

# KESHARE ELCTRON LTD

## SAMPLE SPECIFICATION

(Revision: R: A1)

|  |                |                           |         |
|--|----------------|---------------------------|---------|
|  | CUSTOMER(客户名称) |                           |         |
|  | CS P/N(客户机种)   | HQ252-COPPER PIPE ANTENNA |         |
|  | PART NAME(品名)  | WIFI ANTENNA              | L=252MM |
|  | FREQUENCY(频率)  | 2.4G~2.5G/5G~5.8G         |         |
|  | NO.(物料编号)      |                           |         |
|  | DATE(日期)       | 2020-4-14                 |         |



| CUSTOMER      |               |               |                    |
|---------------|---------------|---------------|--------------------|
| QA<br>CHECKED | ME<br>CHECKED | RF<br>CHECKED | MANAGER<br>CHECKED |
|               |               |               |                    |

Remark(备注):

Sign(客户确认签字盖章): \_\_\_\_\_

| MANAGER<br>CHECKED | MANAGER<br>CHECKED | ME<br>CHECKED | RF<br>CHECKED | LISTER |
|--------------------|--------------------|---------------|---------------|--------|
|                    |                    | 吴宇            | 钟志            |        |

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# Revision history

| VERSION | DATE       | STATE            |
|---------|------------|------------------|
| A1      | 2020-04-14 | A1 SPECIFICATION |
|         |            |                  |
|         |            |                  |
|         |            |                  |

