

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:

携手共进 共创未来

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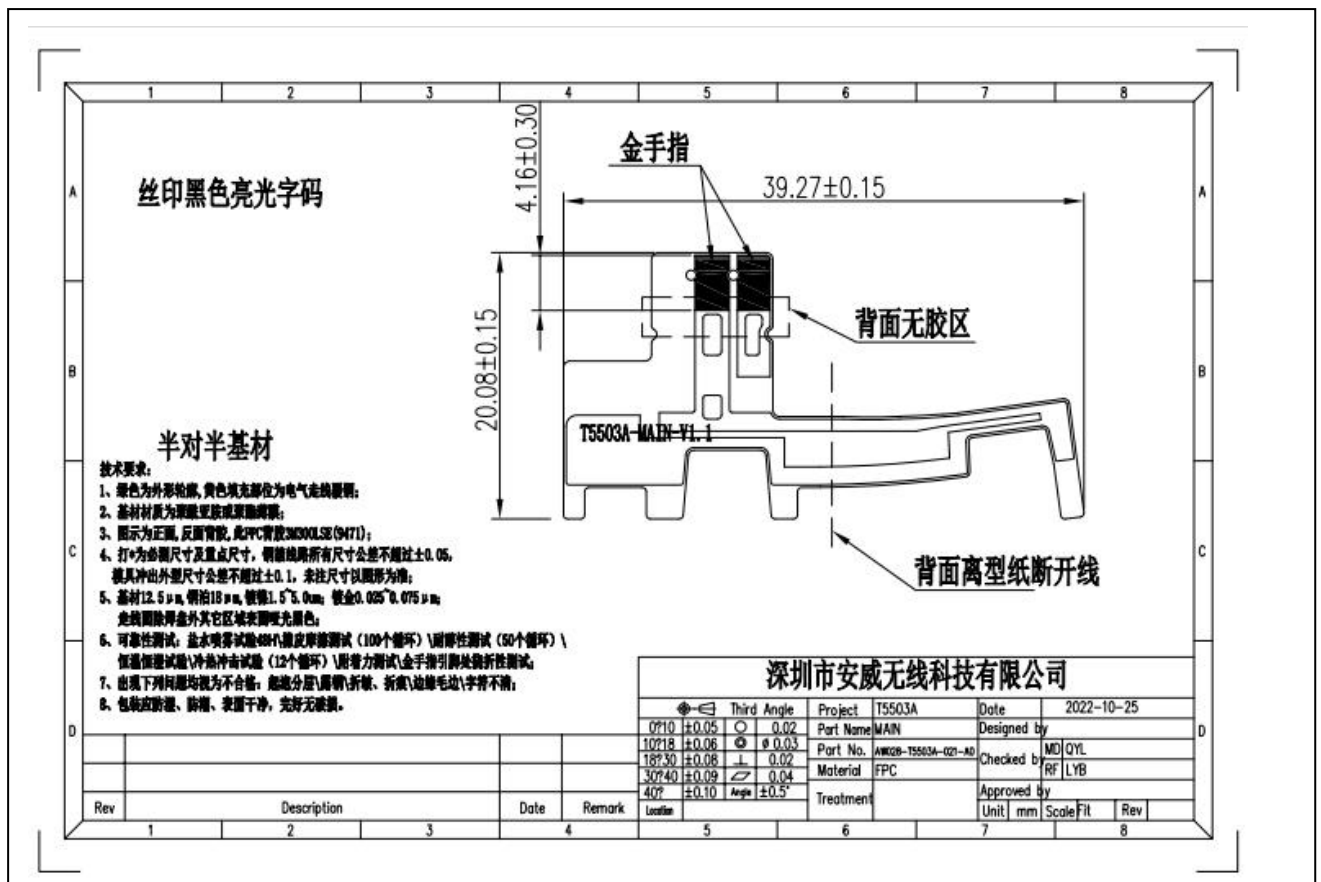
1、Product specifications 产品规格

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）

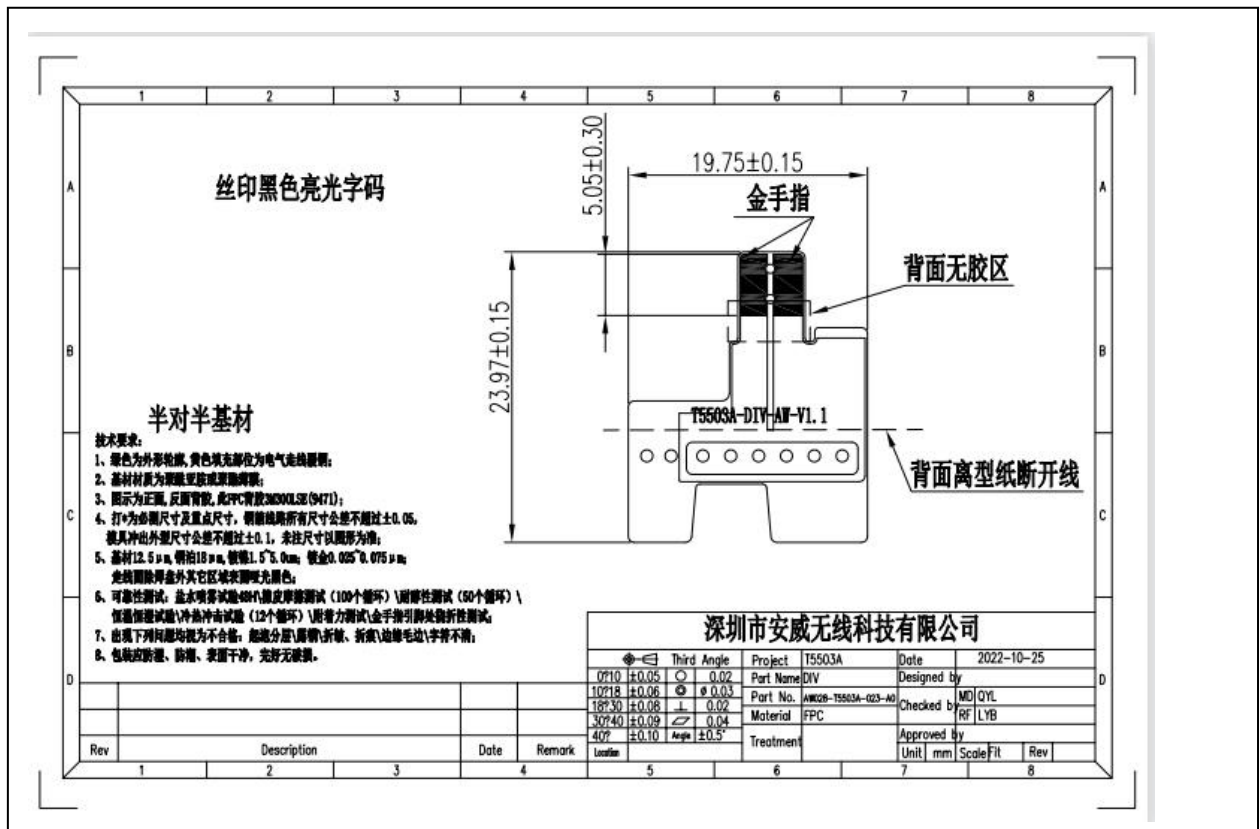
The report mainly provides the parameter test of RT2 Cellular mobile antenna performance. The T5503D antenna is a 4G&3G&2G antenna. (see Figure 1 below)

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

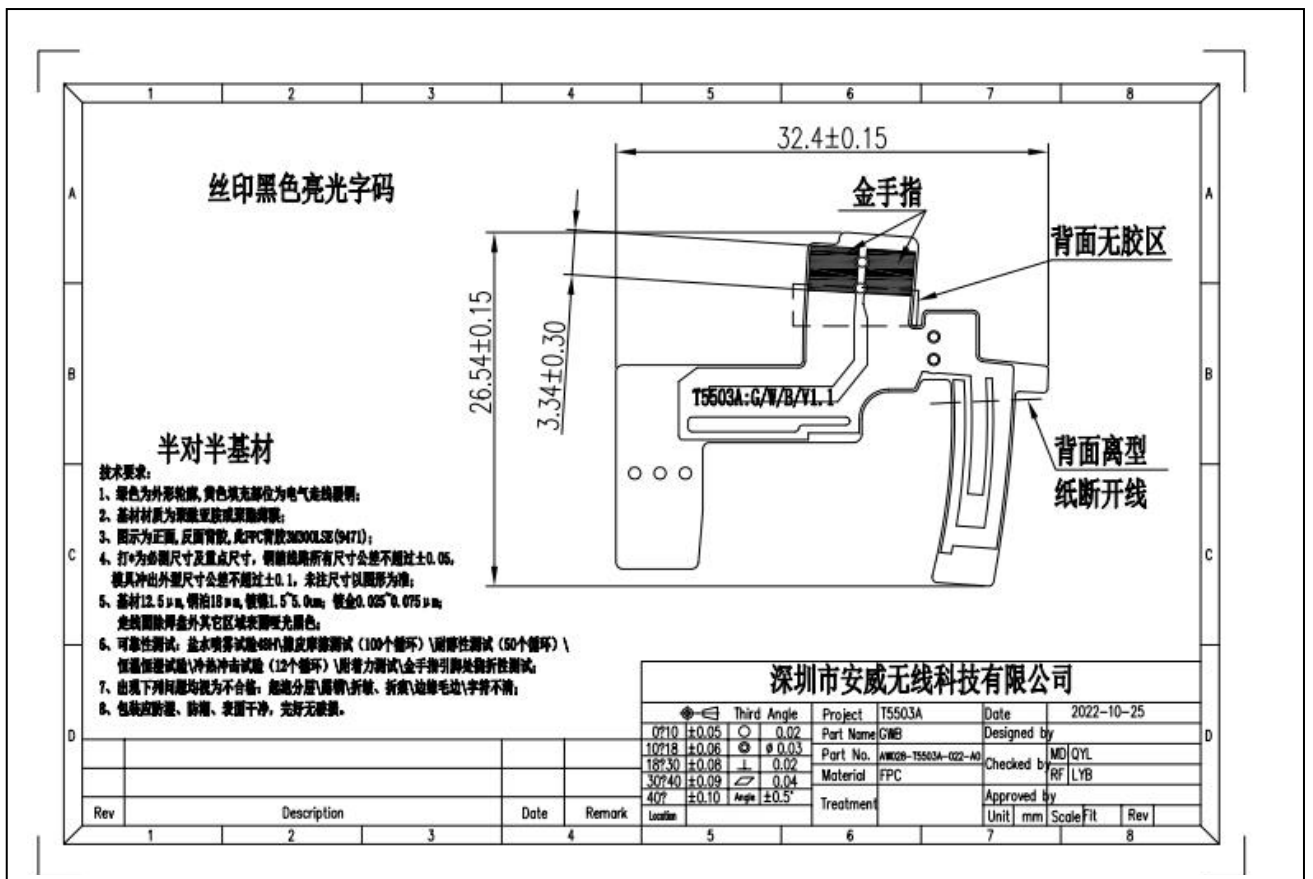


4G Frequency band: band 2 、 band 4 、 band 5 、 band 7 、 band 12 、 band 17、 band 41,band 66 band71
 WCDMA: BAND II、BAND IV、BAND V,
 GSM850/900/1800/1900

