



深圳市凯普深通讯科技有限公司

Shenzhen cape deep communication technology co., LTD

天线测试报告

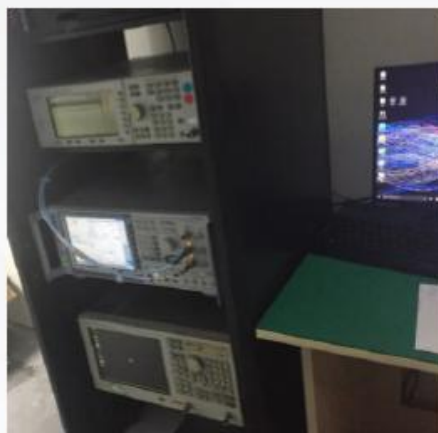
Antenna Test Report

项目名Project Name: N10 PLUS

测试工程师: Test Engineer 江长兴Jiangchangxing

日期Date: 2026.6.30

实验室测试环境及设备



测试项目Test project	测试设备Testing equipment
S11、S12、VSWR、LOSS	网络分析仪network analyzer E5071B、E5062A
Efficiency、Gain 3D Radiation Pattern	Satimo SG16暗室darkroom、GP7*4*3暗室 darkroom、E5071B
TRP、TIS	Satimo SG16暗室darkroom、GP7*4*3暗室 darkroom、8960、CMW500、MT8820C、 E4438C、

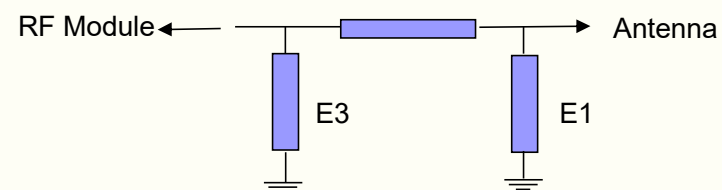
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项目调试简介

整机类型 Machine type	手机mobile phone			
		频段信息 Frequency band information	天线形式 Antenna form	匹配改动 Match changes
天线种类及频段信息 Antenna type and frequency band information	主天线Main antenna	2G: 850/900/1800/1900 3G:W2/4/5 4G:B2/4/5/7/12/13/25/26/28/66/71	PIFA	是YES
	副天线Secondary antenna	WIFI,BT,GPS (三合一Three in one)	PIFA	否NO
	分集diversity	2000MHZ-2690MHZ	PIFA	否NO
天线材质 Antenna material	主天线Main antenna , 副天线Secondary antenna , 分集FPCdiversity			

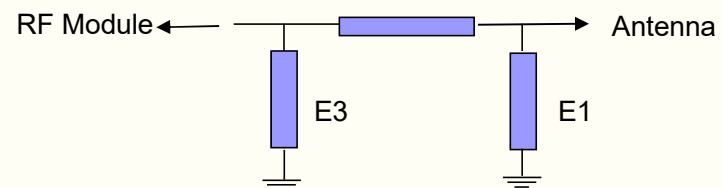
三合一天线匹配电路

Three in one antenna matching circuit



三合一天线 Three in one antenna	Element	Value	附图说明Attached image description
	E1(0402)		主板原有匹配 Original motherboard matching
	E2(0402)		
	E3(0402)		

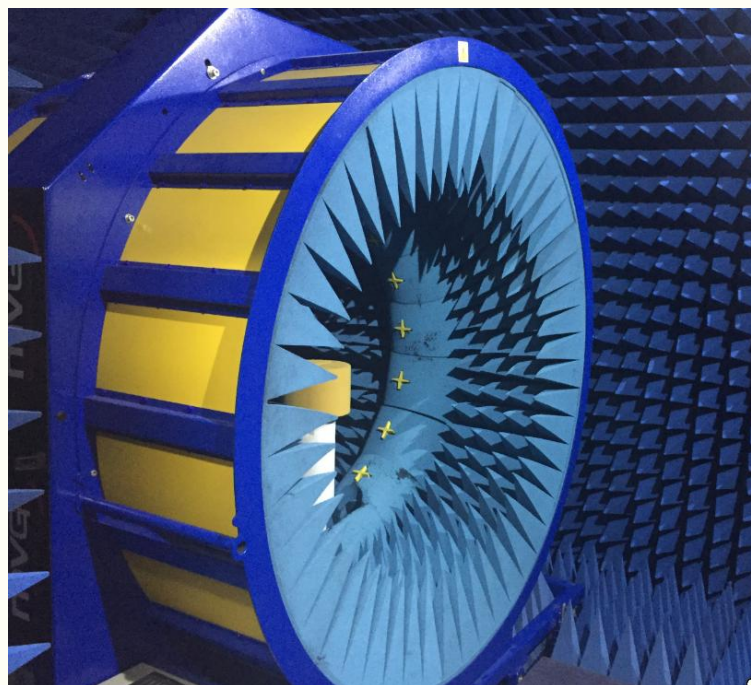
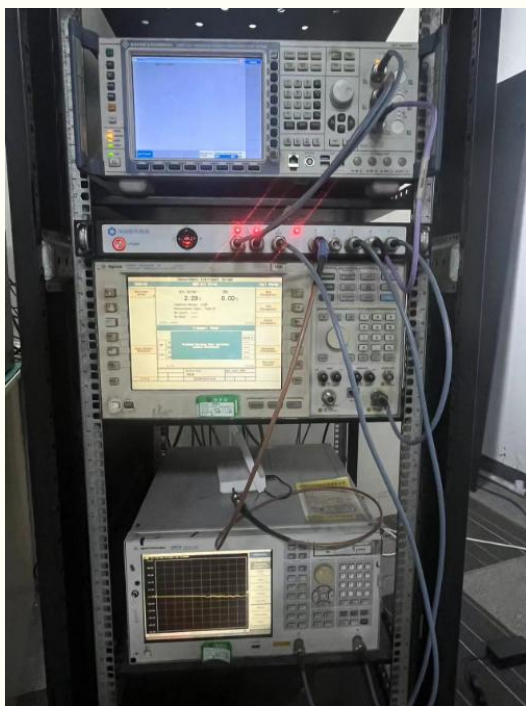
分集天线匹配电路



