Manufacturer	SUNNYWAY
Address	6/F, Building 5, South Taiyun Chuanggu Center, Guangming District, Shenzhen
Antenna type	Internal antenna
SPECIFICATION	W27PRO
Antenna Gain	2.00dBi for 2.4G, 2.00dBi for 5G

1.Test equipment and conditions:

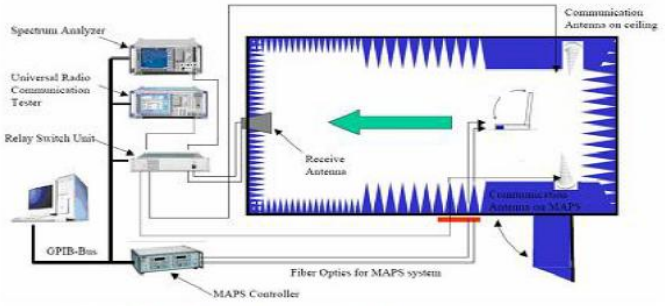
1.1.Network Analyzer

Agilent 8753D Agilent 5071B

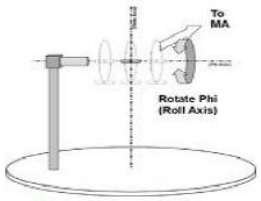
1.2.Communication test equipment

Agilent E5515C R&S CMW500

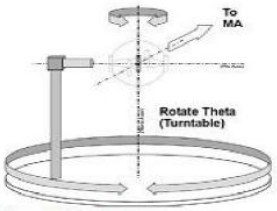
1.3.Test system



(Testing by 3D anechoic chamber)

