



SHENZHEN Xingyuanchuang TECHNOLOGY CO., LTD

Address: Huaqiang City Garden, Liangli Road, Bao'an District, Shenzhen

Antenna Test Report

TC: 创盈芯

MN: E3LS

RF: 刘磊确

MD: 黄清清

MP: 13005478517

Date: 2025. 1. 17

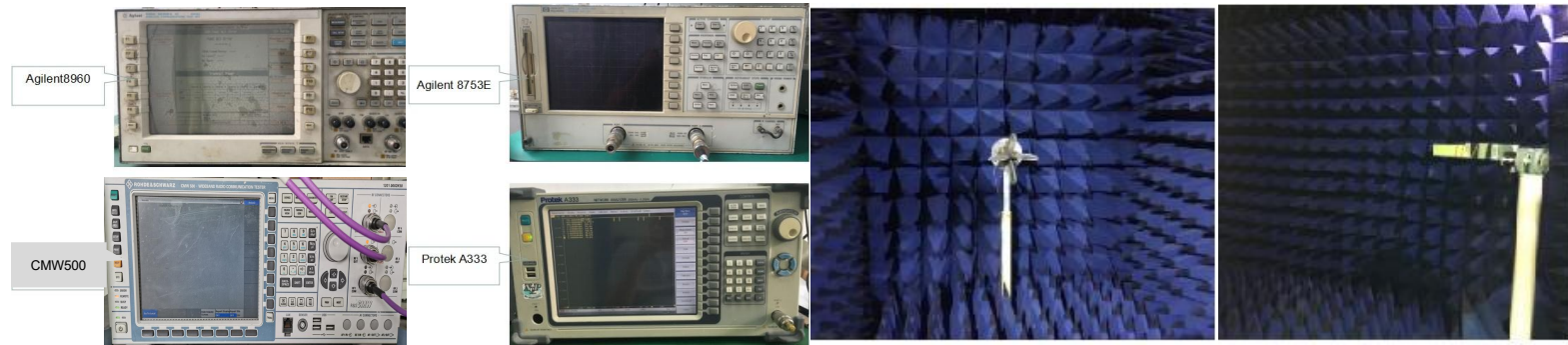
REV :V1. 0

Test information

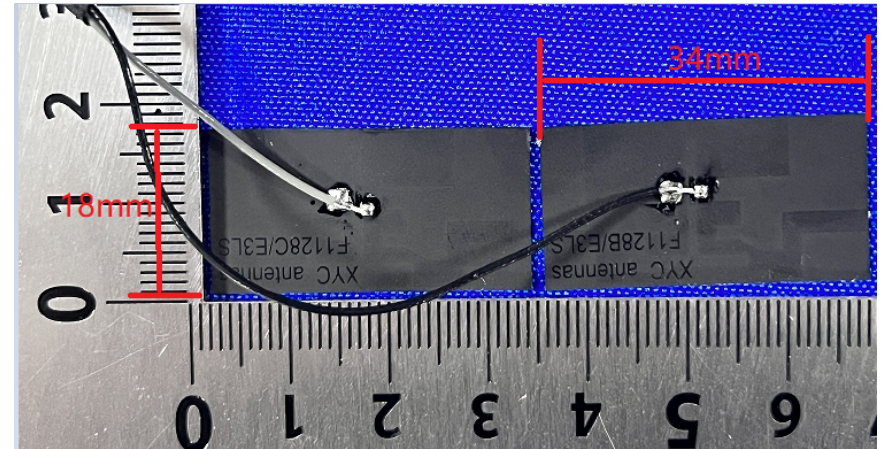
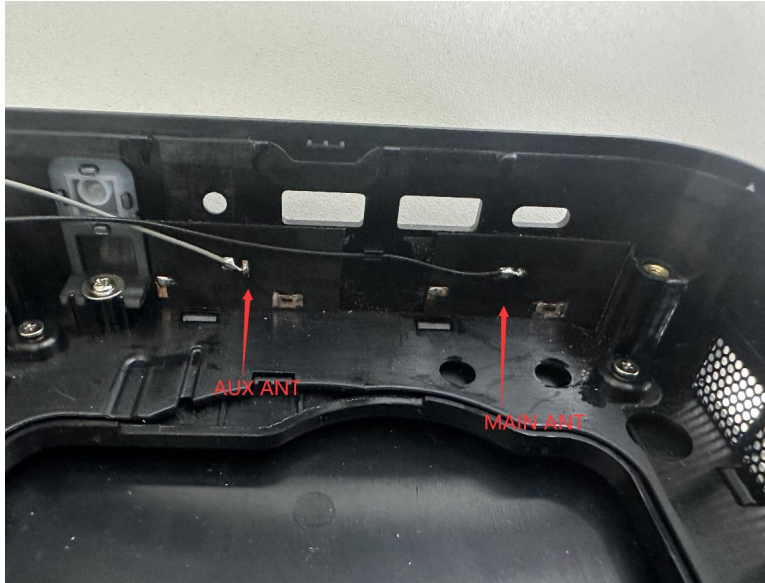
WIFI ANT Test information		
Frequency	2. 4G (2402~2483) Mhz	5G (5150~5850) Mhz
Module information		
Driver version information		

