

Antenna specification

客户 Customer	华沃丰	规格型号 Specs	T5503D
安威料号 Part Number	AW006-T5503D-021-A0 AW006-T5503D-022-A0 AW006-T5503D-023-A0	频段 Frequency Band	BT&2.4G WIFI:2400~2483.5MHZ 5G WIFI:5100~5825MHZ GSM850/900/1800/1900 WCDMA: BAND II、BAND IV、BAND V LTE: band 2 、band 4 、band 5 、band 7 、band 12: 、band 17、band 41,band 66, band71
颜色 Color	Black	版本 Edition	REV:A1
销售 Salesperson	Mr.LV	设计 Design	LEIYAOBO
结构 Structure	QIN YUN LIN	确认 Confirm	LIXI
日期 Date	2022/12/17	签字日期 Signing Date	

客户确认 Customer confirmation:

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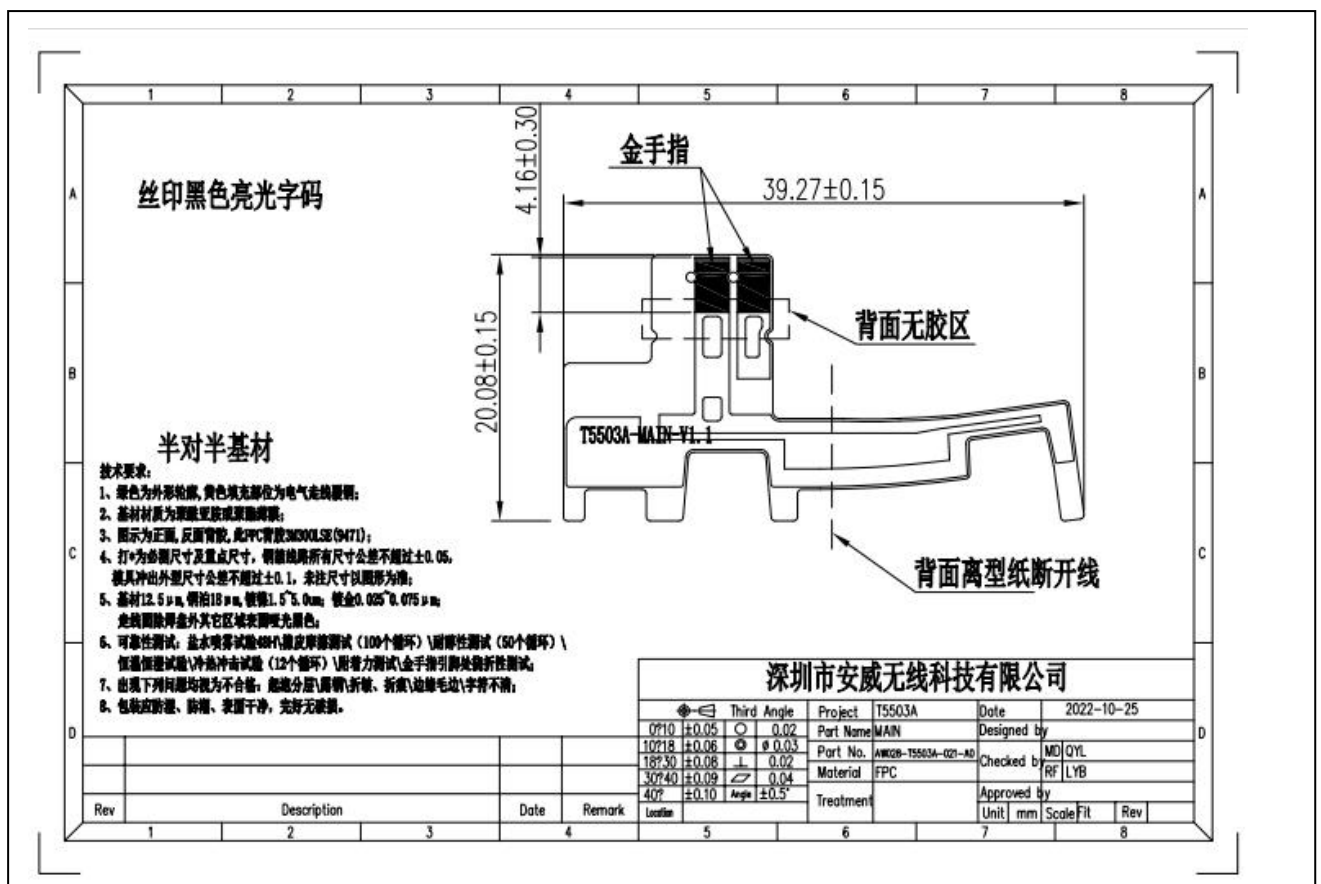
1、Product specifications 产品规格

1.1 蜂窝天线 Cellular mobile antenna

报告主要提供 RT2 蜂窝天线性能的参数测试。T5503D 天线为 4G&3G&2G 天线。（如下图 1 所示）

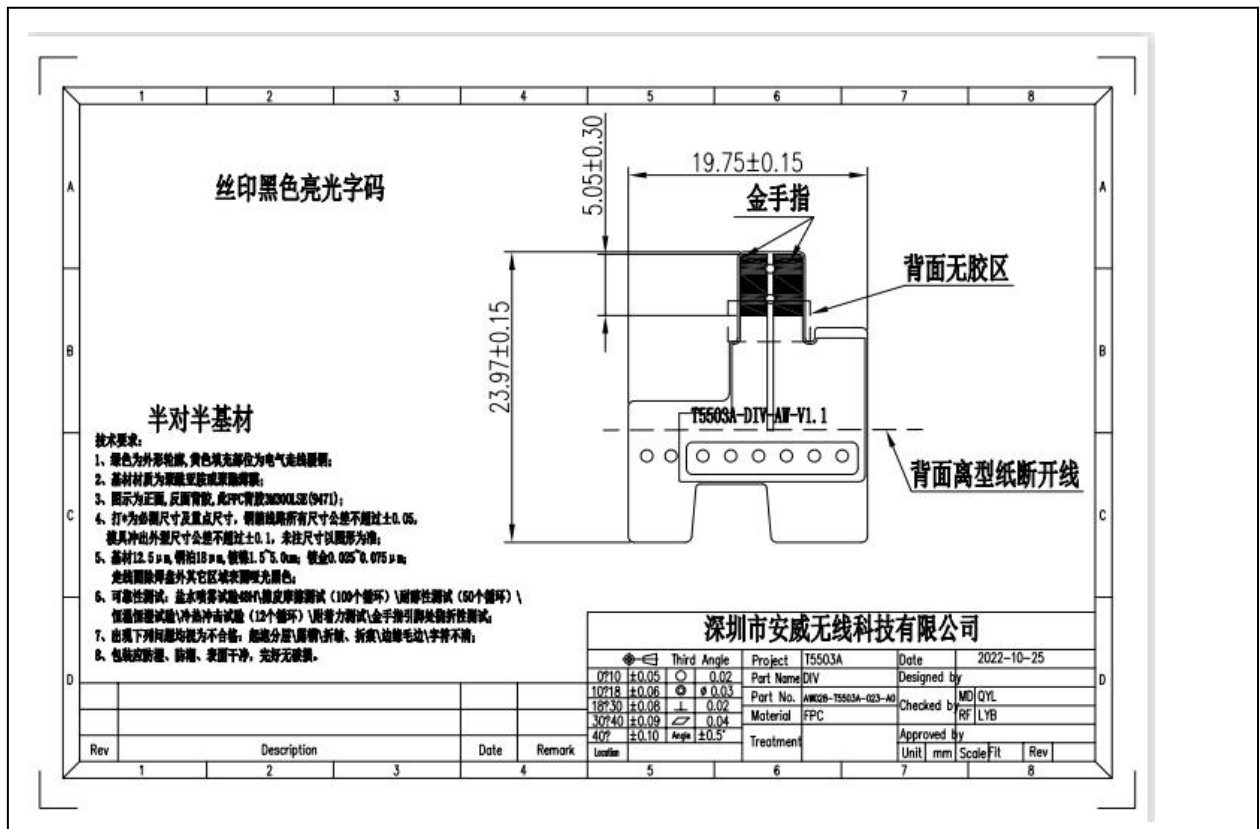
The report mainly provides the parameter test of RT2 Cellular mobile antenna performance. The T5503D antenna is a 4G&3G&2G antenna. (see Figure 1 below)

1) 主集天线 Master antenna



4G Frequency band: band 2 、 band 4 、 band 5 、 band 7 、 band 12、 band 17、 band 41,band 66 band71
 WCDMA: BAND II、 BAND IV、 BAND V,
 GSM850/900/1800/1900

2) 分集天线 Auxiliary Antenna

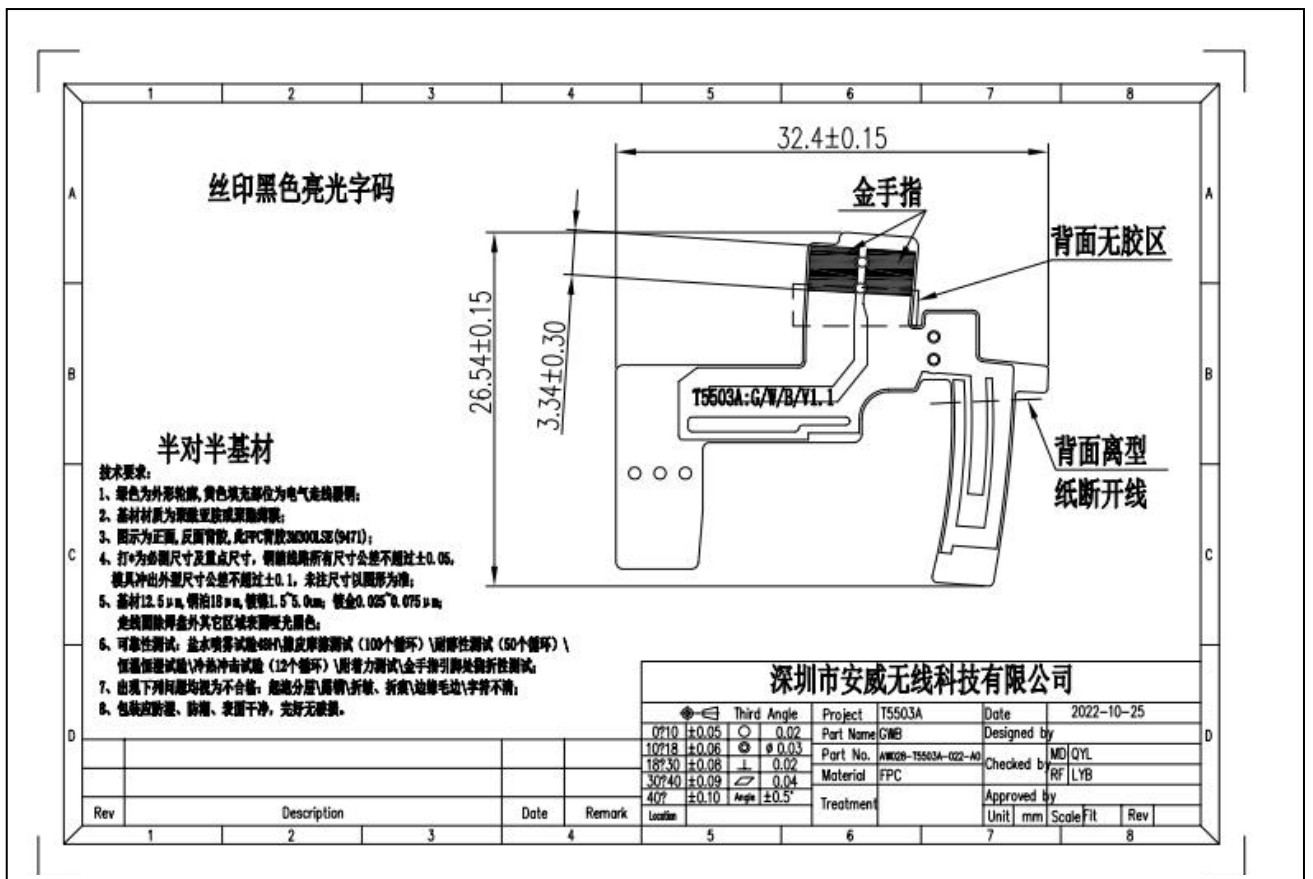


4G Frequency band: band 2 、 band 4 、 band 5 、 band 7 、 band 12 、 band 17、 band 41,band 66 band71
 WCDMA: BAND II、BAND IV、BAND V,
 GSM850/900/1800/1900

