Approval Sheet

Customer	斯迪乔	Data	2024/08/20
Product	WiFi ANT	Models	HL110YP
P/N	Main: F1136-14RB-260 Aux: F1137-14RG-110	Customer P/N	
Specifications	FPC; Main: RF0.81, L=260mm; Aux: RF0.81, L=110mm		

Vender Approved By	Customer Approved By
深圳市星源创科技有限公司 工程专用章	
Checked By:	Checked By:
Audit By:	Audit By:
Approval By:	Approval By:

Version	Revise The Content	Revused	Approval	Date	Note

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; 5GWiFi
Antenna From	PIFA
Impedance	50Ω
Polarization	Linear
Peak Effi	24%@2.4G; 45%@5G
Peak Gain	0.5dBi@2.4G; 4.7dBi@5G

1.2 Physical Properties

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

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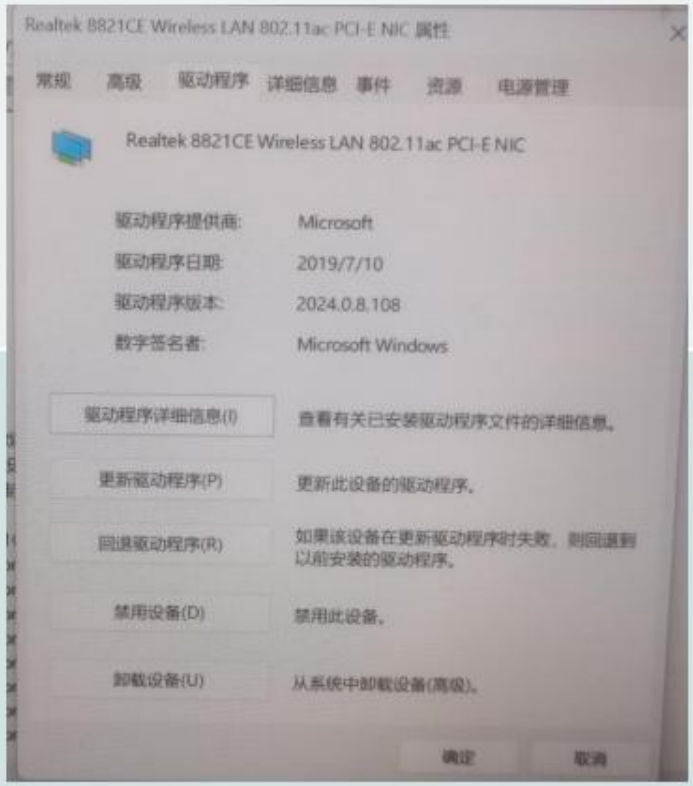
WiFi Ant Test Information

Frequency	2.4G(2402~2483)Mhz	5G(5150~5850)Mhz
Module information		
Driver version information		

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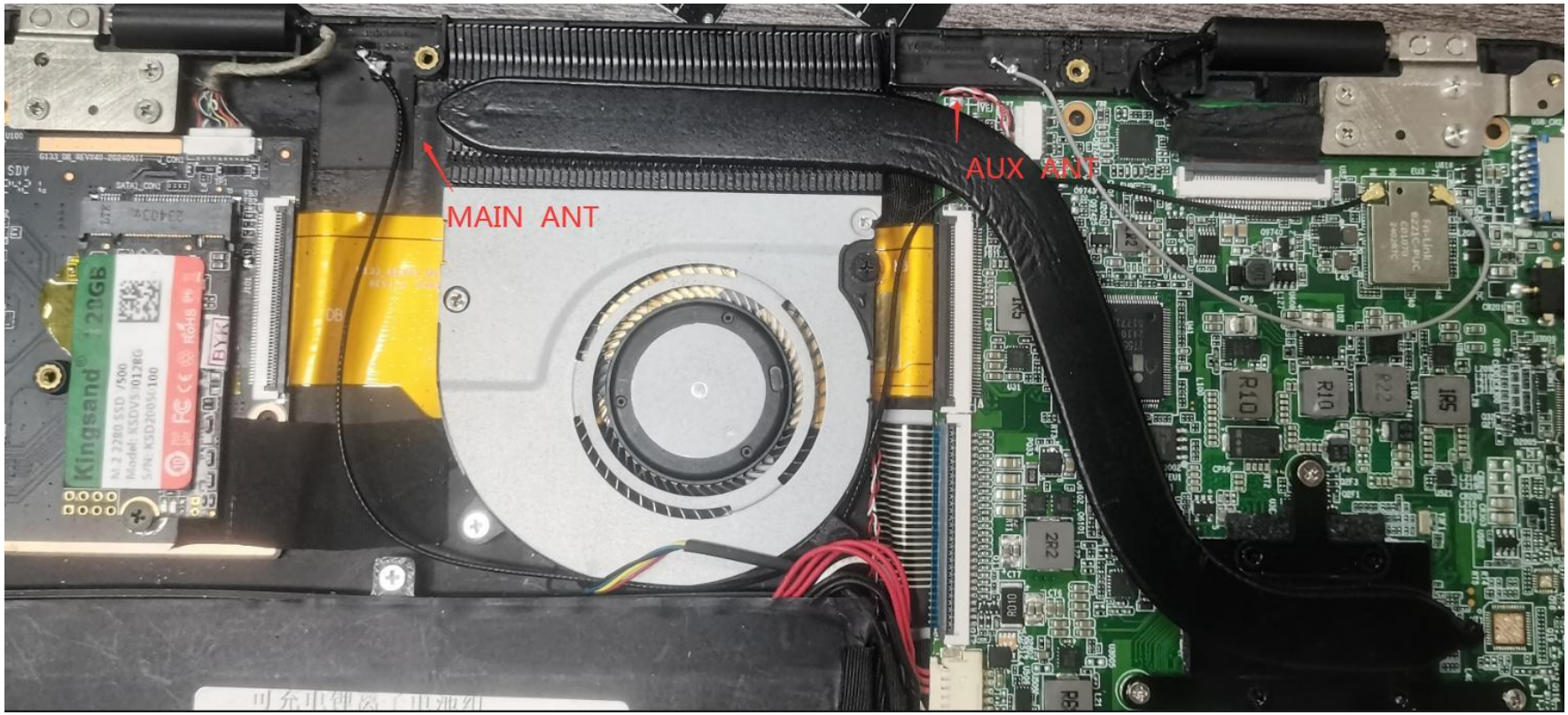
Antenna Placement



