



深圳星源创科技有限公司

Shen Zhen Xing Yuan Chuang Technology Co., Ltd

规格承认书
Approval Sheet

客户名称 Customer	攻氮	日期 Data	2024/01/16
产品名称 Product	WiFi/BT天线	客户机型 Models	AR03
料号 P/N	ANT1: F1022-14RB-042 ANT2: F1023-14MG-165	客户料号 Customer P/N	
规格描述 Specifications	黑色FPC; ANT1: RF0.81四代端子黑色同轴线, 长度L=42mm; ANT2: RF0.81四代端子灰色同轴线, 长度L=165mm		

供应商承认签印 Vender Approved By	客户承认签印 Customer Approved By
	
Checked By:	Checked By:
Audit By:	Audit By:
Approval By:	Approval By:

文件修订履历表					
版本 Version	修订内容 Revise The Content	修订人 Revused	核准 Approval	修订日期 Date	备注 Note

地址: 深圳市宝安区福永镇福海街道塘尾股份商务大厦1506

Address: 1506, Tangwei Business Building, Fuhai Street, Fuyong Town, Baoan District, Shenzhen

Tel: 0755-82103639 QQ: 487580356 Email: Stephdeng_Vis@126.com



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Specification

1.1 Electrical Properties

Characteristics	Specifications
Working Band	2.4GWiFi/BT; 5GWiFi
Antenna From	PIFA
Impedance	50 Ω
Polarization	Linear
Peak Effi	36%@2.4G; 39%@5G

1.2 Physical Properties

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

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Antenna Placement



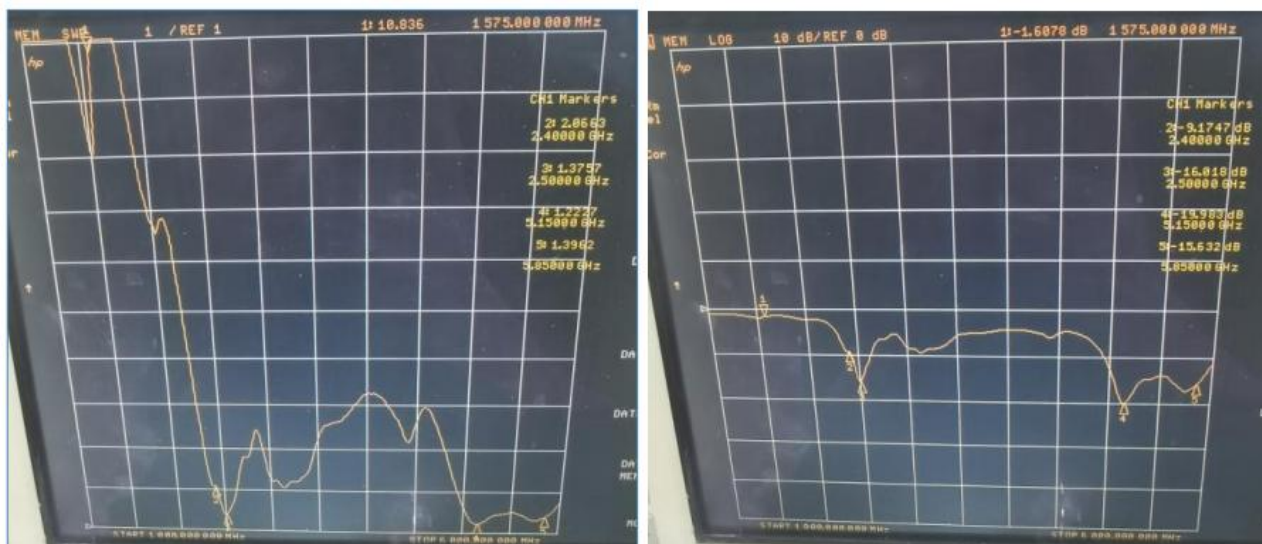
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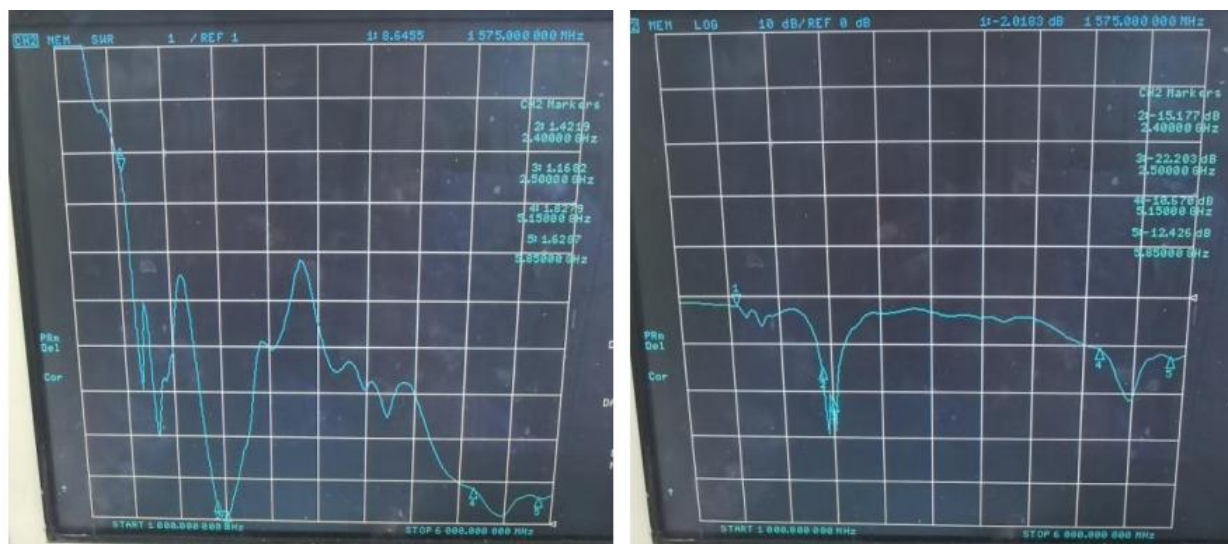
Test Data