Test environment

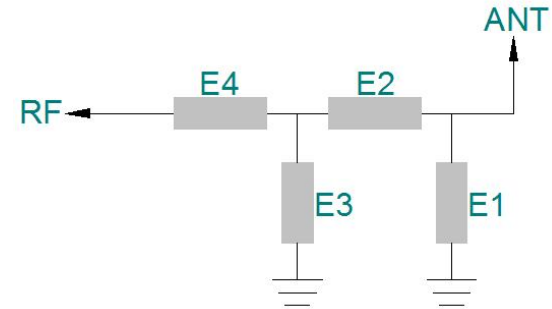
	测试项目	测试设备
S参数 (S-parameter)	1. 电压驻波比 (VSWR) 2. 回波损耗 (Rrtun Loss)	网络分析仪: Agilent8753ES
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS) 3. 屏灭/屏亮	1. 暗室: 5*3*3m (3D) Chamber 2. 综测仪: Agilent8960 CMW500
3. 无源测试 (Passive)	1. 天线增益 (Gain) 2. 天线效率 (Efficiency)	1. 暗室: 5*3*3m (3D) Chamber 2. 网络分析仪: Agilent 8753ES



Antenna position



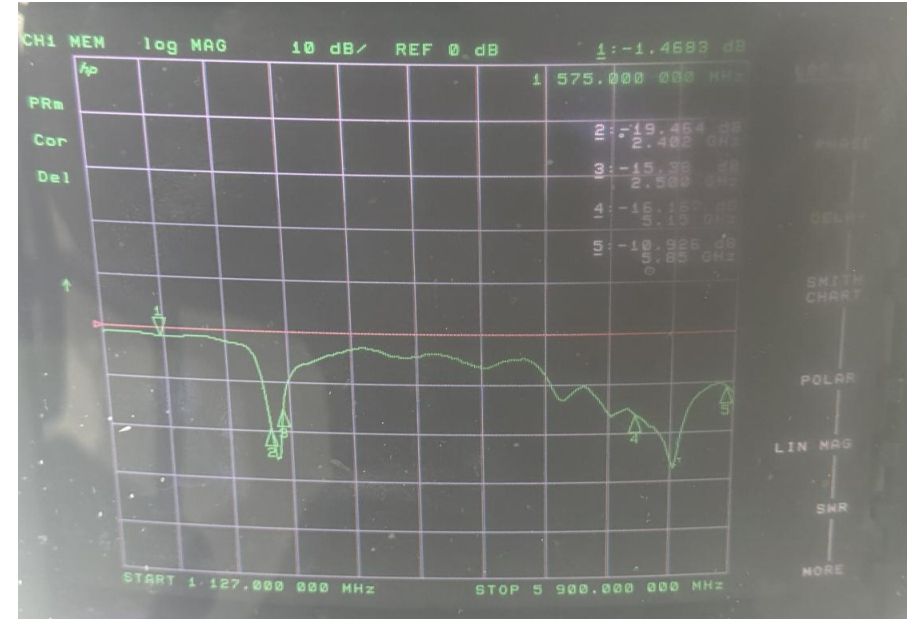
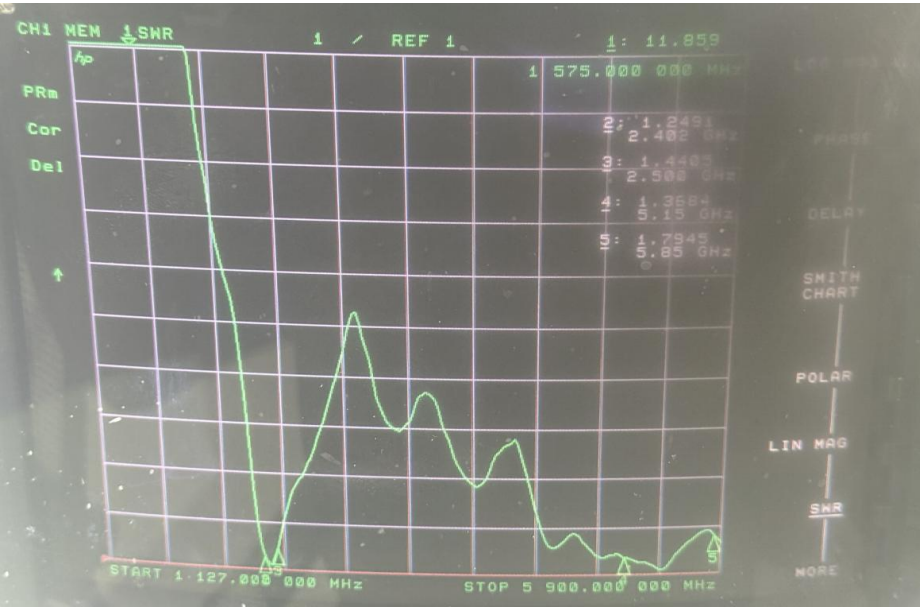
Matching circuit