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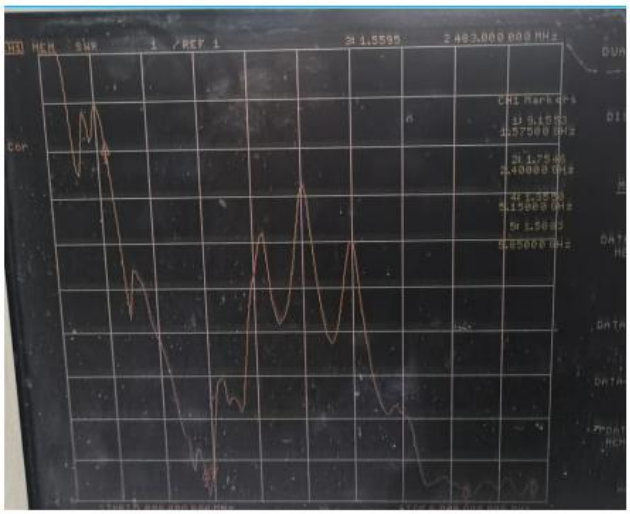
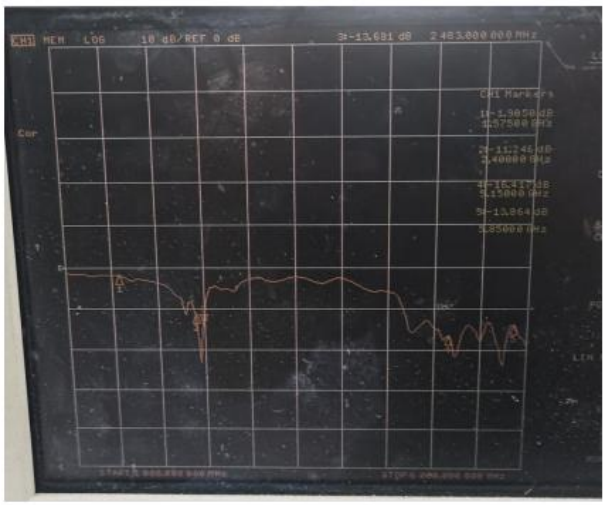
Test Data

S11 Parameter-VSWR(Ant 1)





Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.75	1.55	1.35	1.50
Return Loss (DB)	-11.20	-13.80	-16.41	-13.86

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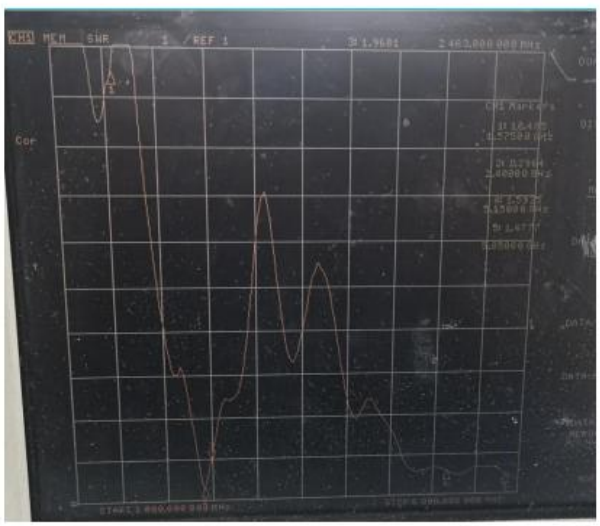
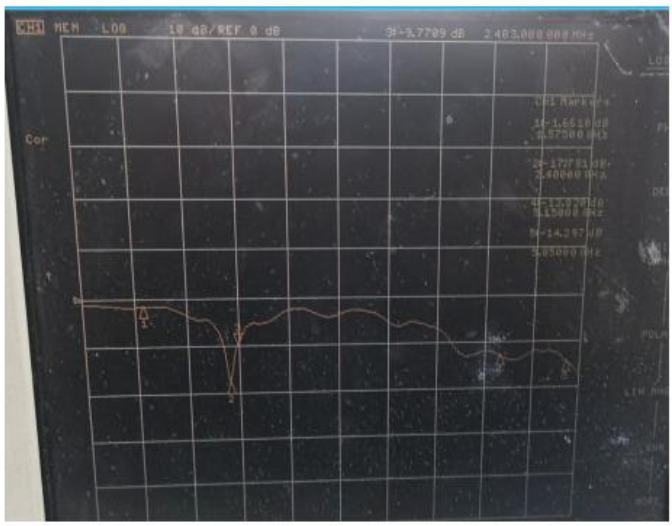
S11 Parameter-VSWR(Ant 2)





