Antenna Test Report

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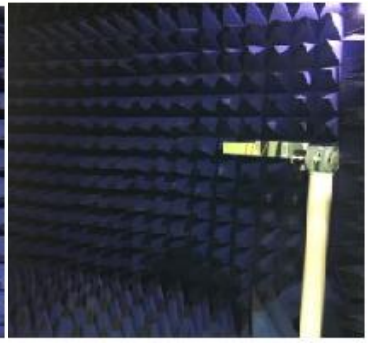
Date: 2023.06.05.
REV :V1.0

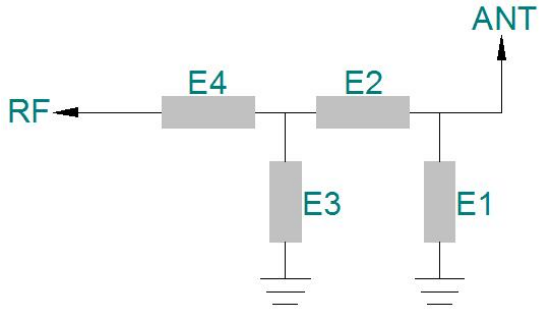
Test environment

	Test Item	Test Equipment
1. S-parameter	1. Voltage standing wave atio 2. Rrtun Loss	Network analyzer：Agilent8753ES
2. Active Tes	1. Transmitted power（TRP） 2. Receiving sensitivity（TIS） 3. screen is off or on	1. Dark room：5*3*3m（3D）Chamber 2. synthesizer：Agilent8960 CMW500
3. Passive Test	1. Antenna gain 2. Antenna efficiency	1. Dark room：5*3*3m（3D）Chamber 2. Network analyzer：Agilent 8753ES



Antenna position

Matching circuit



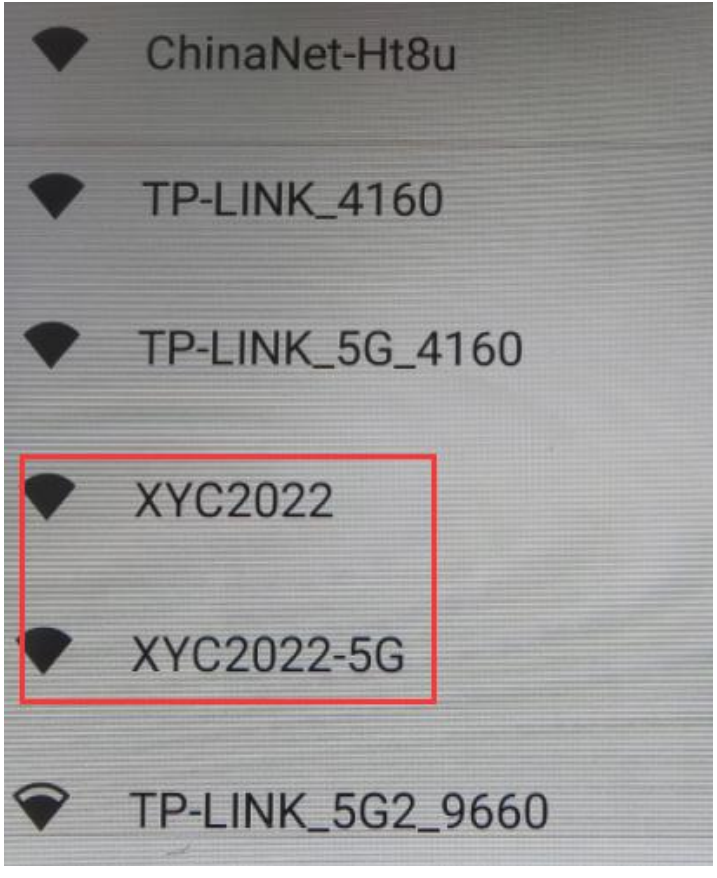
Matching circuit schematic & bit number diagram

	Capacitance (PF)	Inductance (NH)
E1(0402)		
E2(0402)		
E3(0402)		
E4(0402)		