	电容 (PF)	电感 (NH)
E1(0402)		
E2(0402)		
E3(0402)		
E4(0402)		

AUX S11-VSWR&Return Loss

Passive test data



Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.24	1.44	1.36	1.79
Return Loss (DB)	-19.46	-15.38	-16.16	-10.92



ANTENNA

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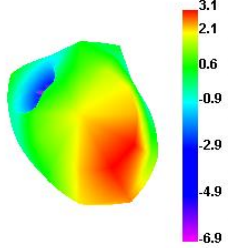
AUX ANT

Passive test data

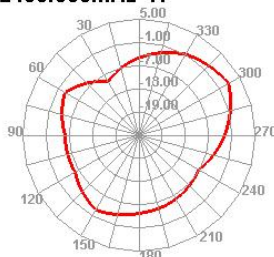
Passive Test For WIFI2.4								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHIS (%)	Max (dB)	Min (dB)
2400	47.52	-3.23	3.06	0.91	31.489	16.032	3.06	-20.96
2410	45.84	-3.39	2.93	0.78	29.912	15.924	2.93	-19.12
2420	49.7	-3.04	3.41	1.26	32.063	17.633	3.41	-17.37
2430	48.76	-3.12	3.28	1.13	31	17.765	3.28	-16.55
2440	48.87	-3.11	2.97	0.82	30.577	18.292	2.97	-14.54
2450	52.22	-2.82	2.94	0.79	32.136	20.084	2.94	-11.88
2460	56.44	-2.48	2.93	0.78	34.17	22.27	2.93	-11.9
2470	53.62	-2.71	2.34	0.19	32.372	21.251	2.34	-12.16
2480	53.83	-2.69	2.03	-0.12	32.466	21.361	2.03	-14.93
2490	55.55	-2.55	1.97	-0.18	33.543	22.01	1.97	-18.43
2500	50.27	-2.99	1.39	-0.76	30.53	19.738	1.39	-19.71

Passive test data

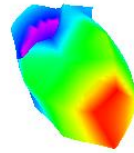
2400.000MHz



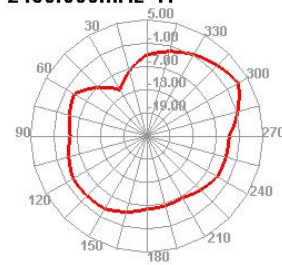
2400.000MHz H



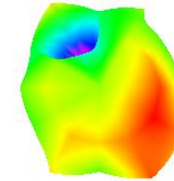
2450.000MHz



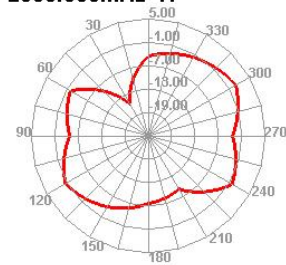
2450.000MHz H



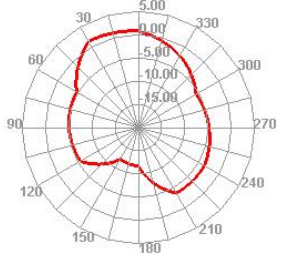
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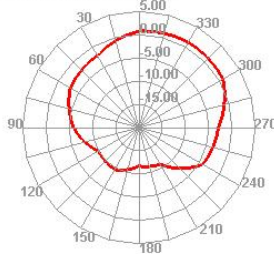
2500.000MHz H