S11 Parameter-VSWR(ANT1)



Frequency (MHZ)	2400	2500	5150	5850
VSWR	2.06	1.37	1.22	1.39
Return Loss (DB)	-9.17	-16.01	-19.98	-15.63

S11 Parameter-VSWR(ANT2)



Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.42	1.16	1.82	1.62
Return Loss (DB)	-15.17	-22.20	-10.67	-12.42

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Efficiency Table (ANT1 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	24.57	-6.1	-1.16	-3.31	15.082	9.491	-1.16	-22.14	4.93	120	45.78	46.01
2410	26.4	-5.78	-0.75	-2.9	16.435	9.963	-0.75	-22.39	5.04	90	46.01	46.29
2420	26.76	-5.73	-0.57	-2.72	16.748	10.013	-0.57	-23.41	5.15	90	45.73	46
2430	27.06	-5.68	-0.56	-2.71	16.885	10.179	-0.56	-23.2	5.12	60	46.01	46.36
2440	29.63	-5.28	-0.12	-2.27	18.483	11.144	-0.12	-22.79	5.16	60	46.12	46.48
2450	31.53	-5.01	0.08	-2.07	19.753	11.78	0.08	-22.35	5.09	60	46.12	46.54
2460	30.39	-5.17	-0.13	-2.28	19.029	11.365	-0.13	-22.66	5.04	60	46.14	46.52
2470	31.98	-4.95	0.04	-2.11	19.972	12.009	0.04	-22.94	4.99	60	46.4	46.8
2480	34.37	-4.64	0.2	-1.95	21.398	12.969	0.2	-24.17	4.84	60	46.26	46.64
2490	33.92	-4.7	-0.21	-2.36	21.22	12.696	-0.21	-25.45	4.49	90	46.51	46.91
2500	31.4	-5.03	-0.83	-2.98	19.769	11.631	-0.83	-24.95	4.2	90	46.47	46.86

Efficiency Table (ANT2 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	25.33	-5.96	-1.36	-3.51	15.161	10.165	-1.36	-15.65	4.6	60	45.78	46.01
2410	27.06	-5.68	-0.7	-2.85	16.304	10.751	-0.7	-15.37	4.98	30	46.01	46.29
2420	29.26	-5.34	-0.39	-2.54	17.849	11.41	-0.39	-16.08	4.95	30	45.73	46
2430	29.89	-5.24	-0.39	-2.54	18.206	11.686	-0.39	-15.51	4.85	30	46.01	46.36
2440	32.37	-4.9	0.03	-2.12	19.605	12.762	0.03	-14.46	4.93	30	46.12	46.48
2450	34.01	-4.68	0.29	-1.86	20.759	13.254	0.29	-14.03	4.97	30	46.12	46.54
2460	32.98	-4.82	0.13	-2.02	20.176	12.805	0.13	-14.47	4.94	0	46.14	46.52
2470	34.44	-4.63	0.25	-1.9	21.103	13.34	0.25	-14.32	4.88	30	46.4	46.8
2480	36.11	-4.42	0.79	-1.36	21.937	14.175	0.79	-14.57	5.22	0	46.26	46.64
2490	33.97	-4.69	0.45	-1.7	20.531	13.434	0.45	-15.84	5.14	0	46.51	46.91
2500	31.65	-5	0.46	-1.69	19.199	12.449	0.46	-16.33	5.46	0	46.47	46.86

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Efficiency Table (ANT1 5G)