分集天线 Diversity antenna	Element	Value	附图说明Attached image description
	E1(0402)		主板原有匹配 Original motherboard matching
	E2(0402)		
	E3(0402)		

测试设备配置

Test equipment configuration



WiFi有源测试数据

WIFI-2.4-2.4835G
(11Mbps)

Channel	TRP(dBm)	TIS(dBm)
Low	9.5	
Mid	10.4	
Hig	8.6	-75.6

WIFI-5.12-5.8G-
(6/54Mbps)

Channel	TRP(dBm)	TIS(dBm)
Low	5.2	
Mid	5.6	
Hig	4.8	-66.8

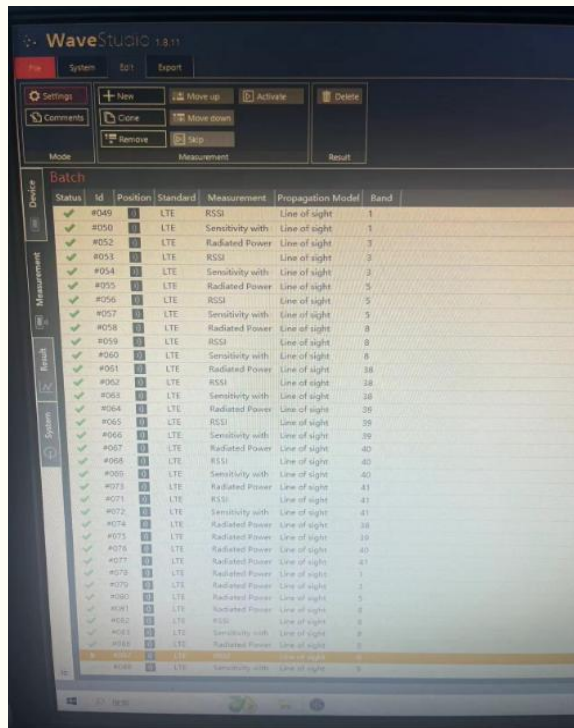
BT

Channel	TRP(dBm)	TIS(dBm)
Low	3.5	-84.9
Mid	3.9	-85.4
Hig	2.2	-82.7

仪器 instrument

Equipment	Manufacturer	Model NO	Serial NO .	Last CAL	Due Date
网络分析仪 Network analyzers	安捷伦 Agilent	E5071B		2026.3.24	2027.3.23
综合测试仪 Comprehens ive Tester	ROHDE SCHWARZ	CMW-500		2026.3.24	2027.3.23
综合测试仪 Comprehensive Tester	安捷伦 Agilent	8960		2026.3.24	2027.3.23

测试软件 Test the software



Test the software is

软件为 Wave Studio 1.8.11

测试方法及步骤 Testing methods and steps

1: 手机插上测试卡, 开机通电之后, 将手机放入微波暗室中。

Insert the test card into the phone, power it on, and place it in a microwave darkroom

2: 打开暗室测试软件, 选择手机支持的频段, 按照暗室的操作指南进行下一步

Open the darkroom testing software, select the frequency band supported by your phone, and follow the darkroom operation guide to proceed to the next step

3: 待被测物连上CMW500后, 关上屏蔽门即可测试

After connecting the test object to CMW500, close the shielding door to proceed with the test

天线测试数据

Antenna test data

FS	Channel	TRP	TIS灭(LCD OFF)	TIS亮(LCD ON)		Channel	TRP	TIS灭(LCD OFF)	TIS亮(LCD ON)
LTE-2	L	19.8			LTE-13	L			
	M	19.3				M	16.4	-88.2	-87.7
	H	18.1	-93.4	-93.1		H			
LTE-4	L	17.2			LTE-25	L	18.4		
	M	17.2				M	18.3		
	H	17.7	-92.2	-91.7		H	18.6	-94.7	-94.4
LTE-5	L	14.4			LTE-26	L	15.5		
	M	14.5				M	15.1		
	H	14.6	-91.7	-89.9		H	15.6	-92.9	-91.4
LTE-7	L	15			LTE-28	L	17.1		
	M	15.2				M	17.1		
	H	16.2	86.7	-86.4		H	17.2	-90.7	-89
LTE-12	L	16.1			LTE-66	L	17.2		
	M	16.2				M	17.3		
	H	16.5	-92.7	-91		H	17.8	-93	-92.6

