

Date: 2025-01-08

VK– S11XM-4G Project Testing Report

Manufacturer:Shenzhen Jiaqi Technology Co., Ltd.

Address:Room 108, Building E, Bantian International Center, Bantian Street, Longgang District, Shenzhen, China

Project	RF Responsible Person	Structural Responsible Person	Frequency Band
S11XM-4G	Li Xin	Engineer Cen	GSM:850/1800/1900 WCDMA:850/1900/2100 LTE:B1/2/3/4/5/7/12/13/17/25/26/28/34/39/40/41/71 GPS/WIFI/BT
Remarks: Silk Screen S11XF-GSM-T-V1.0 Antenna			

Our company has reviewed and complies with the applicable clauses of the GB/T19001-2016/ISO9001: 2015 Quality Management System Standards.

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Shenzhen www.tyquant.com

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1. Testing Environment

Testing System: ETS 3D Shielded Dark Room

Testing Environment: Temperature $22^{\circ}\text{C} \pm 3^{\circ}\text{C}$, Humidity $50\% \pm 15\%$

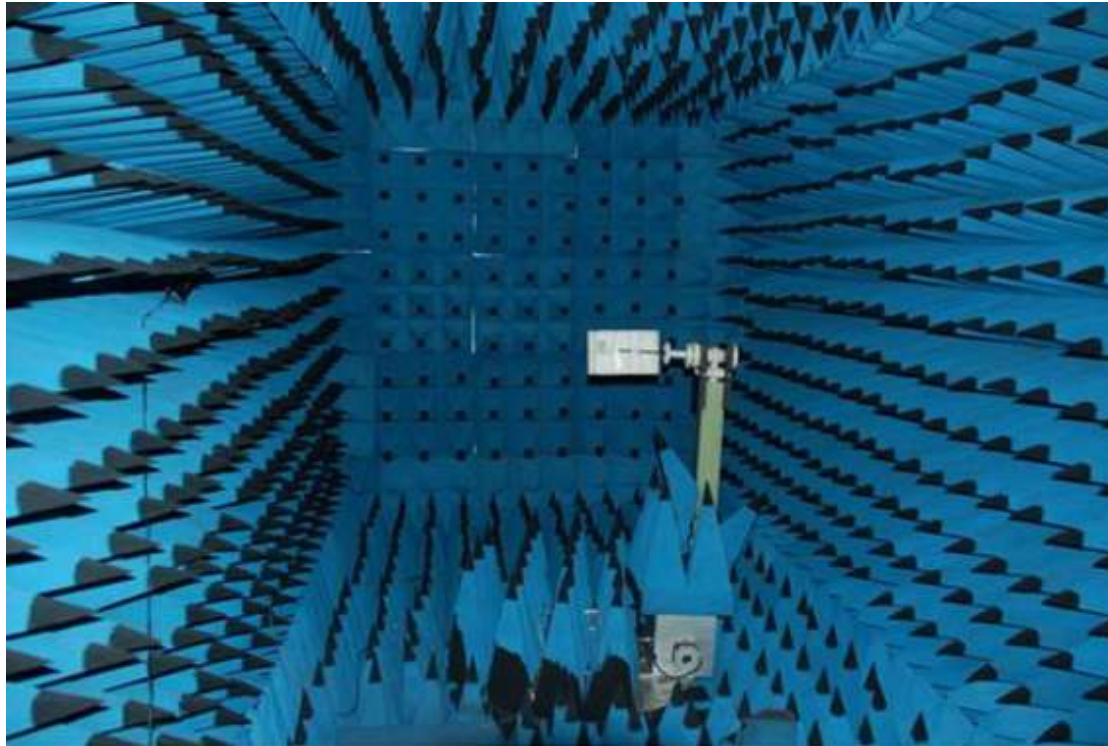
Testing Equipment: For passive data testing, use the HP 8753E Network Analyzer

