



Antenna Test Report

TC: Inka

MN: K10

RF: LeiQue Liu

MD: QingQing Huang

MP: 13005478517

Date: 2025. 5. 27

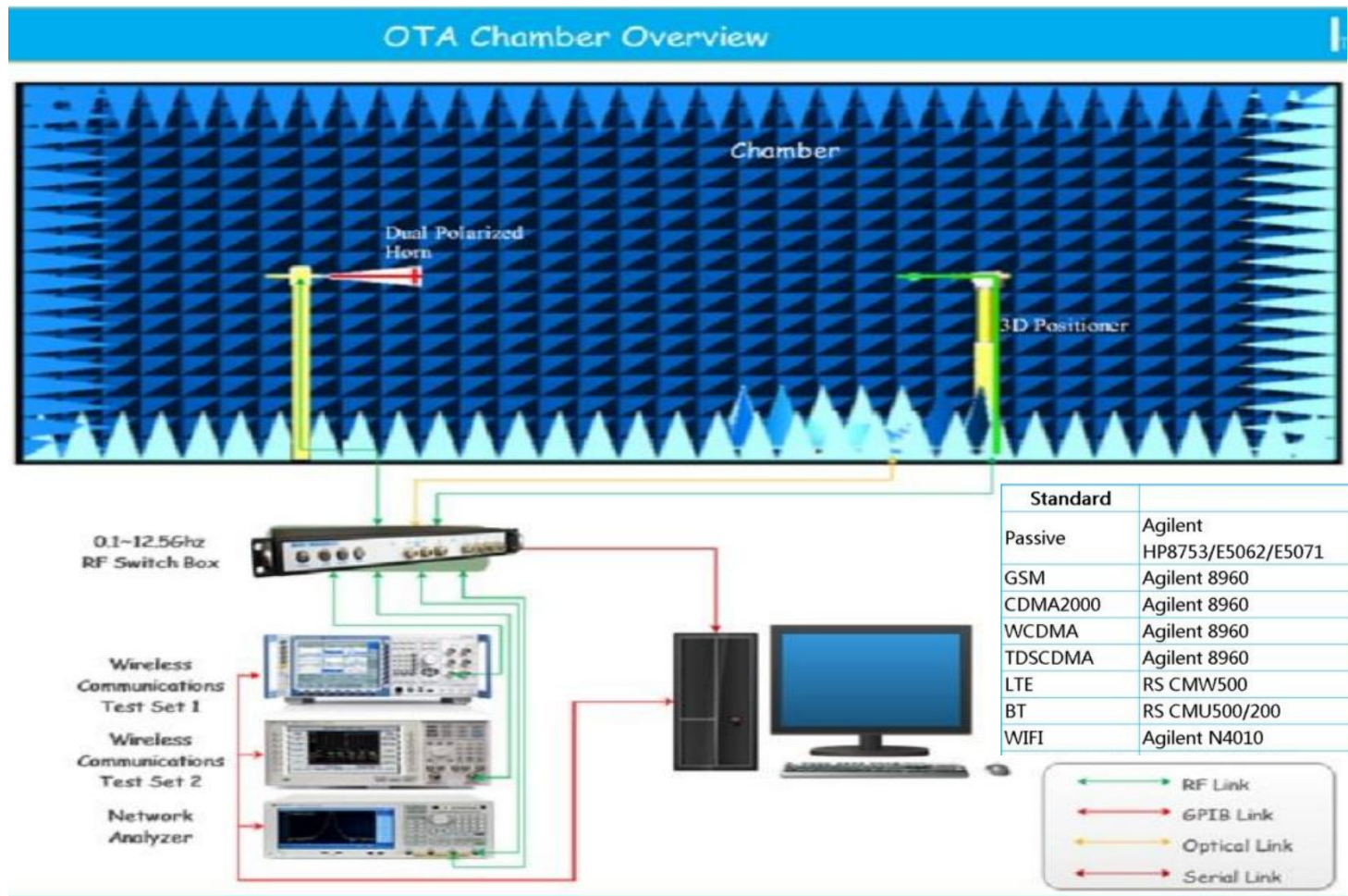
REV :V1. 0



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Test information

