



ShenZhen Huaxinwei communication technology  
Co.,Ltd.

## Antenna test report

Customer Name: XunRui

Project Name: S6068M/P

Designer: Zhang Jun

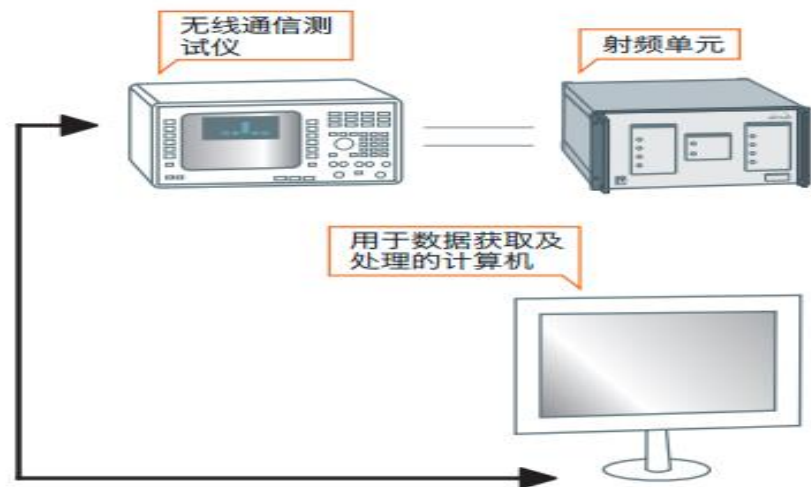
Date: 2024/07/06



|                   |                             |                                                                                                 |              |                       |
|-------------------|-----------------------------|-------------------------------------------------------------------------------------------------|--------------|-----------------------|
| The customer name |                             | XunRui                                                                                          | Project Name | S6068M/P              |
| NO.               | project                     | Detailed above                                                                                  |              |                       |
| 1                 | spectrum                    | GSM850/900/1800/1900+WCDMA-B1/2/4/5/8+LTE-B1/2/3/4/5/7/8/12/17/20/26/28/66/38/40/41+GPS/WIFI/BT |              |                       |
| 2                 | Project type                | The mobile phone                                                                                |              |                       |
| 3                 | Antenna space area          |                                                                                                 |              |                       |
| 4                 | Feed point type             |                                                                                                 |              |                       |
| 5                 | The sensitivity             |                                                                                                 |              |                       |
| 6                 | Type of antenna             |                                                                                                 |              |                       |
| 7                 | The length of the PCB board |                                                                                                 |              |                       |
| 8                 | note                        | Debugging prototype                                                                             |              |                       |
| RF                |                             | Zhang Jun                                                                                       | 13430515055  | hxw_xiaozhang@126.com |

## 1、Test system and test equipment

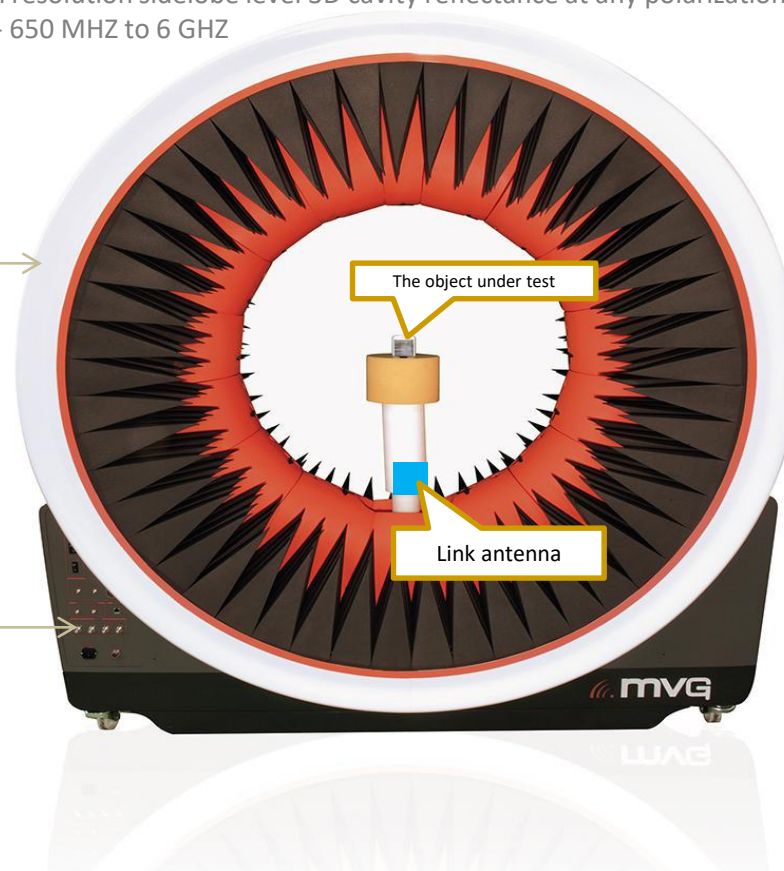
System Brand: MVG(SATIMO) measurement features: gain • pattern beamwidth cross polarization resolution sidelobe level 3D cavity reflectance at any polarization cavity reflectance (line or arc) antenna efficiency TRP, TIS, EIRP and EIS. Frequency band: StarLab 6 GHZ - 650 MHZ to 6 GHZ



TIS预计测量时间 (一个信道每隔30° 取样)

| 灵敏度算法 \ 标准       | GSM<br>GPRS<br>EDGE | CDMA<br>1 x RTT<br>1 x EvDO | WCDMA<br>HSDPA<br>LTE FDD/TDD | Wi-Fi<br>802.11<br>a/b/g/n | CTIA<br>批准方法   |
|------------------|---------------------|-----------------------------|-------------------------------|----------------------------|----------------|
| RSSI模式+线性化+TIS补偿 | 8 min               |                             | 10 min                        |                            | 是              |
| EIS模式+TIS补偿      |                     | 5 min                       |                               | 5 min                      | 是 <sup>2</sup> |
| 快速CDMA           |                     | 8 min                       |                               |                            | No             |
| EIRP模式+TIS补偿     |                     |                             |                               | 10 min                     | No             |

1、根据RTC  
2、根据协议

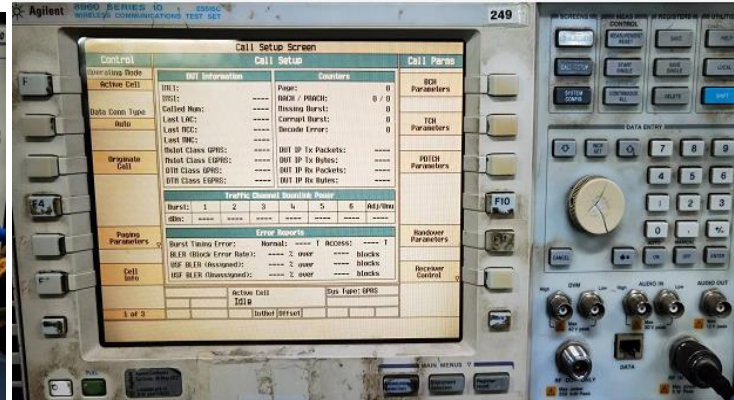


TIS 3D方位切割强度图



TRP 3D方位切割强度图

# Test Equipment



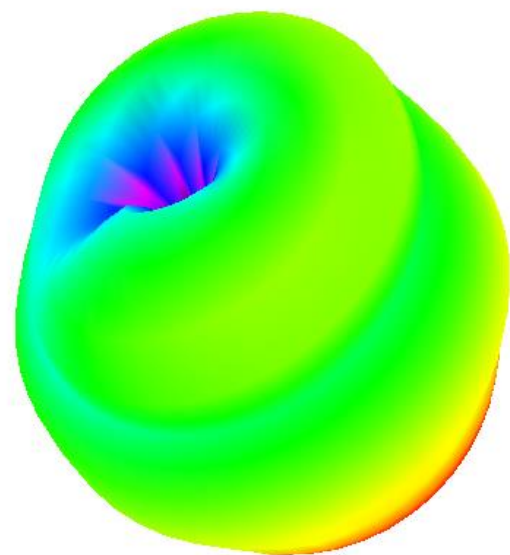
# Efficient ( 2G+3G+4G+2. 4G-WiFi /BT)

| PEAK GAIN  |                 |        |          |
|------------|-----------------|--------|----------|
| 2G:        | Frequency range | Effi % | Gaim dBi |
| GSM850     | 824~894Mhz      | 21.80  | -0.71    |
| GSM900     | 880~960Mhz      | 20.84  | -1.05    |
| DCS1800    | 1710~1880Mhz    | 28.62  | 0.63     |
| PCS1900    | 1850~1990Mhz    | 30.81  | 0.81     |
| <b>3G:</b> |                 |        |          |
| W1         | 1920~2170Mhz    | 37.45  | 0.91     |
| W2         | 1850~1990Mhz    | 30.81  | 0.81     |
| W4         | 1710~2155Mhz    | 31.07  | 0.92     |
| W5         | 824~894Mhz      | 21.80  | -0.71    |
| W8         | 880~960Mhz      | 20.84  | -1.05    |
| <b>4G:</b> |                 |        |          |
| LTE-B1     | 1920~2170Mhz    | 37.45  | 0.91     |
| LTE-B2     | 1850~1990Mhz    | 30.81  | 0.81     |
| LTE-B3     | 1710~1880Mhz    | 28.62  | 0.63     |
| LTE-B4     | 1710~2155Mhz    | 31.07  | 0.92     |
| LTE-B5     | 824~894Mhz      | 21.80  | -0.71    |
| LTE-B7     | 2500~2690Mhz    | 28.01  | 1.12     |
| LTE-B8     | 880~960Mhz      | 20.84  | -1.05    |
| LTE-B12    | 698~746Mhz      | 19.03  | -1.42    |
| LTE-B17    | 704~746Mhz      | 19.04  | -1.42    |
| LTE-B20    | 791~862Mhz      | 20.84  | -0.71    |
| LTE-B26    | 819~889Mhz      | 20.84  | -0.71    |
| LTE-B28    | 708~798Mhz      | 19.05  | -1.42    |
| LTE-B66    | 1710~2170Mhz    | 31.08  | 0.92     |
| LTE-B38    | 2570~2620Mhz    | 28.03  | 1.12     |
| LTE-B40    | 2300~2400Mhz    | 29.21  | 1.14     |
| LTE-B41    | 2500~2690Mhz    | 28.03  | 1.12     |
|            |                 |        |          |
| 5G-WIFI    | 5150~5250Mhz    | 37.81  | 1.81     |
|            | 5725~5850Mhz    | 37.16  | 1.91     |
| 2. 4G-WIFI | 2400~2500Mhz    | 42.52  | 1.37     |
| BT         | 2400~2500Mhz    | 42.51  | 1.37     |
| GPS        | 1575Mhz         | 38.73  | 0.43     |

