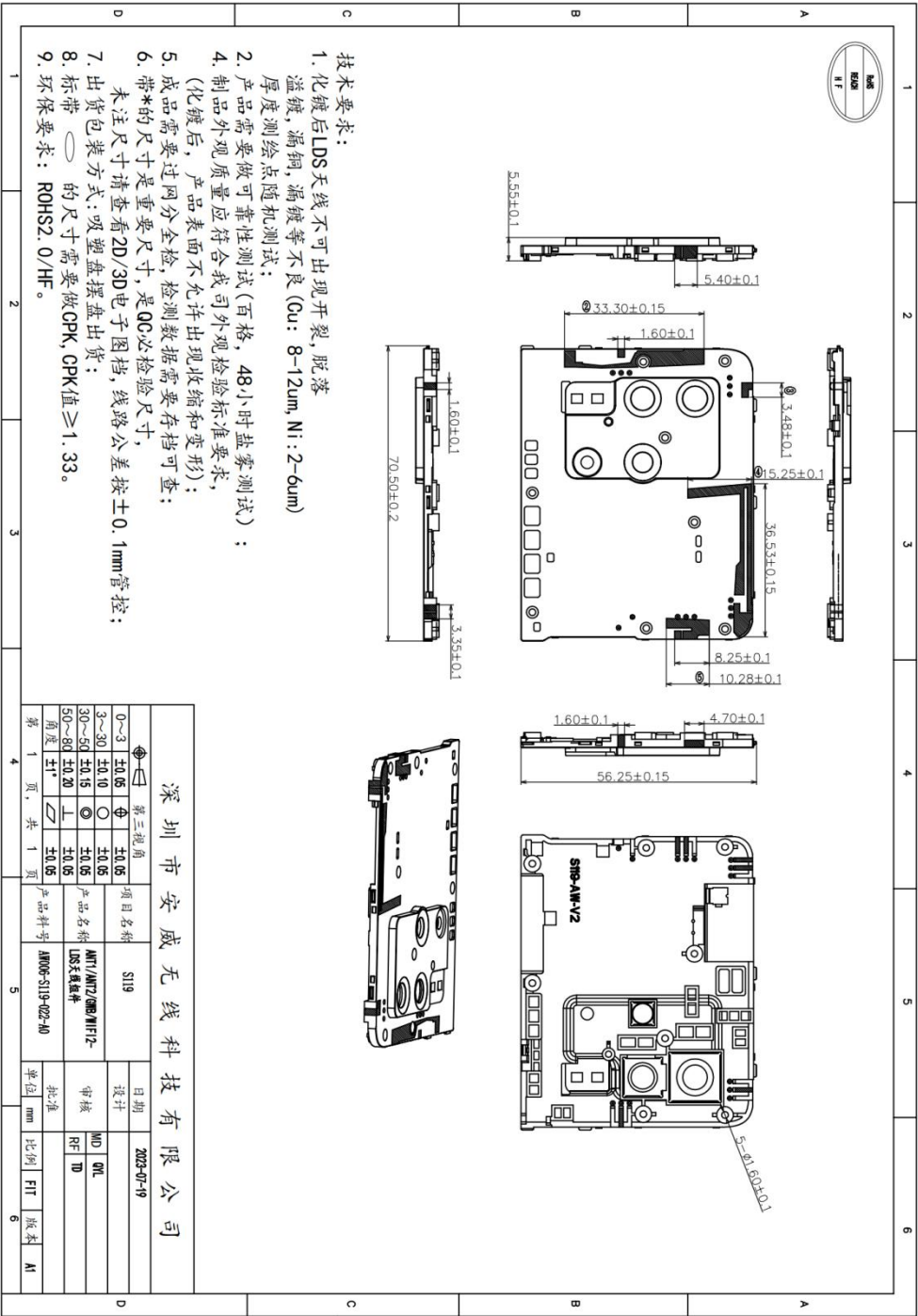


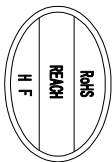
Active TRP/TIS Test Steps:



5. Antenna Dimensions





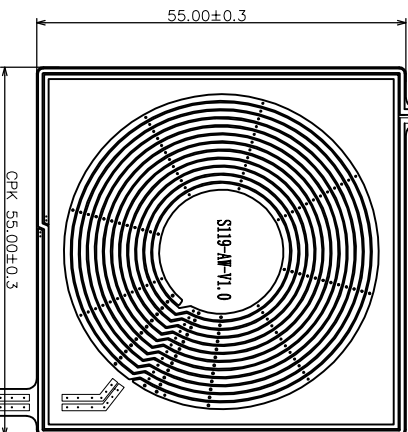


组装图

青色 斜线填充为
PE泡棉—T=0.3mm
(贴在钢片补强上)

0.2mm 钢片补强—热固
(材质:SUS304)

7.02±0.1



正面

青色 斜线填充为
PE泡棉—T=0.3mm
(贴在钢片补强上)

0.2mm 钢片补强—热固
(材质:SUS304)

此区域点黑胶(硬)

4.00±0.1

无线充电器
(OK-118RMO24-35)

背面

纳米晶高型摸手撕耳

NFC连接器
(OK-23GM010-04)

蓝色网格填充为纳米晶
(此面带黑膜带背胶)

材质70铜

- 技术要求:
- 绿色为外形轮廓,白色填充部位为电气走线覆铜;
 - 基材材质为聚酰亚胺或聚酯薄膜;
 - 图示为正面,反面背胶,此FPC背胶3M300(9471);
 - 打*为必测尺寸及重点尺寸,铜箔线路所有尺寸公差不得超过±0.05,模具冲出外型尺寸公差不得超过±0.1,未注尺寸以图形为准;
 - 基材25μm,铜泊18μm,镀镍1.5~5.0um; 镀金0.025~0.075μm;
 - 走线面除焊盘外其它区域表面双面黑色覆盖膜;
 - 可靠性测试: 盐雾喷雾试验48H\橡皮摩擦测试(100个循环) \耐醇性测试(50个循环) \ 恒温恒湿试验\冷热冲击试验(12个循环) \附着力测试(金手指引脚处挠折性测试;
 - 出现下列问题均视为不合格: 起泡分层\露铜\折皱、折痕\边缘毛边\字符不清;
 - 包装应防潮、防潮、表面干净,完好无破损。

