



ShenZhen Huaxinwei communication
technology Co.,Ltd.

Antenna test report

Customer Name: Hua Yue Shi Tong

Project Name: N63B-A

Designer: Zhang Jun

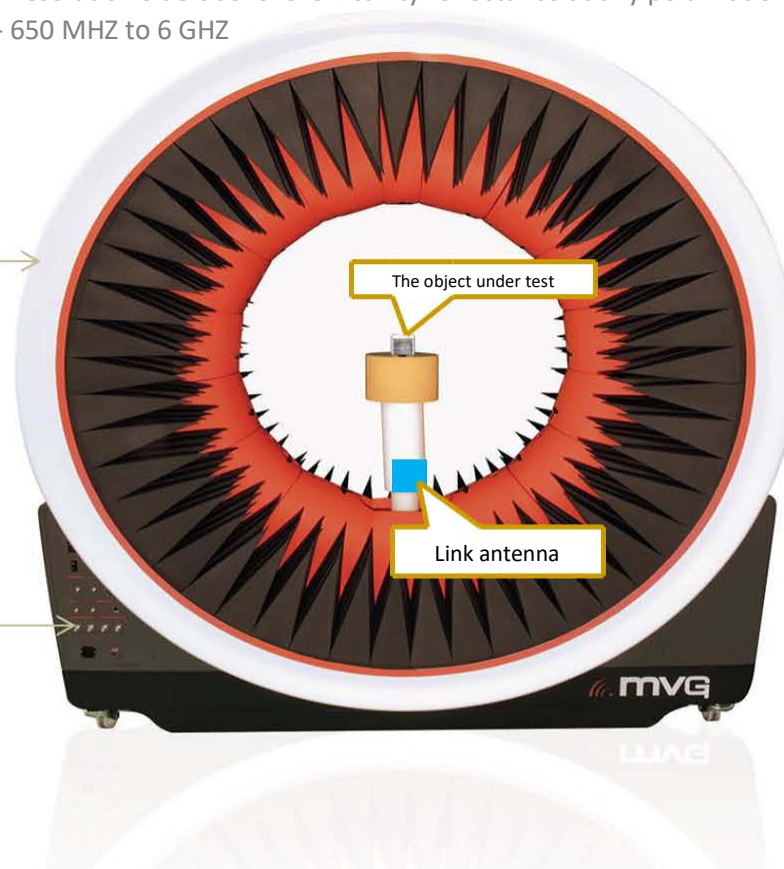
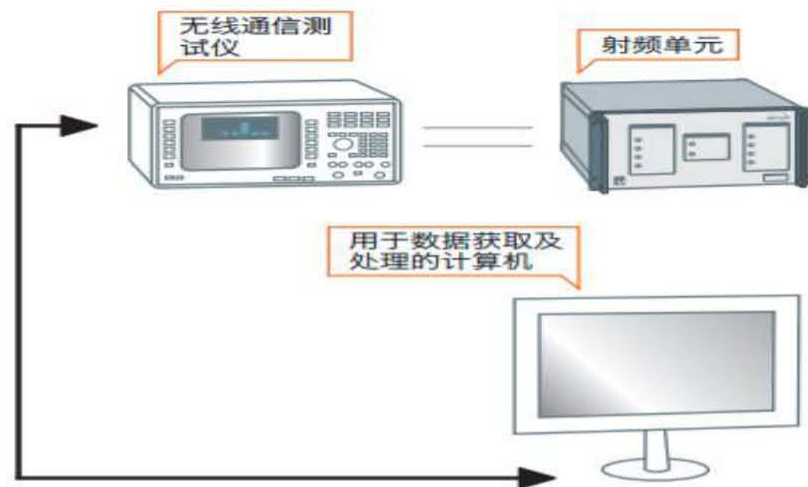
Date: 2022/11/10



The customer name		Hua Yue Shi Tong	Project Name	N63B-A
NO.	project	Detailed above		
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 ²
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



Antenna position

WWAN LB antenna



GPS/WIFI/BT antenna



WWANdiversityM&Hantenna

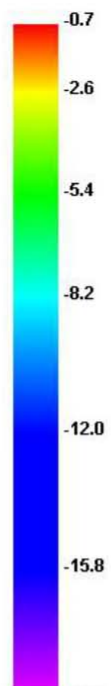
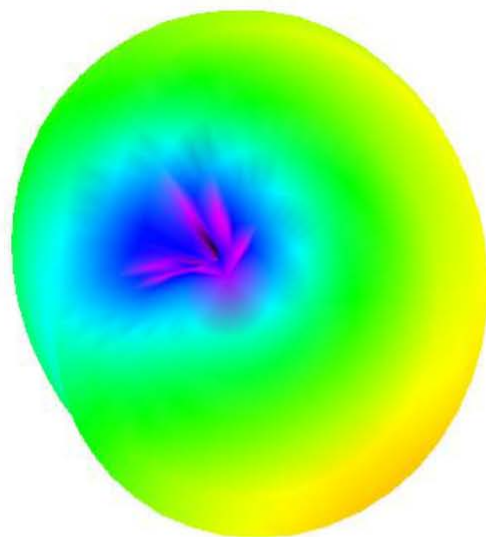


Efficient (2G+3G+4G+2.4G-WiFi /BT)

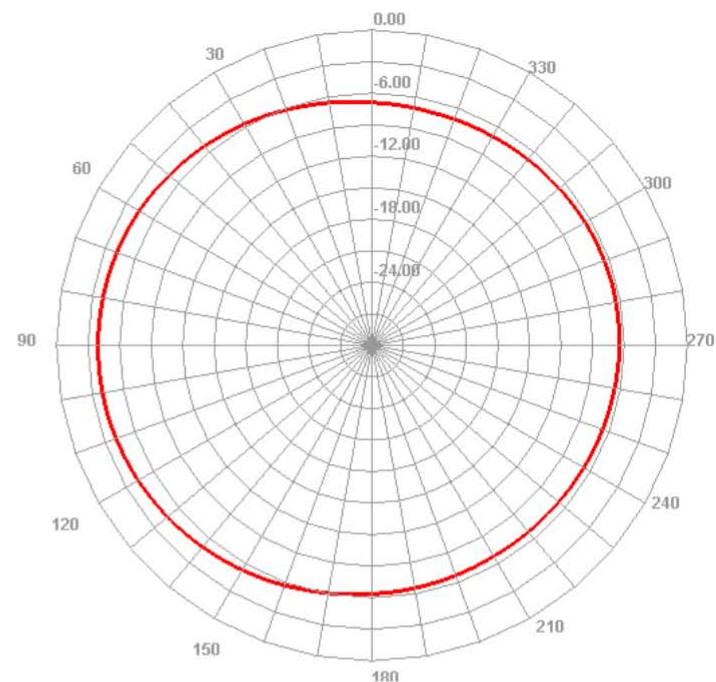
PEAK GAIN		
2G:	Frequency range	dBi
GSM850	824~894Mhz	-0.70
GSM900	880~960Mhz	-1.05
DCS1800	1710~1880Mhz	0.63
PCS1900	1850~1990Mhz	0.82
3G:		
W1	1920~2170Mhz	0.91
W2	1850~1990Mhz	0.82
W4	1710~2155	0.92
W5	824~894Mhz	-0.70
W8	880~960Mhz	-1.05
4G:		
LTE-B2	1850~1990Mhz	0.82
LTE-B3	1710~1880Mhz	0.63
LTE-B4	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)

