



Approval Sheet

Customer	Yi Dao	Data	2024/07/08
Product	3IN1 antenna	Models	T8630
P/N	T718	Customer P/N	01.WF7.T86300XYC02
Specifications	Black FPC; Gold finger gilding		

Vender Approved By	Customer Approved By
Checked By:	Checked By:
Audit By:	Audit By:
Approval By:	Approval By:

Document Revision Resume

Version	Revise The Content	Revused	Approval	Date	Note



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Specification

1.1 Electrical Properties

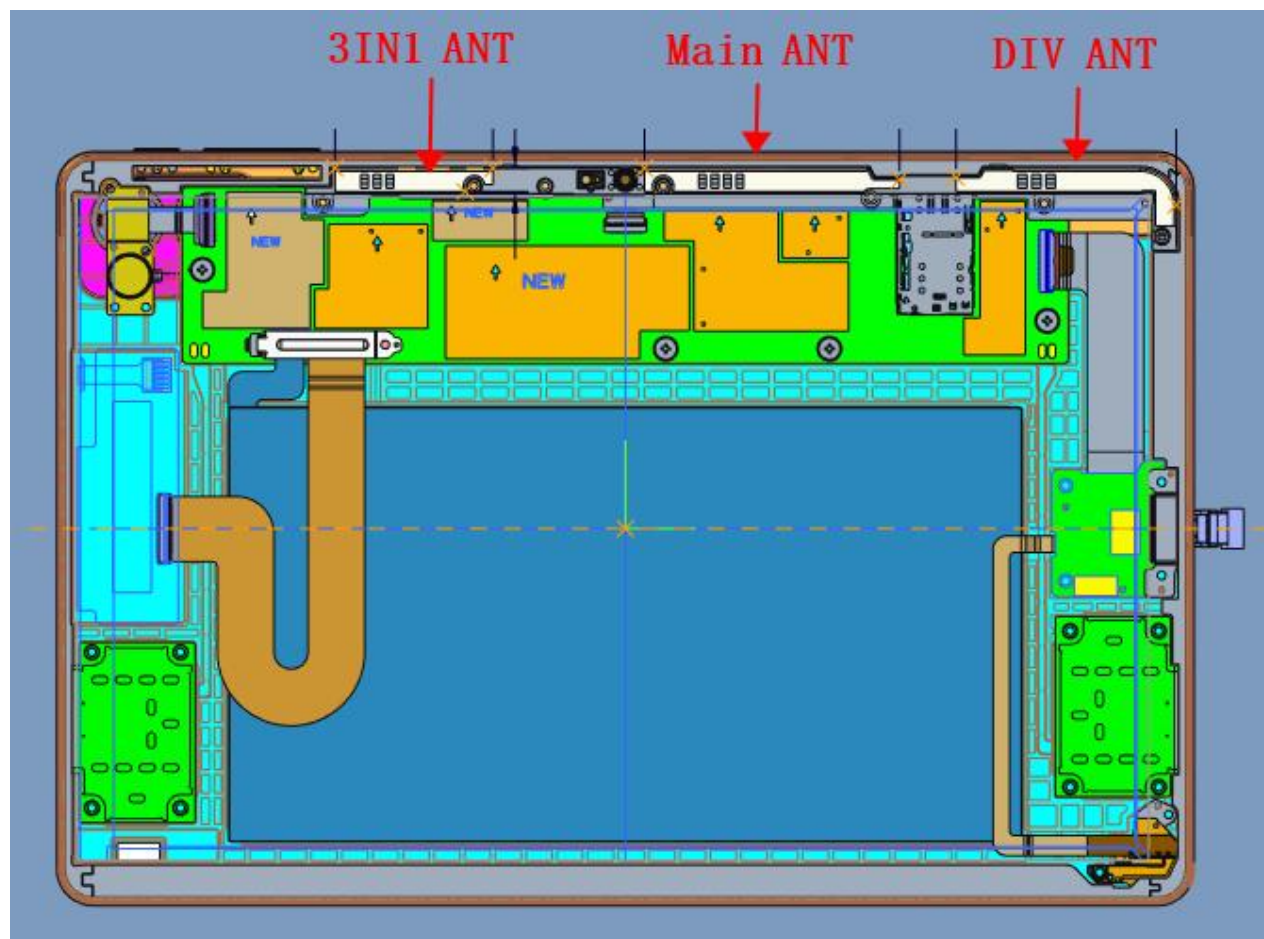
Characteristics	Specifications
Working Band	GPS 2.4G WiFi/BT 5G WiFi
Antenna From	PIFA
Impedance	50 Ω
Polarization	Linear