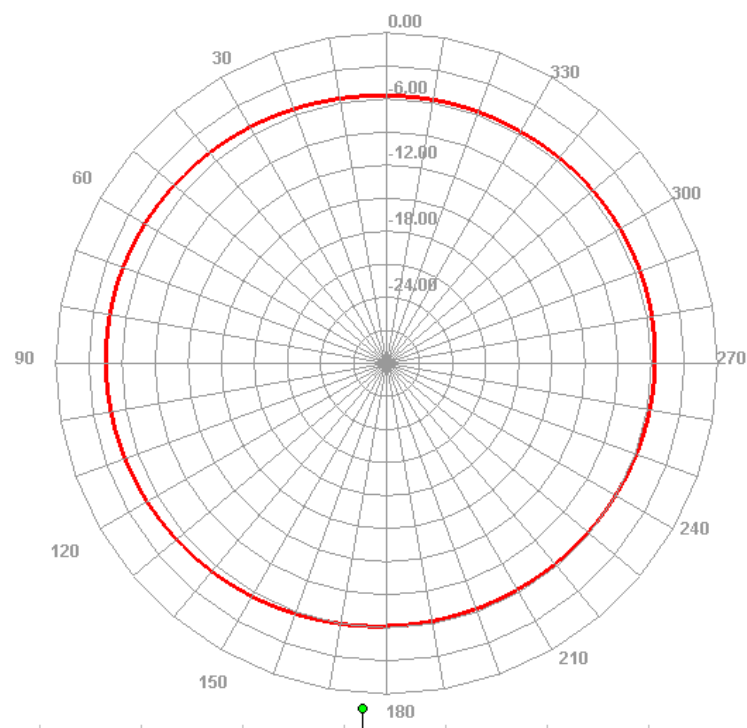


# Efficient ( 698–798MHz )

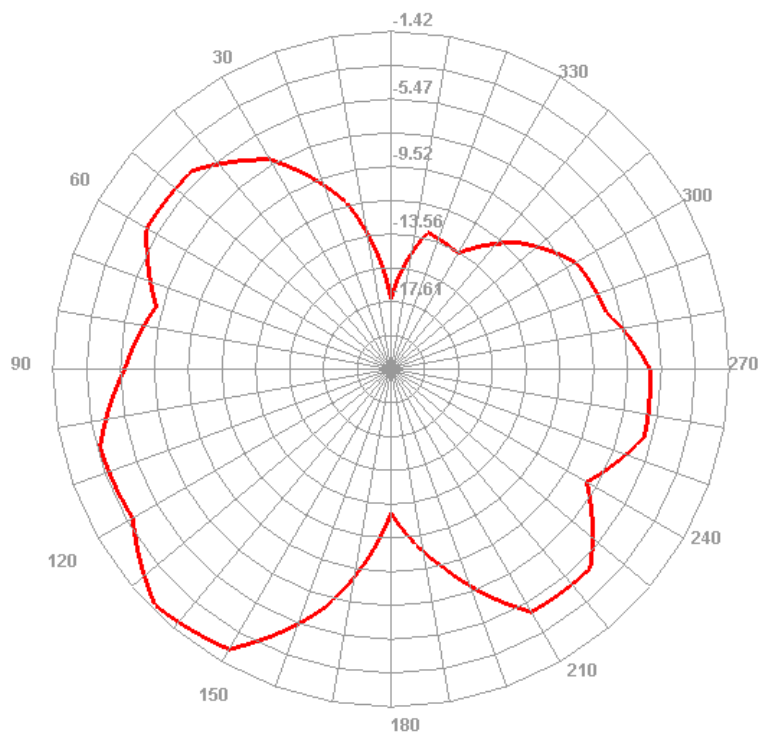
710.000MHz



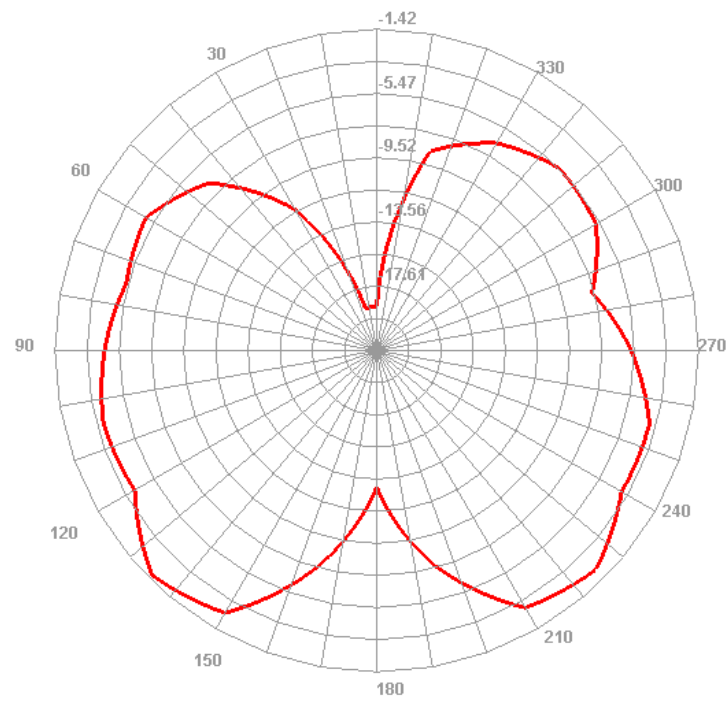
710.000MHz H



710.000MHz E1

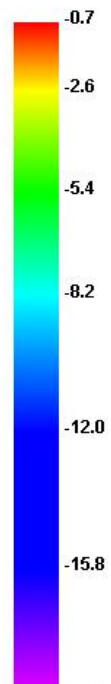
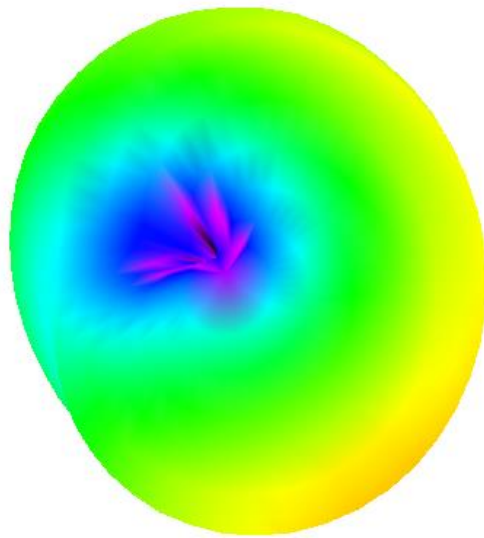