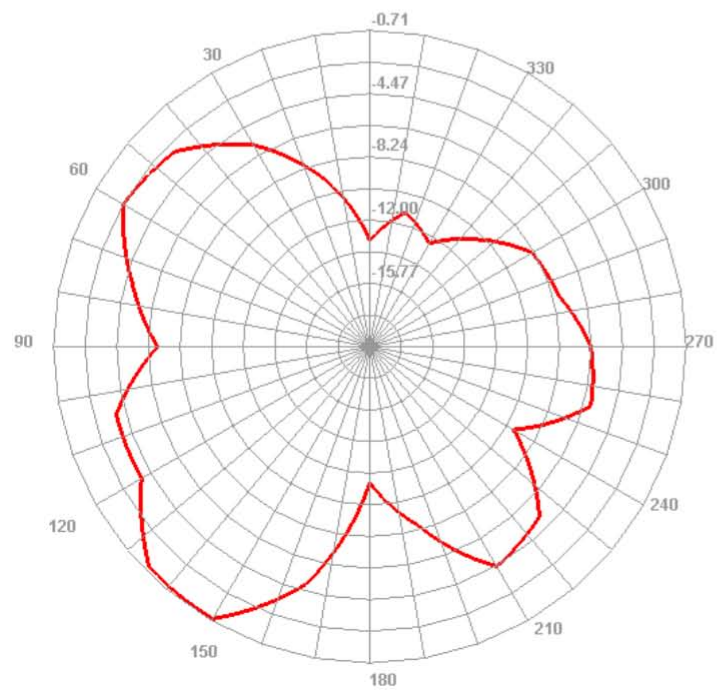
830.000MHz



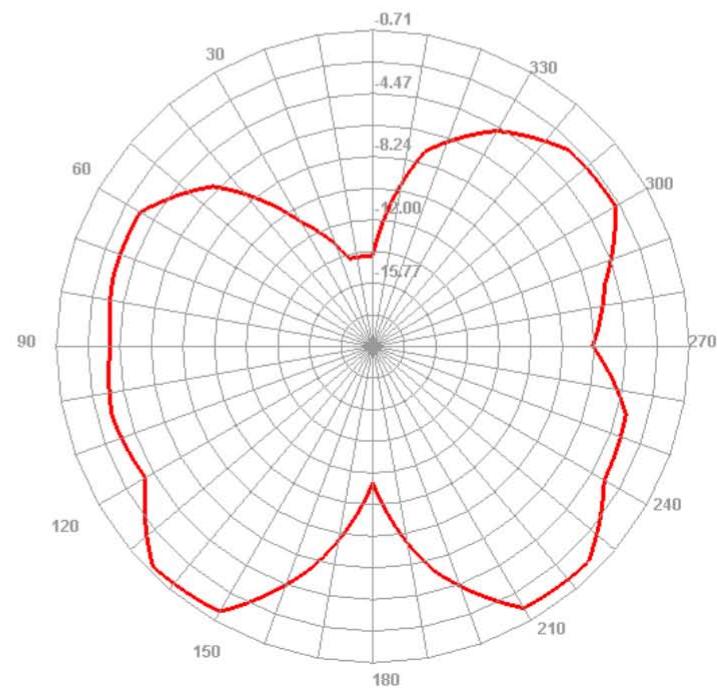
830.000MHz H



830.000MHz E1

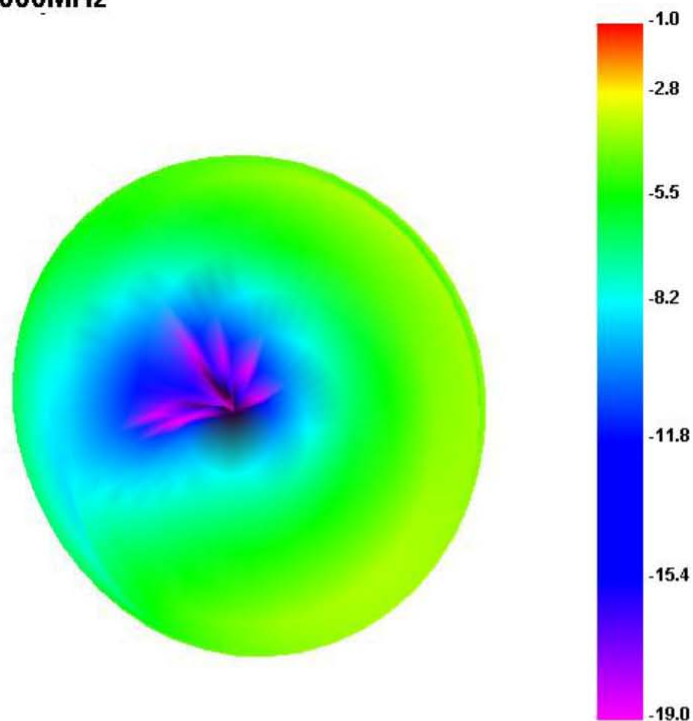


830.000MHz E2

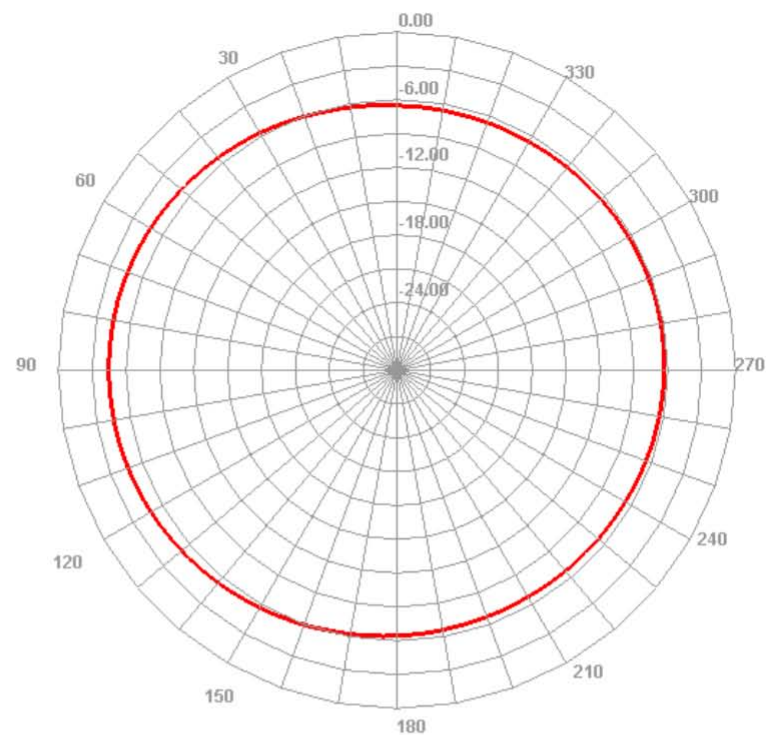


Efficient (GSM900+W8+LTE-B8 880~960MHz)