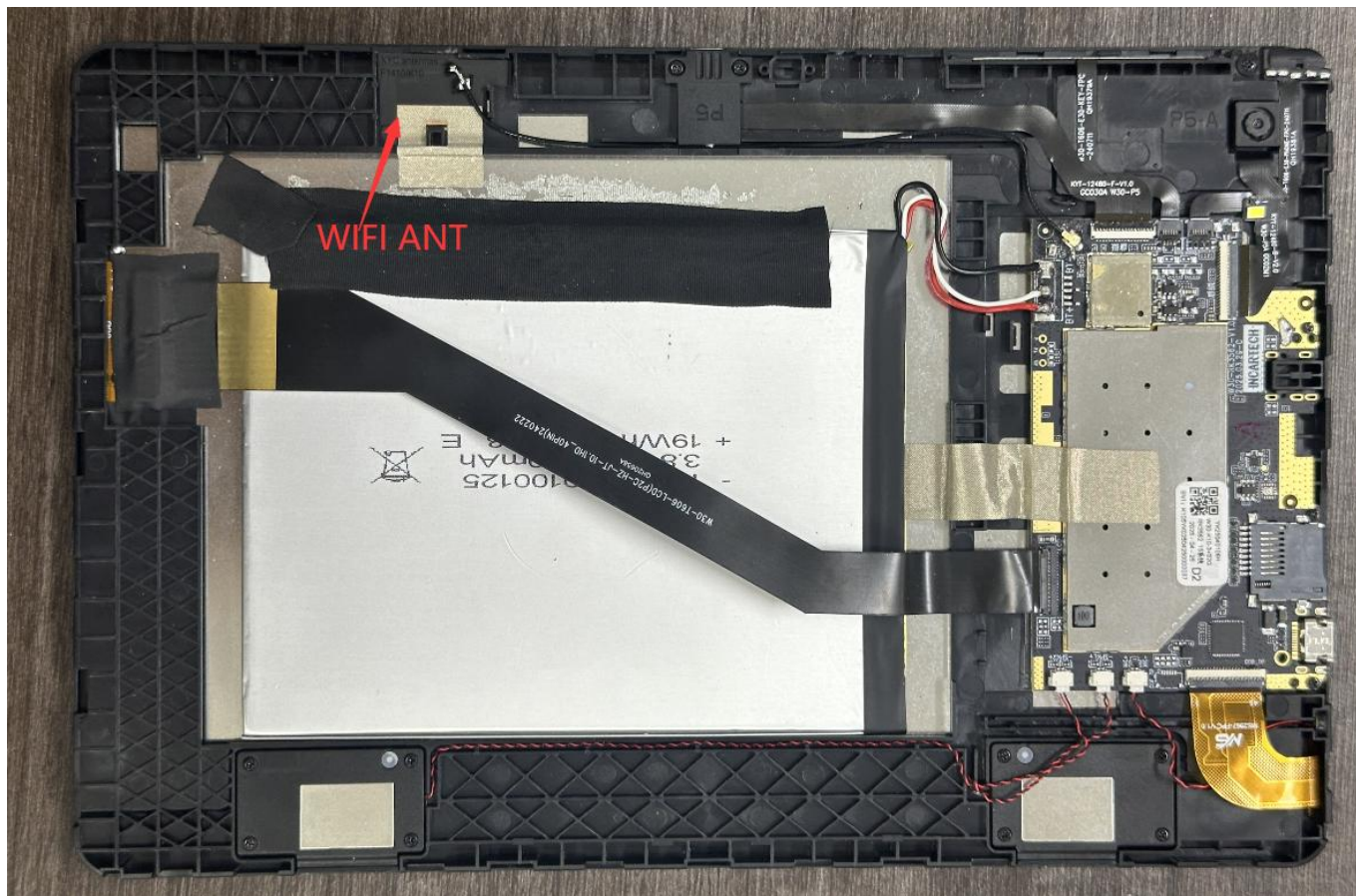
Antenna band		Antenna state	Antenna form	Match changes	Note
Main ANT	2G	FPC	PIFA	NO	
	3G				
	4G				
AUX ANT	BT/WIFI	2.4/5G	FPC	PIFA	NO
	GPS				
	DIV				