710.000MHz E2

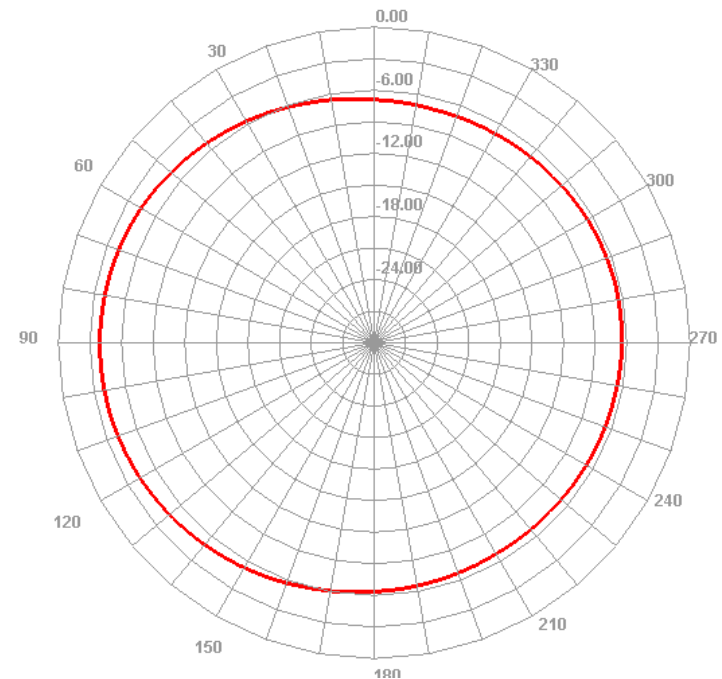


# Efficient ( 791–894MHz )

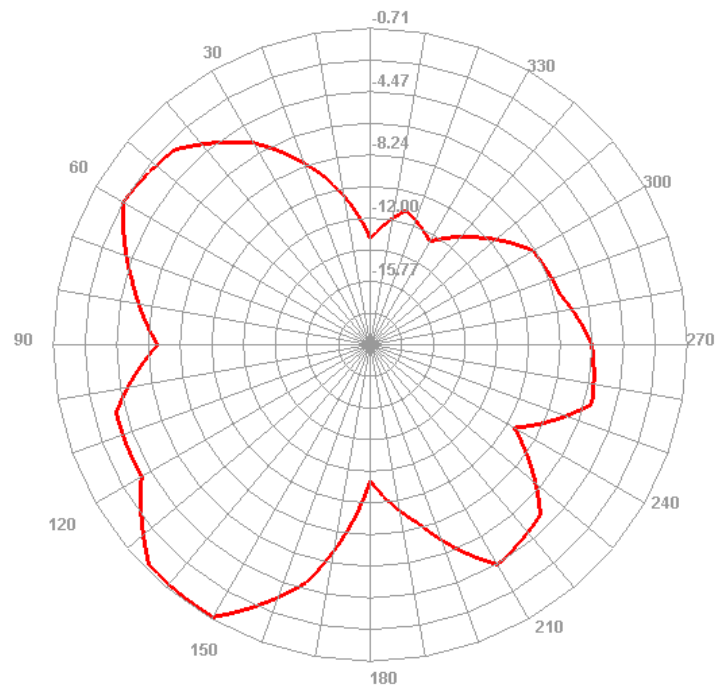
830.000MHz



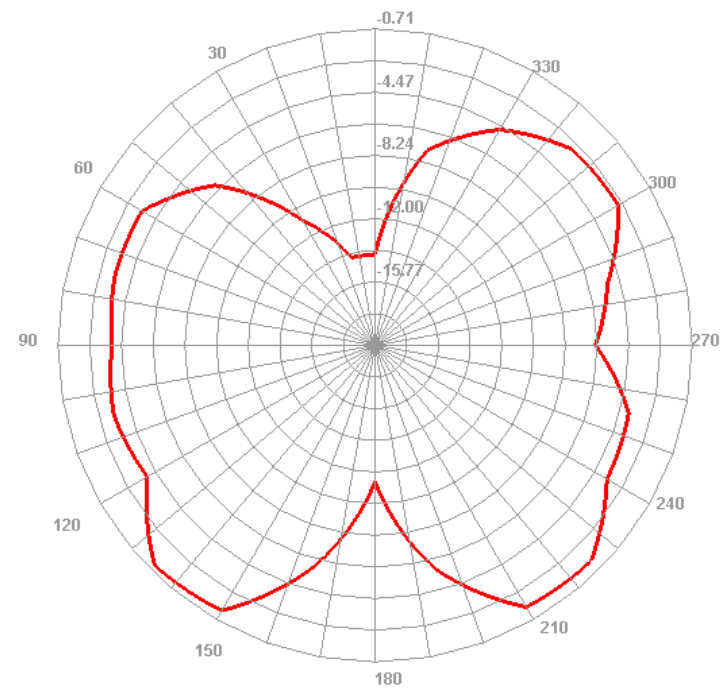
830.000MHz H



830.000MHz E1

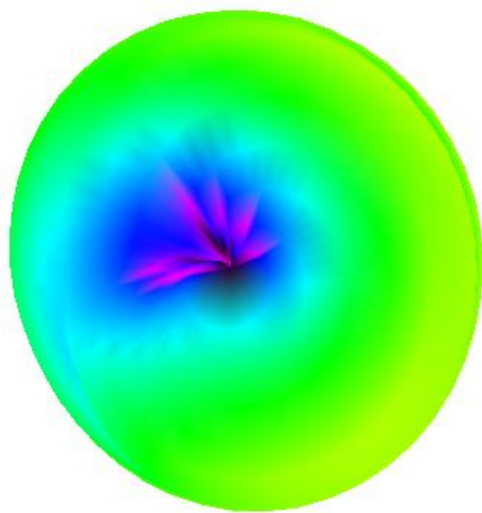


830.000MHz E2

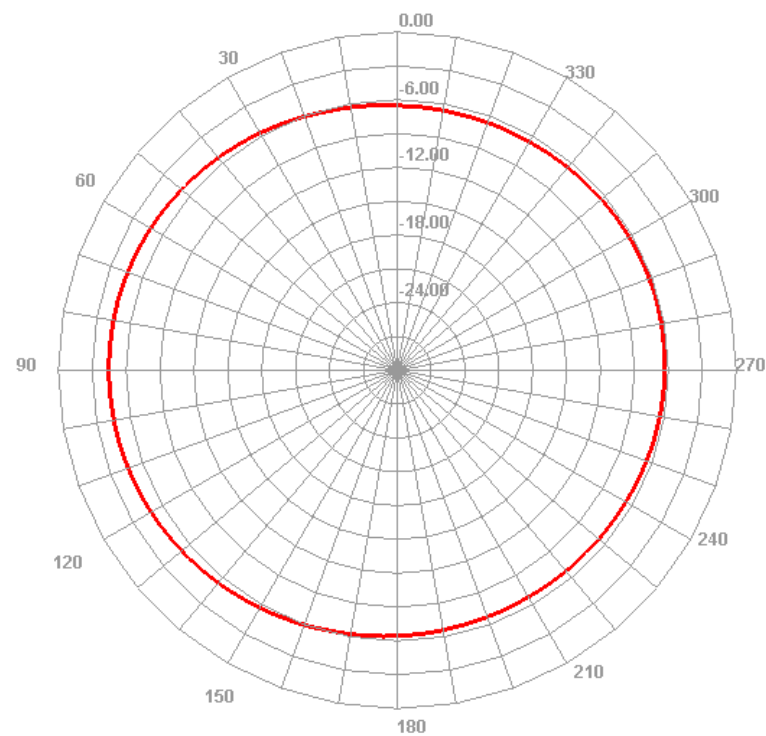


# Efficient ( 880–960MHz )

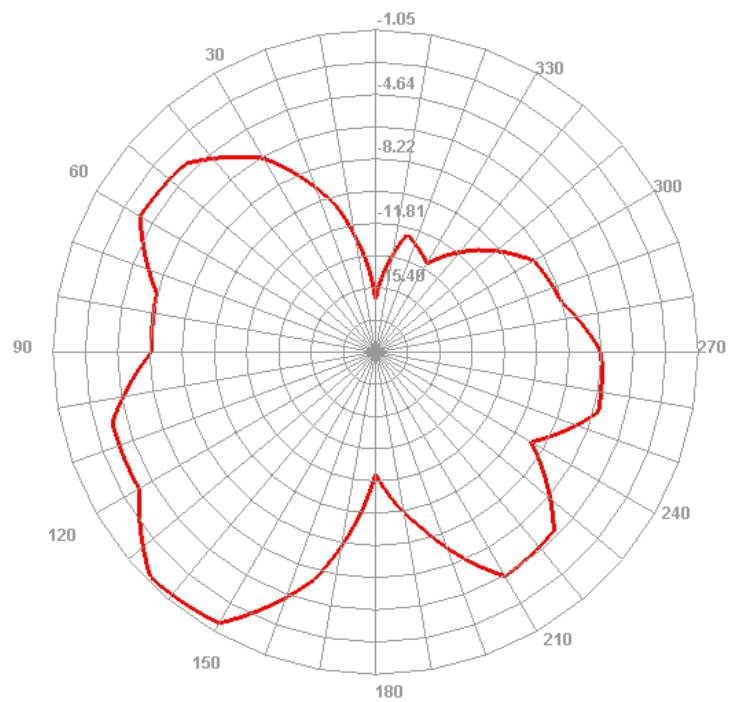
900.000MHz



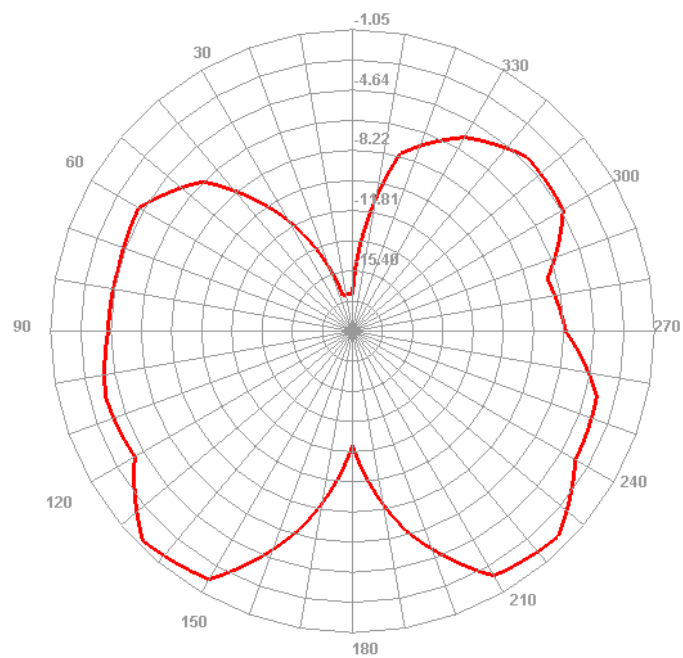
900.000MHz H



900.000MHz E1



