



Approval Sheet

Customer	Gong Ke	Data	2022/10/17		
Product	WiFi Antennas	Models	AB03		
P/N	Main:F615-14LB-152 Aux:F614-14RB-142	Customer P/N			
规格描述 Specifications	Black FPC; Main: RF0.81 IPEX-IV Black Line;Long=152mm; Aux:RF0.81 IPEX-IV Black Line;Long=142mm;				



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Specification

1.1 Electrical Properties

Characteristics	Specifications
Working Band	2.4GWiFi; 5GWiFi
Antenna From	PIFA
Impedance	50 Ω
Polarization	Linear
Peak Effi	47%@2.4G; 54%@5G

1.2 Physical Properties

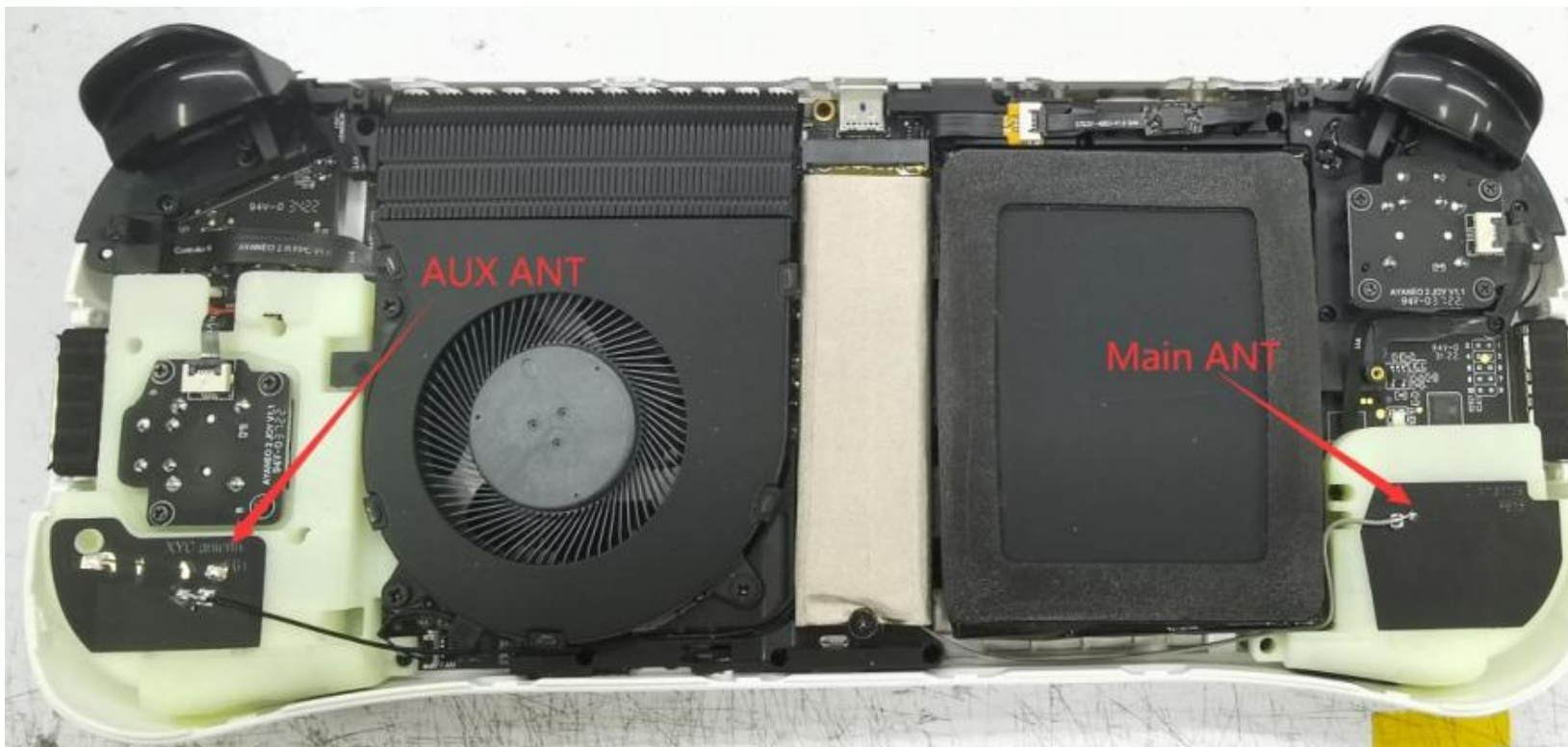
Characteristics	Specifications
Operating Temp	-10°C ~+60°C
Storage Temp	-10°C ~+70°C
Humidity	10~95%RH



WiFi Ant Test Information

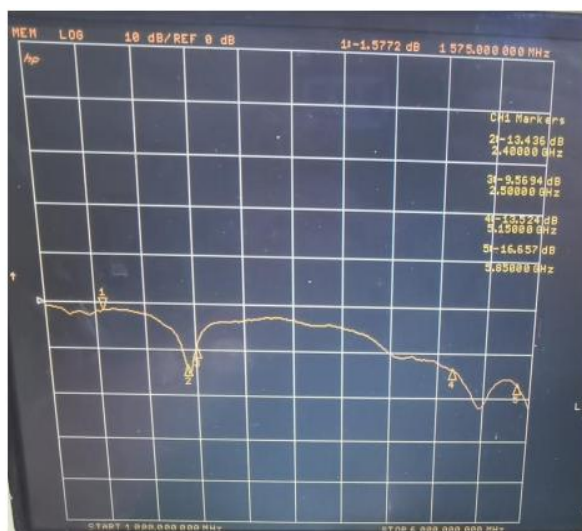
Frequency	2.4G (2402~2483) Mhz	5G (5150~5850) Mhz
Module information		