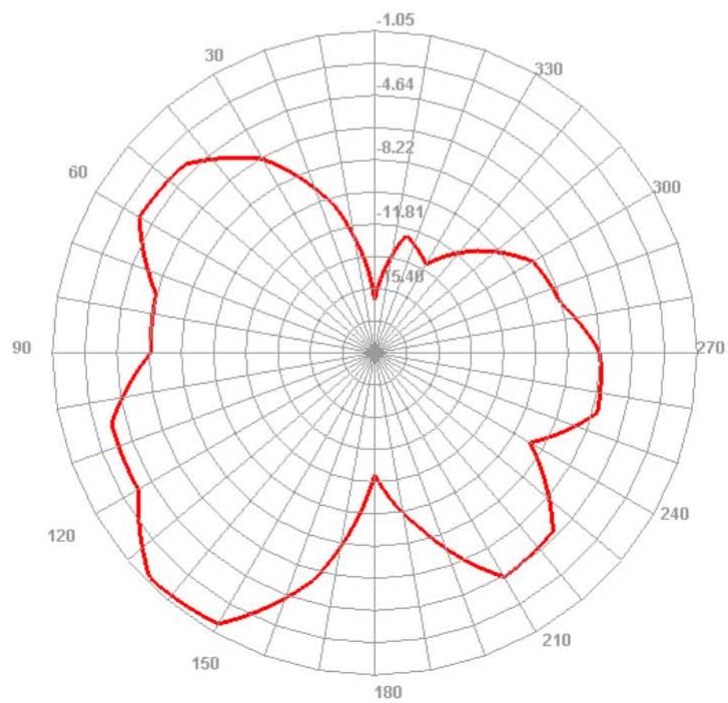
900.000MHz



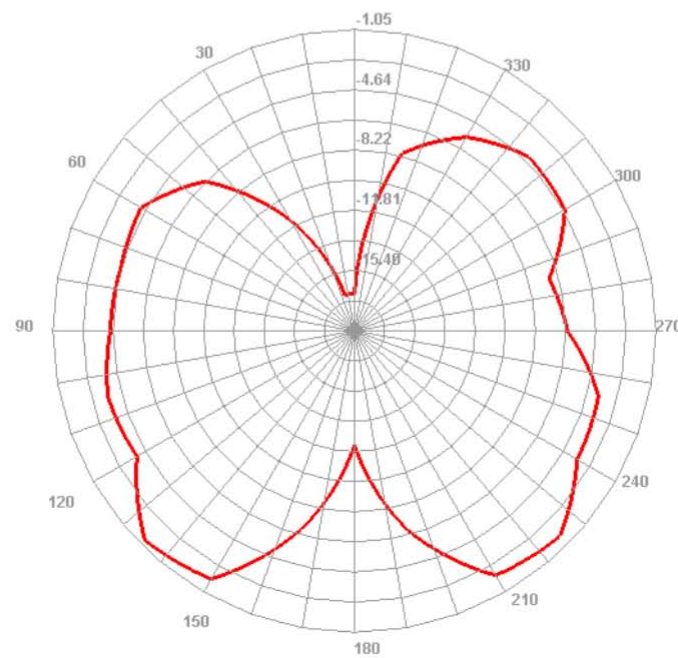
900.000MHz H



900.000MHz E1

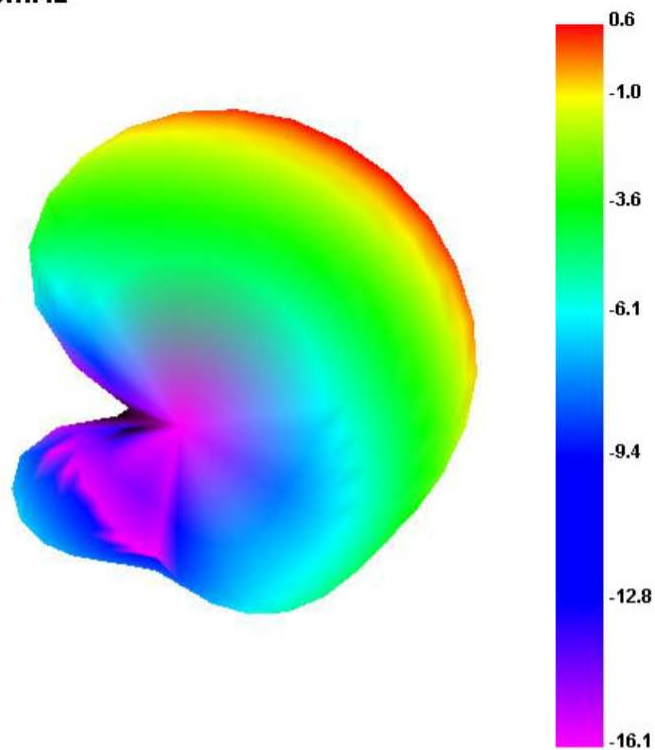


900.000MHz E2

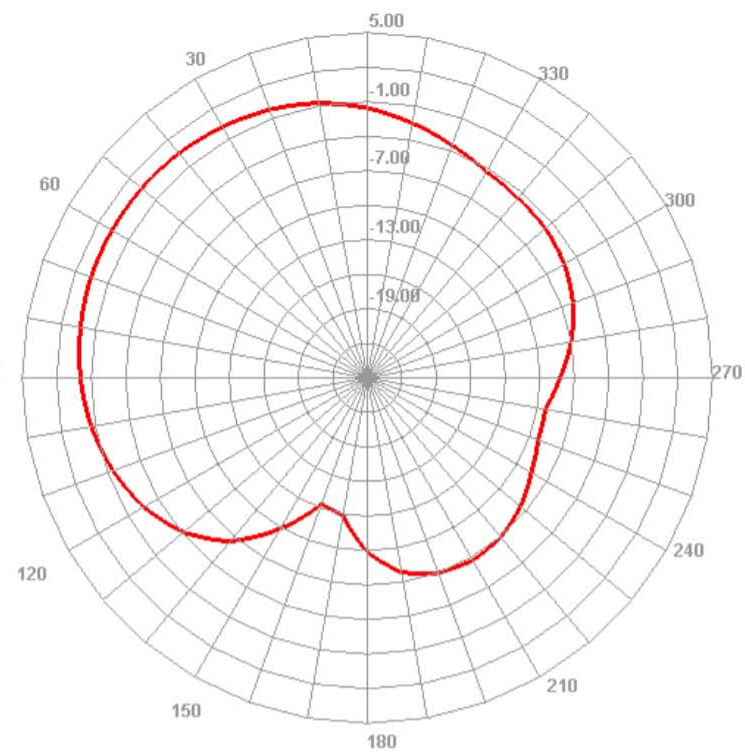


Efficient (GSM1800+LTE-B3 1710~1880 MHz)