深圳市安威无线科技有限公司

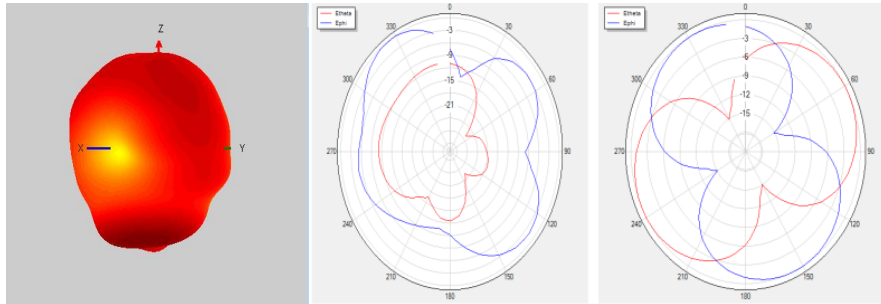
第三视角			日期			
项目	名称	SI19	设计	2023-06-15		
0~10	±0.05	Φ	0.03			
10~30	±0.10	○	0.03			
30~50	±0.15	◎	0.02			
50~80	±0.20	⊥	0.02			
角度	±1°	∠	0.05			
第1页,共1页			产品名称	NFC天线		
			产品料号	AM006-SI19-020-A0		
			材质	FPC		
			单位	mm	比例	版本
					FIT	A1

6. Antenna Gain

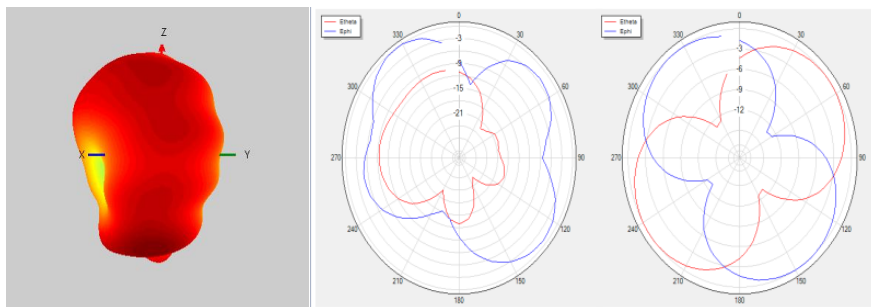
Band	Max Gain	Efficiency
GSM850	-3.78	23%
GSM900	-3.64	24%
DCS1800	-1.9	26%
PCS1900	-0.11	40%
WCDMA2100	0.1	43%
WCDMA1900	-0.11	40%
WCDMA1700	-1.9	26%
WCDMA850/BC0/10	-3.78	23%
WCDMA900/BC1	-3.64	24%
BAND 1	0.1	43%
BAND 2	-0.11	40%
BAND 3	-1.9	26%
BAND 4	-1.9	26%
BAND 5	-3.78	23%
BAND 7	1.1	31%
BAND 8	-3.64	24%
BAND 12	-3.8	22%
BAND 13	-3.81	22%
BAND 17	-3.8	22%
BAND 18	-3.78	23%
BAND 19	-3.78	23%
BAND 20	-3.78	23%
BAND 25	-1.6	27%
BAND 26	-3.78	23%
BAND 28	-3.8	22%
BAND 66	-1.9	25%
BAND 71	-3.81	22%
BAND 34	-0.12	39%
BAND 38	1.1	32%
BAND 39	-0.11	40%
BAND 40	0.32	32%
BAND 41	0.3	31%
Bluetooth	0.22	36%
WIFI-2.4G	0.22	35%
WIFI-5.8G	-0.15	32%
GPS L1	0.13	34%
GPS L5	-2.3	26%