1.2 三合一天线 Three-in-one antenna

报告主要提供 RT2 射频功能天线性能的参数测试。T5503D 天线为 BT&WIFI&GPS 天线。（如下图 1 所示）

The report mainly provides the parameter test of RT2 Radio frequency antenna performance. The T5503D antenna is a BT&WIFI&GPS antenna. (see Figure 1 below)



BT&2.4G WIFI:2400~2483.5MHZ
5G WIFI:5100~8525MHZ

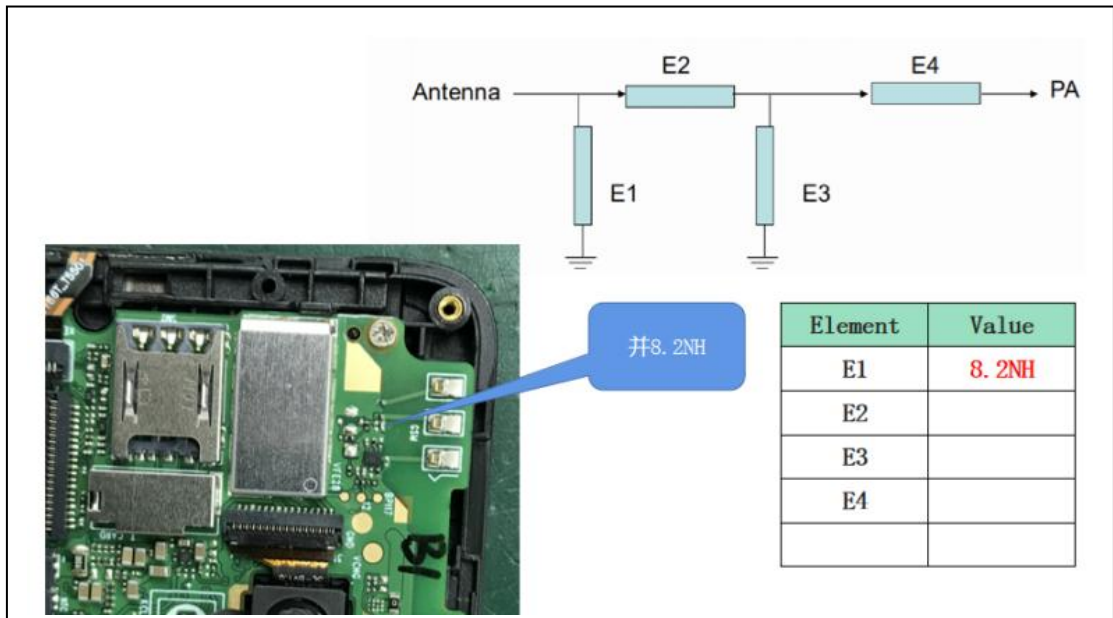
2. 电器性能 Electrical performance

2.1.规格 Specification

T5503D 天线工作频段在 700~960MHZ,1710~2700MHZ，在此频段产生谐振。

T5503D antenna works in the frequency range of 700 ~ 960 MHz, 1710 ~ 2700 MHz, and produces resonance in this frequency range

2.2 匹配电路 Matching circuit



3.参数的测试 Parameter test

3.1 测试的设置 Test Setup

3.1.1 VSWR 测试装置依次的连接为:

The VSWR test device is sequentially connected to:

E5071B 网络分析仪 → 50 欧姆的同轴 Cable → 110mm 长的铜管 → 测试治具

E5071B Network analyzer → 50 Cable → 110mm → Long copper pipes → Test Fixture

3.2 测试治具 Test Fixture

Test the treatment of fixture:

从手机 PCB 上天线 50 欧姆测试点处用一根硬质电缆引出 SMA-J 接头，与套有扼流圈的铜管连接，再依次连接其他装置。

Use a hard cable to draw out the SMA-J connector from the 50 ohm test point of the antenna on the cell phone PCB, Connect with copper tube with choke ring, Connect the other devices in turn.

3.3 蜂窝天线主天线参数 Cellular Antenna Parameter

3.3.1 工作频段(Working frequency band):

4G Frequency band:

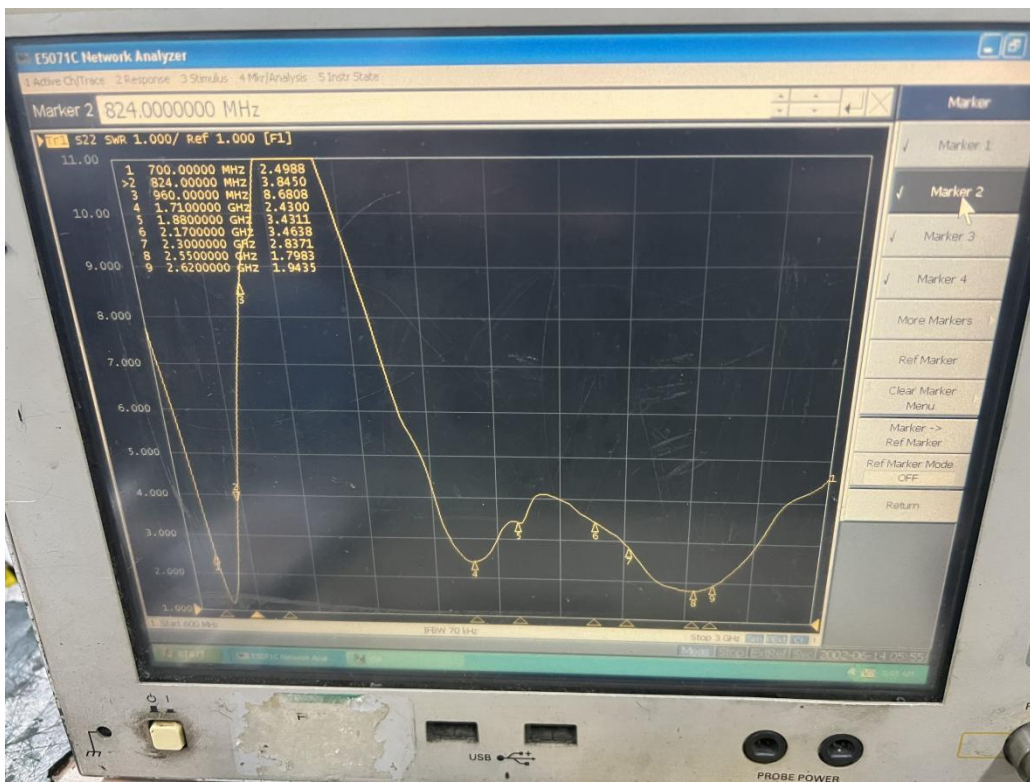
band 2(1850-1910MHz、1930-1990MHz) ,

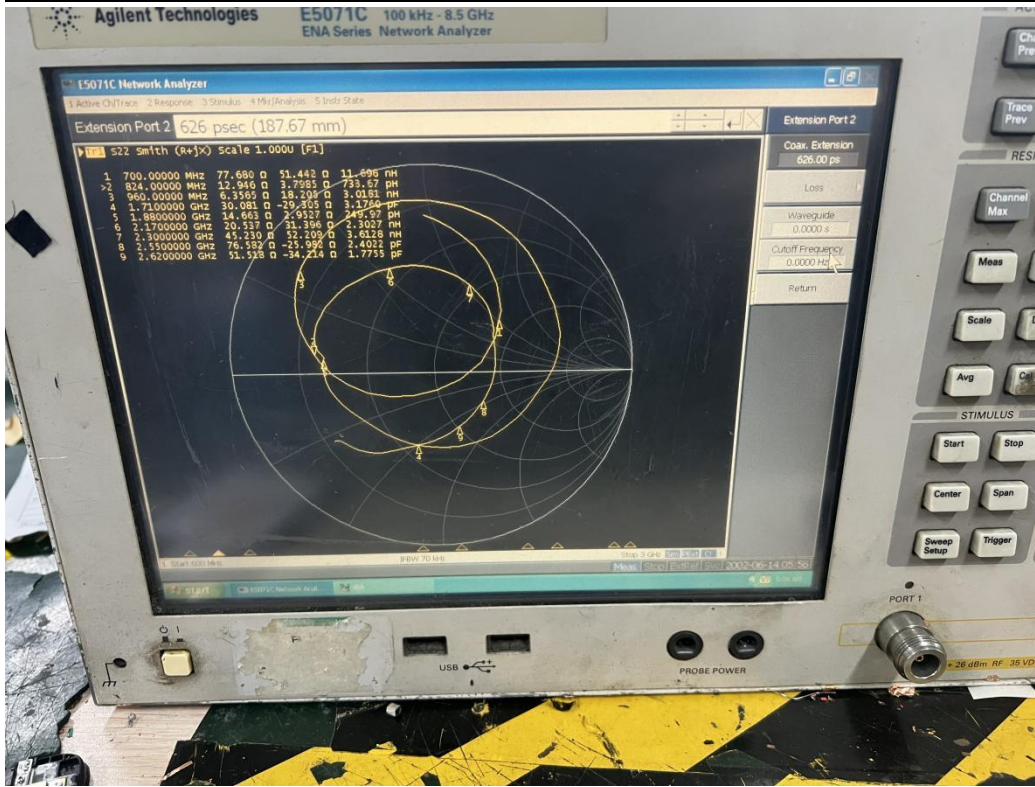
band 4(1710-1755MHz, 2110-2155MHz) ,

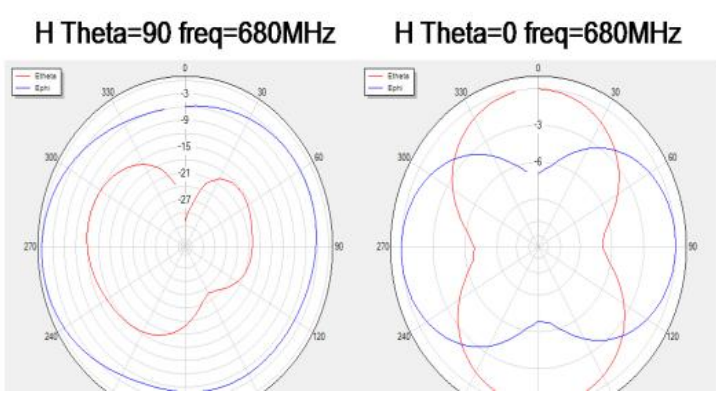
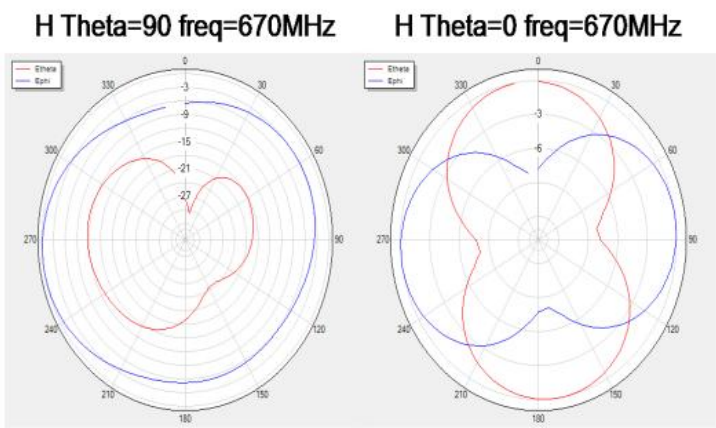
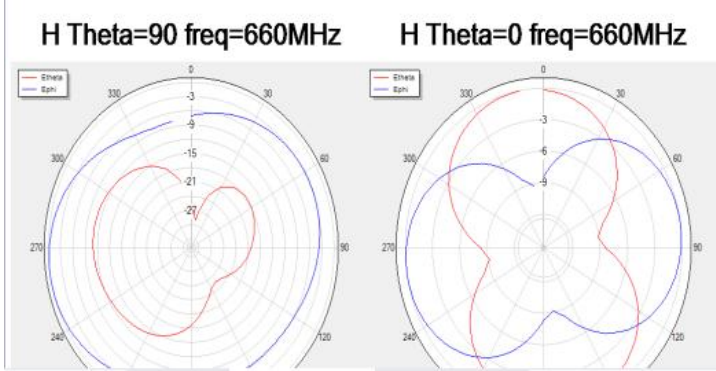
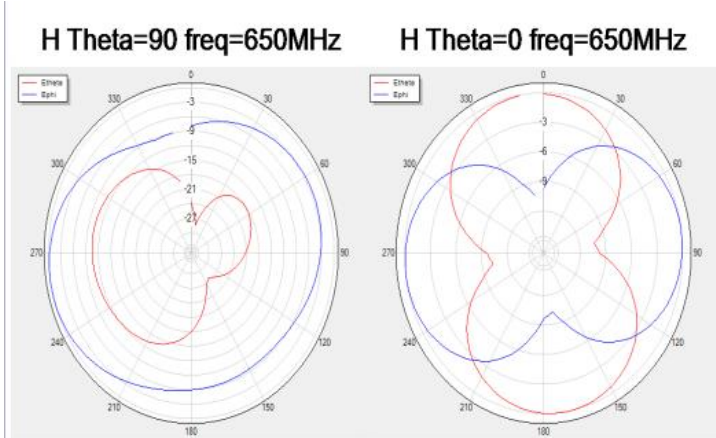
- band5(824-849MHz,869-894MHz),
- band7(2500-2570MHz, 2620-2690MHz),
- band 12(699-716MHz, 729-746MHz),
- band 17(704-716MHz、 734-746MHz),
- band 41(2535-2655MHz、 2535-2655MHz)
- band 66(1710-1780MHz, 2110-2200MHz)
- Band 71 (647-693MHz)

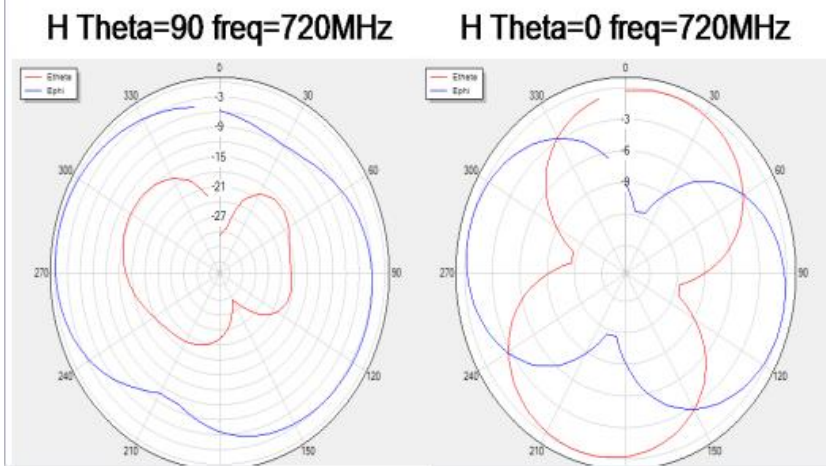
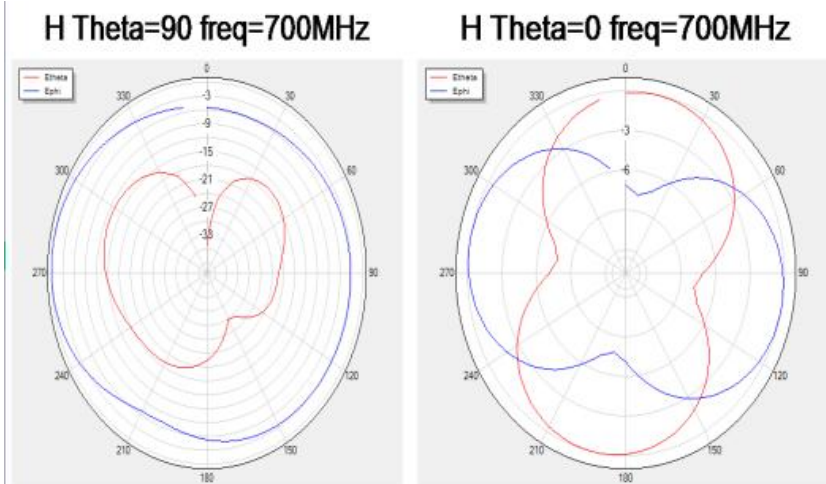
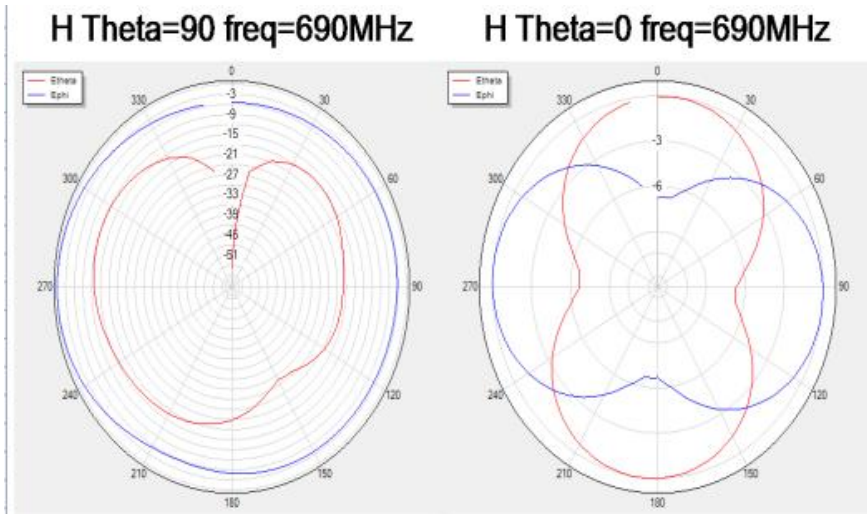
WCDMA: BAND II (1852.4-1907.6MHz) 、 BAND IV(1712.4-1752.6MHz)、 BAND V(826.4-846.6MHz),

GSM: 850 (824.2-848MHz) 1900(1850.2-1909.8MHz)

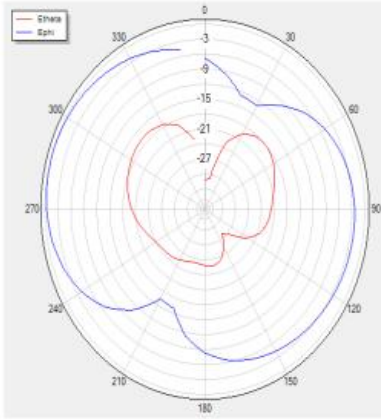




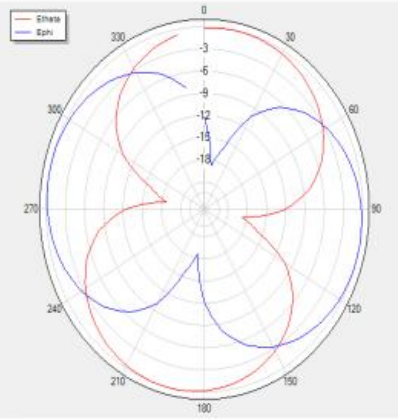




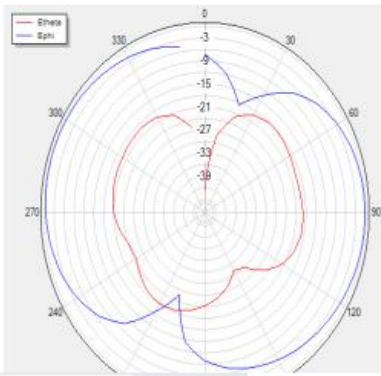
H Theta=90 freq=740MHz



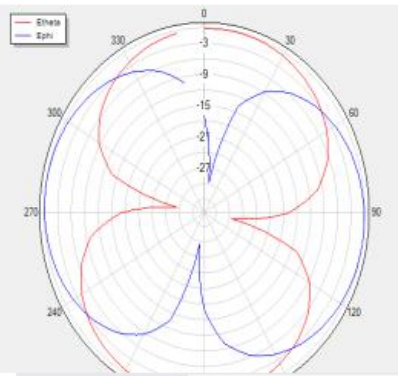
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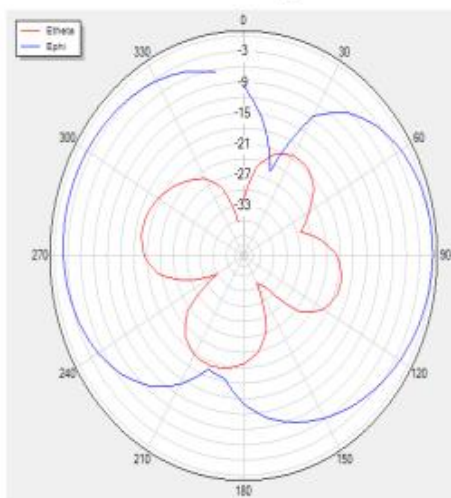
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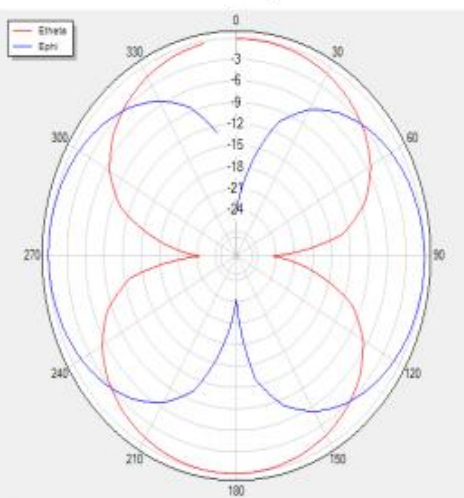
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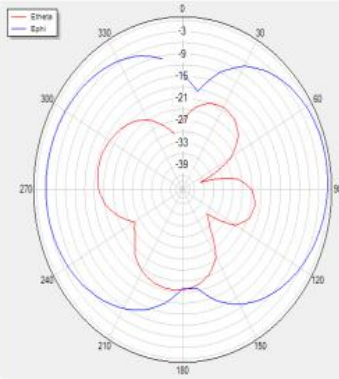
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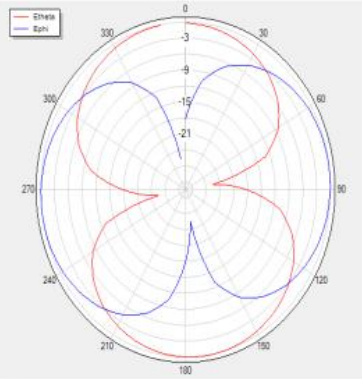
H Theta=0 freq=780MHz