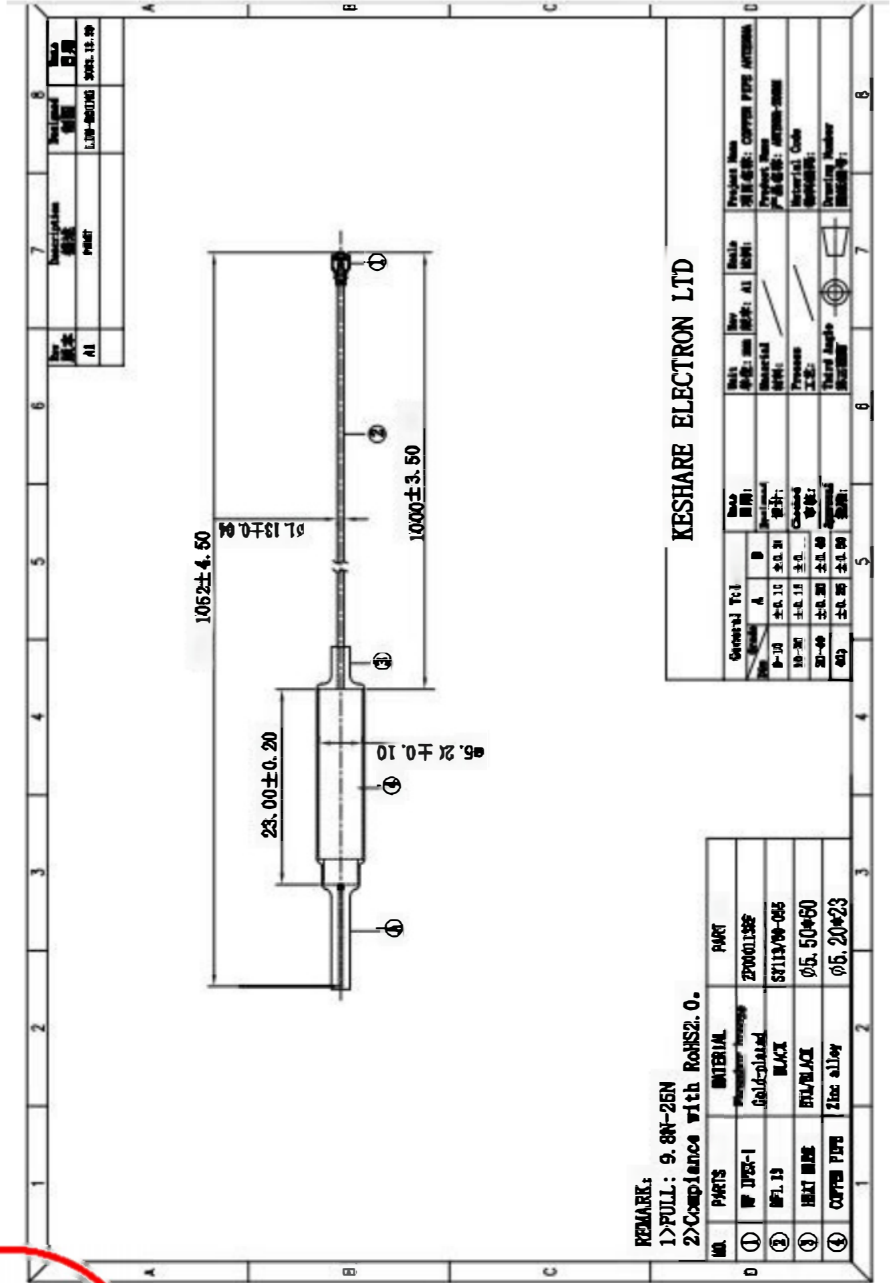


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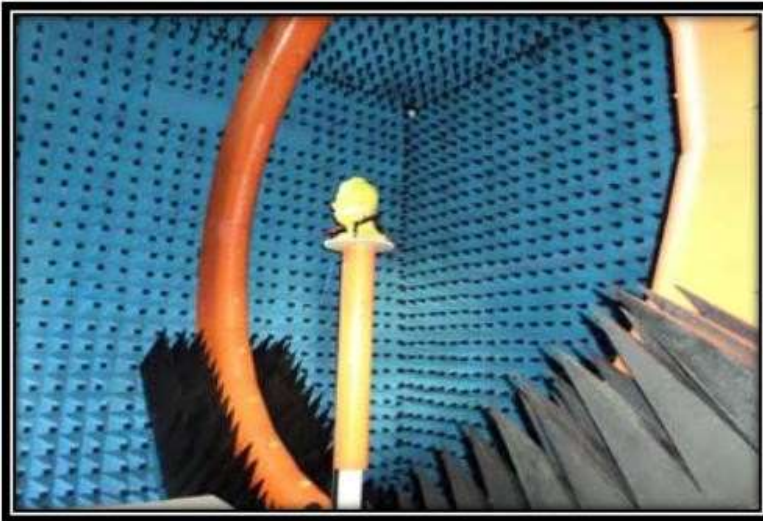
### 1-1 Mechanical Configuration(天线组件)



## 2. Test equipment

| Equipment list | Equipment                        | Manufacturer | Model  | SN         | Last Cal.  | Due date   |
|----------------|----------------------------------|--------------|--------|------------|------------|------------|
|                | network analyzer                 | Keysight     | E6071C | MY47002902 | 2020.02.25 | 2021.02.24 |
|                | OTA certification testing system | SATIMO       | SG24   | /          | 2020.02.25 | 2021.02.24 |

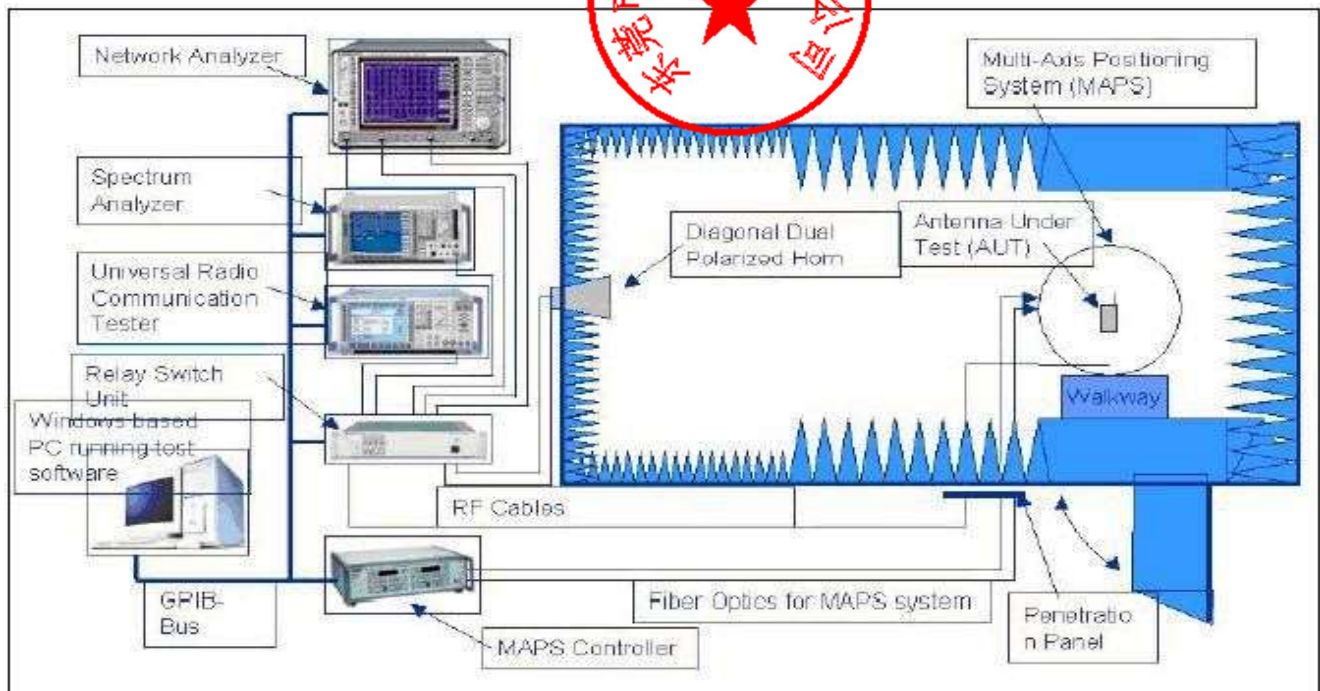
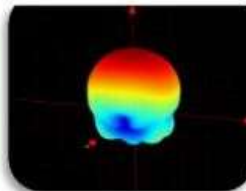
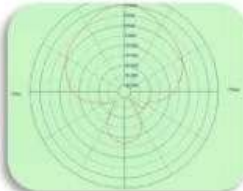
|               |               |
|---------------|---------------|
| Test software | Satimo Spm    |
| Test standard | GBT 9410-2008 |



Owned 6 microwave dark room, equipped 2 sets world leading France Satimo SG24 OTA certification test systems (one in SHENZHEN, another one in Shanghai), ETS OTA Standard test system, Blue test reverberation test system which is High repeatability, high accuracy and high resolution. It can quickly provide accurate test reports, fully meet the CITA standards.