天线测试数据

FS	Channel	TRP	TIS灭(LCD OFF)	TIS亮(LCD ON)		Channel	TRP	TIS灭(LCD OFF)	TIS亮(LCD ON)
LTE-71	L	16.6			GSM850	L	24.9		
	M	17.4				M	24.6		
	H	17.7	-91.9	-85.1		H	24.5	-103.8	-102.9
W-2	L	18.4			EGSM900	L	27.3		
	M	18.8				M	27.2		
	H	18.1	-103.4	-103.4		H	26.9	-99.7	-99.5
W-4	L	16.7			DCS1800	L	22.7		
	M	16.7				M	23.3		
	H	17.3	-104	-104		H	25.5	-105.6	-104.7
W-5	L	14.8			PCS1900	L	25.2		
	M	15.2				M	25.2		
	H	15.1	-104.8	-104.7		H	25.8	-104.4	-104.2

WiFi有源测试数据

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Channel	TRP(dBm)	TIS(dBm)
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WIFI-5.12-5.8G-
(6/54Mbps)

Channel	TRP(dBm)	TIS(dBm)
Low	5.2	
Mid	5.6	
Hig	4.8	-66.8

BT

Channel	TRP(dBm)	TIS(dBm)
Low	3.5	-84.9
Mid	3.9	-85.4
Hig	2.2	-82.7

Gain test data

	LTE2	LTE4	LTE5	LTE12	LTE25	LTE26
peak Gain(dBi)	-2.56	-2.39	-4.54	-3.78	-2.49	-4.07

	LTE66	LTE71	LTE41	LTE7	LTE13	LTE28
peak Gain(dBi)	-2.39	-4.41	-3.65	-2.34	-4.15	-3.86

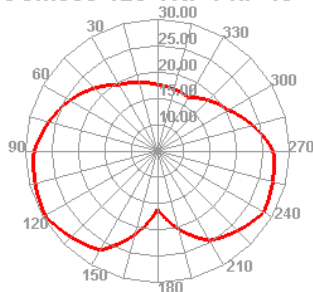
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Gain test data

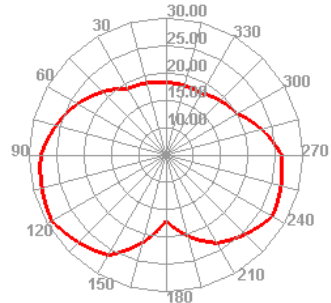
	GPS	2.4GWIFI	BT	5G WIFI		
peak Gain(dBi)	-3.32	-3.18	-3.18	-4.07		

方向图 Directions

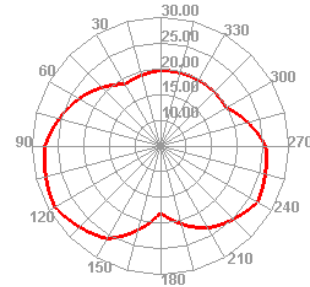
GSM850 128 TRP Phi=45



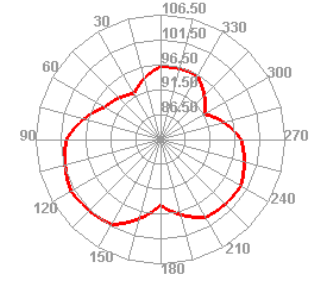
GSM850 190 TRP Phi=45



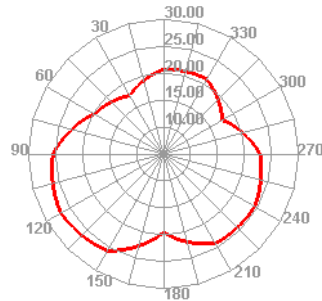
GSM850 251 TRP Phi=45



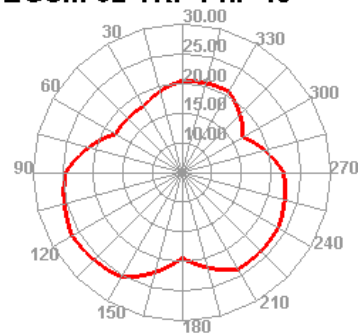
GSM850 251 TIS Phi=45



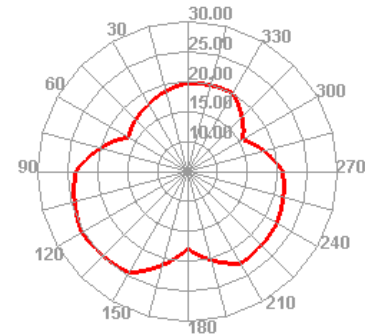
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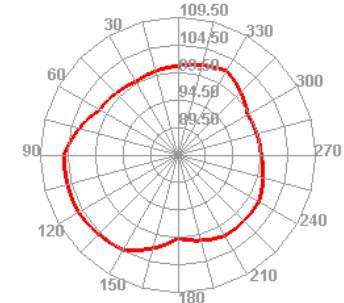
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EGSM 124 TRP Phi=45