Antenna position

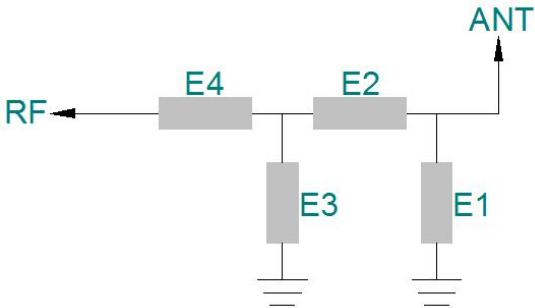
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Matching circuit

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Schematic diagram of matching circuit & tag diagram

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

(The camera is not turned on)

802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	18.45	CH1 11Mbps	-83.63
	2442	CH7 11Mbps	18.65	CH7 11Mbps	-83.47
	2472	CH13 11Mbps	19.29	CH13 11Mbps	-83.99
802.11g		TRP		TIS	
	2412	CH1 54Mbps	12.96	CH1 54Mbps	-73.28
	2442	CH7 54Mbps	13.47	CH7 54Mbps	-73.22
	2472	CH13 54Mbps	14.01	CH13 54Mbps	-73.98
802.11a		TRP		TIS	
	5180	CH36 6Mbps	15.89	CH36 54Mbps	-72.67
	5500	CH100 6Mbps	14.55	CH100 54Mbps	-73.18
	5825	CH165 6Mbps	14.06	CH165 54Mbps	-72.54
802.11g/n		TRP		TIS	
	2412	CH1 MCS7	12.76	CH1 MCS7	-70.13
	2442	CH7 MCS7	13.2	CH7 MCS7	-70.93
	2472	CH13 MCS7	13.98	CH13 MCS7	-70.68
802.11a/ac		TRP		TIS	
	5180	CH36 MCS9	9.85	CH36 MCS9	-66.25
	5500	CH100 MCS9	9.65	CH100 MCS9	-66.98
	5825	CH165 MCS9	9.74	CH165 MCS9	-66.32

(Turn on the front camera)

802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	17.87	CH1 11Mbps	-82.22
	2442	CH7 11Mbps	18.98	CH7 11Mbps	-82.69
	2472	CH13 11Mbps	19.68	CH13 11Mbps	-82.68
802.11g		TRP		TIS	
	2412	CH1 54Mbps	12.85	CH1 54Mbps	-72.36
	2442	CH7 54Mbps	13.25	CH7 54Mbps	-72.68
	2472	CH13 54Mbps	13.99	CH13 54Mbps	-73.69
802.11a		TRP		TIS	
	5180	CH36 6Mbps	15.22	CH36 54Mbps	-72.36
	5500	CH100 6Mbps	14.66	CH100 54Mbps	-72.98
	5825	CH165 6Mbps	14.14	CH165 54Mbps	-72.9
802.11g/n		TRP		TIS	
	2412	CH1 MCS7	12.3	CH1 MCS7	-69.98
	2442	CH7 MCS7	13.25	CH7 MCS7	-70.31
	2472	CH13 MCS7	14.01	CH13 MCS7	-69.88
802.11a/ac		TRP		TIS	
	5180	CH36 MCS9	9.36	CH36 MCS9	-66.66
	5500	CH100 MCS9	9.47	CH100 MCS9	-66.8
	5825	CH165 MCS9	9.65	CH165 MCS9	-66.7

(Turn on the rear camera)

802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	17.95	CH1 11Mbps	-82.69
	2442	CH7 11Mbps	18.69	CH7 11Mbps	-82.65
	2472	CH13 11Mbps	19.6	CH13 11Mbps	-83.01
802.11g		TRP		TIS	
	2412	CH1 54Mbps	12.89	CH1 54Mbps	-72.85
	2442	CH7 54Mbps	13.85	CH7 54Mbps	-72.68
	2472	CH13 54Mbps	14.22	CH13 54Mbps	-72.14
802.11a		TRP		TIS	
	5180	CH36 6Mbps	15.4	CH36 54Mbps	-72.41
	5500	CH100 6Mbps	14.36	CH100 54Mbps	-72.58
	5825	CH165 6Mbps	14.1	CH165 54Mbps	-72.6
802.11g/n		TRP		TIS	
	2412	CH1 MCS7	12.37	CH1 MCS7	-69.98
	2442	CH7 MCS7	13.58	CH7 MCS7	-70.21
	2472	CH13 MCS7	14.02	CH13 MCS7	-70.69
802.11a/ac		TRP		TIS	
	5180	CH36 MCS9	9.36	CH36 MCS9	-66.25
	5500	CH100 MCS9	9.85	CH100 MCS9	-66.14
	5825	CH165 MCS9	9.41	CH165 MCS9	-66.8