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

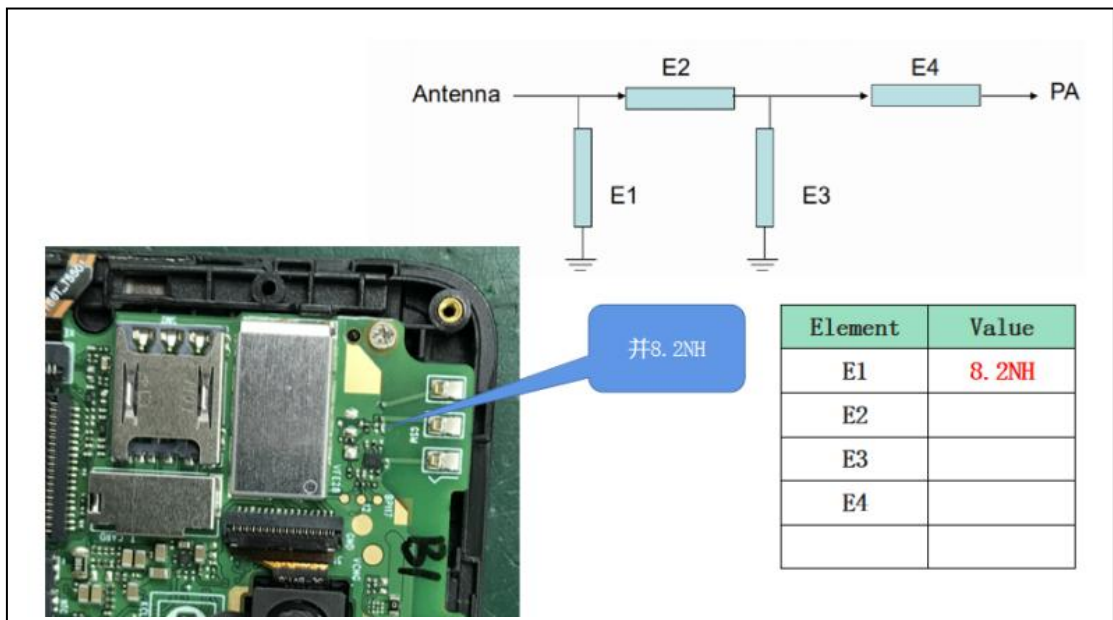
2. 电器性能 Electrical performance

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:

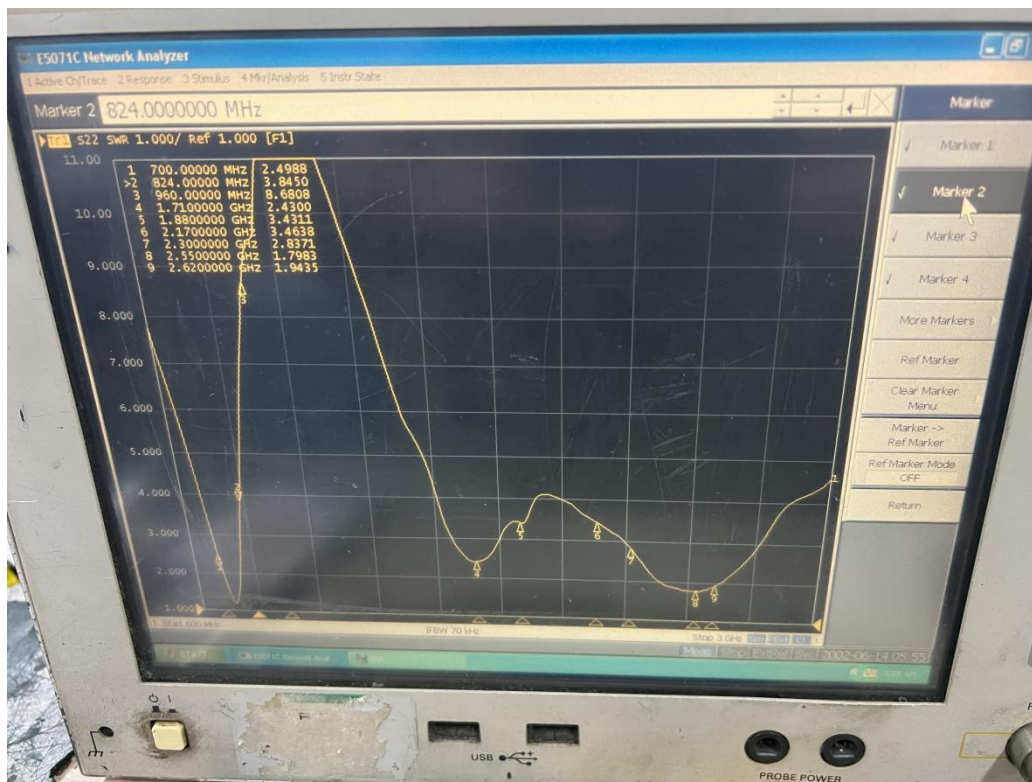
band 2(1850-1910MHz、1930-1990MHz) ,

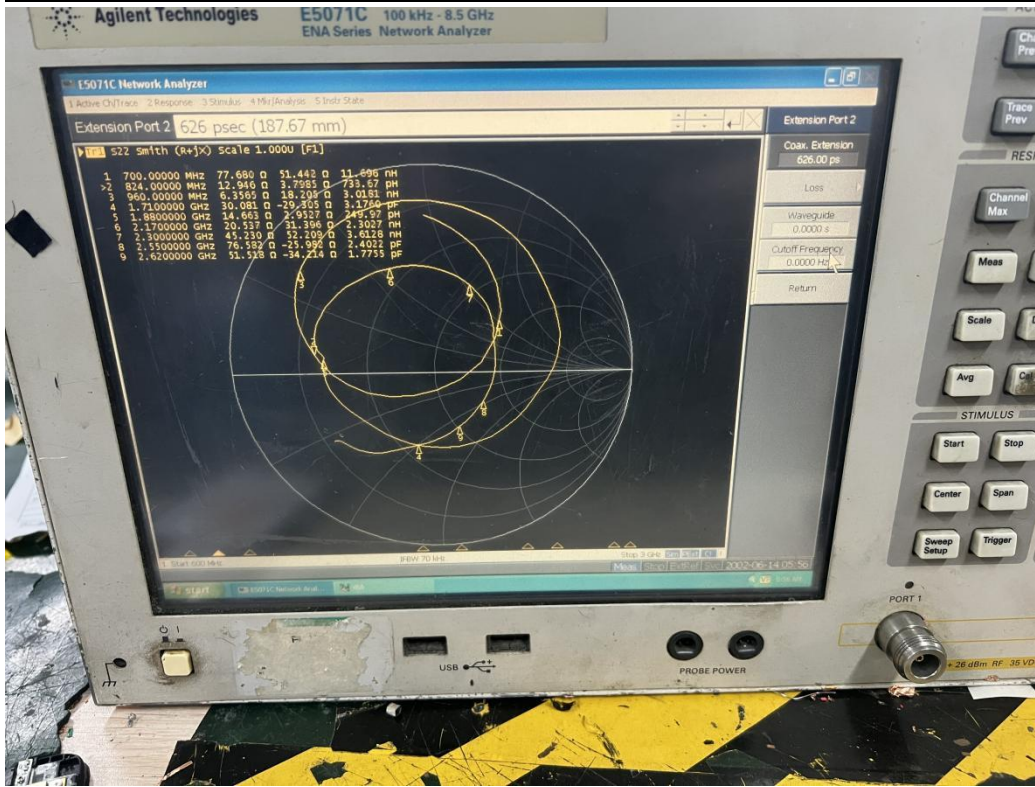
band 4(1710-1755MHz, 2110-2155MHz) ,

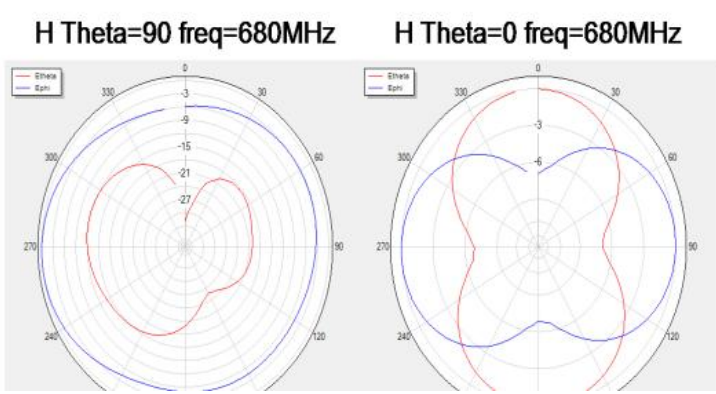
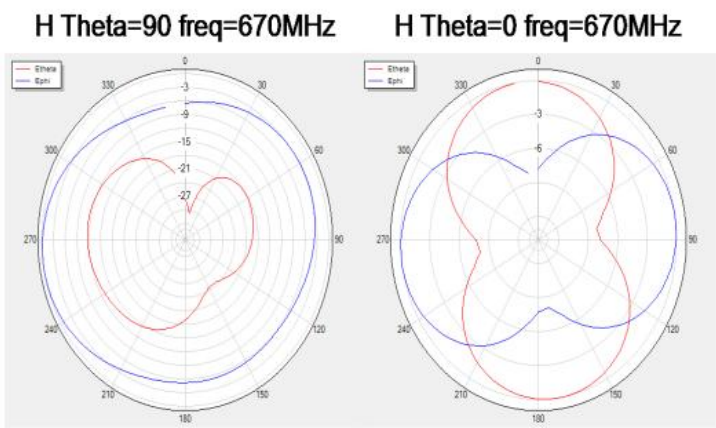
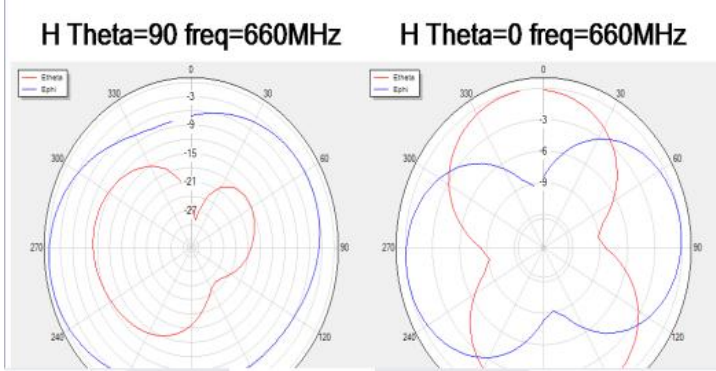
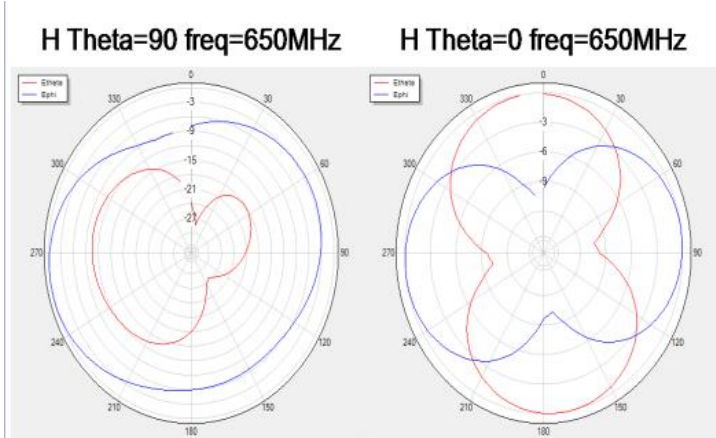
- band5(824-849MHz,869-894MHz),
- band7(2500-2570MHz, 2620-2690MHz),
- band 12(699-716MHz, 729-746MHz),
- band 17(704-716MHz、 734-746MHz),
- band 41(2535-2655MHz、 2535-2655MHz)
- band 66(1710-1780MHz, 2110-2200MHz)
- Band 71 (647-693MHz)