Antenna Placement

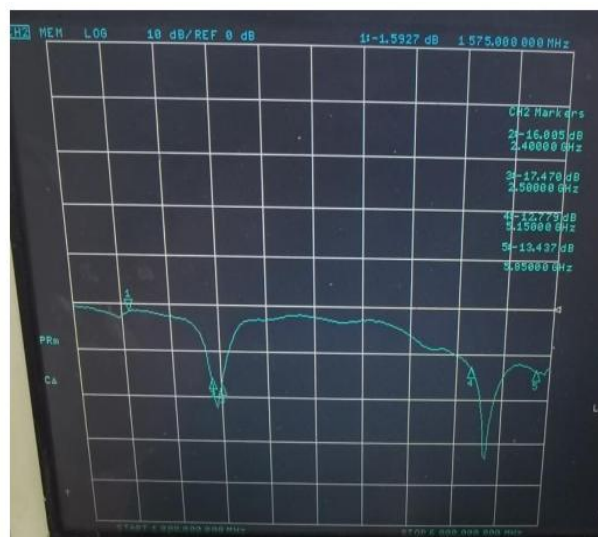


Test Data

S11 Parameter-VSWR



Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.54	1.99	1.53	1.34
Return Loss (DB)	-13.43	-9.56	-13.52	-16.65



Frequency (MHZ)	2400	2500	5150	5850
VSWR	1.37	1.30	1.59	1.54
Return Loss (DB)	-16.00	-17.47	-12.77	-13.43



WiFi Active Test Data

802.11b	Frequency	TRP		TIS	
	2412	CH1 11Mbps	11.54	CH1 11Mbps	-77.56
	2437	CH6 11Mbps	11.27	CH6 11Mbps	-77.53
	2467	CH11 11Mbps	10.44	CH11 11Mbps	-77.37
802.11a	TRP			TIS	
	5180	CH36 6Mbps	10.52	CH36 54Mbps	-71.24
	5300	CH60 6Mbps	10.53	CH60 54Mbps	-71.32
	5805	CH161 6Mbps	10.55	CH161 54Mbps	-71.25

Efficiency Table (2.4G)

Passive Test For WIFI2.4 Main ANT2												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	36.37	-4.39	0.71	-1.44	22.678	13.696	0.71	-14.86	5.11	60	45.78	46.01
2410	34.64	-4.6	0.67	-1.48	21.562	13.078	0.67	-14.64	5.27	60	46.01	46.29
2420	37.71	-4.24	1.19	-0.96	23.504	14.204	1.19	-14.74	5.43	60	45.73	46.01
2430	40.99	-3.87	1.57	-0.58	25.541	15.448	1.57	-14.45	5.44	60	46.01	46.36
2440	43.62	-3.6	1.81	-0.34	27.318	16.299	1.81	-15.29	5.41	60	46.12	46.48
2450	43.31	-3.63	1.7	-0.45	27.352	15.956	1.7	-16.33	5.34	60	46.12	46.54
2460	42.66	-3.7	1.62	-0.53	27.168	15.495	1.62	-17.29	5.32	60	46.14	46.52
2470	45.25	-3.44	1.87	-0.28	29.024	16.23	1.87	-17.17	5.31	60	46.4	46.8
2480	47.11	-3.27	2.06	-0.09	30.4	16.705	2.06	-16.03	5.33	60	46.26	46.64
2490	46.63	-3.31	2.19	0.04	30.262	16.371	2.19	-14.92	5.51	60	46.51	46.91
2500	41.57	-3.81	1.87	-0.28	27.055	14.511	1.87	-14.48	5.68	60	46.47	46.86

Passive Test For WIFI2.4 AUX ANT1												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
2400	27.46	-5.61	-0.84	-2.99	14.583	12.878	-0.84	-22.09	4.78	30	45.78	46.01
2410	24.93	-6.03	-1.23	-3.38	13.397	11.53	-1.23	-21.89	4.8	30	46.01	46.29
2420	27.25	-5.65	-0.78	-2.93	14.751	12.499	-0.78	-20.34	4.87	60	45.73	46.01
2430	30.1	-5.21	-0.22	-2.37	16.388	13.714	-0.22	-18.95	5	60	46.01	46.36
2440	30.89	-5.1	-0.15	-2.3	16.928	13.96	-0.15	-17.91	4.96	60	46.12	46.48
2450	29.64	-5.28	-0.46	-2.61	16.235	13.409	-0.46	-17.69	4.82	60	46.12	46.54
2460	31.67	-4.99	-0.26	-2.41	17.334	14.34	-0.26	-17.84	4.73	60	46.14	46.52
2470	35.53	-4.49	0.13	-2.02	19.531	15.998	0.13	-18.5	4.62	30	46.4	46.8
2480	37.09	-4.31	0.23	-1.92	20.464	16.624	0.23	-19.6	4.53	60	46.26	46.64
2490	36.99	-4.32	0.18	-1.97	20.422	16.57	0.18	-20.87	4.5	90	46.51	46.91
2500	37.96	-4.21	0.12	-2.03	21.051	16.911	0.12	-21.58	4.33	90	46.47	46.86