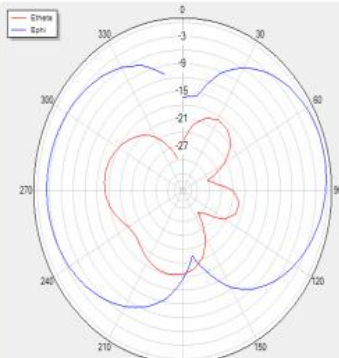
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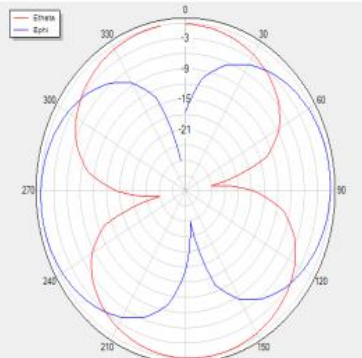
H Theta=0 freq=820MHz



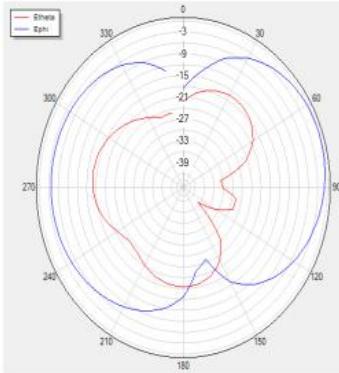
H Theta=90 freq=840MHz



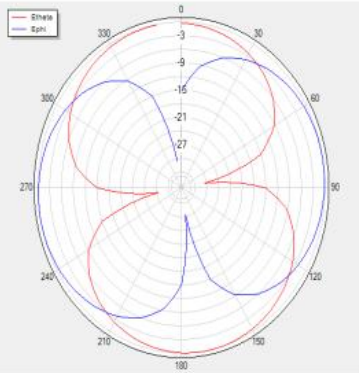
H Theta=0 freq=840MHz



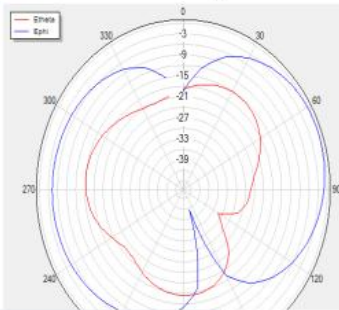
H Theta=90 freq=860MHz



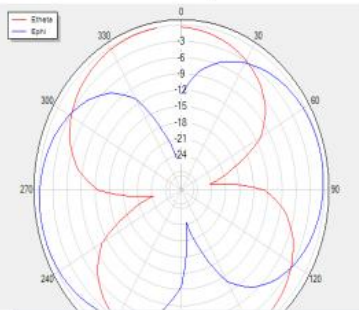
H Theta=0 freq=860MHz



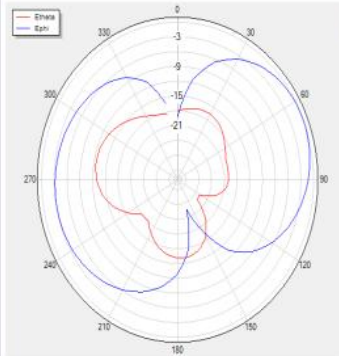
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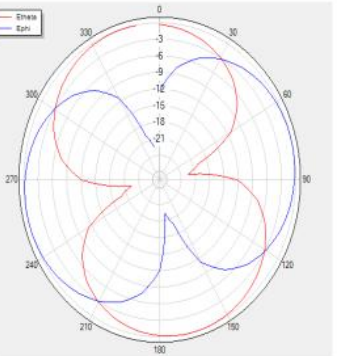
H Theta=0 freq=880MHz



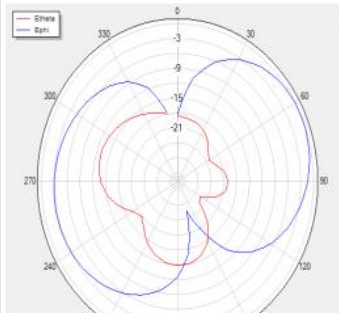
H Theta=90 freq=900MHz



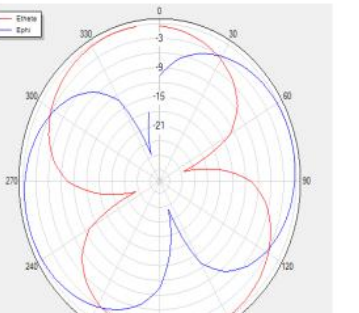
H Theta=0 freq=900MHz



H Theta=90 freq=920MHz

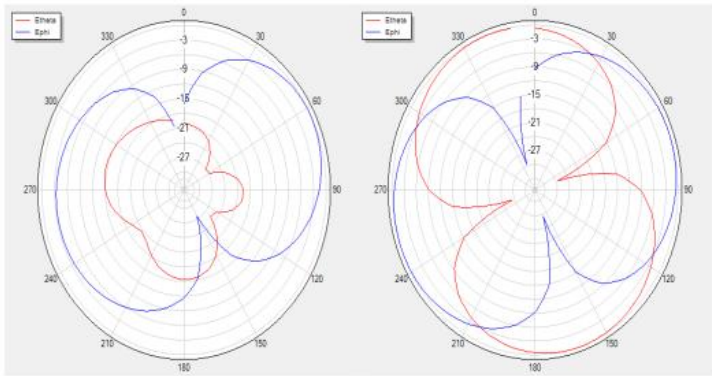


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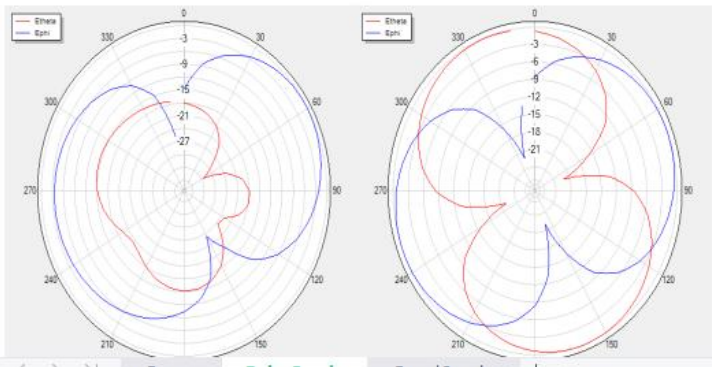
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H Theta=0 freq=940MHz

