

Antenna specification for approval

Customer name: HAILAN

Antenna type: BT/WIFI Antenna

Antenna band: 2.4G/5.8G

Material: FPC

Colour: Black

Material number: F1314A-1R24B-450-A F1314A-1R24G-450-A

Date of production: 2022-04-06

Version: A			
Acknowledge the signature			
Admit that signature			
Confirmation Signature		Customer Approved	
Responsible		Responsible	
QC		Chief	
Approve		Approve	
Date		Date	

3rd Floor, Building A1, Xinyuan Industrial Zone, Gushu Shangweiyuan, Xixiang Street, Bao'an District, Shenzhen

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一：概述Overview

- This approval sheet supports for MID project. FPC antennas include in this project. This report is for the performance of WLAN antenna.
- Antenna shape size: Meet the requirement of MID
- Antenna band: 2400MHz~2500MHz,5150MHz-5850MHz
- Antenna material: Antenna material meet the requirement of MID
- Adhesive performance: Adhesive performance meet the requirement of MID
- Antenna performance meet the spec below:

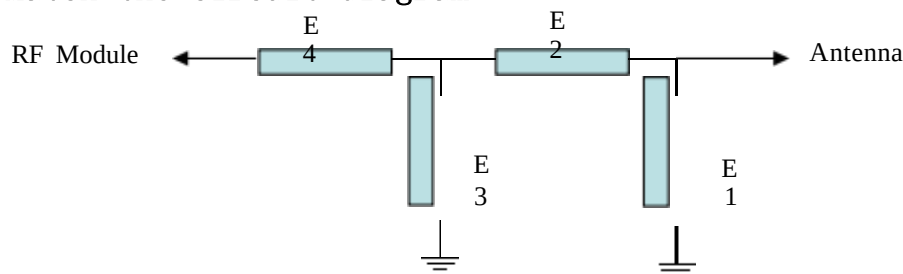
Description	2.4GHz~2.5GHz , 5.15G—5.85G	Units
VSWR	≤ 2.0	
Average Antenna Gain	≥ -4.5	dB
Antenna Efficiency	≥ 40	%
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

• Mechanical Information

Mechanical Dimension	
Cable Length	450mm/Black/Gray
Description	WLAN antenna
Material	FPC
Coaxial Cable	50Ohm/O.D.0.81mm
Environmental	
Operation Temperature	-40 to +85 deg C
Storage Temperature	-40 to +85 deg C