For active data testing, use the E5515C-8960 3G Full-Function

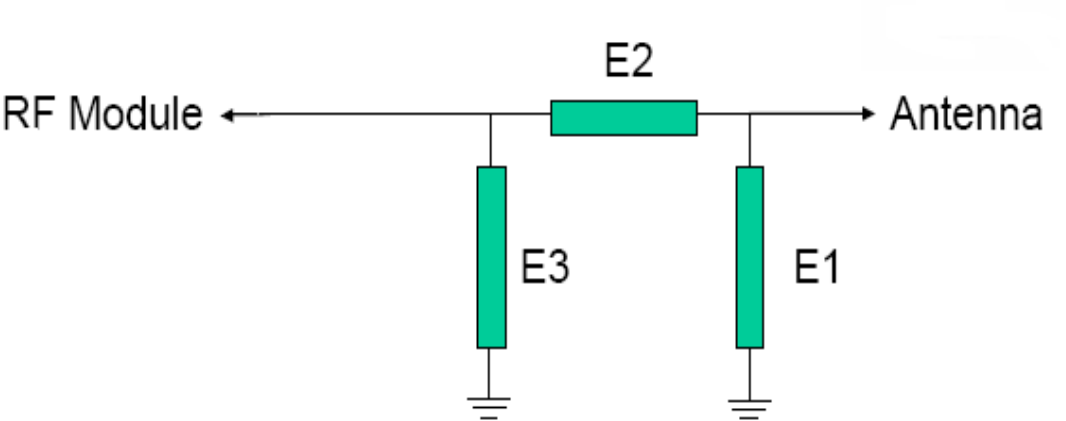
Comprehensive Tester

For active data testing, use the 8820C 4G Full-Function Comprehensive

Tester



2. Matching Circuit Design



Element	Value
E1(0402)	/
E2(0402)	/
E3(0402)	/

3. 1 2G Testing Report

	EGSM900			Remarks	DCS1800			Remarks
Channel	1	62	120		512	698	885	
MaxPower (dBm)					27.6	27.8	27.5	
TRP(dBm)					23.5	23.6	23.3	
MaxSensitivity(dBm)							-105.8	
TIS(dBm)							-101.7	
	EGSM850			Remarks	PCS1900			Remarks
Channel	128	190	250		512	661	810	
MaxPower (dBm)	26.1	26.3	26.5		27.8	27.6	27.5	
TRP(dBm)	23.0	23.2	23.3		23.6	23.5	23.3	
MaxSensitivity(dBm)			-102.8				-105.9	
TIS(dBm)			-99.6				-101.8	

3.2 3G Testing Report

	WCDMA2100			Remarks	WCDMA1900			Remarks
Channel	10562	10700	10838		9662	9800	9938	
MaxPower (dBm)	21.3	21.5	21.6		21.5	21.6	21.8	
TRP(dBm)	17.2	17.3	17.5		17.1	17.5	17.6	
MaxSensitivity(dBm)			-105.8				- 95.8	
TIS(dBm)			-101.6				-91.6	
	WCDMA850			Remarks	WCDMA900			Remarks
Channel	4357	4408	4458		2938	3013	3087	
MaxPower (dBm)	17.5	17.3	17.1					
TRP(dBm)	14.3	14.2	14.0					
MaxSensitivity(dBm)			-102.8					
TIS(dBm)			-99.6					

3. 3. 1 4G Testing Report

	LTE-B1			Remarks	LTE-B2			Remarks
Channel	18100	18300	18500		18650	18900	19150	
MaxPower (dBm)	21.3	21.5	21.6		21.5	21.6	21.8	
TRP(dBm)	17.2	17.3	17.5		17.1	17.5	17.6	
MaxSensiti vity(dBm)			-95.5				- 95.8	
TIS(dBm)			-91.3				-91.6	
	LTE-B3			Remarks	LTE-B4			Remarks
Channel	19250	19575	19900		20000	20175	20350	
MaxPower (dBm)	20.9	21.3	21.5		21.3	21.5	21.2	
TRP(dBm)	16.8	17.2	17.3		17.2	17.3	17.1	
MaxSensiti vity(dBm)			-95.6				-94.9	
TIS(dBm)			-91.5				-90.8	

