

SPECIFICATION



ShenZhen TianDa Communication CO., LTD

Feed machine Antenna

Product Specification

Customer	Lv qing	Frequency band	2400-2500MHz
Project name	Feed machine	Edition	A
Item number	LQ-SL-JO-WF-A	Colour	black
R Fdesign	Huang Zhilin	Structural design	Zhou Luhong
Date	2025.02.28		

Customer confirmation:

Whether the assembly meets your requirements: ☐OK ☐NG

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Catalog

one、WIFI antenna.....	3
1、Specifications.....	3
1.1、electrical specifications.....	3
1.1.1、Electrical performance index.....	3
1.1.2、matching circuit diagram.....	3
1.2、Test.....	4
1.2.1、Passive test data.....	4
1.2.1.1、Antenna standing wave diagram.....	4
1.2.1.2、Antenna gain and efficiency.....	5
1.2.1.3、Antenna direction diagram.....	6
1.2.2、Active test data of the whole machine.....	8
two、Structural specification.....	9
2.1、Antenna composition.....	9
2.2、Engineering drawings.....	9
three、Conclusion.....	9

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one、WIFI antenna

1、Specifications

This specification mainly provides the test status of the electrical and structural performance parameters of the WIF antenna of the feed machine project. Below is a picture of Investec's WIFI antenna design.



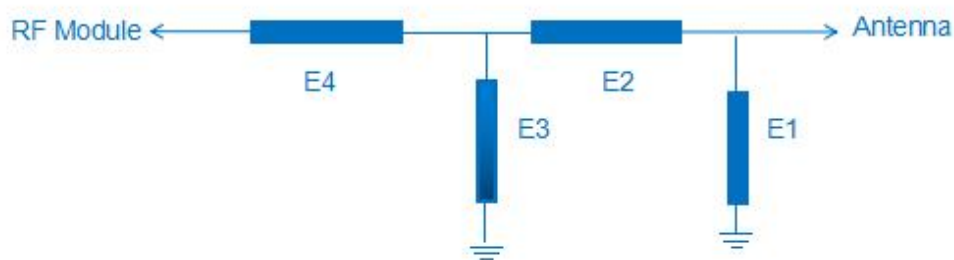
1.1、electrical specifications

1.1.1、Electrical performance index

The antenna of this project works at 2400-2500mhz. The following is the electrical performance index of the antenna designed and trial-produced by Investec.

WIFI		
Frequency band	frequency (MHz)	VSWR
WIFI	2400~2500	≤ 2.0

1.1.2、Match the circuit diagram



The matching circuit of the WIFI antenna is the original matching circuit of the motherboard and has not been changed.

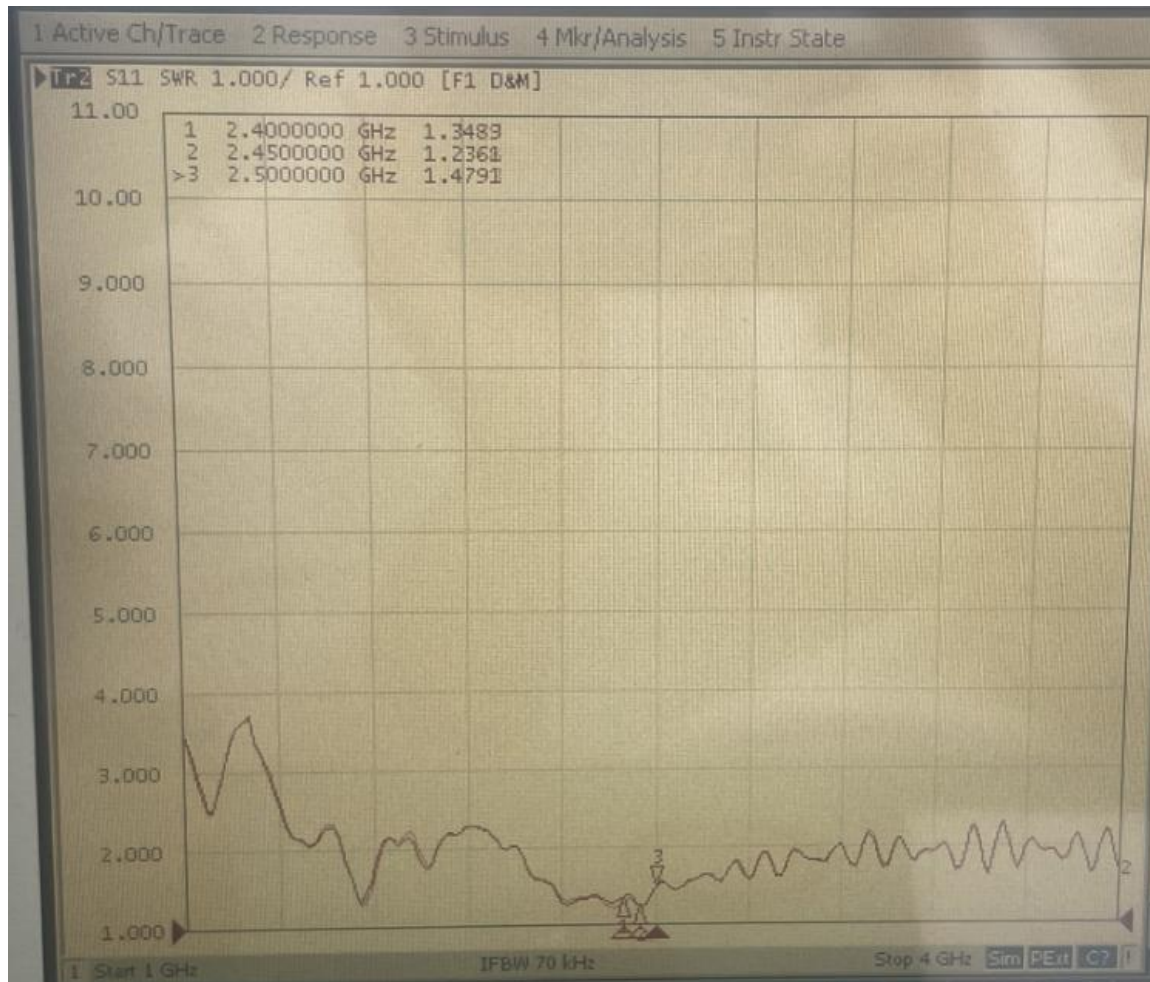
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1.2、Test