Passive Test For WIFI5G						
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)
5150	26.4	-7.12	-0.53	-2.68	10.409	15.989
5170	24.59	-7.31	-0.9	-3.05	9.594	15.001
5190	27.87	-6.41	-0.26	-2.41	11.948	15.925
5210	26.72	-6.44	-0.63	-2.78	11.823	14.894
5230	29.32	-5.8	-0.51	-2.66	14.673	14.652
5250	28.45	-5.78	-0.96	-3.11	14.762	13.684
5270	27.98	-5.69	-1.12	-3.27	15.821	12.154
5290	31.99	-4.95	-0.4	-2.55	18.429	13.561
5310	28.51	-5.45	-0.63	-2.78	17.253	11.254
5330	31.53	-5.01	0.04	-2.11	19.638	11.888
5350	30.25	-5.19	-0.13	-2.28	18.828	11.418
5370	31.82	-4.97	-0.15	-2.3	19.529	12.287
5390	27.45	-5.61	-0.91	-3.06	16.945	10.507
5410	34.01	-4.68	-0.08	-2.23	21.239	12.769
5430	30.17	-5.2	-0.26	-2.41	18.954	11.216
5450	30.71	-5.13	0.2	-1.95	19.613	11.099
5470	29.5	-5.3	0.12	-2.03	19.402	10.098
5490	29.63	-5.28	0.09	-2.06	20.088	9.537
5510	30.38	-5.17	0.08	-2.07	20.842	9.543
5530	32.86	-4.83	0.2	-1.95	22.43	10.428
5550	34.95	-4.57	0.34	-1.81	23.96	10.991
5570	34.05	-4.68	-0.04	-2.19	23.659	10.388
5590	37.97	-4.21	0.18	-1.97	26.375	11.594
5610	36.19	-4.41	-0.18	-2.33	24.914	11.276
5630	39.27	-4.06	0	-2.15	27.243	12.022
5650	32.76	-4.85	-0.76	-2.91	23.134	9.624
5670	38.27	-4.17	-0.13	-2.28	27.393	10.881
5690	30	-5.23	-1.34	-3.49	21.637	8.364
5710	38.52	-4.14	-0.39	-2.54	27.901	10.62
5730	31.61	-5	-1.11	-3.26	23.172	8.434
5750	34.08	-4.68	-0.79	-2.94	25.393	8.682
5770	30.73	-5.12	-1	-3.15	23.224	7.506
5790	32.56	-4.87	-0.58	-2.73	24.674	7.889
5810	31.31	-5.04	-0.61	-2.76	23.788	7.525
5830	35.28	-4.52	-0.18	-2.33	26.981	8.301
5850	33.33	-4.77	-0.33	-2.48	25.592	7.742

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Efficiency Table (ANT2 5G)