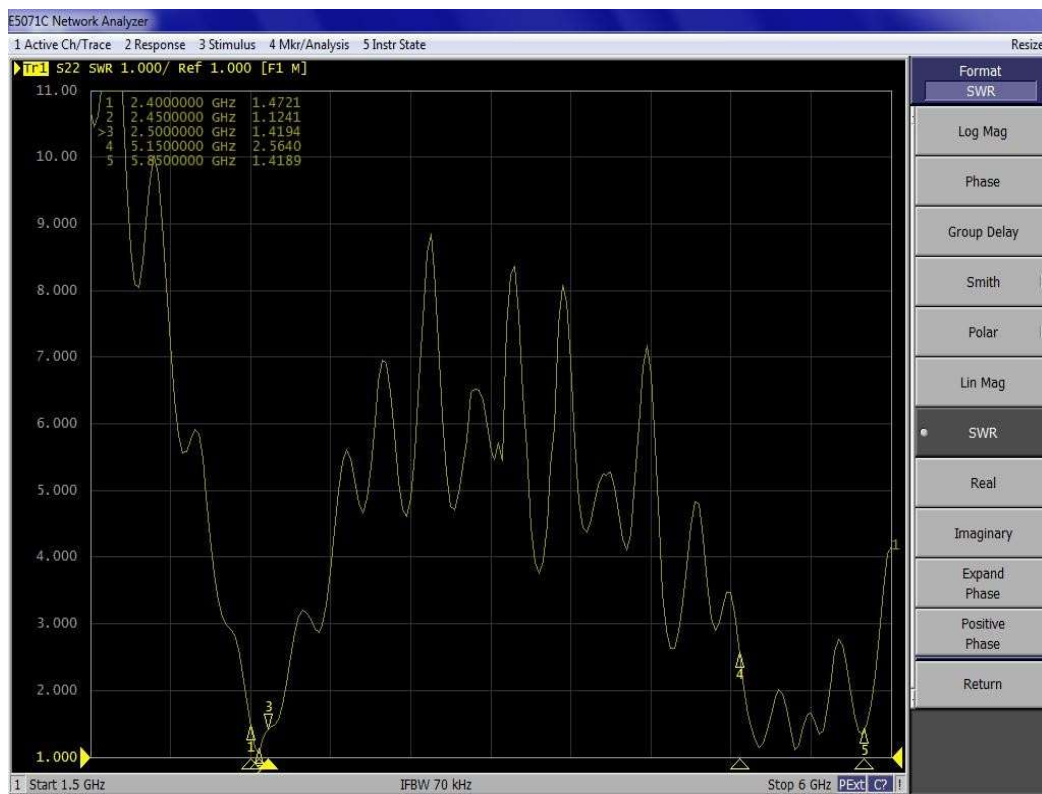
Testing range:

Support active, passive testing of GSM/CDMA/WCDMA/TD-SCDMA/LTE/WIFI/WLAN/WiMax/BT/GPS/MIMO/UWB within 0.4-6G.