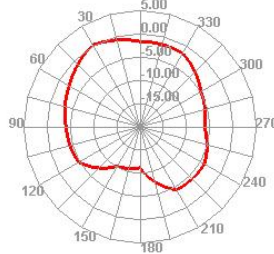
2400.000MHz E1



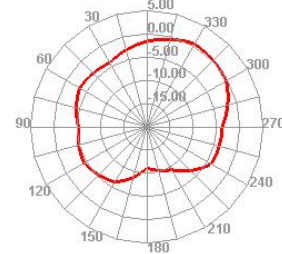
2400.000MHz E2



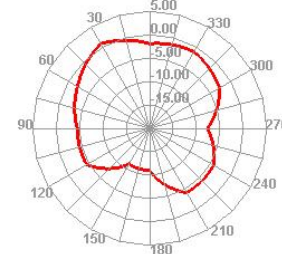
2450.000MHz E1



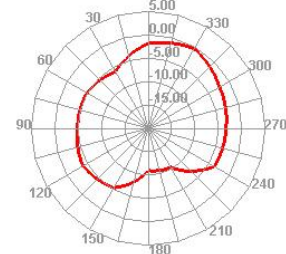
2450.000MHz E2



2500.000MHz E1



2500.000MHz E2



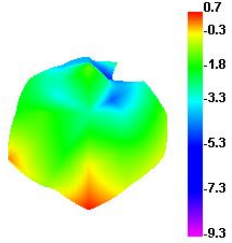
AUX ANT

Passive test data

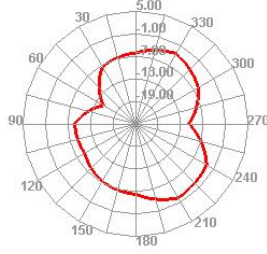
Passive Test For WIFI5G								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)
5150	31.78	-4.98	0.68	-1.47	18.209	13.568	0.68	-20.37
5170	29.13	-5.36	-0.03	-2.18	16.851	12.276	-0.03	-19.45
5190	34.23	-4.66	0.43	-1.72	19.599	14.635	0.43	-17.72
5210	35.36	-4.52	0.47	-1.68	20.146	15.21	0.47	-20.2
5230	35.59	-4.49	0.41	-1.74	20.406	15.187	0.41	-18.85
5250	40.66	-3.91	1.07	-1.08	23.069	17.594	1.07	-14.65
5270	41.56	-3.81	1.23	-0.92	23.081	18.481	1.23	-16.34
5290	47.54	-3.23	2.3	0.15	26.058	21.477	2.3	-16.07
5310	41.16	-3.86	2.02	-0.13	22.31	18.846	2.02	-15.97
5330	42.76	-3.69	2.08	-0.07	22.911	19.847	2.08	-12.96
5350	43.59	-3.61	1.94	-0.21	23.042	20.552	1.94	-10.75
5370	42.86	-3.68	1.94	-0.21	22.267	20.588	1.94	-10.54
5390	39.4	-4.04	1.51	-0.64	20.067	19.338	1.51	-10.57
5410	46	-3.37	2.1	-0.05	23.016	22.988	2.1	-11.29
5430	41.59	-3.81	1.79	-0.36	20.778	20.812	1.79	-13.33
5450	44.08	-3.56	1.68	-0.47	21.962	22.118	1.68	-14.27
5470	39.77	-4	1.11	-1.04	19.728	20.039	1.11	-15.98
5490	38.74	-4.12	1.09	-1.06	19.025	19.712	1.09	-19.15
5510	41.28	-3.84	1.57	-0.58	20.361	20.918	1.57	-23.15
5530	42.04	-3.76	1.7	-0.45	21.269	20.771	1.7	-23.68
5550	45.49	-3.42	2.27	0.12	23.388	22.102	2.27	-26.62
5570	42.97	-3.67	2.36	0.21	21.909	21.056	2.36	-28.21
5590	46.4	-3.33	2.77	0.62	23.752	22.648	2.77	-22.47
5610	43.57	-3.61	2.64	0.49	23.18	20.386	2.64	-19.66
5630	45.51	-3.42	3.21	1.06	25.027	20.485	3.21	-16.44
5650	39.95	-3.98	2.69	0.54	21.974	17.981	2.69	-17.18
5670	47.04	-3.28	3.41	1.26	25.949	21.089	3.41	-14.89
5690	38.42	-4.15	2.62	0.47	21.588	16.829	2.62	-13.93
5710	45.82	-3.39	3.32	1.17	25.916	19.907	3.32	-13.36
5730	41	-3.87	2.76	0.61	22.972	18.027	2.76	-14.3
5750	39.62	-4.02	2.46	0.31	21.863	17.753	2.46	-15.82
5770	39.42	-4.04	2.3	0.15	21.522	17.894	2.3	-16.49
5790	37.62	-4.25	2.07	-0.08	20.533	17.086	2.07	-15.39
5810	37.85	-4.22	1.99	-0.16	20.671	17.18	1.99	-15.99
5830	40.23	-3.95	2.12	-0.03	21.761	18.467	2.12	-15.21
5850	41.37	-3.83	2.21	0.06	22.214	19.157	2.21	-14.17