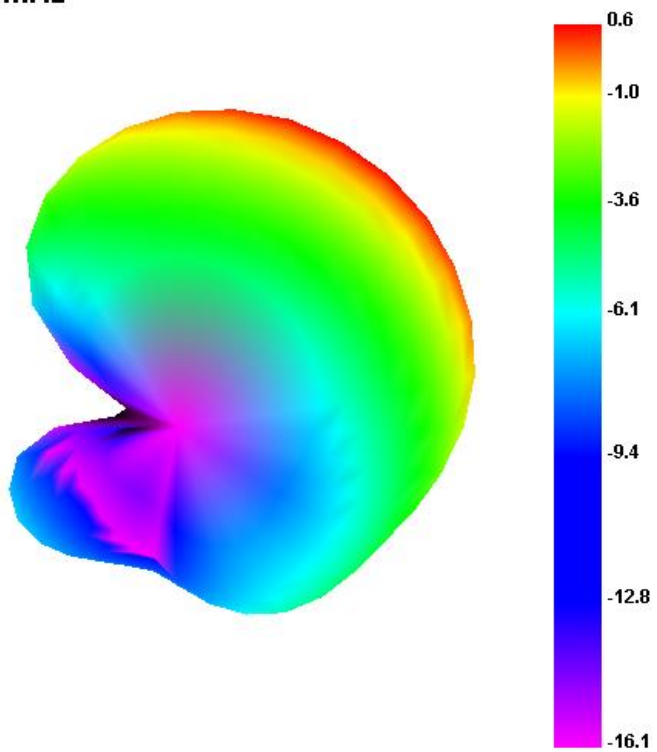
900.000MHz E2



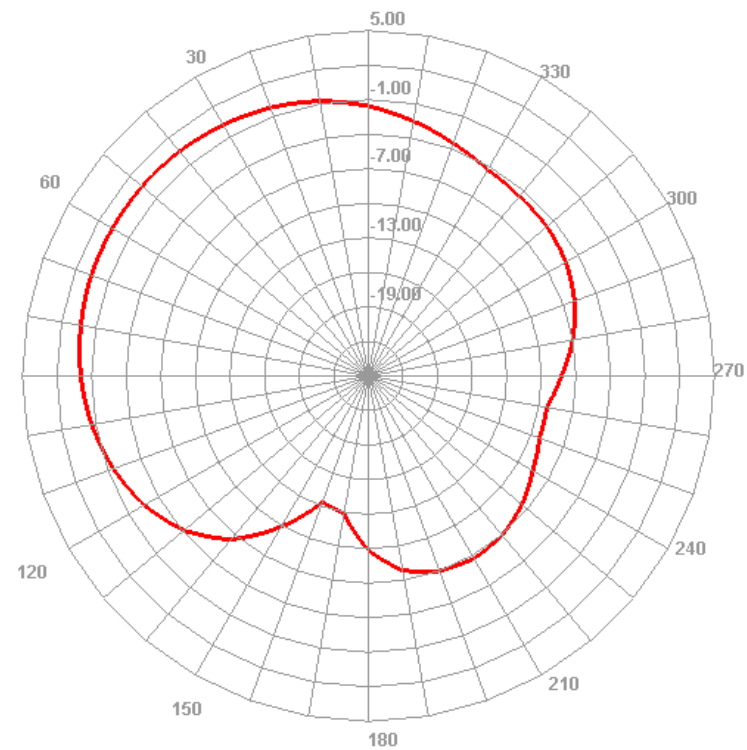


# Efficient (1710–1880MHz )

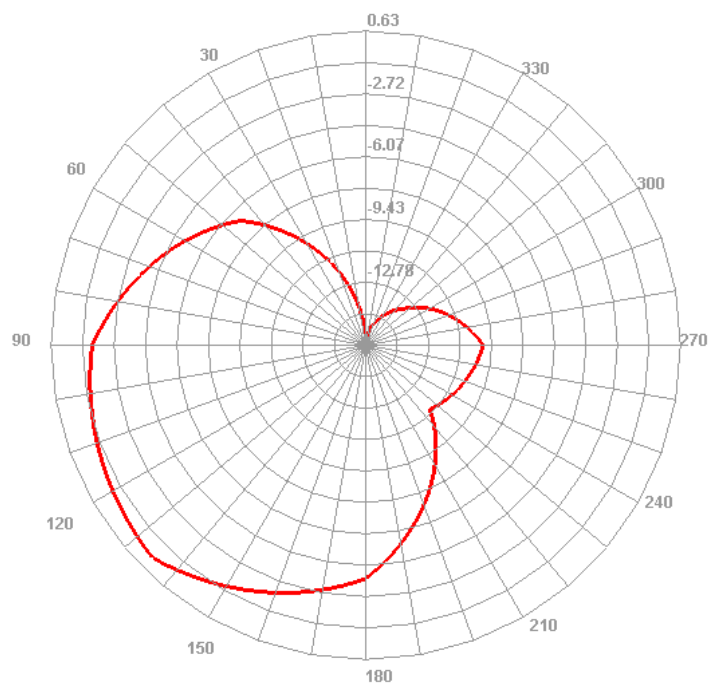
1820.000MHz



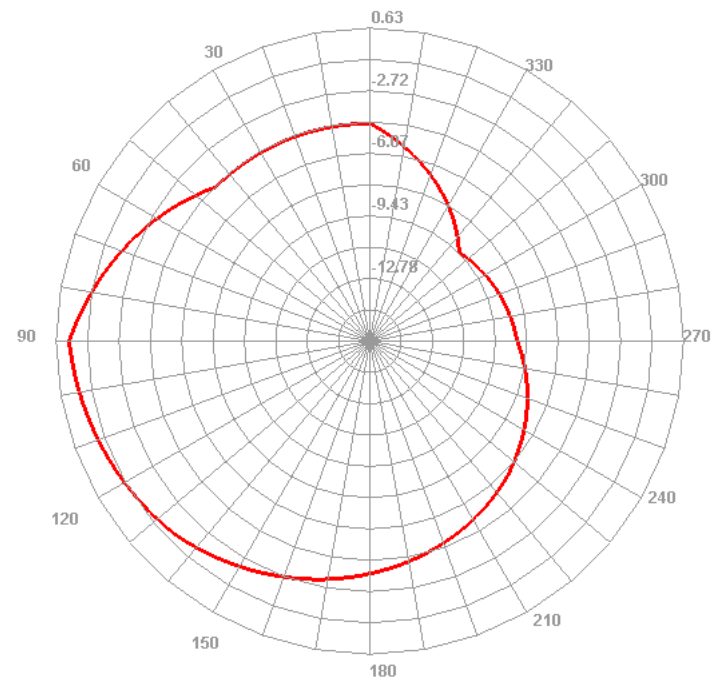
1820.000MHz H



1820.000MHz E1

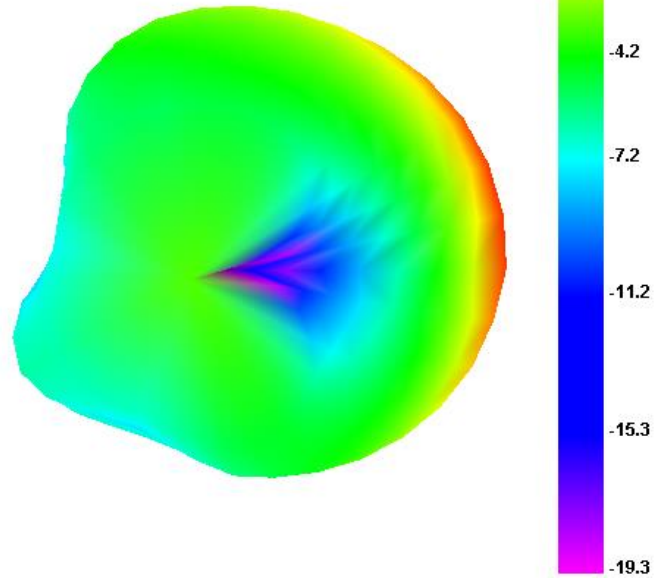


1820.000MHz E2

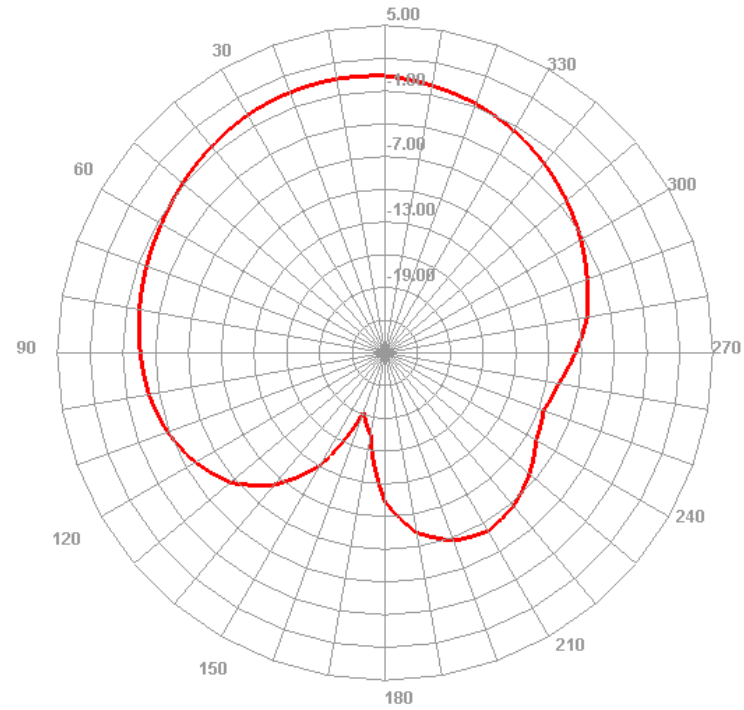


Efficient ( 1710–1990MHz )

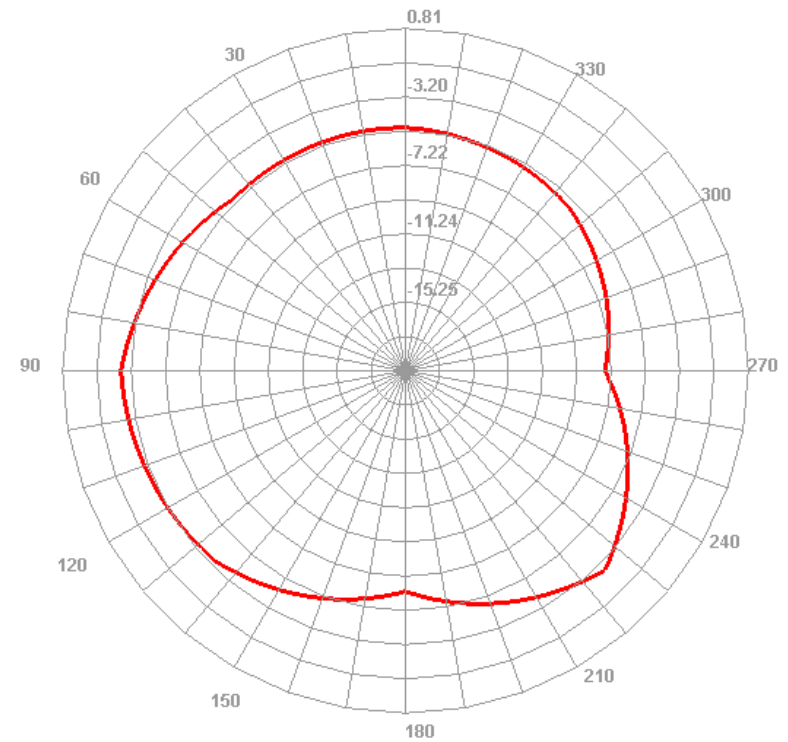
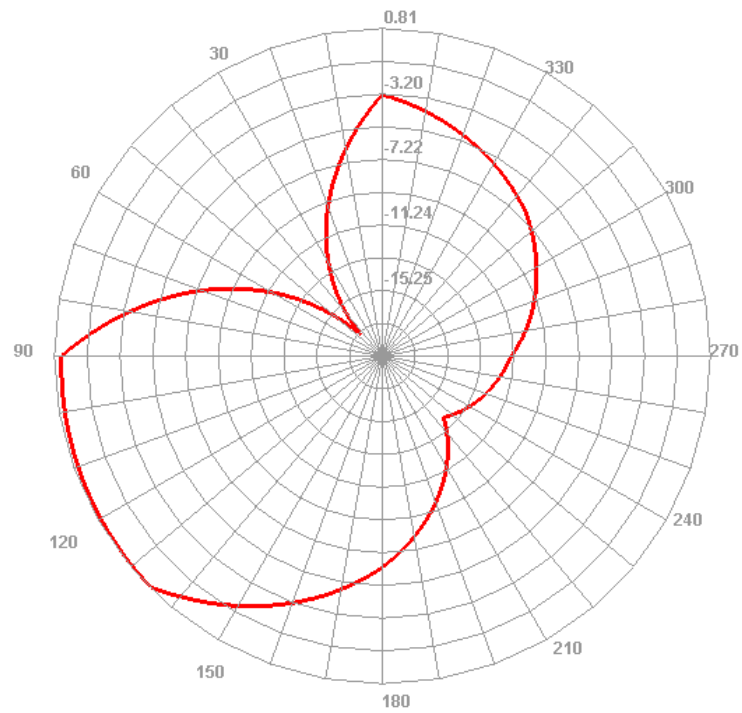
1920.000MHz