Wifi Antenna test

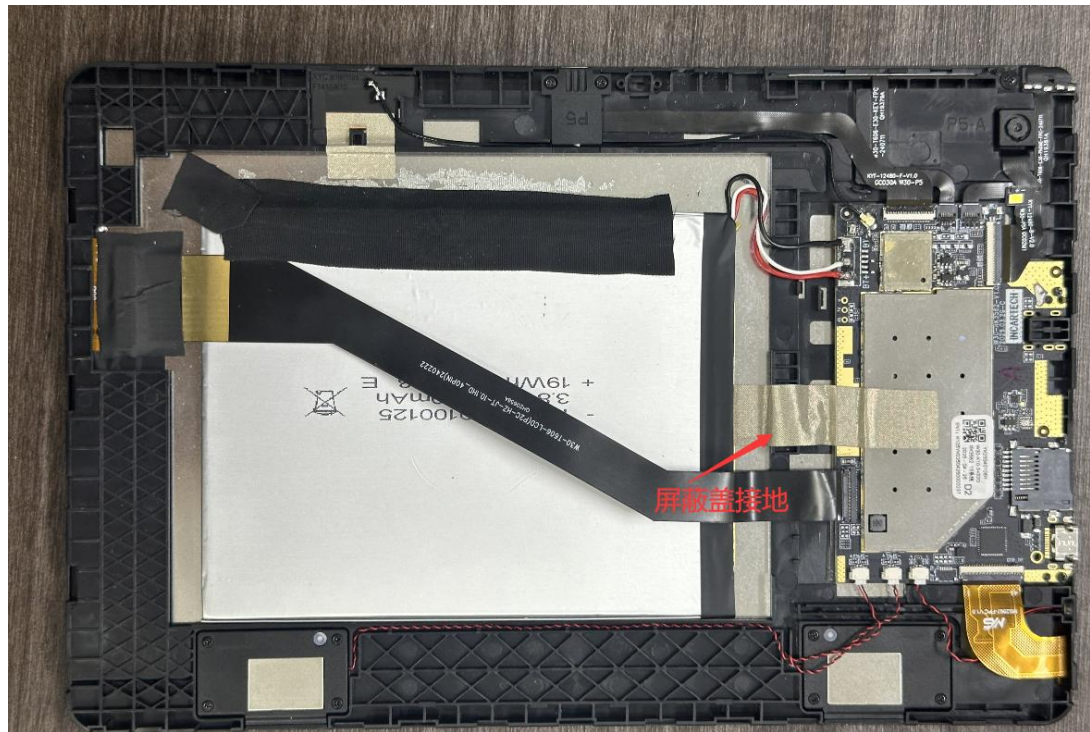
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WIFITest Environment: Open SpaceTest tools: Wifi Analytical AssistantTest distance: 10mSignal strength: 2.4G:-37dBm 5G:-43dBm