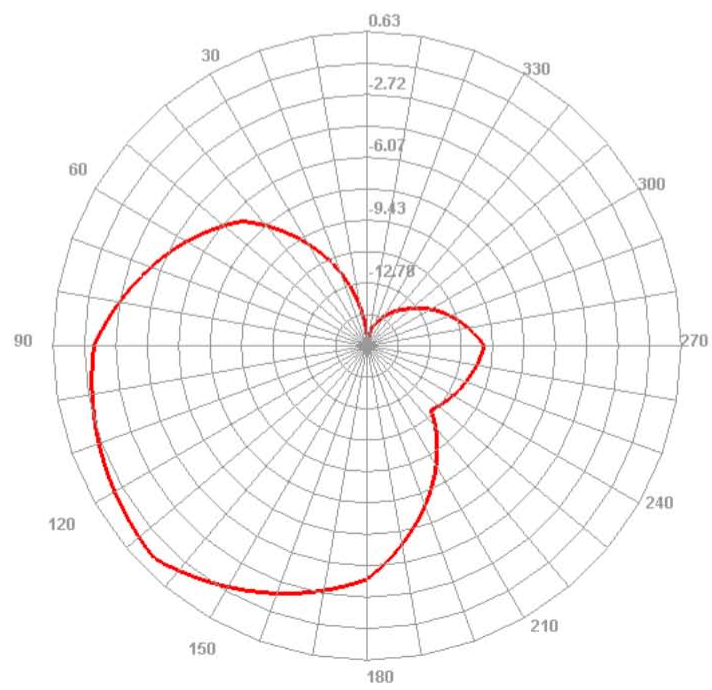
1820.000MHz



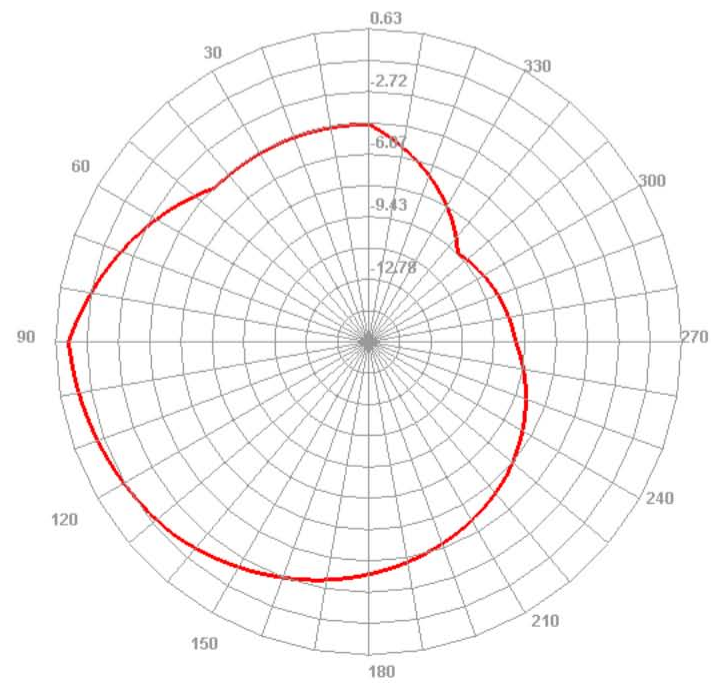
1820.000MHz H



1820.000MHz E1

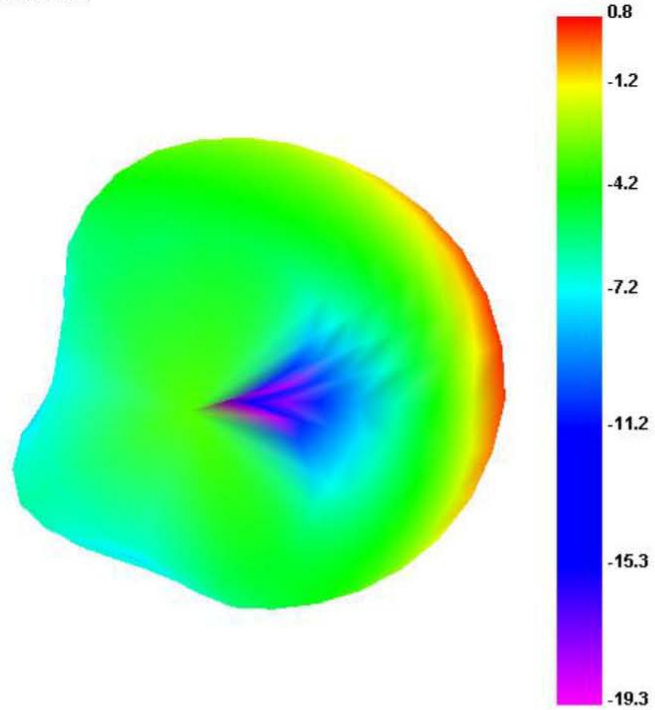


1820.000MHz E2

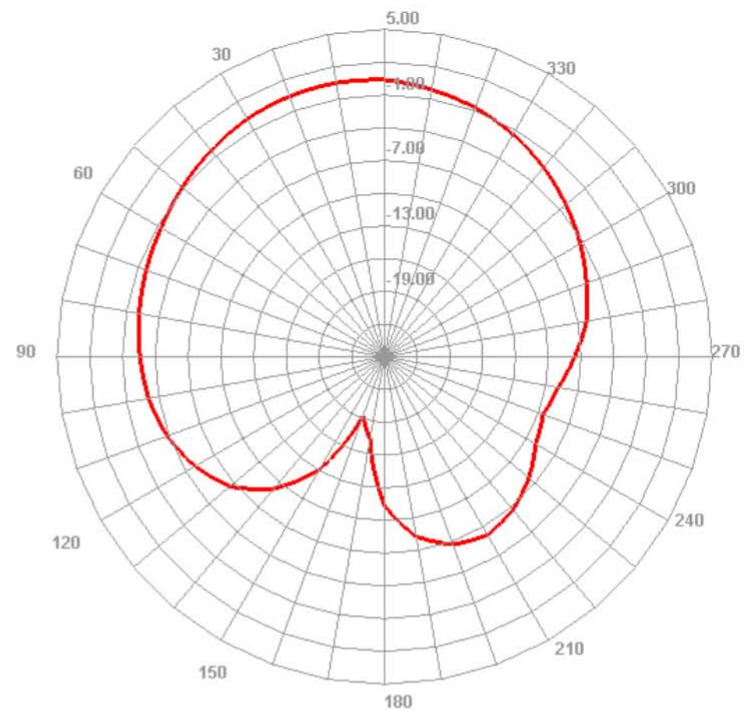


Efficient (GSM1900+W2+LTE-B2 1850~1990 MHz)

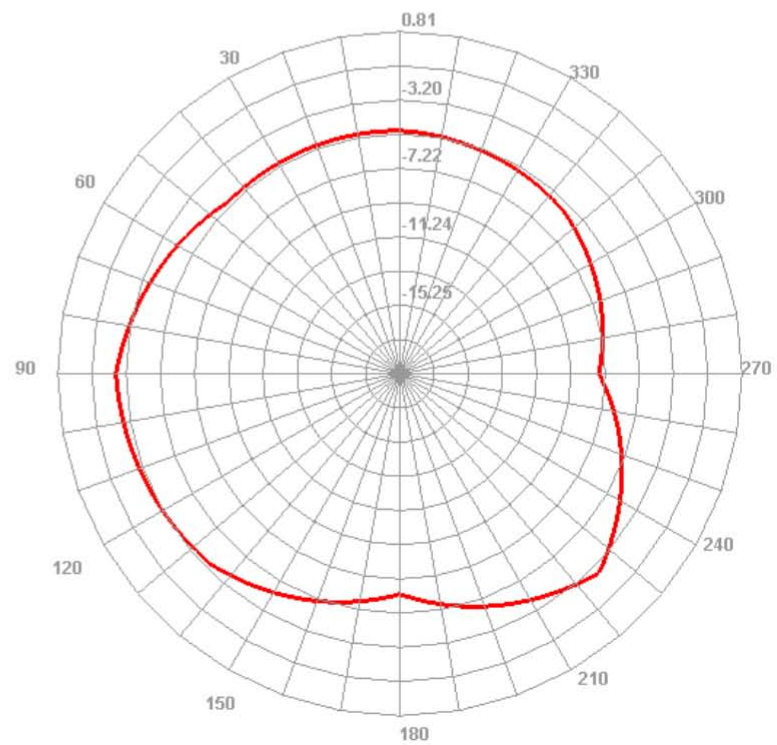
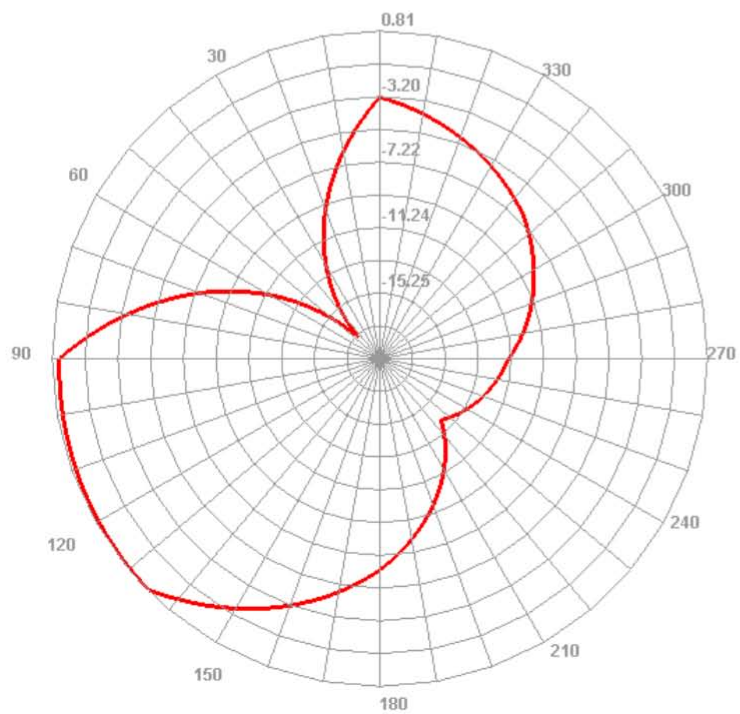
1920.000MHz



