



深圳市凯普深通讯科技有限公司

Shenzhen cape deep communication technology co., LTD

Antenna debugging report

test report

Client: Aoni
Project Name: EC09301
B1 RF: Jiang
Gong Date:
2025.11.21 Version: 02

Company: Shenzhen cape deep communication technology co., LTD
Address: 2nd Floor, Yulong Office Building, Longcheng Industrial Park, No. 440 Longguan Avenue, Longhua New District, Shenzhen.

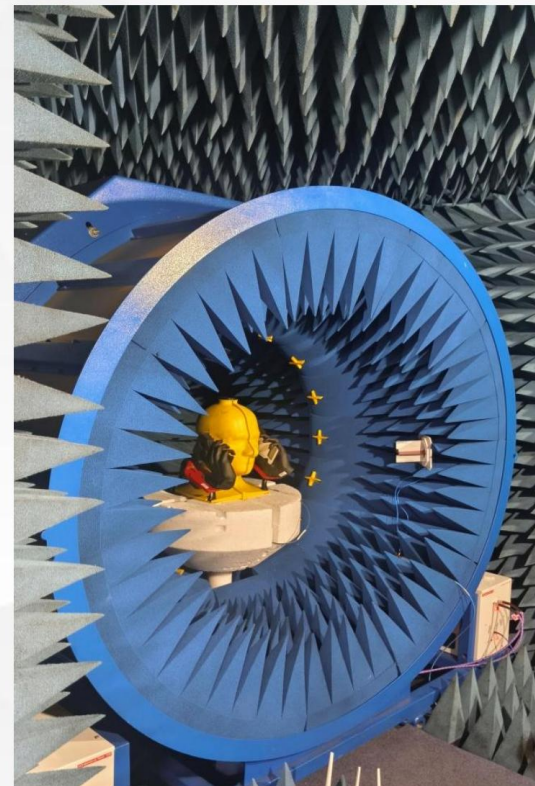


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Laboratory testing environment and equipment



Test Project	Test equipment
S11, S12, VSWR LOSS	Network Analyzer - E5071B, E5071C
Efficiency, Gain 3D Radiation Pattern	Satimo SG16 darkroom, GP7*4*3 darkroom One wave anechoic chamber, E5071B SP9500E, MT8862A
TRP, TIS	Satimo SG16 darkroom, GP7*4*3 darkroom Onewave Darkroom, 8960, CMW500 MT8820C, E4438C, SP9500E, MT8862A



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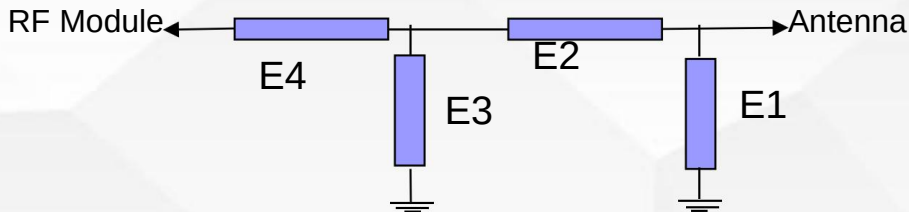
Project Debugging Introduction

Complete machine type	Camera		
		Frequency band information	Antenna type
Antenna Types and Frequency Band Information: WIFI Antenna		2.4G + 5.8G	Monopole
Antenna material	FPC + wire bonding		



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WIFI antenna matching circuit



WIFI antenna	Element	Value	Original motherboard
	E1(0201)		
	E2(0201)		
	E3(0201)		
	E4(0201)		



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Passive standing wave diagram





Antenna passive test data

WIFI 2.4G

Passive Test For WIFI2.4			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	51.22	-2.91	0.76
2410	55.05	-2.59	0.94
2420	52.81	-2.77	0.67
2430	48.04	-3.18	0.3
2440	50.49	-2.97	0.7
2450	51.92	-2.85	1.11
2460	55.93	-2.52	1.64
2470	53.31	-2.73	1.61
2480	54.13	-2.67	1.78
2490	60.54	-2.18	2.34
2500	58.34	-2.34	2.21