1.2 Physical Properties

Characteristics	Specifications
Operating Temp	-10°C ~+60°C
Storage Temp	-10°C ~+70°C
Humidity	10~95%RH

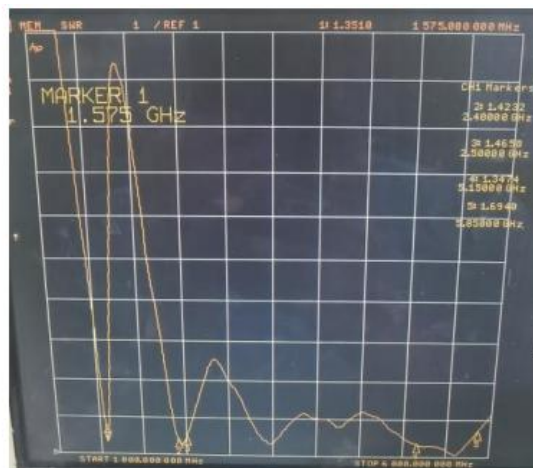


Antenna Placement



Test Data

S11 Parameter-VSWR



Frequency (MHZ)	1575	2400	2500	5150	5850
VSWR	1.35	1.42	1.46	1.34	1.69

Efficiency Table-GPS

Passive Test For GPS												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
1570	29.65	-5.28	-2.07	-4.22	19.382	10.265	-2.07	-15.23	3.21	60	41.5	41.03
1575	30.39	-5.17	-1.83	-3.98	19.774	10.612	-1.83	-15.78	3.34	60	41.68	41.23
1580	31.35	-5.04	-1.58	-3.73	20.294	11.059	-1.58	-16.17	3.45	60	41.78	41.35

Efficiency Table-2.4G

Passive Test For WIFI2.4												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivit (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	30.7	-5.13	-0.53	-2.68	16.872	13.828	-0.53	-14.07	4.59	90	45.78	46.01
2410	31.65	-5	-0.51	-2.66	17.399	14.251	-0.51	-13.92	4.48	0	46.01	46.29
2420	31.93	-4.96	-0.37	-2.52	17.743	14.19	-0.37	-14.1	4.59	90	45.73	46
2430	31.75	-4.98	-0.43	-2.58	17.588	14.159	-0.43	-14.67	4.55	90	46.01	46.36
2440	34.84	-4.58	-0.08	-2.23	19.092	15.749	-0.08	-15.1	4.5	90	46.12	46.48
2450	34.93	-4.57	-0.12	-2.27	19.182	15.752	-0.12	-15.84	4.45	90	46.12	46.54
2460	32.33	-4.9	-0.51	-2.66	17.881	14.444	-0.51	-16.94	4.39	90	46.14	46.52
2470	34.36	-4.64	-0.33	-2.48	19.235	15.126	-0.33	-16.47	4.31	90	46.4	46.8
2480	35.84	-4.46	-0.23	-2.38	20.338	15.5	-0.23	-15.5	4.22	90	46.26	46.64
2490	36.5	-4.38	-0.15	-2.3	20.774	15.727	-0.15	-14.41	4.23	90	46.51	46.91
2500	32.46	-4.89	-0.53	-2.68	18.741	13.72	-0.53	-13.94	4.36	90	46.47	46.86