3. 3. 1 4G Testing Report

	LTE-B5			Remarks	LTE-B7			Remarks
Channel	20450	20525	20600		20850	21100	21350	
MaxPower (dBm)	17.5	17.3	17.1		21.5	21.3	20.9	
TRP(dBm)	14.3	14.2	14.0		17.3	17.2	16.8	
MaxSensitivity(dBm)			-89.9				-93.5	
TIS(dBm)			-86.8				-89.3	
	LTE-B12			Remarks	LTE-B13			Remarks
Channel	23060	23095	23130		23200	23230	23260	
MaxPower (dBm)	17.1	17.2	17.3		17.1	17.2	17.3	
TRP(dBm)	14.2	14.3	14.5		14.2	14.3	14.3	
MaxSensitivity(dBm)			-87.8				-88.3	
TIS(dBm)			-84.6				- 85.2	

3. 3. 1 4G Testing Report

	LTE-B17			Remarks	LTE-B25			Remarks
Channel	23780	23790	23800		26090	26350	26640	
MaxPower (dBm)	17.2	17.3	17.5		20.9	21.3	21.5	
TRP(dBm)	14.3	14.5	14.6		16.8	17.2	17.3	
MaxSensitivity(dBm)			-87.3				- 95.5	
TIS(dBm)			-84.2				- 91.3	
	LTE-B26			Remarks	LTE-B28			Remarks
Channel	26740	26865	26990		27260	27435	27610	
MaxPower (dBm)	17.2	17.1	16.9		16.8	17.1	17.2	
TRP(dBm)	14.3	14.2	14.0		13.9	14.2	14.3	
MaxSensitivity(dBm)			-90.3				-89.5	
TIS(dBm)			-87.2				-86.3	

3. 3. 1 4G Testing Report

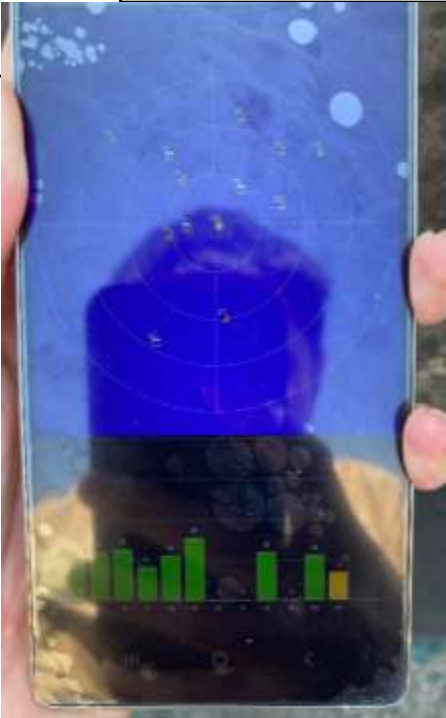
	LTE-B34			Remarks	LTE-B39			Remarks
Channel	36250	36275	36300		38350	38450	38550	
MaxPower (dBm)	21.6	21.8	21.9		21.3	21.5	21.2	
TRP(dBm)	17.5	17.6	17.8		17.2	17.3	17.1	
MaxSensitivity(dBm)			- 95.0				-94.3	
TIS(dBm)			- 90.9				-90.2	
	LTE-B40			Remarks	LTE-B41			Remarks
Channel	38750	39150	39550		40240	40620	40900	
MaxPower (dBm)	20.5	20.6	20.3		20.0	20.3	20.5	
TRP(dBm)	16.2	16.3	16.1		15.8	16.1	16.2	
MaxSensitivity(dBm)			-93.9				-93.6	
TIS(dBm)			-89.8				-89.5	