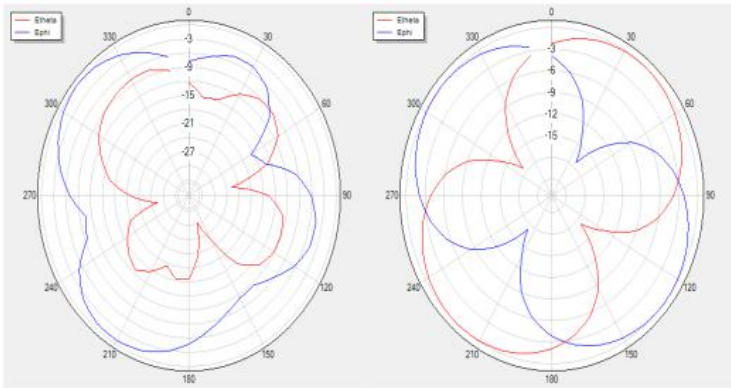


H Theta=90 freq=960MHz

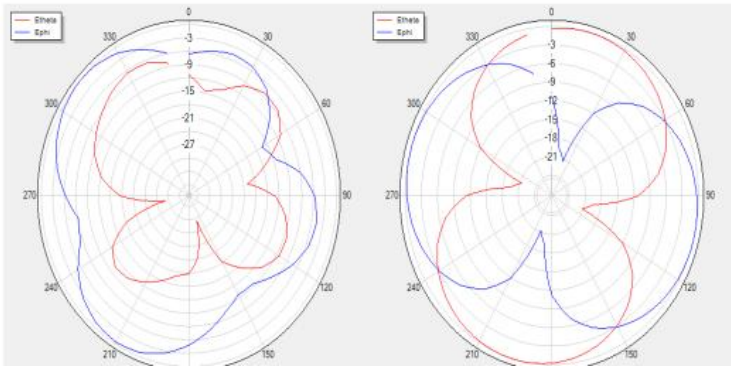
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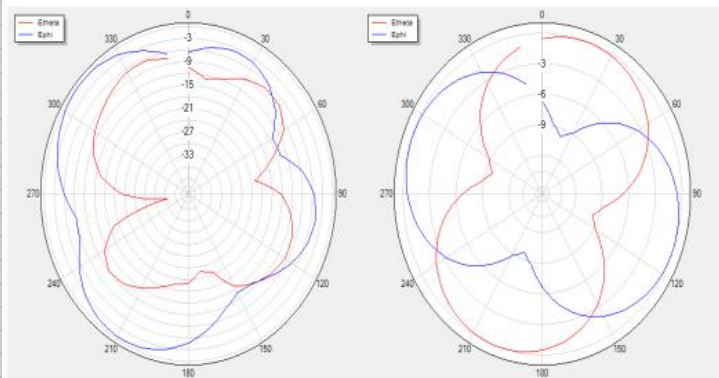
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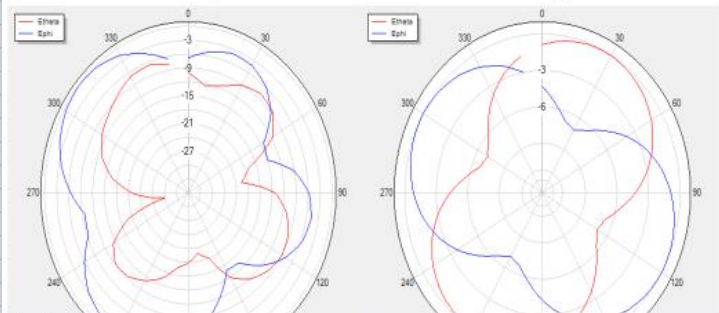
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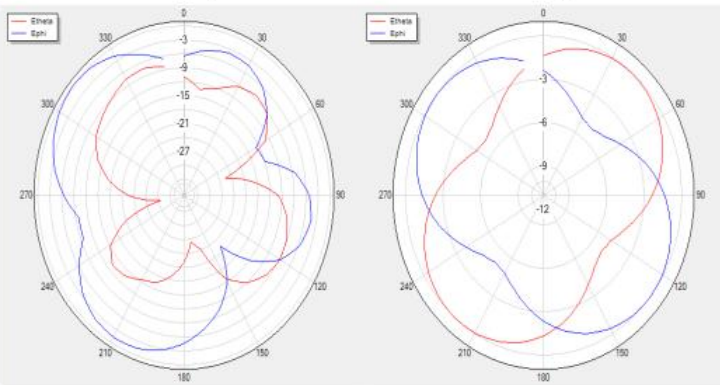
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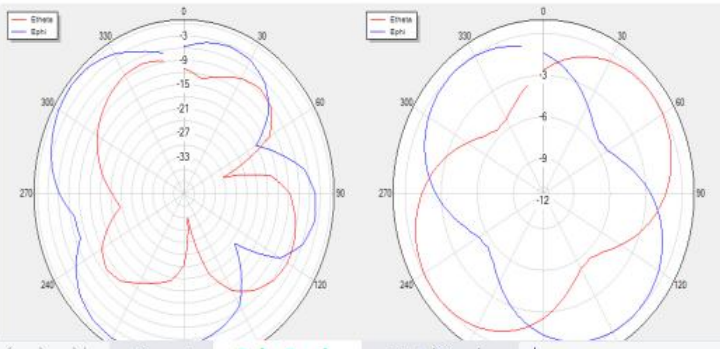
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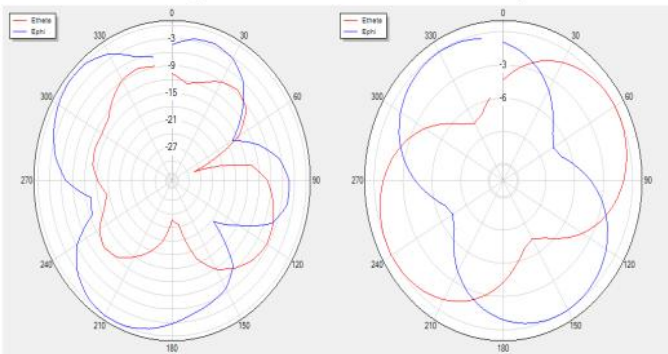
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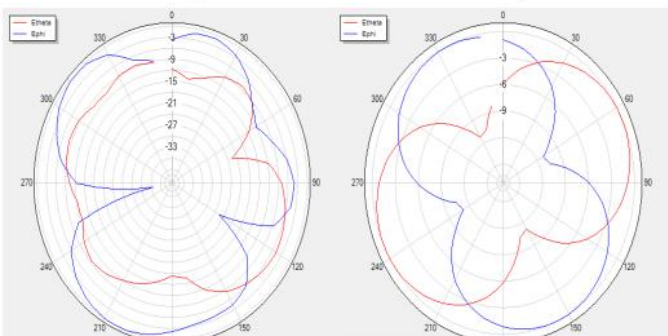
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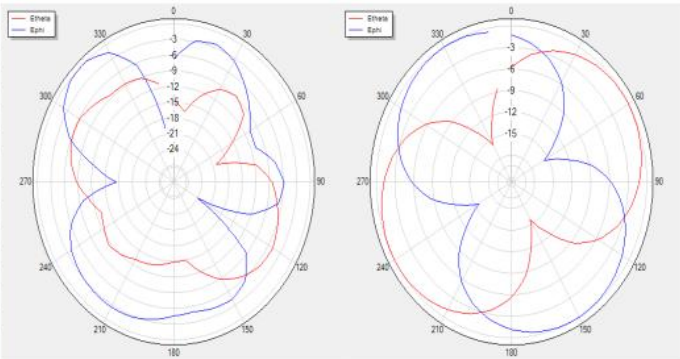
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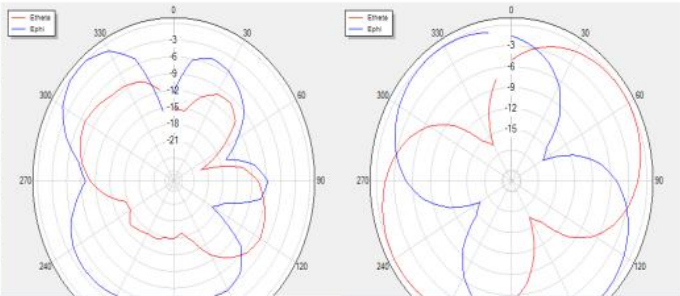
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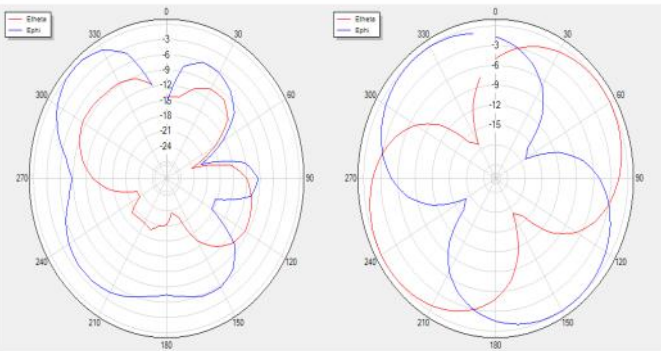
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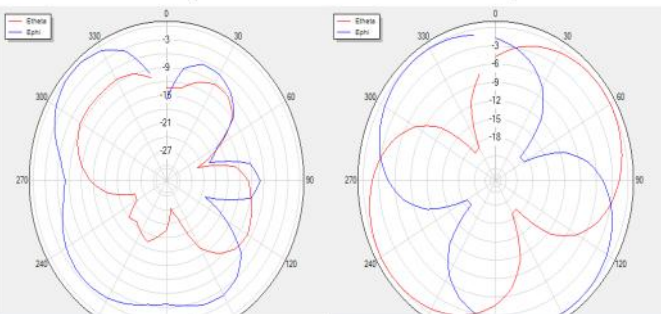
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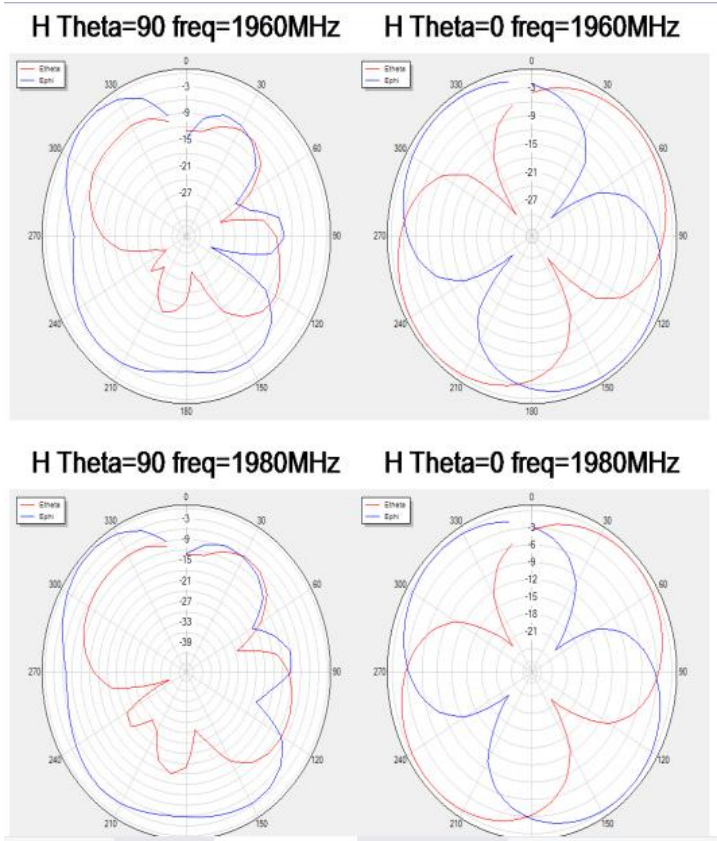


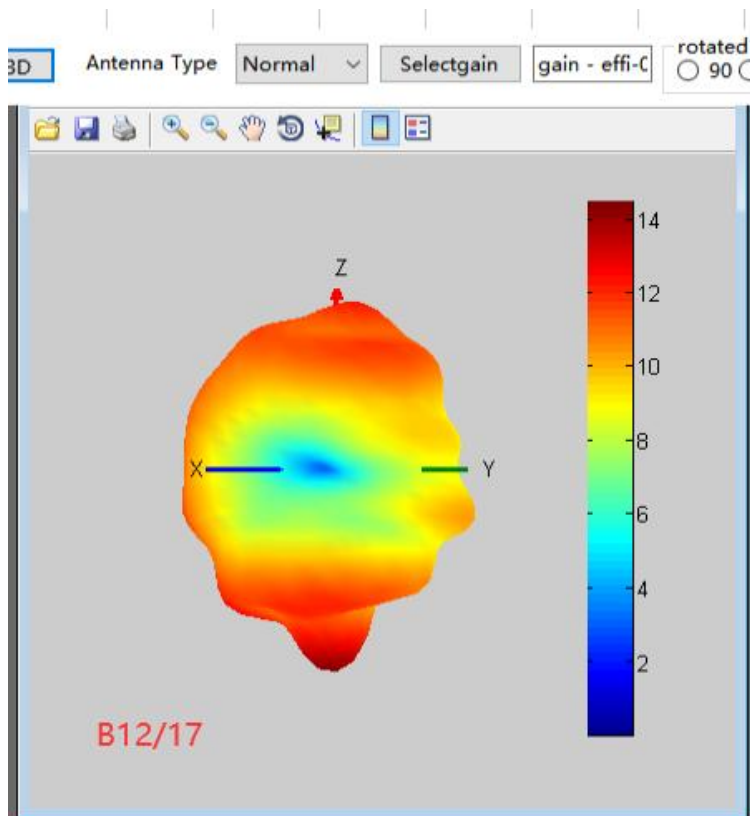
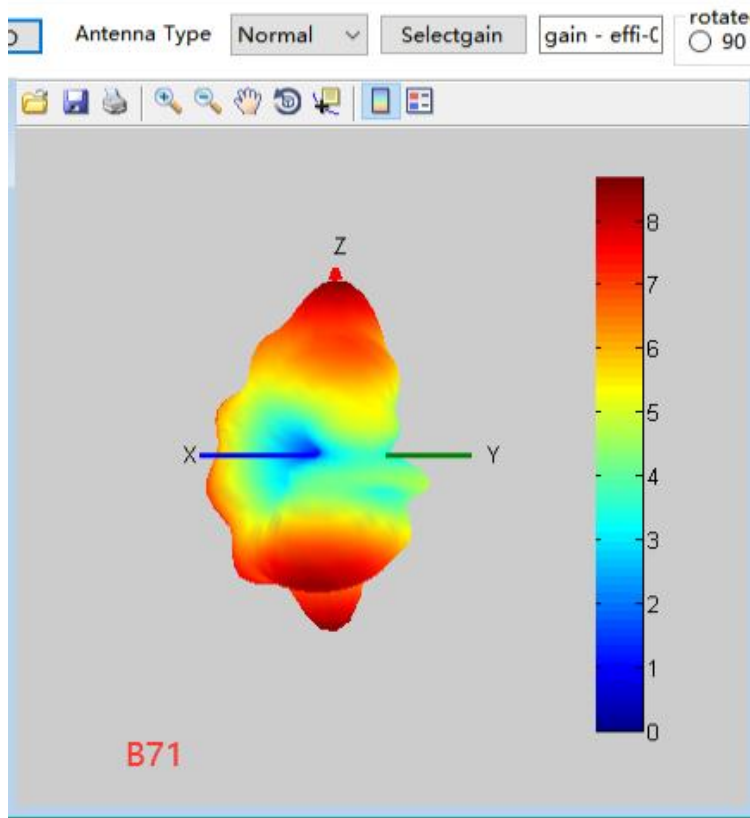
H Theta=90 freq=1920MHz H Theta=0 freq=1920MHz