Efficiency Table (5G)

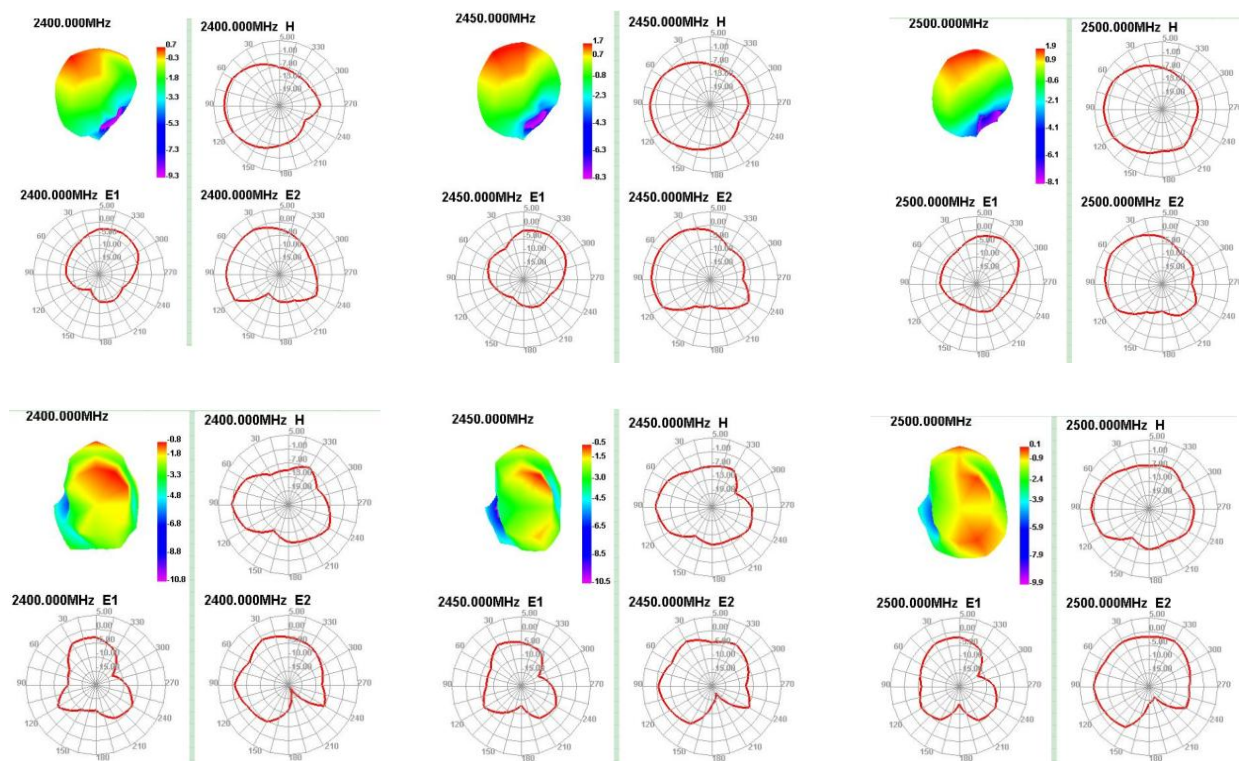
Passive Test For WIFI5G Main ANT2												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	36.81	-4.34	4.05	1.9	17.866	18.94	4.05	-17.05	8.39	30	49.82	49.4
5170	34.63	-4.61	3.77	1.62	16.684	17.948	3.77	-14.43	8.38	0	50.13	49.77
5190	38.42	-4.15	4.09	1.94	18.44	19.983	4.09	-15.6	8.25	0	50.42	49.95
5210	37.77	-4.23	3.91	1.76	17.811	19.956	3.91	-15.3	8.14	0	50.88	50.49
5230	42.13	-3.75	4.36	2.21	19.72	22.412	4.36	-14.22	8.11	0	50.42	50.08
5250	43.02	-3.66	4.38	2.23	20.113	22.907	4.38	-13.37	8.04	30	51.02	50.72
5270	49.27	-3.07	4.89	2.74	23.217	26.057	4.89	-14.45	7.96	30	50.85	50.6
5290	47.4	-3.24	4.52	2.37	22.543	24.857	4.52	-15.06	7.76	60	51.34	51.12
5310	47.53	-3.23	4.44	2.29	22.877	24.652	4.44	-14.12	7.67	60	50.44	50.36
5330	49.6	-3.05	4.59	2.44	24.381	25.214	4.59	-14.18	7.63	60	51.08	51.01
5350	53.09	-2.75	4.67	2.52	26.842	26.246	4.67	-14.64	7.42	0	51.02	51.01
5370	51.19	-2.91	4.33	2.18	26.535	24.652	4.33	-15.76	7.24	0	50.91	50.95
5390	46.07	-3.37	3.77	1.62	24.322	21.751	3.77	-13.83	7.13	0	50.46	50.43
5410	54.19	-2.66	4.37	2.22	28.976	25.215	4.37	-12.57	7.03	0	51.18	51.09
5430	48.97	-3.1	3.72	1.57	26.615	22.355	3.72	-12.41	6.82	0	50.69	50.7
5450	51.56	-2.88	4.07	1.92	28.418	23.145	4.07	-12.83	6.94	0	50.71	50.85
5470	47.8	-3.21	3.81	1.66	26.457	21.339	3.81	-14.1	7.01	0	50.93	50.83
5490	47.81	-3.21	3.81	1.66	26.476	21.331	3.81	-14.95	7.02	0	50.92	50.79
5510	49.61	-3.04	3.83	1.68	27.703	21.91	3.83	-16.78	6.87	0	51.18	51.16
5530	50.08	-3	3.57	1.42	28.102	21.975	3.57	-15.37	6.57	0	51.44	51.3
5550	53.91	-2.68	3.61	1.46	30.239	23.672	3.61	-16.89	6.29	0	51.89	51.76
5570	50.39	-2.98	3.1	0.95	28.144	22.249	3.1	-22.92	6.08	0	51.42	51.33
5590	53.37	-2.73	3.28	1.13	29.797	23.577	3.28	-17.56	6	0	51.71	51.76
5610	51.03	-2.92	2.95	0.8	28.241	22.786	2.95	-14.58	5.87	0	51.17	51.22
5630	53.6	-2.71	3.09	0.94	29.439	24.157	3.09	-13.72	5.79	0	51.78	51.77
5650	50.56	-2.96	2.77	0.62	27.664	22.895	2.77	-14.58	5.73	0	51.47	51.55
5670	49.19	-3.08	2.62	0.47	27.027	22.162	2.62	-13.68	5.7	0	52.12	52.28
5690	51.8	-2.86	2.77	0.62	28.578	23.224	2.77	-12.62	5.63	0	52.12	52.25
5710	46.67	-3.31	2.37	0.22	25.571	21.102	2.37	-14.85	5.68	0	51.95	52.05
5730	53.36	-2.73	3.02	0.87	28.929	24.434	3.02	-16.67	5.75	0	51.59	51.69
5750	46	-3.37	2.56	0.41	24.75	21.251	2.56	-16.33	5.93	0	51.12	51.15
5770	50.87	-2.94	3.34	1.19	27.504	23.37	3.34	-15.55	6.27	0	51.02	51.06
5790	45.88	-3.38	3.14	0.99	24.512	21.373	3.14	-17.75	6.52	0	51.08	51.16
5810	50.14	-3	3.58	1.43	26.413	23.723	3.58	-19.31	6.58	0	51.36	51.43
5830	49.4	-3.06	3.43	1.28	25.895	23.5	3.43	-16.31	6.5	0	51.65	51.66
5850	54.38	-2.65	4.02	1.87	28.486	25.892	4.02	-17.07	6.67	0	51.88	52.05