3. 3. 1 4G Testing Report

	LTE-B71			Remarks				Remarks
Channel	133122	133297	133472					
MaxPower (dBm)	16.5	16.6	17.1					
TRP(dBm)	13.6	13.8	14.2					
MaxSensitivity(dBm)			-87.8					
TIS(dBm)			- 84.6					

3. 4 GPS/WIFI/BT Testing Report

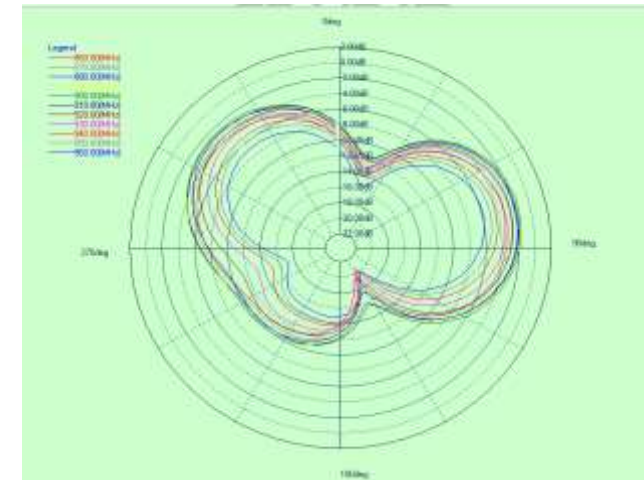
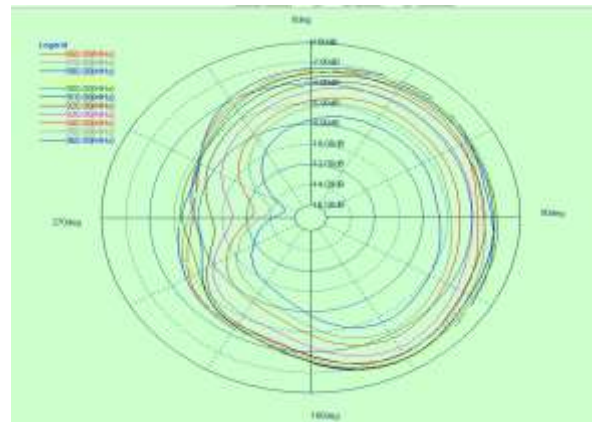
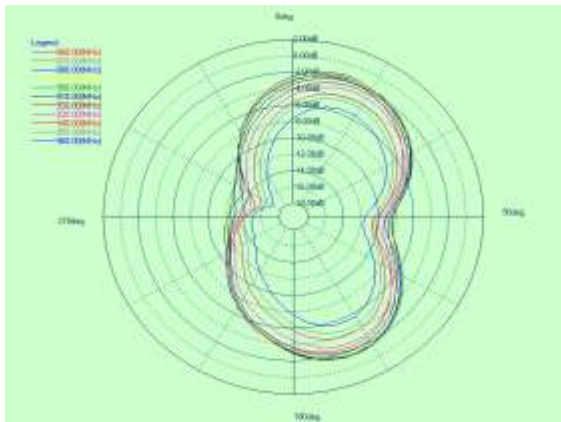
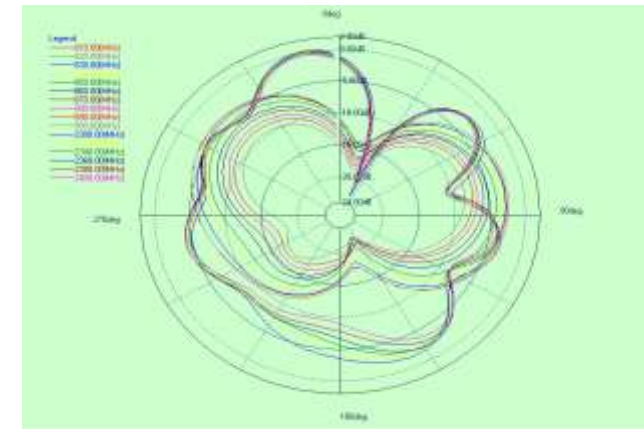