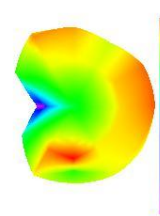


Efficiency Table-5G

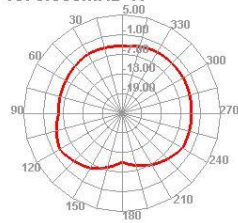
Passive Test For WIFI5G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	20.69	-6.84	-0.84	-2.99	11.852	8.839	-0.84	-16.82	6.01	0	49.82	49.4
5170	22.85	-6.41	-0.68	-2.83	12.663	10.184	-0.68	-16.68	5.74	0	50.13	49.77
5190	22.31	-6.52	-1.09	-3.24	12.15	10.158	-1.09	-16.89	5.42	30	50.42	49.95
5210	26.54	-5.76	-0.66	-2.81	14.402	12.137	-0.66	-16.88	5.1	30	50.88	50.49
5230	22.55	-6.47	-1.65	-3.8	12.324	10.229	-1.65	-19.93	4.81	30	50.42	50.08
5250	29.95	-5.24	-0.45	-2.6	16.731	13.215	-0.45	-18.82	4.79	30	51.02	50.72
5270	26.34	-5.79	-1.16	-3.31	14.953	11.389	-1.16	-17.05	4.63	30	50.85	50.6
5290	33.36	-4.77	-0.05	-2.2	19.323	14.041	-0.05	-15.59	4.72	30	51.34	51.12
5310	26.83	-5.71	-0.91	-3.06	15.636	11.199	-0.91	-19.24	4.8	30	50.44	50.36
5330	29.04	-5.37	-0.61	-2.76	16.94	12.097	-0.61	-18.59	4.76	30	51.08	51.01
5350	26.87	-5.71	-0.95	-3.1	15.762	11.113	-0.95	-18.59	4.76	30	51.02	51.01
5370	28.86	-5.4	-0.6	-2.75	17.185	11.679	-0.6	-18.66	4.79	30	50.91	50.95
5390	24.89	-6.04	-1.09	-3.24	15.019	9.874	-1.09	-18.32	4.95	0	50.46	50.43
5410	32.13	-4.93	0.2	-1.95	19.629	12.497	0.2	-17.14	5.13	0	51.18	51.09
5430	25.95	-5.86	-0.72	-2.87	16.021	9.925	-0.72	-18.61	5.14	30	50.69	50.7
5450	30.77	-5.12	0.09	-2.06	19.117	11.656	0.09	-17.8	5.21	30	50.71	50.85
5470	27.64	-5.58	-0.39	-2.54	17.223	10.415	-0.39	-19.5	5.19	30	50.93	50.83
5490	29.49	-5.3	-0.14	-2.29	18.318	11.173	-0.14	-18.48	5.17	30	50.92	50.79
5510	29.53	-5.3	0.07	-2.08	18.406	11.126	0.07	-21.09	5.36	30	51.18	51.16
5530	31.23	-5.05	0.51	-1.64	19.571	11.654	0.51	-20.62	5.57	30	51.44	51.3
5550	32.52	-4.88	0.61	-1.54	20.288	12.231	0.61	-18.99	5.49	30	51.89	51.76
5570	30.26	-5.19	0.18	-1.97	18.815	11.442	0.18	-17.33	5.37	30	51.42	51.33
5590	32.84	-4.84	0.89	-1.26	20.32	12.515	0.89	-18.96	5.72	30	51.71	51.76
5610	29.19	-5.35	0.48	-1.67	18.162	11.033	0.48	-22.15	5.83	30	51.17	51.22
5630	32.77	-4.85	0.9	-1.25	20.337	12.43	0.9	-20.37	5.74	30	51.78	51.77
5650	27.02	-5.68	-0.01	-2.16	16.768	10.252	-0.01	-18.71	5.68	30	51.47	51.55
5670	32.08	-4.94	0.95	-1.2	19.844	12.236	0.95	-17.52	5.89	30	52.12	52.28
5690	26.67	-5.74	0.44	-1.71	16.516	10.149	0.44	-20.39	6.18	30	52.12	52.25
5710	31.5	-5.02	1.05	-1.1	19.45	12.053	1.05	-24.82	6.06	30	51.95	52.05
5730	28.2	-5.5	0.53	-1.62	17.418	10.785	0.53	-24.39	6.02	30	51.59	51.69
5750	27.31	-5.64	0.55	-1.6	16.895	10.418	0.55	-20.51	6.18	30	51.12	51.15
5770	26.33	-5.79	0.57	-1.58	16.337	9.998	0.57	-19.26	6.37	30	51.02	51.06
5790	25.32	-5.96	0.4	-1.75	15.714	9.609	0.4	-20.26	6.36	30	51.08	51.16
5810	24.41	-6.12	0.01	-2.14	15.116	9.297	0.01	-21.7	6.14	30	51.36	51.43
5830	24.38	-6.13	0.14	-2.01	15.109	9.269	0.14	-22.5	6.27	30	51.65	51.66
5850	22.84	-6.41	-0.06	-2.21	14.209	8.628	-0.06	-22.05	6.36	30	51.88	52.05