Frequency (MHZ)	2400	2400	2483	5150	5500	5850
VSWR	1.29		1.96	1.59		1.47
Return Loss (DB)	-17.70		-9.77	-12.82		-14.29

WiFi Active Test Data

	Frequency	TRP		TIS(亮屏)	
802.11b	2412	CH1 11Mbps	11.66	CH1 11Mbps	-67.16
	2437	CH6 11Mbps	11.89	CH6 11Mbps	-63.95
	2467	CH11 11Mbps	11.75	CH11 11Mbps	-63.84
802.11a		TRP		TIS	
	5180	CH36 6Mbps	12.41	CH36 54Mbps	-64.88
	5300	CH60 6Mbps	12.32	CH60 54Mbps	-62.94
	5805	CH161 6Mbps	13.87	CH161 54Mbps	-64.61

BT Test

测试环境：开放空间(通道)
测试工具：蓝牙音响
测试距离：10m
结果：播放音乐流畅，无杂音。

Efficiency Table（2.4G Ant1）

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	22.01	-7.69	-1.98	-4.13	6.496	10.511	-1.98	-18.22	5.71	90	45.78	46.01
2410	22.06	-7.68	-2.18	-4.33	6.473	10.583	-2.18	-18.35	5.5	150	46.01	46.29
2420	23.42	-7.35	-2.11	-4.26	6.887	11.529	-2.11	-18.17	5.24	150	45.73	46
2430	23.75	-7.27	-2.42	-4.57	6.848	11.904	-2.42	-18.42	4.85	150	46.01	46.36
2440	24.6	-7.08	-2.36	-4.51	6.946	12.65	-2.36	-18.05	4.72	150	46.12	46.48
2450	24.61	-7.08	-1.9	-4.05	6.84	12.769	-1.9	-17.36	5.17	150	46.12	46.54
2460	23.34	-7.37	-2.15	-4.3	6.299	12.043	-2.15	-17.51	5.22	60	46.14	46.52
2470	24.19	-7.17	-1.84	-3.99	6.541	12.646	-1.84	-17.93	5.33	60	46.4	46.8
2480	24.63	-7.07	-1.74	-3.89	6.662	12.97	-1.74	-18.64	5.33	60	46.26	46.64
2490	23.44	-7.34	-1.75	-3.9	6.073	12.368	-1.75	-21.39	5.59	0	46.51	46.91
2500	20.39	-8.13	-2.6	-4.75	4.999	10.388	-2.6	-23.71	5.52	0	46.47	46.86

Efficiency Table（2.4G Ant2）

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	22.93	-7.47	0.12	-2.03	12.231	5.694	0.12	-17.53	7.59	0	45.78	46.01
2410	21.92	-7.72	-0.14	-2.29	11.602	5.313	-0.14	-18.32	7.58	0	46.01	46.29
2420	22.54	-7.56	0.06	-2.09	12.085	5.454	0.06	-17.52	7.62	0	45.73	46
2430	21.95	-7.71	-0.04	-2.19	11.79	5.161	-0.04	-18.52	7.66	0	46.01	46.36
2440	21.06	-7.94	-0.26	-2.41	11.2	4.858	-0.26	-22.55	7.69	0	46.12	46.48
2450	21.2	-7.9	-0.16	-2.31	11.265	4.934	-0.16	-23.59	7.74	30	46.12	46.54
2460	21.81	-7.74	0.01	-2.14	11.747	5.066	0.01	-22.15	7.75	30	46.14	46.52
2470	20.87	-7.99	-0.17	-2.32	11.209	4.664	-0.17	-19.3	7.82	30	46.4	46.8
2480	21.37	-7.86	0.09	-2.06	11.526	4.848	0.09	-17.69	7.94	30	46.26	46.64
2490	22.57	-7.55	0.55	-1.6	12.289	5.28	0.55	-17.18	8.1	30	46.51	46.91
2500	21.46	-7.84	0.44	-1.71	11.551	4.911	0.44	-16.74	8.27	30	46.47	46.86