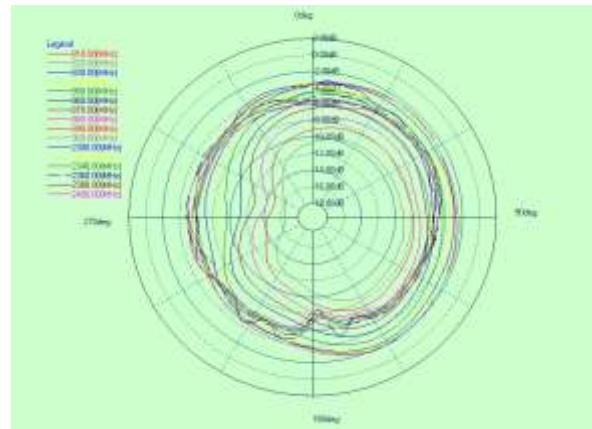
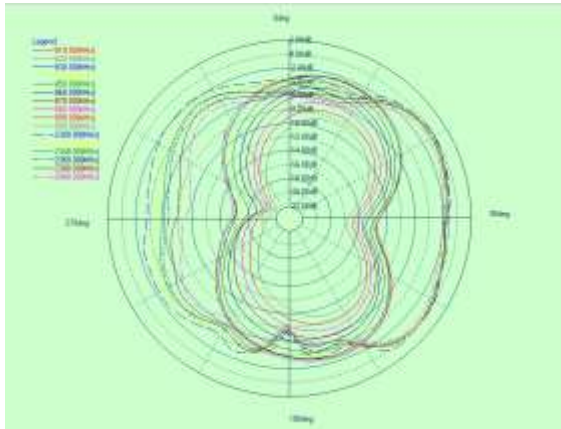
GPS	Maximum Signal Strength	Number of Stars Detected	Cold Start Positioning Time	Weather Conditions
	39	11	110S	Clear
WIFI	Distance to Router WIFI Signal Full Strength		Distance for Unobstructed Internet Access	
	5m		10m	
BT	Distance for Unobstructed Calls		Distance for Unobstructed Audio Playback	
	8m		10m	



