



ShenZhen Huaxinwei communication  
technology Co.,Ltd.

## Antenna test report

Customer Name: Hua Yue Shi Tong

Project Name: N63B-A

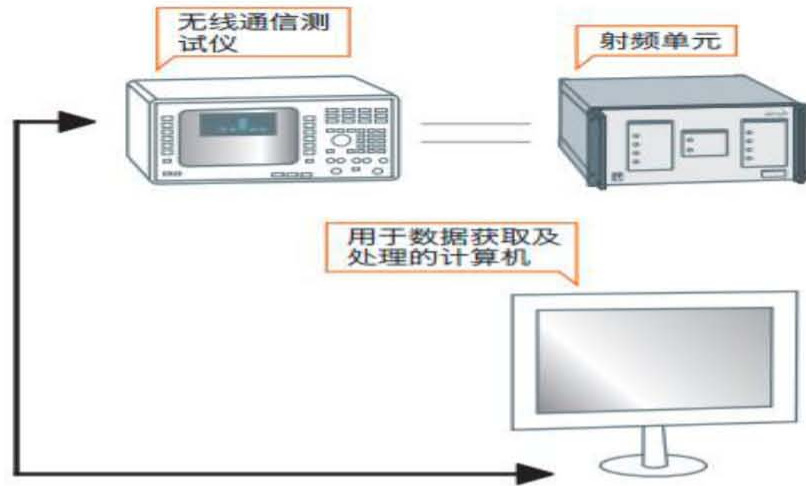
Designer: Zhang Jun

Date: 2022/11/10

The customer name		<b>Hua Yue Shi Tong</b>	Project Name	<b>N63B-A</b>
NO.	project	<b>Detailed above</b>		
1	spectrum	GSM850/900/1800/1900+WCDMA-B1/2/4/5/8+LTE-B2/3/4/5/7/8/28/38+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

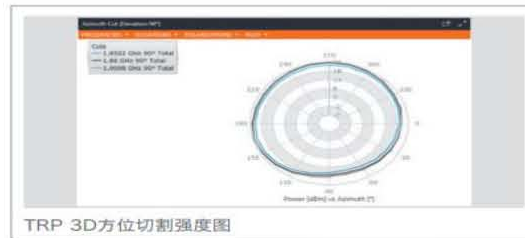
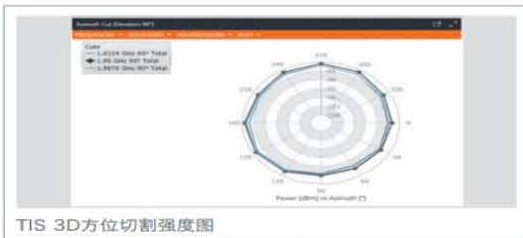
System Brand: MVG(SATIMO) measurement features: gain • pattern beamwidth cross polarization resolution sidelobe level 3D cavity reflectance at any polarization cavity reflectance (line or arc) antenna efficiency TRP, TIS, EIRP and EIS. Frequency band: StarLab 6 GHz - 650 MHz to 6 GHz



TIS预计测量时间 (一个信道每隔30° 取样)

灵敏度算法 \ 标准	GSM GPRS EDGE	CDMA 1 x RTT 1 x EvDO	WCDMA HSDPA LTE FDD/TDD	Wi-Fi 802.11 a/b/g/n	CTIA 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





Antenna position

WWAN LB antenna



GPS/WIFI/BT antenna



WWANdiversityM&Hantenna

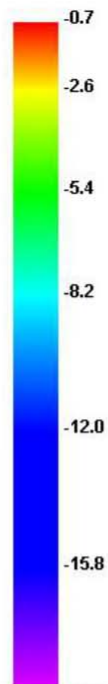
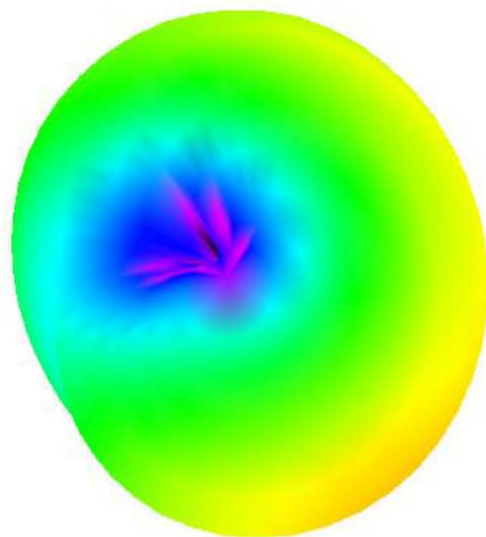


## Efficient ( 2G+3G+4G+2.4G-WiFi /BT)

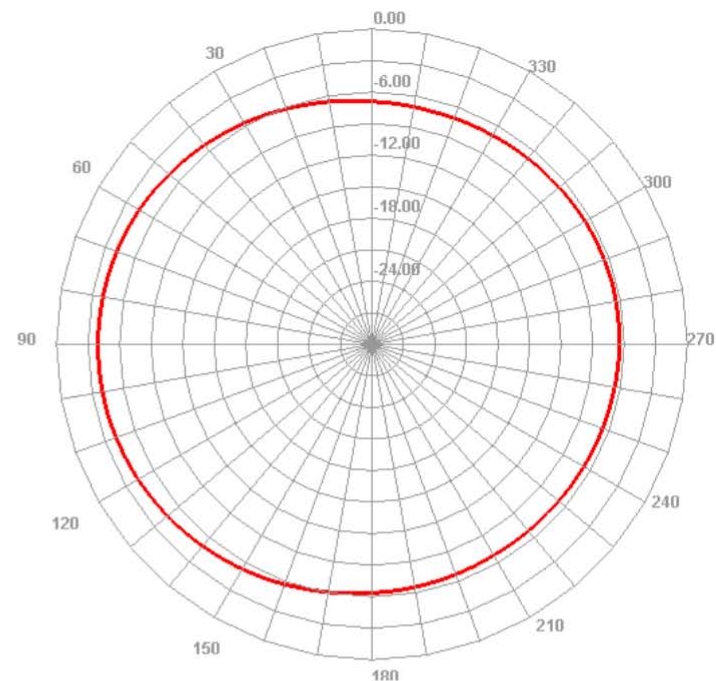
PEAK GAIN		
2G:	Frequency range	dBi
GSM850	824~894Mhz	-0.70
GSM900	880~960Mhz	-1.05
DCS1800	1710~1880Mhz	0.63
PCS1900	1850~1990Mhz	0.82
3G:		
W1	1920~2170Mhz	0.91
W2	1850~1990Mhz	0.82
W4	1710~2155	0.92
W5	824~894Mhz	-0.70
W8	880~960Mhz	-1.05
4G:		
LTE-B2	1850~1990Mhz	0.82
LTE-B3	1710~1880Mhz	0.63
LTE-B4	1710~2155Mhz	0.92
LTE-B5	824~894Mhz	-0.70
LTE-B7	2500~2690Mhz	1.11
LTE-B8	880~960Mhz	-1.05
LTE-B26	819~889Mhz	-0.70
LTE-B28	708~798Mhz	-1.41
LTE-B38	2570~2620MHz	1.12
WIFI	2400~2500Mhz	2.08dBi
BT	2400~2500Mhz	2.08dBi