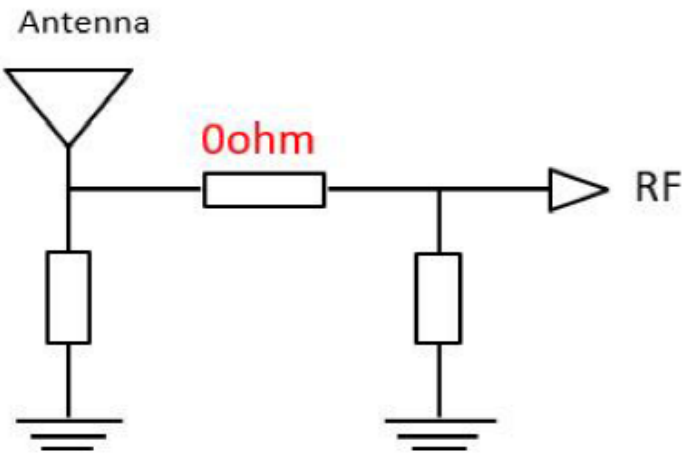


Phi axis test



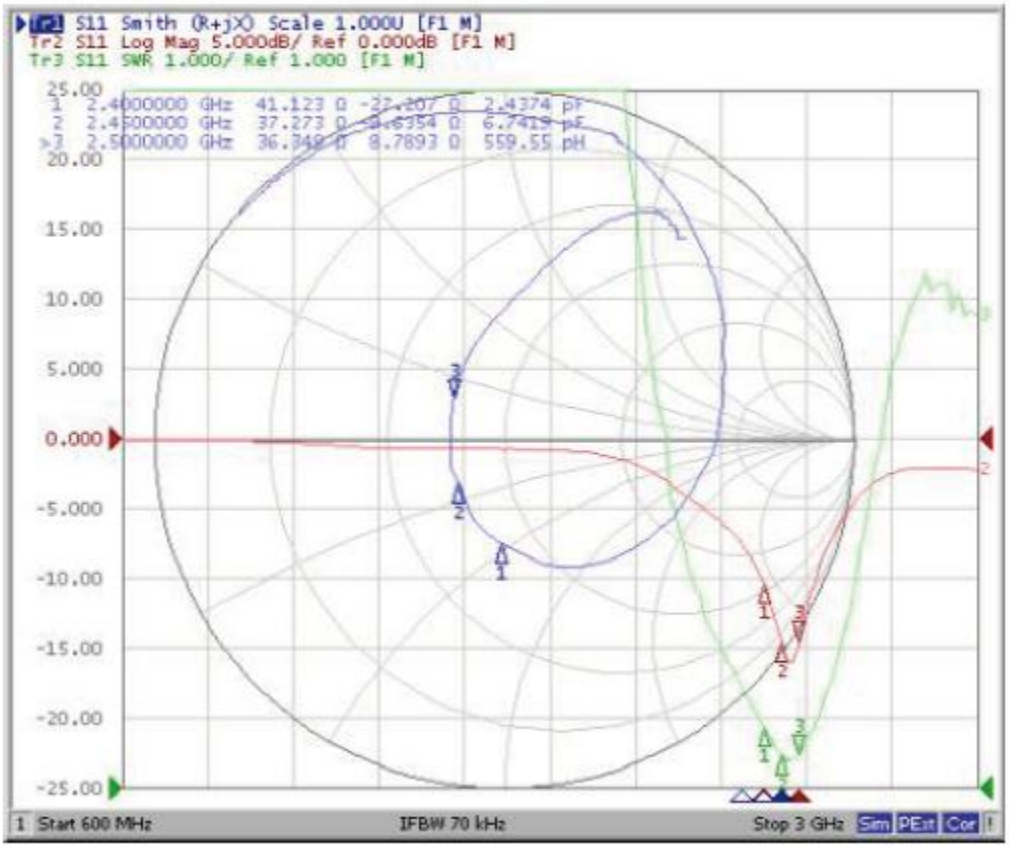
Theta axis test

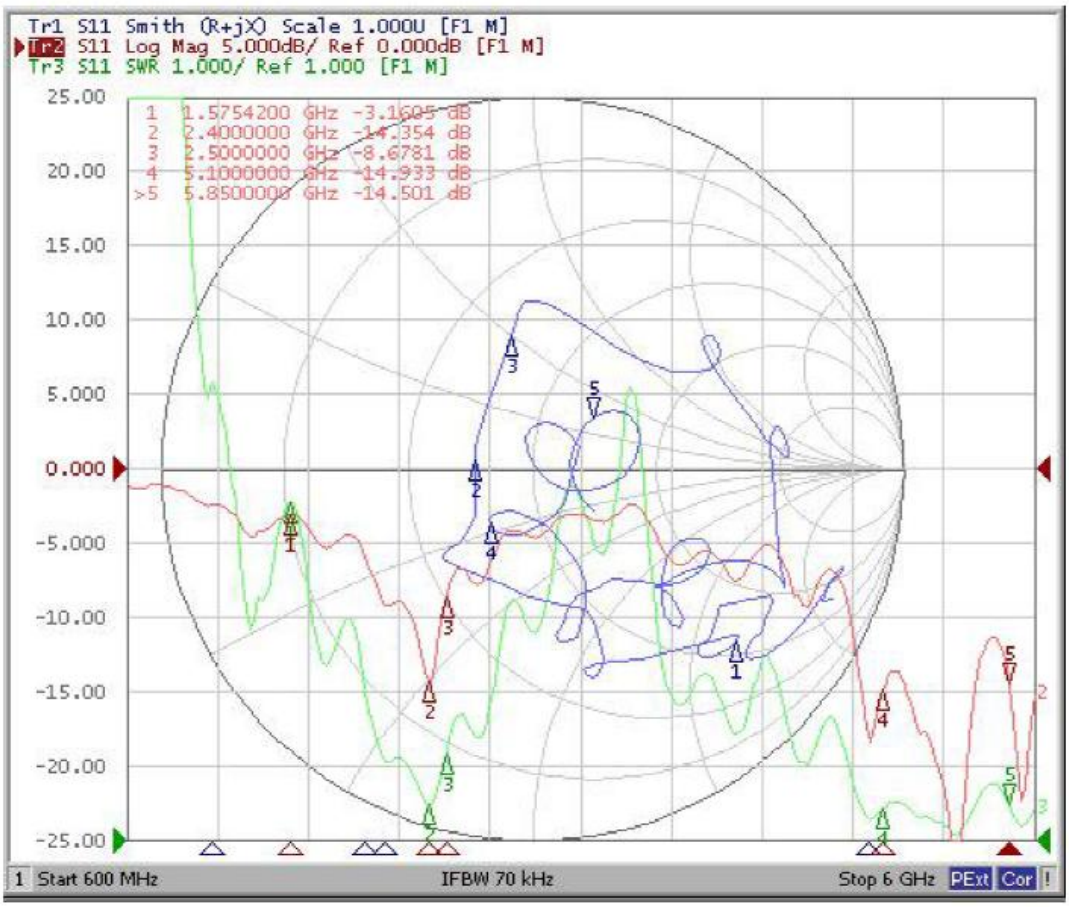
1.4.Matching circuit



2.Test Data:

2.1. Standing wave ratio




Tr1 S11 Smith (R+jX) Scale 1.000U [F1 M]
Tr2 S11 Log Mag 5.000dB/ Ref 0.000dB [F1 M]
Tr3 S11 SWR 1.000/ Ref 1.000 [F1 M]
1 1.5754200 GHz -3.1605 dB
2 2.4000000 GHz -14.354 dB
3 2.5000000 GHz -8.6781 dB
4 5.1000000 GHz -14.933 dB
>5 5.8500000 GHz -14.501 dB
25.00
20.00
15.00
10.00
5.000
0.000
-5.000
-10.00
-15.00
-20.00
-25.00
1 Start 600 MHz
IFBW 70 kHz
Stop 6 GHz
PExt
Cor

2.2.Efficiency

2.4G BT										
Fred (MHz)	**Effi (%)**	**Effi (%)**	**Gain (dBi)**	**Gain (dBd)**	**UHIS (%)**	**DHIS (%)**	**Max (dB)**	**Min (dB)**	**Attenut (Hor)**	**Attenut (Ver)**
2400	44.38	-2.79	1.93	-0.21	40.28	13.32	2.29	-23.79	48.26	49.33
2410	44.63	-2.46	1.99	-0.15	42.42	13.54	2.46	-21.29	48.66	49.58
2420	44.94	-2.12	2.00	-0.14	40.96	14.77	2.68	-20.97	48.71	49.88
2430	44.27	-2.70	1.98	-0.16	43.24	15.23	2.29	-22.77	48.21	49.35
2450	44.82	-1.83	1.87	-0.27	41.19	16.18	3.15	-21.98	49.11	49.99
2460	44.28	-2.63	1.94	-0.20	42.39	18.25	2.31	-25.62	48.37	49.22
2470	44.49	-2.34	1.87	-0.27	41.78	18.80	2.50	-24.31	48.50	49.54
2480	45.08	-2.23	1.95	-0.19	40.89	19.05	3.14	-23.23	48.98	49.99
2490	44.21	-2.68	1.89	-0.25	43.21	19.23	2.35	-21.77	48.24	49.20
2500	44.46	-2.32	1.96	-0.18	40.44	19.62	2.48	-20.30	48.48	49.61

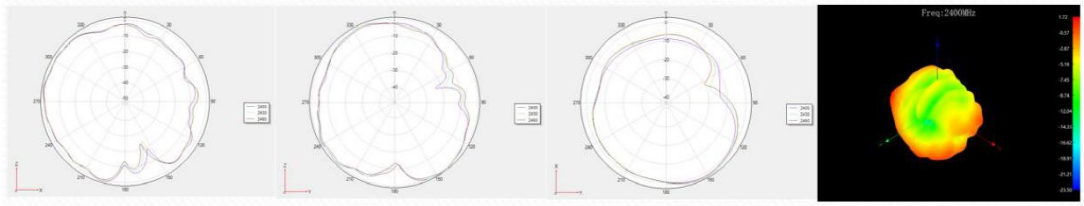
2.4G WLAN										
Fred (MHz)	**Effi (%)**	**Effi (%)**	**Gain (dBi)**	**Gain (dBd)**	**UHIS (%)**	**DHIS (%)**	**Max (dB)**	**Min (dB)**	**Attenut (Hor)**	**Attenut (Ver)**
2400	44.38	-2.79	1.06	-1.08	40.28	13.32	2.29	-23.79	48.26	49.33
2410	44.63	-2.46	0.94	-1.20	42.42	13.54	2.46	-21.29	48.66	49.58
2420	44.94	-2.12	1.23	-0.91	40.96	14.77	2.68	-20.97	48.71	49.88
2430	44.27	-2.70	1.07	-1.07	43.24	15.23	2.29	-22.77	48.21	49.35
2450	44.82	-1.83	1.46	-0.68	41.19	16.18	3.15	-21.98	49.11	49.99
2460	44.28	-2.63	1.33	-0.81	42.39	18.25	2.31	-25.62	48.37	49.22
2470	44.49	-2.34	1.56	-0.58	41.78	18.80	2.50	-24.31	48.50	49.54
2480	45.08	-2.23	1.25	-0.89	40.89	19.05	3.14	-23.23	48.98	49.99
2490	44.21	-2.68	1.11	-1.03	43.21	19.23	2.35	-21.77	48.24	49.20
2500	44.46	-2.32	1.06	-1.08	40.44	19.62	2.48	-20.30	48.48	49.61