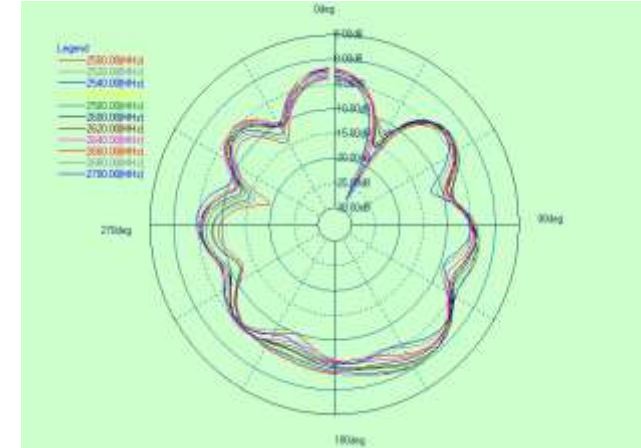
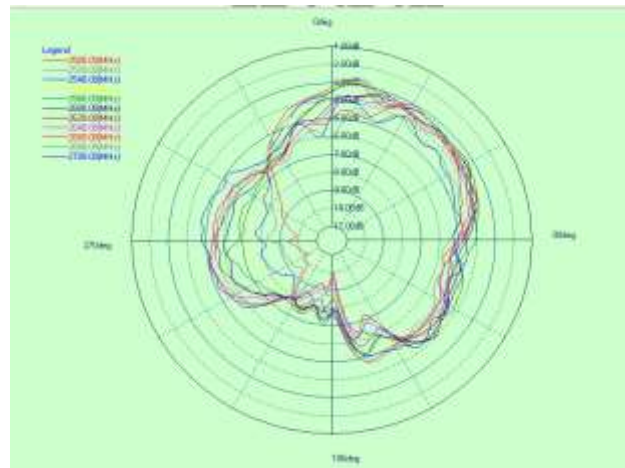
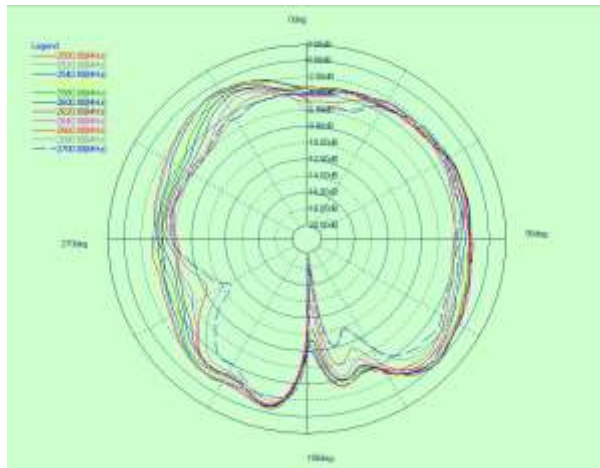
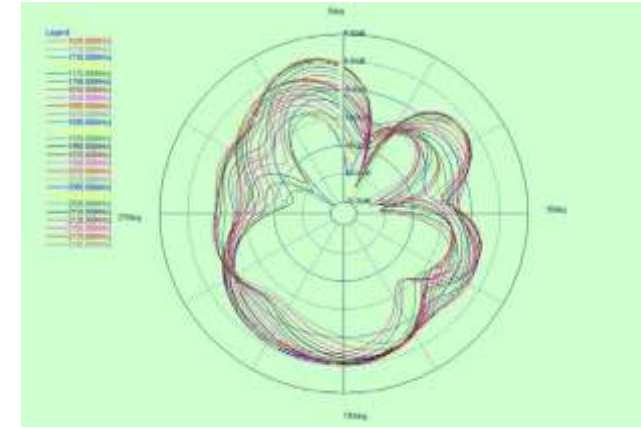
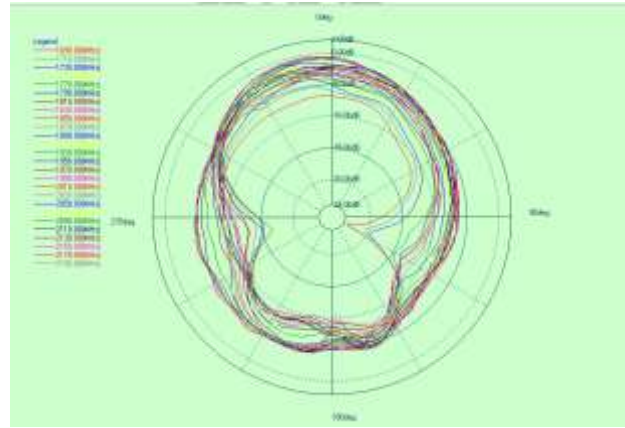
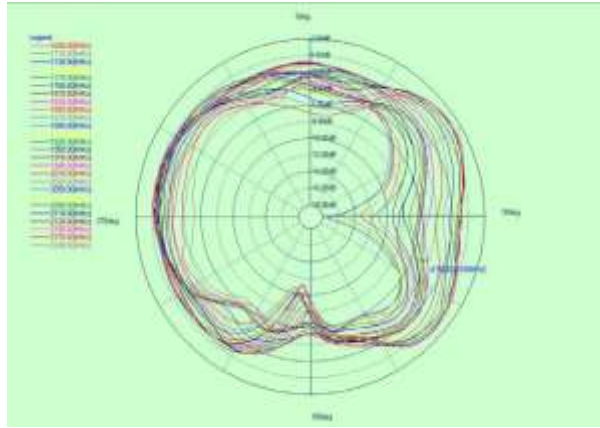
4. 1 Main Antenna Gain