Passive test data

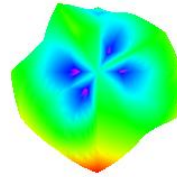
5150.000MHz



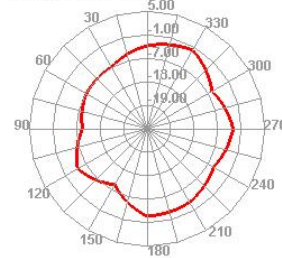
5150.000MHz H



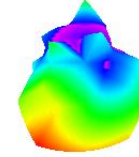
5490.000MHz



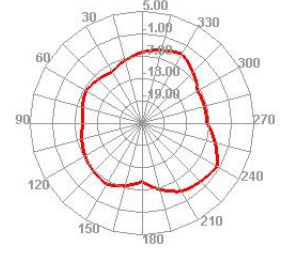
5490.000MHz H



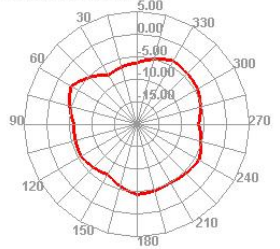
5850.000MHz



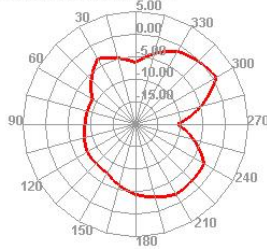
5850.000MHz H



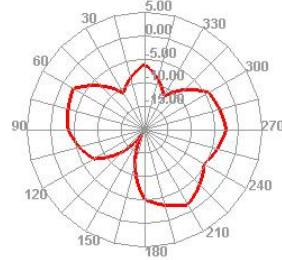
5150.000MHz E1



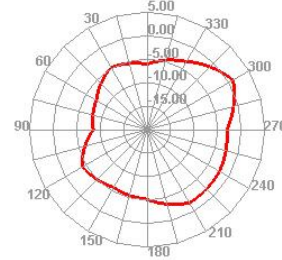
5150.000MHz E2



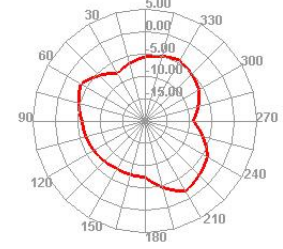
5490.000MHz E1



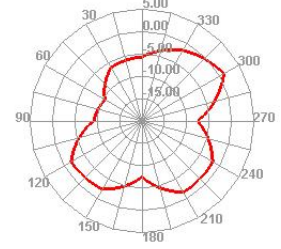
5490.000MHz E2



5850.000MHz E1

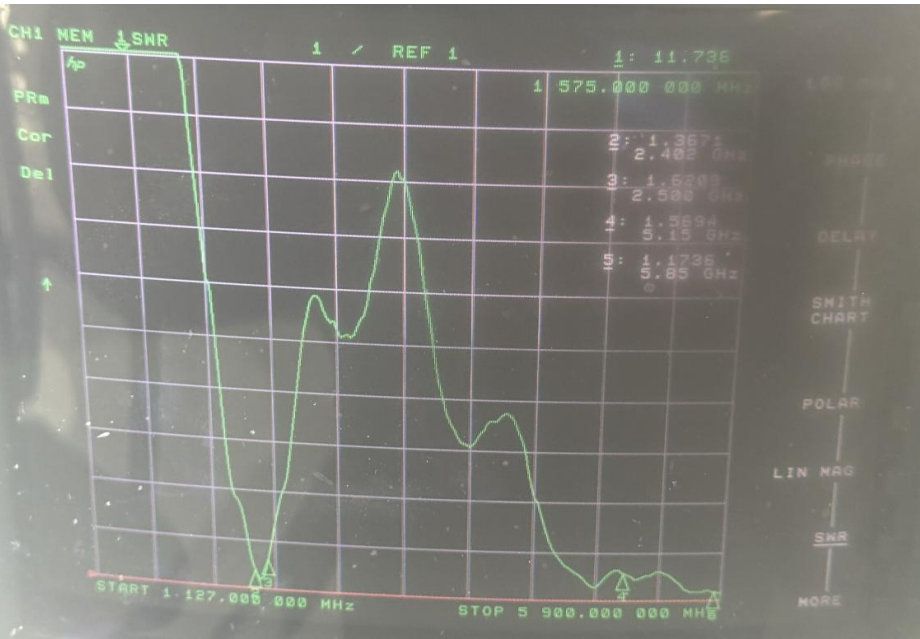


5850.000MHz E2



MAIN-VSWR&Return Loss

Passive test data



Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.36	1.2	1.56	1.17
Return Loss (DB)	-16.32	-12.74	-13.09	-21.95