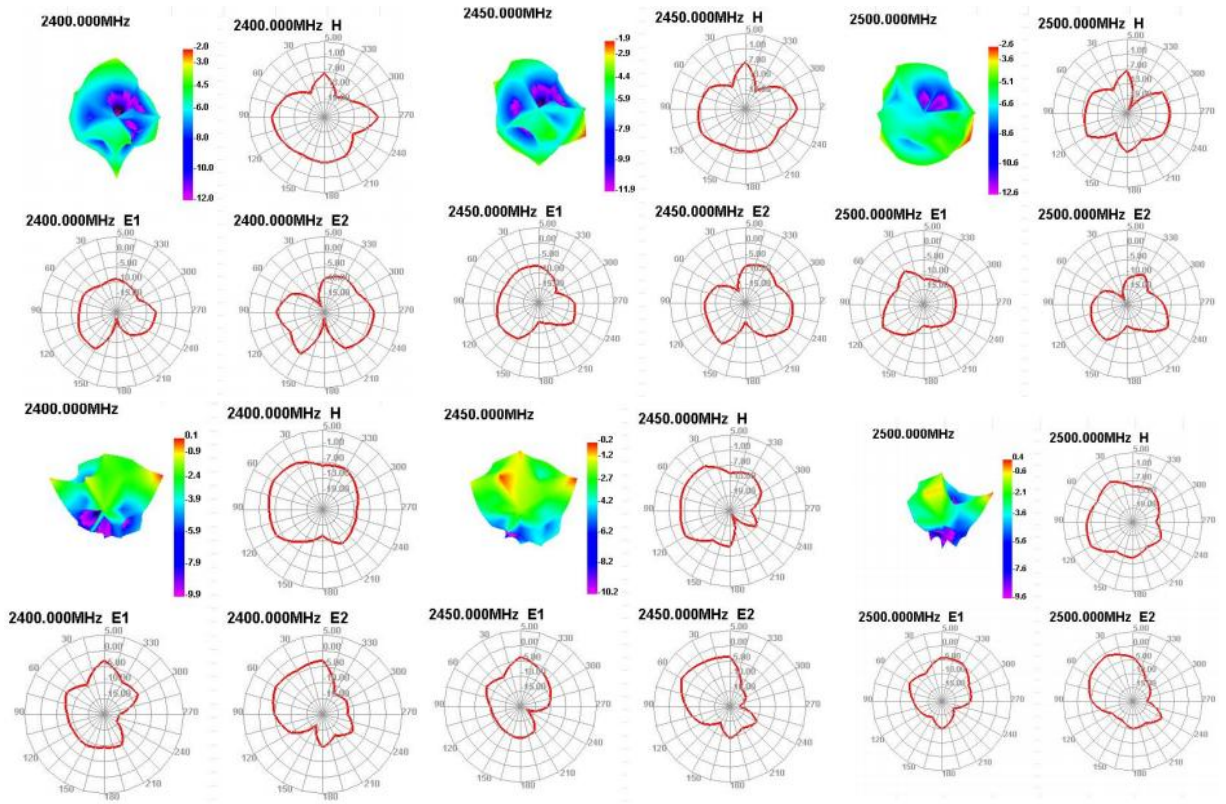
Efficiency Table（5G Ant1）

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	29.76	-5.26	0.15	-2	14.82	14.943	0.15	-15.41	5.41	0	49.82	49.4
5170	33.71	-4.72	0.63	-1.52	17.034	16.68	0.63	-15.68	5.35	0	50.13	49.77
5190	32.27	-4.91	0.54	-1.61	16.574	15.697	0.54	-17.29	5.45	0	50.42	49.95
5210	35.89	-4.45	1.09	-1.06	18.299	17.596	1.09	-15.62	5.54	0	50.88	50.49
5230	31.34	-5.04	0.68	-1.47	15.791	15.549	0.68	-13.14	5.71	0	50.42	50.08
5250	33.27	-4.78	0.59	-1.56	16.882	16.384	0.59	-13.16	5.37	0	51.02	50.72
5270	31.81	-4.97	-0.21	-2.36	16.334	15.476	-0.21	-13.11	4.77	0	50.85	50.6
5290	31.09	-5.07	-0.57	-2.72	15.933	15.153	-0.57	-12.58	4.5	0	51.34	51.12
5310	26.02	-5.85	-0.49	-2.64	13.433	12.589	-0.49	-14.66	5.36	0	50.44	50.36
5330	26.88	-5.71	-0.2	-2.35	14.341	12.541	-0.2	-13.6	5.51	30	51.08	51.01
5350	28.3	-5.48	-0.62	-2.77	15.136	13.159	-0.62	-12.25	4.86	30	51.02	51.01
5370	30.21	-5.2	-0.03	-2.18	15.804	14.402	-0.03	-12.93	5.17	0	50.91	50.95
5390	28.05	-5.52	-0.68	-2.83	14.264	13.789	-0.68	-13.56	4.84	0	50.46	50.43
5410	37.12	-4.3	1.05	-1.1	18.414	18.706	1.05	-13.08	5.35	0	51.18	51.09
5430	35.49	-4.5	1.47	-0.68	17.277	18.21	1.47	-14.83	5.97	0	50.69	50.7
5450	42.96	-3.67	2.83	0.68	20.567	22.392	2.83	-13.13	6.5	0	50.71	50.85
5470	41.96	-3.77	3.1	0.95	19.63	22.328	3.1	-13.99	6.87	0	50.93	50.83
5490	43.03	-3.66	3.61	1.46	19.516	23.515	3.61	-15.09	7.27	0	50.92	50.79
5510	44.33	-3.53	4.01	1.86	19.496	24.834	4.01	-14.05	7.54	0	51.18	51.16
5530	43.98	-3.57	4.06	1.91	18.938	25.04	4.06	-13.75	7.63	0	51.44	51.3
5550	45.41	-3.43	4.34	2.19	19.325	26.084	4.34	-17.35	7.77	0	51.89	51.76
5570	36.3	-4.4	3.27	1.12	15.422	20.88	3.27	-20.9	7.67	0	51.42	51.33
5590	38.17	-4.18	3.49	1.34	16.211	21.956	3.49	-17.41	7.68	0	51.71	51.76
5610	29.73	-5.27	2.2	0.05	12.72	17.011	2.2	-18.58	7.47	0	51.17	51.22
5630	35.14	-4.54	2.66	0.51	15.002	20.142	2.66	-15.62	7.2	0	51.78	51.77
5650	23.51	-6.29	0.44	-1.71	10.064	13.447	0.44	-17.87	6.73	0	51.47	51.55
5670	30.51	-5.16	1.08	-1.07	13.153	17.355	1.08	-16.42	6.24	0	52.12	52.28
5690	23.27	-6.33	-0.88	-3.03	10.061	13.208	-0.88	-18.16	5.45	0	52.12	52.25
5710	27.97	-5.53	-0.42	-2.57	12.098	15.871	-0.42	-18.78	5.12	0	51.95	52.05
5730	25.06	-6.01	-1	-3.15	10.727	14.328	-1	-21.81	5.01	0	51.59	51.69
5750	24.46	-6.11	-0.82	-2.97	10.724	13.738	-0.82	-19.94	5.3	0	51.12	51.15
5770	25.42	-5.95	0	-2.15	11.343	14.077	0	-19.31	5.95	60	51.02	51.06
5790	25.06	-6.01	0.47	-1.68	11.288	13.773	0.47	-19.85	6.48	60	51.08	51.16
5810	26.35	-5.79	-0.11	-2.26	11.703	14.648	-0.11	-20.39	5.68	60	51.36	51.43
5830	26.22	-5.81	-0.83	-2.98	11.441	14.784	-0.83	-22.57	4.99	60	51.65	51.66
5850	28.21	-5.5	-0.6	-2.75	12.173	16.032	-0.6	-19.82	4.89	60	51.88	52.05