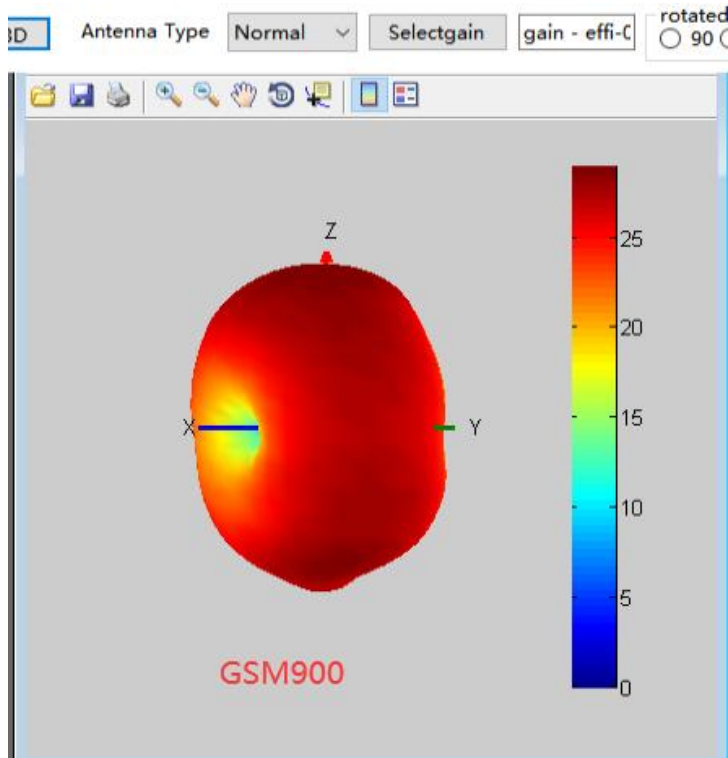
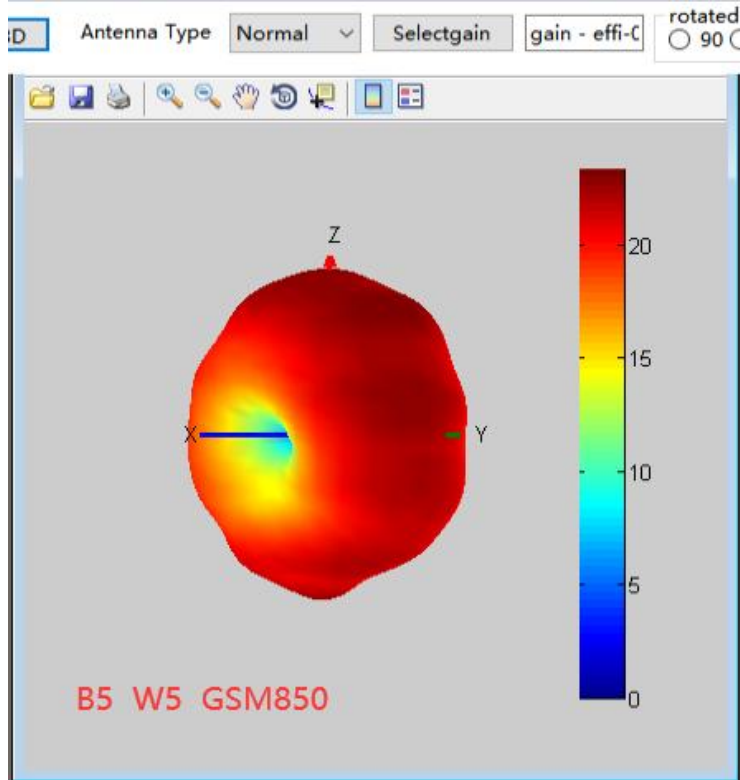


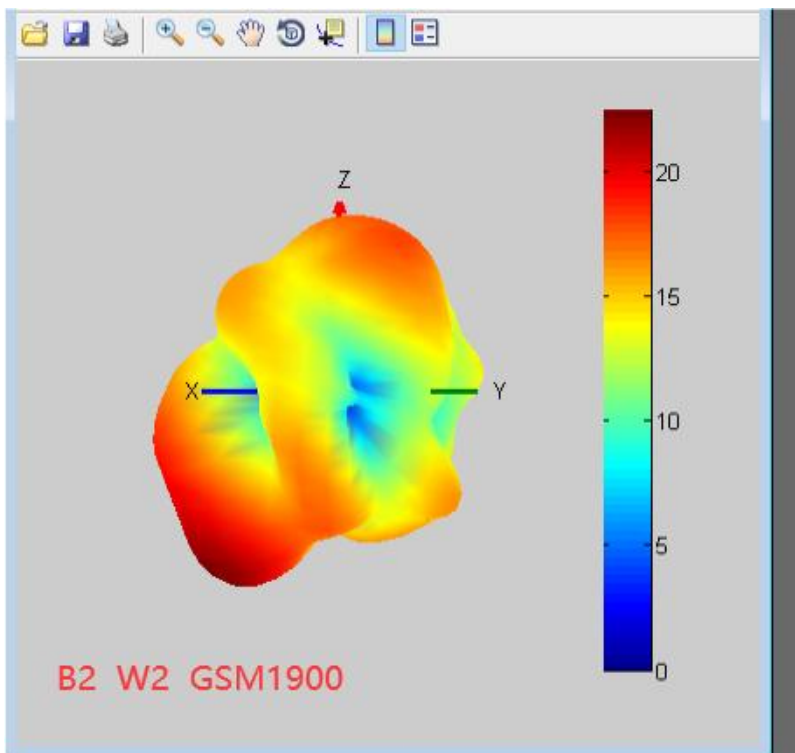
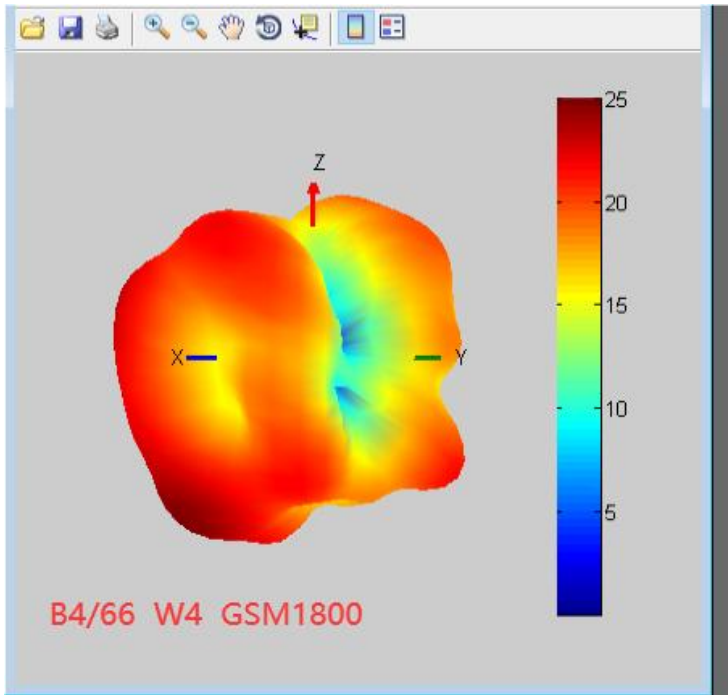
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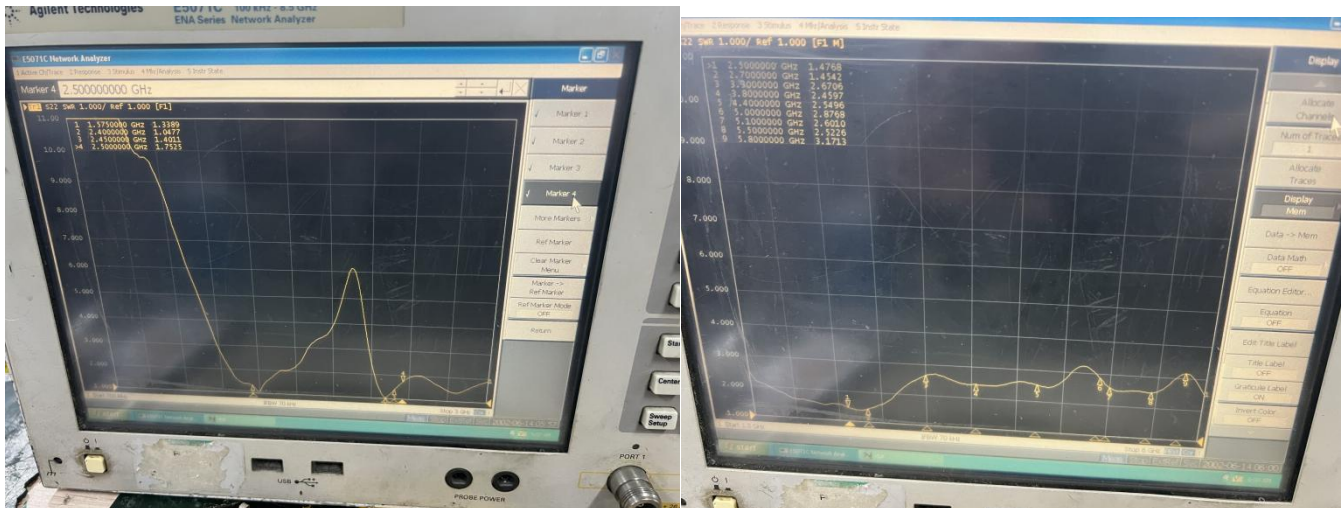