Radiation Pattern-GPS

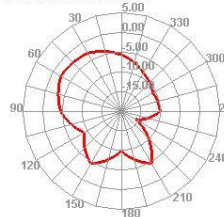
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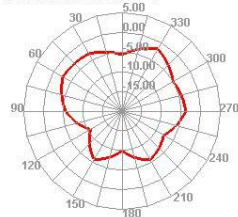
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1575.000MHz E1

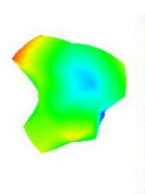


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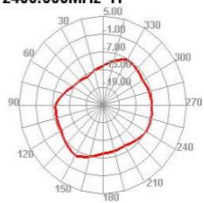


Radiation Pattern-2.4G

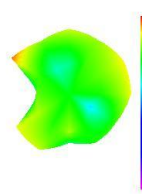
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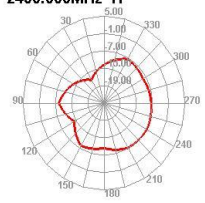
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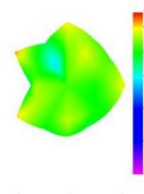
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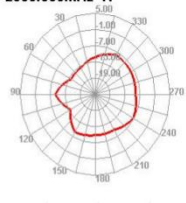
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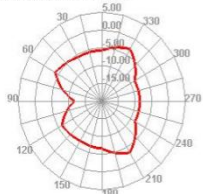
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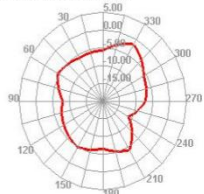
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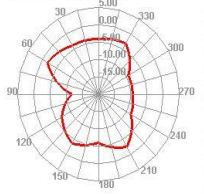
2400.000MHz E1



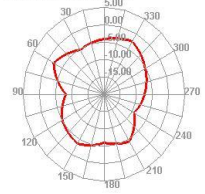
2400.000MHz E2



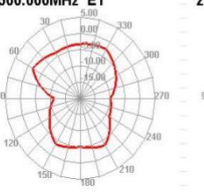
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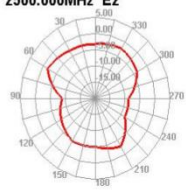
2450.000MHz E2



2500.000MHz E1

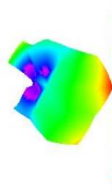


2500.000MHz E2

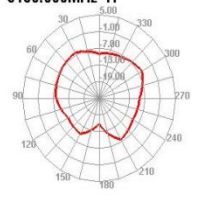


Radiation Pattern-5G

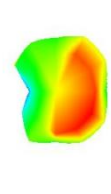
5150.000MHz



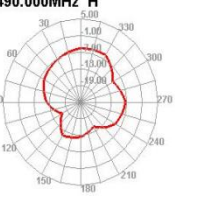
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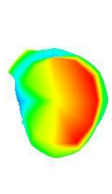
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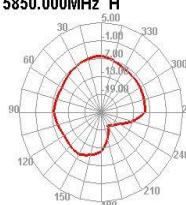
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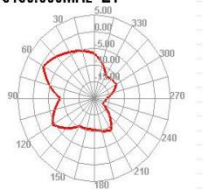
5850.000MHz