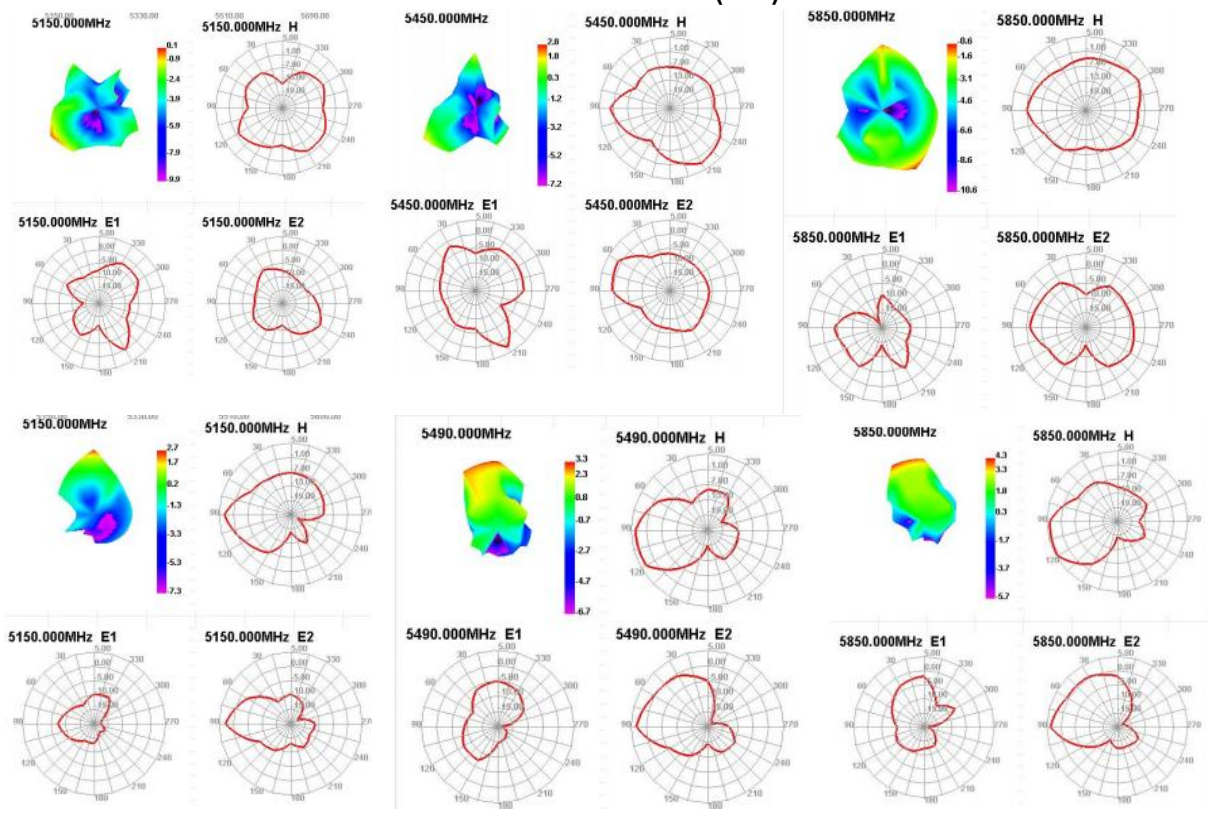
Efficiency Table（5G Ant2）

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	16.84	-7.74	2.74	0.59	9.772	7.069	2.74	-21.98	10.48	30	49.82	49.4
5170	18.69	-7.28	3.17	1.02	10.902	7.791	3.17	-23.84	10.46	60	50.13	49.77
5190	20.78	-6.82	3.8	1.65	12.205	8.572	3.8	-23.51	10.62	30	50.42	49.95
5210	23.14	-6.36	4.11	1.96	13.983	9.162	4.11	-21.61	10.47	30	50.88	50.49
5230	22.22	-6.53	3.9	1.75	13.814	8.406	3.9	-22.29	10.44	60	50.42	50.08
5250	25.08	-6.01	4.31	2.16	16.018	9.063	4.31	-21.47	10.32	60	51.02	50.72
5270	24.76	-6.06	3.75	1.6	16.171	8.584	3.75	-20.97	9.81	60	50.85	50.6
5290	27.19	-5.66	3.98	1.83	17.9	9.288	3.98	-19.23	9.64	30	51.34	51.12
5310	24.74	-6.07	3.2	1.05	16.478	8.264	3.2	-21.09	9.26	150	50.44	50.36
5330	25.67	-5.91	3.27	1.12	17.239	8.432	3.27	-20.29	9.18	150	51.08	51.01
5350	27.93	-5.54	3.63	1.48	18.846	9.089	3.63	-18.47	9.17	150	51.02	51.01
5370	26.54	-5.76	3.36	1.21	17.73	8.814	3.36	-18.2	9.12	60	50.91	50.95
5390	24.44	-6.12	3.34	1.19	16.051	8.384	3.34	-20.93	9.46	30	50.46	50.43
5410	27.84	-5.55	4.03	1.88	18.432	9.407	4.03	-19.54	9.59	30	51.18	51.09
5430	26.99	-5.69	4.08	1.93	17.92	9.075	4.08	-19.95	9.77	30	50.69	50.7
5450	28.94	-5.38	4.23	2.08	19.252	9.688	4.23	-23.97	9.61	30	50.71	50.85
5470	27.41	-5.62	3.44	1.29	18.492	8.922	3.44	-27.14	9.06	60	50.93	50.83
5490	28.58	-5.44	3.26	1.11	19.533	9.046	3.26	-20.73	8.7	60	50.92	50.79
5510	29.7	-5.27	2.95	0.8	20.453	9.245	2.95	-20.72	8.23	60	51.18	51.16