The test results are shown on the right

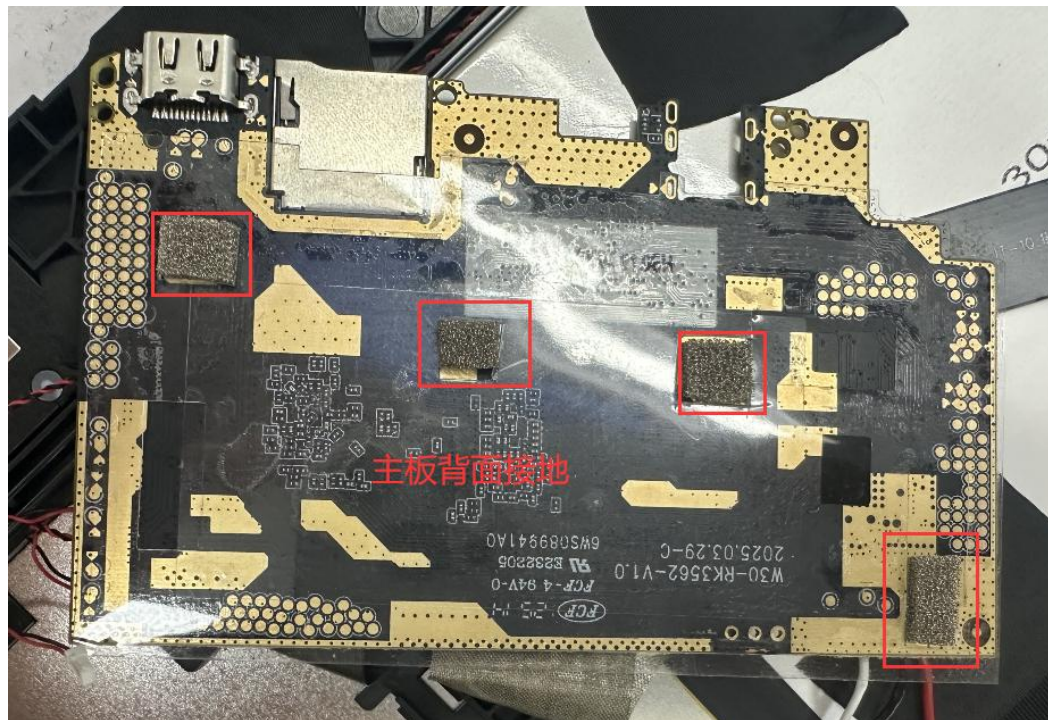
BTTest Environment: Open Space (通道)Test tool: Bluetooth speakerTest distance: 15mThe result: smooth playback of music with no noise.

Environmental treatment





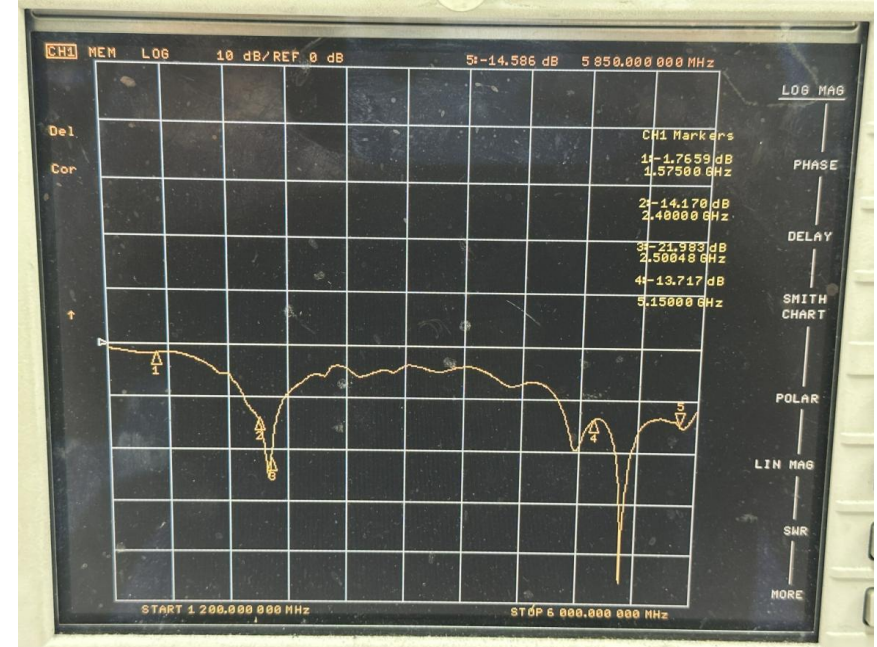
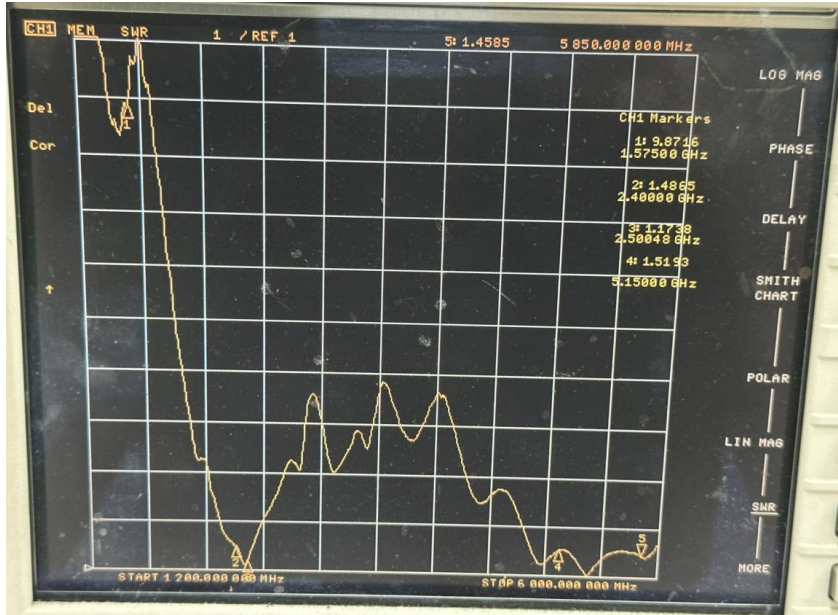
Environmental treatment