7.3D Lobe Diagram

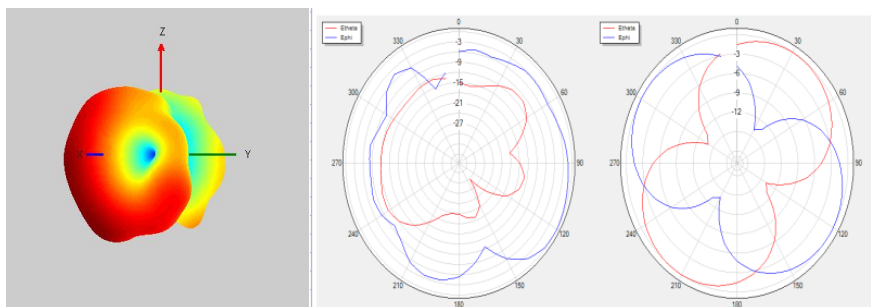
GSM850



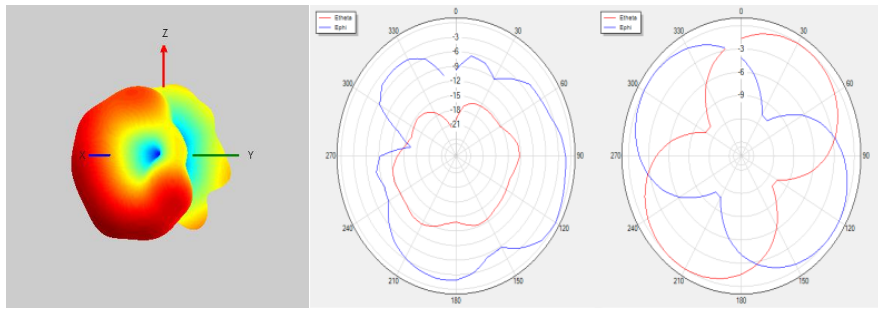
GSM900



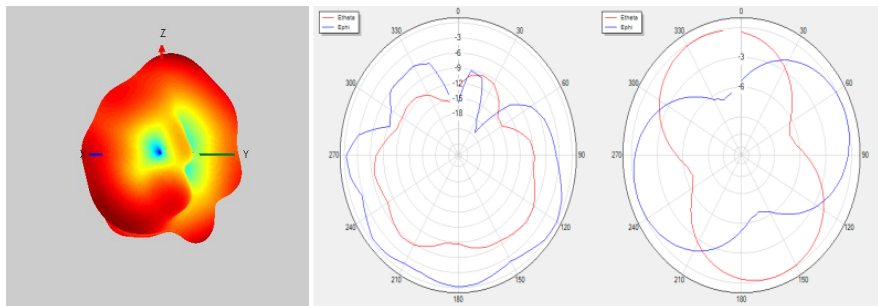
DSC1800



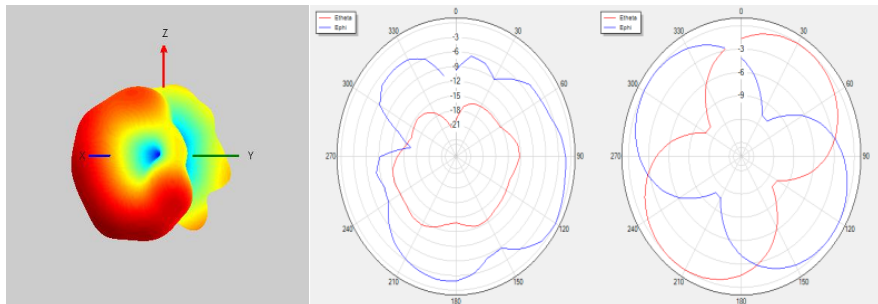
PCS1900



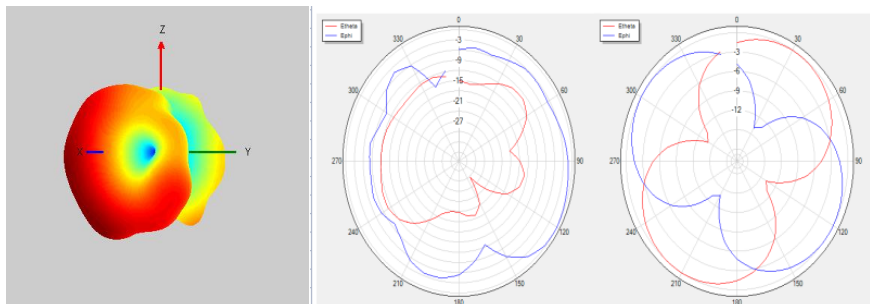
W2100



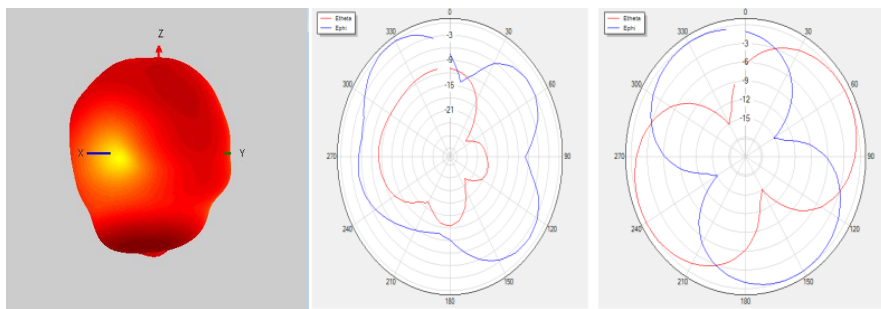
W1900/BC1



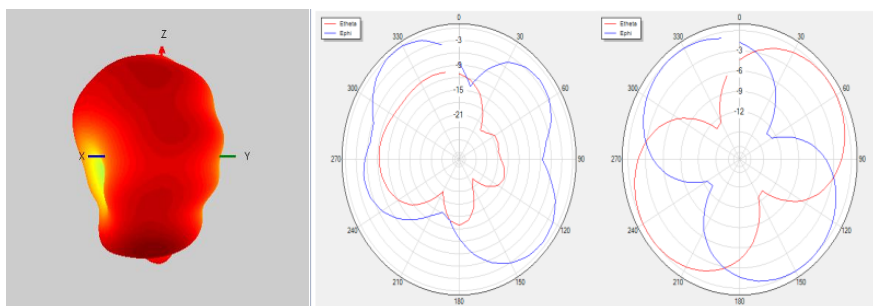
W1700