二： Matching circuit diagram, machine picture、Antenna picture

2.1 Match the circuit diagram

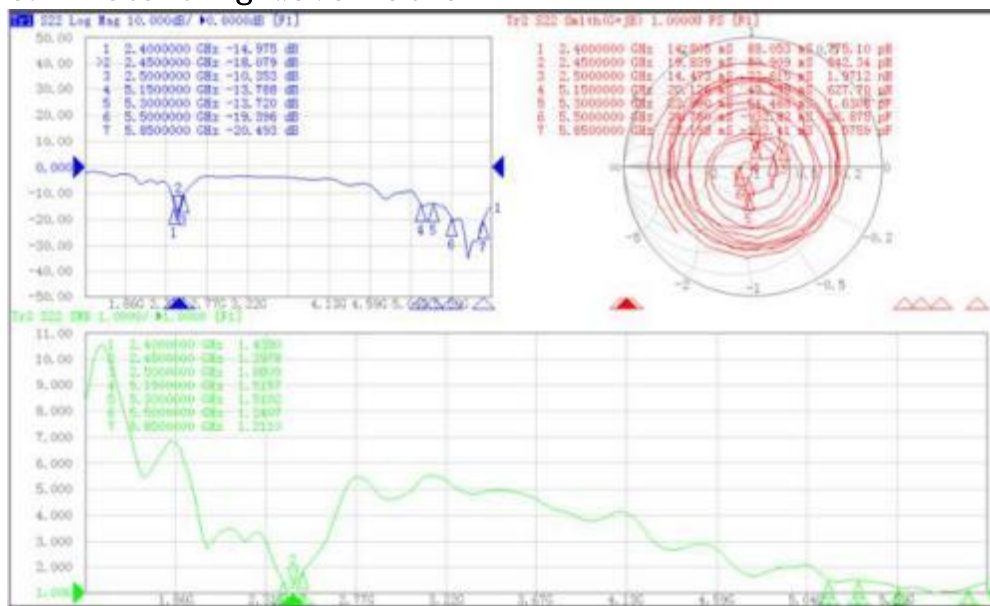


2.1 Machine picture, antenna picture



三: Standing wave ratio (VSWR), efficiency

3.1 Standing wave ratio



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3.2. Efficiency and gain

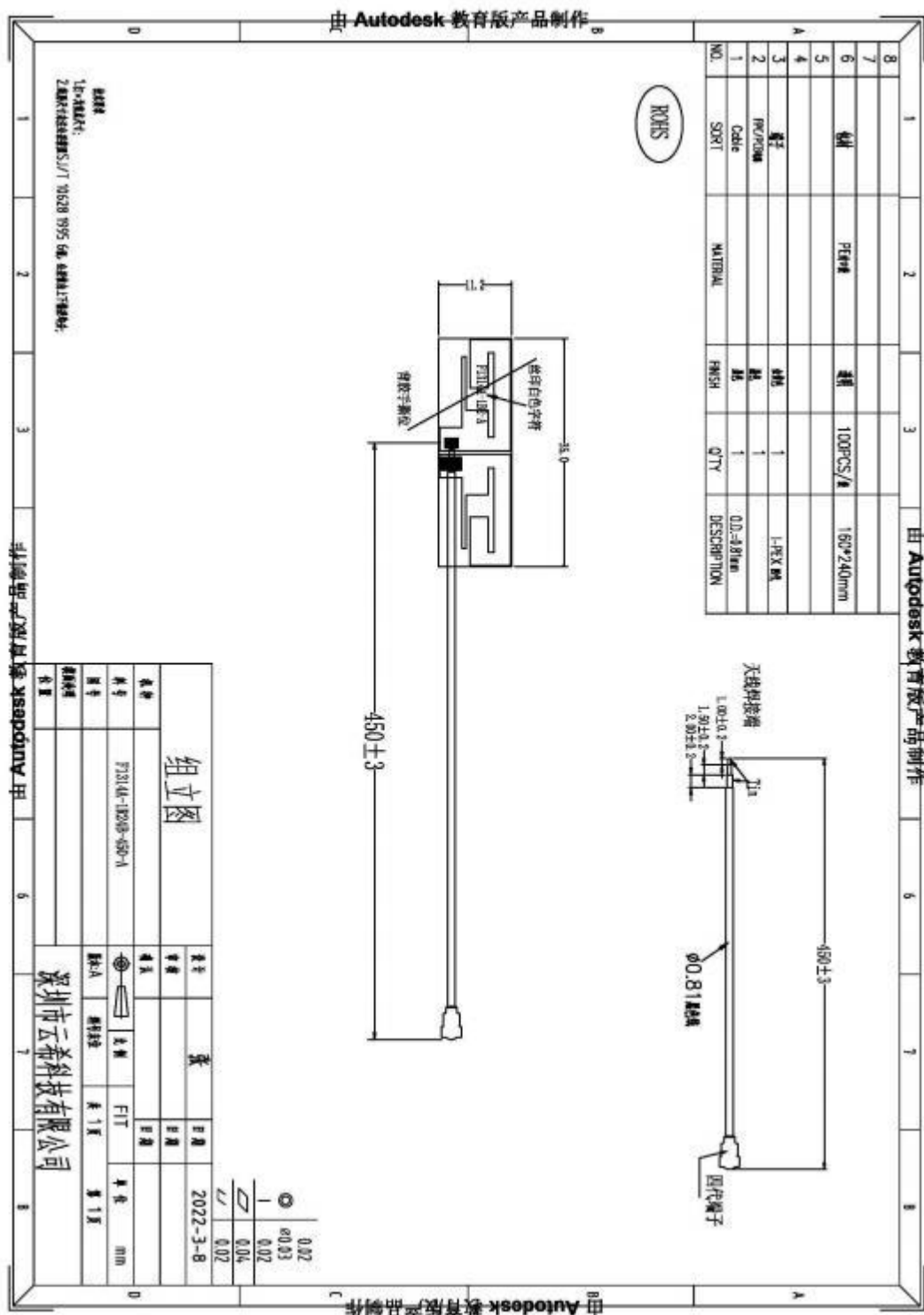
Passive Test For WIFI2.4										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2400	56.46	-2.48	2.59	0.44	23.815	32.642	2.59	-15.04	49.08	49.18
2410	56.06	-2.51	2.53	0.38	23.625	32.435	2.53	-15.15	49.16	49.32
2420	62.2	-2.06	3	0.85	26.552	35.652	3	-14.95	49.39	49.91
2430	63.45	-1.98	3	0.85	27.211	36.237	3	-16.09	49.38	49.71
2440	64.55	-1.9	2.94	0.79	27.947	36.603	2.94	-17.55	49.49	49.65
2450	67.09	-1.73	2.96	0.81	29.253	37.841	2.96	-18.95	49.73	49.82
2460	70	-1.55	3.03	0.88	30.804	39.194	3.03	-19.97	49.61	49.88
2470	68.52	-1.64	2.85	0.7	30.108	38.412	2.85	-20.51	49.62	49.8
2480	69.88	-1.56	3.02	0.87	30.626	39.25	3.02	-20.03	49.77	49.77
2490	72.42	-1.4	3.19	1.04	31.568	40.848	3.19	-19.31	49.97	49.86
2500	70.25	-1.53	3.08	0.93	30.614	39.632	3.08	-18.82	49.87	49.77
Passive Test For WIFI5.8										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
5150	50.14	-2.85	1.69	-0.46	31.065	17.072	1.69	-23.31	59.23	59.32
5170	51.77	-2.91	1.56	-0.59	29.422	16.345	1.56	-21.95	59.41	59.7
5190	53.33	-2.89	2.02	-0.13	31.847	17.479	2.02	-19.18	59.54	59.91
5210	51.45	-2.89	2.43	0.28	33.404	18.043	2.43	-18.68	59.32	59.84
5230	51.31	-2.9	2.51	0.36	33.566	17.749	2.51	-17.96	59.31	59.64
5250	51.49	-2.88	2.51	0.36	33.93	17.563	2.51	-17.42	59.69	59.84
5270	50.2	-2.99	2.34	0.19	33.358	16.845	2.34	-17.23	59.3	59.61
5290	57.2	-2.43	2.92	0.77	38.249	18.947	2.92	-17.54	59.91	60.34
5310	52.19	-2.82	2.56	0.41	35.13	17.062	2.56	-19.45	59.46	60.15