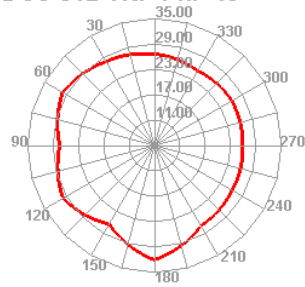


EGSM 124 TIS Phi=45

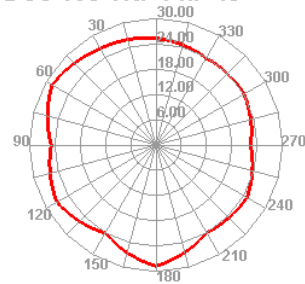


方向图Directions

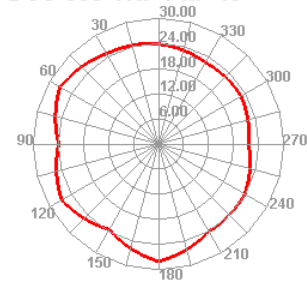
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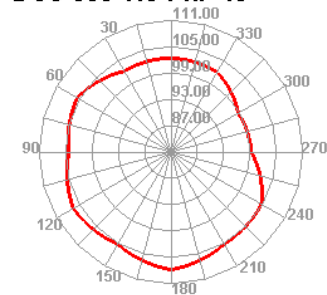
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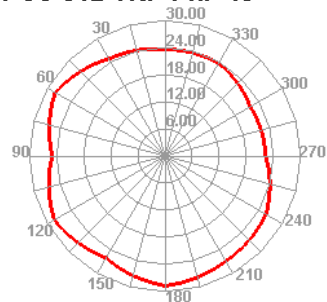
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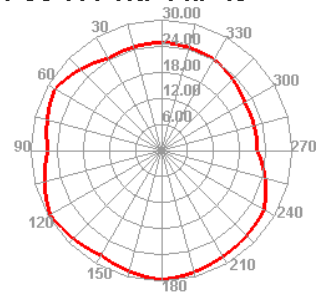
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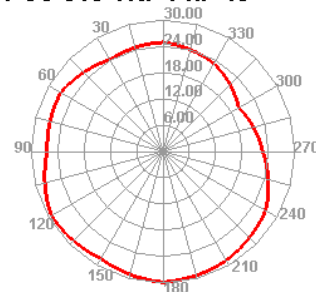
PCS 512 TRP Phi=45



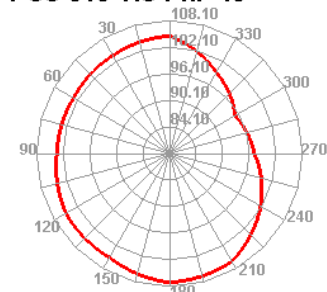
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PCS 810 TRP Phi=45

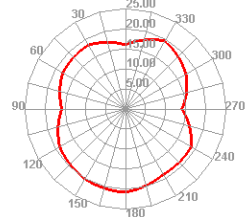


PCS 810 TIS Phi=45

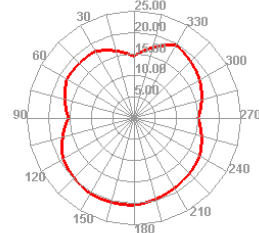


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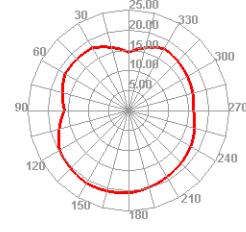
WCDMA_II 9262 TRP Phi=45



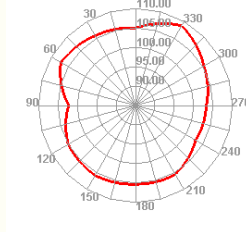
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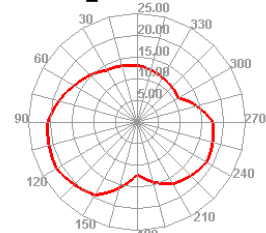
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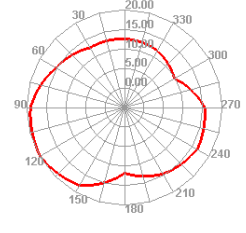
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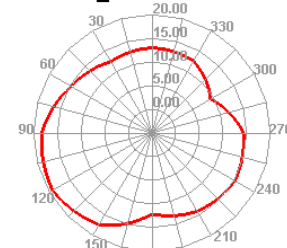
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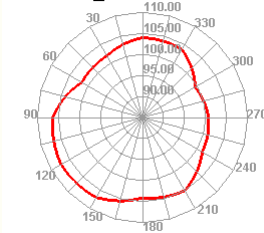
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WCDMA_V 4233 TRP Phi=45