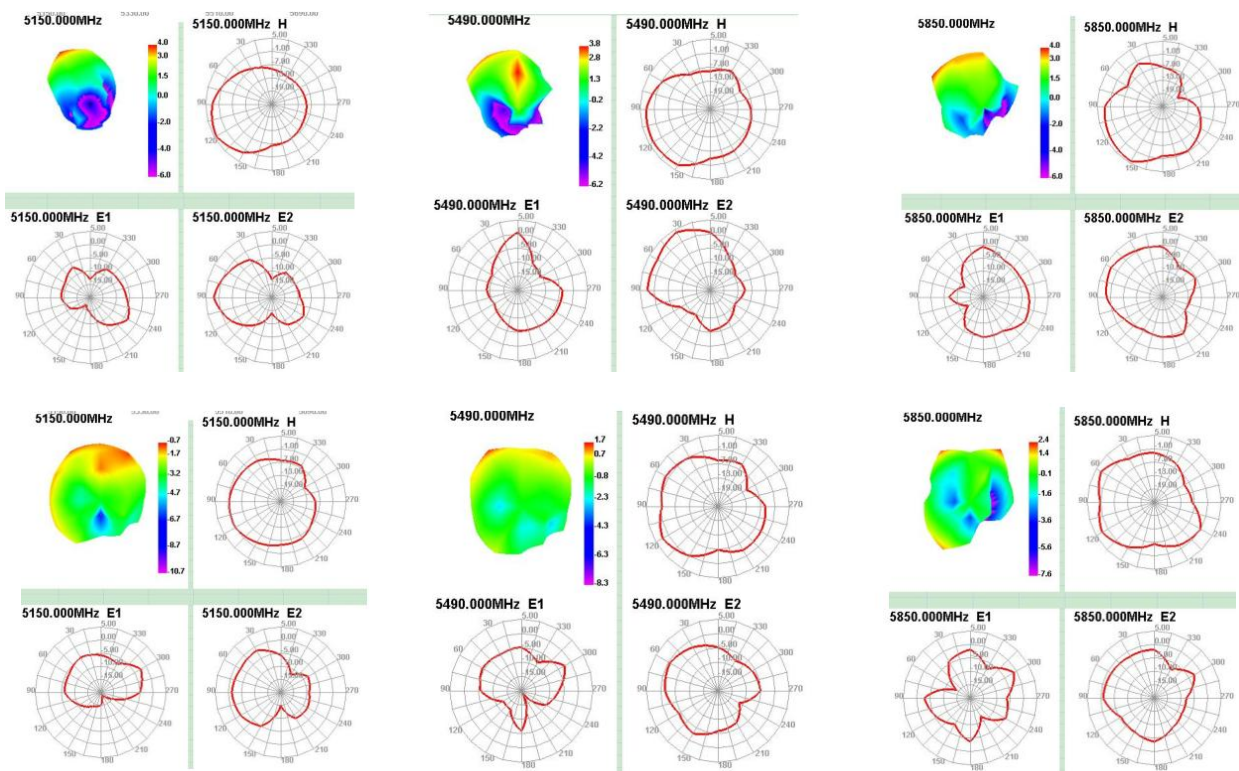
Efficiency Table (5G)