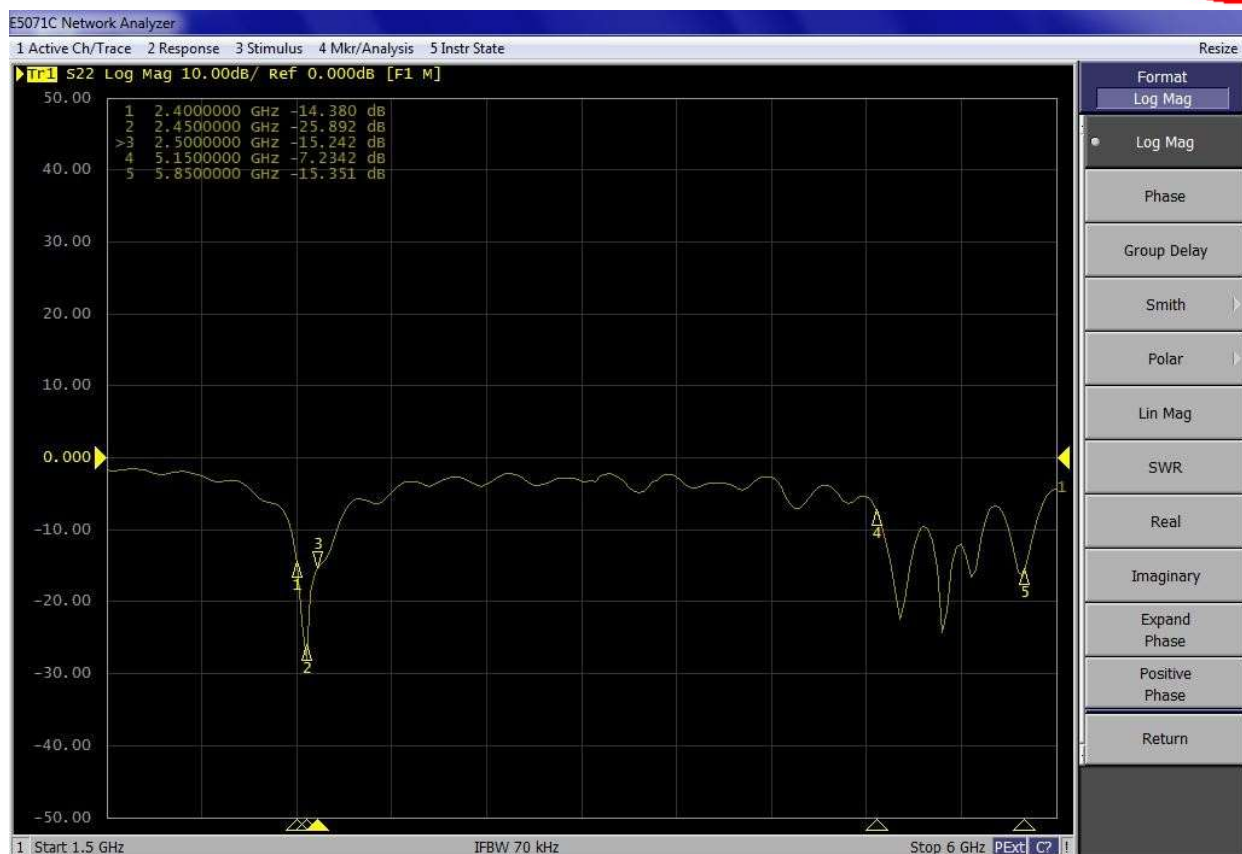


### 3. Antenna test data

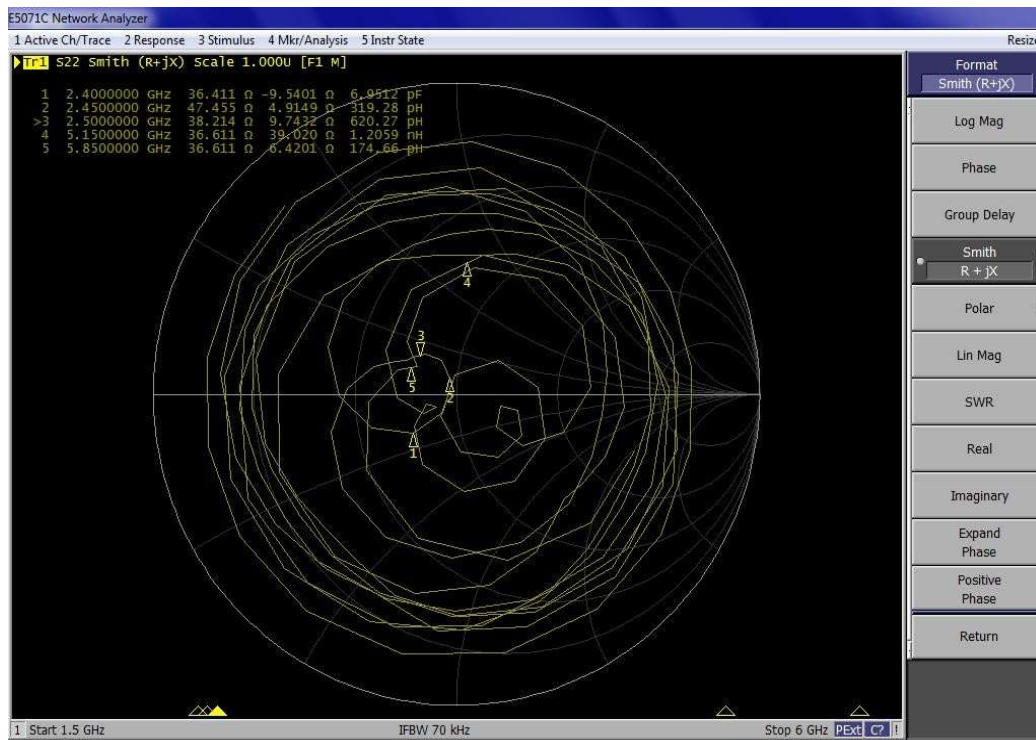
#### 3-1 VSWR



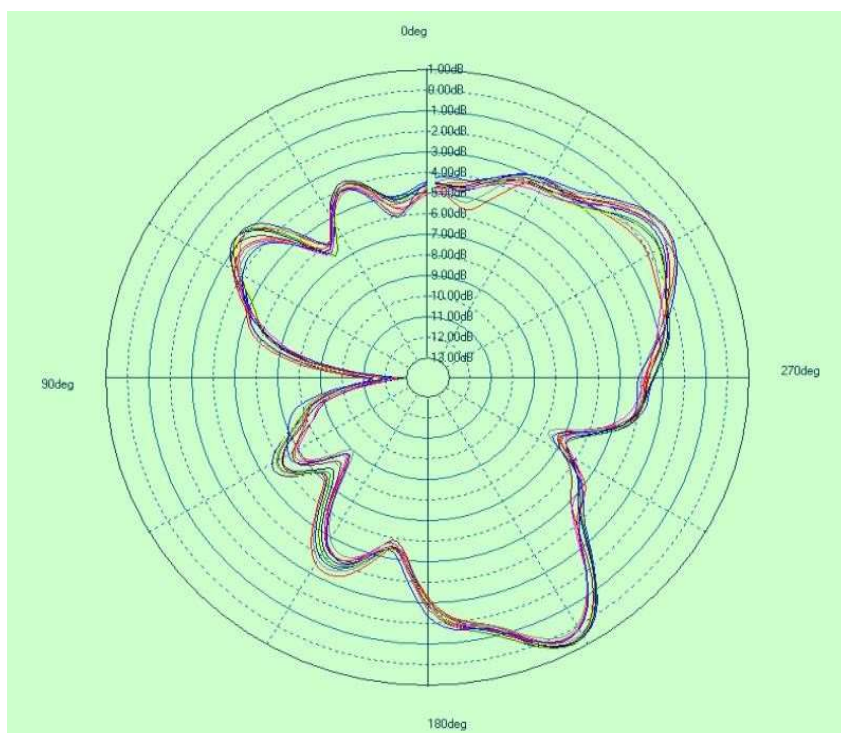