ANTENNA

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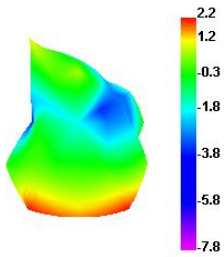
MAIN ANT

Passive test data

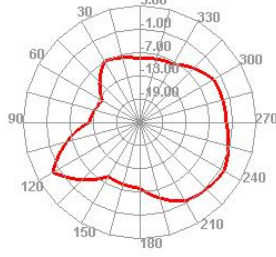
Passive Test For WIFI2.4								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)
2400	44.16	-3.55	2.24	0.09	27.494	16.669	2.24	-16.24
2410	43.39	-3.63	2.37	0.22	26.817	16.571	2.37	-18.64
2420	43.7	-3.6	2.65	0.5	26.749	16.952	2.65	-20.04
2430	41.25	-3.85	2.7	0.55	25.124	16.122	2.7	-23.67
2440	43.14	-3.65	3.24	1.09	26.31	16.828	3.24	-24.63
2450	43.13	-3.65	3.34	1.19	26.518	16.611	3.34	-19.19
2460	42.04	-3.76	3.1	0.95	25.96	16.084	3.1	-18.25
2470	43.6	-3.6	2.97	0.82	26.76	16.844	2.97	-17.74
2480	44.29	-3.54	2.76	0.61	26.974	17.312	2.76	-19.68
2490	44.21	-3.54	2.49	0.34	26.869	17.345	2.49	-16.88
2500	40.46	-3.93	1.88	-0.27	24.813	15.648	1.88	-16.13