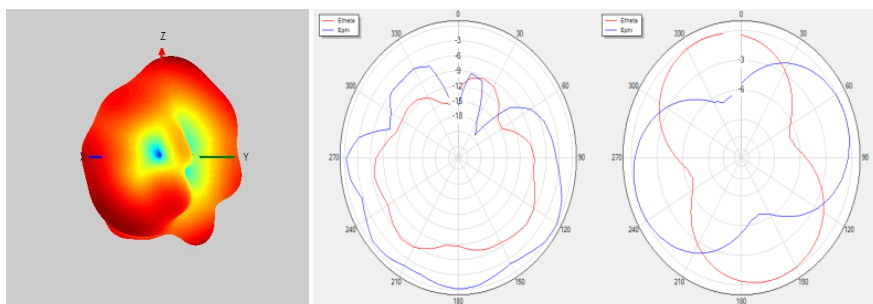
W850/BC0/10



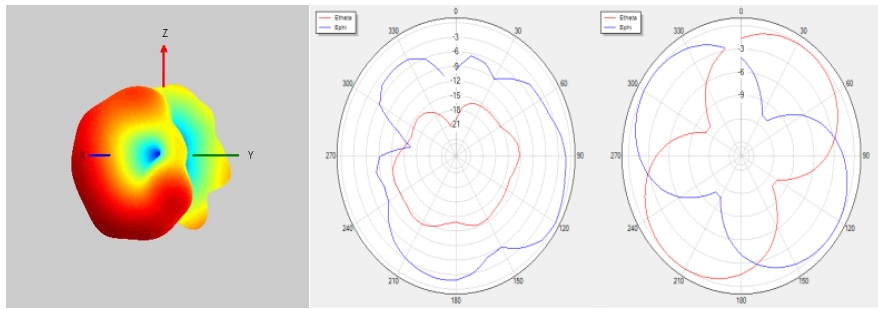
W900



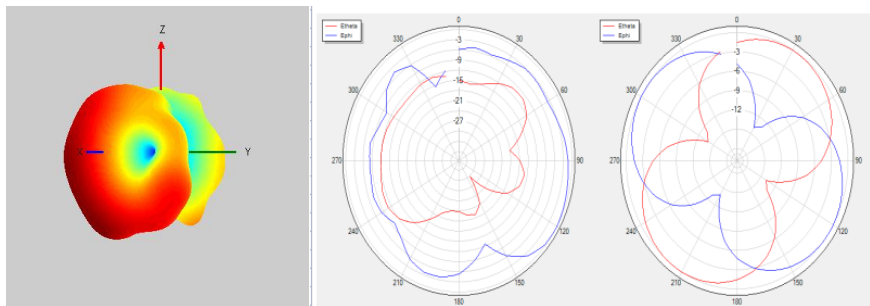
FDD-B1



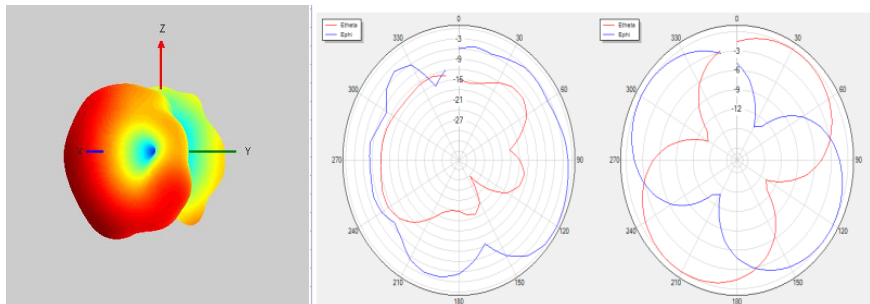
FDD-B2



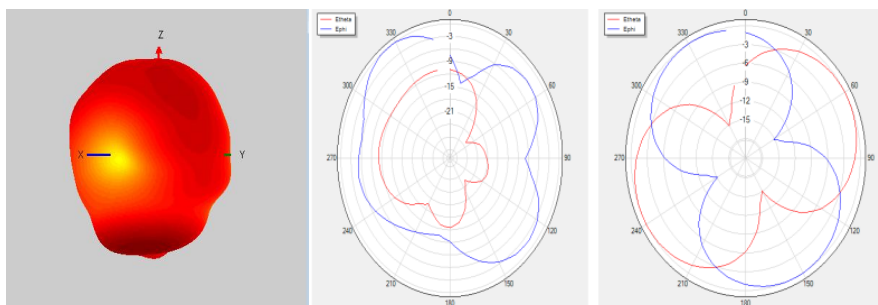
FDD-B3



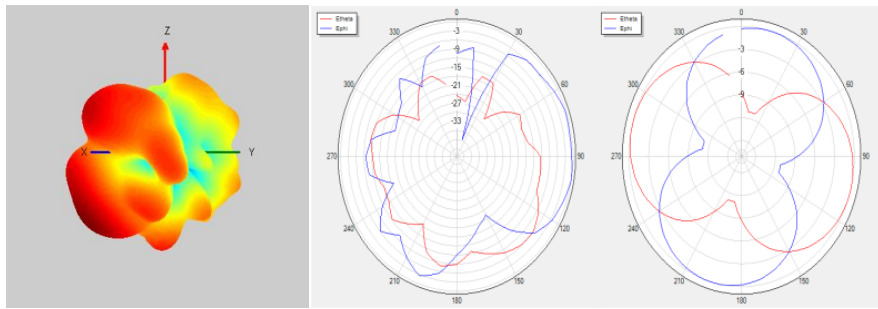
FDD-B4



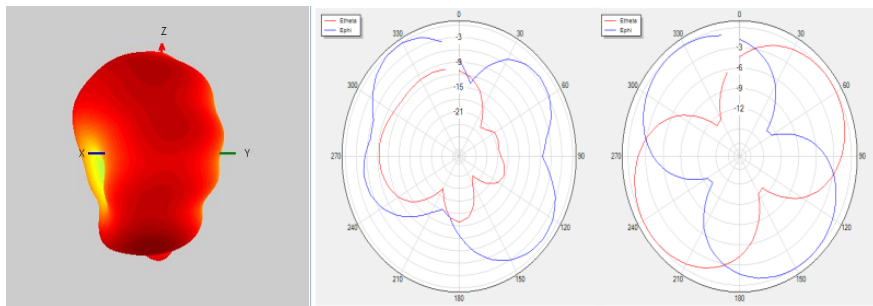
FDD-B5



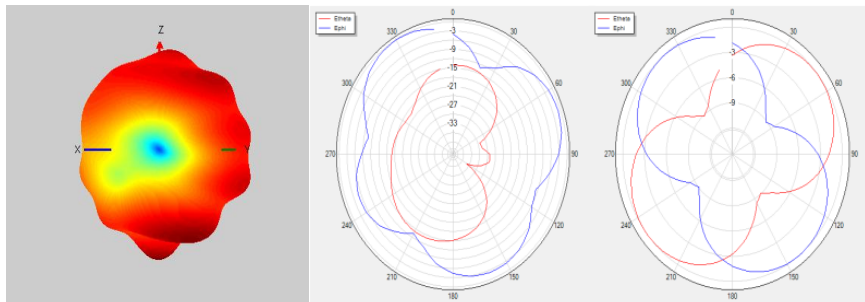