2G AVG Gain(dbi)	850	1800	1900		
	- 1.6	- 1.1	-0.9		
3G AVG Gain(dbi)	B1	B2	B5		
	-0.8	-0.9	- 1.6		
4G AVG Gain(dbi)	B1	B2/25/34/39	B3	B4/B66	B5/20/26
	-0.8	-0.9	- 1.1	- 1.1	- 1.6
	B7/41	B12/13/17/28	B40	B71	
	- 1.1	-1.9	- 1.0	-2.1	

7.1 Main Antenna Radiation Pattern



7. 1 Main Antenna Radiation Pattern

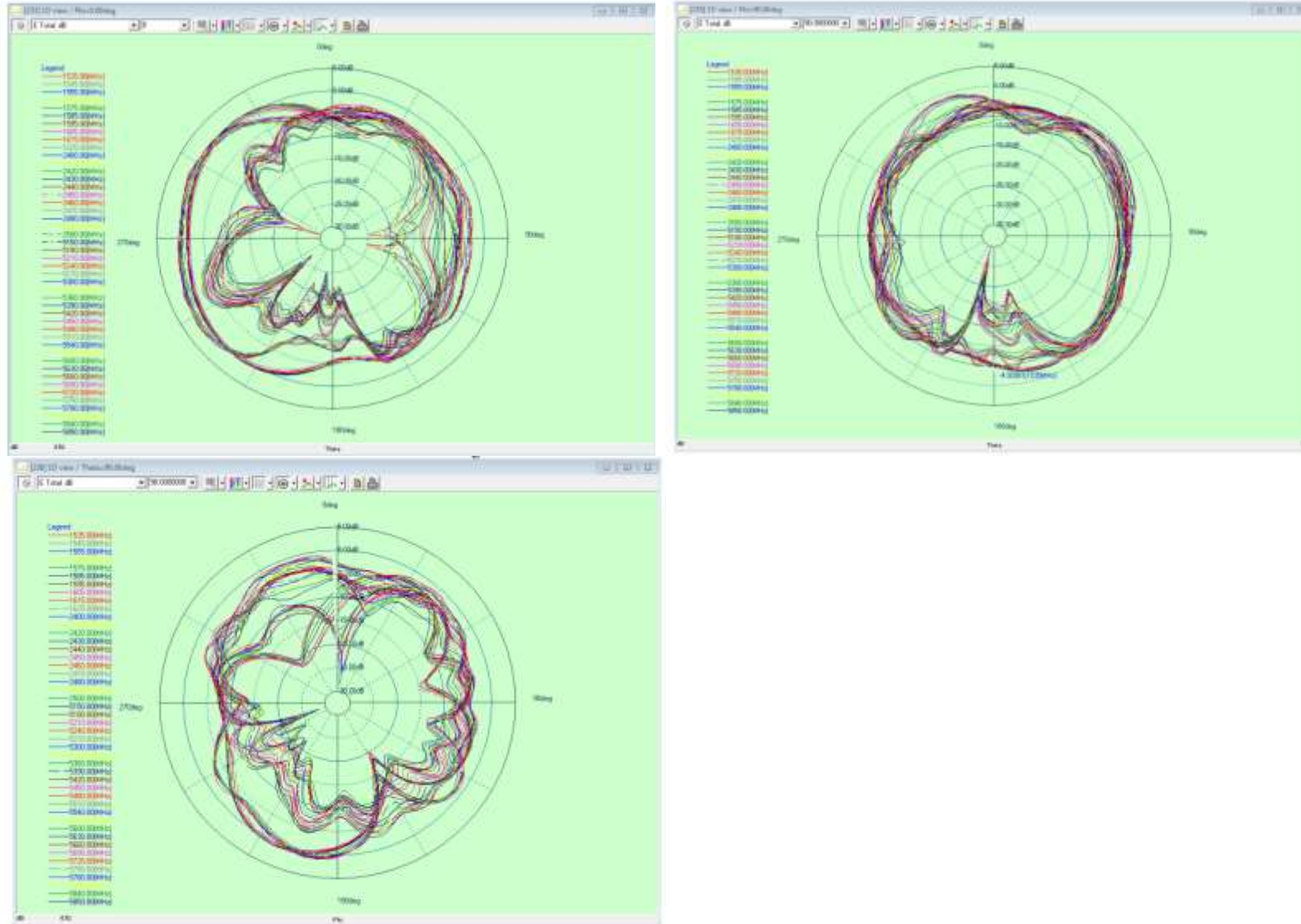


7.2 3-in-1 GPS and 2.4G/BT WIFI Antenna Gain

Passive Test For GPS										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
1515.42	29.31	-5.15	0.72	-1.34	15.415	18.89	0.82	-20.85	46.71	46.5
1525.42	30.16	-5.04	0.85	-1.39	14.929	19.23	0.95	-20.06	46.71	46.55
1535.42	31.03	-4.88	0.96	-1.85	12.193	19.83	1.06	-19.99	46.72	46.55
1545.42	31.49	-4.75	1.01	-1.04	12.234	20.25	1.11	-19.47	46.84	46.76
1555.42	32.25	-4.53	1.06	-0.56	12.305	20.94	1.29	-19.36	46.91	46.98
1565.42	32.57	-4.46	1.19	-0.76	11.846	21.72	1.39	-19.47	46.99	47.16
1575.42	32.52	-4.45	1.18	-0.87	12.482	21.03	1.38	-19.49	47.16	47.37
1585.42	30.95	-4.64	1.08	-1.57	11.921	20.02	1.28	-20.32	47.29	47.52
