



K5 Antenna admission book

Project name:	K5 - Antenna	Frequency band:	GSM:GSM850/GSM900/DCS1800/PCS1900 WCDMA:W1/W2/W4/W5/W8 FDD:B1/B2/B3/B4/B5/B7/B8/B9/B12 B13/B17/B18/B19/B20/B25/B26/B28/B34 TDD:B38/B39/B40/B41 WIFI2.4G/WIFI5G/GPS		
Internal material number:	175-014-OK-A	Version number:	R:B		
Material code:		Date:	2023-06-26		
ShenZhen Frequency Extension Iot Technology Co., Ltd					
examine and verify	RF		design	RF	LI donghai
	MD				
	character				
	project			MD	Zhong Fangmin
	vocational work				
深圳市优克联新技术有限公司					
date					
affirm	RF				
	MD				
remarks					

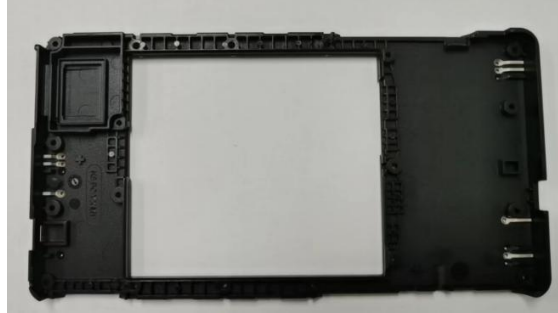


catalogue

一,	
1.The Mobilephone picture picture and the antenna finished picture	3
Main antenna finished picture	3
Mobilephone picture	3
Main antenna matching	3
二,	
Antenna passive parameters	5
Main Antenna Return Loss and VSWR	5/6
Gain、Efficiency test	7/8/9
Directivity	10/11/12
三, OTA Test Report	13/14
四、Antenna assembly drawing	16
五, Reliability test report	17
六、manner of packing	18



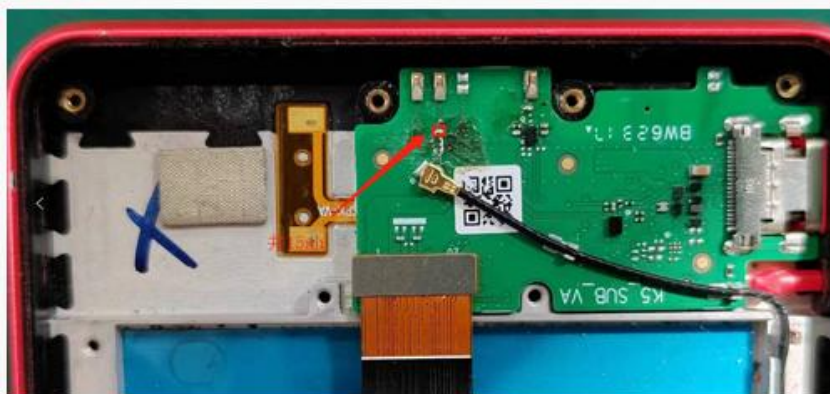
一.The Mobilephone picture picture and the antenna finished picture.



antenna finished picture



Mobile phone



信号路: 并15NH/串0Ω

tuner逻辑如下:

RF1: 0Ω--GSM900/DCS1800/PCS1900
WCDMA:W1/W2/W4/W8
FDD:B1/B2/B3/B4/B7/B8/B9/B25
TDD:B34/B38/B39/40/41
RF2: 3.3NH--GSM850
WCDMA:W5
FDD:B5/B18/B19/B20/B26
RF3:7.5NH--FDD:B13
RF4:12NH--FDD:B12/B17/B28

tuner:

antenna matching



Test System

SATIMO, Agilent E5071C, Anristu MT8820C





二、

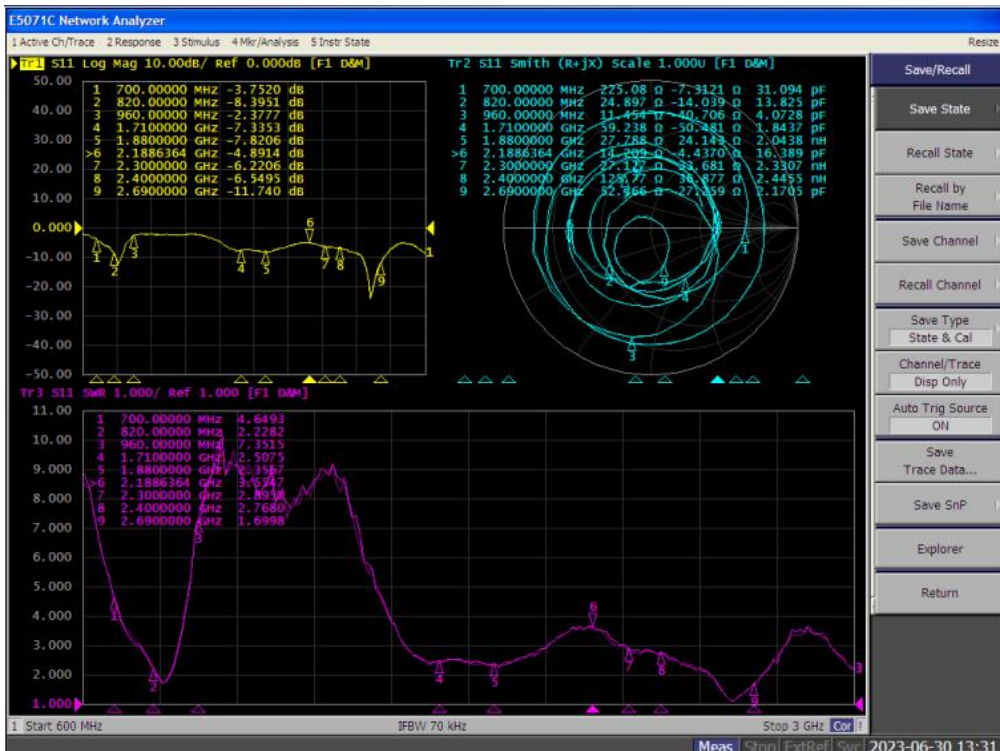
Antenna passive parameters

Main Antenna Return Loss and VSW

LTE-RF1

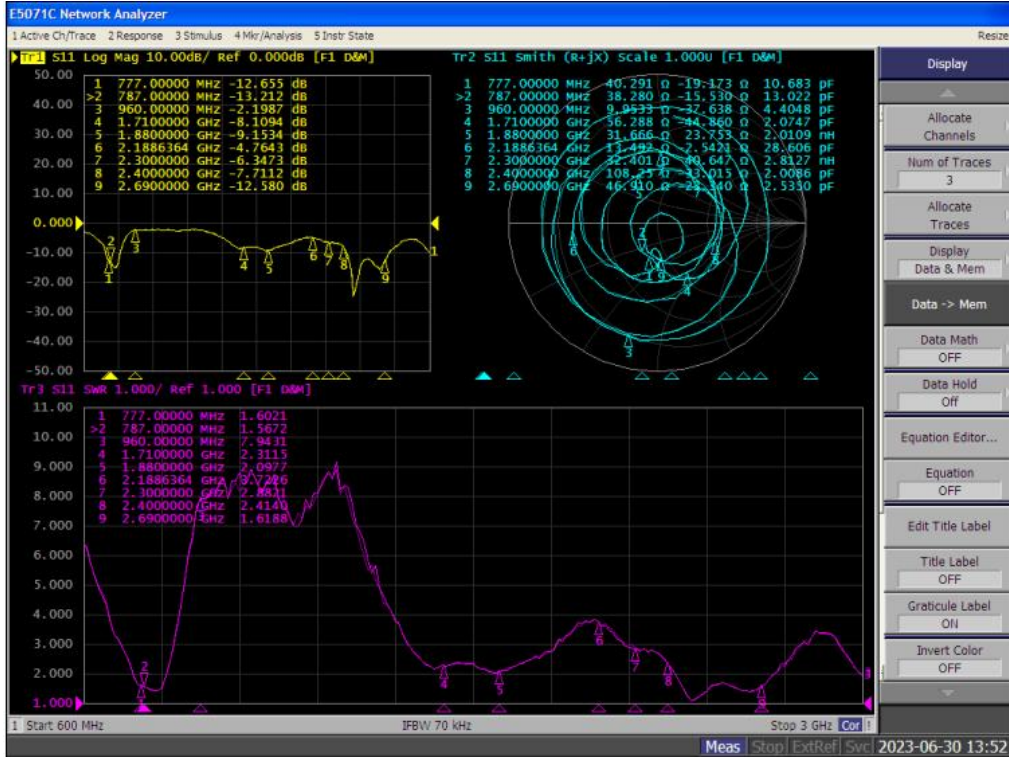


LTE-RF2

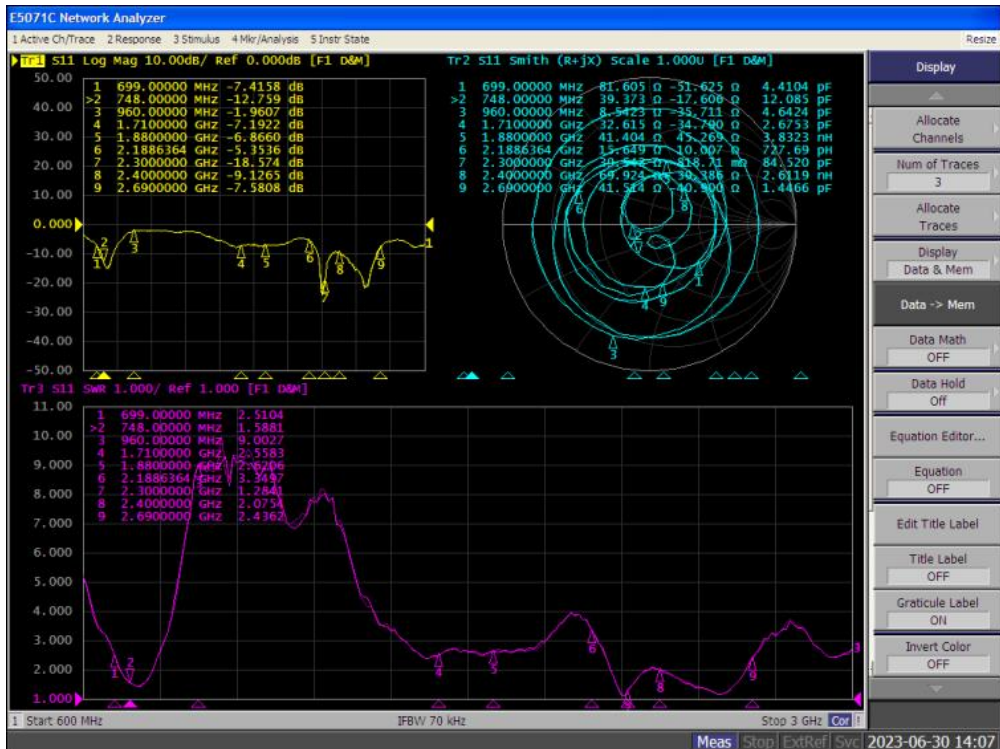




LTE-RF3

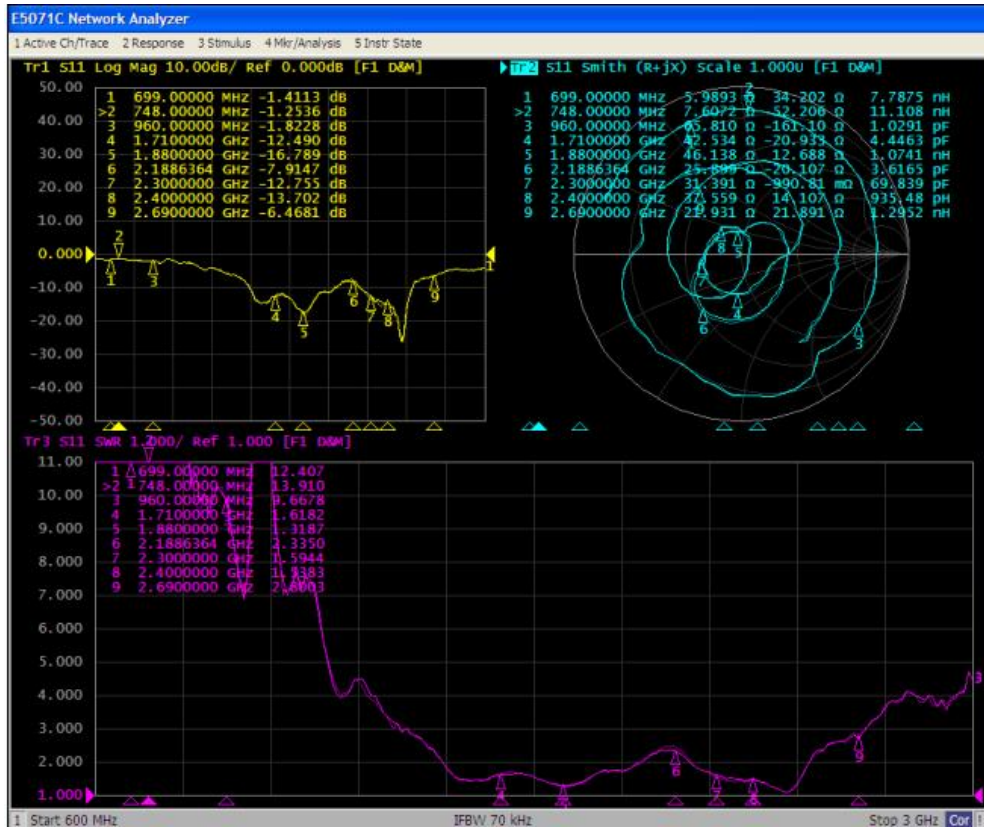


LTE-RF4

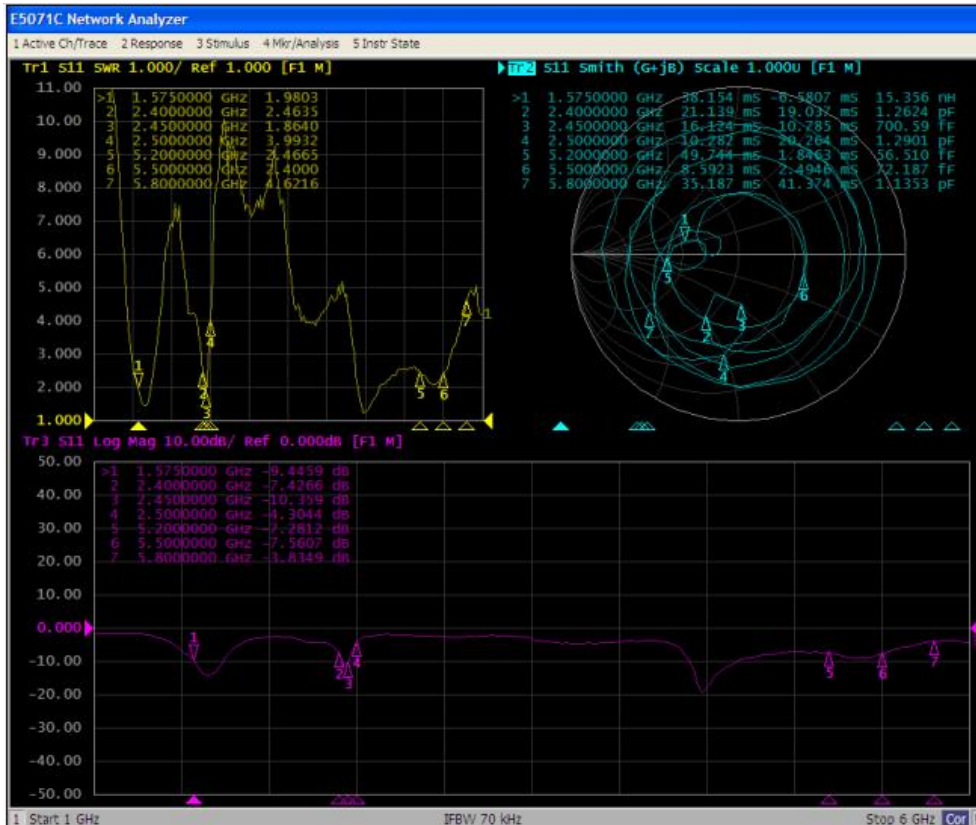




DIV Antenna Return Loss and VSW



WIFI/GPS Antenna Return Loss and VSW





3, Gain、Efficiency test

3.1 LTE

Frequency	Efficiency	Gain. d	Frequency	Efficiency	Gain. d	Frequency	Efficiency	Gain. d