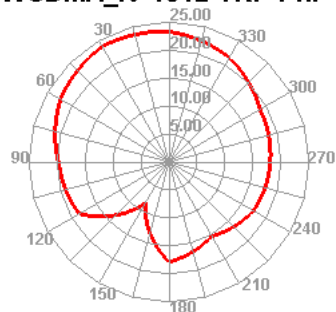
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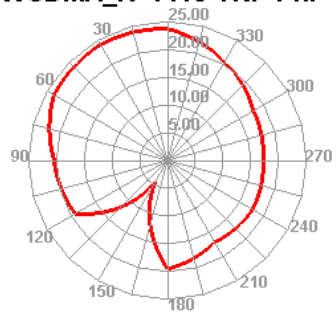
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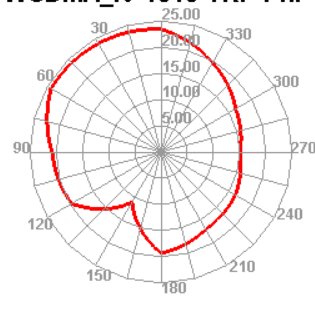
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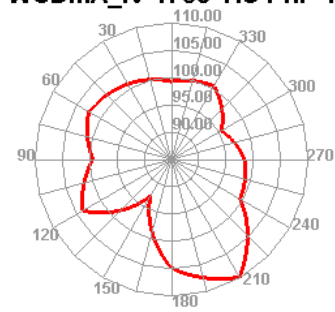
WCDMA_IV 1413 TRP Phi=4!



WCDMA_IV 1513 TRP Phi=4!

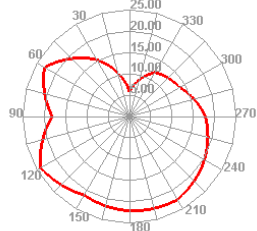


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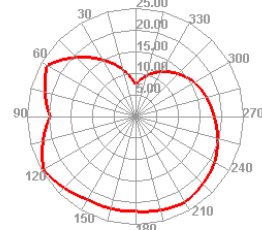


2D方向图 2DDirections

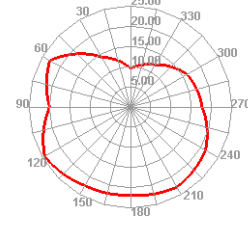
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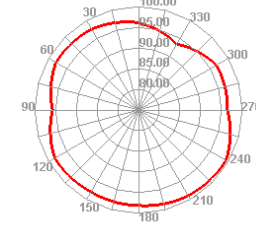
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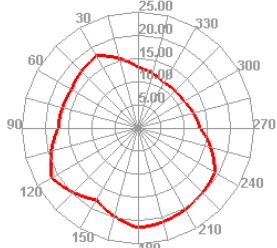
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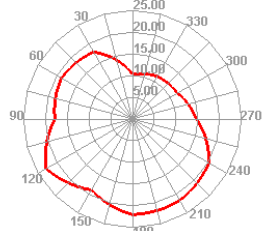
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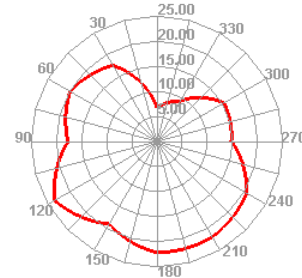
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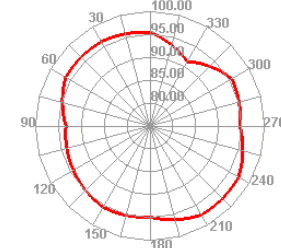
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LTE4 20350 TRP Phi=45

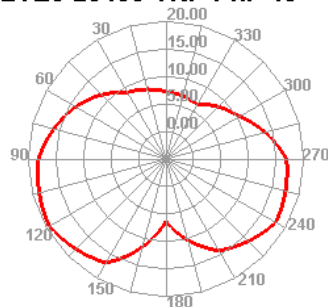


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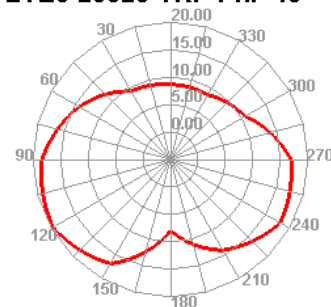