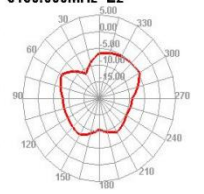
5850.000MHz H



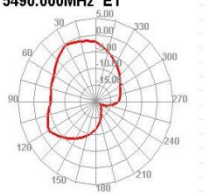
5150.000MHz E1



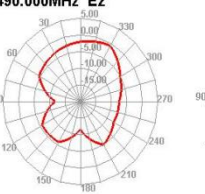
5150.000MHz E2



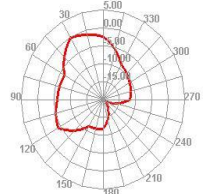
5490.000MHz E1



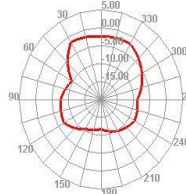
5490.000MHz E2



5850.000MHz E1



5850.000MHz E2



WIFI/BT Measured

WIFI

Test environment: Open space

Test tool: Wifi Analytical Assistant

Test distance: 10m

Signal strength: 2.4G :-38dBm 5G:-48dBm

The test results are shown on the right

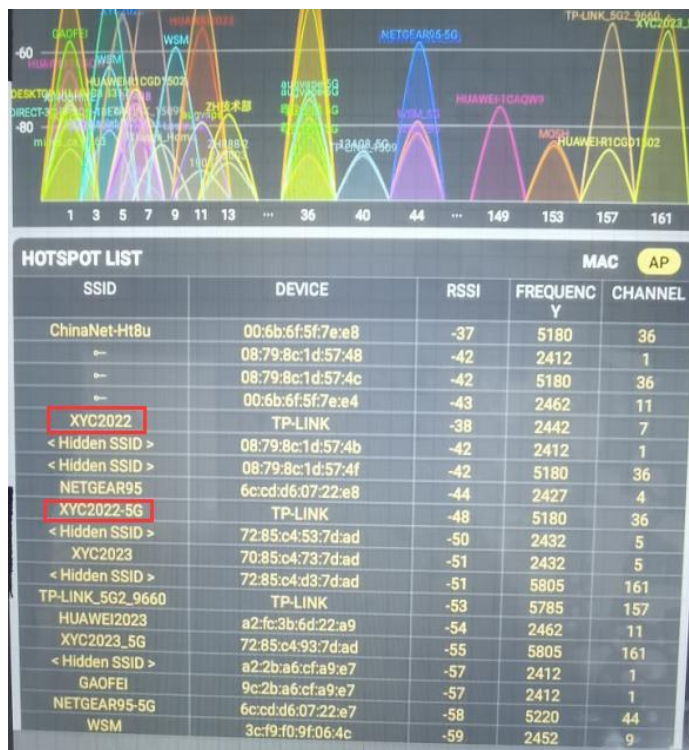
BT

Test environment: Open space (channel)

Test tool: Bluetooth speaker

Test distance: 10+m

Results: The music was played smoothly and without noise.



GPS Measured

The measured results of GPS cold start are as follows:

CN value more than 40 3+ pieces

CN value more than 35 3+ pieces

Actual positioning 14+ objects

Remark;

GPS star search test. It varies by time period and region. The above data is the best data of our test (open area)



WiFi Active Test Data

802.11b	Frequency	TRP		TIS (LCD OFF)	
	2412	CH1 11Mbps	14.35	CH1 11Mbps	-84.22
	2437	CH6 11Mbps	14.26	CH6 11Mbps	-84.37
	2467	CH11 11Mbps	14.11	CH11 11Mbps	-84.18
802.11a		TRP		TIS	
	5180	CH36 6Mbps	11.56	CH36 54Mbps	-73.6
	5300	CH60 6Mbps	11.88	CH60 54Mbps	-73.34
	5805	CH161 6Mbps	11.13	CH161 54Mbps	-72.13

Antenna Assembly