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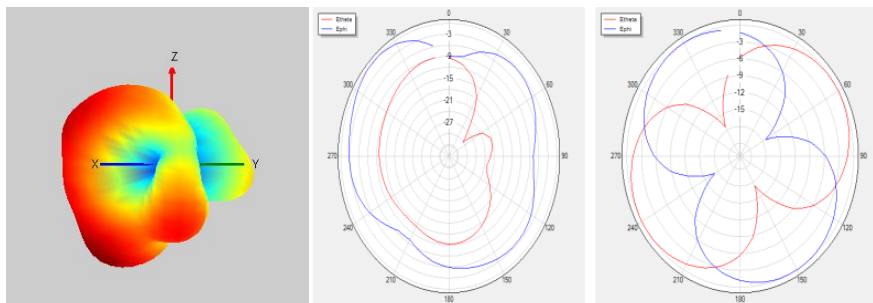
FDD-B8



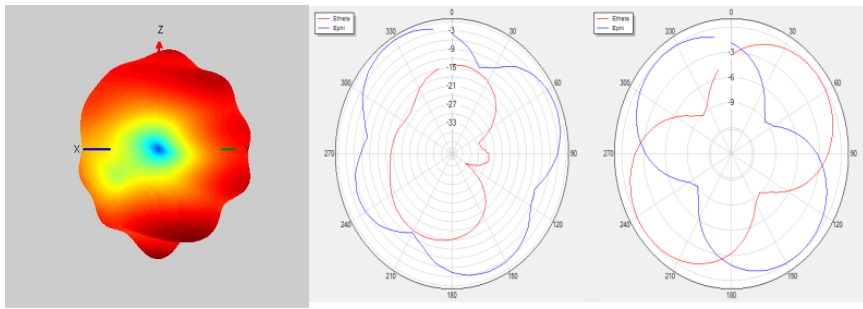
FDD-B12



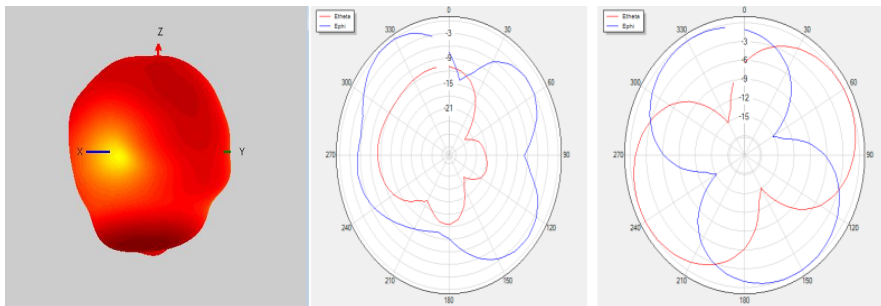
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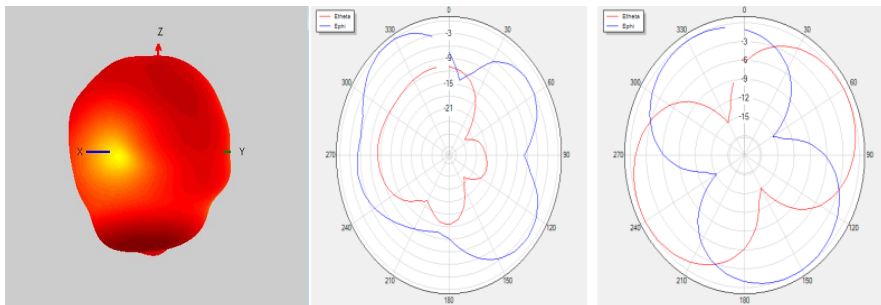
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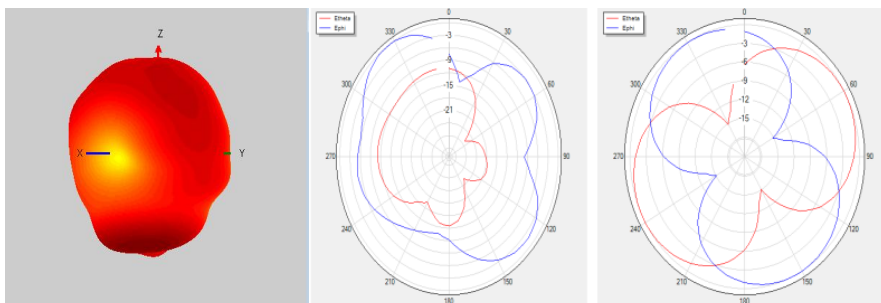
FDD-B18