680MHz	28%	-1.73	820MHz	52%	1.69	980MHz	34%	-0.38
686MHz	30%	-1.23	825MHz	54%	1.97	990MHz	31%	-0.96
692MHz	32%	-0.88	830MHz	54%	1.77	1000MHz	27%	-1.66
698MHz	32%	-1.04	835MHz	55%	1.79	1700MHz	37%	-0.95
704MHz	31%	-1.01	840MHz	54%	1.73	1750MHz	37%	-0.96
710MHz	34%	-0.48	845MHz	52%	1.44	1800MHz	38%	-0.54
716MHz	36%	-0.15	850MHz	53%	1.62	1850MHz	38%	0.01
722MHz	36%	-0.25	855MHz	53%	1.67	1900MHz	40%	0.44
728MHz	36%	-0.24	860MHz	52%	1.52	1950MHz	42%	0.94
734MHz	37%	0.04	865MHz	51%	1.49	2000MHz	40%	0.88
740MHz	40%	0.4	870MHz	48%	1.26	2050MHz	35%	0.63
746MHz	41%	0.95	875MHz	47%	1.04	2100MHz	33%	0.52
752MHz	41%	0.87	880MHz	44%	0.85	2150MHz	34%	0.7
758MHz	42%	0.93	885MHz	41%	0.53	2200MHz	31%	-0.07
764MHz	46%	1.57	890MHz	40%	0.44	2250MHz	30%	-0.05
770MHz	46%	1.66	895MHz	37%	0.12	2300MHz	32%	0.43
776MHz	47%	1.88	900MHz	36%	0.14	2350MHz	36%	0.83
782MHz	47%	1.86	910MHz	34%	-0.41	2400MHz	37%	0.75
788MHz	49%	2.09	920MHz	39%	0.72	2450MHz	38%	0.75
794MHz	49%	2.28	930MHz	42%	0.39	2500MHz	41%	0.75
800MHz	47%	1.91	940MHz	42%	0.4	2550MHz	42%	0.78
805MHz	48%	1.46	950MHz	42%	0.59	2600MHz	38%	-0.19
810MHz	50%	1.66	960MHz	40%	0.91	2650MHz	34%	-0.96
815MHz	48%	1.33	970MHz	36%	-0.2	2700MHz	24%	-2.3



