

上海尚远通讯科技有限公司

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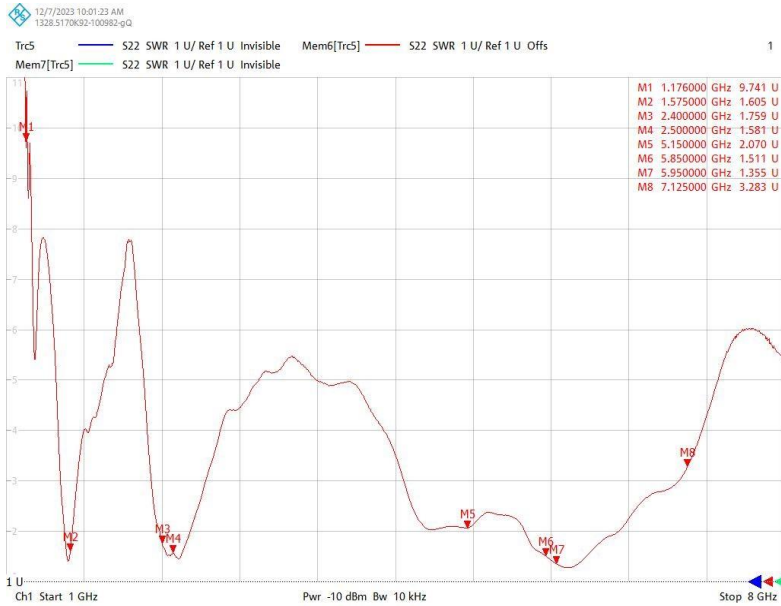
SUNNUWAY

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4. S11 test

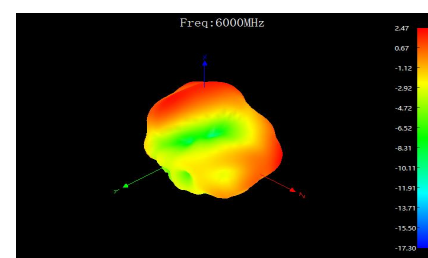
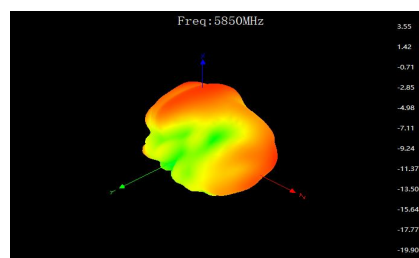
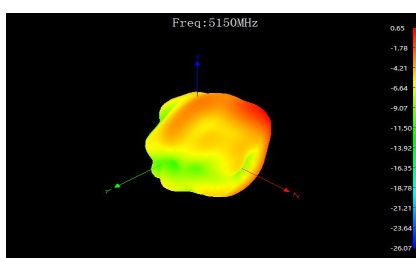
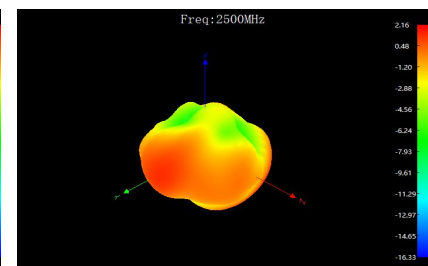
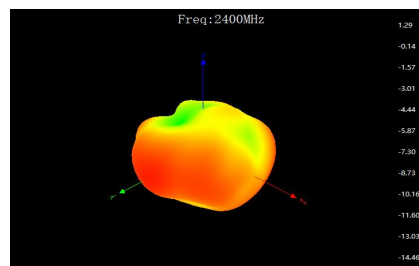
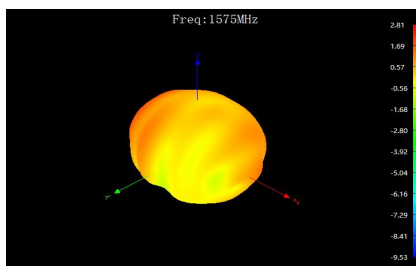
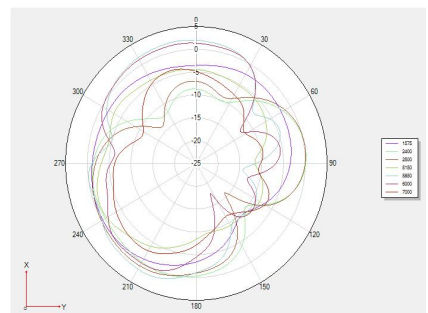
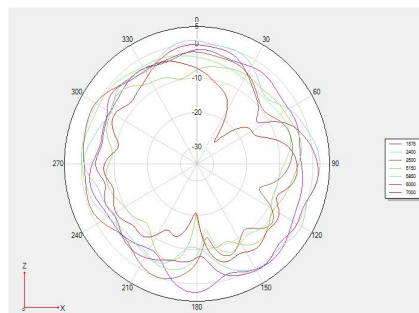
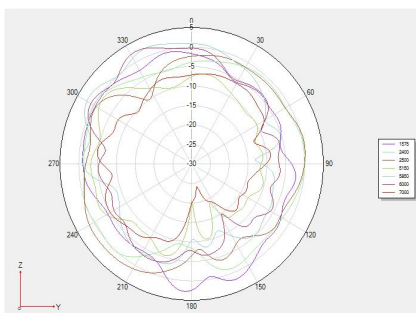
4.2 S11 parameter