Passive Test For WIFI5G AUX ANT1												
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Directivity (dBi)	Beamwidth (3dB)	AttH (dB)	AttV (dB)
5150	31.64	-5	-0.72	-2.87	19.076	12.564	-0.72	-19.9	4.27	30	49.82	49.4
5170	29.8	-5.26	-0.97	-3.12	17.932	11.871	-0.97	-19.8	4.29	30	50.13	49.77
5190	33.78	-4.71	-0.41	-2.56	20.345	13.433	-0.41	-20.13	4.31	0	50.42	49.95
5210	32.97	-4.82	-0.37	-2.52	19.843	13.131	-0.37	-20.67	4.45	0	50.88	50.49
5230	35.34	-4.52	0	-2.15	21.369	13.975	0	-20.17	4.52	0	50.42	50.08
5250	35.96	-4.44	0.13	-2.02	21.641	14.319	0.13	-19.93	4.57	0	51.02	50.72
5270	41.89	-3.78	0.83	-1.32	24.857	17.029	0.83	-18.88	4.61	0	50.85	50.6
5290	41.78	-3.79	0.85	-1.3	24.525	17.256	0.85	-20.02	4.64	0	51.34	51.12
5310	40.64	-3.91	0.74	-1.41	23.673	16.967	0.74	-20.87	4.65	0	50.44	50.36
5330	42.1	-3.76	1.05	-1.1	24.259	17.845	1.05	-21.29	4.8	0	51.08	51.01
5350	45.73	-3.4	1.6	-0.55	26.054	19.678	1.6	-19.69	5	0	51.02	51.01
5370	45.55	-3.42	1.53	-0.62	25.508	20.038	1.53	-18.62	4.95	0	50.91	50.95
5390	41.02	-3.87	1.04	-1.11	22.643	18.377	1.04	-20.67	4.91	0	50.46	50.43
5410	47.7	-3.22	1.87	-0.28	25.952	21.743	1.87	-20.31	5.08	0	51.18	51.09
5430	44.14	-3.55	1.73	-0.42	23.855	20.282	1.73	-22.32	5.28	0	50.69	50.7
5450	47.33	-3.25	2.02	-0.13	25.325	22.007	2.02	-23.34	5.27	0	50.71	50.85
5470	45.6	-3.41	1.82	-0.33	24.395	21.203	1.82	-22.97	5.23	0	50.93	50.83
5490	44.93	-3.47	1.73	-0.42	24.096	20.835	1.73	-23.15	5.21	0	50.92	50.79
5510	47.28	-3.25	2.01	-0.14	25.339	21.946	2.01	-21.59	5.27	0	51.18	51.16
5530	47.81	-3.2	2.23	0.08	25.658	22.152	2.23	-21.88	5.43	0	51.44	51.3
5550	52.26	-2.82	2.68	0.53	28.114	24.148	2.68	-17.95	5.49	0	51.89	51.76
5570	46.8	-3.3	2.29	0.14	25.312	21.492	2.29	-15.4	5.58	0	51.42	51.33
5590	48.36	-3.16	2.51	0.36	26.279	22.078	2.51	-15.68	5.67	0	51.71	51.76
5610	45.01	-3.47	2.37	0.22	24.373	20.639	2.37	-15.96	5.84	0	51.17	51.22
5630	48.81	-3.11	2.89	0.74	26.384	22.43	2.89	-14.65	6	0	51.78	51.77
5650	44.63	-3.5	2.45	0.3	24.175	20.455	2.45	-13.52	5.95	0	51.47	51.55
5670	43.44	-3.62	2.32	0.17	23.787	19.653	2.32	-13.14	5.94	0	52.12	52.28
5690	43.97	-3.57	2.32	0.17	24.102	19.872	2.32	-13.16	5.89	0	52.12	52.25
5710	41.29	-3.84	2.13	-0.02	22.285	19.002	2.13	-14.24	5.97	0	51.95	52.05
5730	46.63	-3.31	2.52	0.37	24.946	21.689	2.52	-14.11	5.83	0	51.59	51.69
5750	39.63	-4.02	1.72	-0.43	21.299	18.328	1.72	-14.48	5.74	0	51.12	51.15
5770	43.36	-3.63	1.93	-0.22	23.421	19.942	1.93	-13.03	5.56	0	51.02	51.06
5790	39.7	-4.01	1.49	-0.66	21.4	18.304	1.49	-13.74	5.5	0	51.08	51.16
5810	43.65	-3.6	2.03	-0.12	23.234	20.414	2.03	-15.17	5.63	0	51.36	51.43
5830	43.16	-3.65	2.03	-0.12	23.228	19.93	2.03	-16.97	5.68	0	51.65	51.66
5850	46.7	-3.31	2.42	0.27	25.58	21.117	2.42	-15.83	5.73	0	51.88	52.05