# Efficient ( GSM850+W5+LTE-B5/B26 )

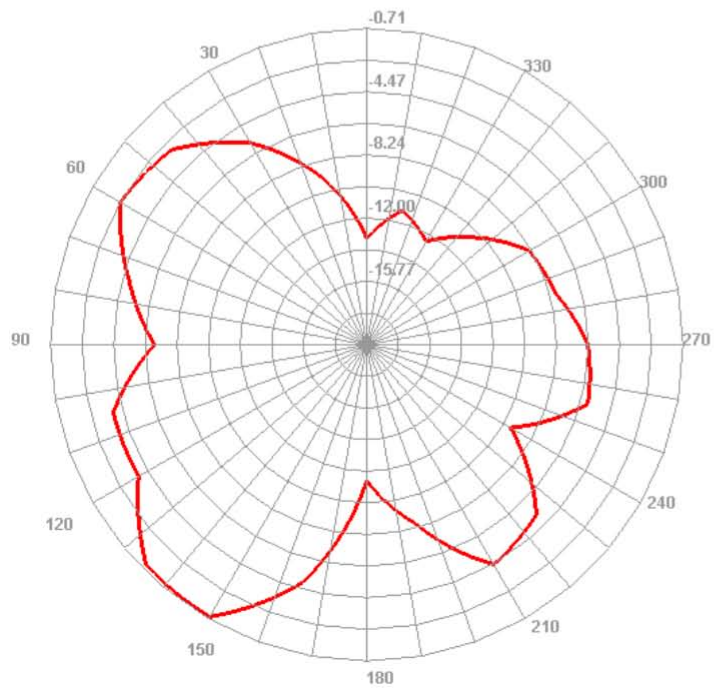
830.000MHz



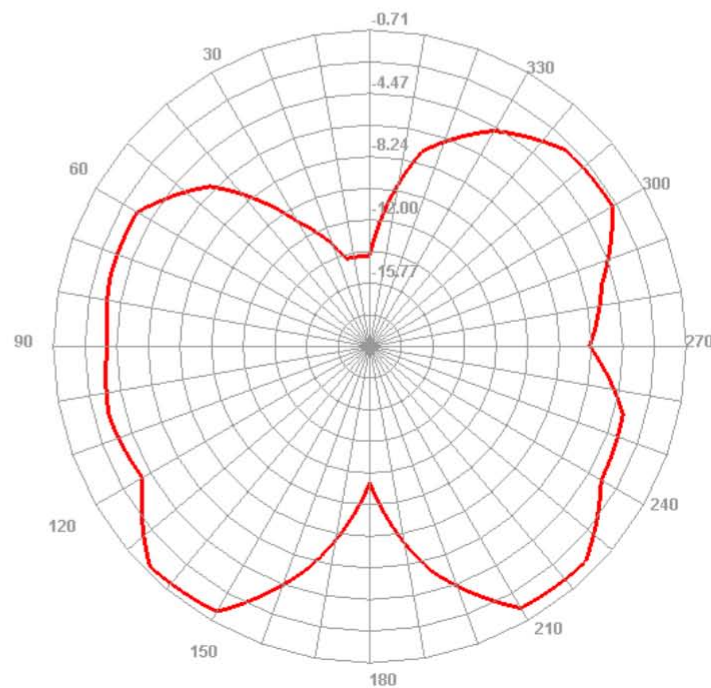
830.000MHz H



830.000MHz E1

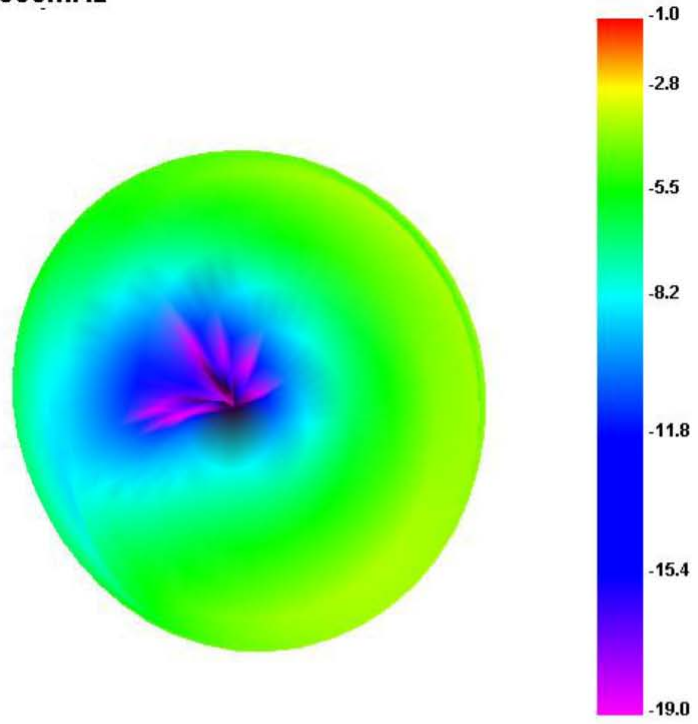


830.000MHz E2

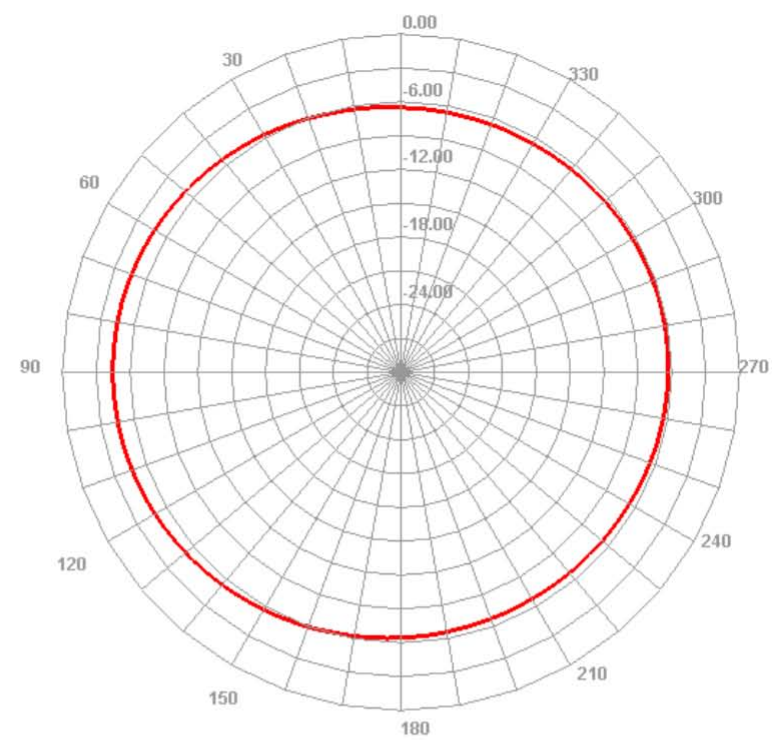


# Efficient ( GSM900+W8+LTE-B8 880~960MHz )

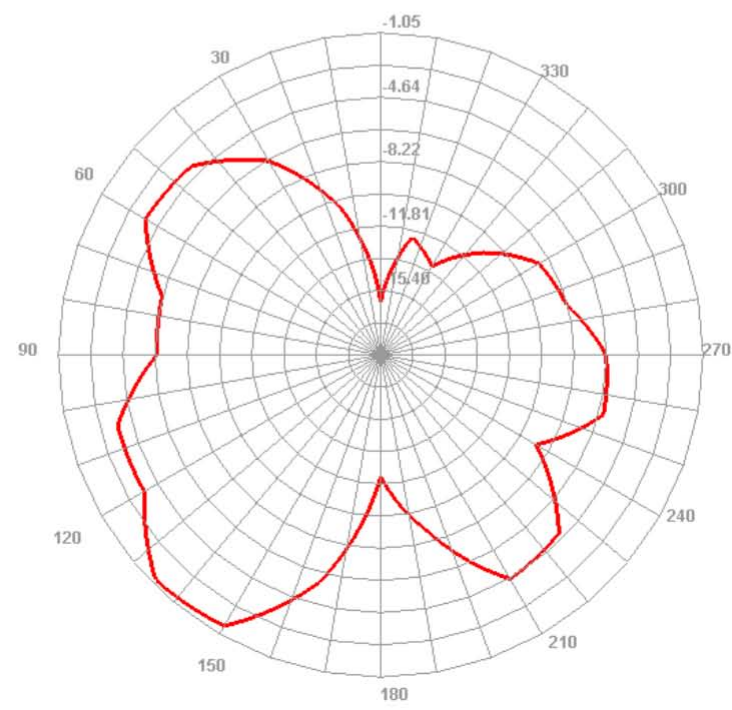