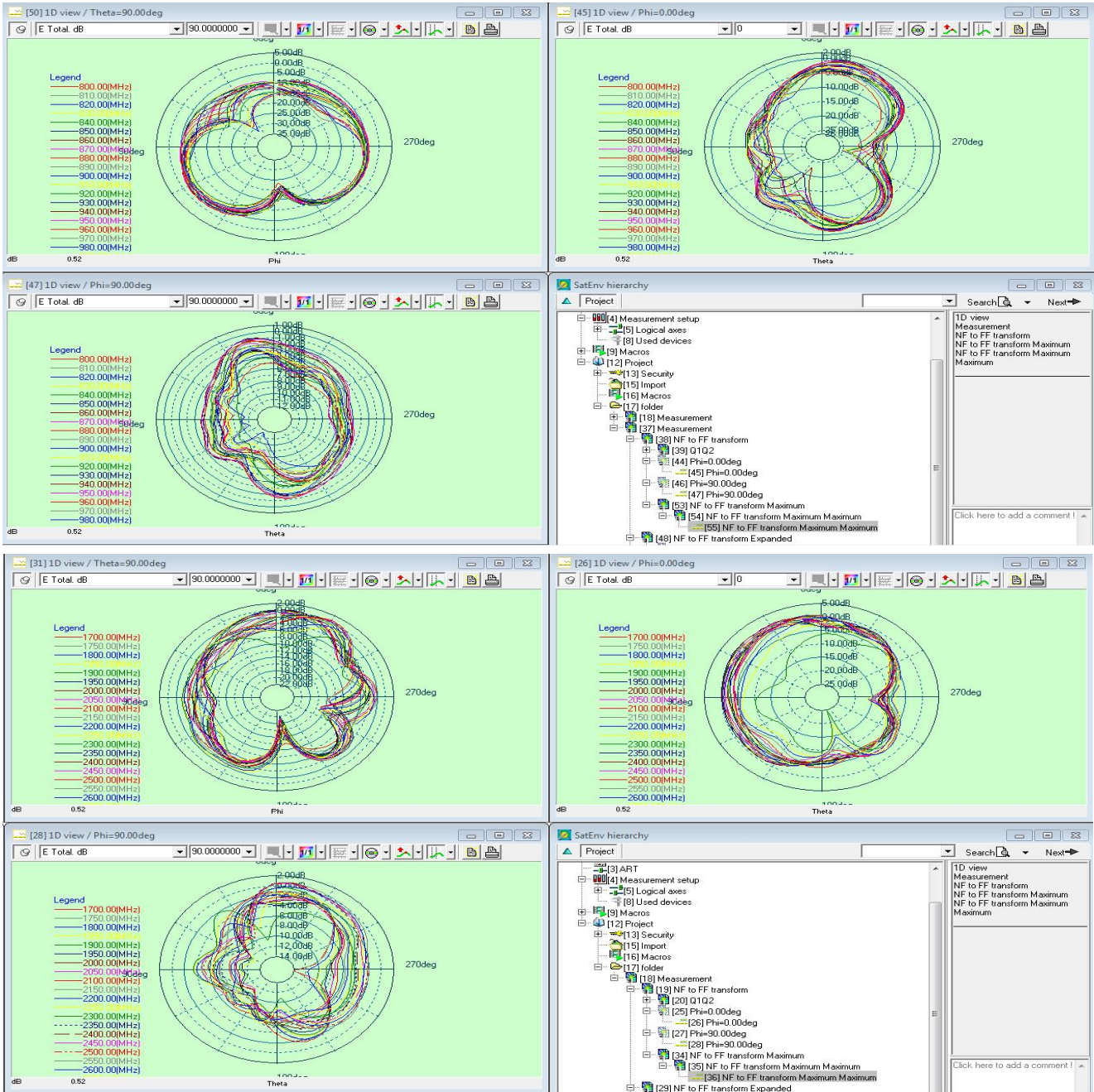
WIFI/GPS Gain、Efficiency test

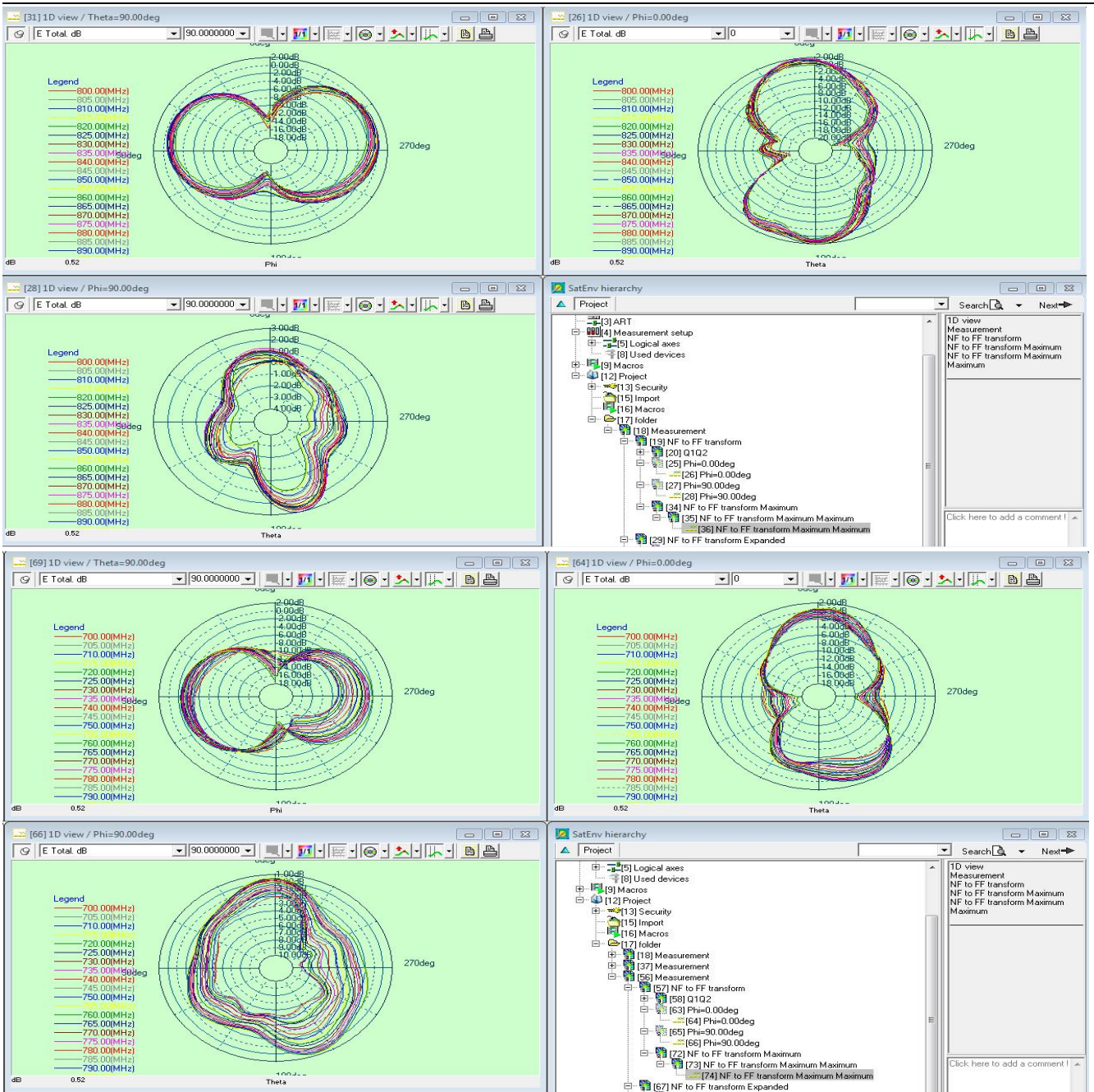
GPS Efficiency			wifi2.4G Efficiency			wifi5.8G Efficiency		
Frequency	Efficiency	Gain. dBi	Frequency	Efficiency	Gain. dBi	Frequency	Efficiency	Gain. dBi
1500MHz	39%	0.75	2400MHz	38%	0.84	5100MHz	39%	2.56
1505MHz	40%	0.82	2405MHz	38%	0.66	5140MHz	41%	2.82
1510MHz	40%	0.79	2410MHz	38%	0.76	5180MHz	37%	2.2
1515MHz	40%	0.83	2415MHz	37%	0.45	5220MHz	38%	2.2
1520MHz	38%	0.65	2420MHz	38%	0.64	5260MHz	33%	1.38
1525MHz	41%	0.84	2425MHz	37%	0.68	5300MHz	31%	0.98
1530MHz	40%	0.84	2430MHz	37%	0.42	5340MHz	27%	0.1
1535MHz	42%	1.04	2435MHz	35%	0.4	5380MHz	26%	-0.59