Wifi Antenna test

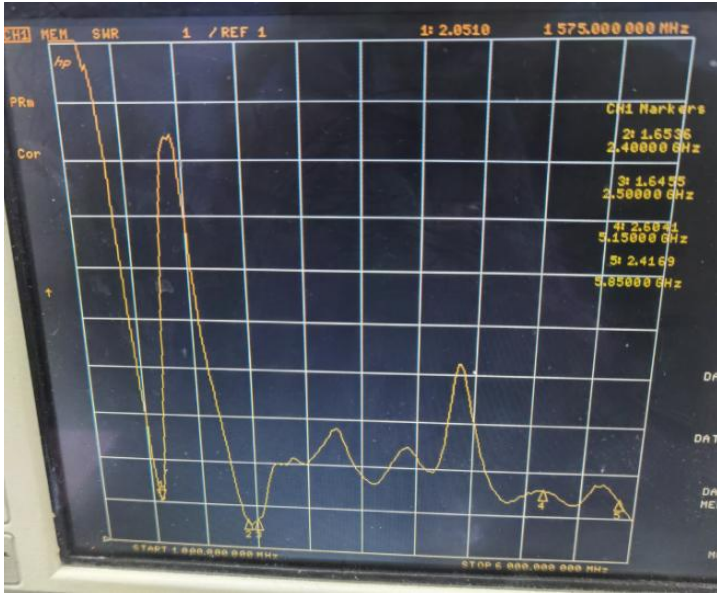
WIFI
Test environment: Open space
Test distance: 10m
The test results are shown on the right

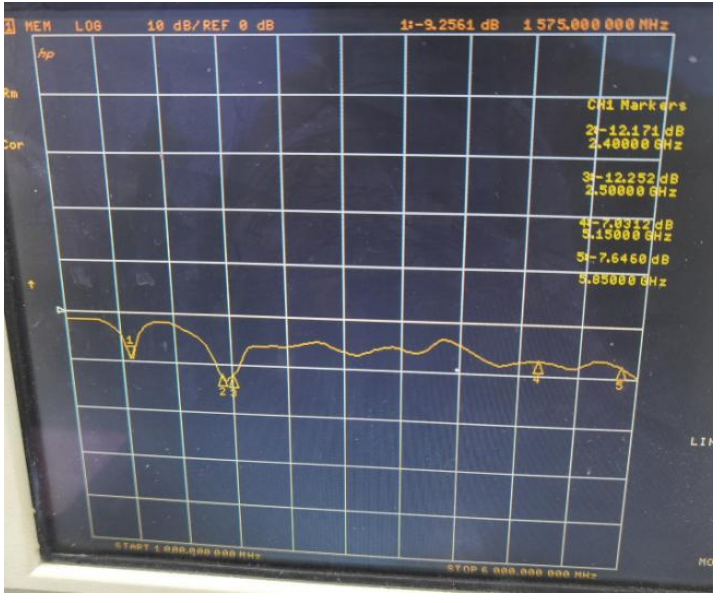
BT
Test environment: Open space (channel)
Test tool: Bluetooth speaker
Test distance: 10m
Results: Play music smoothly, no noise.



Passive test data

ANT1 S11-VSWR&Return Loss





Frequency(MHZ)		2400	2500	5150	5850
VSWR		1.65	1.64	2.60	2.41
Return Loss(DB)		-12.17	-12.25	-7.83	-7.64