1.2.1、Passive test

1.2.1.1、Antenna standing wave test (VSWR)



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1.2.1.2、Antenna gain, efficiency

Passive Test For WiFi Antenna(2.4G)			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	52.99	-2.76	1.3
2410	54.32	-2.65	1.2
2420	54.86	-2.61	0.93
2430	57.76	-2.38	0.35
2440	54.02	-2.67	0.72
2450	56.77	-2.46	1.02
2460	54.11	-2.67	1
2470	51.2	-2.91	1.02
2480	54.94	-2.6	1.05
2490	53.49	-2.72	1.23
2500	52.14	-2.83	0.74

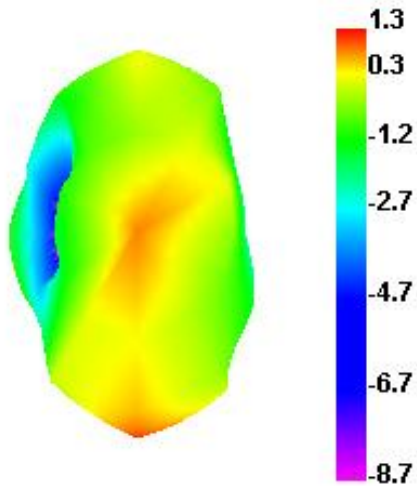
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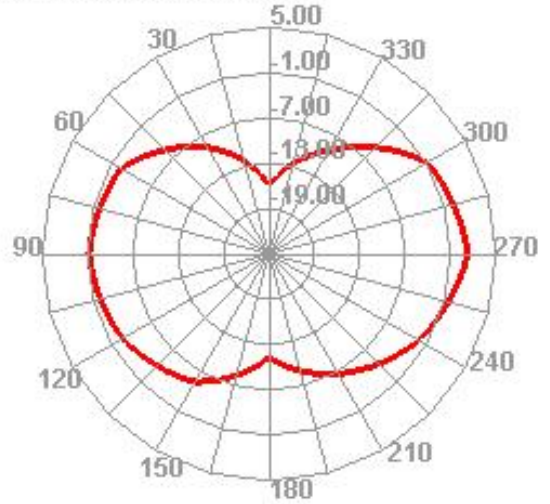
1.2.1.3、Antenna pattern

Radiation Pattern For WiFi Antenna(2400MHz)