5330	53.9	-2.68	2.55	0.4	36.657	17.238	2.55	-21.13	59.73	60.36
5350	53.72	-2.7	2.46	0.31	36.62	17.101	2.46	-22.52	59.76	60.42
5370	56.04	-2.52	2.65	0.5	38.499	17.537	2.65	-22.71	59.72	60.58
5390	52.05	-2.68	1.78	-0.37	32.431	14.617	1.78	-24.7	59.38	59.82
5410	64.74	-1.89	3.01	0.86	44.58	20.165	3.01	-25.32	60.24	60.8
5430	60.87	-2.16	2.79	0.64	41.654	19.221	2.79	-29.55	60.22	60.97
5450	66.54	-1.77	3.29	1.14	45.606	20.933	3.29	-27.17	60.51	61.45
5470	66.36	-1.78	3.25	1.1	45.419	20.941	3.25	-23.8	60.66	61.57
5490	63.85	-1.32	3.62	1.47	50.511	23.336	3.62	-21.83	61.11	62.33
5510	61.22	-1.47	3.37	1.22	48.537	22.683	3.37	-18.44	61.54	62.8
5530	66.89	-1.75	2.95	0.8	45.933	20.953	2.95	-17.58	61.88	62.95
5550	67.03	-1.74	3.05	0.9	46.217	20.813	3.05	-16.88	61.98	63.16
5570	60.58	-2.18	2.82	0.67	41.987	18.594	2.82	-16.23	62.16	63.01
5590	63.61	-1.96	3.47	1.32	43.985	19.622	3.47	-15.43	62.53	63.83
5610	62.87	-2.02	3.63	1.48	43.542	19.327	3.63	-15.85	62.84	64.25
5630	60.06	-2.21	3.69	1.54	41.816	18.247	3.69	-17.2	63.15	64.22
5650	64.87	-1.88	4.24	2.09	45.374	19.493	4.24	-16.29	63.38	64.34
5670	58.11	-2.36	3.84	1.69	40.593	17.521	3.84	-16.96	63.11	63.92
5690	54.52	-2.63	3.5	1.35	38.26	16.258	3.5	-17.33	63.22	63.86
5710	56.29	-2.5	3.67	1.52	39.413	16.882	3.67	-18.14	62.58	63.49
5730	52.41	-2.81	3.13	0.98	36.817	15.594	3.13	-17.39	62.88	63.59
5750	58.45	-2.33	3.64	1.49	40.771	17.682	3.64	-17.97	62.83	63.8
5770	61.75	-2.09	3.53	1.38	42.702	19.051	3.53	-20.12	62.98	64.11
5790	57.46	-2.41	3.12	0.97	39.863	17.596	3.12	-20.09	62.92	63.84
5810	59.22	-2.28	3.34	1.19	41.203	18.021	3.34	-19.7	63.5	64.19
5830	62.24	-2.06	3.44	1.29	43.24	18.995	3.44	-19.65	63.7	64.5
5850	62.33	-2.05	3.2	1.05	43.073	19.255	3.2	-19.22	63.98	64.9

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四： Structural drawing



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