1920.000MHz H

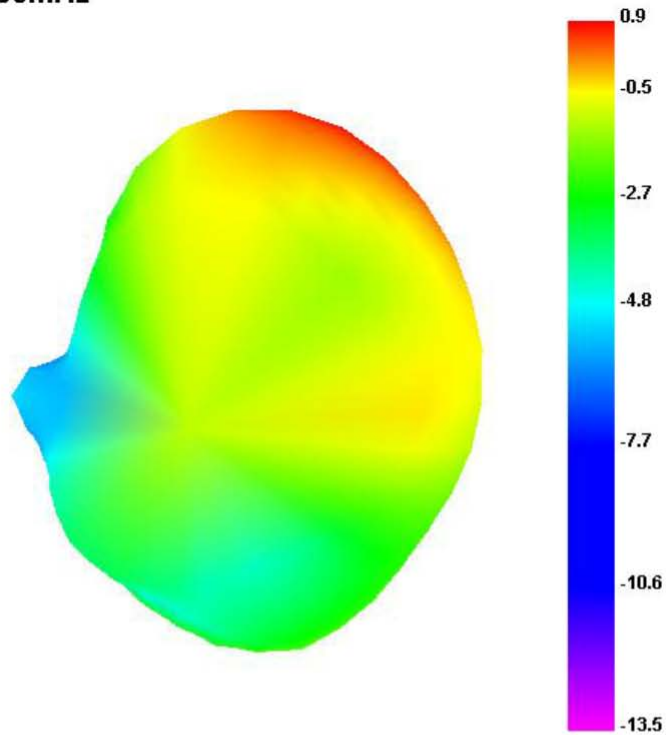


1920.000MHz E1

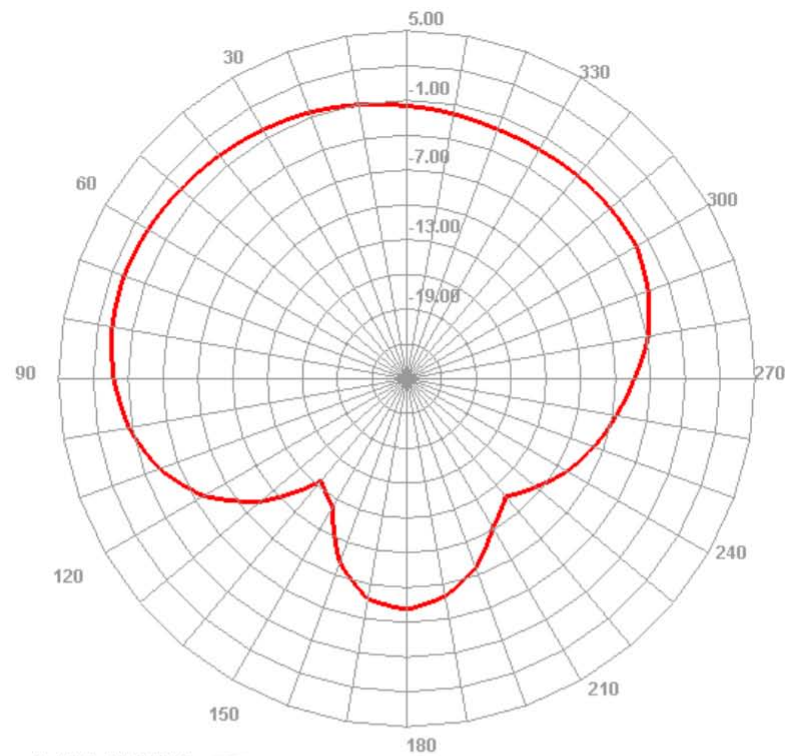


Efficient (W1/4+LTE-B1/4 1710~2170MHz)

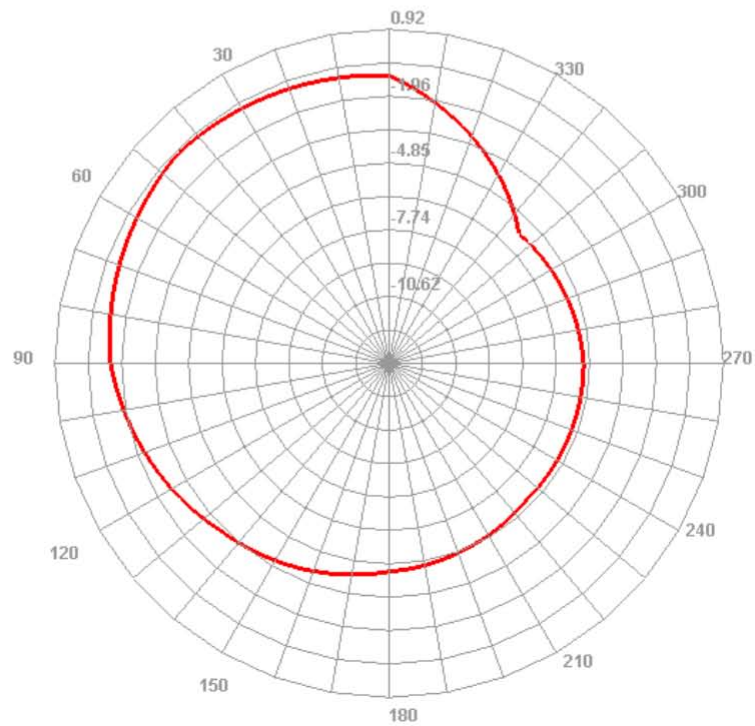
2160.000MHz



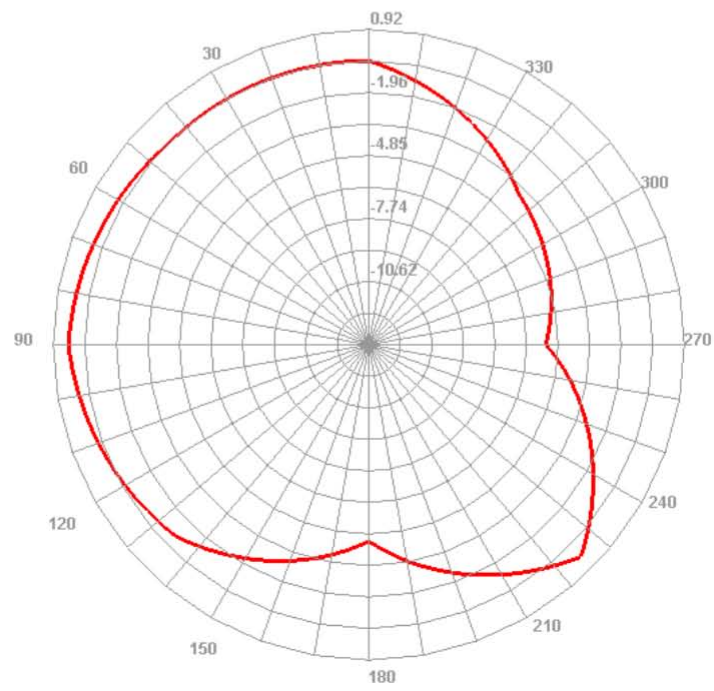
2160.000MHz H



2160.000MHz E1

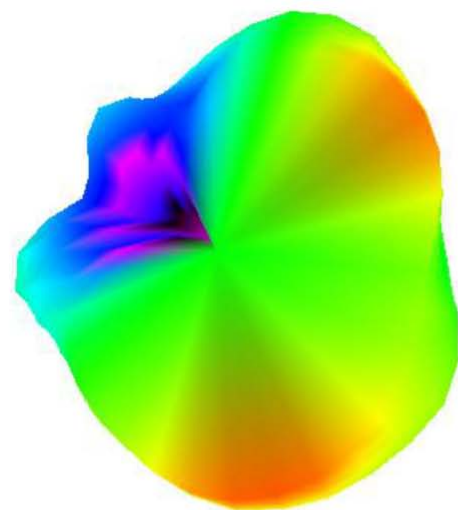


2160.000MHz E2

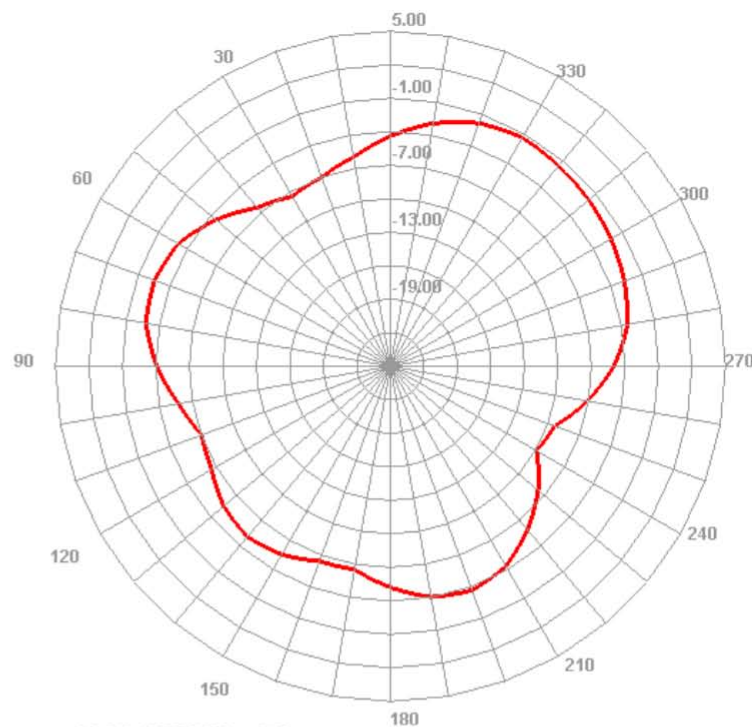


Efficient (LTE-B7/38 2500~2690MHz)