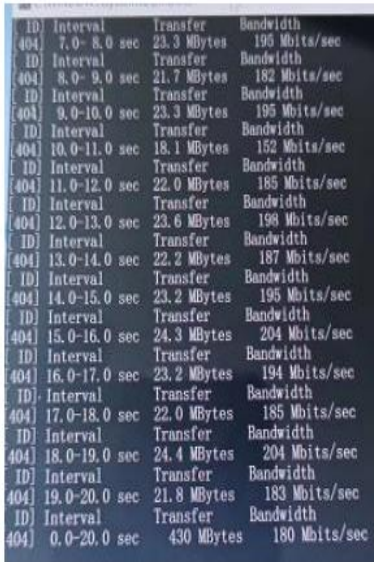
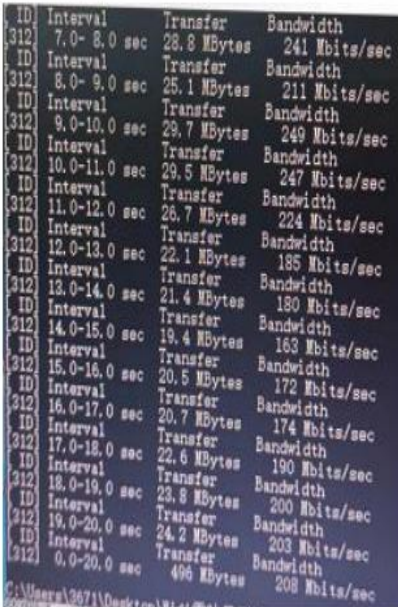
Radiation Pattern (2.4G)



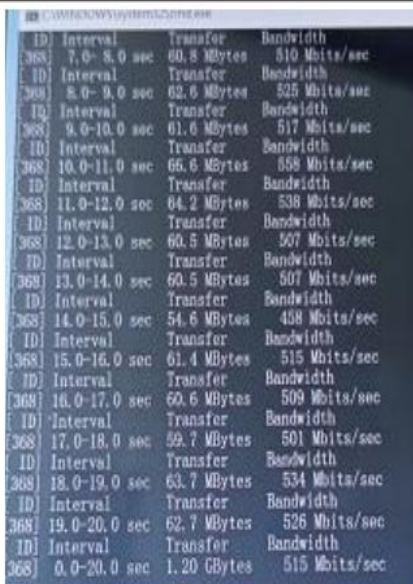
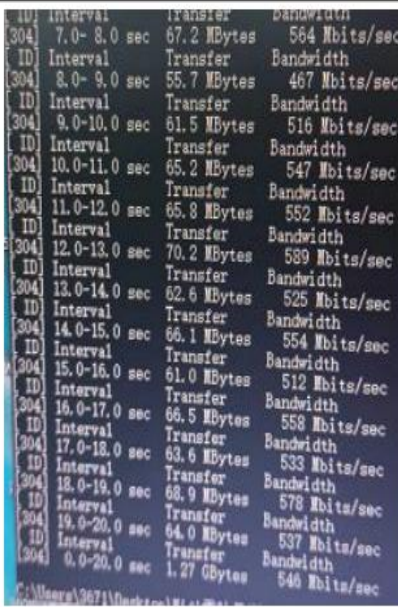
Radiation Pattern (5G)



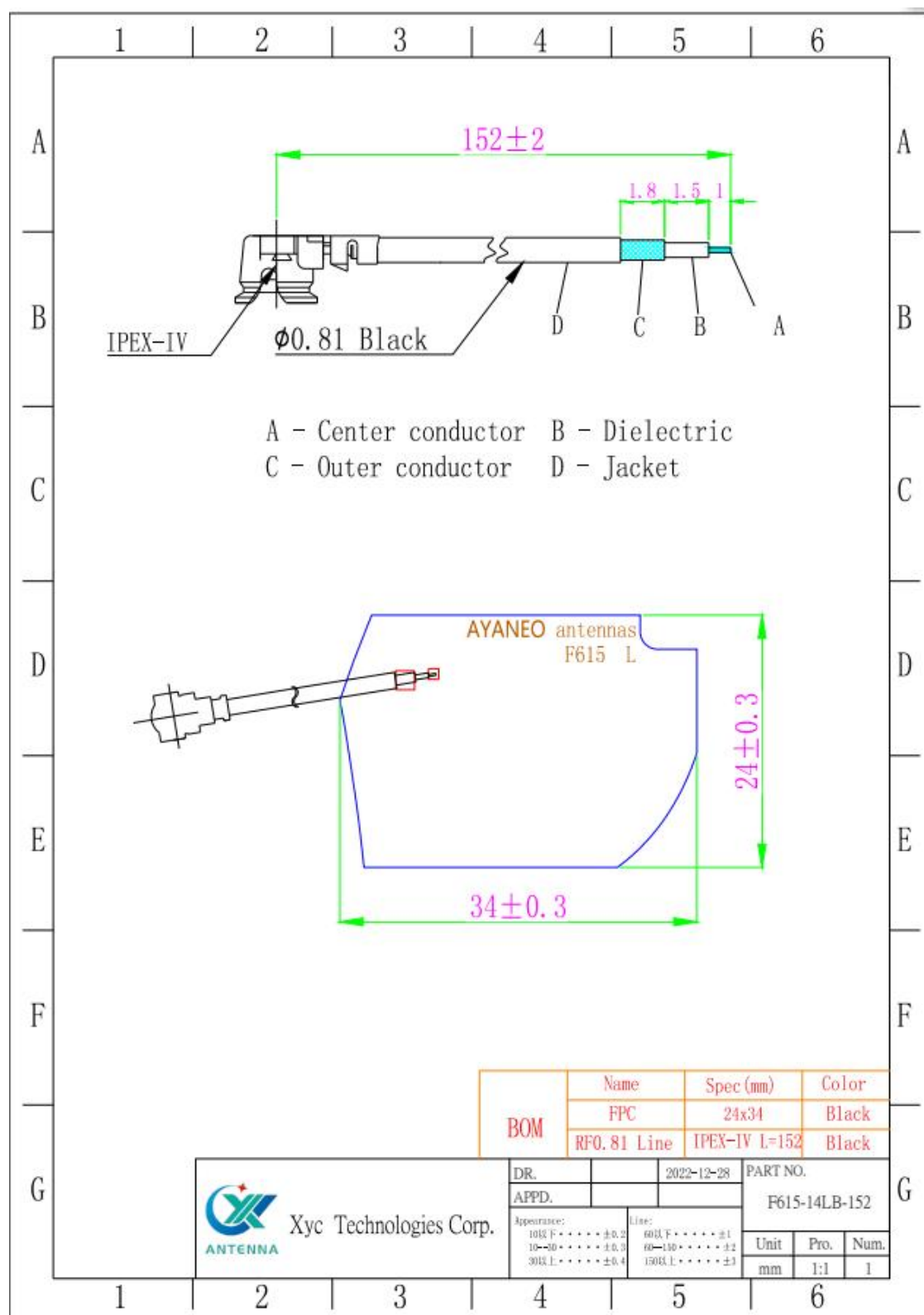
Throughput Test(2.4G)