5530	30.93	-5.1	3.36	1.21	21.101	9.831	3.36	-19.53	8.45	60	51.44	51.3
5550	31.63	-5	3.65	1.5	21.688	9.939	3.65	-20.12	8.65	90	51.89	51.76
5570	29.54	-5.3	3.43	1.28	20.632	8.912	3.43	-22.46	8.73	90	51.42	51.33
5590	31.49	-5.02	3.78	1.63	22.254	9.237	3.78	-23.02	8.8	30	51.71	51.76
5610	30.31	-5.18	3.71	1.56	21.564	8.746	3.71	-22.53	8.89	30	51.17	51.22
5630	31.62	-5	4.07	1.92	22.255	9.366	4.07	-23.53	9.07	30	51.78	51.77
5650	30.86	-5.11	4.23	2.08	21.388	9.476	4.23	-22.91	9.33	30	51.47	51.55
5670	31.75	-4.98	4.46	2.31	21.969	9.777	4.46	-22.34	9.45	30	52.12	52.28
5690	32.52	-4.88	4.5	2.35	22.262	10.26	4.5	-25.88	9.38	30	52.12	52.25
5710	31.75	-4.98	4.3	2.15	21.487	10.262	4.3	-24.07	9.29	30	51.95	52.05
5730	34.1	-4.67	4.61	2.46	22.813	11.287	4.61	-23.35	9.28	30	51.59	51.69
5750	30.99	-5.09	4.38	2.23	20.685	10.301	4.38	-24.54	9.46	30	51.12	51.15
5770	32.25	-4.91	4.72	2.57	21.621	10.63	4.72	-23.51	9.64	30	51.02	51.06
5790	29.7	-5.27	4.49	2.34	19.745	9.953	4.49	-24.87	9.76	30	51.08	51.16
5810	30.92	-5.1	4.7	2.55	20.526	10.394	4.7	-24.3	9.8	30	51.36	51.43
5830	29.64	-5.28	4.37	2.22	19.824	9.819	4.37	-20.96	9.65	30	51.65	51.66
5850	31.22	-5.06	4.32	2.17	21.066	10.154	4.32	-20.51	9.38	30	51.88	52.05

Radiation Pattern(2.4G)

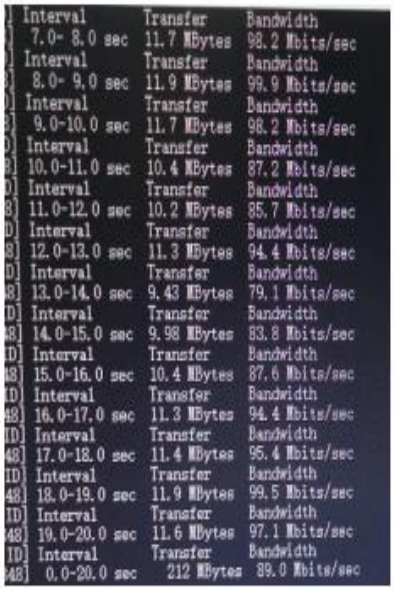


Radiation Pattern(5G)



Address:1506,Tangwei Business Building,Fuhai Street,Fuyong Town,Baoan District,Shenzhen
Tel：0755-82103639 QQ：487580356 Email：Stephdeng_Vis@126.com