900.000MHz



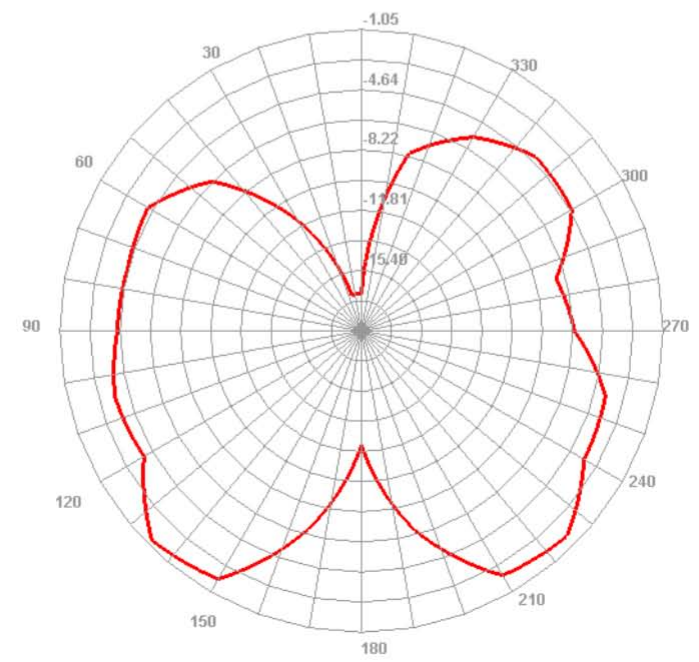
900.000MHz H



900.000MHz E1



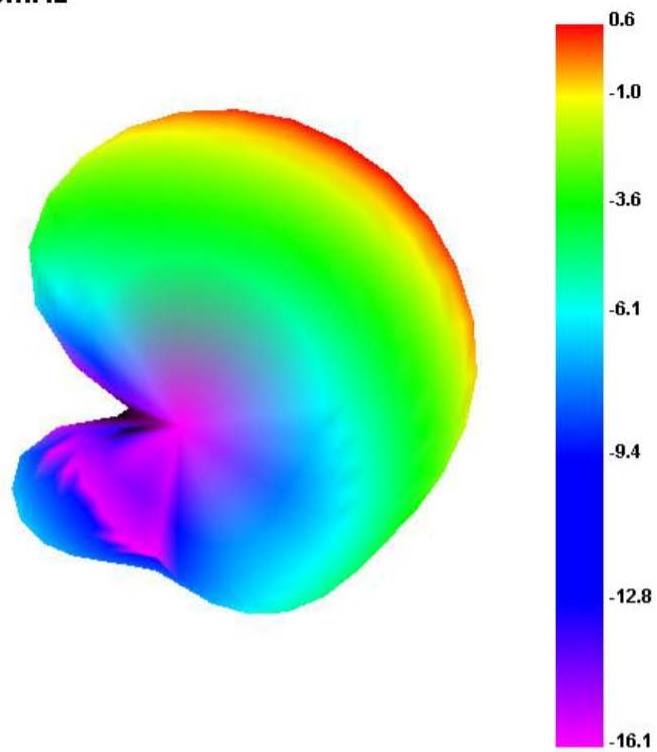
900.000MHz E2



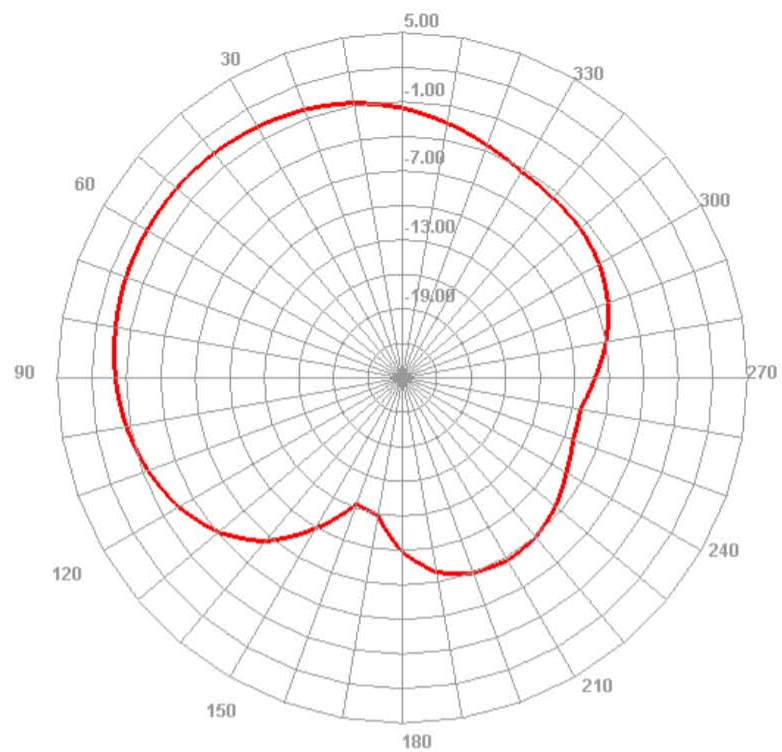


# Efficient ( GSM1800+LTE-B3 1710~1880 MHz)

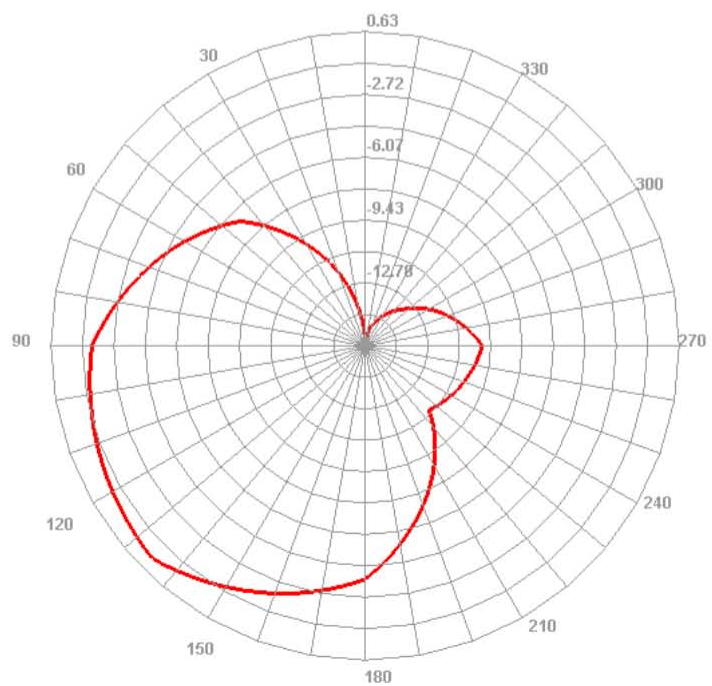
1820.000MHz