Passive test data

ANT1 S11-VSWR&Return Loss



Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.48	1.17	1.51	1.45
Return Loss (DB)	-14.17	-21.98	-13.71	-14.58



Passive test data

ANT1 GAIN&Efficiency-WIFI2.4G/BT

Passive Test For WIFI2.4								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)
2400	39.25	-4.06	-0.08	-2.23	21.256	17.996	-0.08	-10.29
2410	40.36	-3.94	0.25	-1.9	22.233	18.124	0.25	-10.44
2420	41.08	-3.86	0.47	-1.68	22.72	18.357	0.47	-11.34
2430	39.61	-4.02	0.42	-1.73	22.032	17.578	0.42	-11.45
2440	40.55	-3.92	0.58	-1.57	22.535	18.012	0.58	-10.9
2450	43.56	-3.61	1.11	-1.04	24.275	19.285	1.11	-10.58
2460	46.31	-3.34	1.6	-0.55	26.128	20.178	1.6	-10.44
2470	45.31	-3.44	1.5	-0.65	25.858	19.452	1.5	-10.79
2480	44.6	-3.51	1.37	-0.78	25.527	19.076	1.37	-11.48
2490	43.98	-3.57	1.14	-1.01	25.177	18.8	1.14	-12.27
2500	44.26	-3.54	1.23	-0.92	25.387	18.876	1.23	-13.17

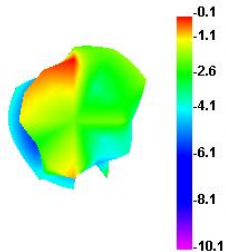


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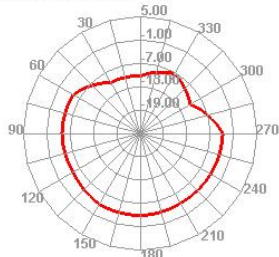
Passive test data

ANT1 Direction of figure(2.4/BT)