Passive Test For 5G												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	irectivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	34.61	-4.61	2.71	0.56	23.161	11.451	2.71	-25.76	7.31	60	62.66	62.14
5170	30.35	-5.18	2.53	0.38	20.277	10.078	2.53	-22.37	7.7	45	62.13	61.73
5190	27.97	-5.53	2.32	0.17	18.656	9.315	2.32	-21.57	7.86	30	61.9	61.56
5210	30.1	-5.21	2.8	0.65	19.881	10.22	2.8	-20.09	8.01	60	62.58	62.08
5230	29.46	-5.31	2.82	0.67	19.219	10.239	2.82	-20.3	8.13	60	62	61.81
5250	29.14	-5.36	2.8	0.65	18.865	10.273	2.8	-23.16	8.15	45	61.89	61.7
5270	26.54	-5.76	2.3	0.15	17.044	9.498	2.3	-23.02	8.07	60	61.76	61.41
5290	29.4	-5.32	2.41	0.26	18.673	10.727	2.41	-22.47	7.72	45	61.94	61.89
5310	25.59	-5.92	1.75	-0.4	16.272	9.314	1.75	-26.71	7.67	45	61.61	61.56
5330	25.66	-5.91	1.67	-0.48	16.215	9.444	1.67	-20.39	7.58	45	61.83	61.76
5350	27.17	-5.66	1.38	-0.77	17.203	9.968	1.38	-19.63	7.04	45	62.08	62.46
5370	28.03	-5.52	1.09	-1.06	17.659	10.371	1.09	-28.27	6.62	45	62.14	62.36
5390	25.08	-6.01	0.15	-2	15.698	9.381	0.15	-19.38	6.16	45	61.64	61.88
5410	28.76	-5.41	0.67	-1.48	17.928	10.831	0.67	-21.06	6.08	45	62.69	63.01
5430	26.85	-5.71	0.66	-1.49	16.603	10.247	0.66	-24.01	6.37	45	62.41	62.93
5450	25.87	-5.87	0.56	-1.59	15.774	10.095	0.56	-22.32	6.44	45	62.21	62.94
5470	23.92	-6.21	0.42	-1.73	14.623	9.297	0.42	-22.32	6.63	30	62.56	63.24
5490	22.57	-6.47	0.16	-1.99	13.584	8.982	0.16	-24.05	6.63	30	63.06	63.84
5510	22.85	-6.41	-0.01	-2.16	13.513	9.337	-0.01	-27.99	6.41	30	63.46	64.44
5530	23.95	-6.21	0.26	-1.89	14.284	9.661	0.26	-23.14	6.47	30	63.75	64.89
5550	26.37	-5.79	0.62	-1.53	15.652	10.716	0.62	-19.69	6.41	30	64.34	65.2
5570	26.42	-5.78	0.76	-1.39	15.456	10.962	0.76	-21.37	6.54	45	64.38	65.25
5590	25.69	-5.9	0.63	-1.52	15.023	10.663	0.63	-20.92	6.53	45	64.47	64.74
5610	26.84	-5.71	1.07	-1.08	15.724	11.117	1.07	-22.92	6.78	45	64.28	65.11
5630	27.69	-5.58	0.67	-1.48	15.998	11.692	0.67	-20.97	6.25	45	64.52	65.32
5650	27.87	-5.55	0.87	-1.28	16.006	11.863	0.87	-20.34	6.42	45	64.43	65.08
5670	26.08	-5.84	0.27	-1.88	14.867	11.214	0.27	-24.52	6.11	45	64.58	65.06
5690	27.38	-5.63	0.44	-1.71	15.644	11.732	0.44	-20.61	6.07	45	64.65	66
5710	25.84	-5.88	0.52	-1.63	14.683	11.153	0.52	-23.85	6.4	45	65.18	65.08
5730	28.59	-5.44	0.3	-1.85	16.234	12.356	0.3	-16.66	5.74	45	64.91	65.55
5750	25.26	-5.98	-0.23	-2.38	14.458	10.804	-0.23	-19.56	5.75	45	64.64	64.89
5770	25.38	-5.95	-0.29	-2.44	14.531	10.851	-0.29	-19.95	5.67	45	64.61	65.28
5790	24.02	-6.19	-0.39	-2.54	13.557	10.462	-0.39	-23.16	5.8	45	64.83	64.78
5810	25.76	-5.89	0.01	-2.14	14.385	11.374	0.01	-25.36	5.9	60	64.97	65.66
5830	25.28	-5.97	0.13	-2.02	13.966	11.315	0.13	-26.45	6.11	60	65.45	66.02
5850	26.11	-5.83	0.1	-2.05	14.236	11.873	0.1	-21.97	5.93	15	65.65	66.39