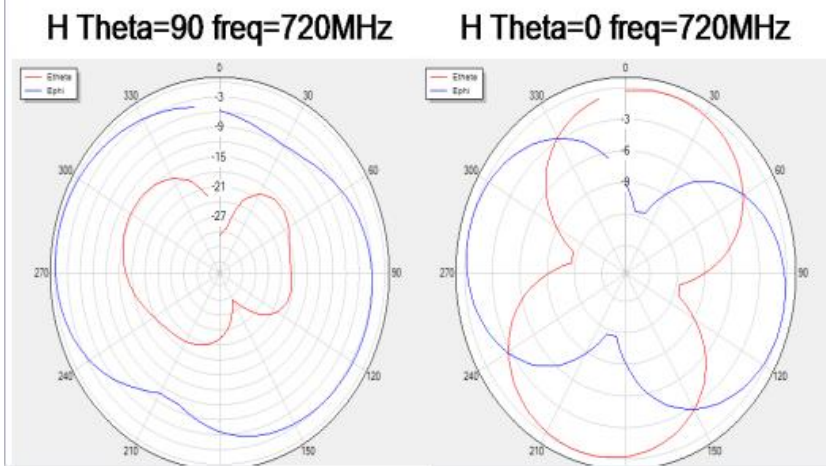
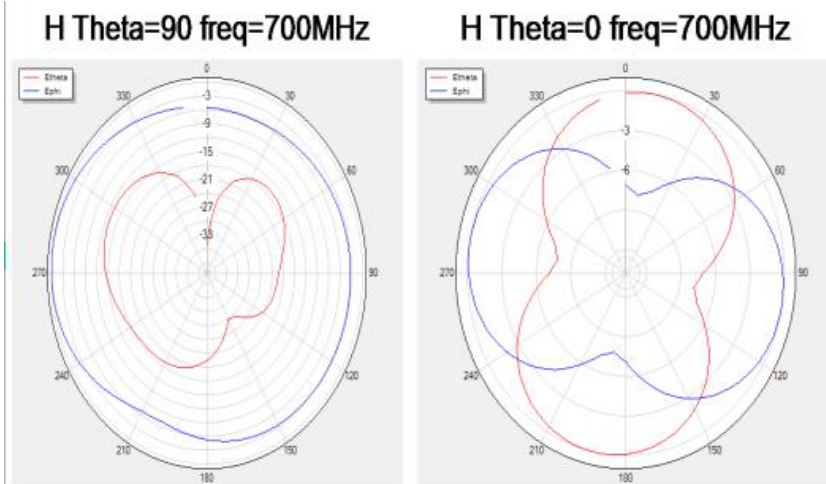
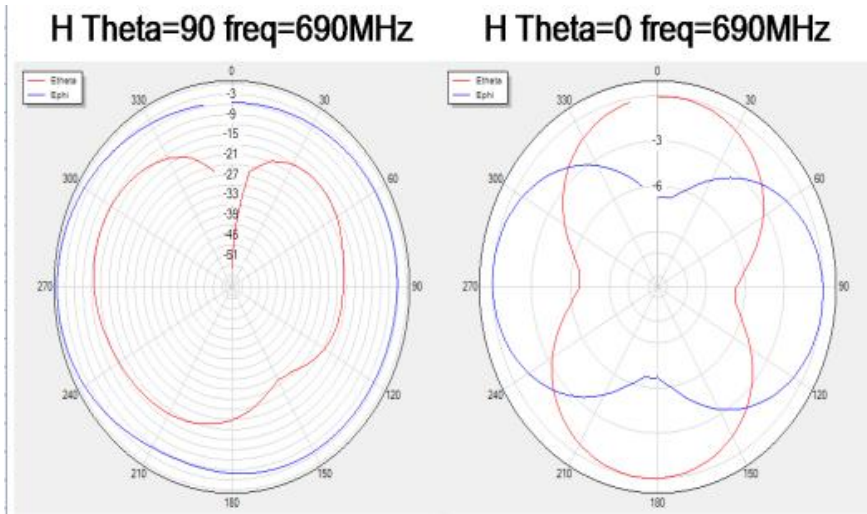
WCDMA: BAND II (1852.4-1907.6MHz) 、 BAND IV(1712.4-1752.6MHz)、 BAND V(826.4-846.6MHz),