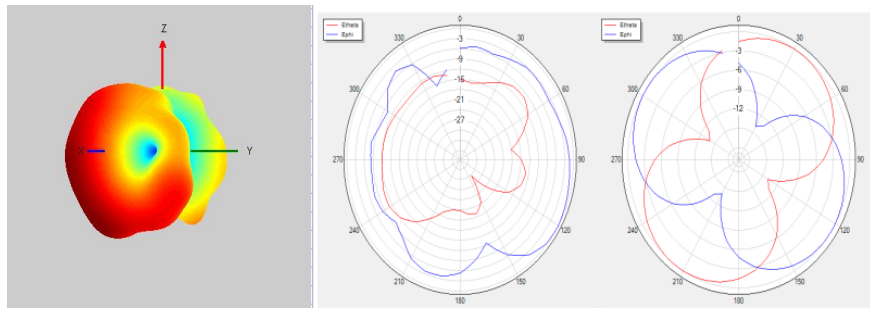
FDD-19



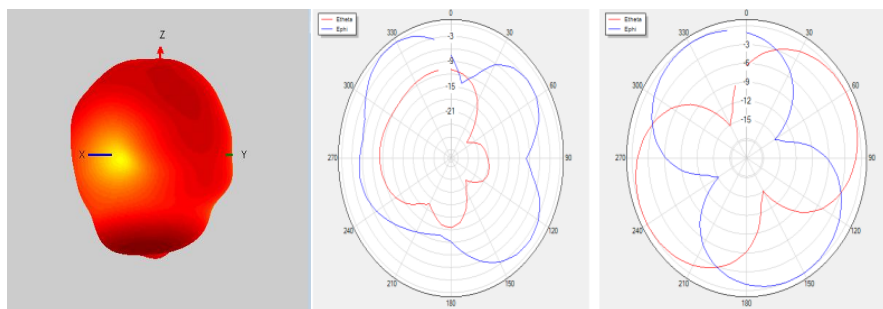
FDD-20



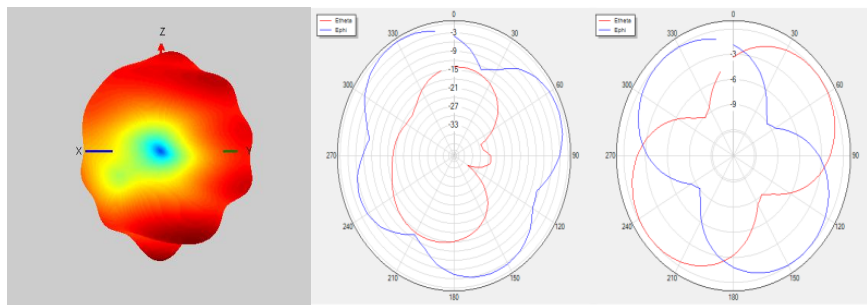
FDD-B25



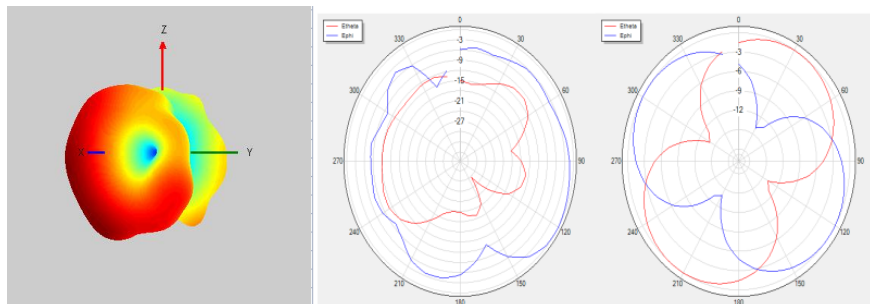
FDD-B26



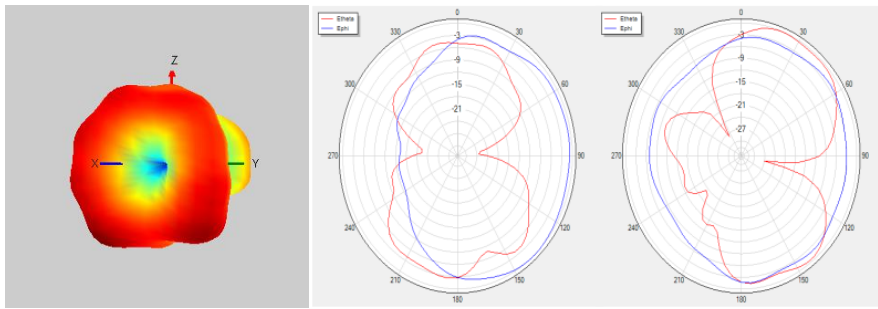
FDD-B28



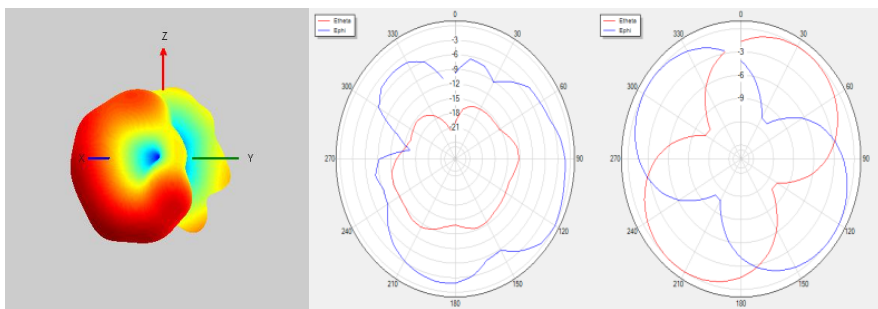
FDD-B66



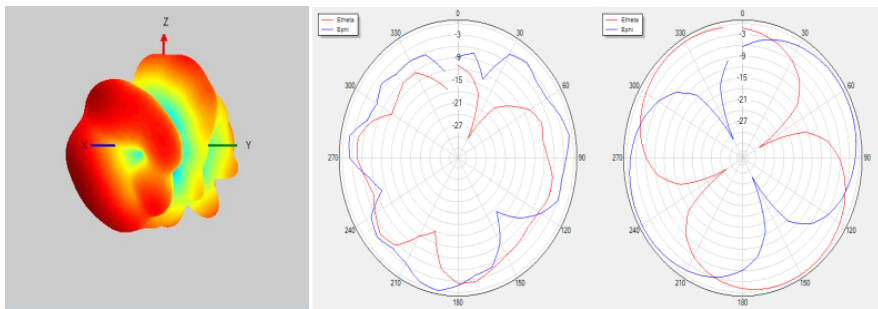
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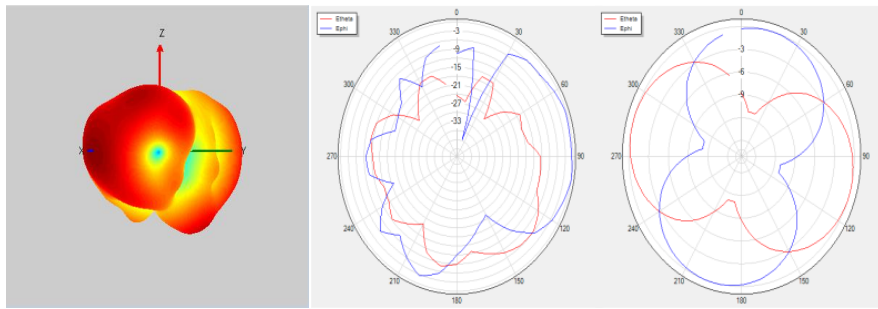
TDD-B39



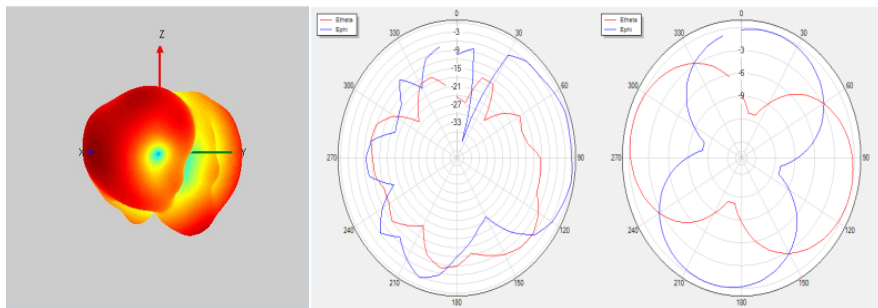
TDD-B40



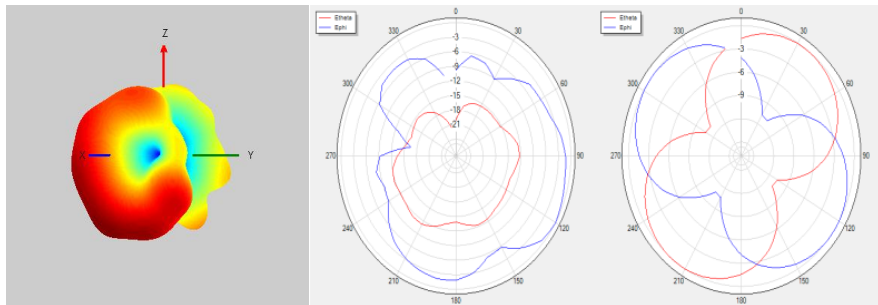
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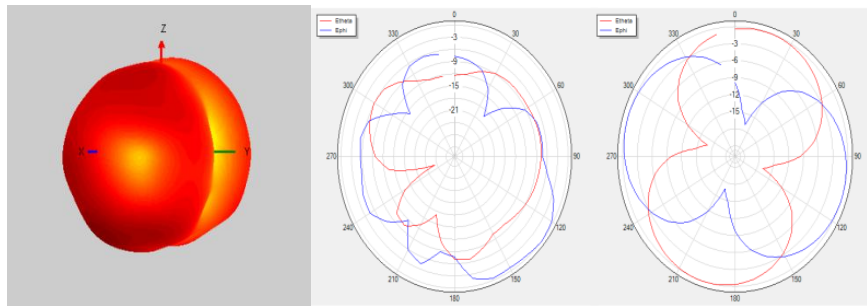
TDD-B38