1540MHz	42%	0.95	2440MHz	34%	0.35	5420MHz	23%	-0.94
1545MHz	41%	0.89	2445MHz	32%	-0.09	5460MHz	23%	-1.13
1550MHz	40%	0.87	2450MHz	32%	-0.04	5500MHz	21%	-1.46
1555MHz	40%	0.86	2455MHz	30%	-0.31	5540MHz	22%	-1.18
1560MHz	41%	0.93	2460MHz	29%	-0.27	5580MHz	22%	-1.26
1565MHz	41%	0.91	2465MHz	27%	-0.69	5620MHz	22%	-0.95
1570MHz	42%	0.98	2470MHz	25%	-1.14	5660MHz	23%	-0.49
1575MHz	41%	0.9	2475MHz	23%	-1.3	5700MHz	27%	1.05
1580MHz	41%	0.87	2480MHz	22%	-1.52	5740MHz	26%	0.5
1585MHz	41%	0.92	2485MHz	23%	-1.47	5780MHz	31%	1.52
1590MHz	42%	0.9	2490MHz	22%	-1.62	5820MHz	26%	0.11
1595MHz	42%	0.9	2495MHz	20%	-1.96	5860MHz	28%	0.66
1600MHz	41%	0.85	2500MHz	18%	-2.42	5900MHz	25%	-0.12