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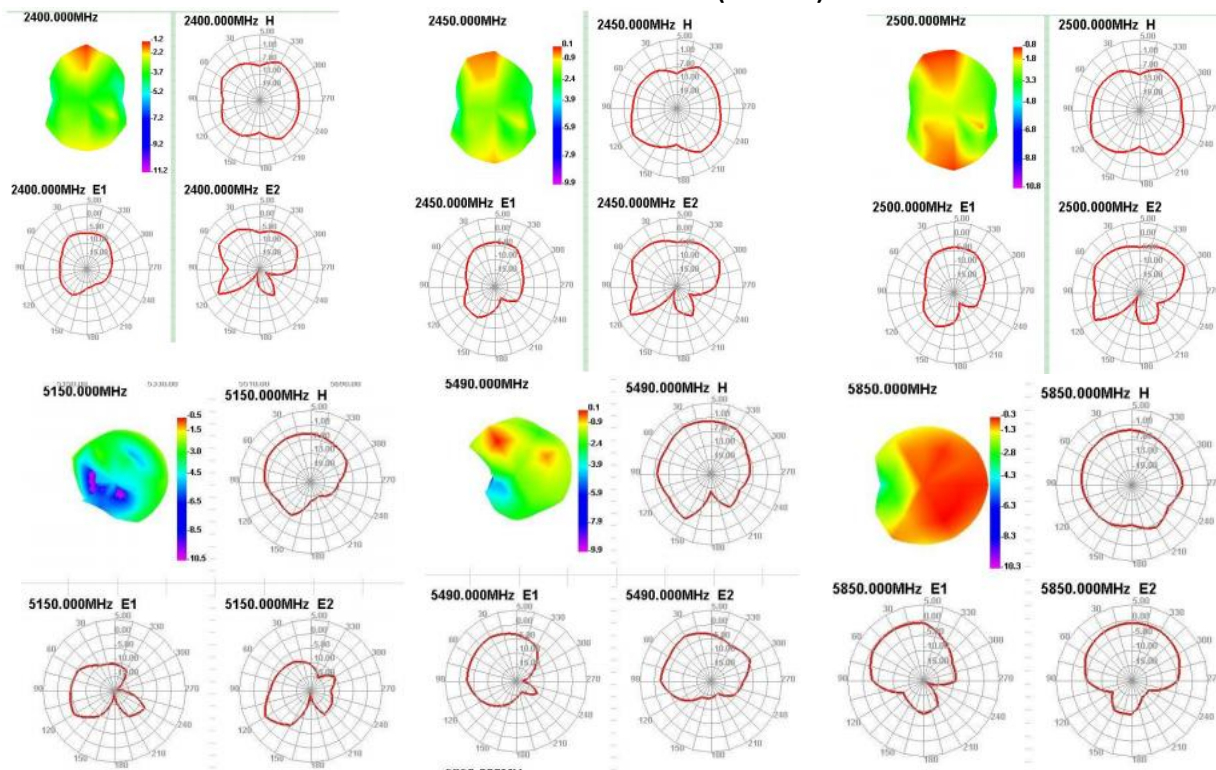
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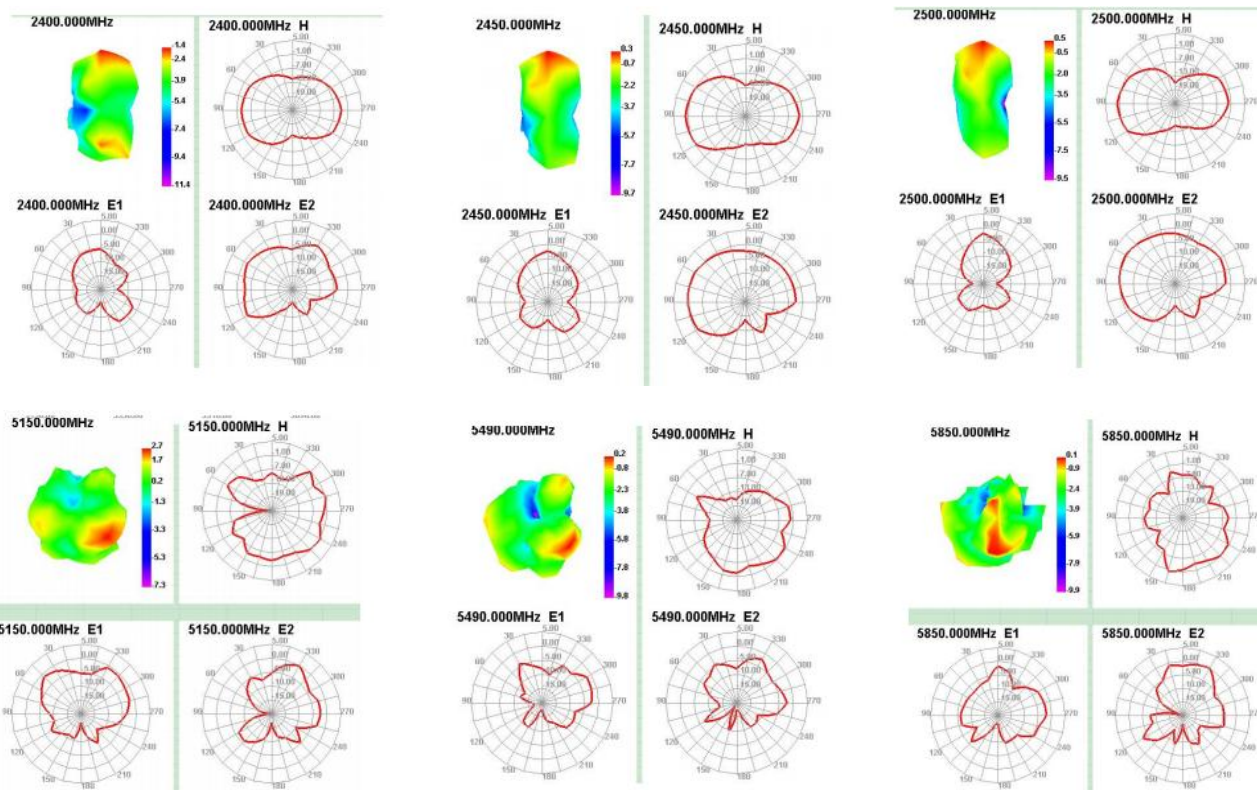
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Radiation Pattern(ANT1)



Radiation Pattern(ANT2)



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WiFi Active Test Data

802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	9.51	CH1 11Mbps	-72.82
	2437	CH6 11Mbps	10.33	CH6 11Mbps	-74.12
	2467	CH11 11Mbps	10.28	CH11 11Mbps	-71.64
802.11a		TRP		TIS	
	5180	CH36 6Mbps	10.11	CH36 54Mbps	-68.36
	5300	CH60 6Mbps	10.24	CH60 54Mbps	-68.54
	5805	CH161 6Mbps	10.35	CH161 54Mbps	-68.29