#### 3-2 Return loss plot



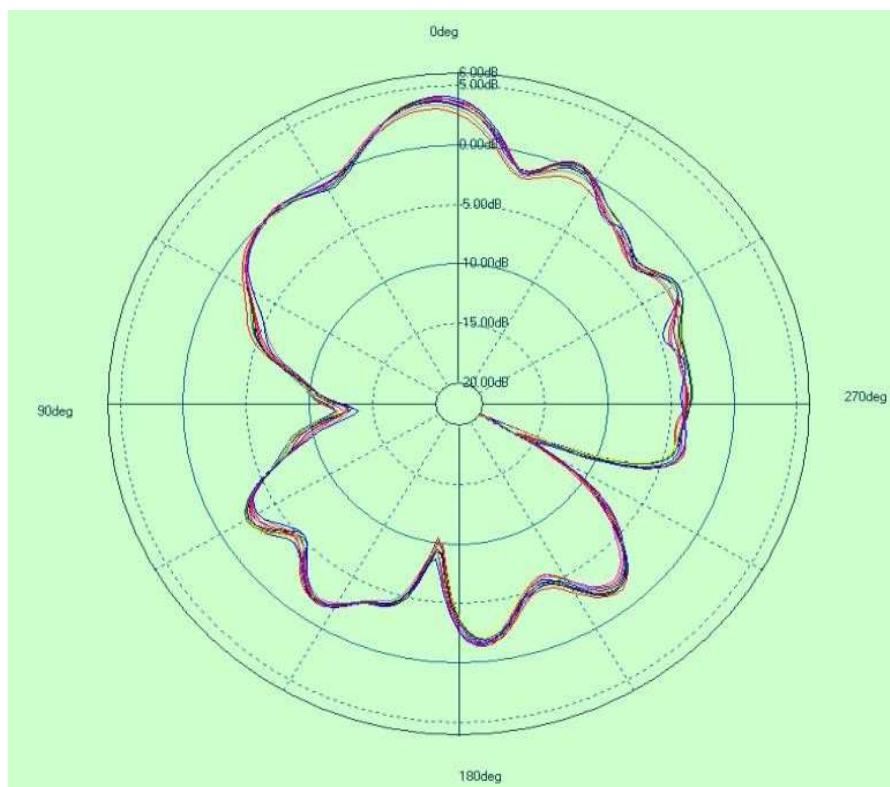
### 3-3 Smith chart



### 3-4 方向图

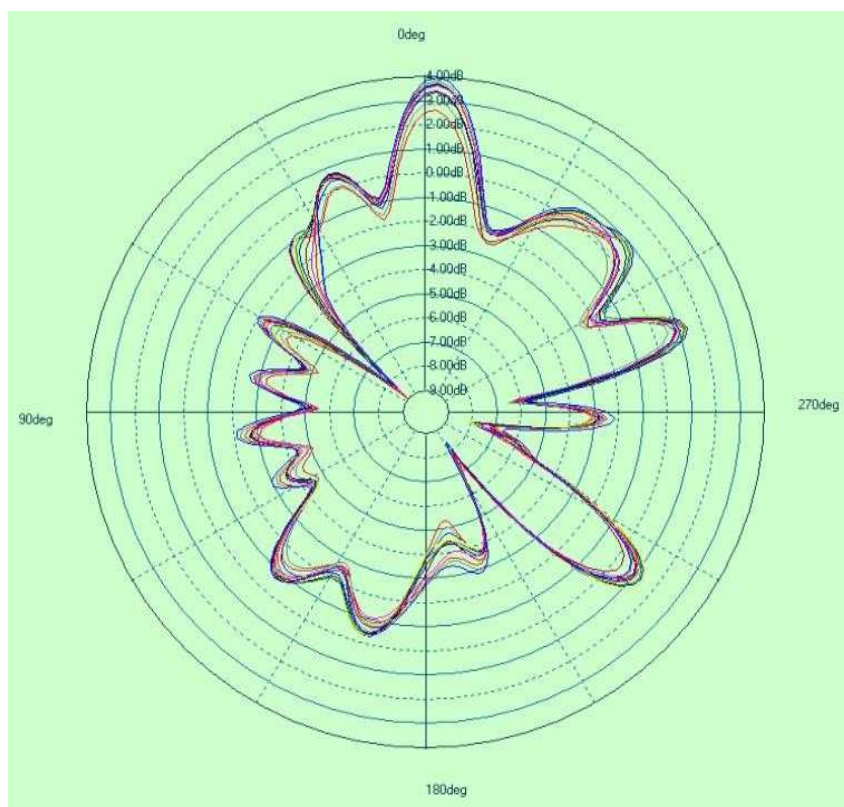


( XY平面 Z=0)