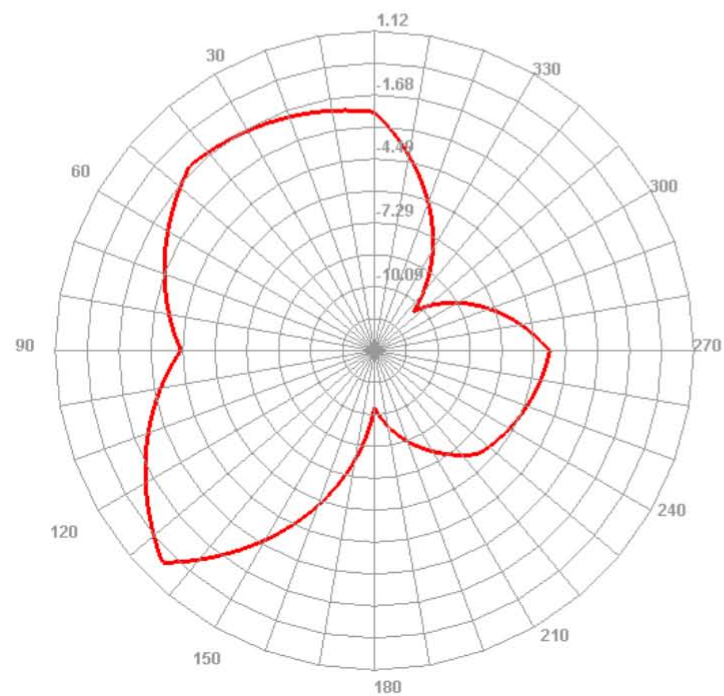
2680.000MHz



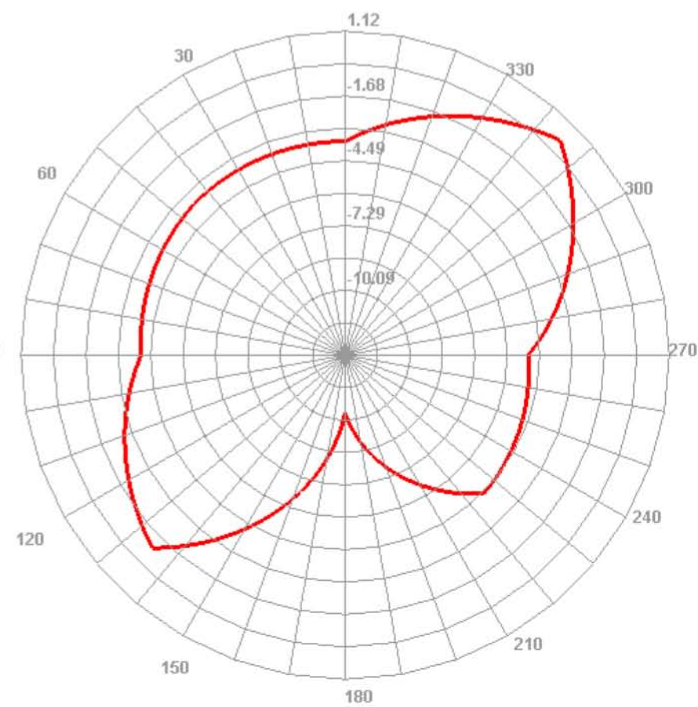
2680.000MHz H



2680.000MHz E1

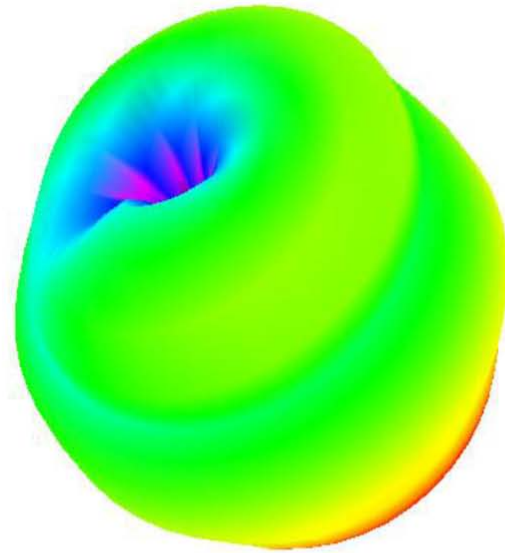


2680.000MHz E2

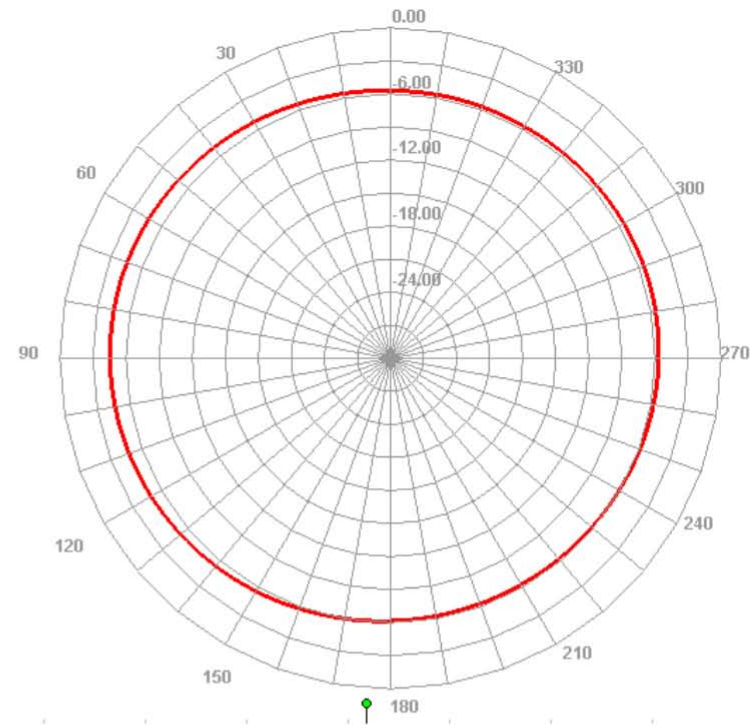


Efficient (LTE-B17 708~798 MHz)