Passive test data

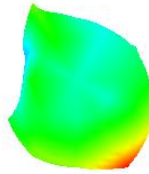
2400.000MHz



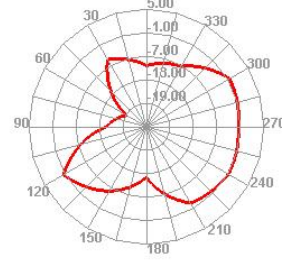
2400.000MHz H



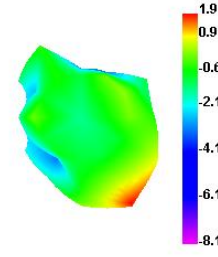
2450.000MHz



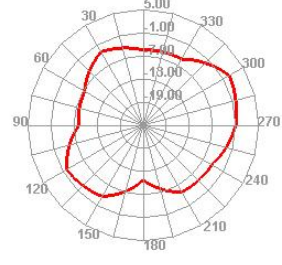
2450.000MHz H



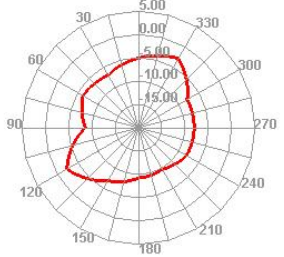
2500.000MHz



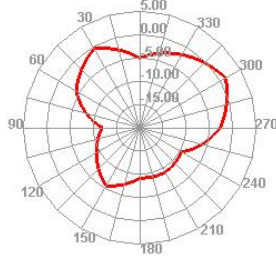
2500.000MHz H



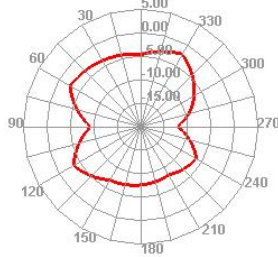
2400.000MHz E1



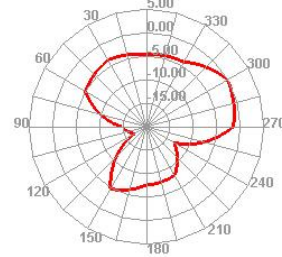
2400.000MHz E2



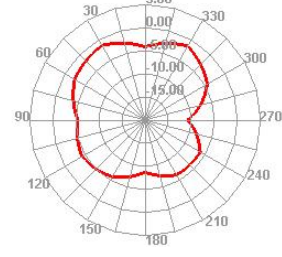
2450.000MHz E1



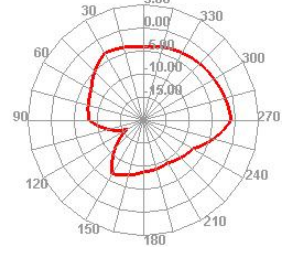
2450.000MHz E2



2500.000MHz E1



2500.000MHz E2

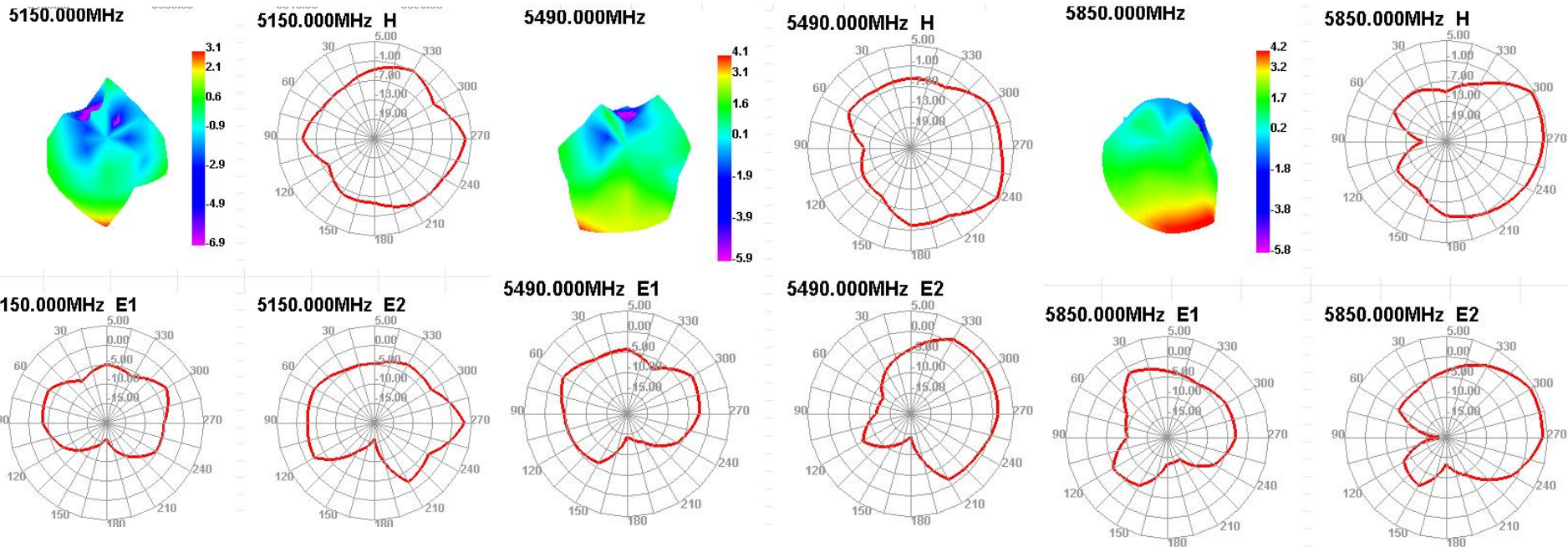


MAIN ANT

Passive test data

Passive Test For WIFI5G								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)
5150	38.06	-4.2	3.11	0.96	20.841	17.217	3.11	-15.97
5170	38.05	-4.2	3.22	1.07	20.613	17.433	3.22	-15.42
5190	40.99	-3.87	3.63	1.48	22.011	18.978	3.63	-13.94
5210	44.37	-3.53	4.24	2.09	23.754	20.612	4.24	-12.86
5230	40.56	-3.92	3.81	1.66	21.58	18.98	3.81	-13.34
5250	47.93	-3.19	4.35	2.2	25.317	22.611	4.35	-14.04
5270	45.43	-3.43	4.01	1.86	23.859	21.573	4.01	-13.09
5290	52.42	-2.8	4.35	2.2	27.425	24.997	4.35	-11.58
5310	43.4	-3.62	3.41	1.26	22.584	20.818	3.41	-13.5
5330	44.68	-3.5	3.26	1.11	23.417	21.264	3.26	-14.09
5350	44.76	-3.49	2.84	0.69	23.649	21.114	2.84	-13.86
5370	45.42	-3.43	2.66	0.51	24.134	21.288	2.66	-13.05
5390	42.03	-3.76	2.18	0.03	22.502	19.525	2.18	-12.94
5410	50.52	-2.96	3.41	1.26	27.391	23.134	3.41	-13
5430	47.28	-3.25	3.51	1.36	26.007	21.274	3.51	-14.3
5450	52.21	-2.82	4.09	1.94	29.372	22.842	4.09	-17.34