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

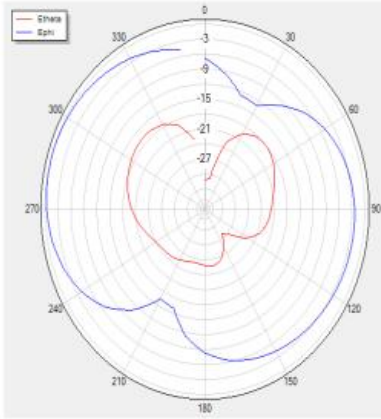




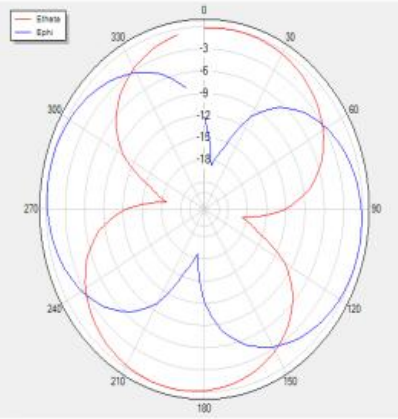




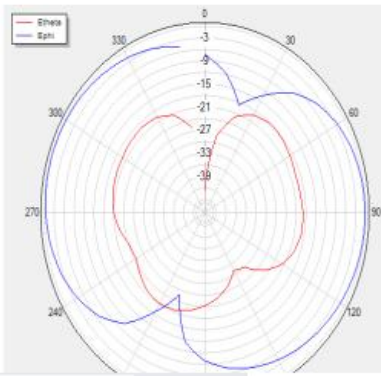
H Theta=90 freq=740MHz



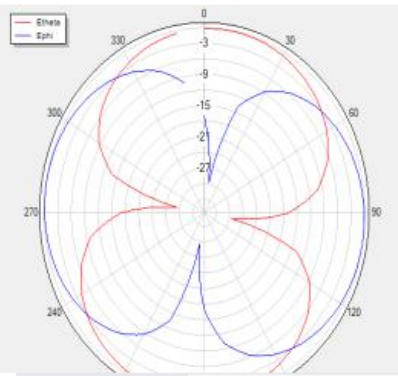
H Theta=0 freq=740MHz



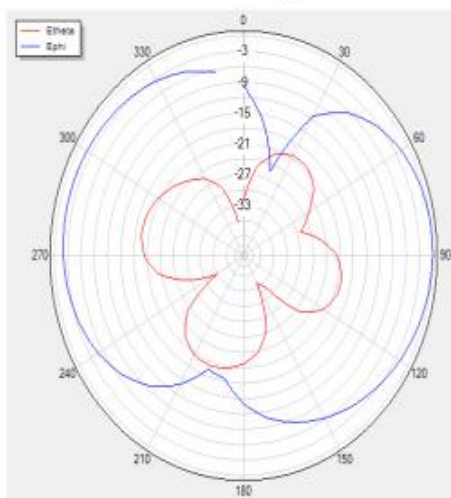
H Theta=90 freq=760MHz



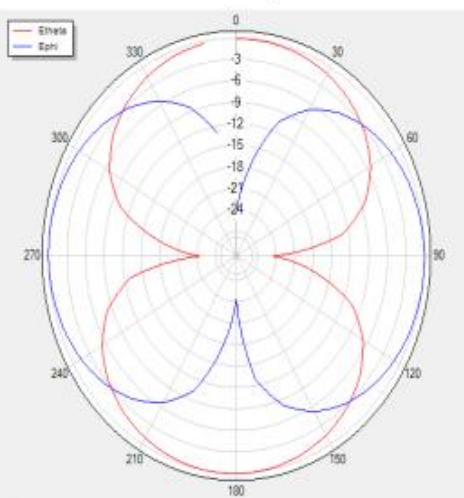
H Theta=0 freq=760MHz



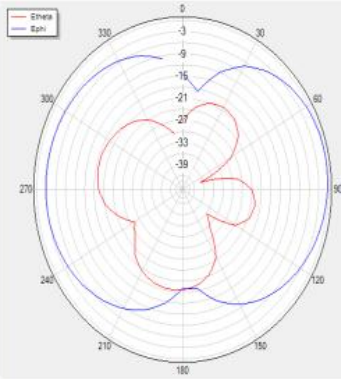
H Theta=90 freq=780MHz



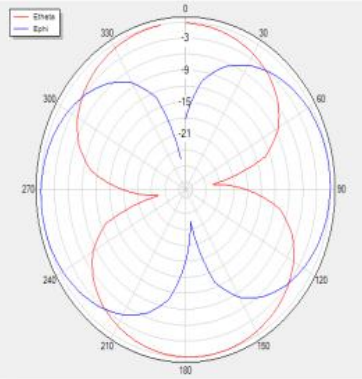
H Theta=0 freq=780MHz



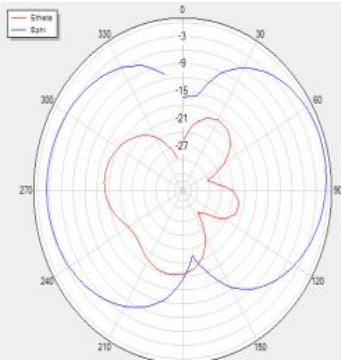
H Theta=90 freq=820MHz



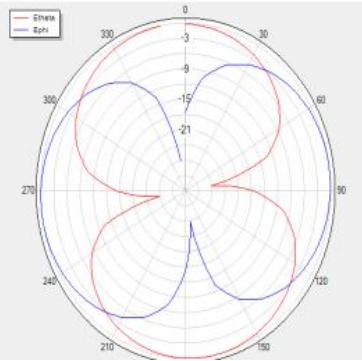
H Theta=0 freq=820MHz



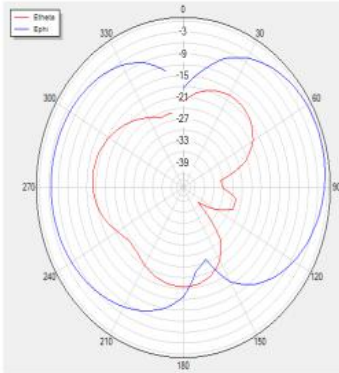
H Theta=90 freq=840MHz



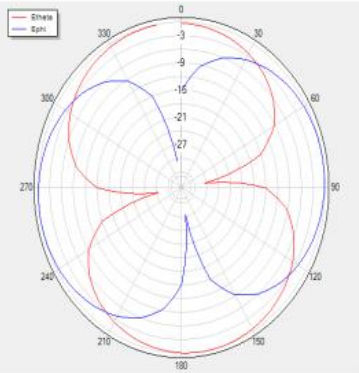
H Theta=0 freq=840MHz



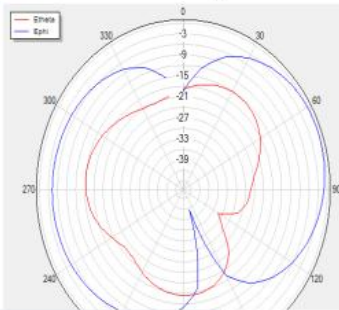
H Theta=90 freq=860MHz



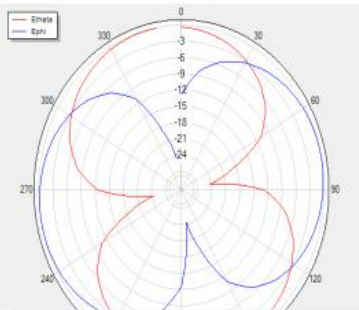
H Theta=0 freq=860MHz



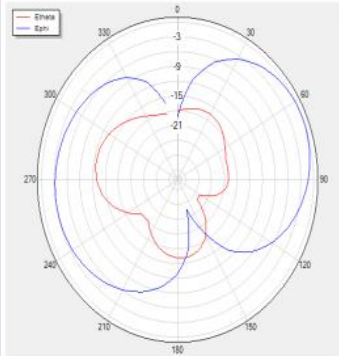
H Theta=90 freq=880MHz



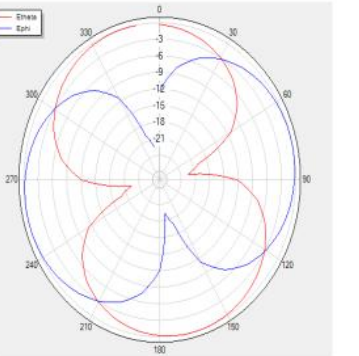
H Theta=0 freq=880MHz



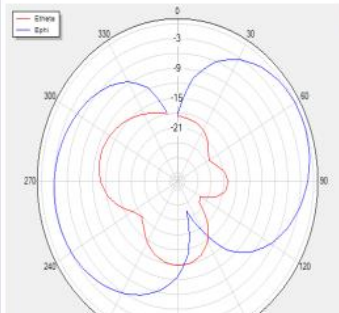
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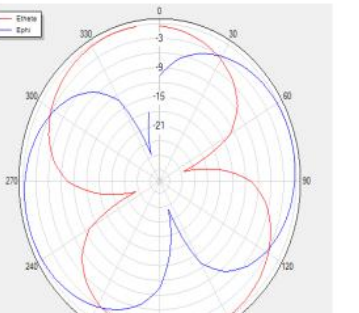
H Theta=0 freq=900MHz



H Theta=90 freq=920MHz

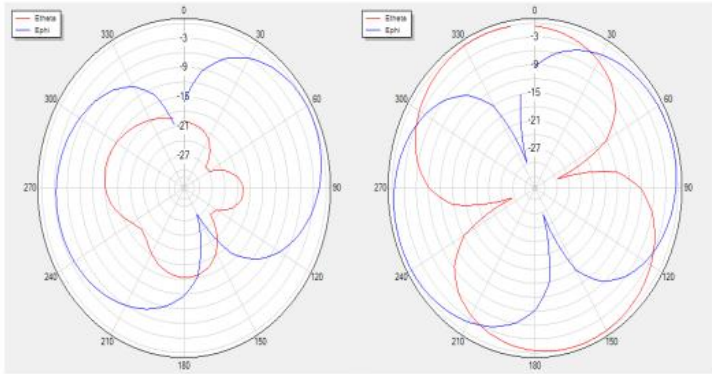


H Theta=0 freq=920MHz



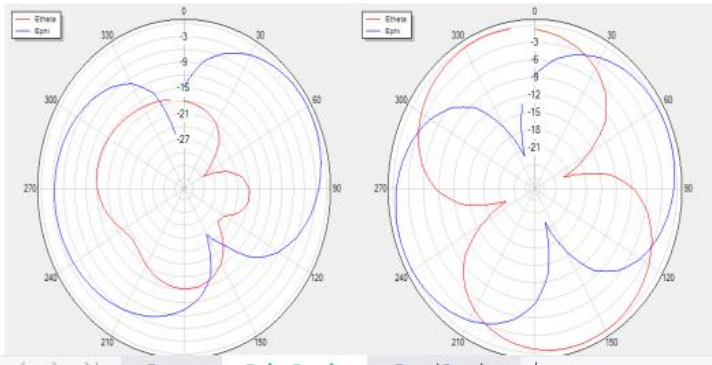
H Theta=90 freq=940MHz

H Theta=0 freq=940MHz

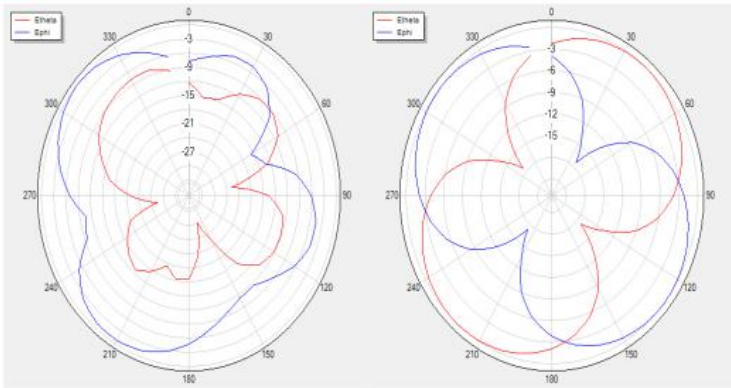


H Theta=90 freq=960MHz

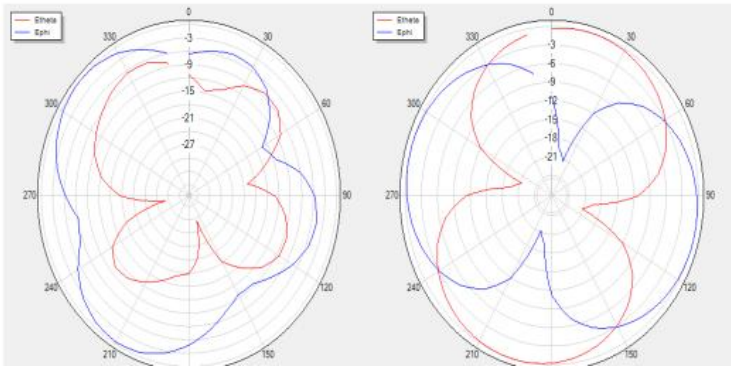
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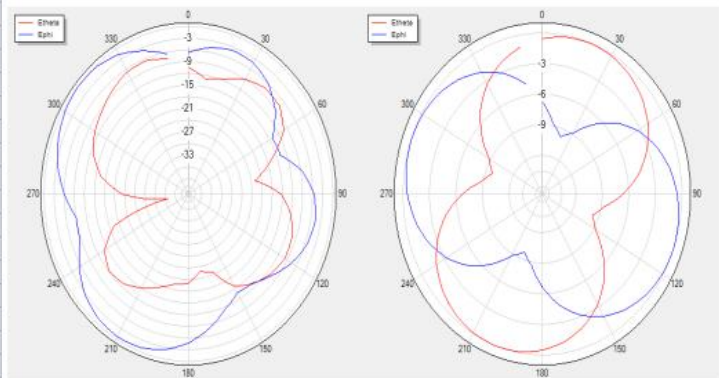
H Theta=90 freq=1720MHz H Theta=0 freq=1720MHz