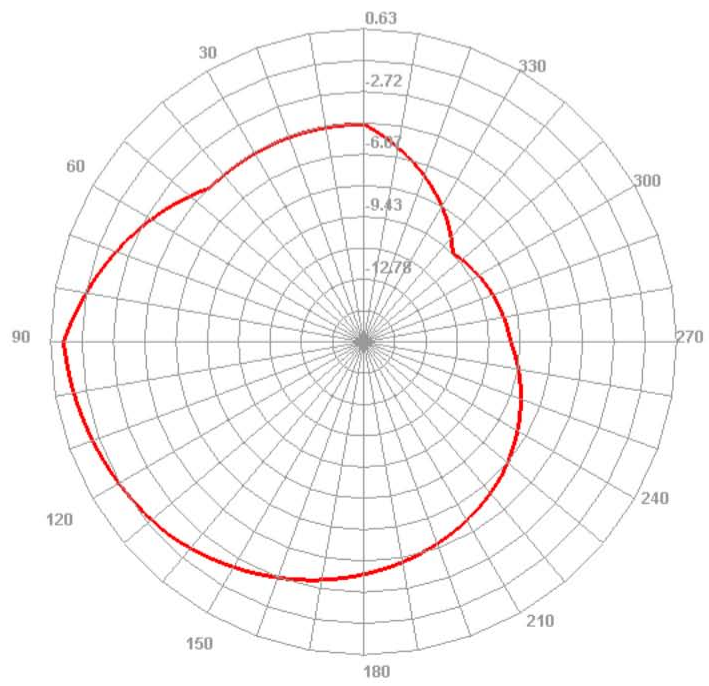
1820.000MHz H



1820.000MHz E1

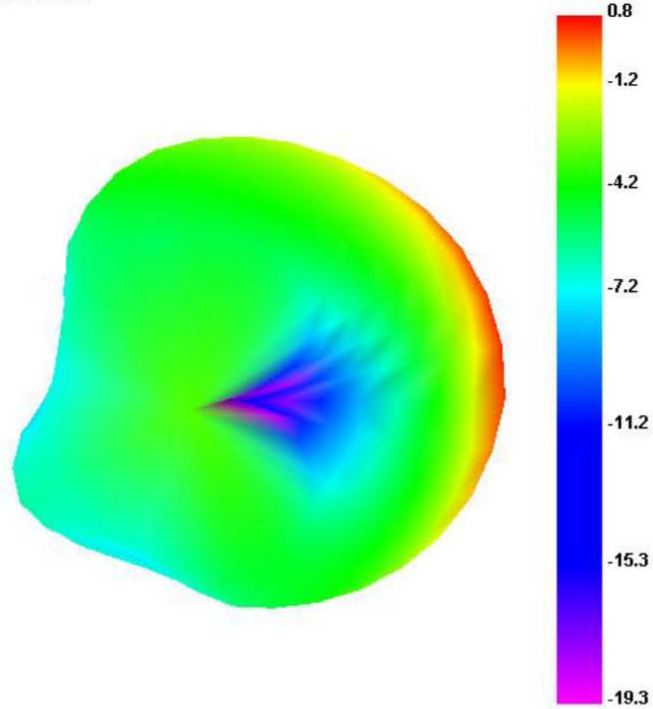


1820.000MHz E2

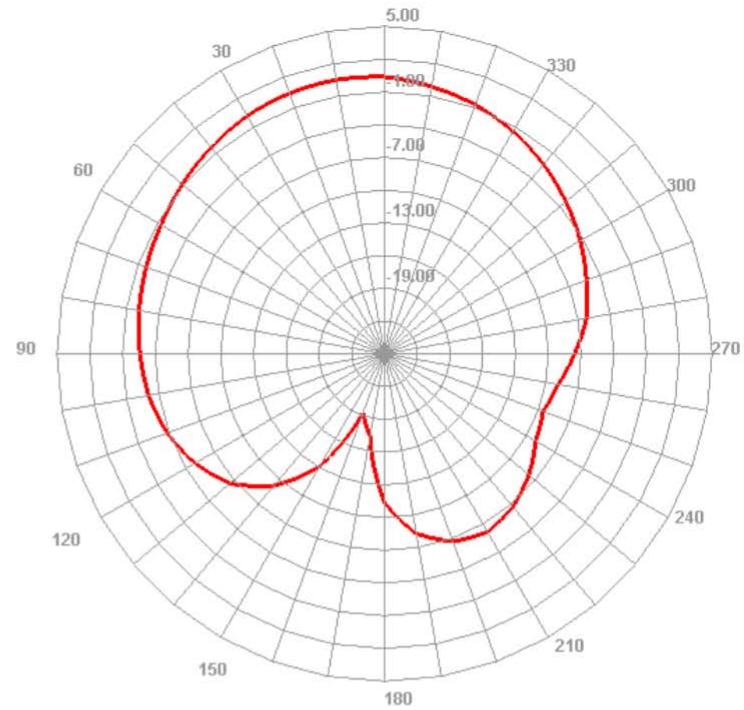


# Efficient ( GSM1900+W2+LTE-B2 1850~1990 MHz )

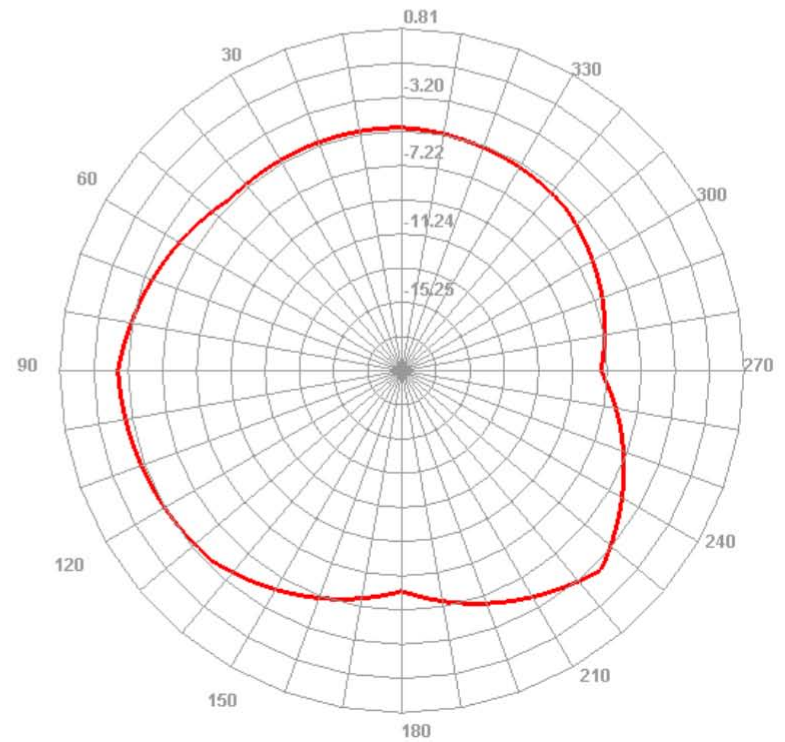
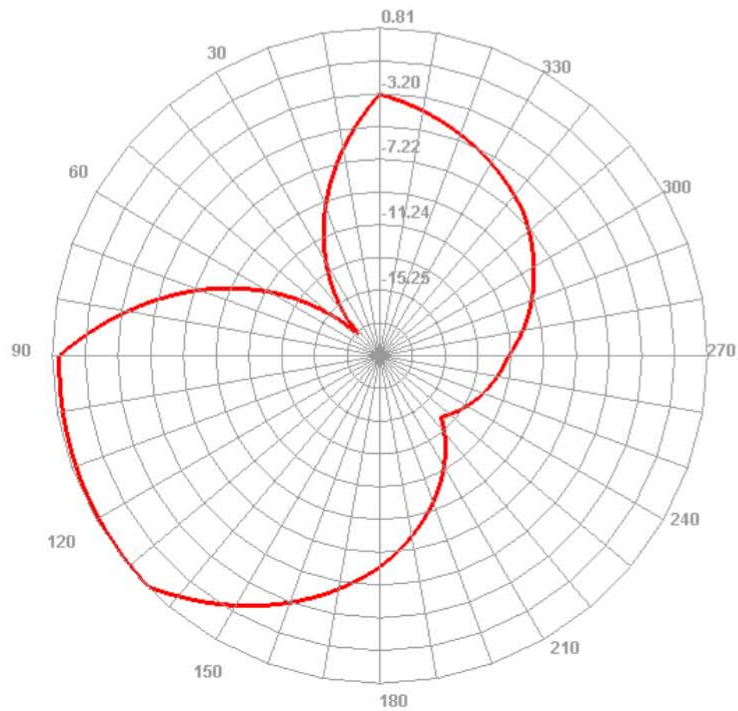
1920.000MHz