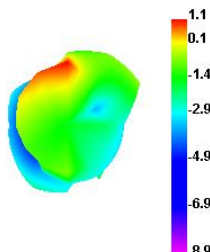
2400.000MHz



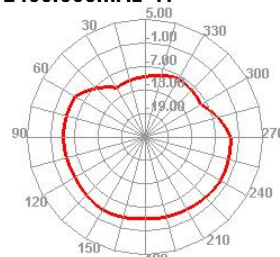
2400.000MHz H



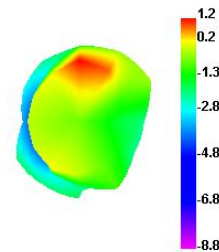
2450.000MHz



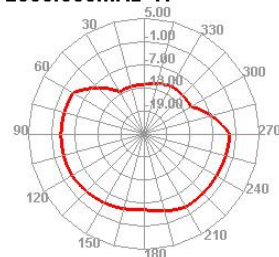
2450.000MHz H



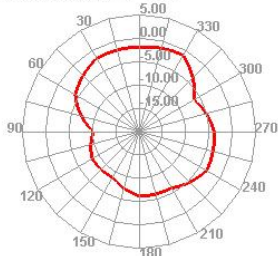
2500.000MHz



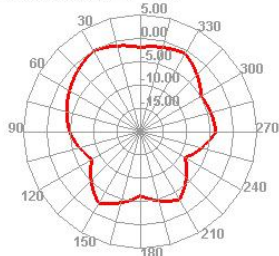
2500.000MHz H



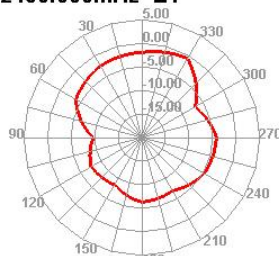
2400.000MHz E1



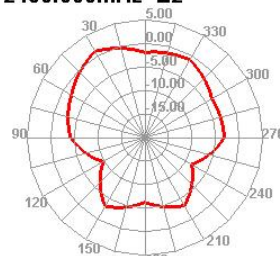
2400.000MHz E2



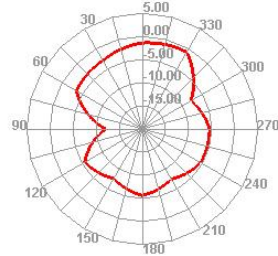
2450.000MHz E1



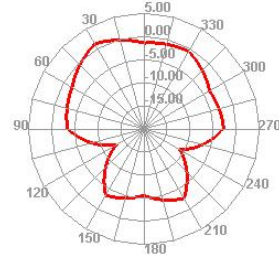
2450.000MHz E2



2500.000MHz E1



2500.000MHz E2





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Passive test data

ANT1 GAIN&Efficiency-WIFI 5G

Passive Test For WIFI5G								
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHIS (%)	Max (dB)	Min (dB)
5150	38.41	-4.38	2.05	-0.1	16.991	19.518	2.05	-13.34
5170	37.99	-4.76	1.26	-0.89	15.946	17.474	1.26	-14.3
5190	39.16	-4.07	1.98	-0.17	19.084	20.08	1.98	-15.02
5210	38.27	-4.49	1.69	-0.46	17.522	18.046	1.69	-14.86
5230	38.65	-4.13	2.09	-0.06	19.143	19.505	2.09	-15.26
5250	43.11	-3.65	2.2	0.05	21.621	21.487	2.2	-13.82
5270	45.92	-3.38	2.08	-0.07	23.505	22.415	2.08	-12.54
5290	47.57	-3.23	2.13	-0.02	24.449	23.119	2.13	-12.54
5310	42.38	-3.73	1.46	-0.69	21.786	20.592	1.46	-14.53
5330	42.39	-3.73	1.04	-1.11	21.878	20.515	1.04	-15.07
5350	45.58	-3.41	0.61	-1.54	23.949	21.628	0.61	-14.43
5370	41.66	-3.8	-0.14	-2.29	22.138	19.518	-0.14	-15.86
5390	38.6	-4.13	-0.55	-2.7	20.483	18.119	-0.55	-20.16
5410	44.58	-3.51	0.33	-1.82	23.651	20.927	0.33	-19.2
5430	45.39	-3.43	0.42	-1.73	24.452	20.934	0.42	-18.6
5450	46.64	-3.31	0.38	-1.77	25.565	21.076	0.38	-19.95
5470	45.32	-3.44	0.6	-1.55	24.806	20.514	0.6	-23.41
5490	43.58	-3.61	0.54	-1.61	23.612	19.967	0.54	-26.03
5510	47.74	-3.21	1.27	-0.88	25.826	21.913	1.27	-21.75
5530	48.03	-3.18	1.16	-0.99	25.92	22.115	1.16	-17.6
5550	51.74	-2.86	1.4	-0.75	27.699	24.041	1.4	-15.93
5570	48.56	-3.14	1.46	-0.69	25.545	23.012	1.46	-16.48
5590	48.38	-3.15	1.53	-0.62	25.302	23.081	1.53	-14.85
5610	48.3	-3.16	1.53	-0.62	25.36	22.942	1.53	-13.47
5630	42.56	-3.71	0.79	-1.36	22.257	20.305	0.79	-12.5
5650	47.97	-3.19	1.6	-0.55	24.963	23.011	1.6	-13.48
5670	47.03	-3.28	1.72	-0.43	24.277	22.752	1.72	-13.42
5690	48.14	-3.17	1.77	-0.38	25.138	23.003	1.77	-13.2
5710	46.1	-3.36	1.4	-0.75	24.547	21.557	1.4	-15.07
5730	50.26	-2.99	1.75	-0.4	26.879	23.378	1.75	-15.25
5750	43.69	-3.6	1.25	-0.9	23.533	20.157	1.25	-16.08
5770	49.81	-3.03	1.8	-0.35	26.854	22.956	1.8	-16.1
5790	43.89	-3.58	1.09	-1.06	23.705	20.187	1.09	-16.23
5810	47.59	-3.23	1.38	-0.77	25.794	21.793	1.38	-16.09
5830	46.81	-3.3	1.39	-0.76	25.136	21.673	1.39	-15.6
5850	53.75	-2.7	2.31	0.16	28.365	25.385	2.31	-15.71