1920.000MHz H

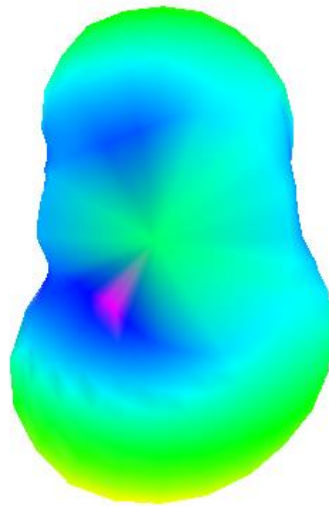


1920.000MHz E1

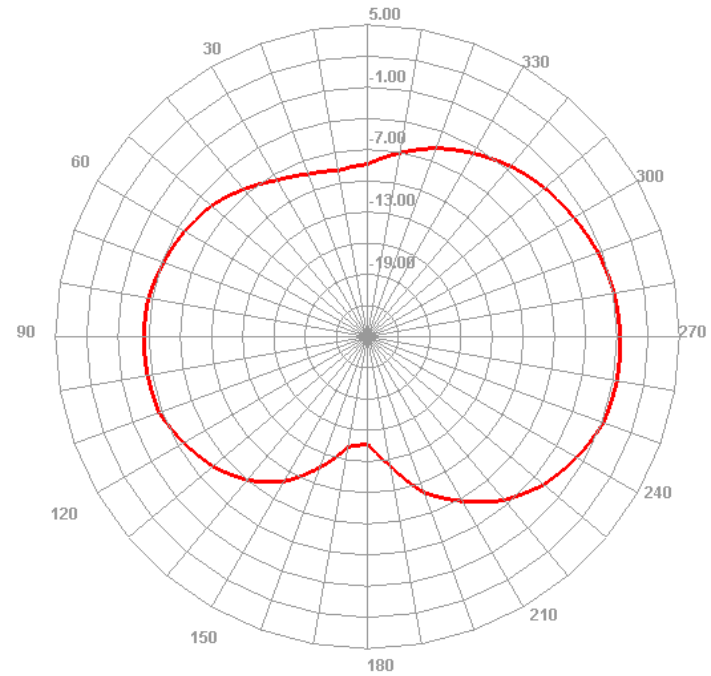


# Efficient ( 1920-2170MHz )

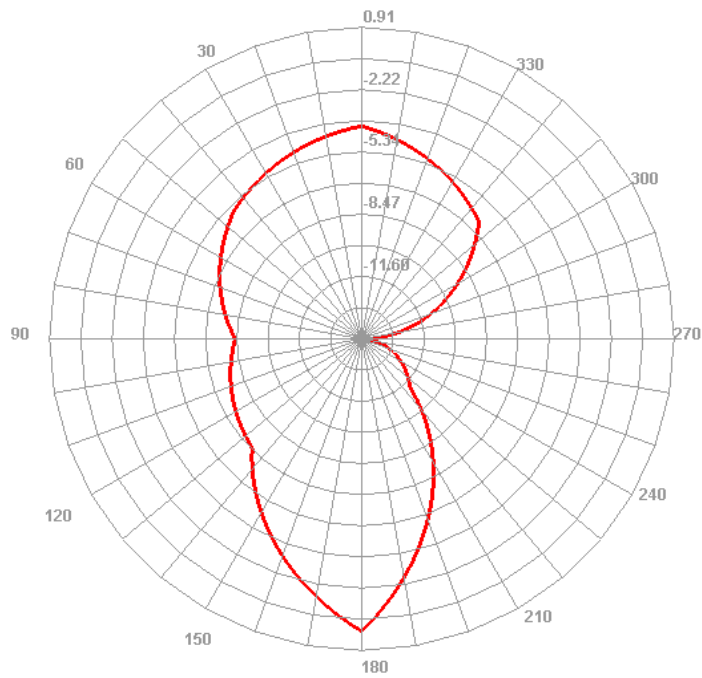
2010.000MHz



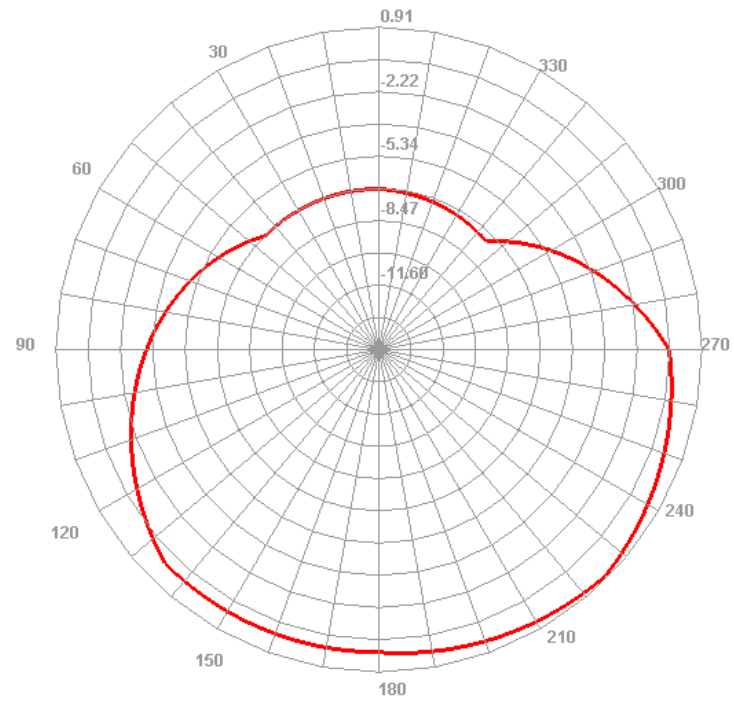
2010.000MHz H



2010.000MHz E1

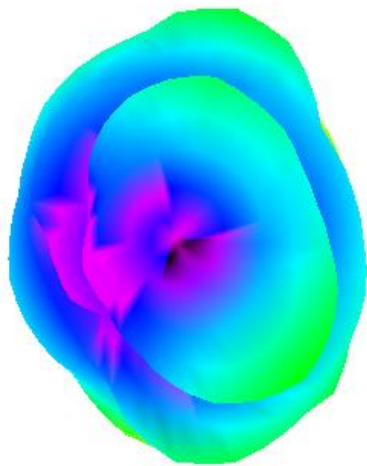


2010.000MHz E2

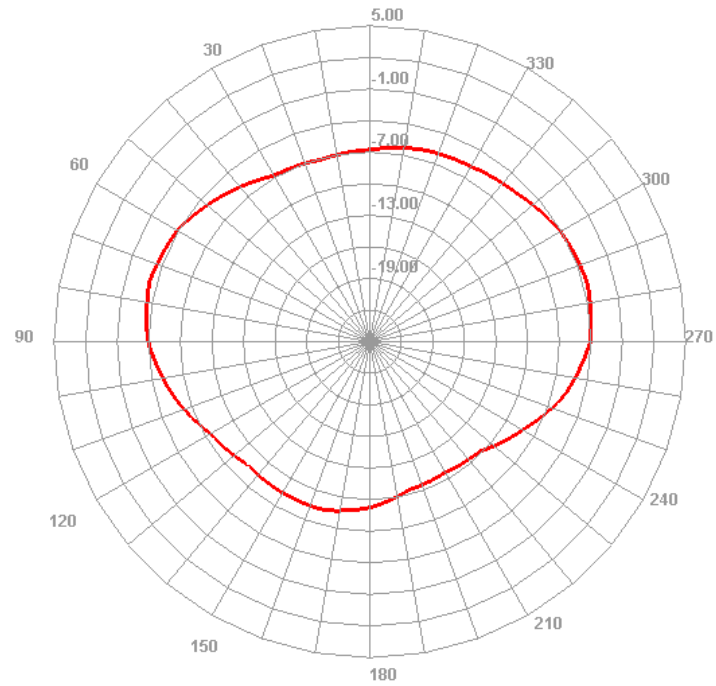


# Efficient ( 2300–2400MHz )

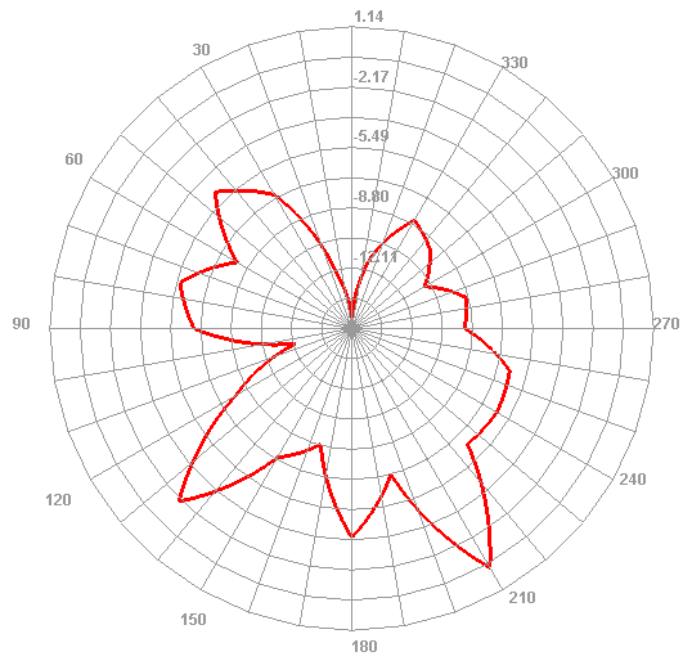
2370.000MHz



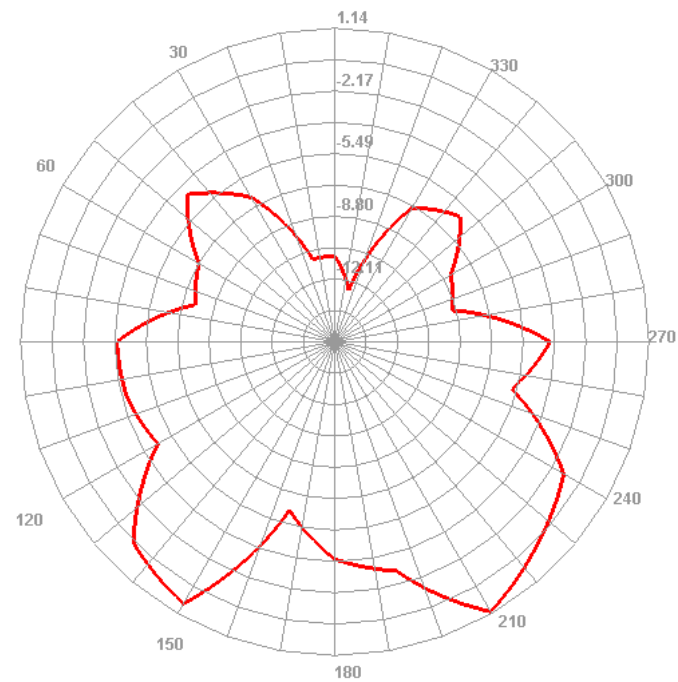
2370.000MHz H



2370.000MHz E1



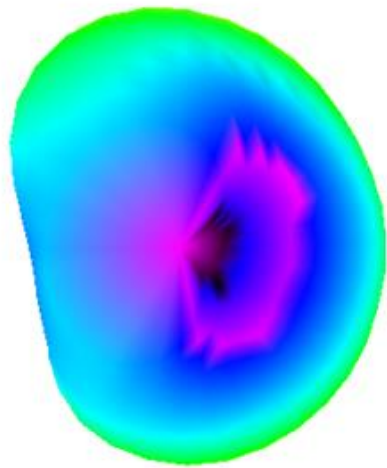
2370.000MHz E2



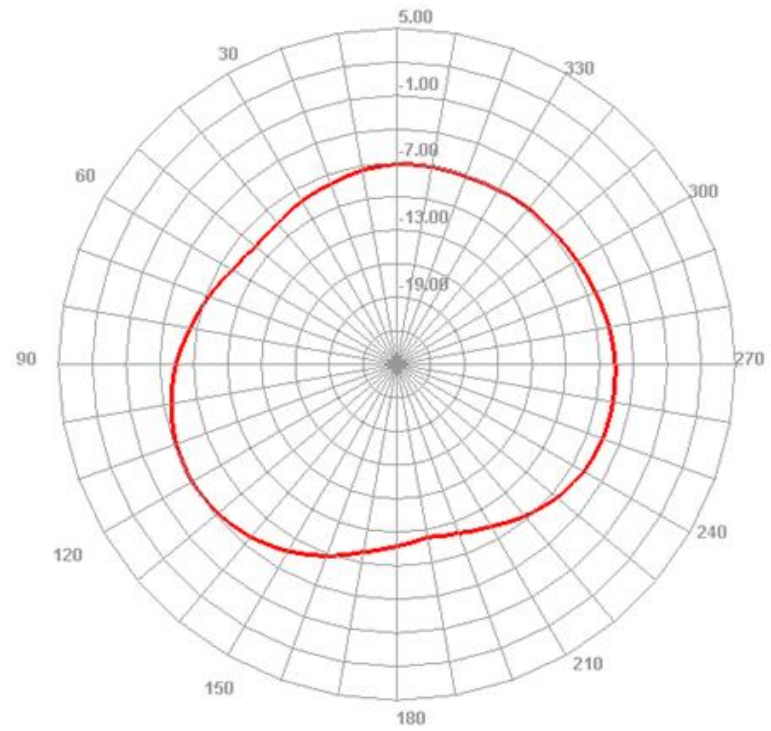


Efficient ( 2500–2690MHz )