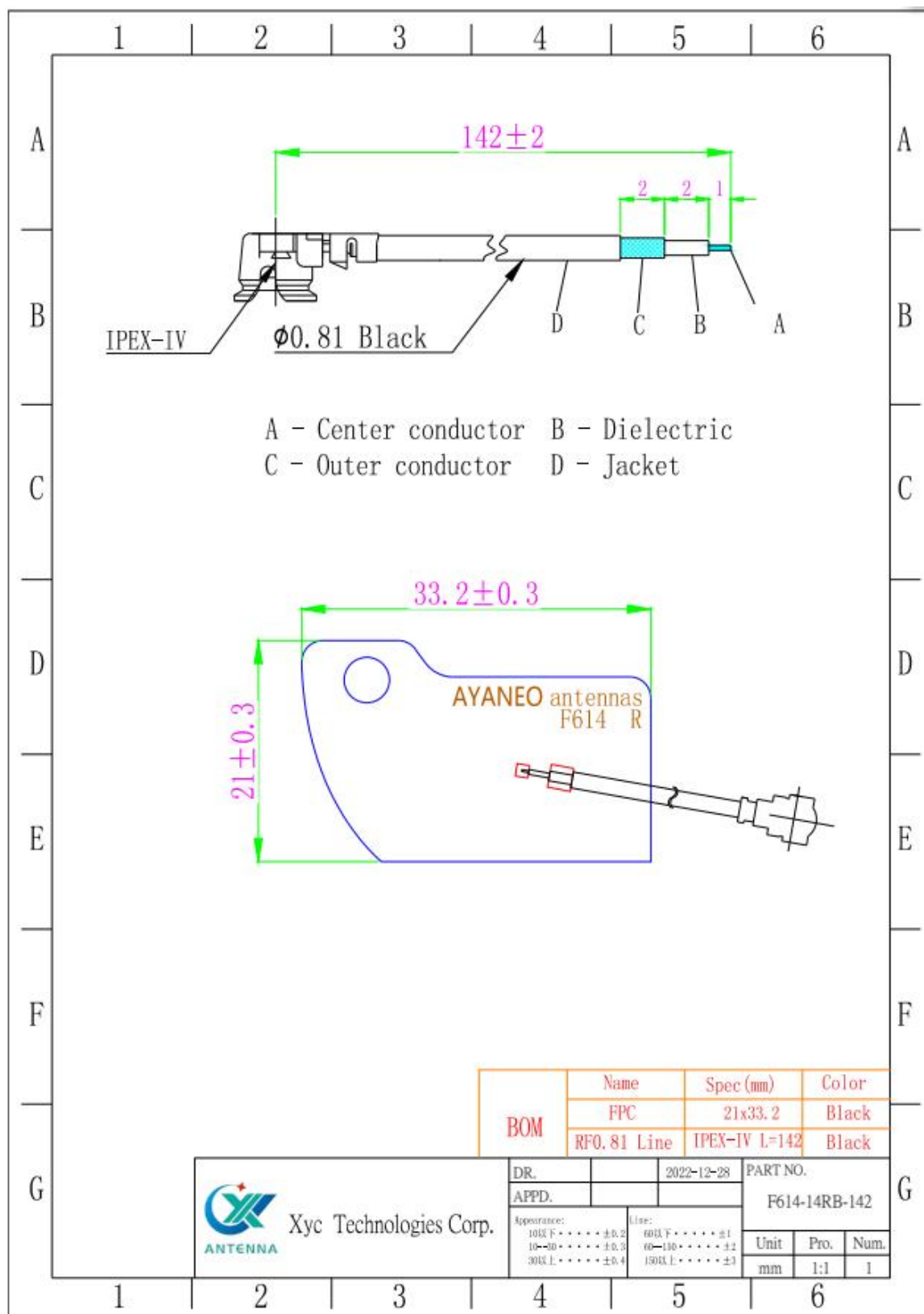
Upside		Downside	
			
Picture		Picture	

Throughput Test(5G)