1920.000MHz H

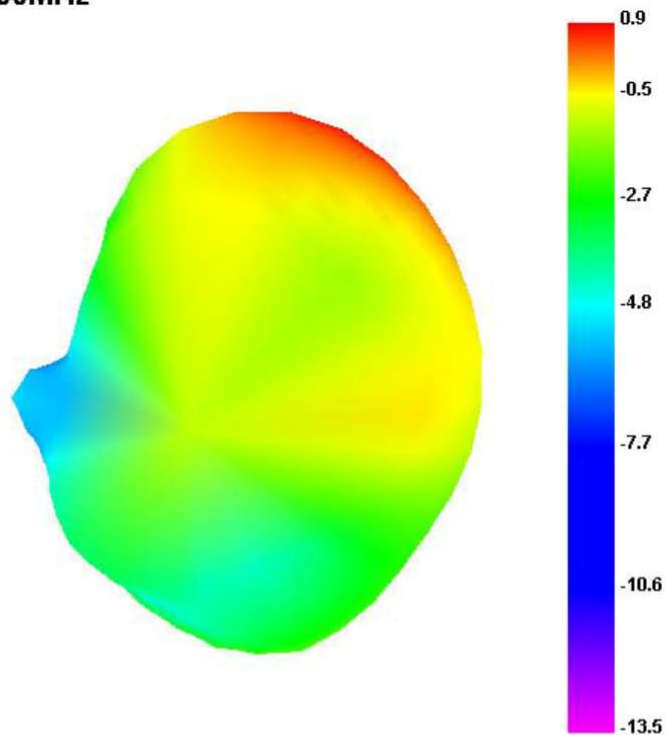


1920.000MHz E1

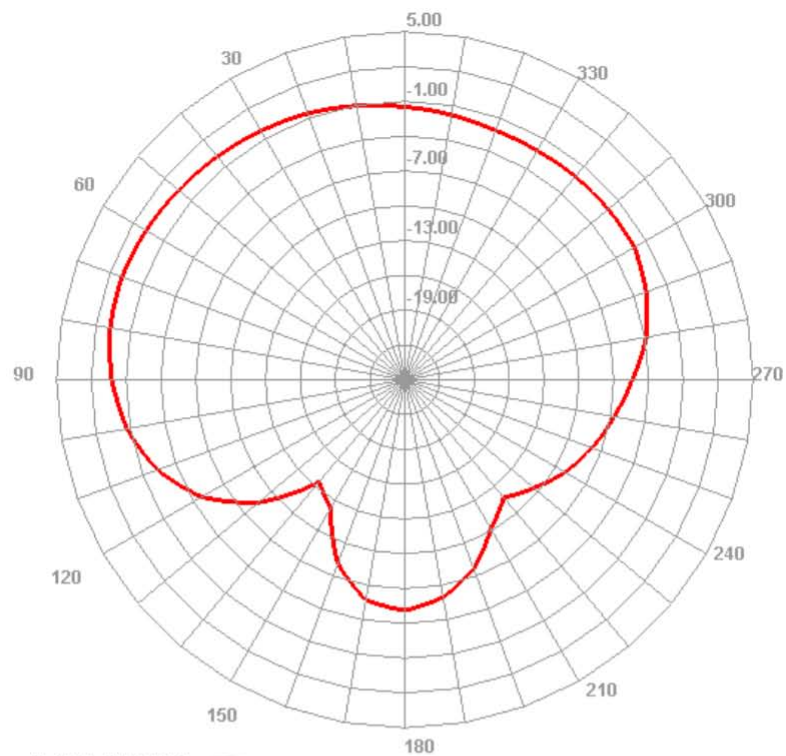


# Efficient (W1/4+LTE-B1/4 1710~2170MHz )

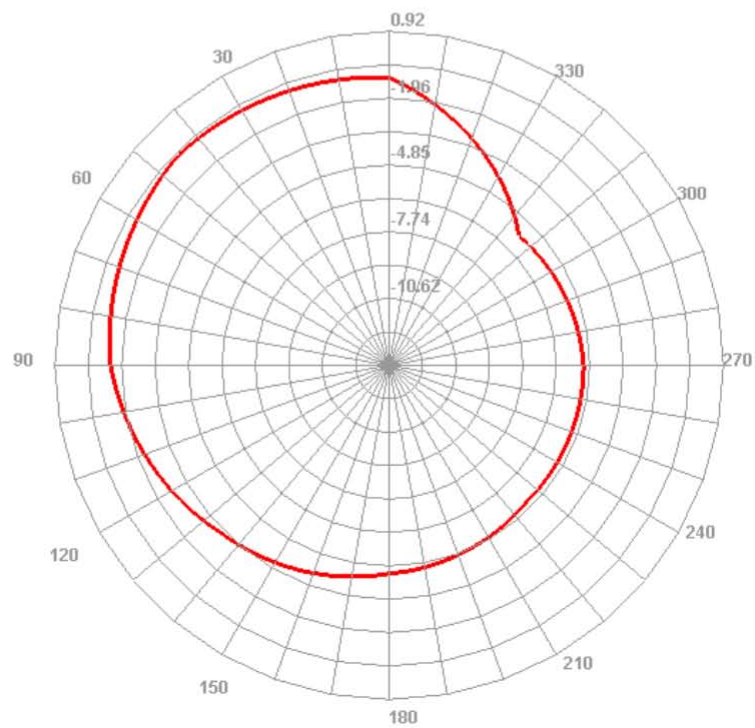
## 2160.000MHz



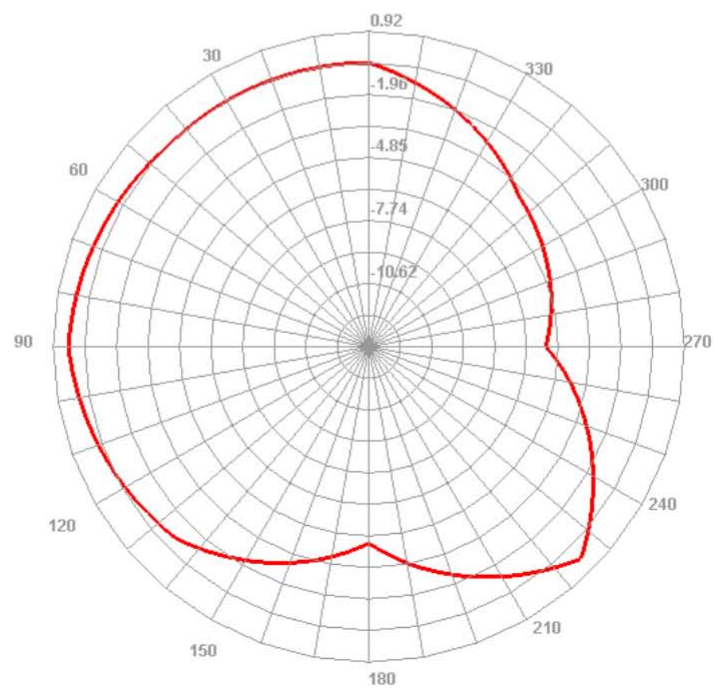
## 2160.000MHz H



## 2160.000MHz E1

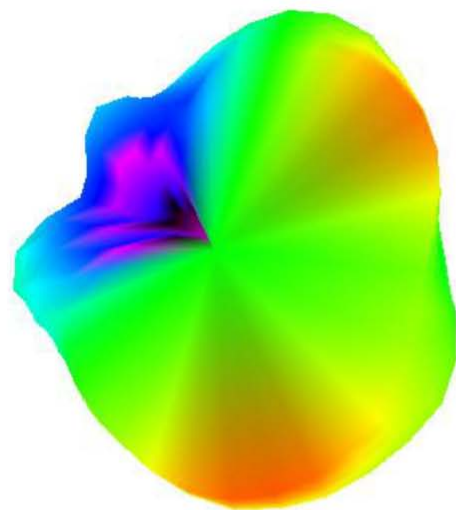