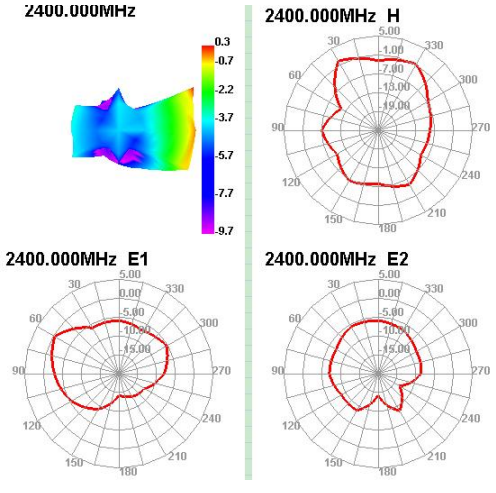
Passive test data

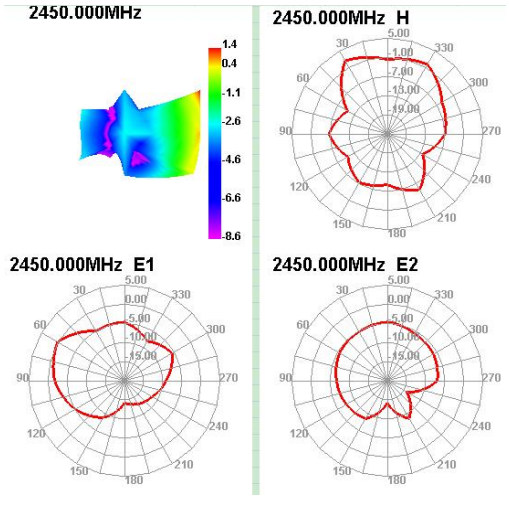
ANT1 GAIN&Efficiency-WIFI2.4G/BT

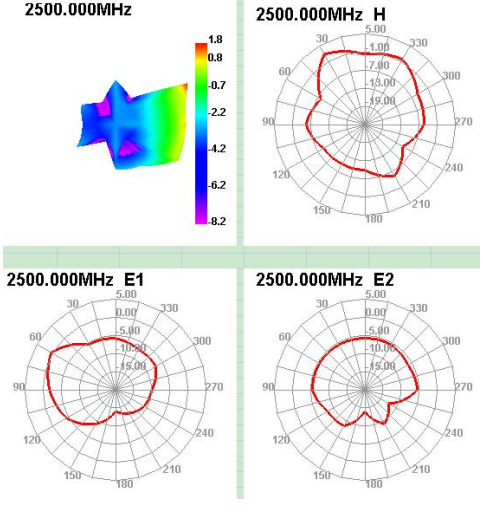
Passive Test For WIFI2.4												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	24.44	-6.12	0.3	-1.85	14.262	10.176	0.3	-14.34	6.42	30	45.78	46.01
2410	24.89	-6.04	0.44	-1.71	14.686	10.202	0.44	-14.75	6.48	30	46.01	46.29
2420	25.66	-5.91	0.65	-1.5	15.278	10.384	0.65	-14.76	6.56	30	45.73	46
2430	25.08	-6.01	0.64	-1.51	14.926	10.149	0.64	-15.32	6.65	30	46.01	46.36
2440	26.1	-5.83	0.9	-1.25	15.237	10.86	0.9	-14.97	6.73	30	46.12	46.48
2450	28.43	-5.46	1.42	-0.73	16.36	12.071	1.42	-14.3	6.88	30	46.12	46.54
2460	28.76	-5.41	1.55	-0.6	16.397	12.359	1.55	-14.23	6.96	30	46.14	46.52
2470	27.54	-5.6	1.49	-0.66	15.652	11.889	1.49	-14.23	7.09	30	46.4	46.8
2480	29.45	-5.31	1.8	-0.35	16.601	12.85	1.8	-13.68	7.11	30	46.26	46.64
2490	32.01	-4.95	2.16	0.01	17.887	14.121	2.16	-13.54	7.1	30	46.51	46.91
2500	29.12	-5.36	1.8	-0.35	16.327	12.793	1.8	-14.12	7.16	30	46.47	46.86

Passive test data

ANT1 Direction of figure(2.4/BT)