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Throughput Test (2.4G)

上行		下行																																																																																																																																																																																																																													
图片	<table><thead><tr><th>Interval</th><th>Time</th><th>MBytes</th><th>Mbits/sec</th></tr></thead><tbody><tr><td>[3]</td><td>5.0-6.0 sec</td><td>20.5</td><td>172</td></tr><tr><td>[3]</td><td>6.0-7.0 sec</td><td>16.6</td><td>139</td></tr><tr><td>[3]</td><td>7.0-8.0 sec</td><td>15.5</td><td>130</td></tr><tr><td>[3]</td><td>8.0-9.0 sec</td><td>21.9</td><td>184</td></tr><tr><td>[3]</td><td>9.0-10.0 sec</td><td>21.6</td><td>181</td></tr><tr><td>[3]</td><td>10.0-11.0 sec</td><td>11.9</td><td>99.6</td></tr><tr><td>[3]</td><td>11.0-12.0 sec</td><td>14.4</td><td>121</td></tr><tr><td>[3]</td><td>12.0-13.0 sec</td><td>20.8</td><td>174</td></tr><tr><td>[3]</td><td>13.0-14.0 sec</td><td>24.0</td><td>201</td></tr><tr><td>[3]</td><td>14.0-15.0 sec</td><td>22.5</td><td>189</td></tr><tr><td>[3]</td><td>15.0-16.0 sec</td><td>20.9</td><td>175</td></tr><tr><td>[3]</td><td>16.0-17.0 sec</td><td>22.4</td><td>188</td></tr><tr><td>[3]</td><td>17.0-18.0 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sec	56.2	471	ID	Interval	Transfer	Bandwidth	[152]	21.0-22.0 sec	57.9	486	ID	Interval	Transfer	Bandwidth	[152]	22.0-23.0 sec	57.6	483	ID	Interval	Transfer	Bandwidth	[152]	23.0-24.0 sec	55.9	469	ID	Interval	Transfer	Bandwidth	[152]	24.0-25.0 sec	57.0	478	ID	Interval	Transfer	Bandwidth	[152]	25.0-26.0 sec	55.9	469	ID	Interval	Transfer	Bandwidth	[152]	26.0-27.0 sec	57.8	485	ID	Interval	Transfer	Bandwidth	[152]	27.0-28.0 sec	57.0	478	ID	Interval	Transfer	Bandwidth	[152]	28.0-29.0 sec	55.7	467	ID	Interval	Transfer	Bandwidth	[152]	29.0-30.0 sec	55.4	464	ID	Interval	Transfer	Bandwidth	[152]	0.0-30.0 sec	1.57	450
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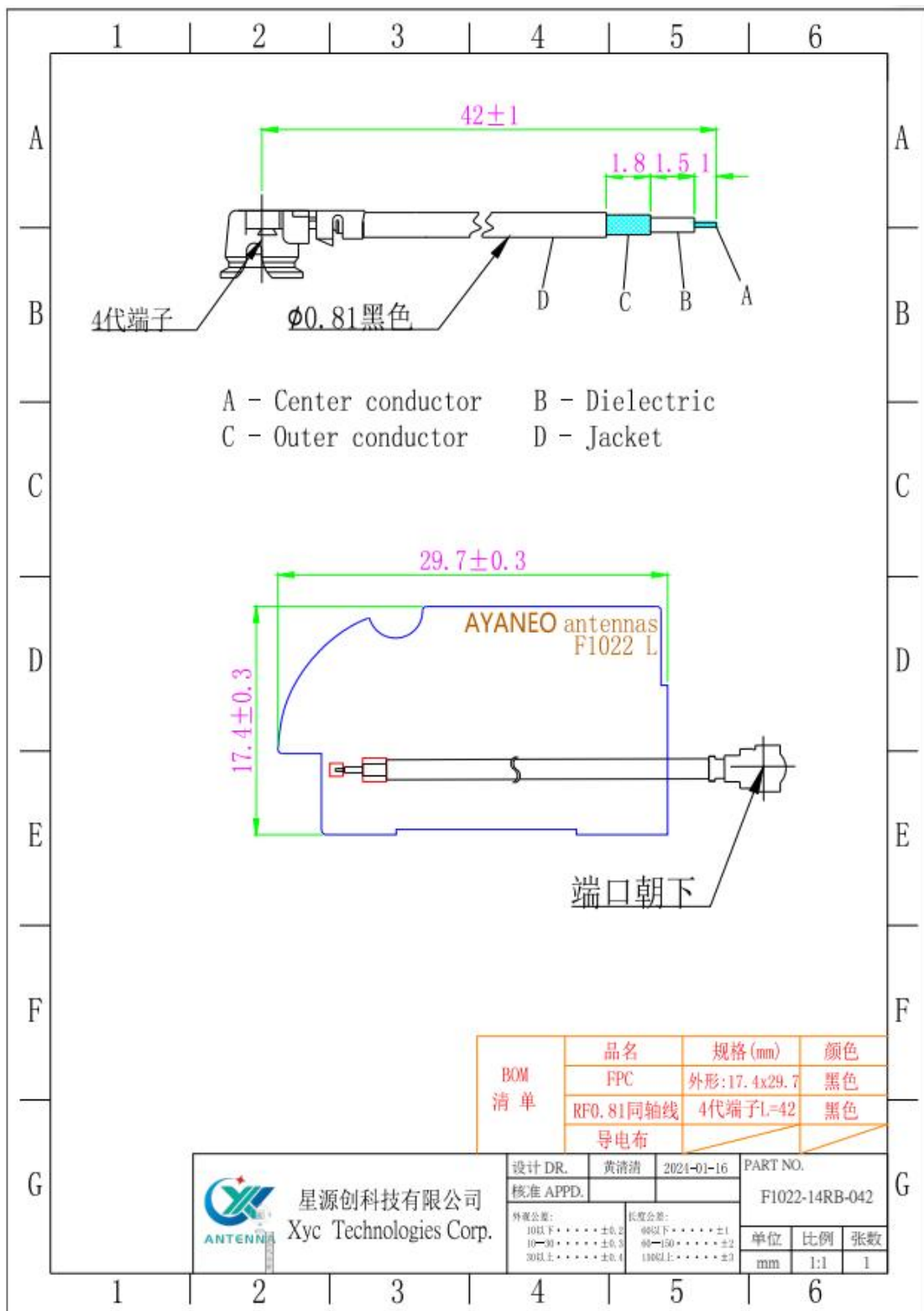
Tel: 0755-82103639 QQ: 487580356 Email: Stephdeng_Vis@126.com