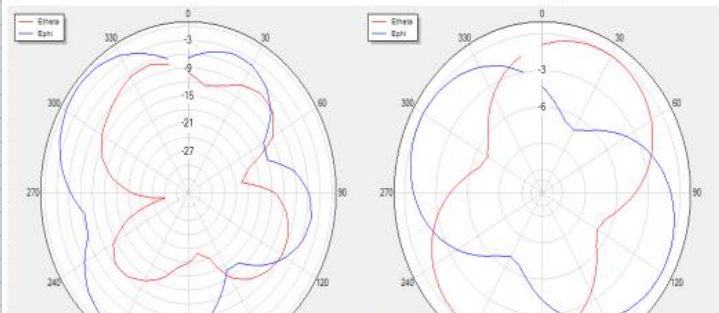
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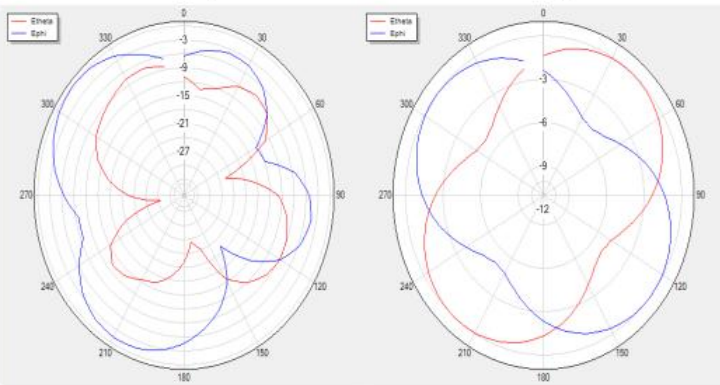
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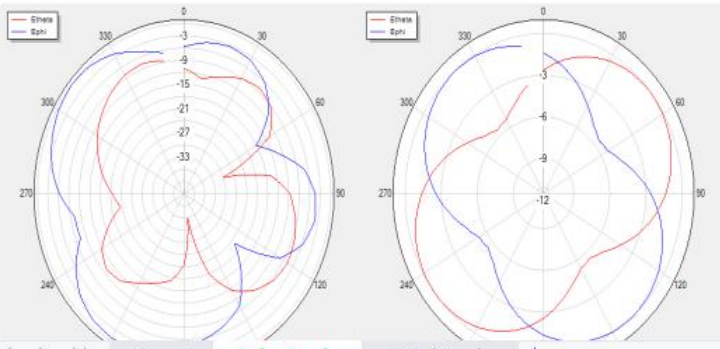
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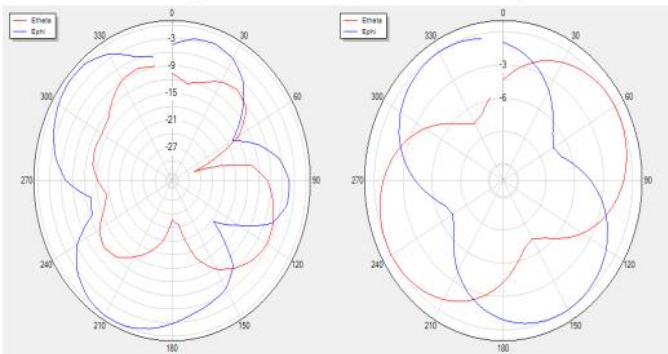
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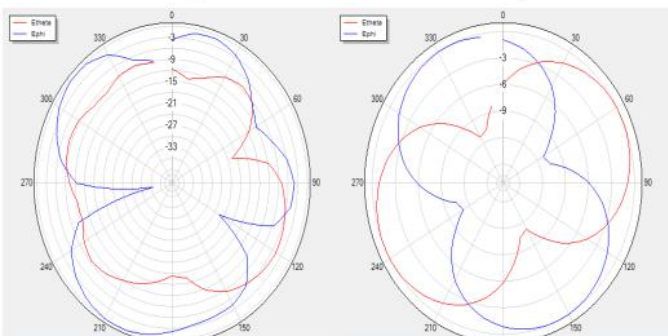
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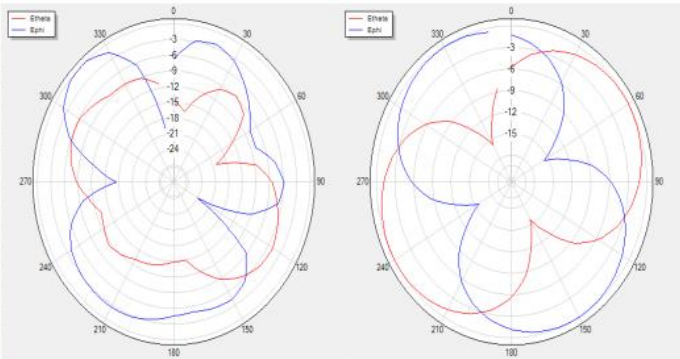
H Theta=90 freq=1840MHz H Theta=0 freq=1840MHz



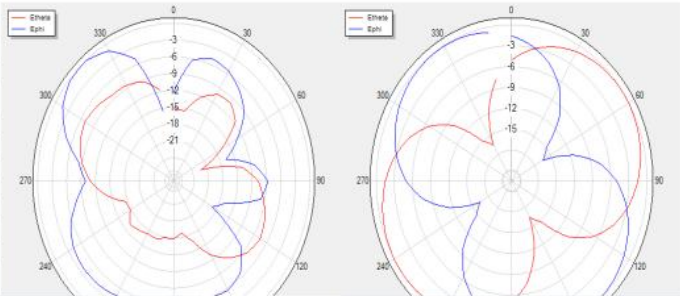
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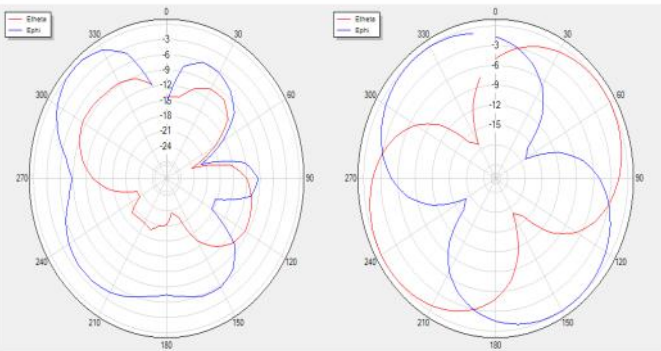
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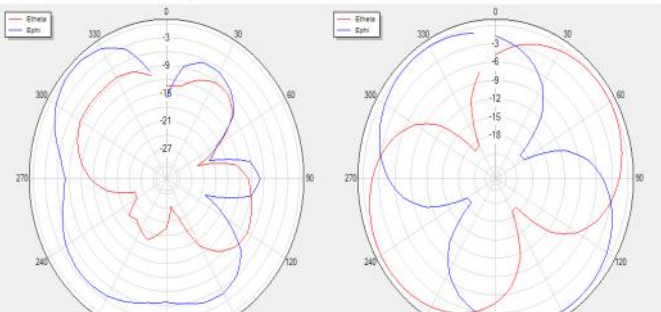
H Theta=90 freq=1900MHz H Theta=0 freq=1900MHz

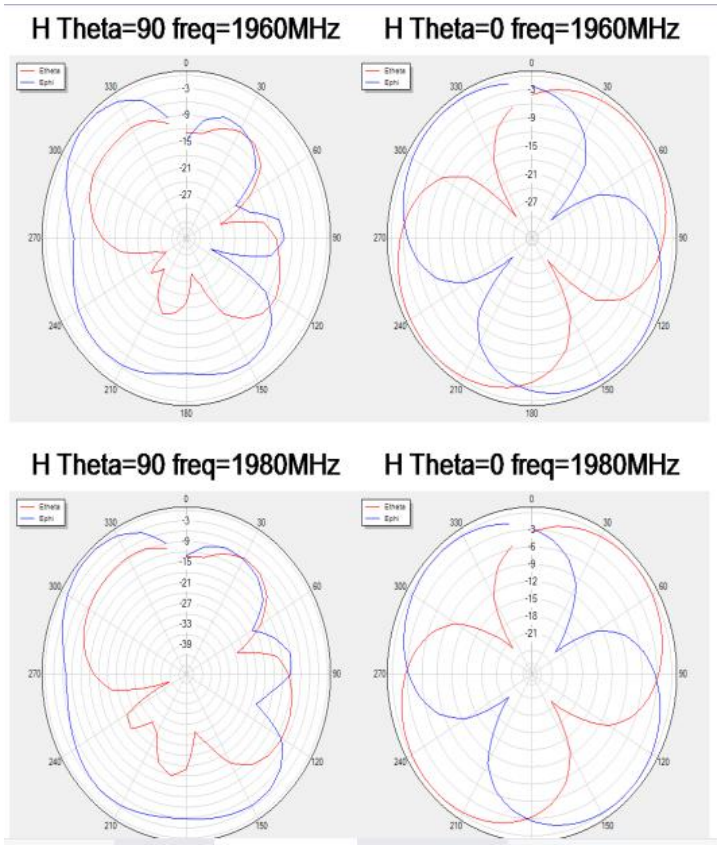


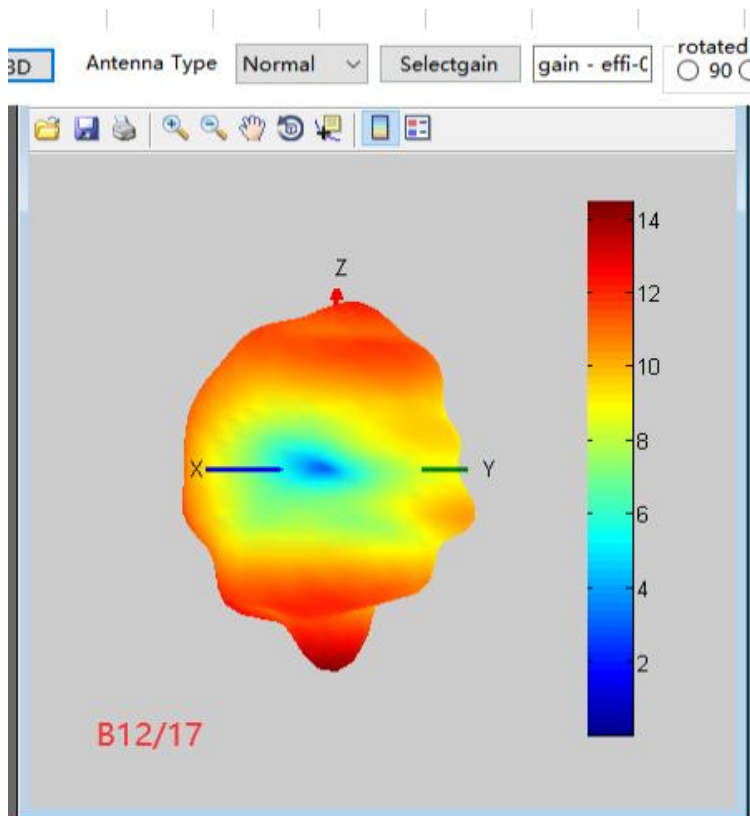
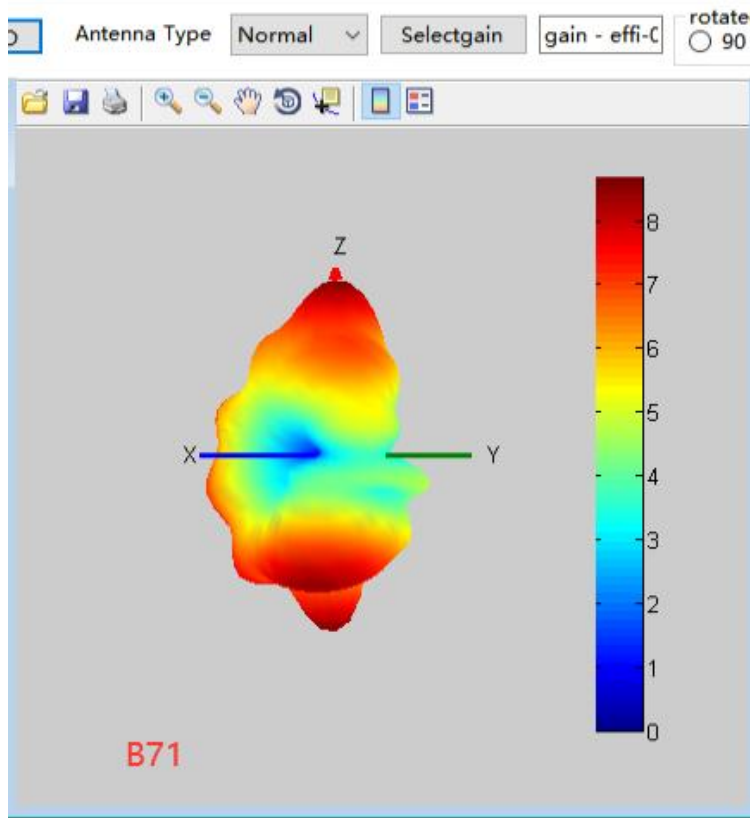
H Theta=90 freq=1920MHz H Theta=0 freq=1920MHz