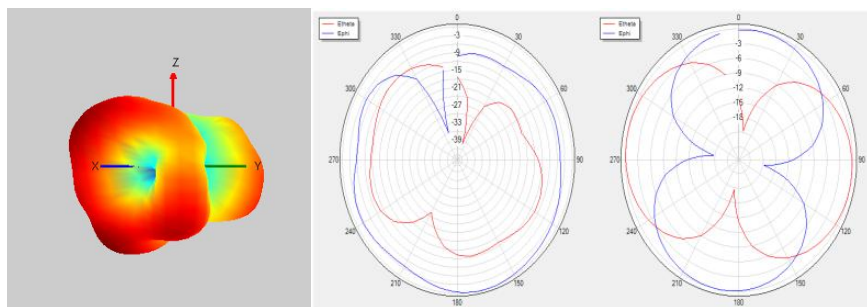
TDD-B34



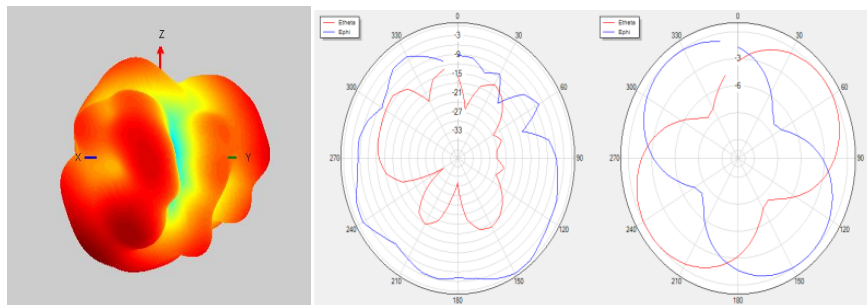
GPS-L1

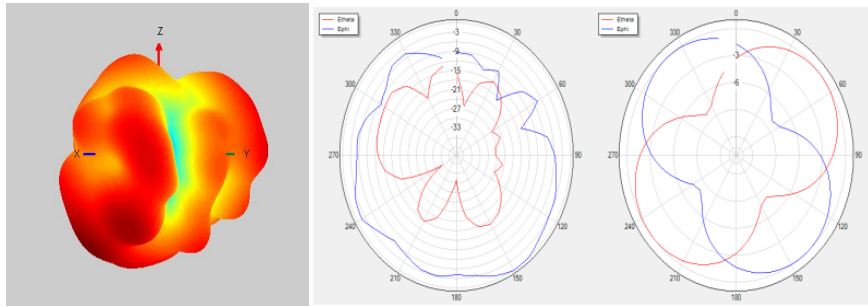
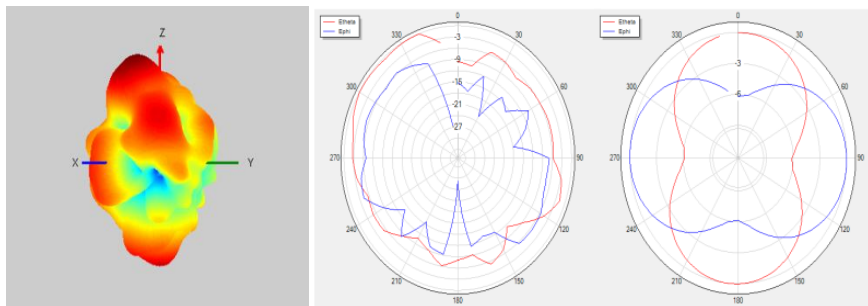


GPS-L5

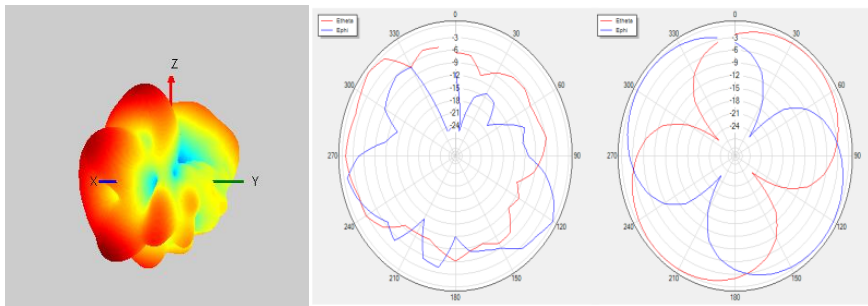


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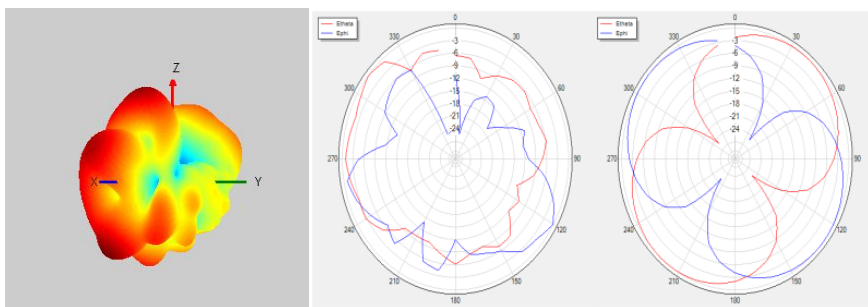


2.4GWIFI**5GWIFI**

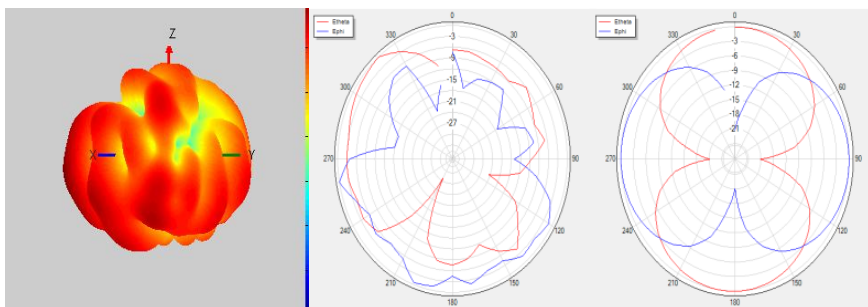
N77



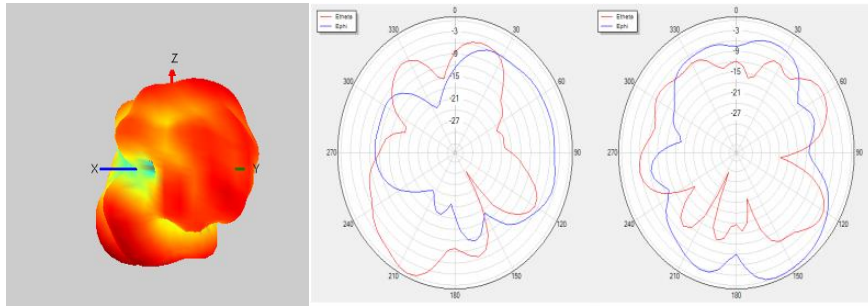
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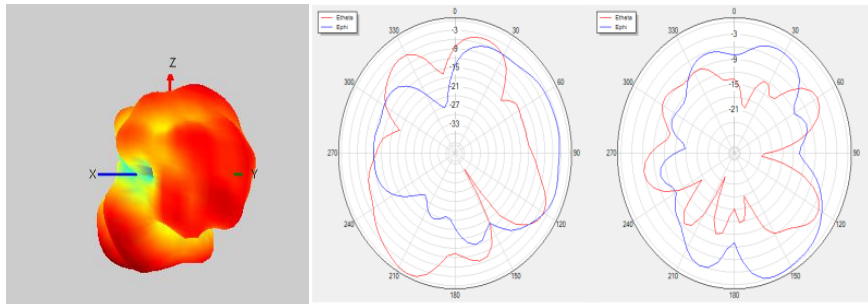
N79



N38



N41



8. Antenna OTA

Band	Channel	TRP	TIS
GSM850	L	24.9	103.4
	M	24.36	103.5
	H	24.7	103.16
GSM900	L	25.08	102.4
	M	24.85	101.4
	H	24.86	101.5
DCS1800	L	23.73	103.85
	M	24.45	103.4
	H	24.6	103.29
PCS1900	L	25.7	103.5
	M	25.75	103.74
	H	25.52	103.34
CDMA_BC0	L	14.66	102.4
	M	14.7	102.5
	H	14.4	102.49
CDMA_BC1	L	16.43	102.35
	M	16.6	102.4
	H	16.23	102.5
CDMA_BC10	L	14.45	102.3
	M	14.5	102.1
	H	14.33	102.34

Band	Channel	TRP	TIS
WCDMA_B1	L	18.4	
	M	17.45	
	H	17.44	104.04
WCDMA_B2	L	18.23	
	M	18.23	
	H	18.1	104.04
WCDMA_B4	L	15.56	
	M	15.34	
	H	15.68	103.7
WCDMA_B5	L	14.26	
	M	14.5	
	H	14.14	103.64
WCDMA_B6	L	14.35	
	M	14.46	
	H	14.54	103.16
WCDMA_B8	L	15.45	
	M	14.6	
	H	14.8	102.5
WCDMA_B19	L	14.45	
	M	14.7	
	H	15.94	103.9