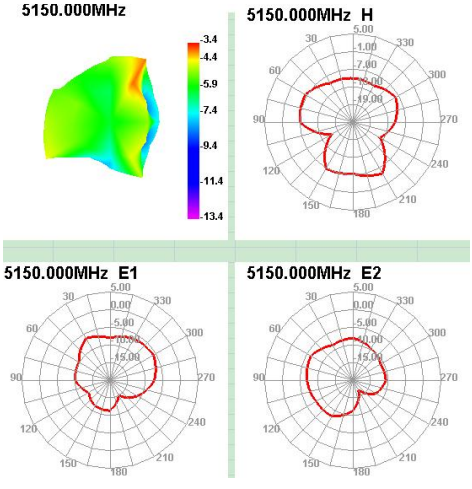
Passive test data

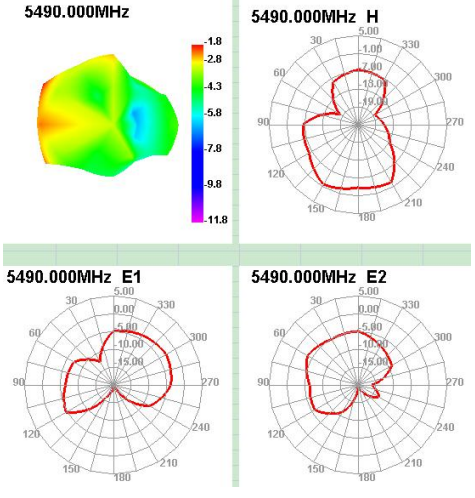
ANT1 GAIN&Efficiency-WIFI 5G

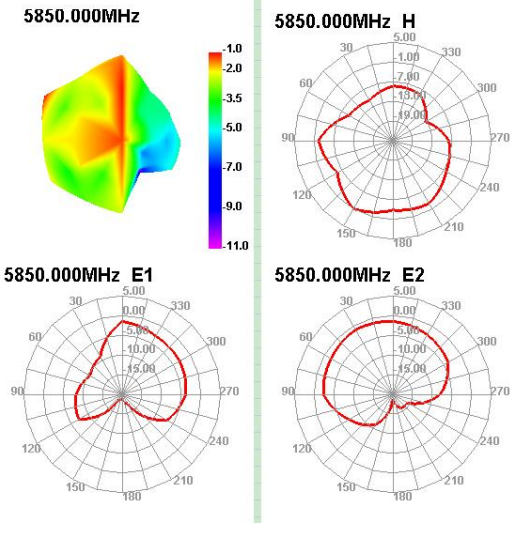
Passive Test For WIFI5G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHIS (%)	DHIS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	15.04	-8.23	-3.38	-5.53	8.949	6.091	-3.38	-20.62	4.84	120	49.82	49.4
5170	13.29	-8.76	-4.03	-6.18	7.793	5.498	-4.03	-22.49	4.73	120	50.13	49.77
5190	15.52	-8.09	-3.65	-5.8	9.014	6.504	-3.65	-22.05	4.44	60	50.42	49.95
5210	15.16	-8.19	-3.7	-5.85	8.55	6.614	-3.7	-21.88	4.49	60	50.88	50.49
5230	15.61	-8.06	-3.24	-5.39	8.538	7.077	-3.24	-20	4.82	60	50.42	50.08
5250	17.45	-7.58	-2.78	-4.93	9.466	7.98	-2.78	-21.1	4.8	60	51.02	50.72
5270	17.86	-7.48	-2.28	-4.43	9.684	8.178	-2.28	-20.69	5.2	60	50.85	50.6
5290	19.38	-7.13	-2.12	-4.27	10.42	8.96	-2.12	-21.16	5	60	51.34	51.12
5310	16.33	-7.87	-2.71	-4.86	8.73	7.603	-2.71	-21.11	5.16	60	50.44	50.36
5330	17.89	-7.47	-1.95	-4.1	9.59	8.301	-1.95	-20.34	5.52	90	51.08	51.01
5350	16.96	-7.71	-2.06	-4.21	9.143	7.814	-2.06	-21.12	5.65	90	51.02	51.01
5370	18.14	-7.41	-2.04	-4.19	9.794	8.35	-2.04	-20.56	5.37	90	50.91	50.95
5390	14.58	-8.36	-3.32	-5.47	7.912	6.663	-3.32	-24.06	5.04	90	50.46	50.43
5410	19.63	-7.07	-1.88	-4.03	10.75	8.876	-1.88	-22.71	5.19	90	51.18	51.09
5430	14.95	-8.25	-2.94	-5.09	8.259	6.688	-2.94	-22.81	5.32	90	50.69	50.7
5450	18.8	-7.26	-2.17	-4.32	10.481	8.314	-2.17	-24.31	5.09	90	50.71	50.85
5470	16.19	-7.91	-2.57	-4.72	9.086	7.099	-2.57	-26.5	5.34	90	50.93	50.83
5490	18.86	-7.24	-1.78	-3.93	10.699	8.163	-1.78	-25.89	5.46	90	50.92	50.79
5510	18.26	-7.39	-2.12	-4.27	10.535	7.722	-2.12	-23.53	5.27	90	51.18	51.16
5530	20.22	-6.94	-1.83	-3.98	11.938	8.286	-1.83	-24.28	5.11	90	51.44	51.3
5550	20.64	-6.85	-1.62	-3.77	12.171	8.465	-1.62	-24.93	5.23	90	51.89	51.76
5570	21.24	-6.73	-1.5	-3.65	12.546	8.693	-1.5	-22.96	5.23	90	51.42	51.33
5590	23.43	-6.3	-0.96	-3.11	14.087	9.339	-0.96	-22.77	5.34	90	51.71	51.76
5610	22.68	-6.44	-0.86	-3.01	13.868	8.816	-0.86	-23.02	5.58	90	51.17	51.22
5630	25.26	-5.98	-0.31	-2.46	15.538	9.717	-0.31	-21.81	5.67	90	51.78	51.77
5650	21.83	-6.61	-1.09	-3.24	13.482	8.348	-1.09	-22.58	5.52	90	51.47	51.55
5670	26.58	-5.75	-0.24	-2.39	16.613	9.965	-0.24	-20.75	5.52	90	52.12	52.28
5690	23.3	-6.33	-0.7	-2.85	14.787	8.511	-0.7	-21.15	5.63	90	52.12	52.25
5710	27.02	-5.68	-0.1	-2.25	17.169	9.85	-0.1	-20.38	5.58	90	51.95	52.05
5730	24.81	-6.05	-0.39	-2.54	15.765	9.046	-0.39	-23.87	5.66	90	51.59	51.69
5750	25.31	-5.97	-0.21	-2.36	16.17	9.135	-0.21	-25.2	5.76	90	51.12	51.15
5770	24.3	-6.14	-0.52	-2.67	15.72	8.583	-0.52	-22.29	5.62	90	51.02	51.06
5790	23.77	-6.24	-0.67	-2.82	15.468	8.3	-0.67	-21.99	5.57	90	51.08	51.16
5810	23.03	-6.38	-0.82	-2.97	14.942	8.087	-0.82	-26.4	5.56	90	51.36	51.43
5830	23.66	-6.26	-0.75	-2.9	15.381	8.284	-0.75	-28.13	5.51	90	51.65	51.66
5850	22.69	-6.44	-1.04	-3.19	14.787	7.904	-1.04	-22.01	5.4	90	51.88	52.05

Passive test data

ANT1 Direction of figure(5G)








Win-win cooperation