5470	48.82	-3.11	3.9	1.75	28.009	20.812	3.9	-20.07
5490	47.44	-3.24	4.06	1.91	27.676	19.765	4.06	-19.46
5510	49.91	-3.02	4.73	2.58	29.813	20.092	4.73	-16.61
5530	50.38	-2.98	4.82	2.67	30.788	19.595	4.82	-14.6
5550	53.57	-2.71	4.82	2.67	33.424	20.149	4.82	-16.04
5570	51.13	-2.91	4.37	2.22	32.068	19.062	4.37	-15
5590	53.67	-2.7	4.38	2.23	33.754	19.914	4.38	-14.3
5610	51.29	-2.9	3.92	1.77	32.581	18.714	3.92	-14.3
5630	51.77	-2.86	3.48	1.33	32.791	18.979	3.48	-14.58
5650	48.5	-3.14	2.67	0.52	30.686	17.815	2.67	-15.38
5670	54.04	-2.67	3.27	1.12	34.324	19.711	3.27	-15.01
5690	48.17	-3.17	2.92	0.77	30.596	17.576	2.92	-16.2
5710	56.25	-2.5	3.73	1.58	35.766	20.488	3.73	-15.01
5730	54.69	-2.62	3.8	1.65	34.599	20.092	3.8	-15.09
5750	52.73	-2.78	3.69	1.54	33.368	19.366	3.69	-16.8
5770	53.42	-2.72	3.86	1.71	33.857	19.56	3.86	-16.65
5790	51.72	-2.86	3.75	1.6	32.697	19.022	3.75	-15.8
5810	53.41	-2.72	3.87	1.72	33.534	19.874	3.87	-17.03
5830	55.46	-2.56	4.05	1.9	34.746	20.718	4.05	-19.38
5850	56.35	-2.49	4.16	2.01	35.162	21.185	4.16	-18.25

Passive test data





Active test data

802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	13.82	CH1 11Mbps	-80.55
	2437	CH6 11Mbps	12.15	CH6 11Mbps	-80.91
	2467	CH11 11Mbps	11.95	CH11 11Mbps	-81.15
802.11g		TRP		TIS	
	2412	CH1 6Mbps	14.88	CH1 6Mbps	-80.48
	2437	CH6 6Mbps	13.24	CH6 6Mbps	-78.26
	2467	CH11 6Mbps	13.95	CH11 6Mbps	-81.18
802.11a		TRP		TIS	
	5180	CH36 6Mbps	12.88	CH36 6Mbps	-80.92
	5300	CH60 6Mbps	12.4	CH60 6Mbps	-81.21
	5805	CH161 6Mbps	14.7	CH161 6Mbps	-81.56
802.11g/n		TRP		TIS	
	2412	CH1 MCS0	13.31	CH1 MCS0	-77.52
	2437	CH6 MCS0	13.5	CH6 MCS0	-77.15
	2467	CH11 MCS0	12.97	CH11 MCS0	-79.69