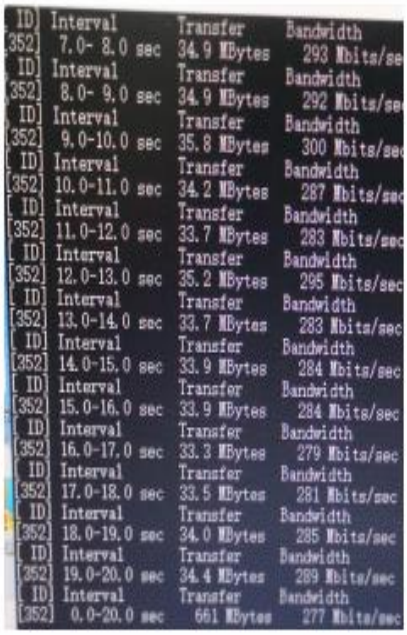
Throughput Test(2.4G)

上行	89.0M	下行	80.1M
图片		图片	

[ID] Interval Transfer Bandwidth
[3] 7.0- 8.0 sec 11.7 MBytes 98.2 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 8.0- 9.0 sec 11.9 MBytes 99.9 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 9.0-10.0 sec 11.7 MBytes 98.2 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 10.0-11.0 sec 10.4 MBytes 87.2 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 11.0-12.0 sec 10.2 MBytes 85.7 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 12.0-13.0 sec 11.3 MBytes 94.4 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 13.0-14.0 sec 9.43 MBytes 79.1 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 14.0-15.0 sec 9.98 MBytes 83.8 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 15.0-16.0 sec 10.4 MBytes 87.6 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 16.0-17.0 sec 11.3 MBytes 94.4 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 17.0-18.0 sec 11.4 MBytes 95.4 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 18.0-19.0 sec 11.9 MBytes 99.5 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 19.0-20.0 sec 11.6 MBytes 97.1 Mbits/sec
[ID] Interval Transfer Bandwidth
[3] 0.0-20.0 sec 212 MBytes 89.0 Mbits/sec

[ID] Interval Transfer Bandwidth
[360] 7.0- 8.0 sec 9.68 MBytes 81.2 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 8.0- 9.0 sec 9.70 MBytes 81.4 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 9.0-10.0 sec 9.75 MBytes 81.8 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 10.0-11.0 sec 9.66 MBytes 81.0 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 11.0-12.0 sec 10.4 MBytes 87.2 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 12.0-13.0 sec 9.32 MBytes 78.2 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 13.0-14.0 sec 9.45 MBytes 79.3 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 14.0-15.0 sec 8.79 MBytes 73.7 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 15.0-16.0 sec 8.59 MBytes 72.0 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 16.0-17.0 sec 10.2 MBytes 85.4 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 17.0-18.0 sec 10.3 MBytes 86.5 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 18.0-19.0 sec 8.21 MBytes 68.9 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 19.0-20.0 sec 7.84 MBytes 65.7 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 0.0-20.0 sec 191 MBytes 80.1 Mbits/sec

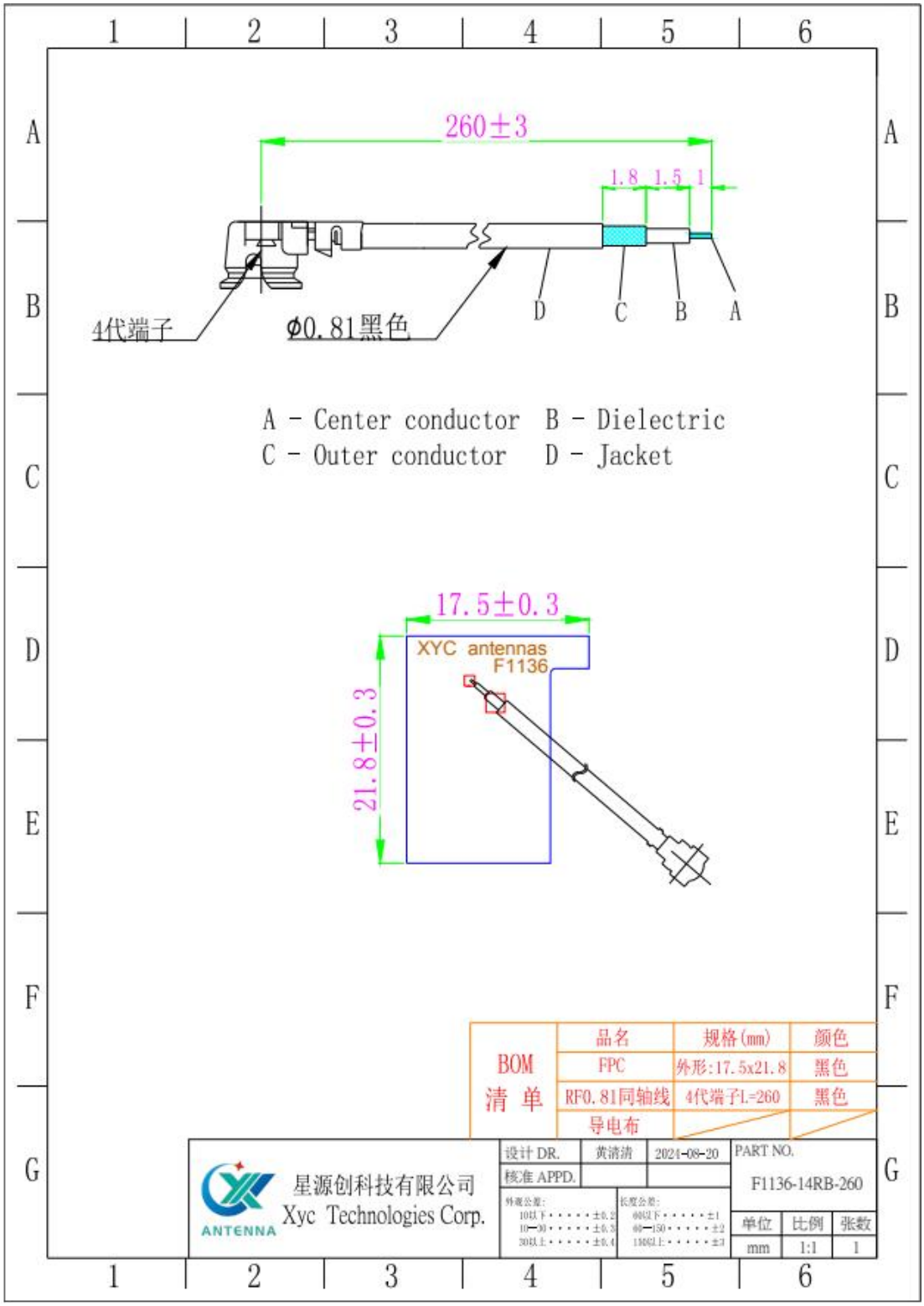
Throughput Test(5G)