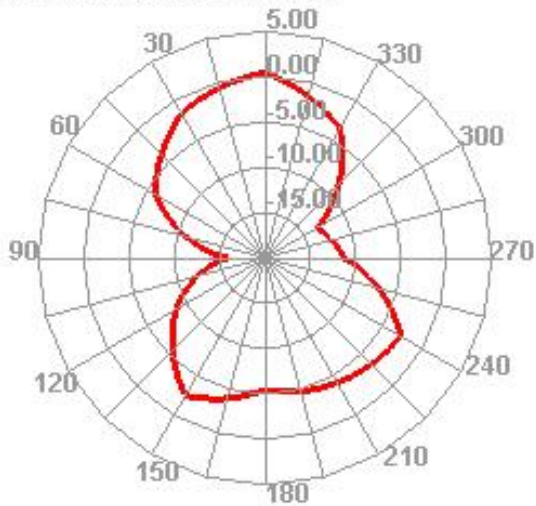
2400.000MHz



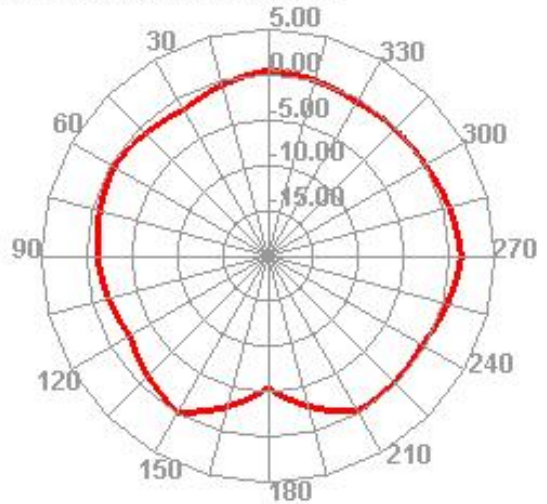
2400.000MHz H



2400.000MHz E1



2400.000MHz E2

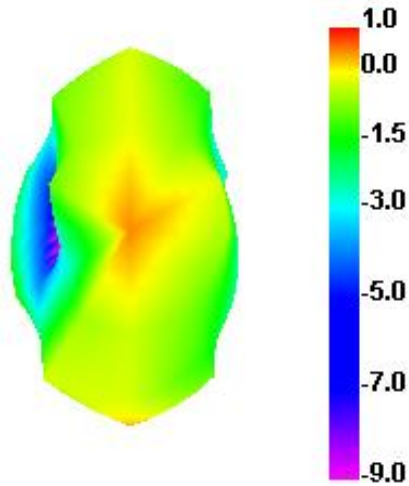


Security is required

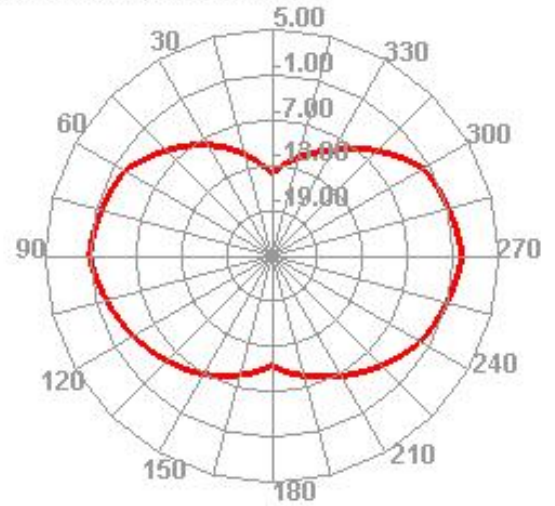
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Radiation Pattern For WiFi Antenna(2450MHz)