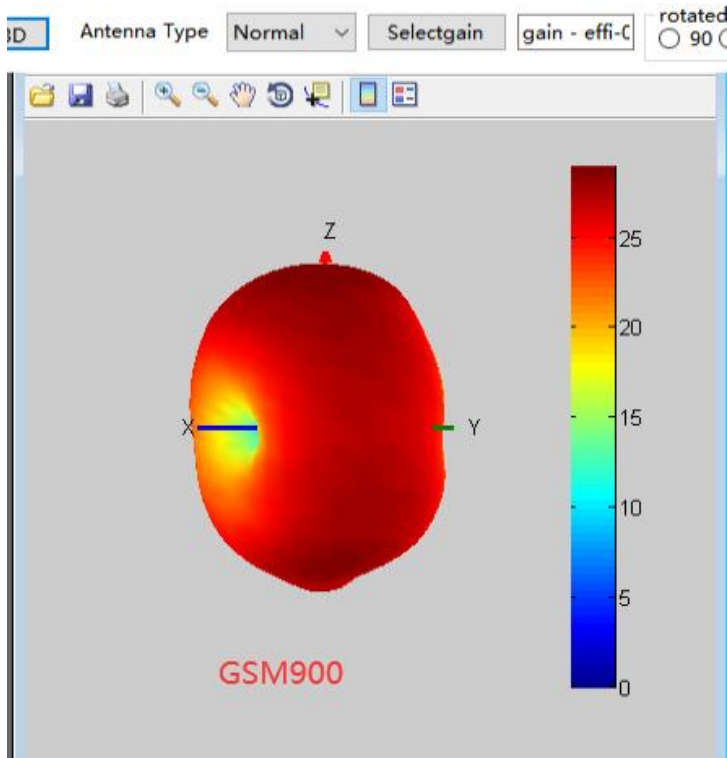
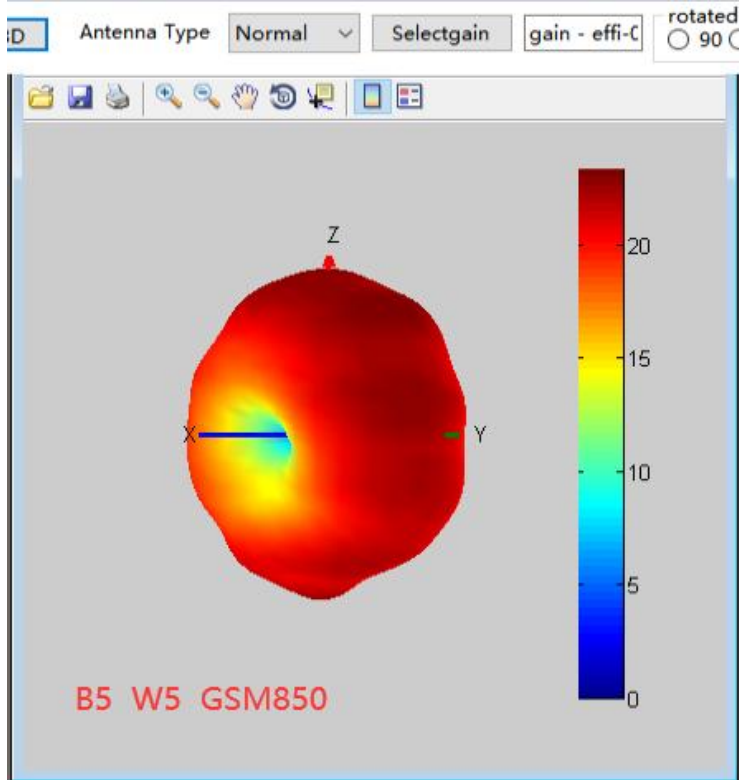


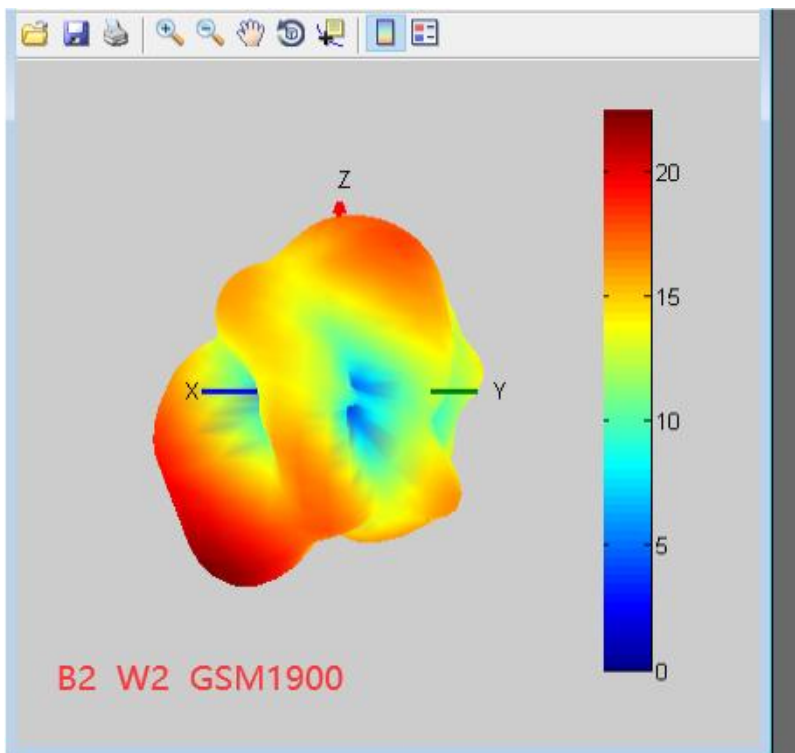
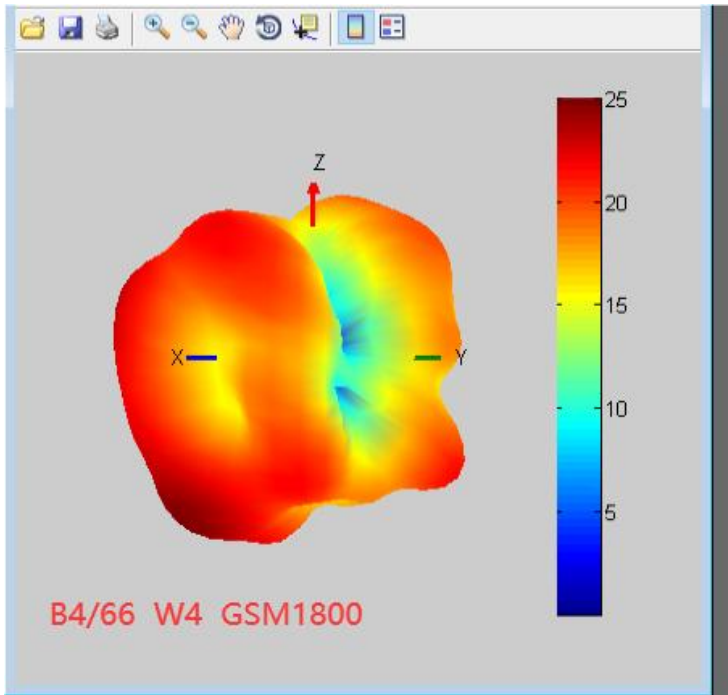
H Theta=90 freq=1940MHz H Theta=0 freq=1940MHz