ANT5



The antenna is FPC antenna.

ANTENNA PATTERN:



5 .darkroom test data

Test system: Shielded darkroom

Testing environment: temperature 22 °C± 3 °C, humidity 50% ± 15%

Testing equipment: When testing passive data, use the Agilent E5062C network analyzer to test active data, and use the Agilent 8960/CMW500/E4438C comprehensive testing instrument

5.1 Passive test data

ANT5 Passive efficiency

Freq.	Effi	Effi	MaxGain	Freq.	Effi	Effi	MaxGain
(MHz)	(%)	(dB)	dBi	(MHz)	(%)	(dB)	dBi
1550	34.04	-4.68	0.73	5150	32.28	-4.91	0.65
1555	33.42	-4.76	0.89	5200	33.32	-4.77	-0.23
1560	34.75	-4.59	1.15	5250	34.06	-4.68	-0.90
1565	35.81	-4.46	1.50	5300	34.75	-4.59	-0.12
1570	36.14	-4.42	1.61	5350	32.45	-4.89	0.31
1575	38.11	-4.19	2.81	5400	35.18	-4.54	0.30
1580	38.02	-4.20	1.77	5450	34.80	-4.58	0.72
1585	37.67	-4.24	1.64	5500	33.81	-4.71	1.02
1590	36.22	-4.41	1.54	5550	35.05	-4.55	1.39
1595	34.83	-4.58	1.40	5600	37.36	-4.28	1.13
1600	35.48	-4.50	1.10	5650	36.00	-4.44	1.26
				5700	36.22	-4.41	0.91
2400	35.00	-4.56	1.29	5750	37.50	-4.26	0.85
2410	35.55	-4.49	1.30	5800	37.07	-4.31	0.73
2420	37.78	-4.23	1.37	5850	37.39	-4.27	3.55
2430	36.46	-4.38	1.42	5900	35.06	-4.55	0.75
2440	37.08	-4.31	1.47	5950	34.33	-4.64	1.30
2450	38.83	-4.11	1.43	6000	35.68	-4.48	2.47
2460	36.84	-4.34	1.53	6050	34.93	-4.57	1.41
2470	38.02	-4.20	1.47	6100	33.20	-4.79	1.18
2480	37.08	-4.31	1.39	6150	33.48	-4.75	0.95
2490	37.00	-4.32	1.35	6200	35.19	-4.54	0.09
2500	37.78	-4.23	2.16	6250	34.55	-4.62	0.04
				6300	33.76	-4.72	-0.20
				6350	35.74	-4.47	0.01
				6400	34.29	-4.65	-0.26
				6450	33.97	-4.69	0.19

				6500	35.14	-4.54	0.28
				6550	31.76	-4.98	0.75
				6600	33.10	-4.80	0.85
				6650	31.83	-4.97	0.82
				6700	30.16	-5.21	1.06
				6750	31.28	-5.05	0.39
				6800	31.79	-4.98	0.42
				6850	31.80	-4.98	0.16
				6900	33.42	-4.76	-0.29
				6950	32.44	-4.89	0.26
				7000	32.78	-4.84	-0.08
				7050	32.13	-4.93	-0.08
				7100	30.29	-5.19	-0.18
				7150	28.66	-5.43	-0.47