深圳星源创科技有限公司

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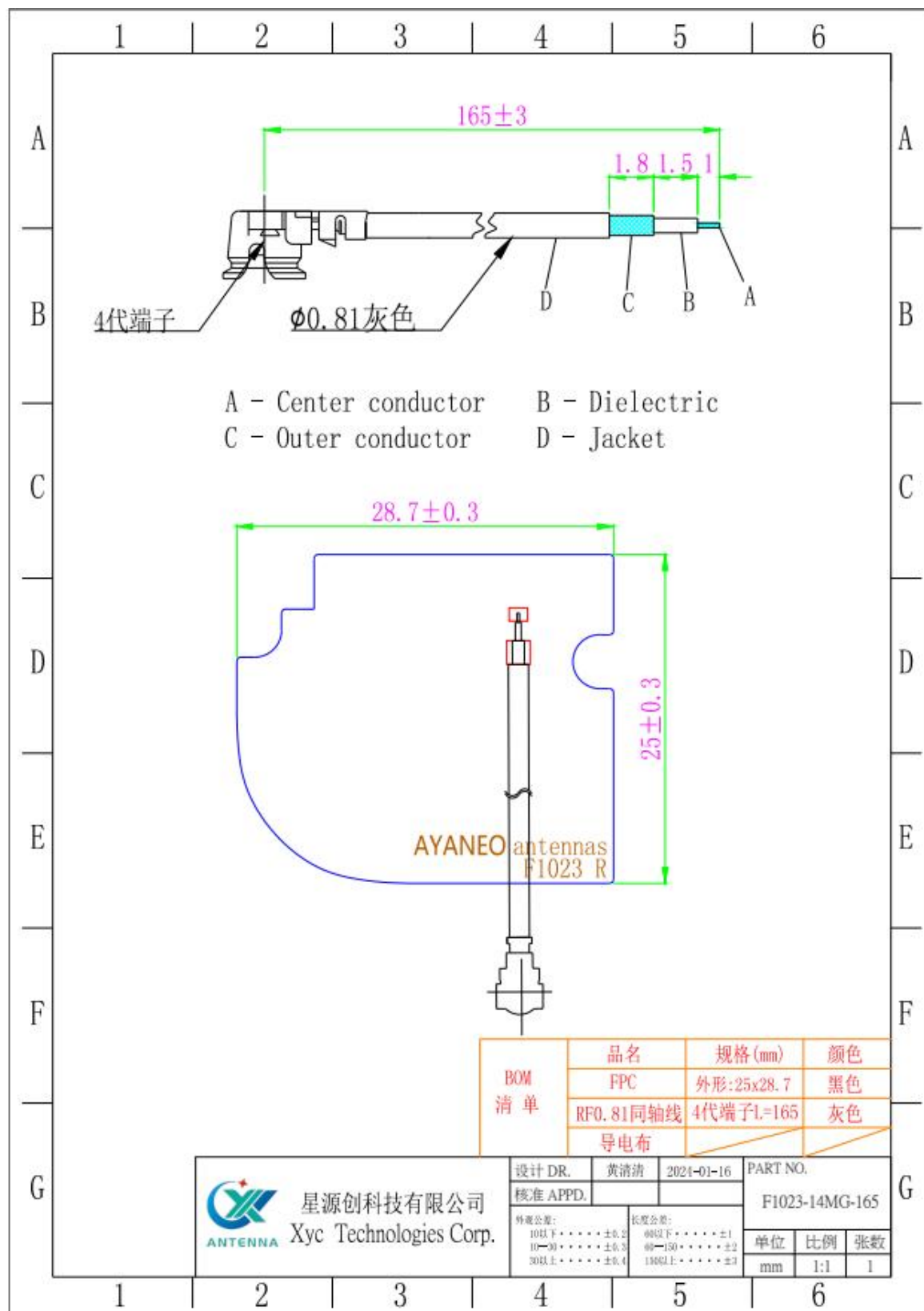
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