上行	230M	下行	277M
图片		图片	

[360] 7.0- 8.0 sec 27.5 MBytes 231 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 8.0- 9.0 sec 28.0 MBytes 235 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 9.0-10.0 sec 28.4 MBytes 238 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 10.0-11.0 sec 28.1 MBytes 236 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 11.0-12.0 sec 28.1 MBytes 235 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 12.0-13.0 sec 28.3 MBytes 237 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 13.0-14.0 sec 28.0 MBytes 235 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 14.0-15.0 sec 27.9 MBytes 234 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 15.0-16.0 sec 28.1 MBytes 235 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 16.0-17.0 sec 28.5 MBytes 239 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 17.0-18.0 sec 28.1 MBytes 236 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 18.0-19.0 sec 26.6 MBytes 223 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 19.0-20.0 sec 27.3 MBytes 229 Mbits/sec
[ID] Interval Transfer Bandwidth
[360] 0.0-20.0 sec 548 MBytes 230 Mbits/sec

[ID] Interval Transfer Bandwidth
[352] 7.0- 8.0 sec 34.9 MBytes 293 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 8.0- 9.0 sec 34.9 MBytes 292 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 9.0-10.0 sec 35.8 MBytes 300 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 10.0-11.0 sec 34.2 MBytes 287 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 11.0-12.0 sec 33.7 MBytes 283 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 12.0-13.0 sec 35.2 MBytes 295 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 13.0-14.0 sec 33.7 MBytes 283 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 14.0-15.0 sec 33.9 MBytes 284 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 15.0-16.0 sec 33.9 MBytes 284 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 16.0-17.0 sec 33.3 MBytes 279 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 17.0-18.0 sec 33.5 MBytes 281 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 18.0-19.0 sec 34.0 MBytes 285 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 19.0-20.0 sec 34.4 MBytes 289 Mbits/se
[ID] Interval Transfer Bandwidth
[352] 0.0-20.0 sec 661 MBytes 277 Mbits/se

Antenna Assembly



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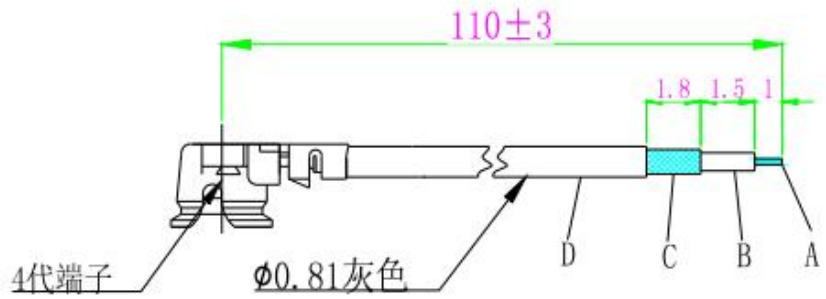
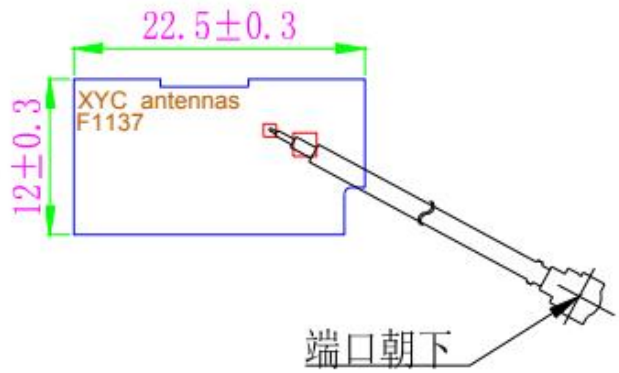


A - Center conductor B - Dielectric
C - Outer conductor D - Jacket



BOM 清单	品名	规格(mm)	颜色
	FPC	外形:12x22.5	黑色
	RF0.81同轴线	4代端子L=110	灰色
	导电布		

星源创科技有限公司 Xyc Technologies Corp.	设计 DR. 黄清清 2021-08-20	PART NO. F1137-14RG-110	
	核准 APPD.	单位 mm	比例 1:1
	外观公差: 10以下·····±0.2; 10—30·····±0.3; 30以上·····±0.4	长度公差: 60以下·····±1; 60—150·····±2; 150以上·····±3	张数 1

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