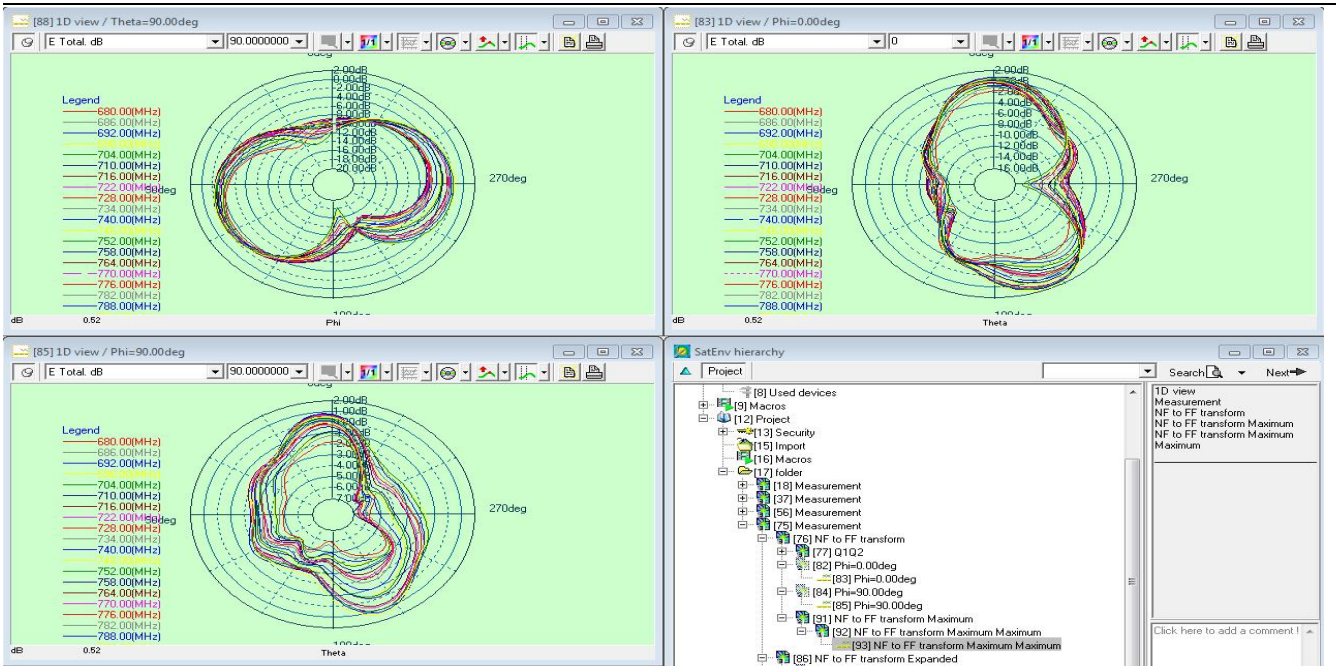


4、Directivity

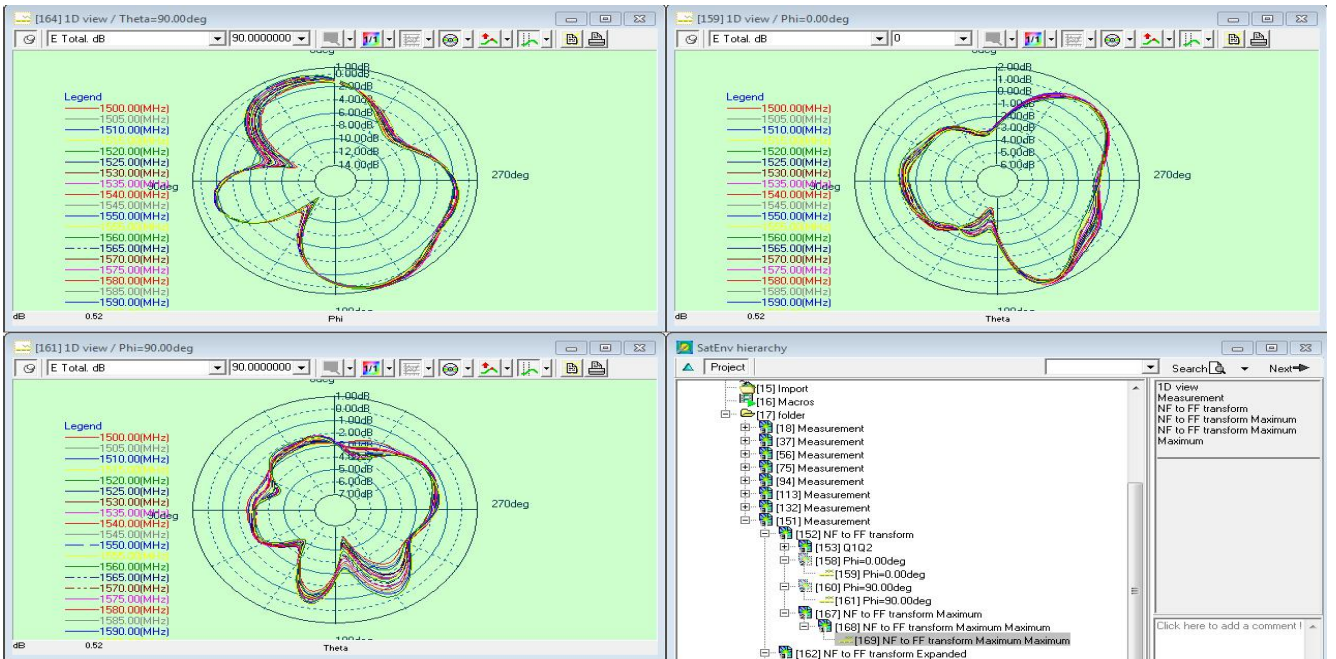
4.1 LTE

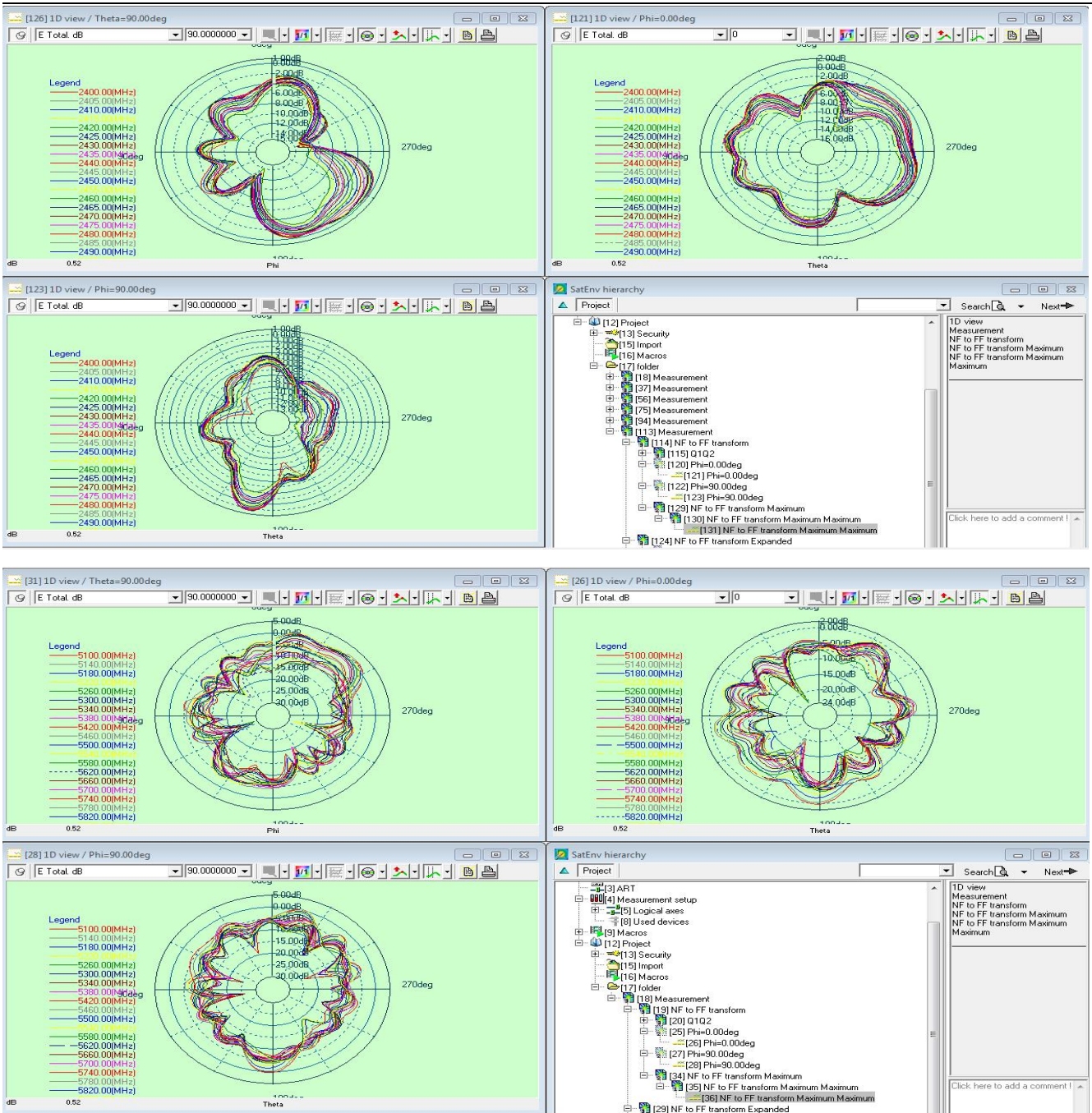






4.2 GPS/WIFI







三, OTA Test Report - LTE

Antenna Performance Table

		Channel No.	TRP (dBm)	TIS (dBm)			Channel No.	TRP (dBm)	TIS (dBm)	
WCDMA	W1	L	18.8		LTE:FDD	B12	L	15.66		
		M	19.18				M	16.08		
		H	18.79	-108.02			H	16.6	-91.08	
	W2	L	19.15			B13	L	17.07		
		M	19.05				M	16.78		
		H	18.9	-105.45			H	17	-94.05	
	W4	L	18.34			B17	L	15.77		
		M	18.07				M	16.14		
		H	18.3	-105.1			H	16.36	-91.81	
	W5	L	18.67			B18	L	17.73		
		M	17.8				M	18.39		
		H	17.93	-104.05			H	18.89	-93.28	
W8	L	20.12		B19	L	18.1				
	M	19.34			M	17.48				
	H	18.25	-104.25		H	18.2	-92.91			
LTE:FDD	B1	L	17.7		LTE:FDD	B20	L	18.25		
		M	18.19				M	17.16		
		H	18.43	-96.79			H	18.43	-93.43	
	B2	L	16.79			B25	L	16.83		
		M	16.9				M	17.28		