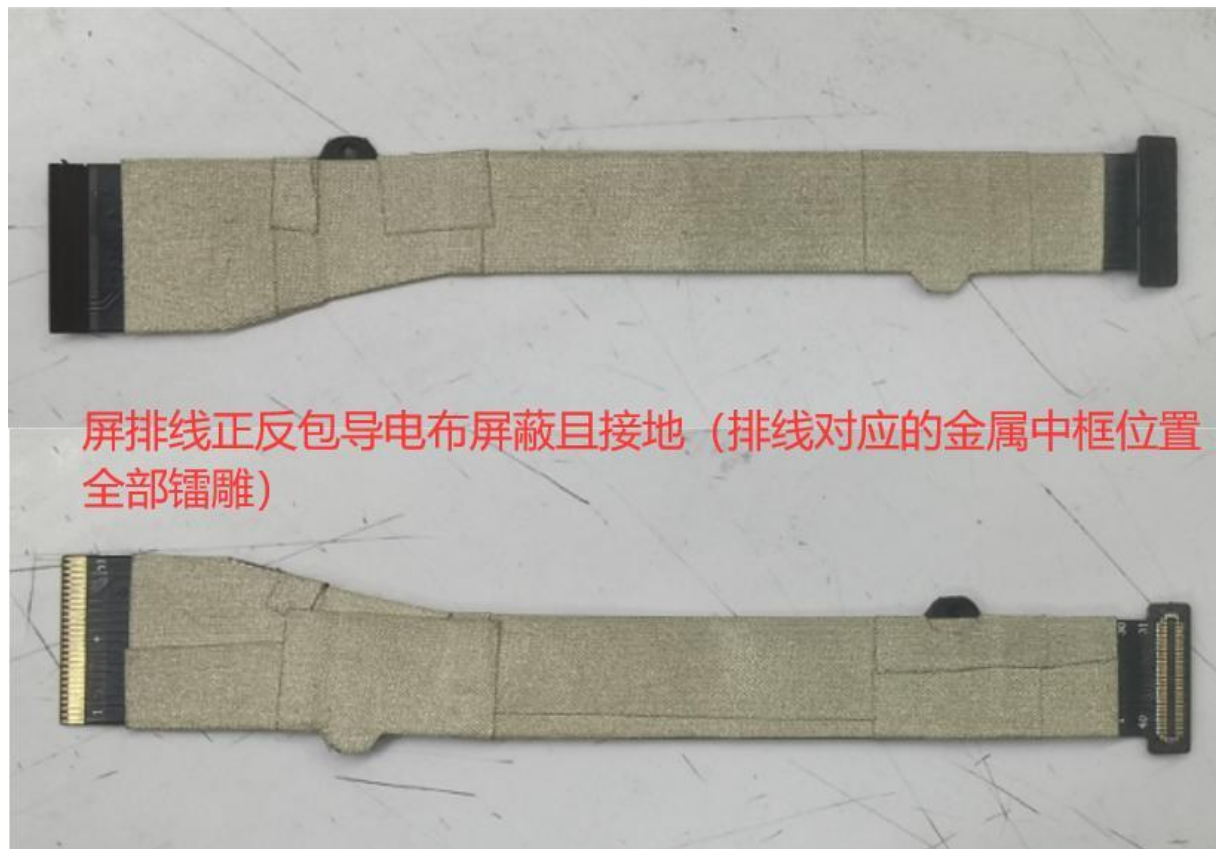


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Notes



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