2D方向图 2DDirections

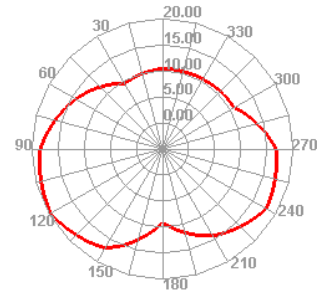
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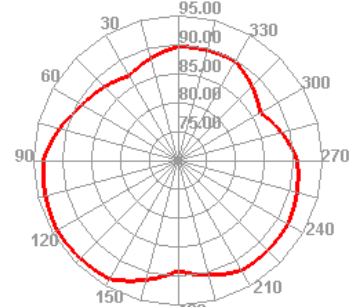
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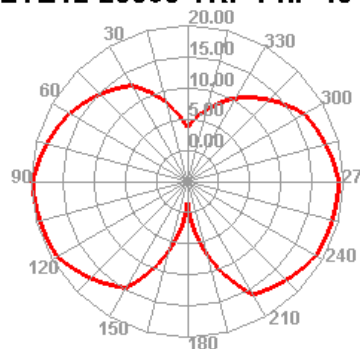
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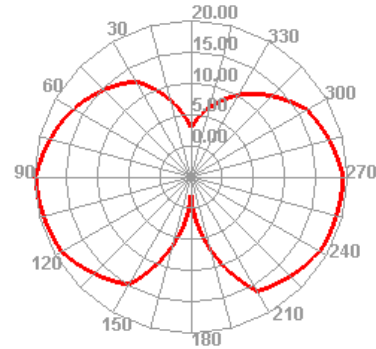
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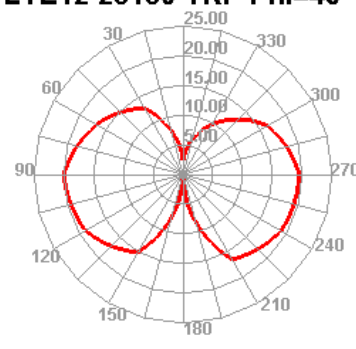
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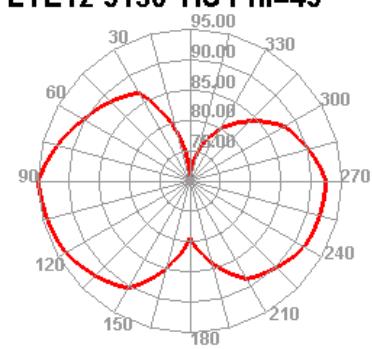
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LTE12 23130 TRP Phi=45

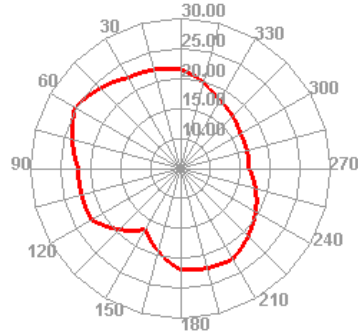


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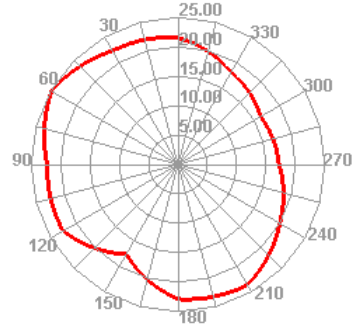


2D方向图 2DDirections

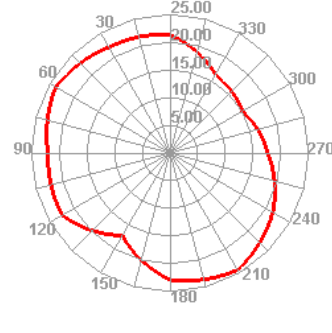
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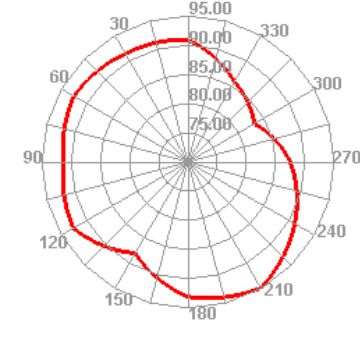
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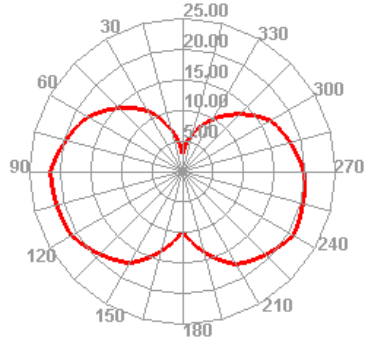
LTE25 26640 TRP Phi=45



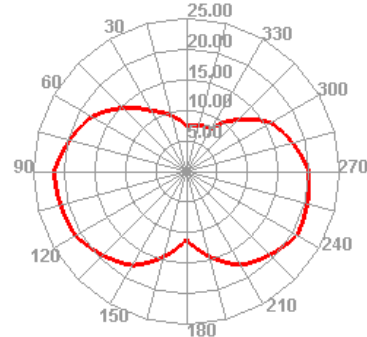
LTE25 8640 TIS Phi=45



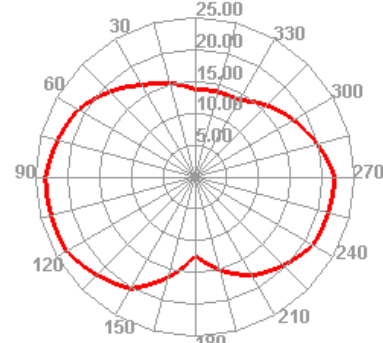
LTE26 26740 TRP Phi=45



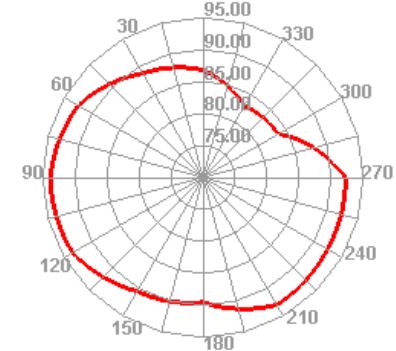
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LTE26 26990 TRP Phi=45