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Passive antenna test data for WIFI 5.8G

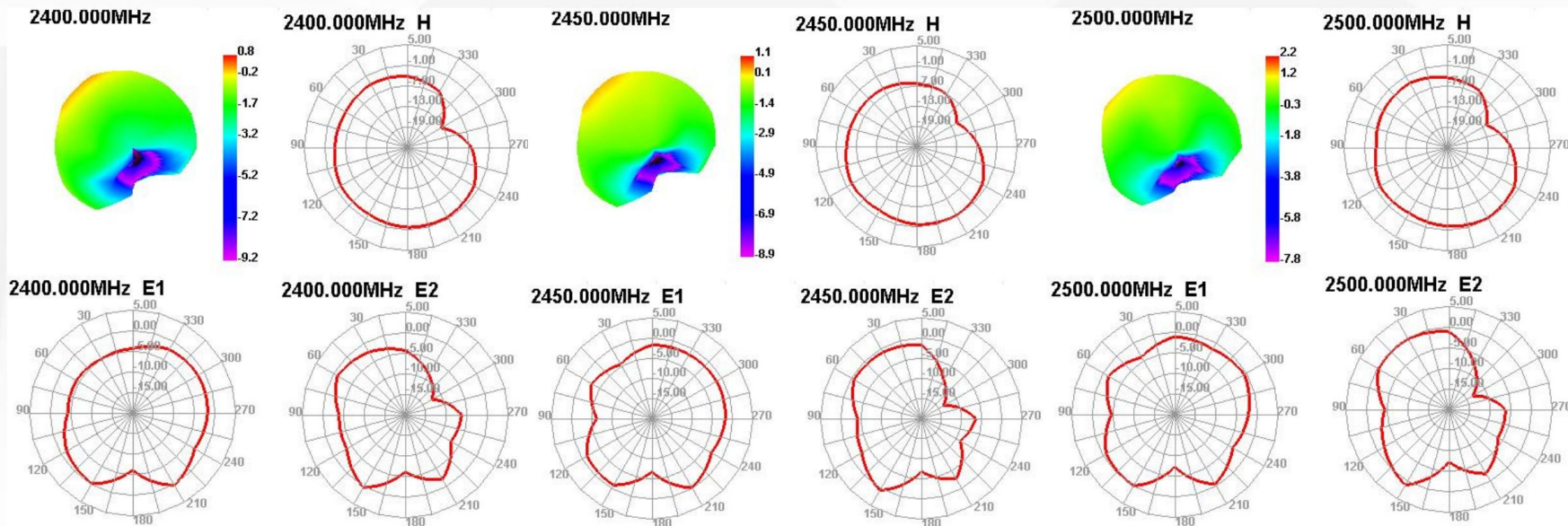
Passive Test For WIFI5.8				Passive Test For WIFI5.8			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
5100	44.57	-3.51	0.53	5480	54.78	-2.61	2.41
5110	46.9	-3.29	0.85	5490	50.98	-2.93	2.15
5120	43	-3.67	0.35	5500	51.33	-2.9	2.32
5130	45.67	-3.4	0.55	5510	51.47	-2.88	2.38
5140	43.88	-3.58	0.28	5520	50.94	-2.93	2.34
5150	44.8	-3.49	0.36	5530	53.69	-2.7	2.7
5160	42.71	-3.7	0.12	5540	55.09	-2.59	2.73
5170	42.38	-3.73	0.19	5550	53.37	-2.73	2.5
5180	38.58	-4.14	-0.07	5560	53.72	-2.7	2.58
5190	40.66	-3.91	0.02	5570	51.32	-2.9	2.57
5200	41.12	-3.86	0.25	5580	51.53	-2.88	2.54
5210	41.6	-3.81	0.17	5590	52	-2.84	2.7
5220	39.71	-4.01	0.17	5600	52.71	-2.78	2.78
5230	42.5	-3.72	0.36	5610	51.86	-2.85	2.7
5240	40.46	-3.93	0.17	5620	52.17	-2.83	2.64
5250	37.5	-4.26	-0.07	5630	54.46	-2.64	2.7