5.2 Active Test Data

Antenna active test data (free space)

GSM			
Band	Channel	OTA	
		TRP	TIS
GSM-850	L	29.12	
	M	29.37	
	H	28.91	-102.3
GSM-900	L	28.79	
	M	28.23	
	H	27.41	-102.25
GSM-1800	L	26.91	
	M	26.77	
	H	26.92	-104.41
GSM-1900	L	26.88	
	M	27.16	
	H	26.22	-105.18
WCDMA B1	L	19.37	
	M	18.79	
	H	18.33	-111.85
WCDMA B2	L	18.46	
	M	18.7	
	H	18.33	-110.72
WCDMA B5	L	19.27	
	M	19.78	
	H	19.31	-110.37
WCDMA B8	L	19.59	
	M	18.43	
	H	17.51	-109.82

LTE			
Band	Channel	OTA	
		TRP	TIS
FDD_B1 (10M)	L	19.12	
	M	18.7	
	H	18.35	-94.47
FDD_B2 (10M)	L	19.67	
	M	19.96	
	H	19.76	-97.37
FDD_B3 (10M)	L	19.03	
	M	18.66	
	H	18.54	-97.9
FDD_B4 (10M)	L	19.01	
	M	18.71	
	H	18.45	-95.36
FDD_B5 (10M)	L	18.93	
	M	18.87	
	H	18.88	-96.52
FDD_B7 (10M)	L	17.27	
	M	17.39	
	H	17.99	-92.6
FDD_B8 (10M)	L	18.25	
	M	18.42	
	H	17.5	-94.26
FDD_B12 (10M)	L	18.36	
	M	18.53	
	H	18.17	-94.5
FDD_B13 (10M)	M	18.11	-94.39
FDD_B20 (10M)	L	18.71	
	M	18.24	
	H	18.5	-96.99
FDD_B26	L	18.81	

NR			
Band	Channel	OTA	
		TRP	TIS
N1 (10M)	L	19.64	
	M	18.86	
	H	18.97	-93.65
N2 (10M)	L	19.26	
	M	19.2	
	H	18.58	-92.03
N3 (10M)	L	18.49	
	M	18.63	
	H	19.14	-92.49
N5 (10M)	L	18.58	
	M	18.47	
	H	18.36	-90.26
N20 (10M)	L	18.03	
	M	18.26	
	H	18.39	-90.38
N28 (10M)	L	17.53	
	M	17.69	
	H	17.57	-92.42
N41 (100M)	L	19.13	
	M	19.26	
	H	19.65	-87.19
N48 (10M)	L	18.03	
	M	17.53	
	H	18.12	-91.76
N71 (10M)	L	16.36	
	M	16.18	
	H	16.56	-90.05
N77 (100M)	L	19.36	
	M	19.69	

(10M)	M	18.04	
	H	18.36	-98.24
FDD_B28 (10M)	L	18.36	
	M	18.19	
	H	19.18	-97.01
FDD_B48 (10M)	L	18.69	
	M	18.27	
	H	18.69	-93.14
TDD_B38 (20MHz)	L	17.18	
	M	17.64	
	H	17.99	-90.21
TDD_B39 (20MHz)	L	20.51	
	M	19.85	
	H	19.76	-93.93
TDD_B40 (20MHz)	L	18.21	
	M	17.43	
	H	18.05	-90.72
TDD_B41 (20MHz)	L	17.32	
	M	17.65	
	H	17.77	-90.95

	H	19.48	-87.67
N78 (100 M)	L	19.45	
	M	20.11	
	H	19.36	-87.49
N79 (100 M)	L	19.28	
	M	19.44	
	H	20.12	-87.56

WiFi			
Band	Channel	OTA	
		TRP	TIS
WiFi-B	L	13.27	
	M	14.41	
	H	13.56	-82.71
WiFi-A	L	16.56	
	M	16.44	
	H	16.68	-73.45

8. Engineering drawings