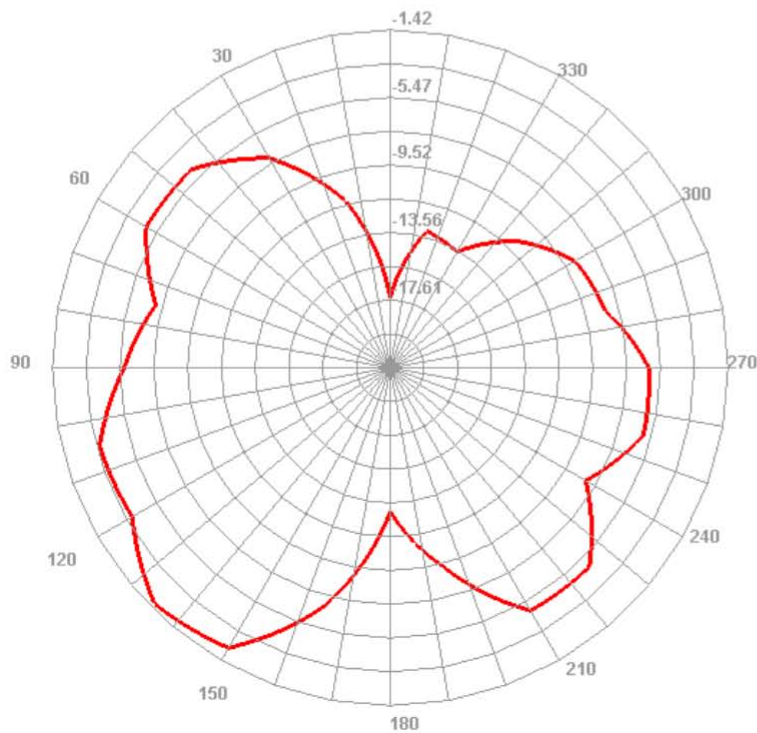
710.000MHz



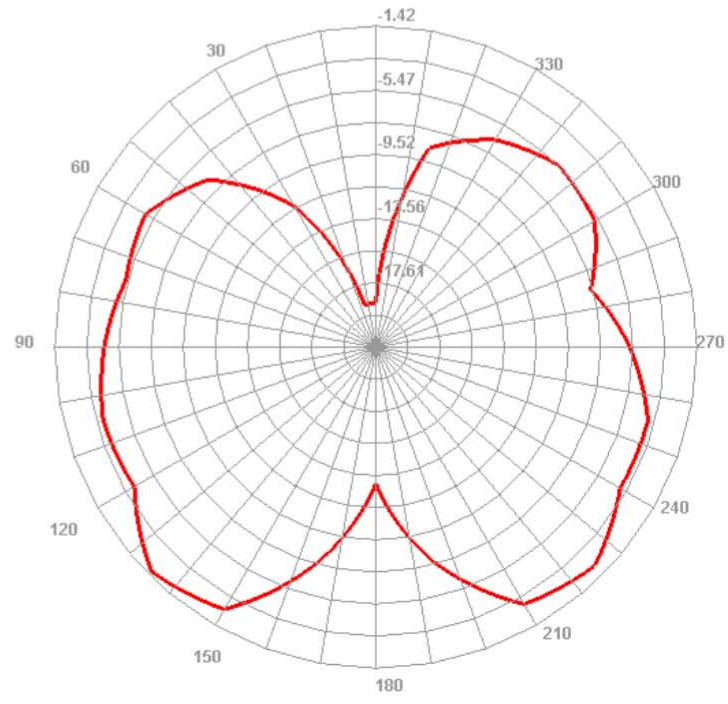
710.000MHz H



710.000MHz E1

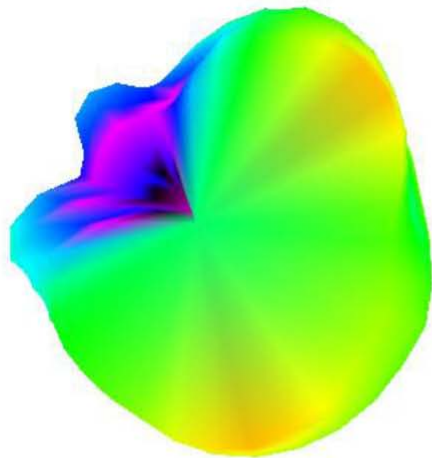


710.000MHz E2

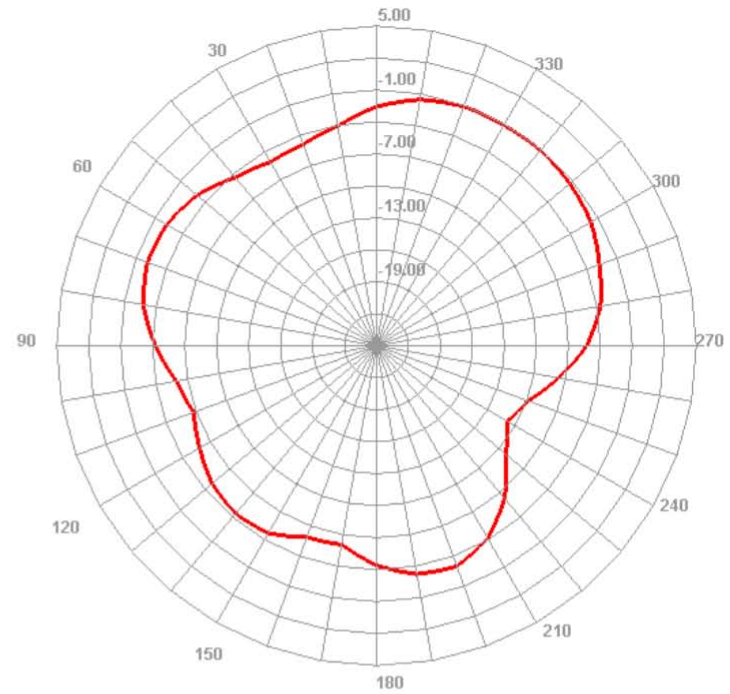


Efficient (2.4GWIFI/BT)