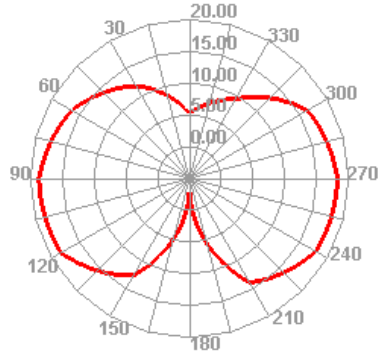


LTE26 8990 TIS Phi=45

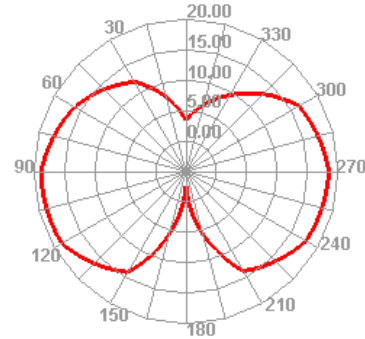


2D方向图 2DDirections

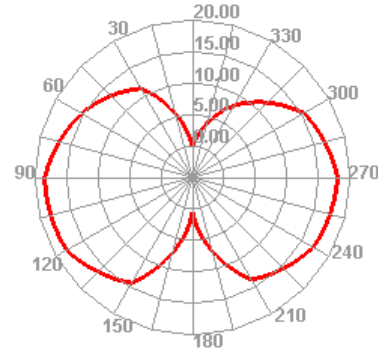
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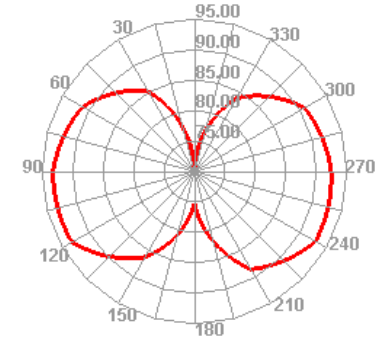
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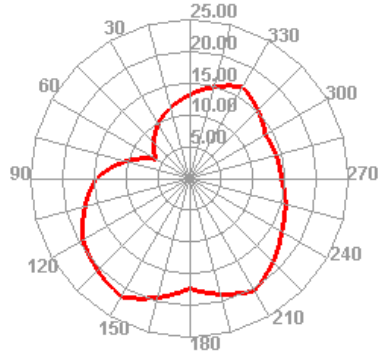
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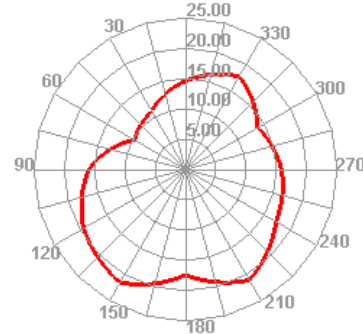
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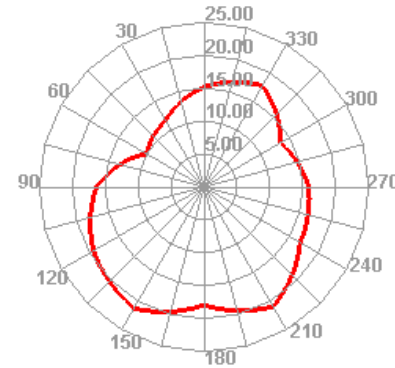
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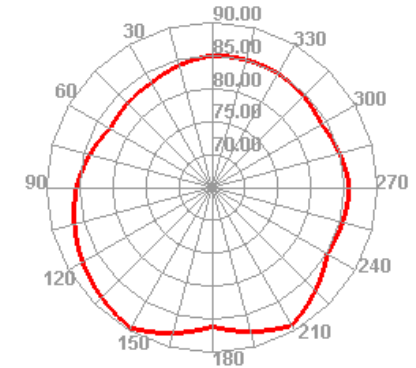
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LTE7 21400 TRP Phi=45

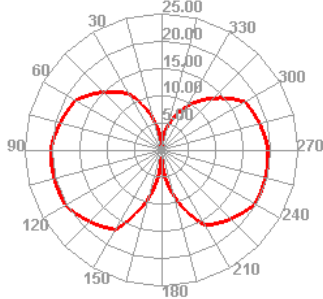


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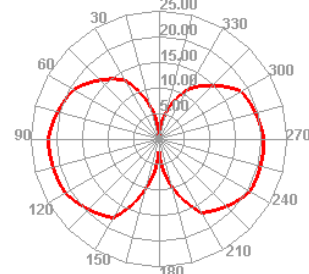