## 2160.000MHz E2

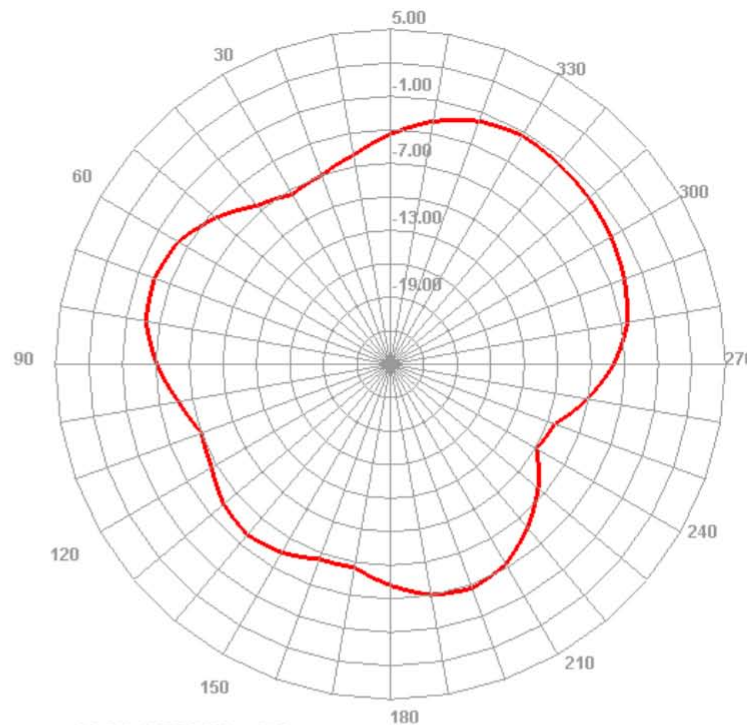


# Efficient ( LTE-B7/38 2500~2690MHz )

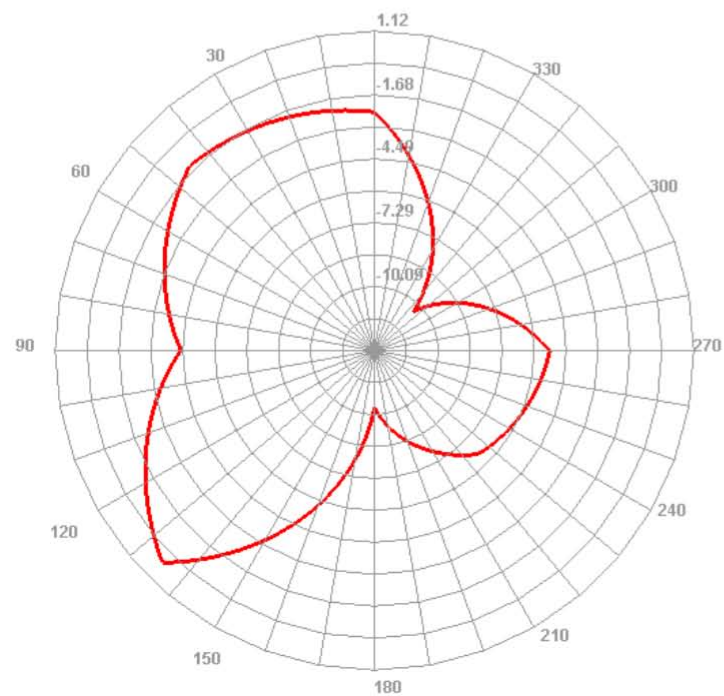
2680.000MHz



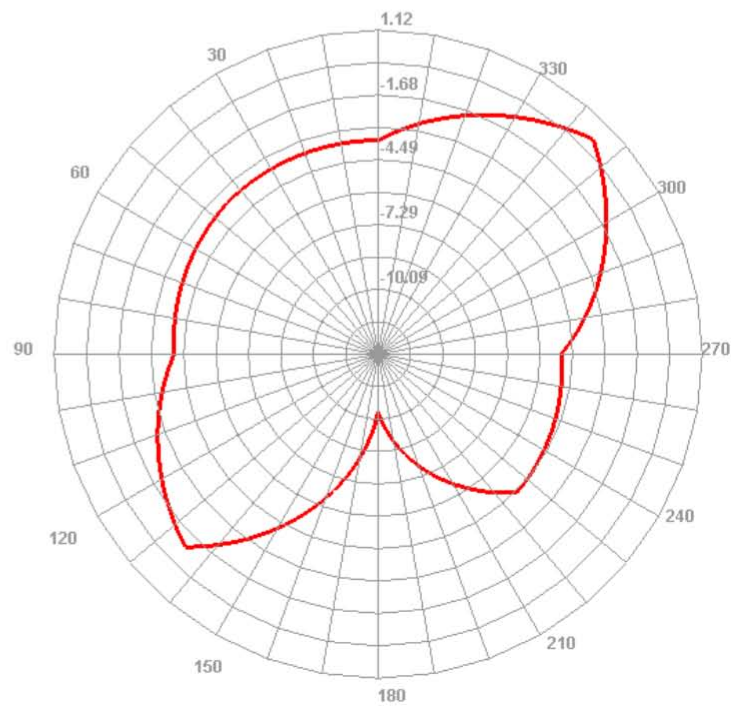
2680.000MHz H



2680.000MHz E1

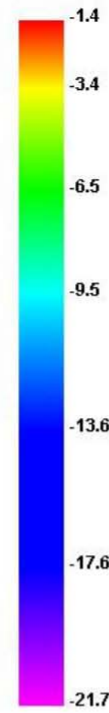
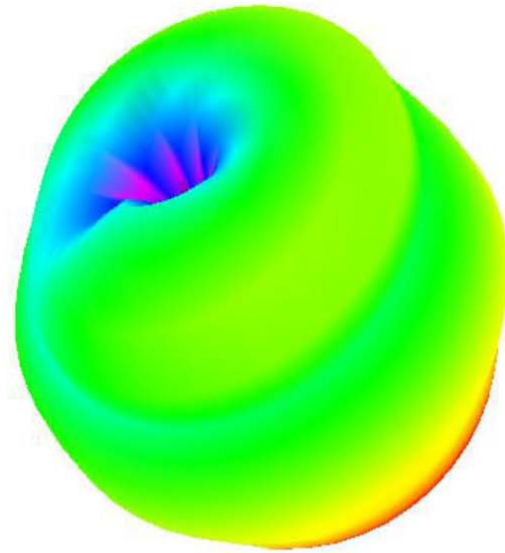