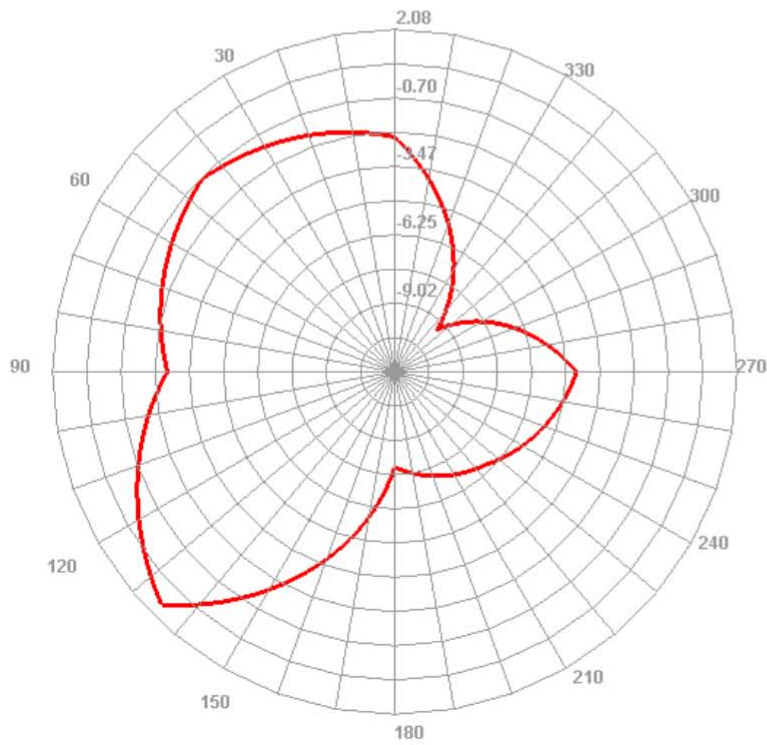
2440.000MHz



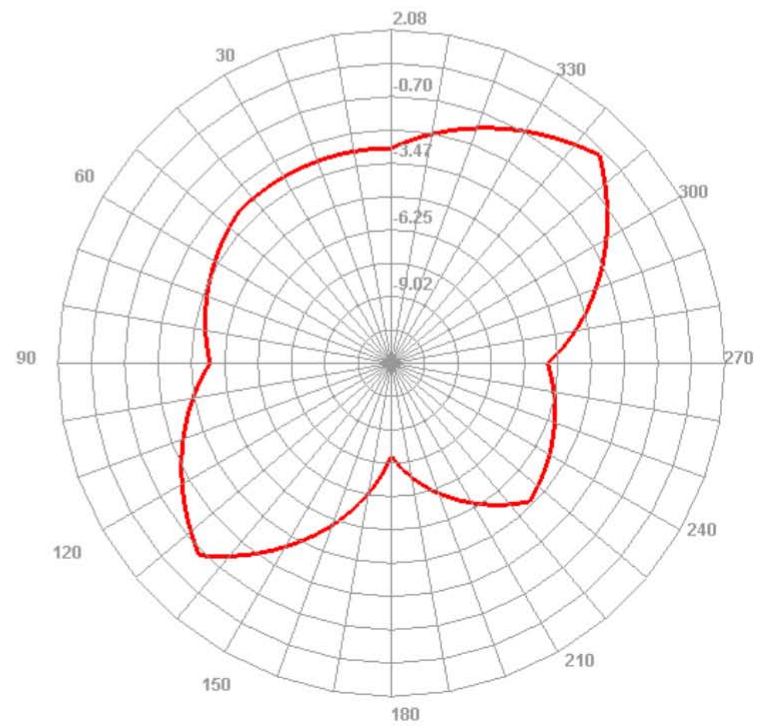
2440.000MHz H



2440.000MHz E1

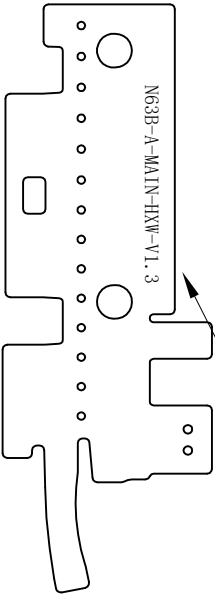


2440.000MHz E2



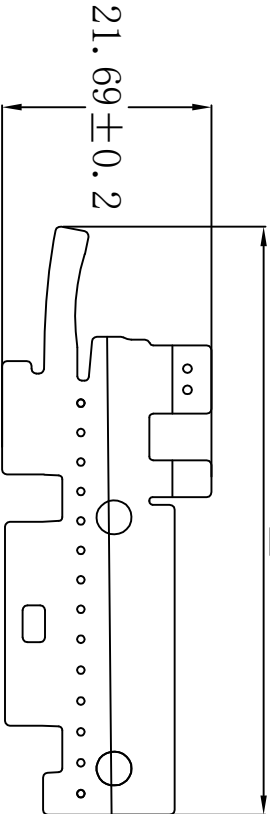
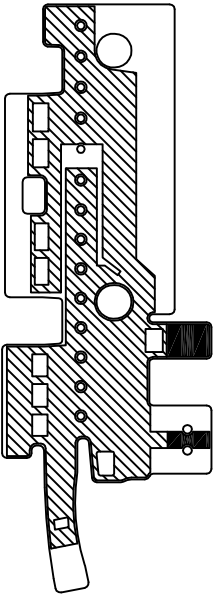
Version	Modify the content	Modifiers	Revision date

Sub-black ink screen printing
bright black characters



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

Total thickness $0.12 \pm 0.01 \text{ mm}$



A

Finished drawing—Heads

Figure of hand-pulled
thread back glue —Back

Zoom in on A

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

NOTES:

- The adhesive paper is: 3M300LSE;
- Gold-plated fingers $0.5 \sim 3 \mu$; Pay attention to the materials, There shall be no oxidation in this position.
- The overall thickness should be less than or equal to 0.12 mm ;
- Precise tolerance range: $\pm 0.03 \text{ mm}$;
- Only allow electrical conductivity of product drawings;



The front side is ink $13 \sim 20 \mu\text{m}$
The second layer is coated
with copper $\text{Cu } 18 \mu\text{m}$
The third layer is AD glue
ADH $13 \sim 18 \mu\text{m}$
Fourth layer of substrate
PI $12.5 \mu\text{m}$
Back 3M300LSE 9471 $50 \mu\text{m}$

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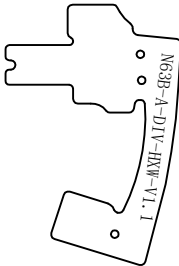
Unit:	mm	Name: FPC	Date: 2022-10-15
General tolerance:		Material no.: N63B-A-GSM	Design: Zhu Shun Shen
L	± 0.5	Material: FPC+3M9471	R F:
.X	± 0.25	Surface treatment: Clean	Confirm:
.XX	± 0.05	Color:	Proportion: 1:1
.XXX	± 0.05		Version: A
ANGULAR	$\angle \pm 0.5^\circ$		

Version	Modify the content	Modifiers	Revision date

Shape+Silk screen

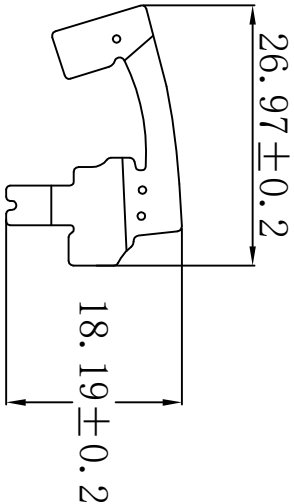
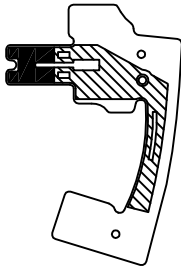


Sub-black ink screen printing
bright black characters



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

Total thickness 0.12±0.01 mm



A

Finished drawing—Heads

NOTES:

- The adhesive paper is: 3M300LSE;
- Gold-plated fingers0.5~3u”;Pay attention to the materials,There shall be no oxidation in this position.
- The overall thickness should be less than or equal to 0.12mm;
- Precise tolerance range:±0.03mm;
- 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 Cu18μm
The third layer is AD glue ADH13-18μm
Fourth layer of substrate P112.5μm
Back 3M300LSE 9471 50μm

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

HuaXinWei Communications Technology Co., Ltd.

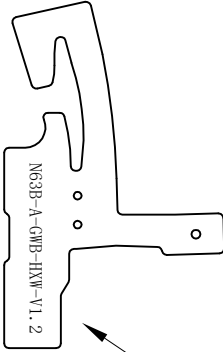
Unit: mm	Name: FPC	Date: 2022-10-15
General tolerance:		
L	±0.5	
.X	±0.25	
.XX	±0.05	
.XXX	±0.05	
ANGULAR	± 0.5°	
Material no.: N63B-A-GSM		Design: Zhu Shun Shen
Material: FPC+3M9471		R F:
Surface treatment: Clean		Confirm:
Color:		Proportion: 1:1
		Version: A

Version	Modify the content	Modifiers	Revision date

Shape+Silk screen



Sub-black ink screen printing
bright black characters

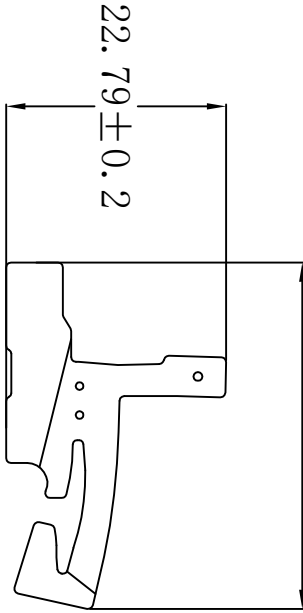
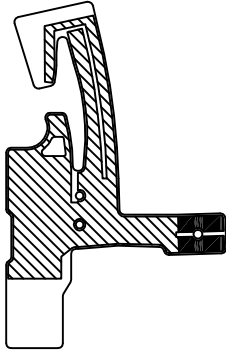


Substrate	Half pair/3	✓
	Half and half	
	A pair and a half	
One on one		

B

35.89±0.2

Total thickness 0.12±0.01 mm



A

C

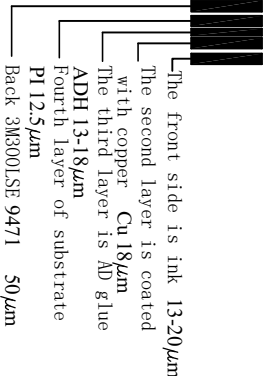
Finished drawing—Heads

Figure of hand-pulled
thread back glue —Back

NOTES:

Zoom in on A

- The adhesive paper is: 3M300LSE;
- Gold-plated fingers0.5~3u";Pay attention to the materials,There shall be no oxidation in this position.
- The overall thickness should be less than or equal to 0.12mm;
- Precise tolerance range:±0.03mm;
- Only allow electrical conductivity of product drawings;



The front side is ink 13-20μm
The second layer is coated
with copper Cu18μm
The third layer is AD glue
ADH13-18μm
Fourth layer of substrate
PI12.5μm
Back 3M300LSE 9471 50μm

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

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:
.X	±0.25	Surface treatment: Clean	Confirm:
.XX	±0.05	Color:	Proportion: 1:1
.XXX	±0.05	Version: A	
ANGULAR	± 0.5°		

1

2

3

4