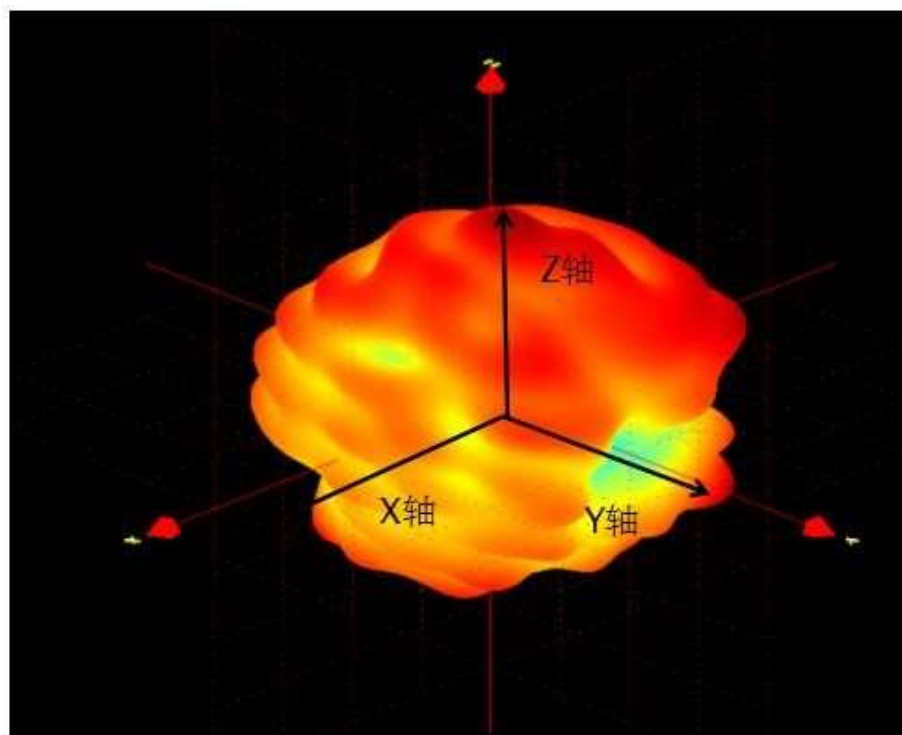


(XZ平面 Y=0)

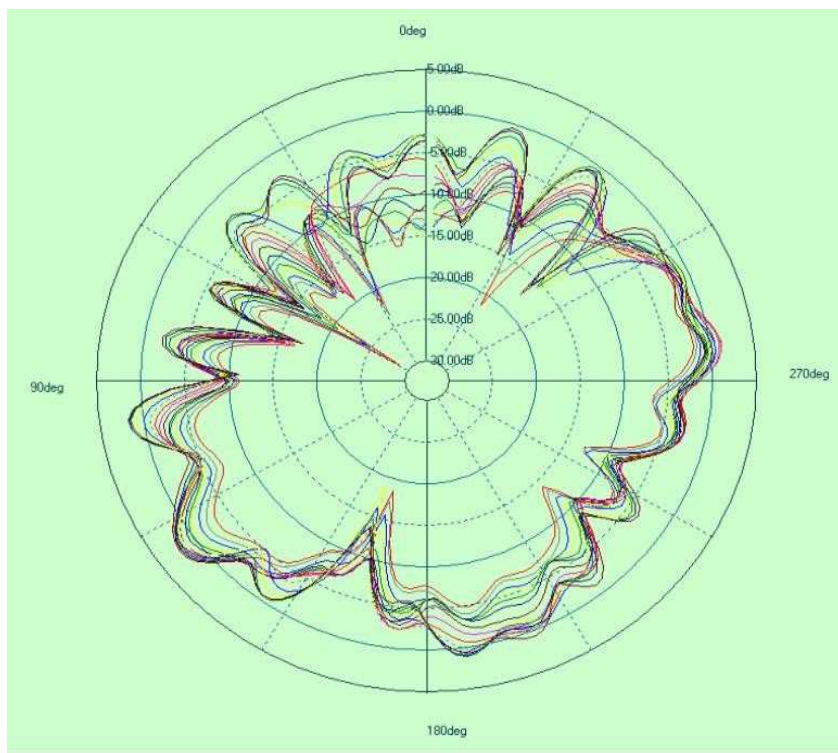
(YZ平面  $X=0$ )