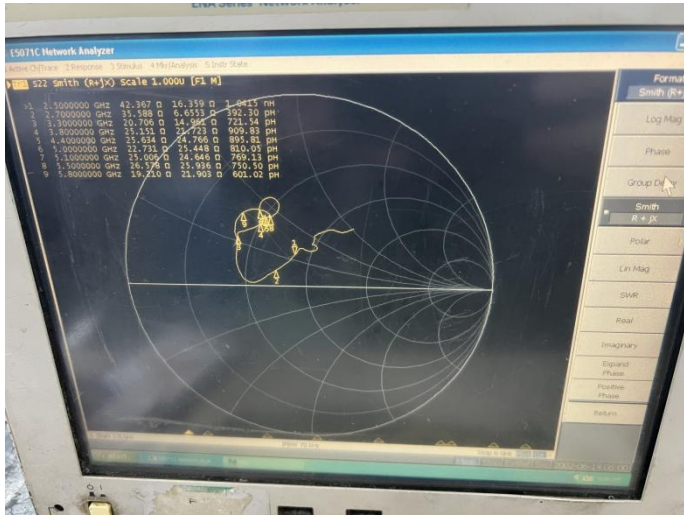


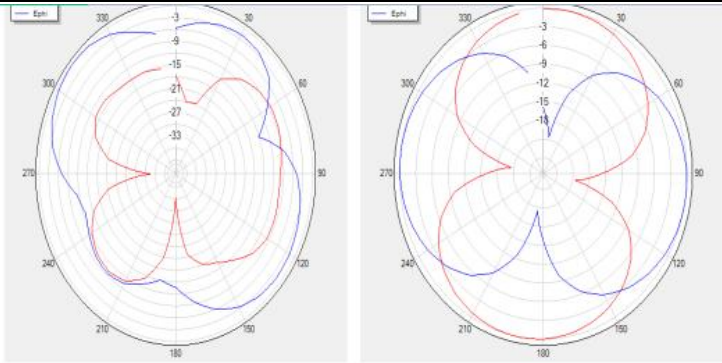
3.4 射频天线参数 Radio frequency Parameter

3.4.1 GPS/WIFI/BT 频段(Working frequency band):

GPS: 1560~1580MHZ, BT&2.4WIFI: 2400~2500MHZ, 5G WIFI: 5180~5825MHZ

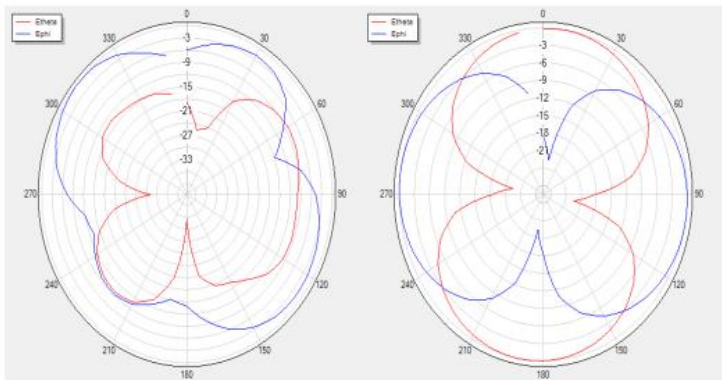






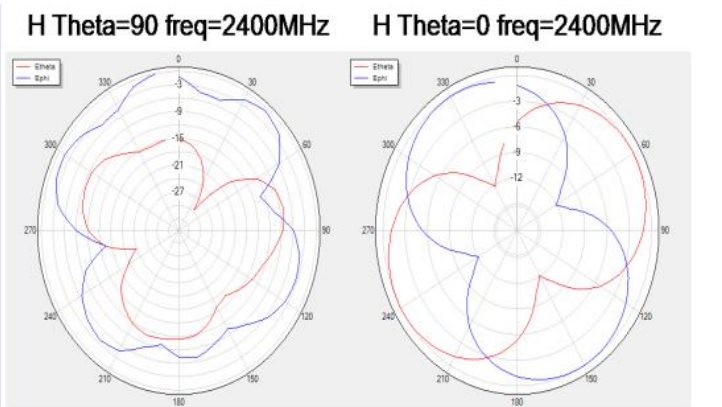
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H Theta=0 freq=1575MHz



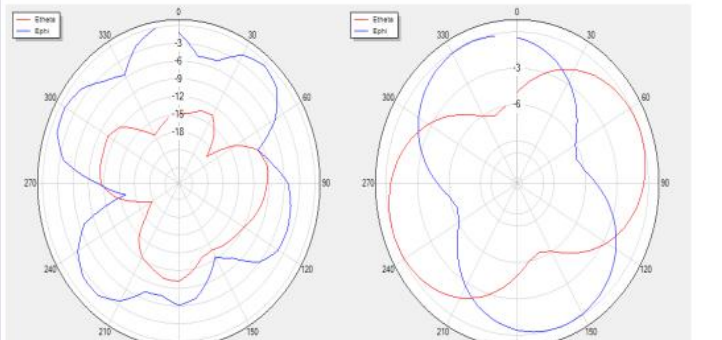
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H Theta=0 freq=1580MHz

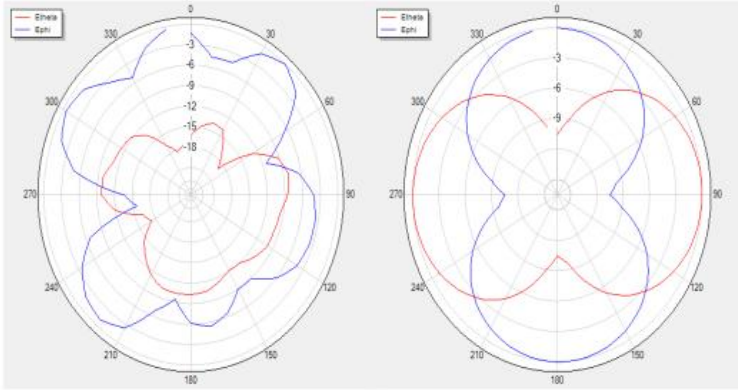


H Theta=90 freq=2450MHz

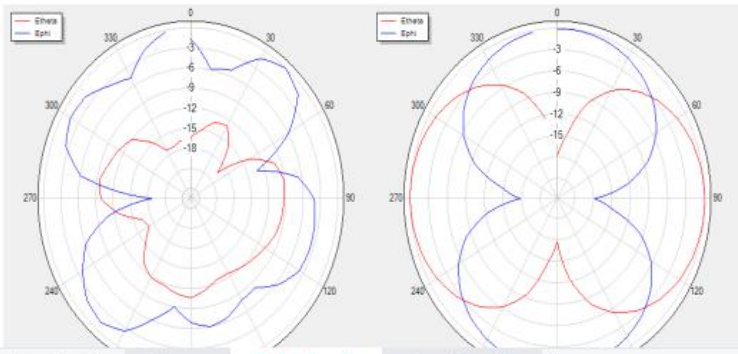
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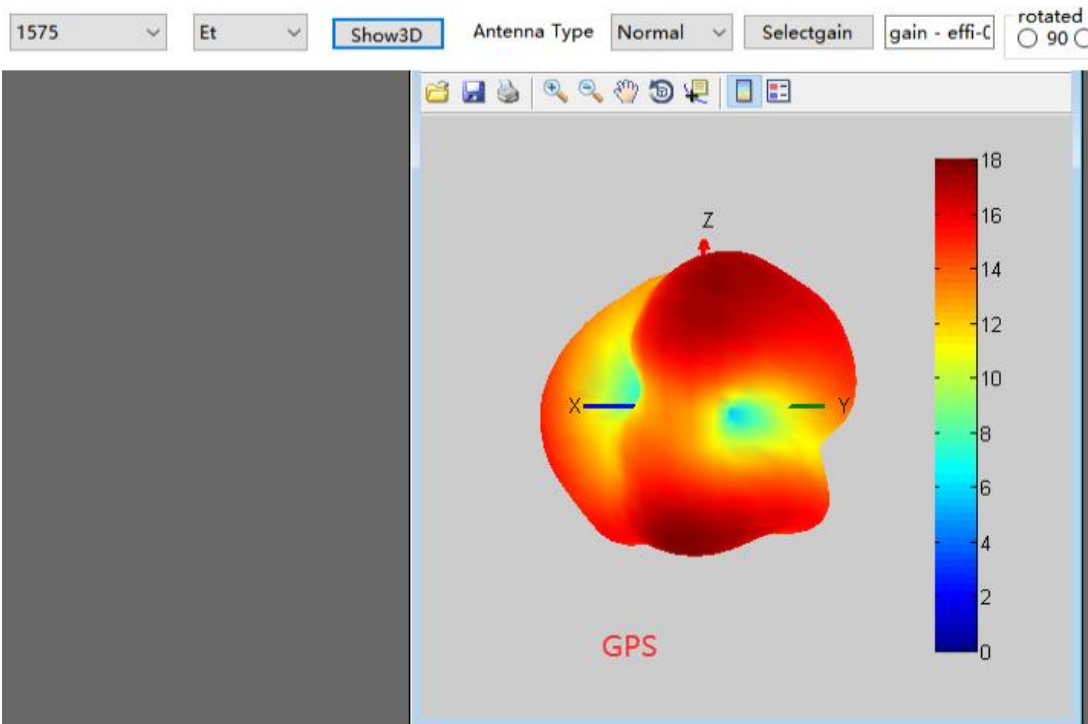
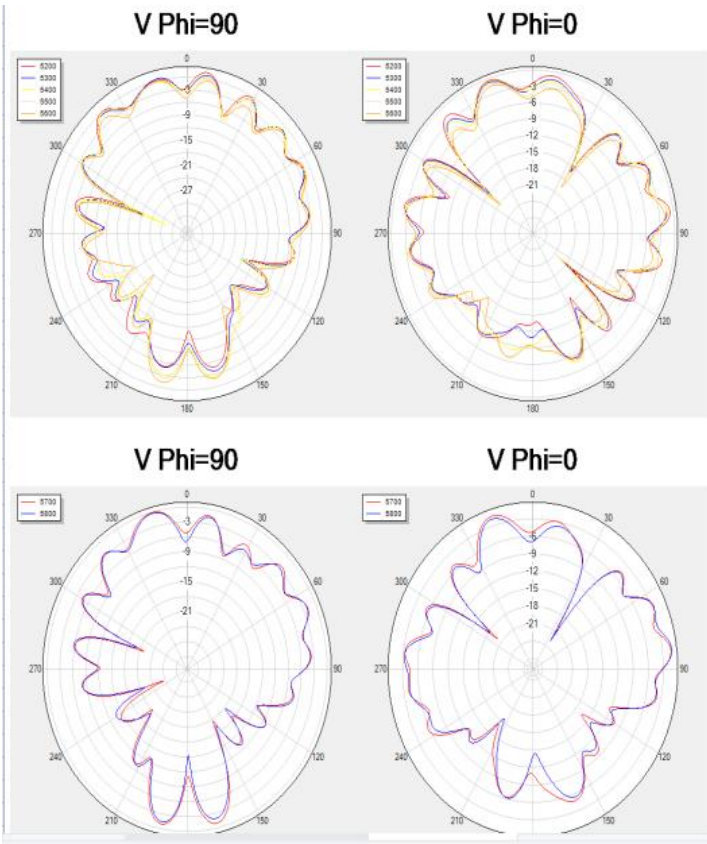