		H	18.83	-94.78			H	17.6	-97.8	
	B3	L	16.9			B26	L	16.73		
		M	16.76				M	17.91		
		H	16.73	-94.87			H	17.18	-93.41	
	B4	L	17.1			B28	L	15.73		
		M	17.39				M	16.31		
		H	17.19	-94.1			H	16.79	-91.31	
LTE:FDD	B5	L	17.68		LTE:FDD	B34	L	17.36		
		M	17.35				M	17.93		
		H	17.25	-93.35			H	17.48	-94.18	
	B7	L	17.1			B38	L	17.84		
		M	17.35				M	17.22		
		H	16.97	-92.01			H	17.23	-92.93	
	B8	L	18.7			B39	L	17.61		
		M	18.26				M	17.38		
		H	17.05	-92.97			H	17.49	-92.71	
	B9	L	17.33			B40	L	17.45		
		M	17.39				M	17.81		
		H	17.18	-92.69			H	18.67	-92.37	
					LTE:TDD	B41	L	18.35		
							M	18		
							H	17.1	-93.13	



WIFI- Active data

Antenna Performance Table					
		Channel No.	TRP (dBm)	TIS (dBm)	
WIFI	WIFI-2.4G-B	1	13.74		802.11b : 11MBps
		7	13.66		
		13	14.68	-81.97	
	WIFI-5G-A	36	13.56		802.11g : 54MBps
		64	13.71		
		149	14.54	-68.67	



四、

Antenna assembly drawing