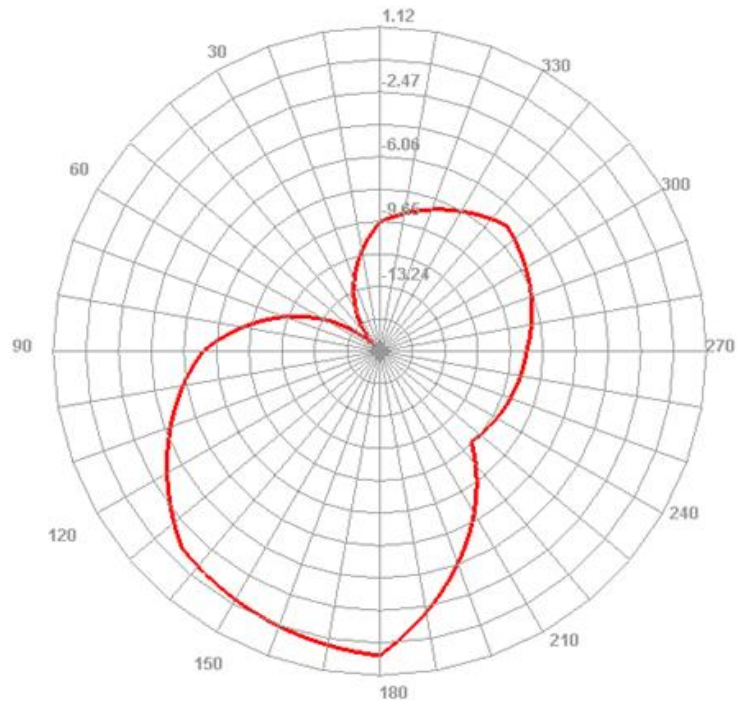
2660.000MHz



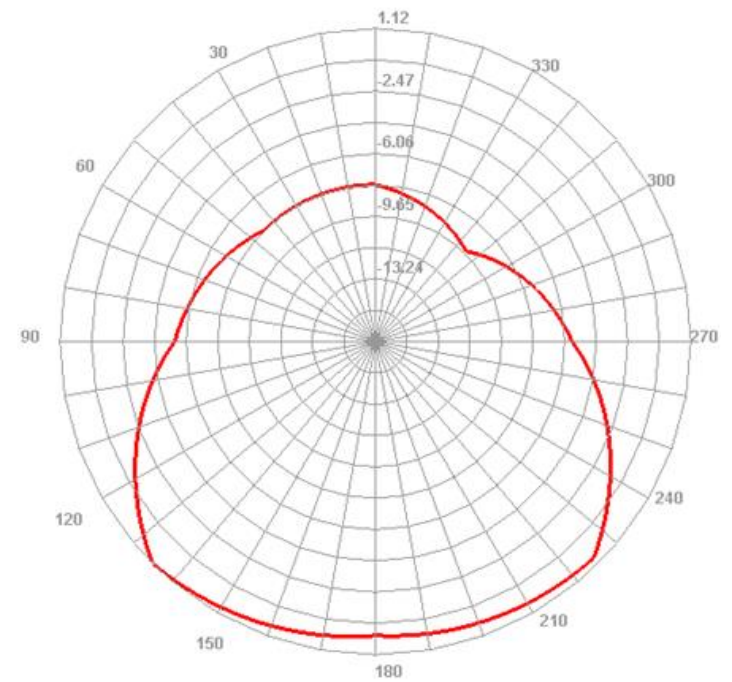
2660.000MHz H



2660.000MHz E1



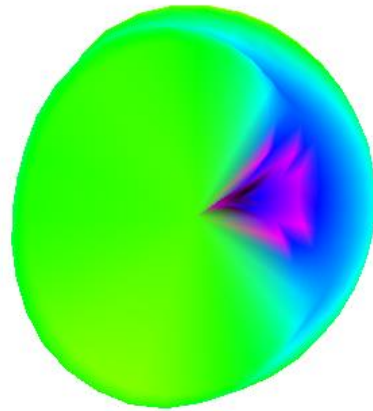
2660.000MHz E2



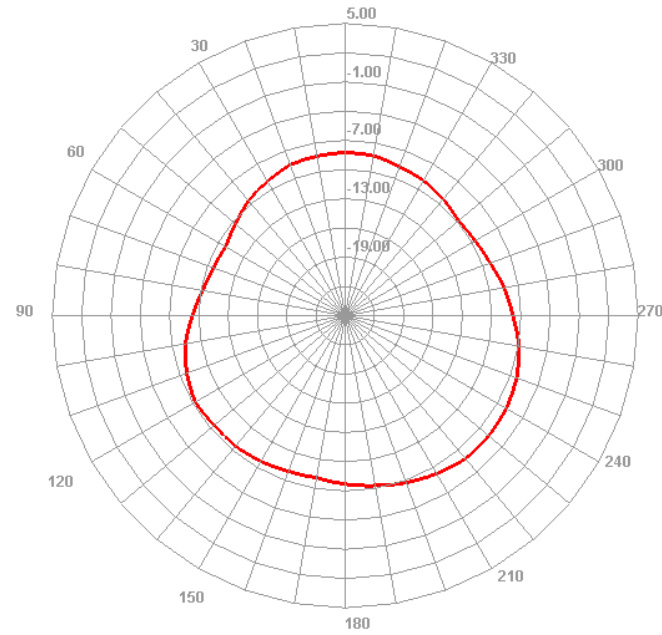


# Efficient ( 2.4G-WIFI/BT 2400-2500MHz )

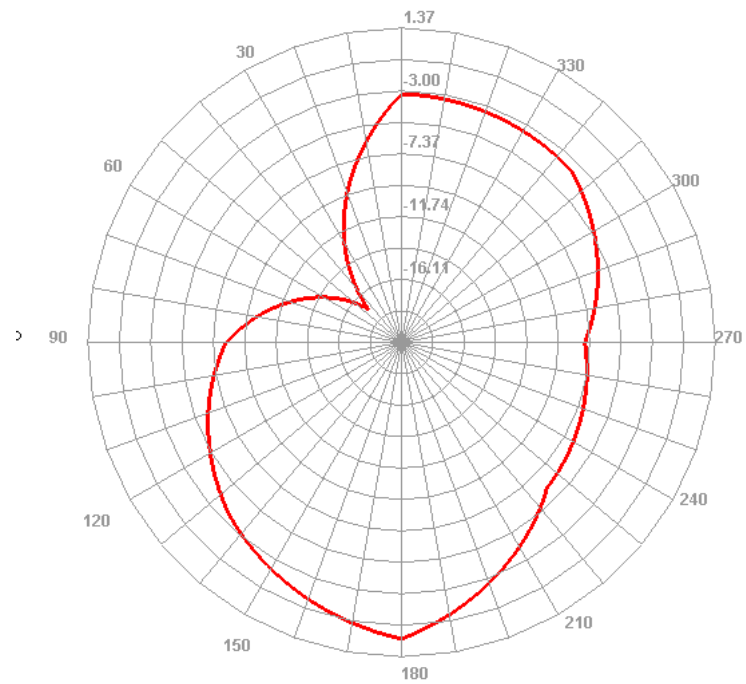
2450.000MHz



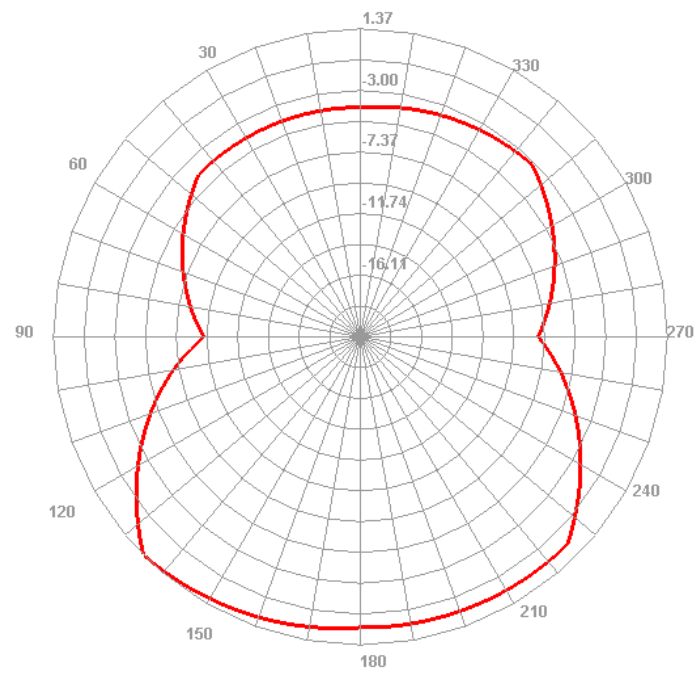
2450.000MHz H



2450.000MHz E1

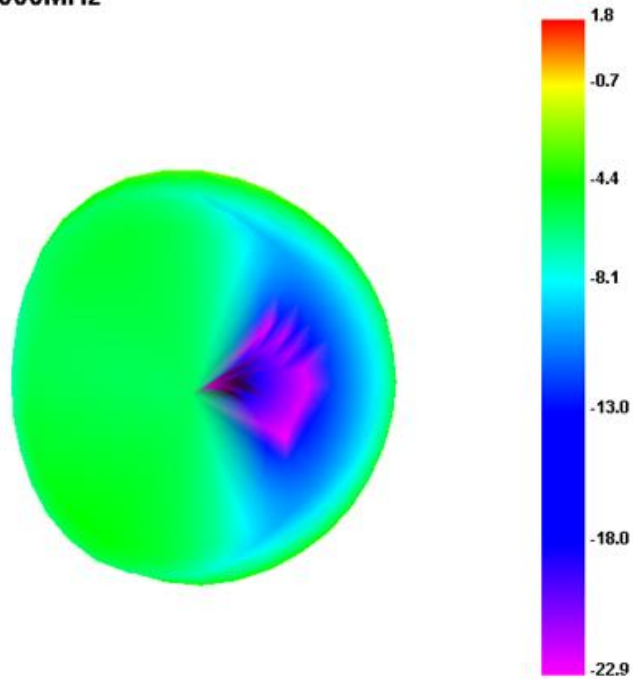


2450.000MHz E2

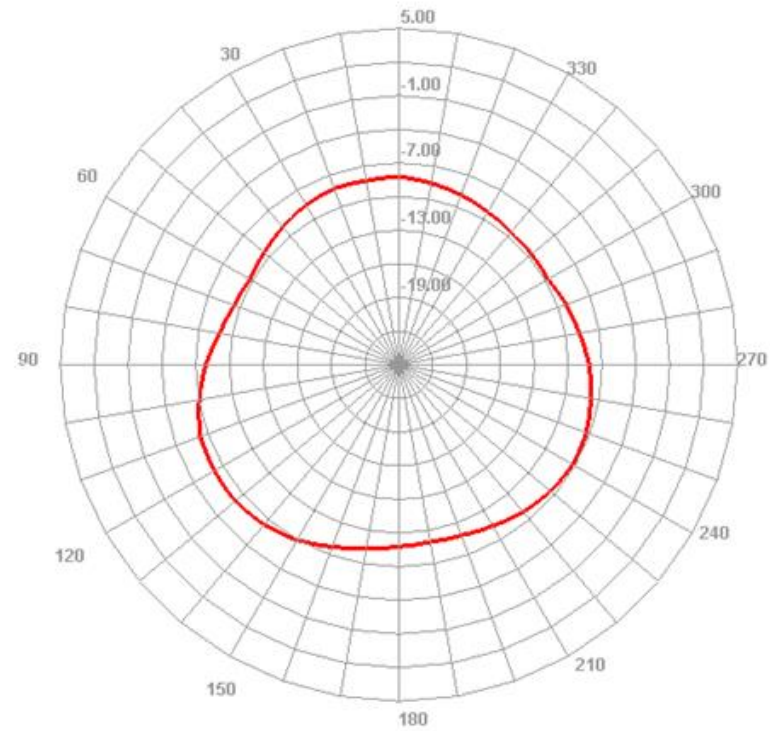


# Efficient ( 5G-WIFI 5000-5250MHz )

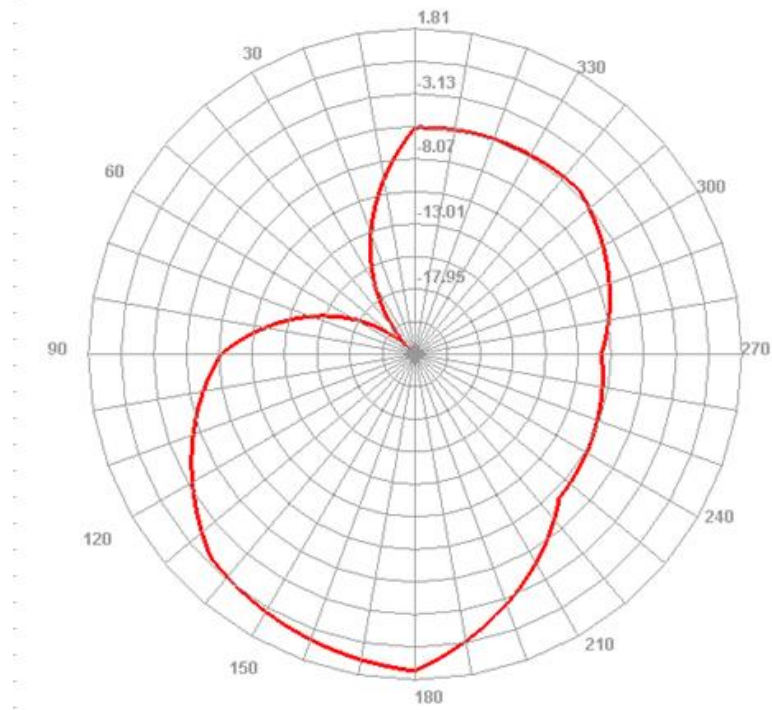
5150.000MHz



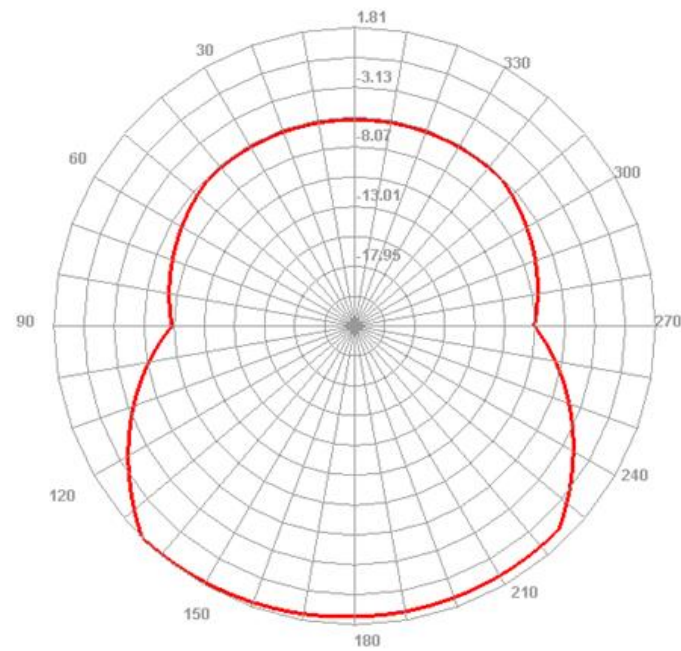
5150.000MHz H



5150.000MHz E1

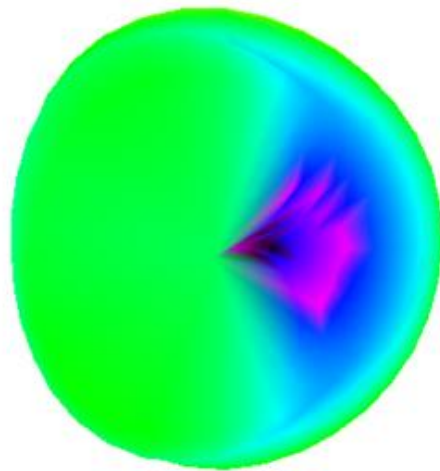


5150.000MHz E2

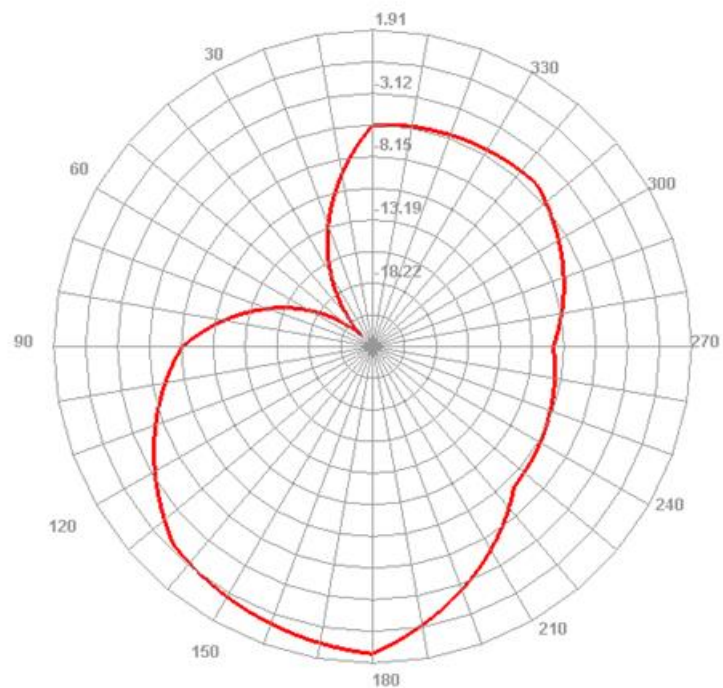