5260	43.35	-3.63	0.53	5640	52.45	-2.8	2.59
5270	43.85	-3.58	0.55	5650	53.03	-2.75	2.67
5280	42.06	-3.76	0.41	5660	53.99	-2.68	2.65
5290	45.95	-3.38	0.87	5670	53.94	-2.68	2.74
5300	42.63	-3.7	0.72	5680	53.43	-2.72	2.81
5310	43.96	-3.57	0.93	5690	53.16	-2.74	2.78
5320	43.96	-3.57	1.05	5700	54.18	-2.66	3.02
5330	46.99	-3.28	1.55	5710	53.42	-2.72	2.99
5340	48.59	-3.13	1.63	5720	51.03	-2.92	2.81
5350	47.52	-3.23	1.67	5730	53.71	-2.7	3.07
5360	49.98	-3.01	1.88	5740	49.17	-3.08	2.77
5370	46.95	-3.28	1.62	5750	52.84	-2.77	3.1
5380	48.84	-3.11	1.81	5760	50.88	-2.93	3.11
5390	44.26	-3.54	1.28	5770	52.17	-2.83	3.18
5400	57.65	-2.39	2.59	5780	48.74	-3.12	2.77
5410	55.5	-2.56	2.32	5790	48.54	-3.14	2.72
5420	54.61	-2.63	2.24	5800	52.23	-2.82	3.2
5430	52.4	-2.81	2.13	5810	52.05	-2.84	3.18
5440	53.78	-2.69	2.12	5820	53.1	-2.75	3.21
5450	52.38	-2.81	2.01	5830	52.31	-2.81	3.04
5460	52.89	-2.77	1.93	5840	51.02	-2.92	2.9
5470	53.19	-2.74	2.12	5850	51.23	-2.9	3.01