5GWLAN										
Fred (MHz)	**Effi (%)**	**Effi (%)**	**Gain (dBi)**	**Gain (dBd)**	**UHIS (%)**	**DHIS (%)**	**Max (dB)**	**Min (dB)**	**Attenut (Hor)**	**Attenut (Ver)**
4900	60.30	-0.78	1.23	-0.91	49.26	35.28	3.29	-19.67	63.32	61.32
5000	60.53	-0.44	1.59	-0.55	51.69	37.77	4.68	-22.38	65.59	62.75
5100	60.61	-0.25	1.99	-0.15	52.92	34.93	3.92	-21.31	64.12	64.84
5200	60.27	-0.69	1.34	-0.80	48.24	39.31	3.29	-19.74	63.35	62.37
5300	60.49	-0.35	1.48	-0.66	46.80	30.79	2.76	-18.23	64.73	63.76
5400	60.96	-0.35	1.08	-1.06	50.15	30.89	3.81	-25.32	64.01	60.93
5500	60.30	-0.75	1.31	-0.83	51.34	29.28	4.22	-23.61	66.30	62.24
5600	60.73	-0.58	1.53	-0.61	49.59	26.70	3.76	-16.47	63.78	61.77
5700	60.76	0.16	1.78	-0.36	53.11	26.16	4.78	-17.26	64.16	61.86
5800	60.21	-0.63	1.36	-0.78	45.22	34.40	3.21	-15.65	62.26	63.31
5900	60.47	-0.28	1.41	-0.73	49.45	35.48	3.56	-18.42	63.54	62.65

2.3.Directivity diagram

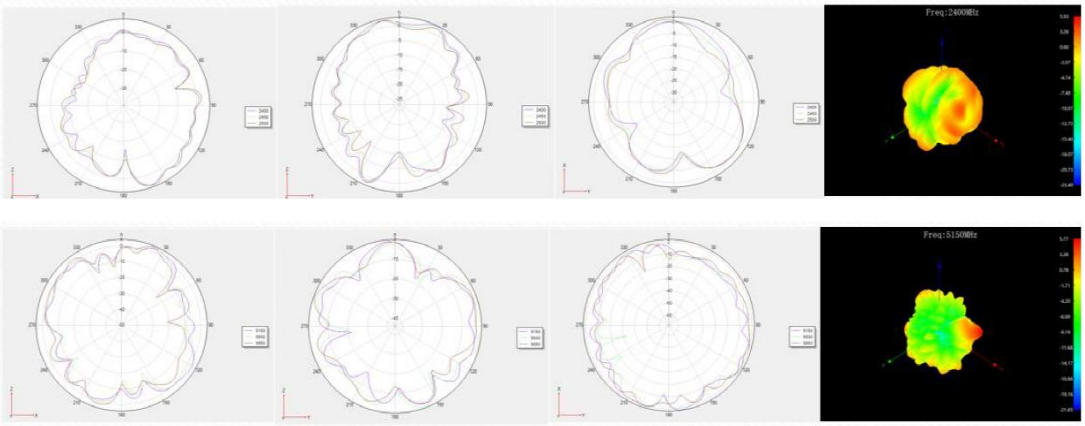
BT

BT(2400-2500MHZ)



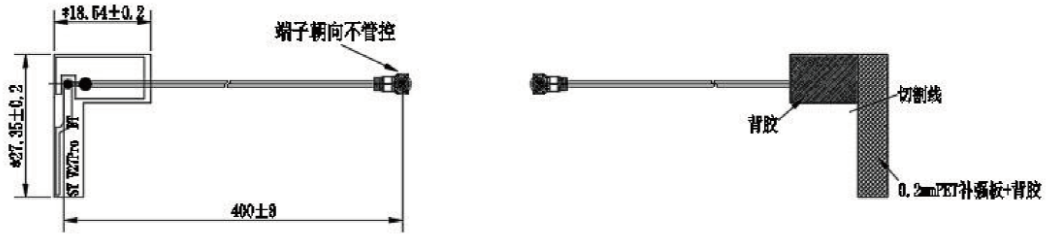
WLAN

WIFI(2400-2500/5150-5850MHZ)



3.Antenna drawing(MM):

BT



WLAN