# Efficient ( 5G-WIFI 5725-5850MHz )

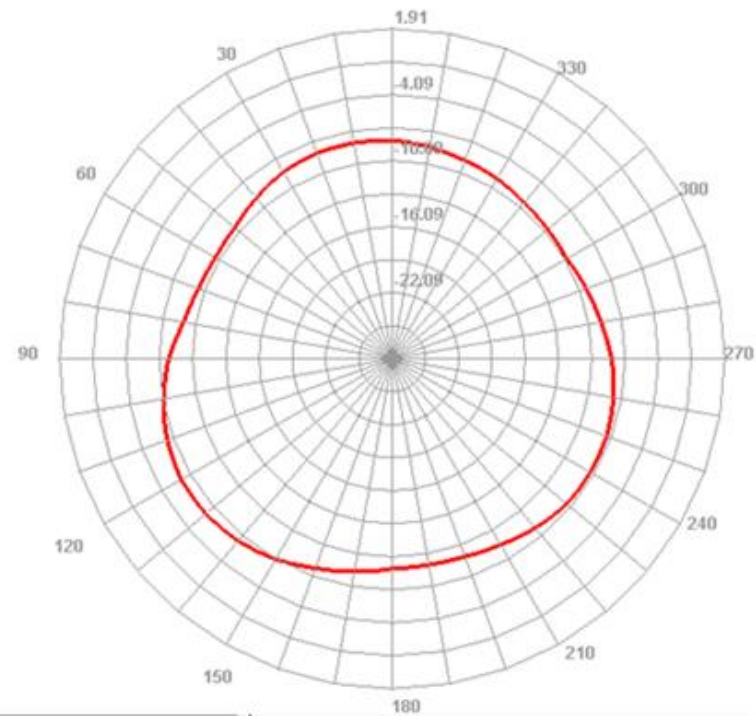
5740.000MHz



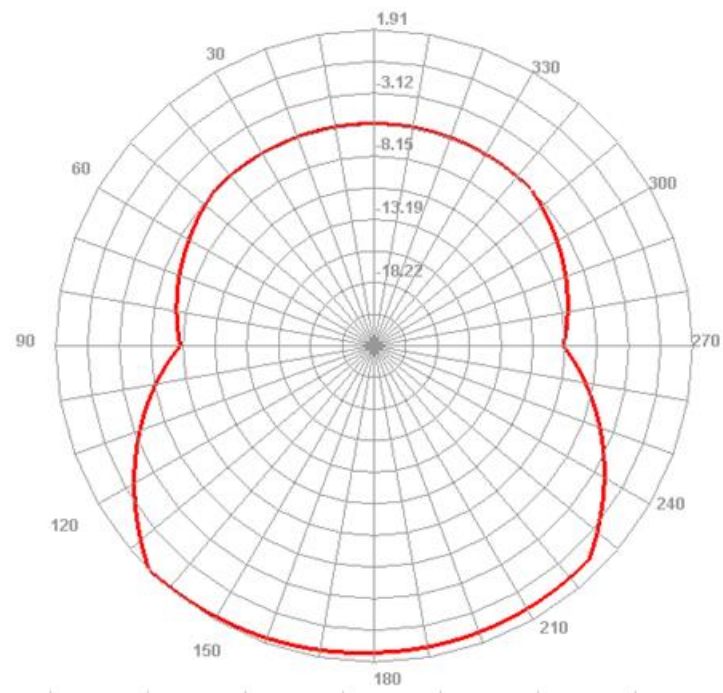
5740.000MHz E1



5740.000MHz H



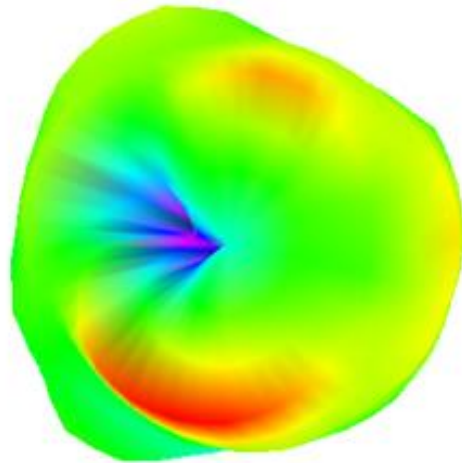
5740.000MHz E2



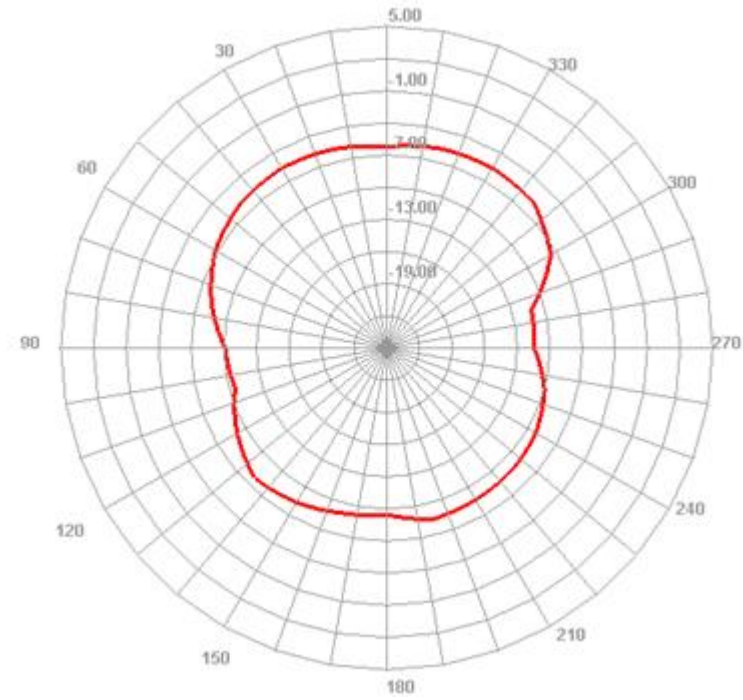


# Efficient ( GPS 1575.42MHz )

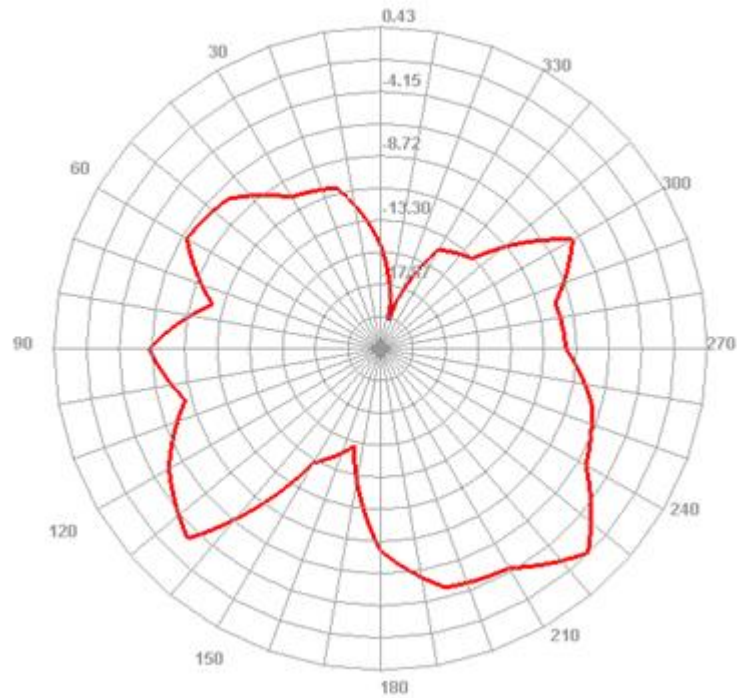
1575.491MHz



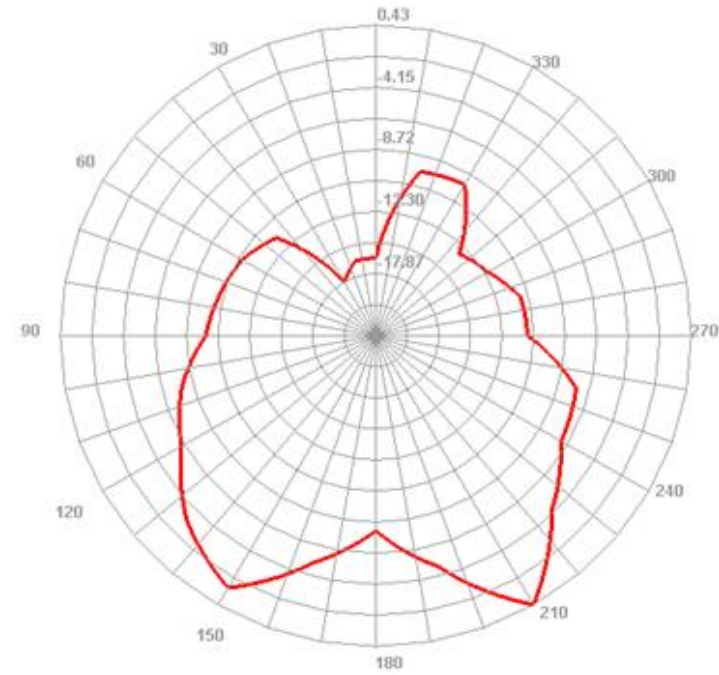
1575.491MHz H



1575.491MHz E1



1575.491MHz E2





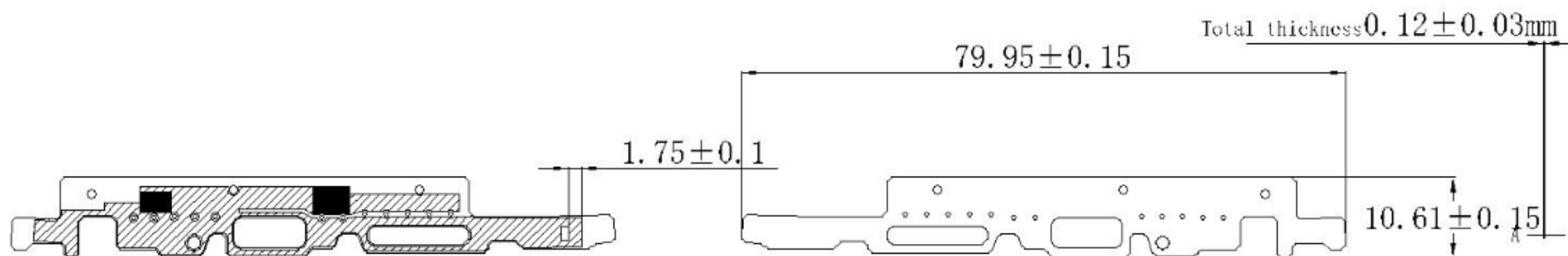
# Master antenna specifications

| version | Modify the content | modifier | date of revision |
|---------|--------------------|----------|------------------|
|         |                    |          |                  |
|         |                    |          |                  |
|         |                    |          |                  |