2D方向图 2DDirections

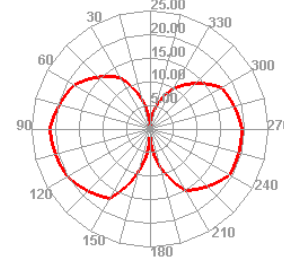
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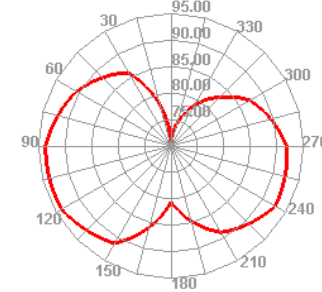
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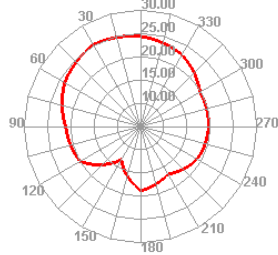
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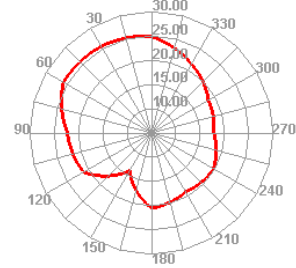
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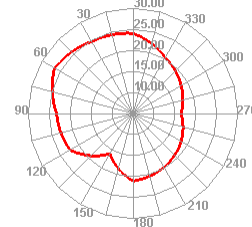
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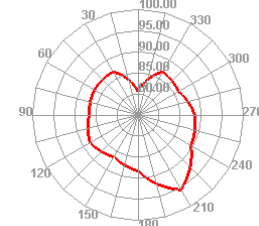
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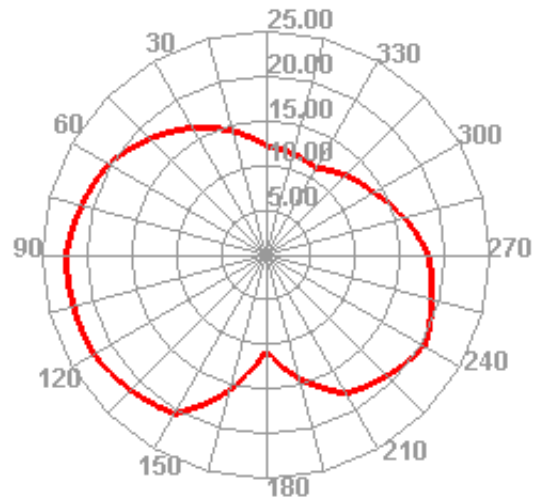
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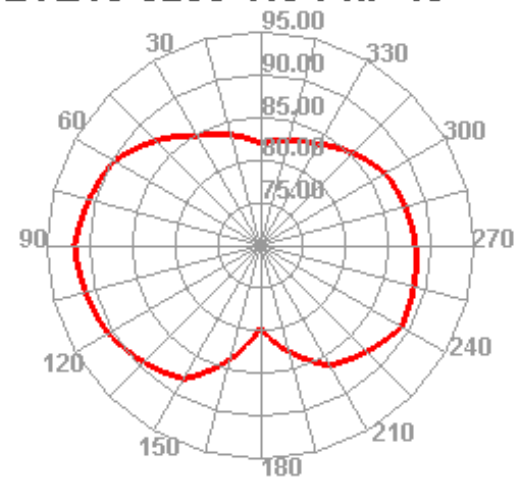
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2D方向图 2DDirections

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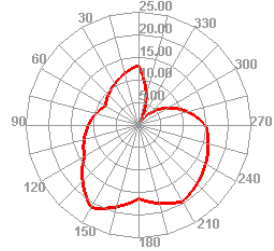


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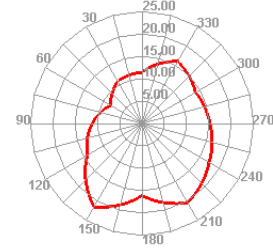


2D方向图 2DDirections

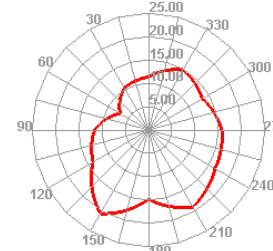
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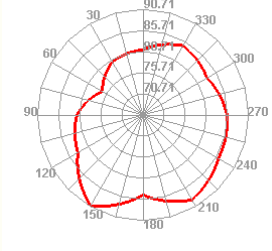
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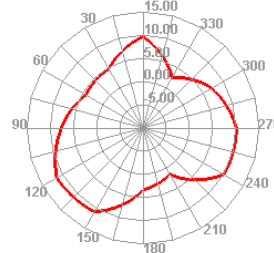
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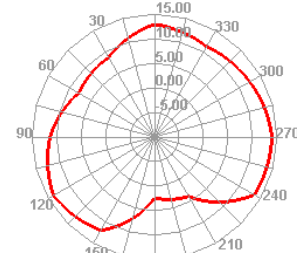
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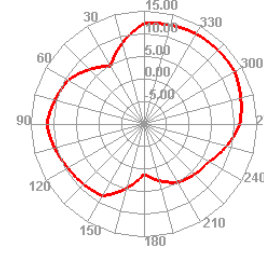
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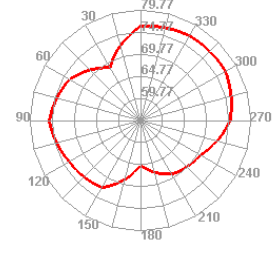
Wifi 60 TRP Phi=45



Wifi 161 TRP Phi=45



Wifi 161 TIS Phi=45



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THE END

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