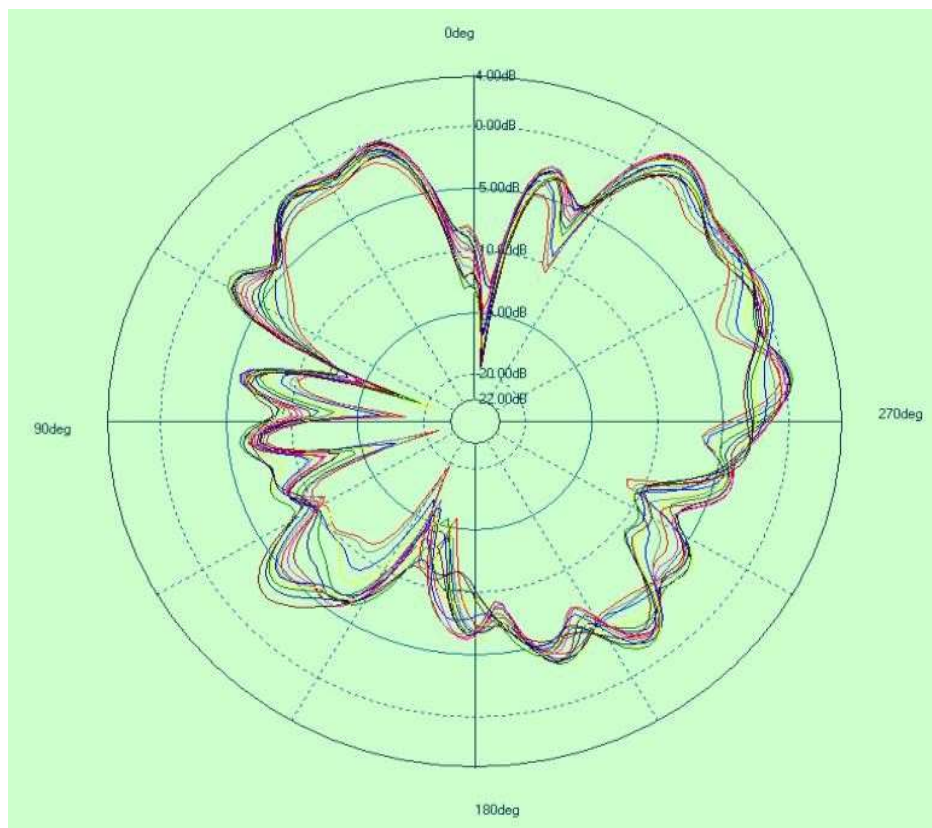
2.4苹果图



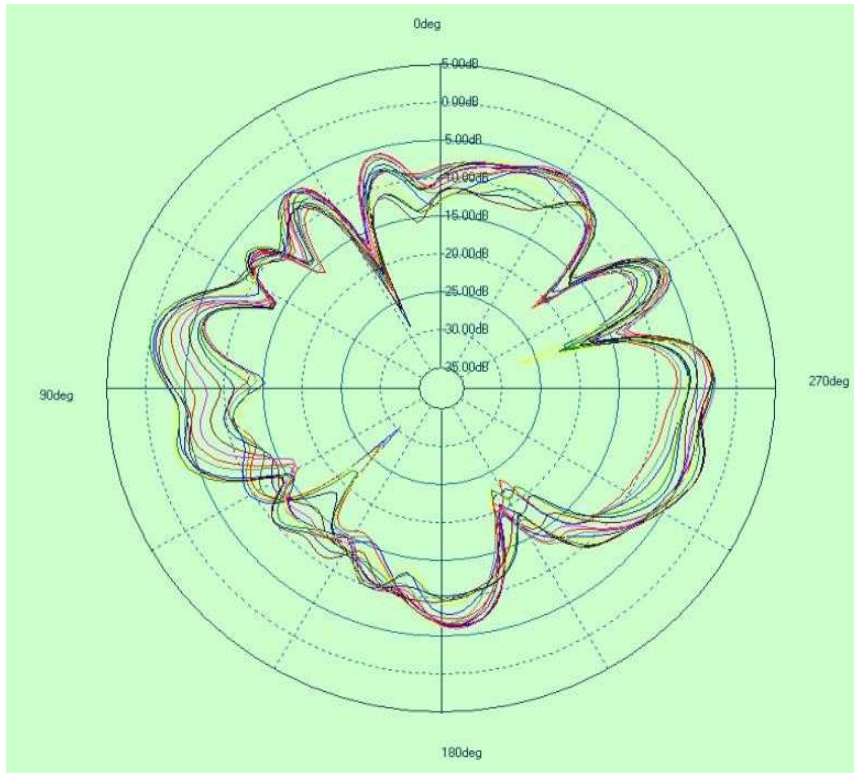
5.8G方向图



(XY平面 Z=0)

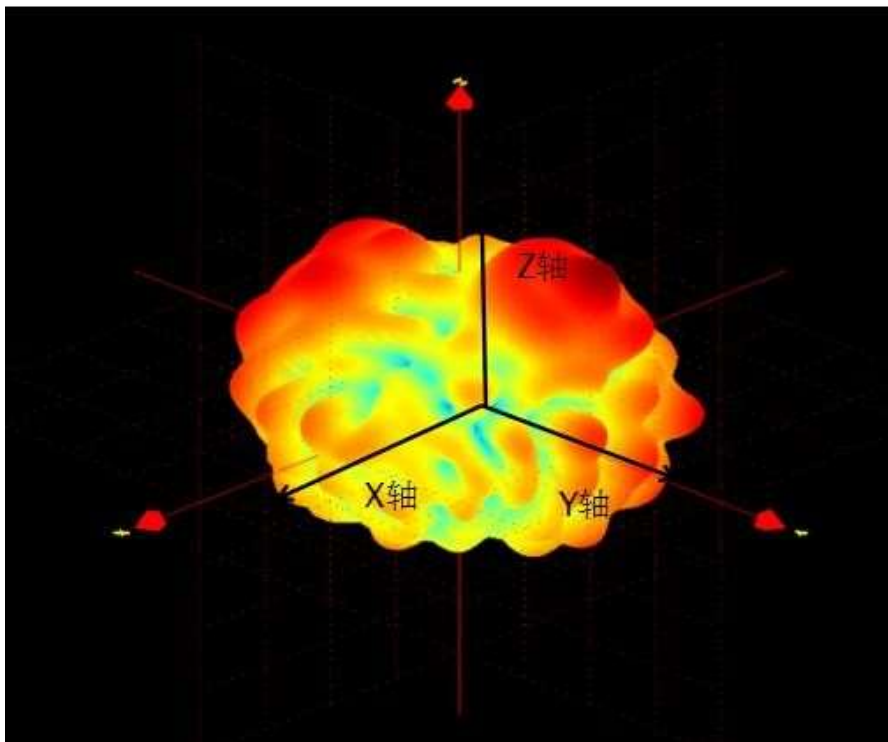


(XZ平面 Y=0)