1595.42	30.69	-4.68	0.96	-1.23	14.699	19.98	1.12	-20.39	47.48	47.73
1605.42	29.98	-4.84	0.92	-0.98	15.883	19.09	1.07	-20.58	47.61	47.9
1615.42	29.93	-4.91	0.86	-0.48	17.436	18.49	0.96	-20.77	47.66	47.93

Passive Test For WIFI2.4										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2400	34.31	-4.65	0.81	-1.34	15.415	18.89	0.81	-19.85	52.57	52.52
2410	35.16	-4.54	0.76	-1.39	14.929	20.234	0.76	-19.06	52.61	52.56
2420	31.03	-5.08	0.3	-1.85	12.193	18.832	0.3	-16.99	52.49	52.49
2430	33.49	-4.75	1.11	-1.04	12.234	21.258	1.11	-19.47	52.55	52.52
2440	35.25	-4.53	1.59	-0.56	12.305	22.941	1.59	-20.3	52.69	52.57
2450	33.57	-4.74	1.39	-0.76	11.846	21.727	1.39	-20.47	52.92	52.78
2460	33.52	-4.75	1.28	-0.87	12.482	21.039	1.28	-23.49	52.79	52.62
2470	29.95	-5.24	0.58	-1.57	11.921	18.024	0.58	-26.3	52.83	52.65
2480	34.69	-4.6	0.92	-1.23	14.699	19.988	0.92	-23.39	52.81	52.65
2490	35.98	-4.44	1.17	-0.98	15.883	20.098	1.17	-21.58	53	52.81
2500	38.93	-4.1	1.67	-0.48	17.436	21.492	1.67	-19.77	53.02	52.84

7.3 3-in-1 Antenna Radiation Pattern



7. 4 Antenna dimensions