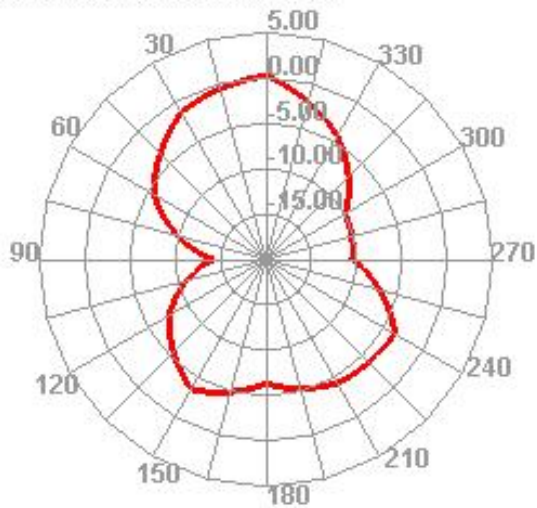
2450.000MHz



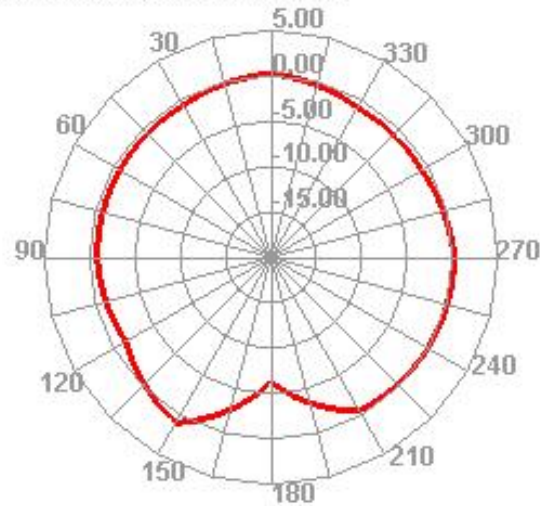
2450.000MHz H



2450.000MHz E1



2450.000MHz E2

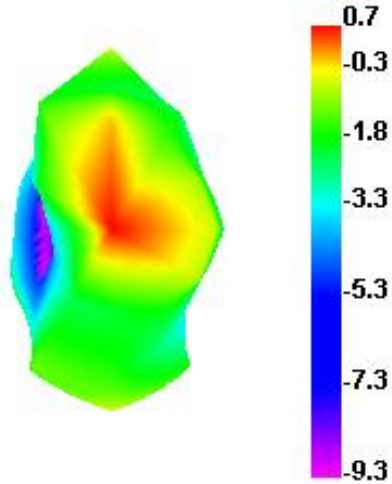


Security is required

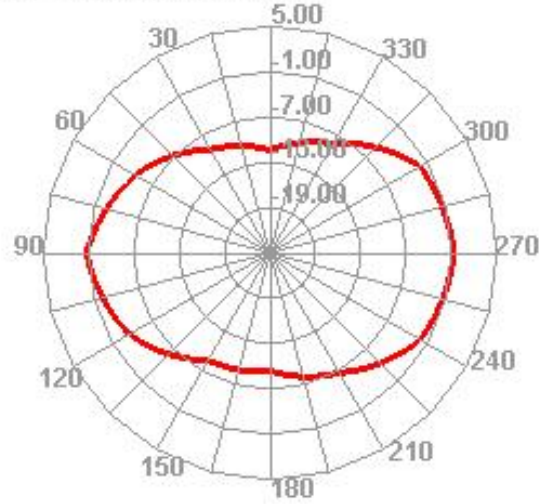
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Radiation Pattern For WiFi Antenna(2500MHz)

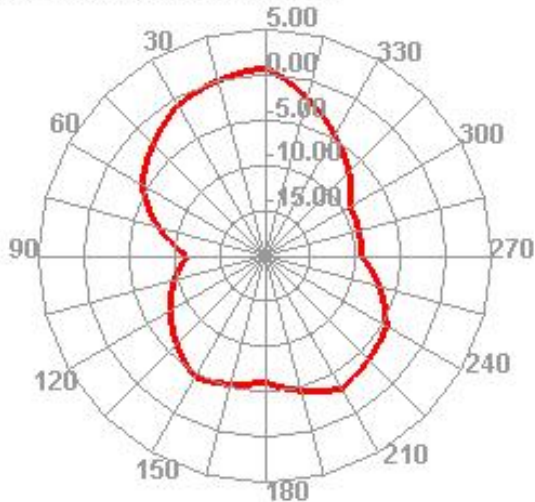
2500.000MHz



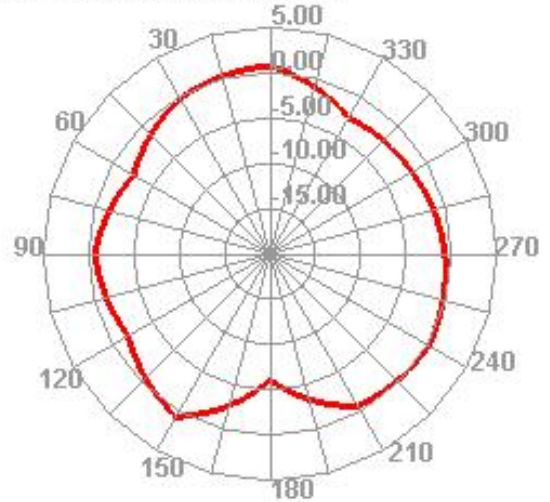
2500.000MHz H



2500.000MHz E1



2500.000MHz E2



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1.2.2、Active test data of the whole machine

802.11b OTA 2.4G				
	Rate (Mbps)			
		CH1	CH7	CH13
TRP	11	16.52	15.71	16.09
TIS	11	-86.01	-86.57	-86.4