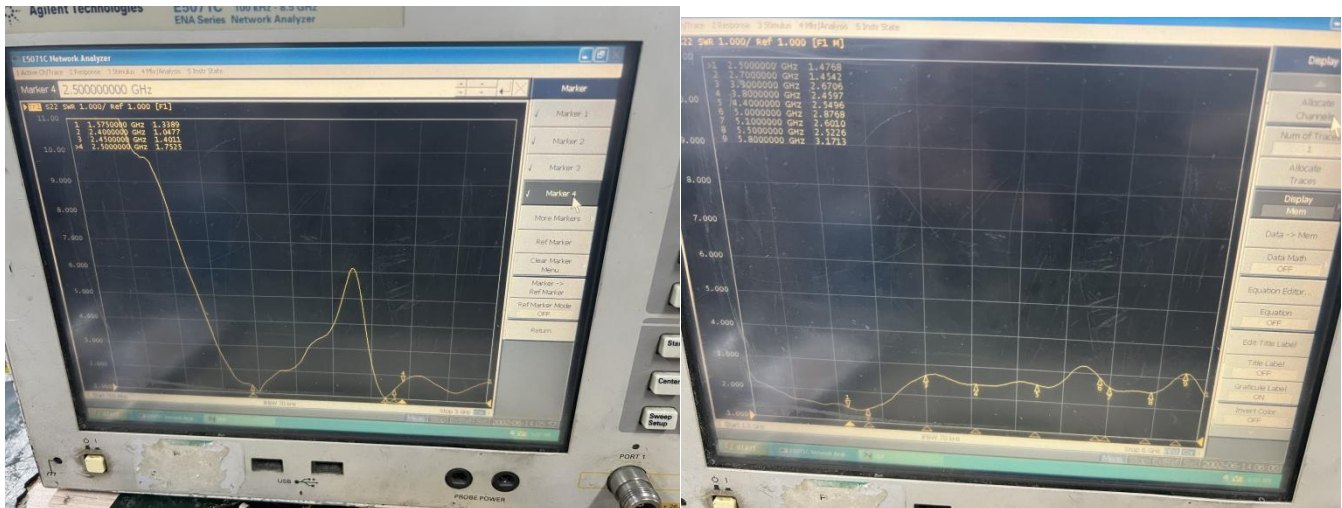


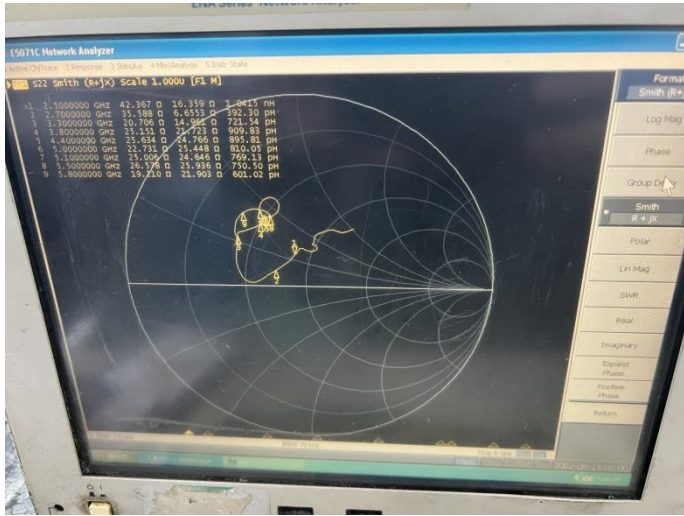


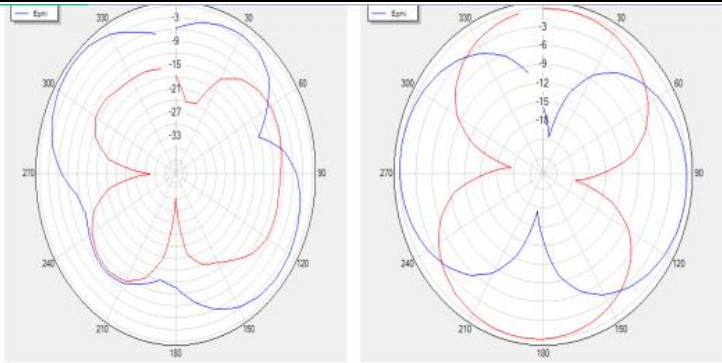
3.4 射频天线参数 Radio frequency Parameter

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

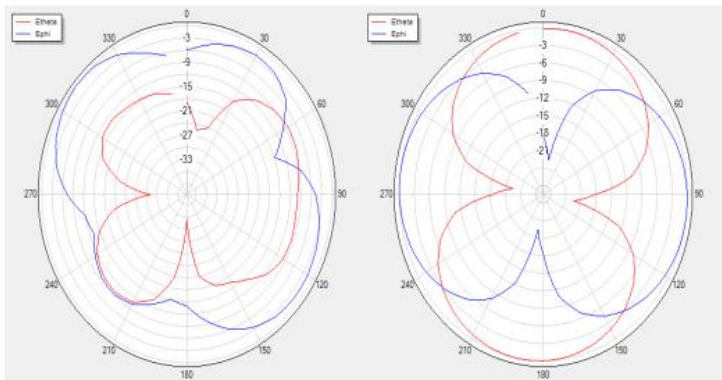
GPS: 1560~1580MHZ, BT&2.4WIFI: 2400~2500MHZ, 5G WIFI: 5180~5825MHZ



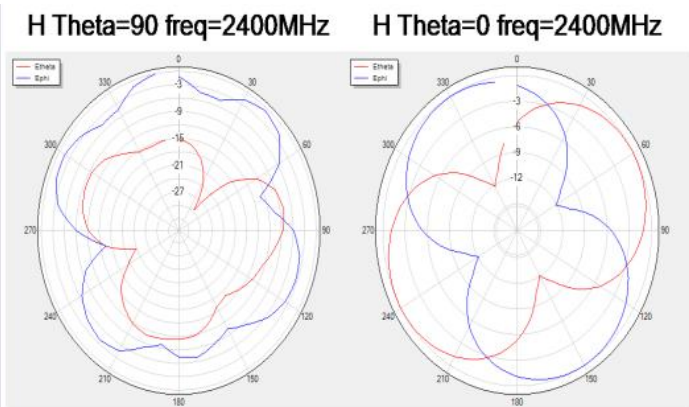




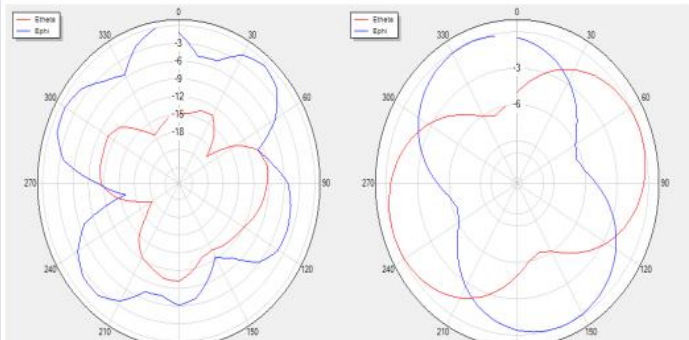
H Theta=90 freq=1575MHz H Theta=0 freq=1575MHz



H Theta=90 freq=1580MHz H Theta=0 freq=1580MHz

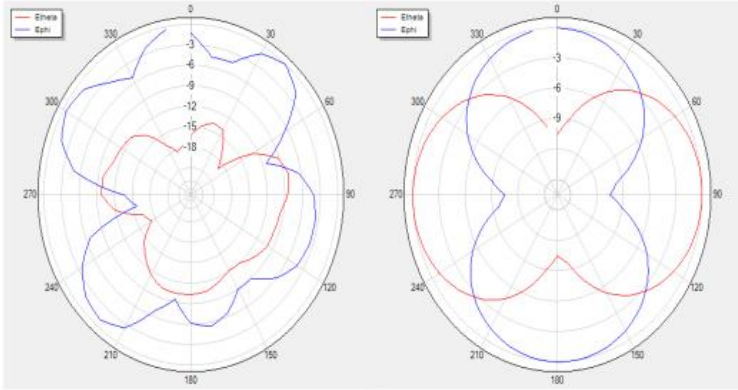


H Theta=90 freq=2400MHz H Theta=0 freq=2400MHz

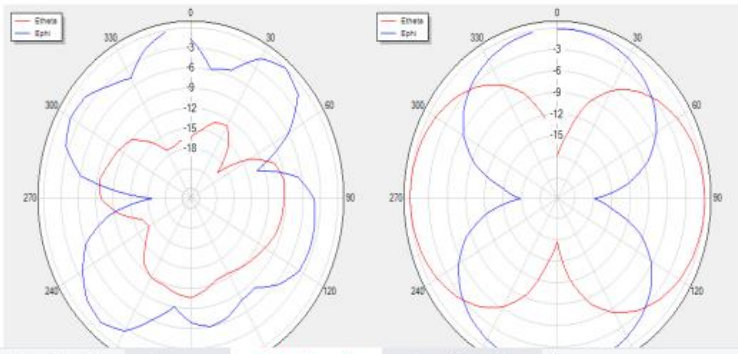


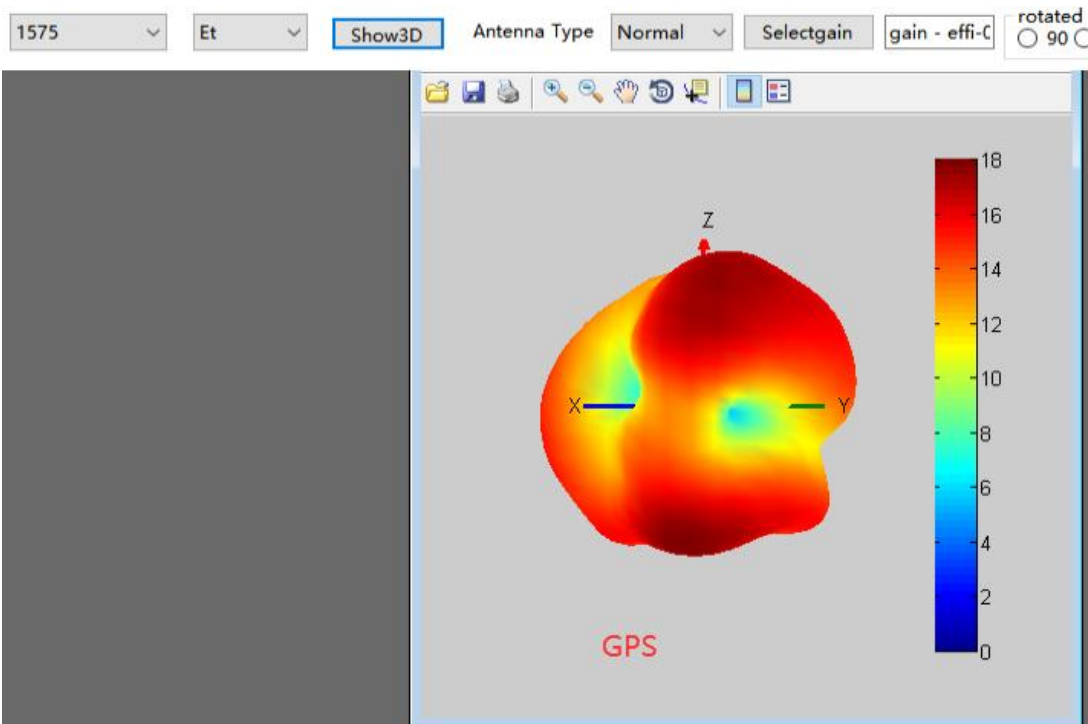
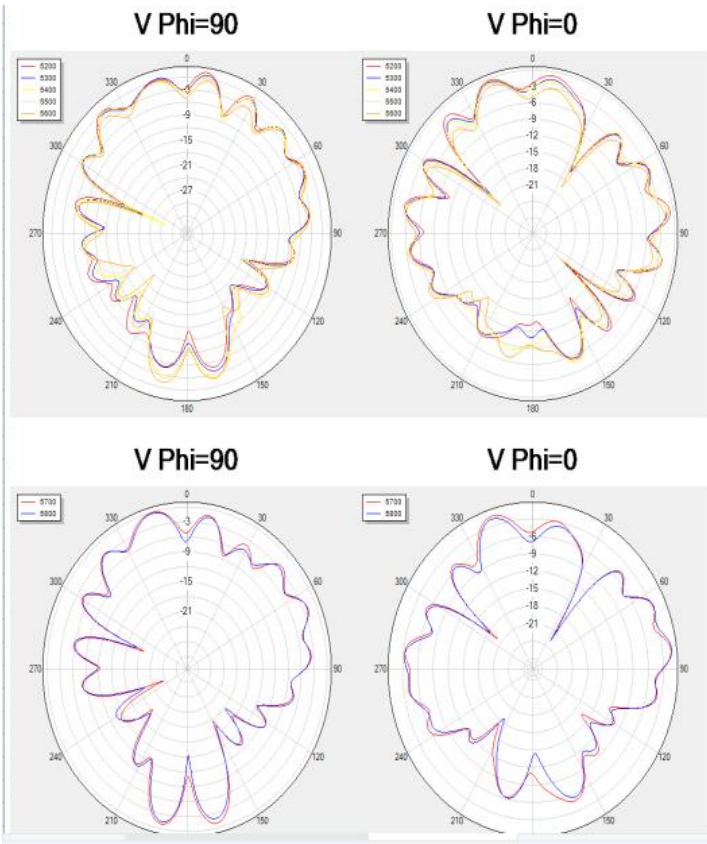
H Theta=90 freq=2450MHz H Theta=0 freq=2450MHz