2680.000MHz E2

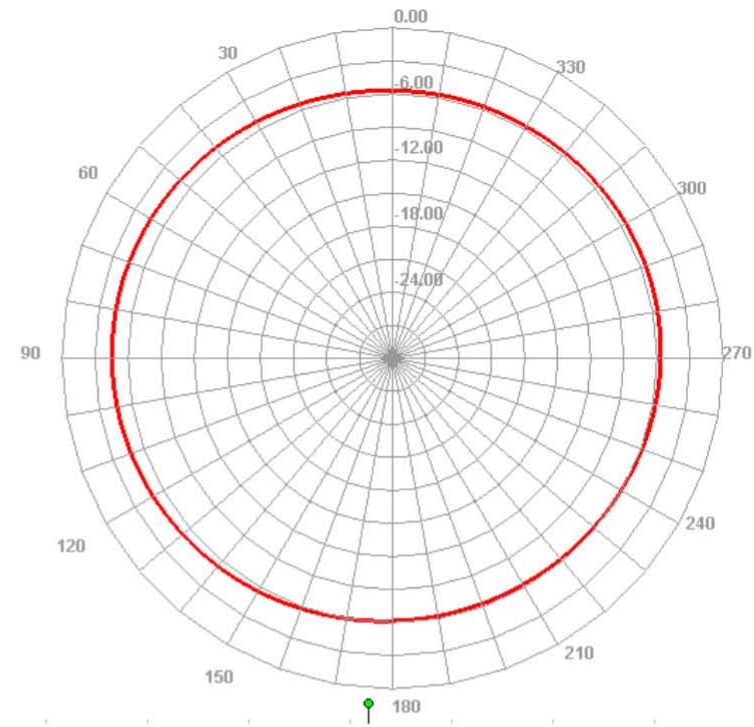


# Efficient (LTE-B17 708~798 MHz )

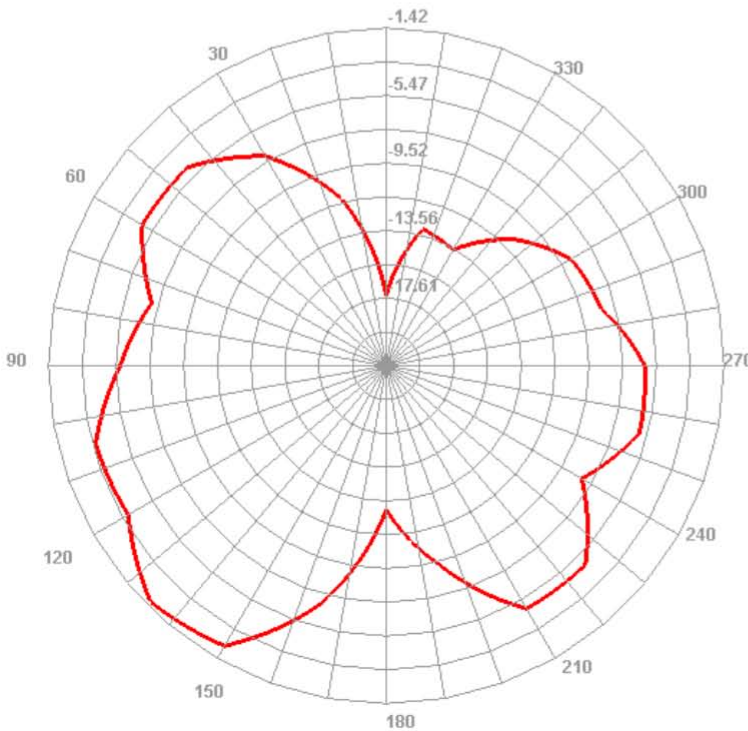
710.000MHz



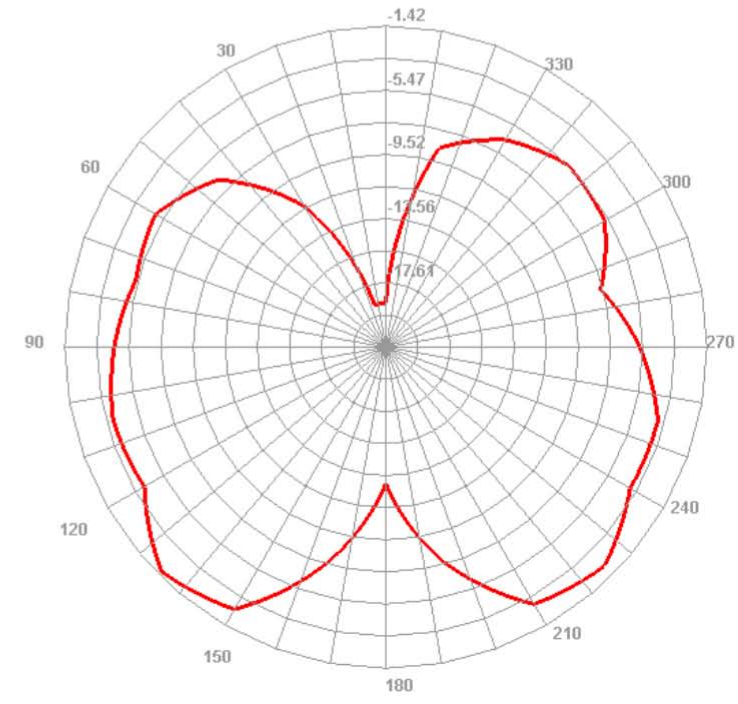
710.000MHz H



710.000MHz E1

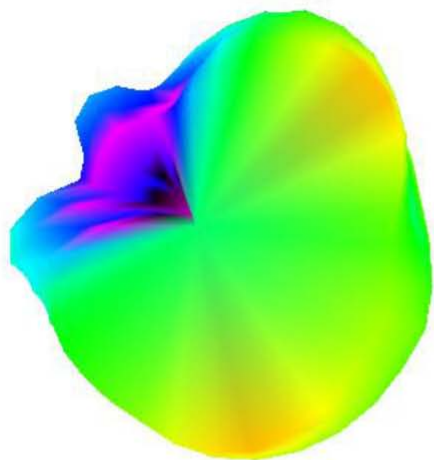


710.000MHz E2

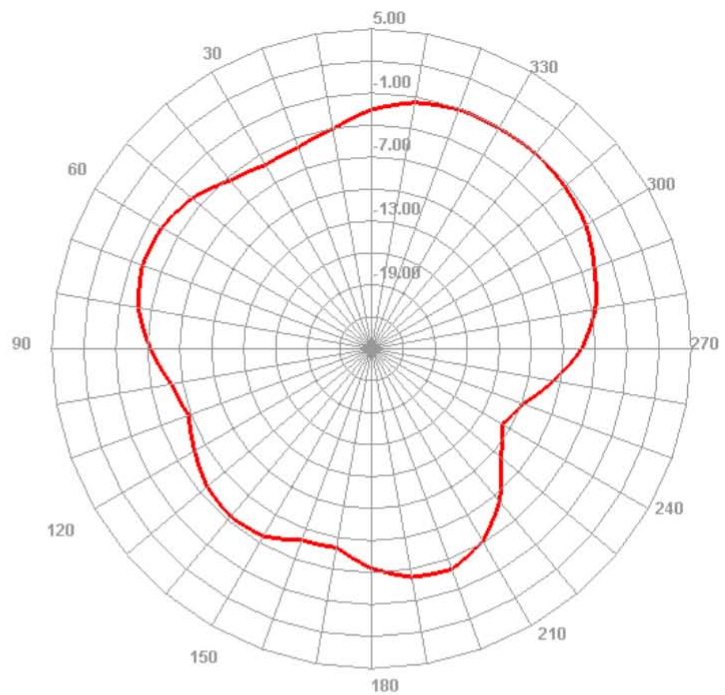


# Efficient (2.4GWIFI/BT)

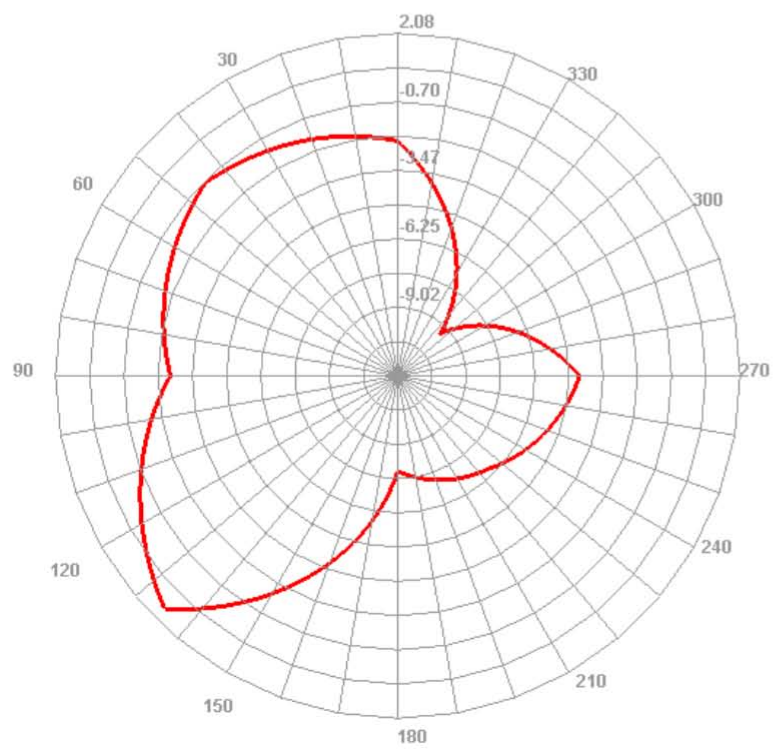
2440.000MHz



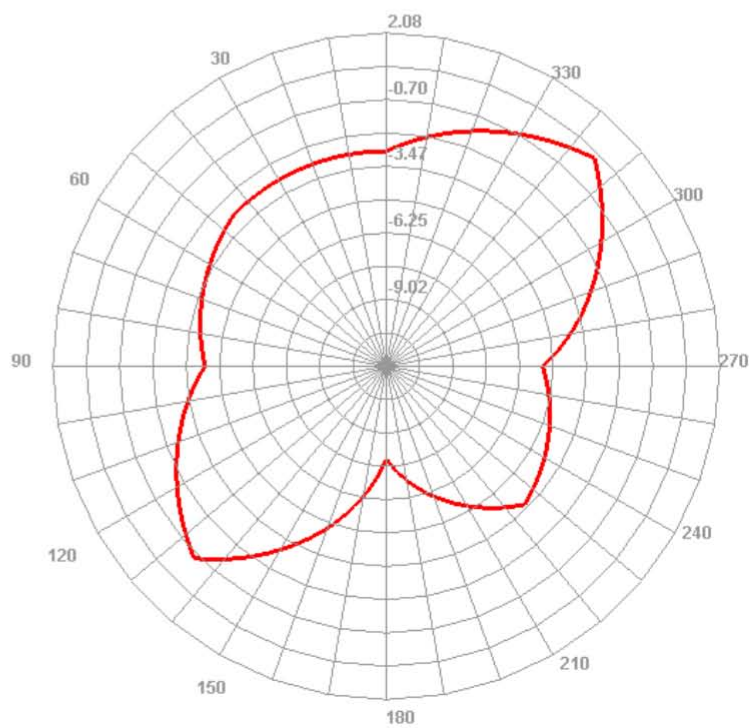
2440.000MHz H



2440.000MHz E1

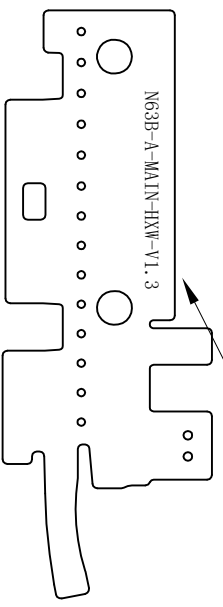


2440.000MHz E2



Version	Modify the content	Modifiers	Revision date

Shape+Silk screen →

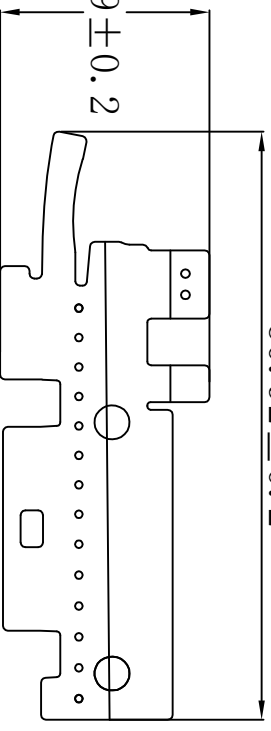
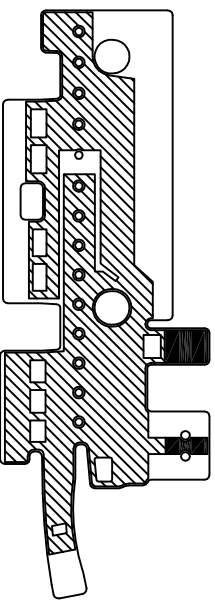


Sub-black ink screen printing  
bright black characters

Substrate	Half pair/3	Half and half
	A pair and a half	
One on one		

60.92±0.2

Total thickness 0.12±0.01mm



21.69±0.2

### Finished drawing—Heads

Figure of hand-pulled  
thread back glue

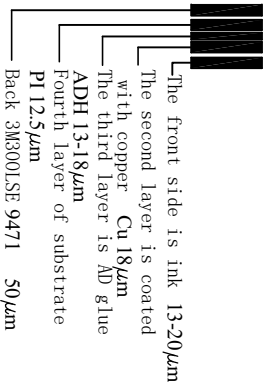
—Back

Zoom in on A

PC V0.1
PC V0.2
PC V0.3
PC V0.4
PC V0.5
PC V0.6
PC V0.7
PC V0.8
PC V0.9
PC V0.10

HuaXinWei Communications Technology Co., Ltd.

- NOTES:
1. The adhesive paper is: 3M300LSE;
  2. Gold-plated fingers 0.5~3u"; Pay attention to the materials, There shall be no oxidation in this position.
  3. The overall thickness should be less than or equal to 0.12mm;
  4. Precise tolerance range: ±0.03mm;
  5. Only allow electrical conductivity of product drawings;



Unit: mm	FPC		Date: 2022-10-15
General tolerance:	Material no.: N63B-A-GSM	Design: Zhu Shun Shen	
L ±0.5	Material: FPC+3M9471	R F:	
.X ±0.25	Surface treatment: Clean	Confirm:	
.XX ±0.05	Color:	Proportion: 1:1	Version: A
.XXX ±0.05			
ANGULAR ± 0.5°			

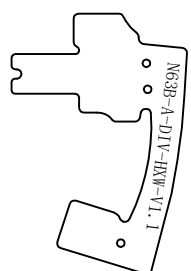
1

2

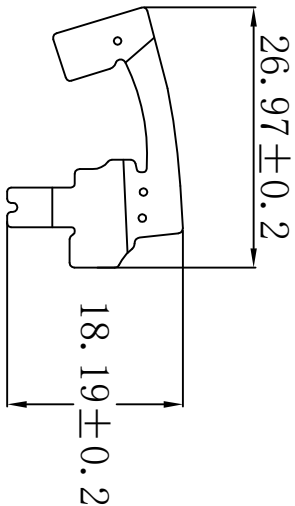
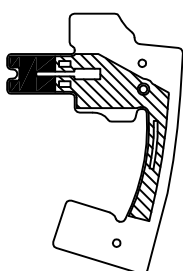
3

4

Shape+Silk screen →



Sub-black ink screen printing  
bright black characters



Total thickness  $0.12 \pm 0.01$  mm

Substrate	Half pair/3	Revision date
	Half and half	✓
A pair and a half		