802.11g OTA 2.4G				
	Rate (Mbps)			
		CH1	CH7	CH13
TRP	54	15.64	15.89	15.92
TIS	54	-72.4	-73.37	-73.18

802.11n OTA 2.4G				
	Rate (Mbps)			
		CH36	CH149	CH165
TRP	Mcs7	15.43	15.96	15.98
TIS	Mcs7	-67.5	-70.17	-69.8

Above is the WIFI antenna active test data of the whole machine.

two、Structural specification

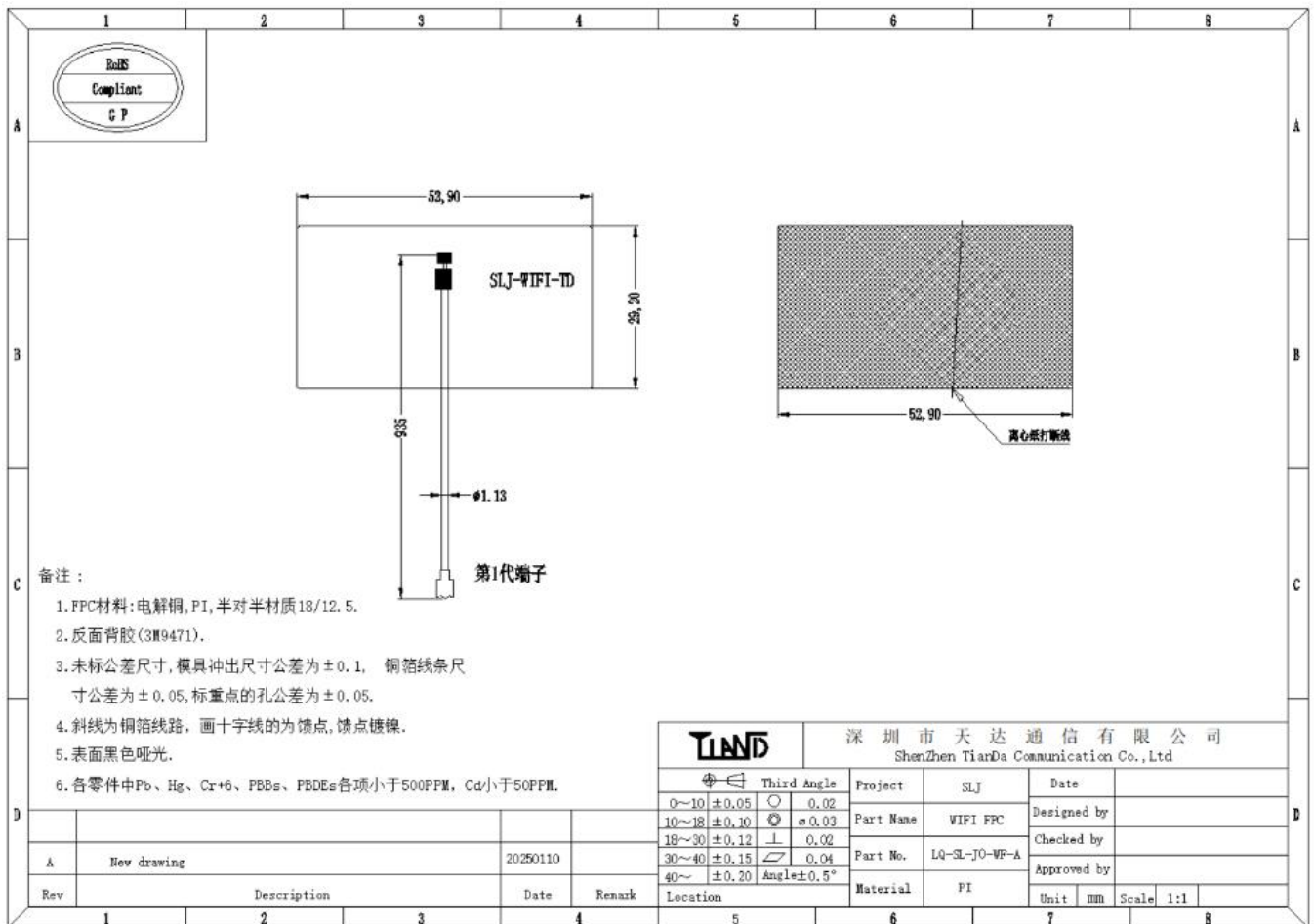
2.1、Antenna composition

The WIFI antenna is mainly composed of Cable+FPC, The line length is 935mm.

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2.2、Engineering drawing



two、conclusion

This antenna is designed on the prototype provided by the customer at present, the electrical parameters and structural size have reached the technical requirements, please confirm!

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