Band	Channel	TRP	TIS
TDD_B34	L	17.97	
	M	17.6	
	H	18.77	90.5
TDD_B38	L	17.67	
	M	17.64	
	H	16.6	88.96
TDD_B39	L	17.65	
	M	17.66	
	H	17.57	90.59
TDD_B40	L	17.37	
	M	17.3	
	H	17.5	90.3
TDD_B41	L	16.6	
	M	16.7	
	H	16.5	90.36

Band	Channel	TRP	TIS
FDD_B1	L	17.36	
	M	17.65	
	H	17.76	92.3
FDD_B2	L	17.45	
	M	17.3	
	H	17.66	92.5
FDD_B3	L	15.4	
	M	15.77	
	H	16.8	92.6
FDD_B4	L	15.43	
	M	16.3	
	H	16.45	92.2
FDD_B5	L	15.12	
	M	14.9	
	H	14.57	91.2
FDD_B7	L	17.47	
	M	17.57	
	H	17.65	92.5
FDD_B8	L	15.27	
	M	14.67	
	H	14.82	91.3

Band	Channel	TRP	TIS
FDD_B12	L	15.17	
	M	15.23	
	H	14.9	91.4
FDD_B13	M	14.17	91.1
FDD_B17	L	14.9	
	M	14.65	
	H	14.72	89.5
FDD_B18	L	14.2	
	M	14.34	
	H	15.42	91.4
FDD_B19	L	14.48	
	M	14.95	
	H	15.31	91.64
FDD_B20	L	14.3	
	M	14.6	
	H	14.3	91.25
FDD_B25	L	17.3	
	M	17.45	
	H	17.65	92.24

Band	Channel	TRP	TIS
FDD_B26	L	14.36	
	M	14.2	
	H	14.47	88.25
FDD_B28A	L	14.5	
	M	14.62	
	H	15.33	89.22
FDD_B28B	L	14.39	
	M	14.24	
	H	15.36	89.36
FDD_B66	L	15.32	
	M	15.3	
	H	16.3	92.5
FDD_B71	L	14.09	
	M	14.14	
	H	14.1	89.58

Band	Channel	TRP	TIS
N1	L	17.52	
	M	17.2	
	H	17.1	91.7
N2	L	17.8	
	M	17.08	
	H	17.7	91.64
N3	L	15.5	
	M	16.6	
	H	17.4	91.5
N5	L	14.2	
	M	14.5	
	H	15.4	88.5
N7	L	17.35	
	M	17.56	
	H	17.5	88.9
N8	L	14.31	
	M	14.27	
	H	14.34	88.5
N12	L	14.5	
	M	14.55	
	H	15.2	88.36

Band	Channel	TRP	TIS
N20	L	14.6	
	M	14.6	
	H	14.3	87.46
N25	L	17.55	
	M	17.58	
	H	17.13	91.5
N28	L	14.44	
	M	14.45	
	H	14.3	87.39
N66	L	17.54	
	M	17.46	
	H	17.43	91.49
N40	L	16.59	
	M	16.27	
	H	16.9	90.56
N71	L	14.28	
	M	14.21	
	H	14.07	87.56

Band	Channel	TRP	TIS
N38	L	16.4	
	M	16.6	
	H	16.38	90.36
N41	L	16.1	
	M	16.3	
	H	16.43	82.15
N77	L	17.33	
	M	17.44	
	H	18.43	85.4
N78	L	17.4	
	M	17.5	
	H	18.3	85.2
N79	L	18.34	
	M	18.32	
	H	17.38	86.35

Band	Channel	TRP	TIS
B3_n38	L	16.02	
	M	16.26	
	H	16.31	89.2
B3_n41	L	16.4	
	M	16.38	
	H	16.2	81.9
B3_n77	L	17.55	
	M	18.39	
	H	18.43	85.46
B3_n78	L	17.3	
	M	17.63	
	H	18.37	85.6
B3_n79	L	18.35	
	M	18.3	
	H	17.84	86.42

WIFI Test

Band	Channel	Total	TIS
B_11M	1	13.09	81.63
	6	12.29	80.44
	11	12.22	81.87
A_54M	36	11.41	70.96
	64	11.36	70.96
	165	11..9	70.86

GPS Test

R:30.1/-/-/- B:28.2/18.2/-/-
E:30.9/21.7/-/-
Q:24.7/22.0/-/- L:-/-/-/- I:-/
28.5/-/- S:39.0/-/-/-

ID	CNR	ID	CNR	ID	CNR	ID	CNR
G3	41.6/28.2/-	G4	0.0/-/-/-	G6	40.5/25.8/-	G9	11.9/-/-/-
G11	31.2/-/-/-	G14	33.7/29.6/-	G17	38.1/-/-/-	G19	33.7/-/-/-
G30	21.3/-/-/-	R65	0.0/-/-/-	R71	30.4/-/-/-	R72	28.1/-/-/-
R75	0.0/-/-/-	R76	19.3/-/-/-	R77	26.2/-/-/-	R78	0.0/-/-/-
R87	37.8/-/-/-	R88	39.0/-/-/-	B1	0.0/-/-/-	B2	0.0/-/-/-
B3	0.0/-/-/-	B4	26.1/-/-/-	B5	26.5/-/-/-	B6	0.0/-/-/-
B7	34.3/-/-/-	B8	14.6/-/-/-	B10	34.2/-/-/-	B13	0.0/-/-/-
B16	21.8/-/-/-	B19	15.8/-/-/-	B20	29.4/13.1/-	B22	15.7/-/-/-
B26	39.4/17.5/-	B29	41.7/22.7/-	B30	0.0/-/-/-	B35	38.6/19.5/-
E4	0.0/-/-/-	E10	40.5/18.4/-	E11	33.1/19.7/-	E12	21.7/-/-/-
E19	0.0/-/-/-	E24	28.6/27.7/-	E25	32.7/19.3/-	E36	28.6/23.2/-
Q2	20.0/-/-/-	Q3	34.0/22.0/-	Q4	20.0/-/-/-	Q7	0.0/-/-/-
I2	-/21.3/-/-	I3	-/30.0/-/-	I4	-/34.3/-/-	S35	0.0/-/-/-
S40	0.0/-/-/-	S41	0.0/-/-/-				

GPS/WIFI/BT

测试项目	测试环境	冷启动定位时间	定位星个数	最高 CN 值
GPS	天台	80s	10 颗以上	45
测试项目	测试环境	热点数量	信号强度	高清视频播放质量
WIFI	办公室	18	≥ -50dBm 热点 7 个以上	高清视频播放无卡顿
测试项目	测试环境	最大匹配距离	蓝牙耳机正常通话距离	蓝牙音箱音乐播放流畅距离
BT	办公室	11m	7m	8m