Upside		Downside	
			
Picture		Picture	

Antenna Assembly







Inspection Standard

Xyc Technologies Corp.	File Cod.	XYC-WI-PZ-02	Page.
	File Vers.	A0	1 of 1
File Name	Sampling Plan		

Sampling Level Table

Special Check				General			Batch Scope	Sample Word	Sampling	0.65		1.0		1.5		2.5		4.0		6.0	
S-1	S-2	S-3	S-4	I	II	III				AC	RE	AC	RE	AC	RE	AC	RE	AC	RE	AC	RE
A	A	A	A	A	A	B	2--8	A	2	0	1	0	1	0	1	0	1	0	1	0	1
A	A	A	A	A	B	C	9--15	B	3	0	1	0	1	0	1	0	1	0	1	0	1
A	A	B	B	B	C	D	16--25	C	5	0	1	0	1	0	1	0	1	0	1	1	2
A	B	B	C	C	D	E	26--50	D	8	0	1	0	1	0	1	0	1	1	2	1	2
B	B	C	C	C	E	F	51--90	E	13	0	1	0	1	0	1	1	2	1	2	2	3
B	B	C	D	D	F	G	91--150	F	20	0	1	0	1	1	2	1	2	2	3	3	4
B	C	D	E	E	G	H	151--280	G	32	0	1	1	2	1	2	2	3	3	4	5	6
B	C	D	E	F	H	J	281--500	H	50	1	2	1	2	2	3	3	4	5	6	7	8
C	C	E	F	G	J	K	501--1200	J	80	1	2	2	3	3	4	5	6	7	8	10	11
C	D	E	G	H	K	L	1201--3200	K	125	2	3	3	4	5	6	7	8	10	11	14	15
C	D	F	G	J	L	M	3201--10000	L	200	3	4	5	6	7	8	10	11	14	15	21	22
C	D	F	H	K	M	N	10001-35000	M	315	5	6	7	8	10	11	14	15	21	22	21	22
D	E	G	J	L	N	P	35001-150000	N	500	7	8	10	11	14	15	21	22	21	22	21	22
D	E	G	J	M	P	Q	150001-500000	P	800	10	11	14	15	21	22	21	22	21	22	21	22
D	E	H	K	N	Q	R	500001and over	Q	1250	14	15	21	22	21	22	21	22	21	22	21	22
								R	2000	21	22	21	22	21	22	21	22	21	22	21	22

AC-Qualified RE-No Qualified



Sample Inspection Report

Customer	Gong Ke	Product	WiFi Antennas	Quantity shipped	5	Sampling quantity	2	
Models	AB03	P/N	F615-14LB-152	Shipping date	2022/12/28			
Sampling standard	☒ Normal inspection ☐ Tightened inspection ☐ Decrement inspection							
Sampling mode	MIL-STD-105D (II) Single sampling Acceptance limit AQL:CR: 0 Maj: 2.5 Min: 4.0							
Quality acceptance level			CR Acc	0	Maj ACC	0	Min ACC	0
			CR REJ	1	Maj REJ	1	Min REJ	1
project	program of tests	examination requirement	test method	inspection result				decide
				1	2	3	4	
Dimensi onal inspecti on	Line length	152±3	ruler	152	152			OK
	FPC shape	24±0.3	calliper	23.9	24			OK
	FPC shape	34±0.3	calliper	33.9	33.9			OK
project	program of tests	examination requirement	test method	Defect description	C R	Maj	Min	判定
visual inspectio	wire sheath	There is no scratching phenomenon on the outer cover	visual	No abnormality	0	0	0	OK
	Solder pad	No oxidation, tin point and other phenomena	visual	No abnormality	0	0	0	OK
	IPEX	No color difference, shrinkage, oxidation, deformation and other undesirable phenomena	visual	No abnormality	0	0	0	OK
electrical specifica tion								
final judgment	☒ OK ☐ NG							

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Customer	Gong Ke	Product	WiFi Antennas	Quantity shipped	5	Sampling quantity	2	
Models	AB03		P/N	F614-14RB-142		Shipping date	2022/12/28	
Sampling standard	☒ Normal inspection ☐ Tightened inspection ☐ Decrement inspection							
Sampling mode	MIL-STD-105D (II) Single sampling Acceptance limit AQL:CR: 0 Maj: 2.5 Min: 4.0							
Quality acceptance level			CR Acc	0	Maj ACC	0	Min ACC	0
			CR REJ	1	Maj REJ	1	Min REJ	1
project	program of tests	examination requirement	test method	inspection result				decide
				1	2	3	4	
Dimensi onal inspecti on	Line length	142±3	ruler	142	142			OK
	FPC shape	21±0.3	calliper	21	21			OK
	FPC shape	33.2±0.3	calliper	33.1	33.1			OK
project	program of tests	examination requirement	test method	Defect description	C R	Maj	Min	判定
visual inspectio	wire sheath	There is no scratching phenomenon on the outer cover	visual	No abnormality	0	0	0	OK
	Solder pad	No oxidation, tin point and other phenomena	visual	No abnormality	0	0	0	OK
	IPEX	No color difference, shrinkage, oxidation, deformation and other undesirable phenomena	visual	No abnormality	0	0	0	OK
electrical specifica tion								
final judgment	☒ OK ☐ NG							

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Packing Specification