One on one		

### Finished drawing—Heads

#### NOTES:

1. The adhesive paper is: 3M300LSE;
2. Gold-plated fingers 0.5~3u"; Pay attention to the materials, There shall be no oxidation in this position.
3. The overall thickness should be less than or equal to 0.12mm;
4. Precise tolerance range: ±0.03mm;
5. Only allow electrical conductivity of product drawings;

Zoom in on A



The front side is ink 13-20µm  
The second layer is coated with copper: Cu 18µm  
The third layer is AD glue ADH13-18µm  
Fourth layer of substrate P1 12.5µm  
Back 3M300LSE 9471 50µm

PR NO. 1
PR NO. 2
PR NO. 3
PR NO. 4
PR NO. 5
PR NO. 6
PR NO. 7
PR NO. 8
PR NO. 9
PR NO. 10

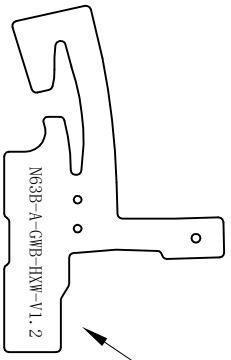
HuaXinWei Communications Technology Co., Ltd.

Unit: mm	Name: FPC	Date: 2022-10-15
General tolerance:	Material no.: N63B-A-GSM	Design: Zhu Shun Shen
L ±0.5	Material: FPC+3M9471	R F:
.Y ±0.25	Surface treatment: Clean	Confirm:
.XX ±0.05	Color:	Proportion: 1:1
.XXX ±0.05		Version: A
ANGULAR ± 0.5°		



Version	Modify the content	Modifiers	Revision date

Shape+Silk screen →

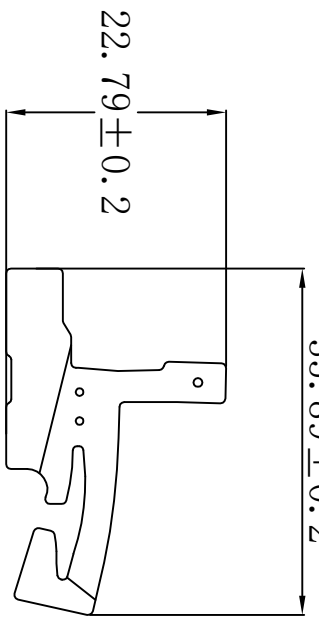
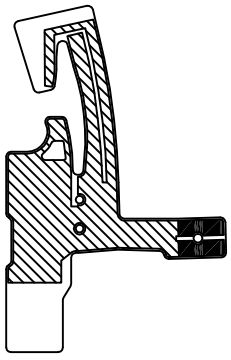


Sub-black ink screen printing  
bright black characters

Substrate	Half pair/3
	Half and half
A pair and a half	
One on one	

35.89±0.2

Total thickness 0.12±0.01mm



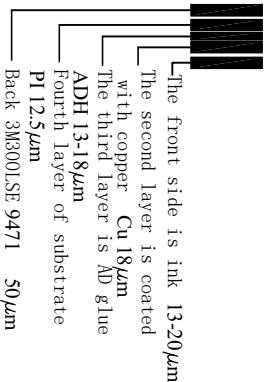
A

### Finished drawing—Heads

Figure of hand-pulled  
thread back glue —Back

Zoom in on A

- NOTES:
1. The adhesive paper is: 3M300LSE;
  2. Gold-plated fingers 0.5~3u"; Pay attention to the materials, There shall be no oxidation in this position.
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HuaXinWei Communications Technology Co., Ltd.

Unit: mm	FPC	Date: 2022-10-15
General tolerance:	Material no.: N63B-A-GSM	Design: Zhu Shun Shen
L ±0.5	Material: FPC+3M9471	R F:
.X ±0.25	Surface treatment: Clean	Confirm:
.XX ±0.05	Color:	Proportion: 1:1
.XXX ±0.05	Version: A	Version: A
ANGULAR ± 0.5°		

- Ⓜ VA.1
- Ⓜ VA.2
- Ⓜ VA.3
- Ⓜ VA.4
- Ⓜ VA.5
- Ⓜ VA.6
- Ⓜ VA.7
- Ⓜ VA.8
- Ⓜ VA.9
- Ⓜ VA.10