(YZ平面 X=0)

5.8G苹果图



3-5测试数据

| Frequency<br>(MHz) | X-Z plane<br>Phi=0 |                 | Y-Z plane<br>Phi=90 |                 | X-Y plane<br>theta=90 |                 | E-total<br>(dBi) | Efficiency<br>(%) |
|--------------------|--------------------|-----------------|---------------------|-----------------|-----------------------|-----------------|------------------|-------------------|
|                    | Peak<br>Gain       | Average<br>Gain | Peak<br>Gain        | Average<br>Gain | Peak<br>Gain          | Average<br>Gain |                  |                   |
| 2400               | 1.10               | -1.52           | 1.38                | -2.02           | 0.61                  | 0.43            | 1.61             | 60                |
| 2410               | 1.11               | -1.54           | 1.40                | -2.05           | 0.62                  | 0.45            | 1.63             | 60                |
| 2420               | 1.20               | -1.21           | 1.13                | -2.19           | 0.70                  | 0.36            | 1.76             | 59                |
| 2430               | 1.32               | -1.91           | 1.30                | -1.88           | 0.63                  | 0.56            | 2.00             | 55                |
| 2440               | 1.31               | -1.35           | 1.21                | -1.98           | 0.81                  | 0.55            | 1.86             | 66                |
| 2450               | 1.28               | -1.81           | 1.31                | -2.01           | 0.62                  | 0.55            | 1.68             | 62                |
| 2460               | 1.31               | -1.72           | 1.28                | -2.05           | 0.75                  | 0.52            | 1.84             | 59                |
| 2470               | 1.25               | -1.55           | 1.19                | -1.98           | 0.68                  | 0.53            | 1.68             | 63                |
| 2480               | 1.24               | -1.65           | 1.32                | -1.95           | 0.61                  | 0.54            | 1.75             | 61                |
| 2490               | 1.31               | -1.63           | 1.26                | -1.89           | 0.71                  | 0.53            | 1.72             | 68                |
| 2500               | 1.33               | -1.64           | 1.28                | -2.03           | 0.69                  | 0.55            | 1.73             | 65                |
| 5000               | 1.18               | -1.58           | 1.27                | -2.05           | 0.68                  | 0.56            | 1.82             | 66                |
| 5050               | 1.24               | -1.64           | 1.19                | -2.01           | 0.81                  | 0.71            | 1.92             | 56                |
| 5100               | 1.33               | -1.38           | 1.31                | -2.03           | 0.78                  | 0.68            | 1.88             | 62                |
| 5150               | 1.28               | -1.49           | 1.35                | -1.98           | 0.68                  | 0.59            | 1.93             | 63                |
| 5200               | 1.24               | -1.64           | 1.38                | -1.89           | 0.71                  | 0.62            | 1.68             | 67                |
| 5250               | 1.28               | -1.56           | 1.35                | -1.88           | 0.68                  | 0.65            | 1.69             | 68                |
| 5300               | 1.19               | -1.88           | 1.36                | -1.85           | 0.69                  | 0.66            | 1.70             | 65                |
| 5350               | 1.32               | -1.76           | 1.29                | -1.79           | 0.72                  | 0.75            | 1.68             | 66                |
| 5400               | 1.35               | -1.81           | 1.24                | -1.82           | 0.77                  | 0.71            | 1.70             | 71                |
| 5450               | 1.32               | -1.65           | 1.28                | -1.76           | 0.70                  | 0.69            | 1.69             | 66                |
| 5500               | 1.28               | -1.68           | 1.31                | -1.83           | 0.69                  | 0.71            | 1.75             | 62                |
| 5550               | 1.29               | -1.69           | 1.26                | -1.88           | 0.68                  | 0.72            | 1.72             | 59                |
| 5600               | 1.34               | -1.59           | 1.29                | -1.79           | 0.67                  | 0.68            | 1.73             | 63                |
| 5650               | 1.29               | -1.66           | 1.30                | -1.91           | 0.67                  | 0.69            | 1.69             | 58                |
| 5700               | 1.33               | -1.59           | 1.28                | -1.83           | 0.76                  | 0.70            | 1.72             | 67                |
| 5750               | 1.34               | -1.71           | 1.27                | -1.90           | 0.75                  | 0.69            | 1.73             | 69                |
| 5800               | 1.18               | -1.73           | 1.28                | -1.82           | 0.78                  | 0.68            | 1.66             | 63                |
| 5850               | 1.17               | -1.70           | 1.27                | -1.80           | 0.77                  | 0.67            | 1.63             | 63                |



#### 4. Environment Characteristic

| NO. | ITEM                                                     | TEST CONDITION                                                                                    | SPECIFICATION                                                                 |
|-----|----------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| 4-1 | High Temperature/Humidity<br>Storage Test(non operating) | 1.Temperature: $+80 \pm 2^{\circ}\text{C}$<br>2.Humidity: $90\sim 95\%\text{RH}$<br>3.Time: 48hrs | No material deformation is allowed.                                           |
| 4-2 | Low Temperature/Humidity<br>Storage Test(non operating)  | 1.Temperature: $-30 \pm 2^{\circ}\text{C}$<br>2.Humidity: $0\%\text{RH}$<br>3.Time: 48hrs         | The VSWR, Gain, Radiation Pattern must be met specifications after these test |