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Passive radiation pattern

WIFI 2.4G

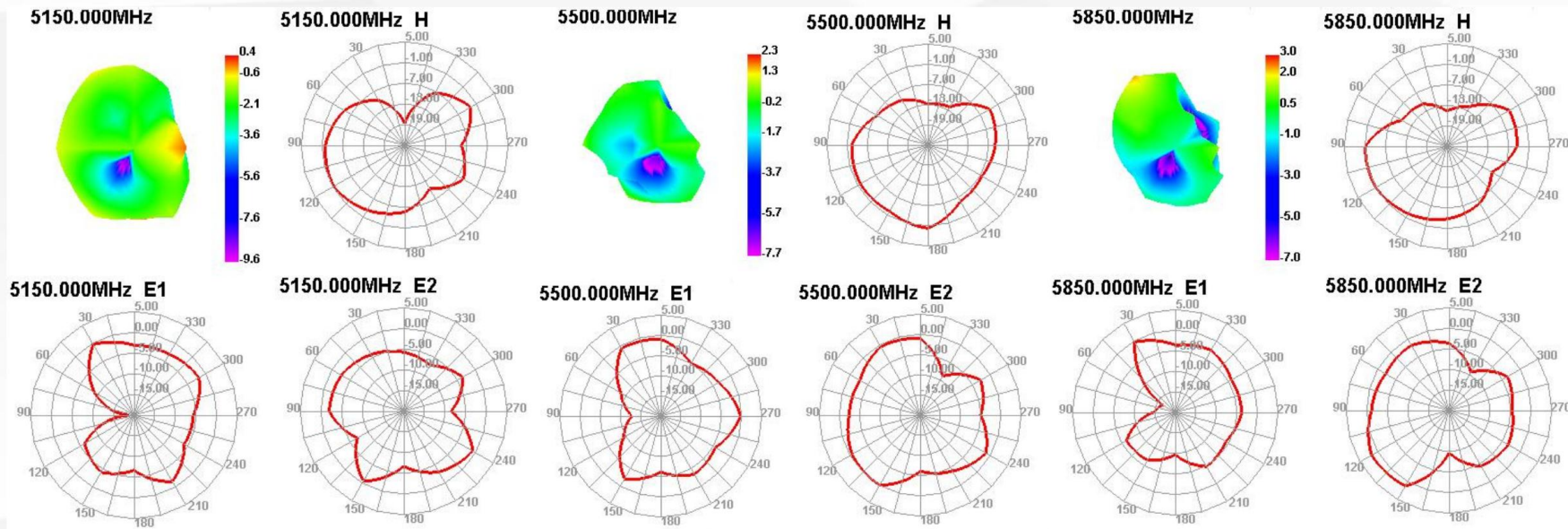




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Passive radiation pattern

WIFI 5.8G





Active WiFi antenna test data

WIFI 2.4G	Channel TRP (dBm) TIS (dBm)			WIFI 5.8G	Channel TRP (dBm) TIS (dBm)		
	1	18.5	-80.6		36	17.1	-73.7
	6	17.8	-82.2		60	18.1	-73.2
	11	16.3	-81.3		161	17.8	-72.3



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Environment and treatment

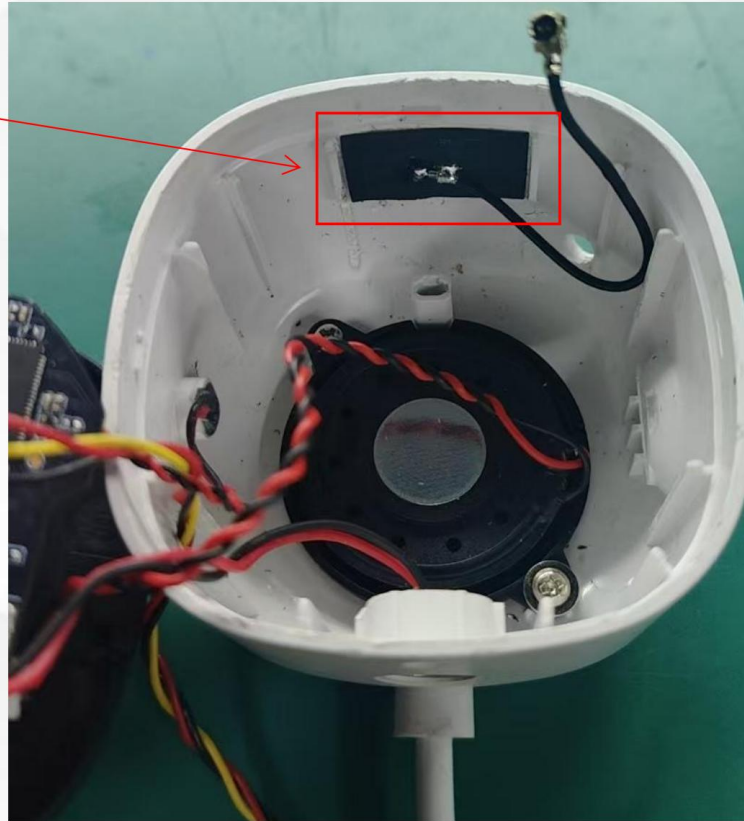
No environmental treatment for the whole machine



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Antenna mounting diagram

Antenna mounting position





Full machine images





Contact information

Contact information:

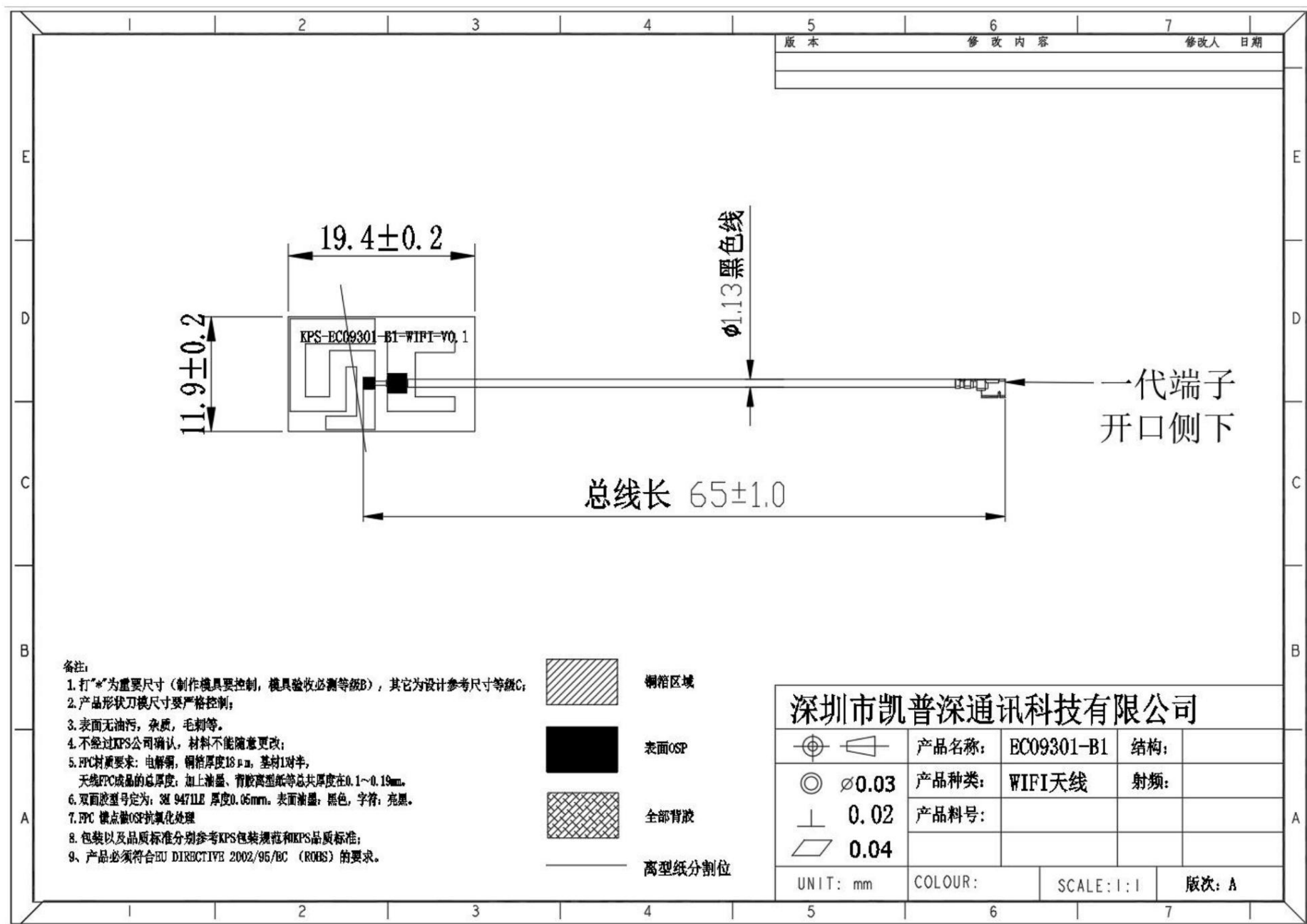
RF: Jiang Gong Tel:

15870001747 Email: kpsyanfa6@szkpstx.com

Address: 2nd Floor, Yulong Office Building, Longcheng Industrial

Zone, No. 440 Longguan Avenue, Longhua District

3. Structural Dimension Drawings (CAD Files)





THE END

Thank you for your valuable feedback!

感谢您的宝贵意见！