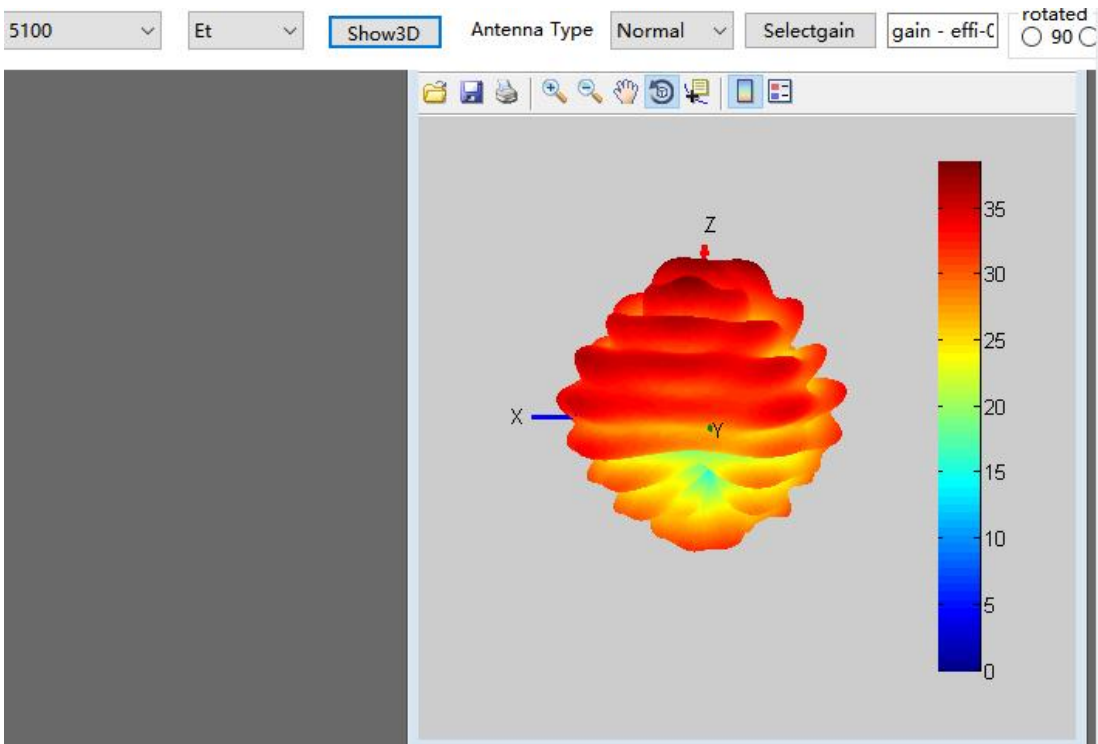
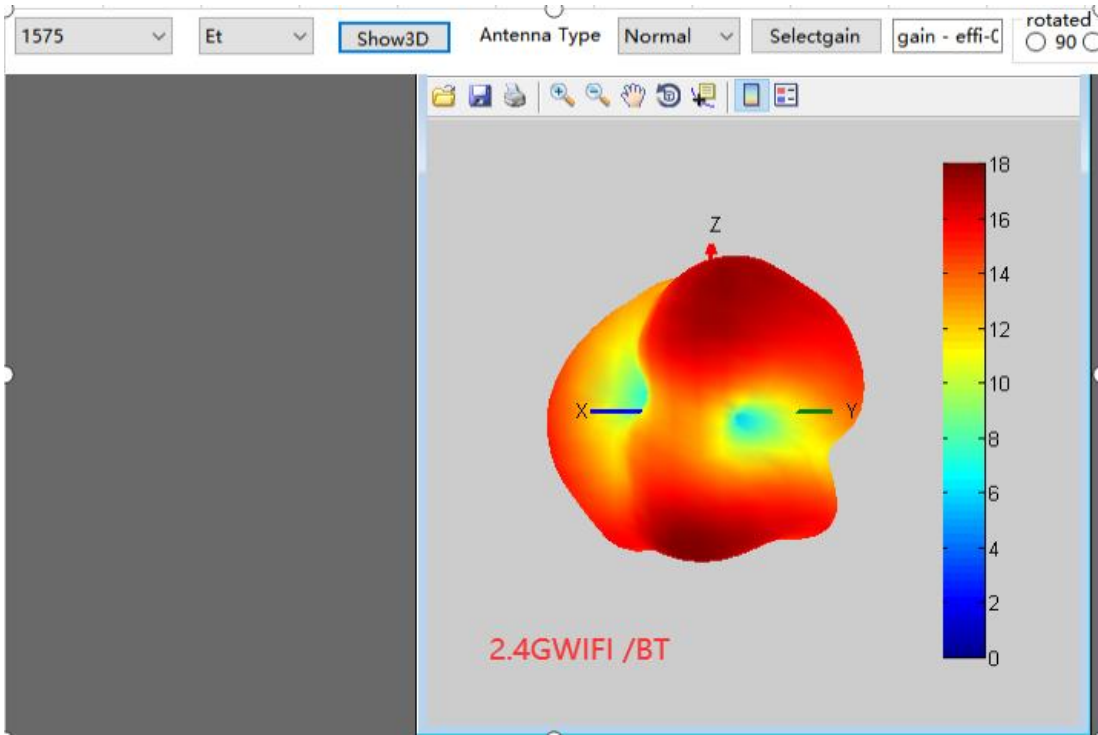
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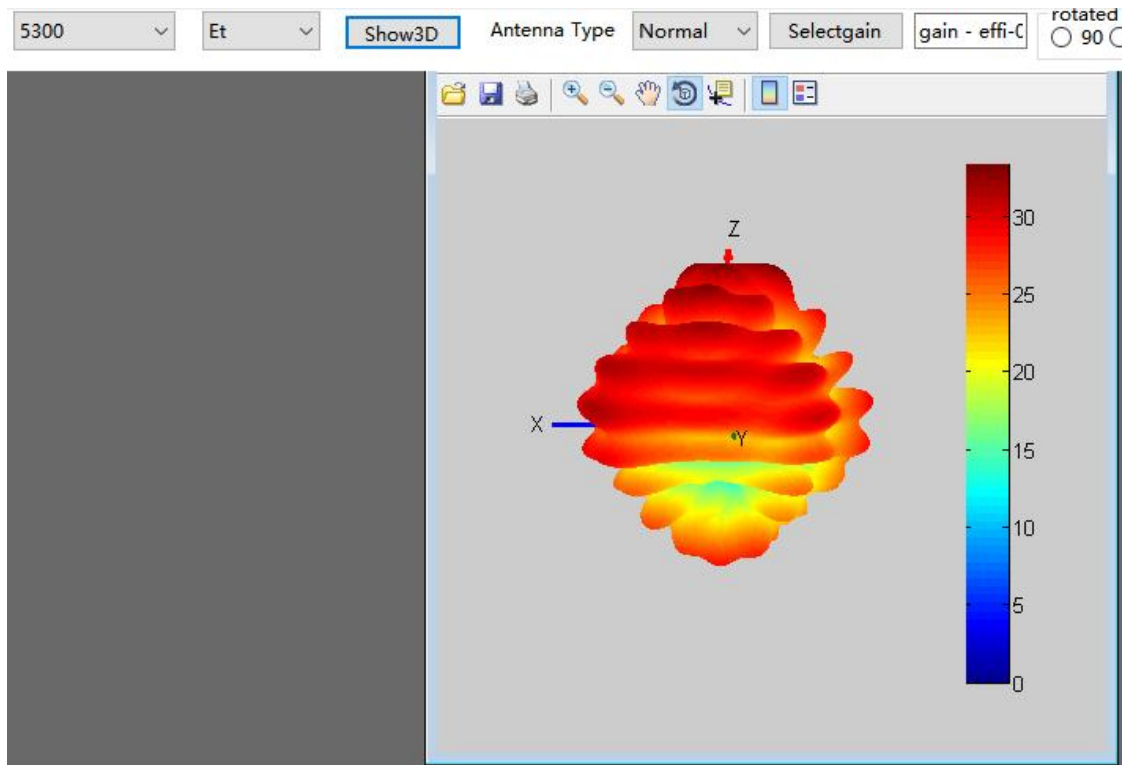


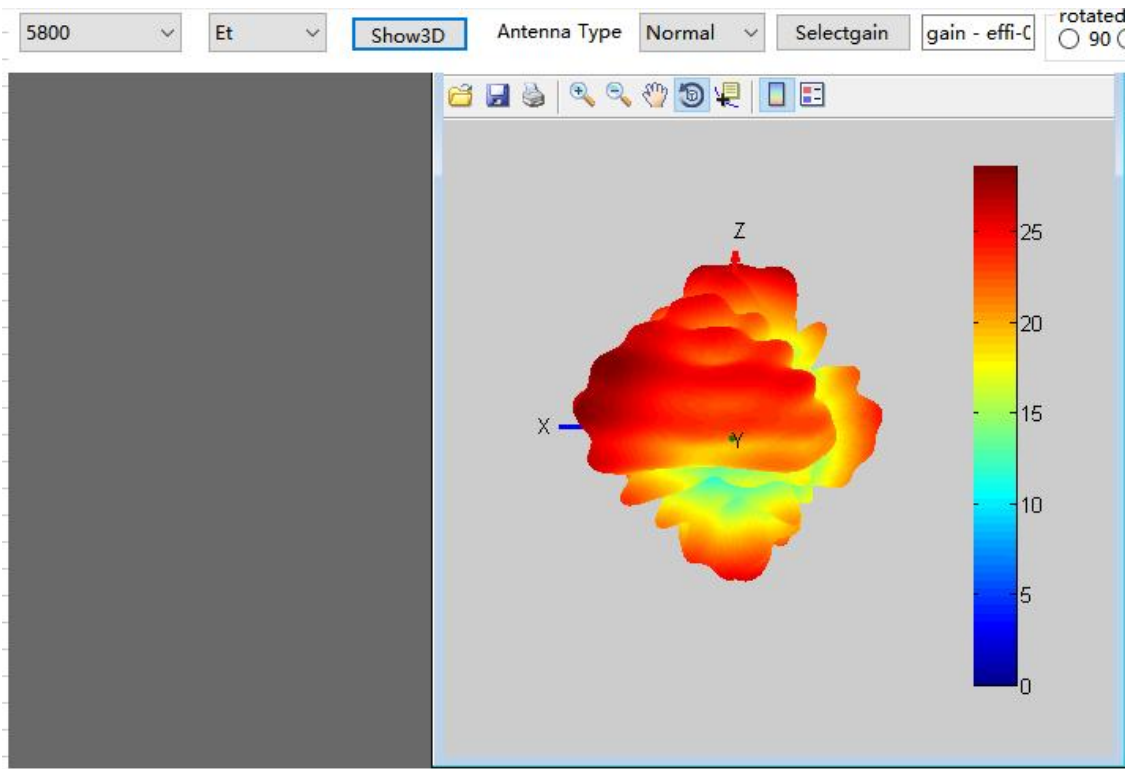
H Theta=90 freq=2500MHz H Theta=0 freq=2500MHz











4. 最大增益 Maximum gain

结合以上章节的数据统计，有关天线最大增益如下：

Combined with the data from the previous sections, the maximum gain of the antenna is as follows:

天线增益(Antenna gain)

Standard	Band	Frequency	Gain(dbi)
FDD_LTE	FDD_B2	1855	0.87
FDD_LTE	FDD_B4	1715	0.56
FDD_LTE	FDD_B5	829	-1.12
FDD_LTE	FDD_B12	704	-1.98
FDD_LTE	FDD_B17	709	-1.98
FDD_LTE	FDD B66	1775	0.56
FDD_LTE	FDD B71	680	-2.31
WCDMA	WCDMA_B2	1852.4	0.87
WCDMA	WCDMA_B4	1715	0.57
WCDMA	WCDMA_B5	826.4	-1.13
GSM	GSM850	824.2	-1.13
GSM	GSM900	890.2	-1.69
GSM	PCS1900	1850.2	0.87
GSM	DCS1800	1710.2	0.56
5GWIFI		5800	1.42
2.4GWIFI		2412	0.54
GPS		1575	1.53
BT		2400	0.55
FDD_LTE	LTE B41	2540	0.53

结束 END