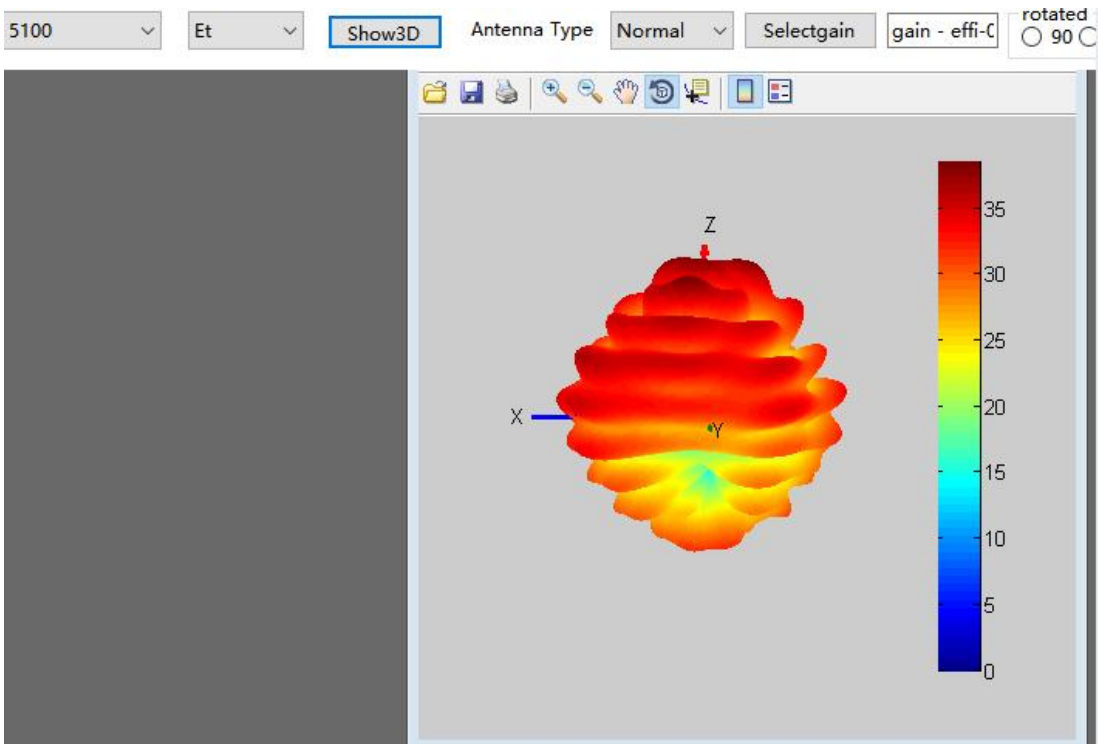
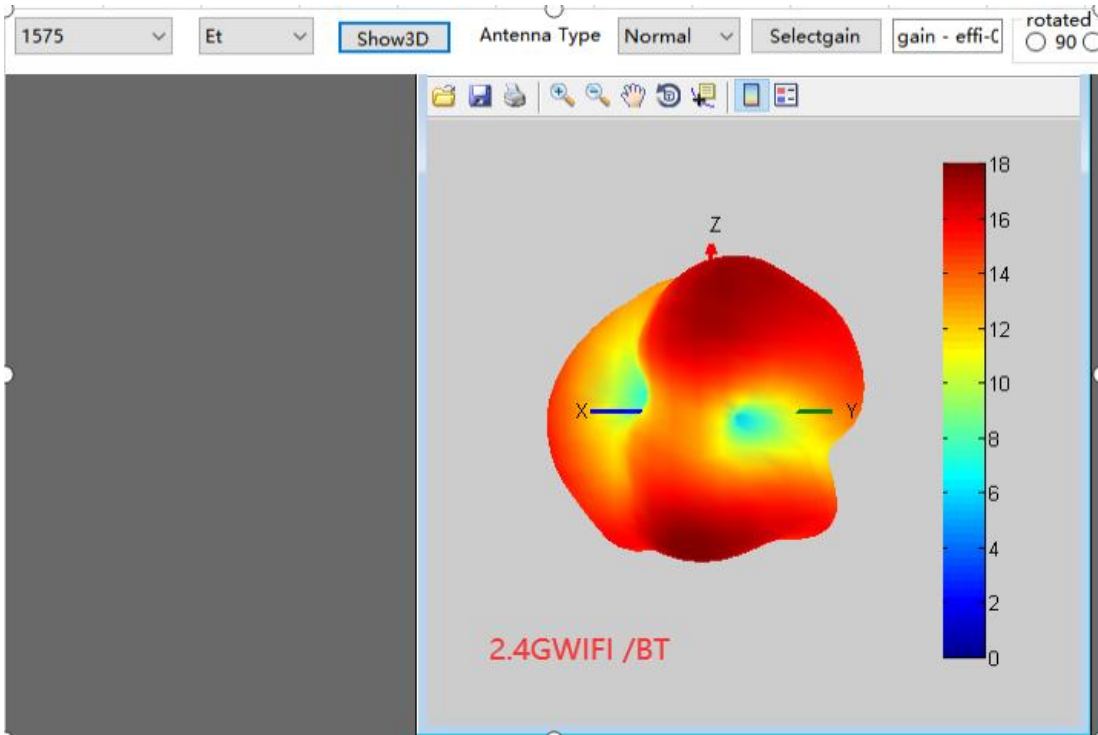
H Theta=90 freq=2480MHz H Theta=0 freq=2480MHz

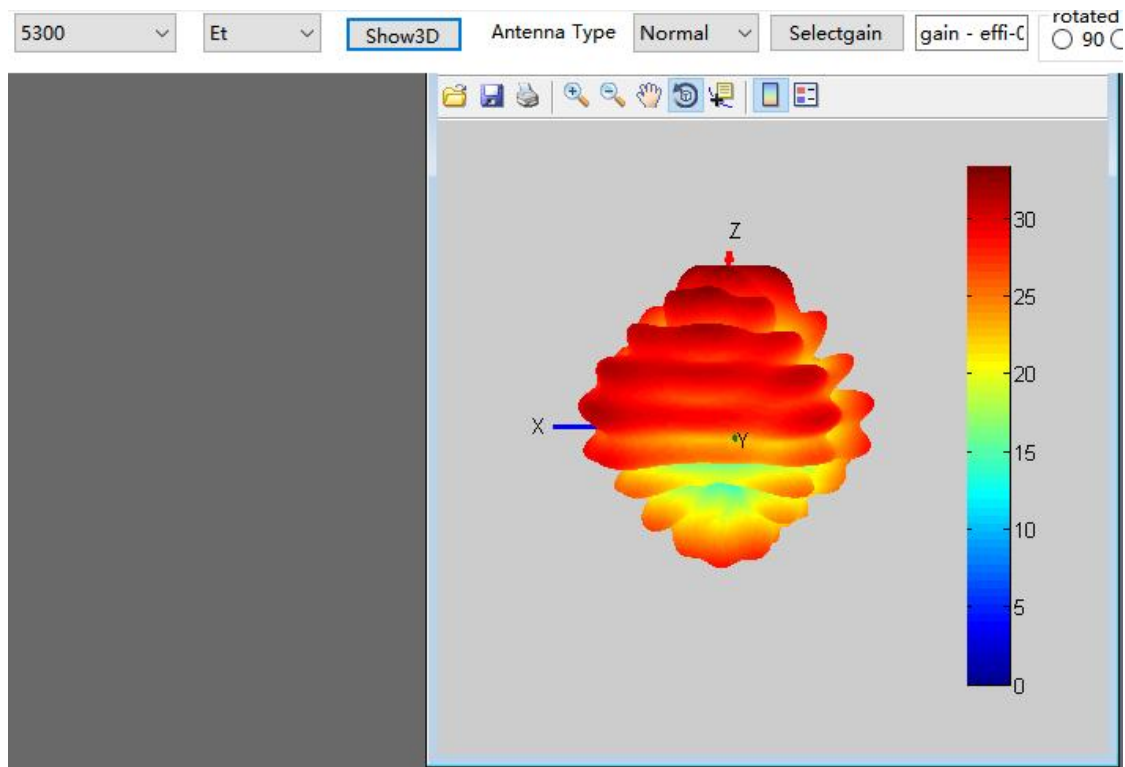


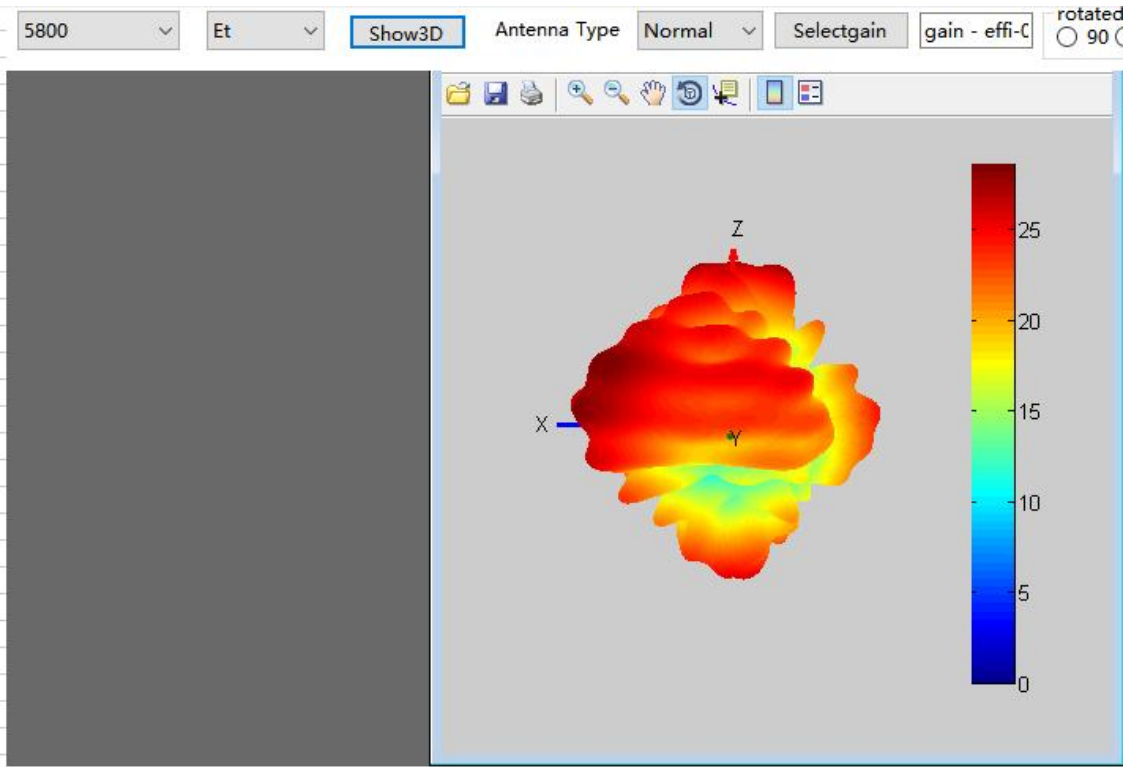
H Theta=90 freq=2500MHz H Theta=0 freq=2500MHz











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:

GSM 850:-1.5dBi
PCS 1900:0.4dBi
WCDMA B5:-1.5dBi
WCDMA B2:0.5dBi
WCDMA B4:-0.2dBi
LTE B2:0.5dBi
LTE B4:-0.2dBi
LTE B5:-1.5dBi
LTE B12:0.8dBi
LTE B17:0.9dBi
LTE B41:1.82dBi
LTE 66:-0.4dBi
LTE B77:-1.96dBi
WIFI:1.73dBi
BT:1.73dBi

结束 END