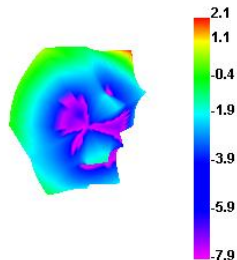


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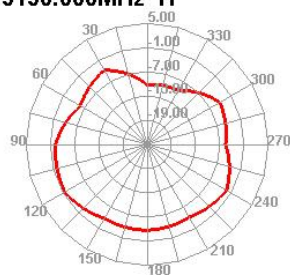
Passive test data

ANT1 Direction of figure(5G)

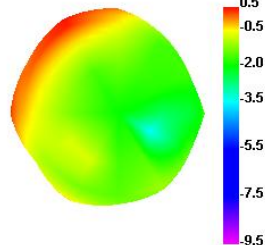
5150.000MHz



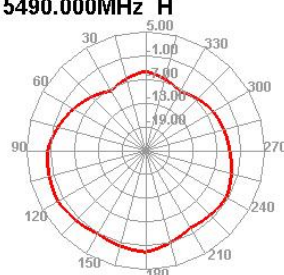
5150.000MHz H



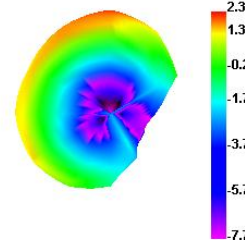
5490.000MHz



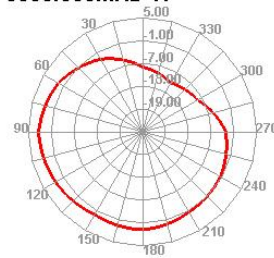
5490.000MHz H



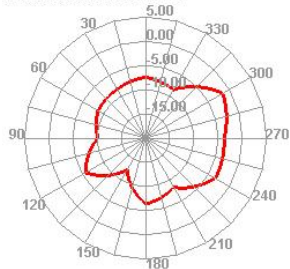
5850.000MHz



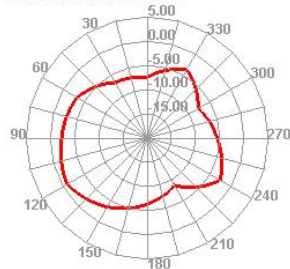
5850.000MHz H



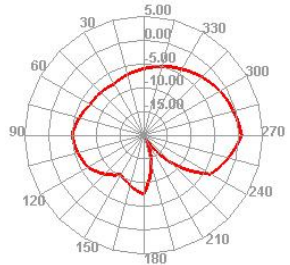
5150.000MHz E1



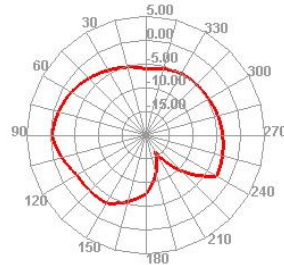
5150.000MHz E2



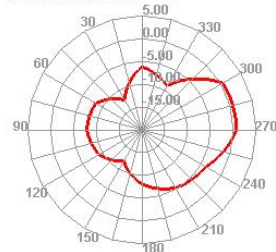
5490.000MHz E1



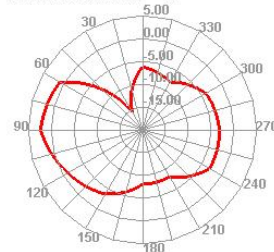
5490.000MHz E2



5850.000MHz E1



5850.000MHz E2



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