Shape - screen printing → Half and half black covering film  
silkscreen white characters



|           |                   |   |
|-----------|-------------------|---|
| substrate | Half to 1/3       |   |
|           | Half and half     | ✓ |
|           | A pair and a half |   |
|           | one-to-one        |   |



Finished product drawing-front

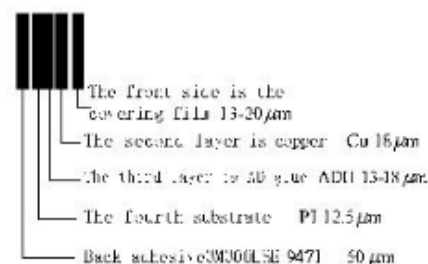
Hand tear line back glue map-back

P VOL.1  
 P VOL.2  
 P VOL.3  
 P VOL.4  
 P VOL.5  
 P VOL.6  
 P VOL.7  
 P VOL.8  
 P VOL.9  
 P VOL.10

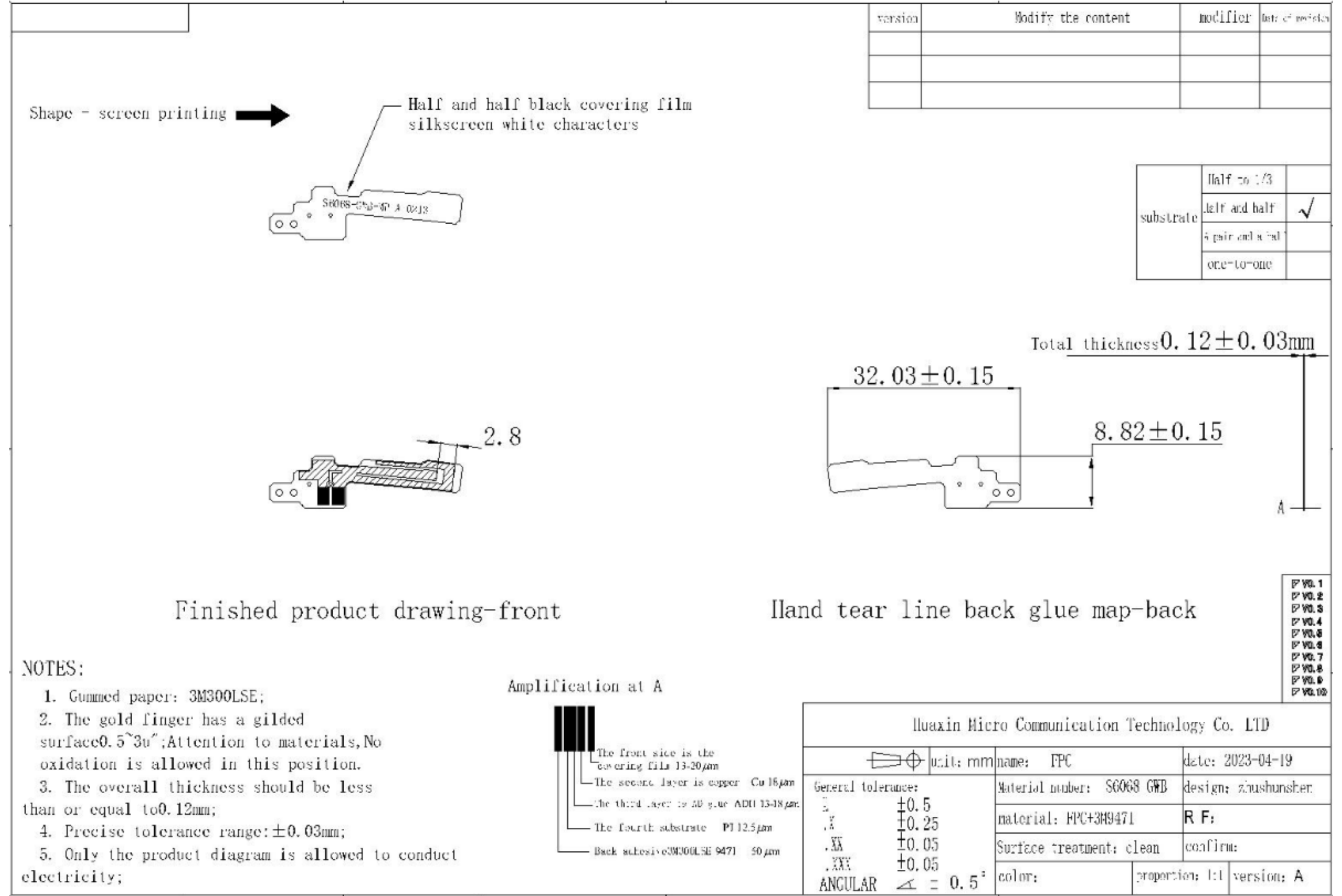
## NOTES:

1. Gunned paper: 3M300LSE;
2. The gold finger has a gilded surface  $0.5 \sim 3\mu$ ; Attention to materials, No oxidation is allowed in this position.
3. The overall thickness should be less than or equal to  $0.12\text{mm}$ ;
4. Precise tolerance range:  $\pm 0.03\text{mm}$ ;
5. Only the product diagram is allowed to conduct electricity;

## Amplification at A



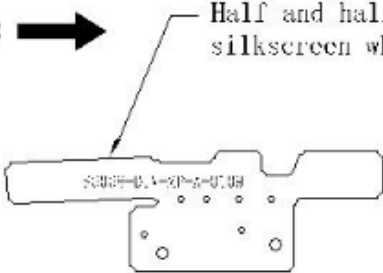
| Huaxin Micro Communication Technology Co. LTD |        |                            |                     |            |
|-----------------------------------------------|--------|----------------------------|---------------------|------------|
| unit: mm                                      |        | name: FPC                  | date: 2023-04-19    |            |
| General tolerance:                            |        | Material number: S6068 GSM | design: zhushunshen |            |
| ±                                             | ±0.5   | material: FPC+3M9471       | R F:                |            |
| ±                                             | ±0.25  | Surface treatment: clean   | confirm:            |            |
| ±                                             | ±0.05  | color:                     | proportion: 1:1     | version: A |
| ±                                             | ±0.05  |                            |                     |            |
| ANGULAR                                       | ≤ 0.5° |                            |                     |            |



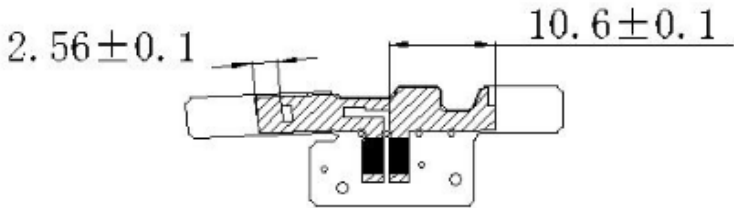
Diversity antenna specifications

| version | Modify the content | modifier | date of register |
|---------|--------------------|----------|------------------|
|         |                    |          |                  |
|         |                    |          |                  |
|         |                    |          |                  |

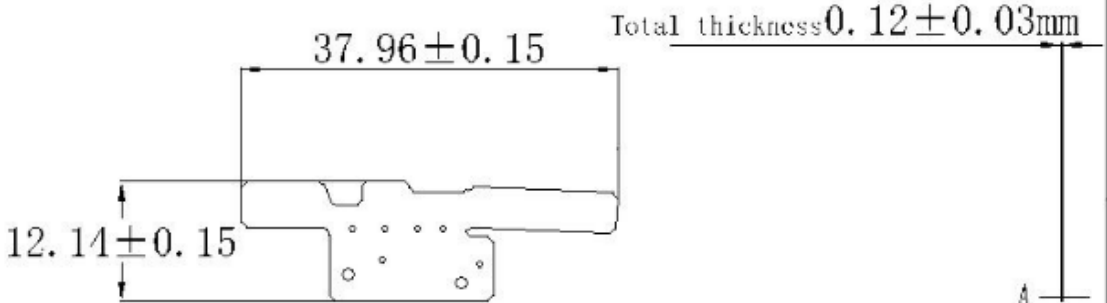
Shape - screen printing → Half and half black covering film  
silkscreen white characters



|           |                   |   |
|-----------|-------------------|---|
| substrate | half to 1/3       |   |
|           | half and half     | ✓ |
|           | 3 pair and a half |   |
|           | one-to-one        |   |



Finished product drawing-front

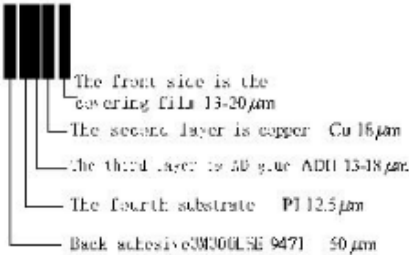


Hand tear line back glue map-back

NOTES:

1. Gunned paper: 3M300LSE;
2. The gold finger has a gilded surface  $0.5 \sim 3 \mu$ ; Attention to materials, No oxidation is allowed in this position.
3. The overall thickness should be less than or equal to  $0.12 \text{ mm}$ ;
4. Precise tolerance range:  $\pm 0.03 \text{ mm}$ ;
5. Only the product diagram is allowed to conduct electricity;

Amplification at A



|                                               |          |                            |                     |
|-----------------------------------------------|----------|----------------------------|---------------------|
| Huaxin Micro Communication Technology Co. LTD |          |                            |                     |
|                                               | unit: mm | name: FPC                  | date: 2023-04-19    |
| General tolerance:                            |          | Material number: S6068 DIV | design: zhushunshen |
| $\pm 0.5$                                     |          | material: FPC+3M9471       | R F:                |
| $\pm 0.25$                                    |          | Surface treatment: clean   | confirm:            |
| $\pm 0.05$                                    |          | color:                     | proportion: 1:1     |
| $\pm 0.05$                                    |          | version: A                 |                     |
| ANGULAR $\angle = 0.5^\circ$                  |          |                            |                     |

□ VOL. 1  
□ VOL. 2  
□ VOL. 3  
□ VOL. 4  
□ VOL. 5  
□ VOL. 6  
□ VOL. 7  
□ VOL. 8  
□ VOL. 9  
□ VOL. 10