SPECIFICATION

Dongguan Xinyunxing Electronics Co., Ltd

FPC Antenna

Product Specification

Customer		Frequency band	2400-2500MHz
Project name	Video Door Phone	Edition	
Item number		Colour	black
R Fdesign		Structural design	
Date	2025.03.20		

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

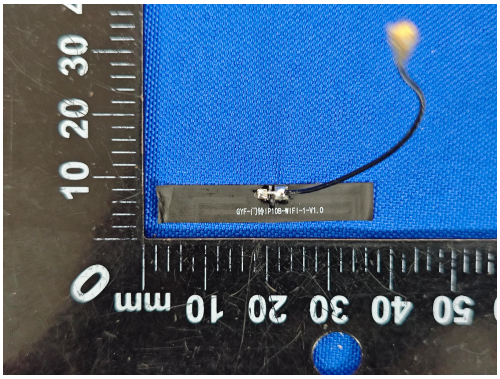
two、Structural specification.....9

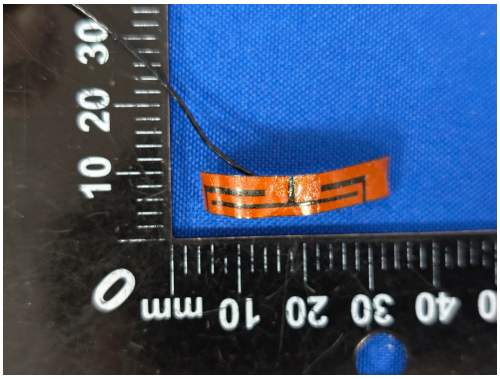
2.1、Antenna composition.....9

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.





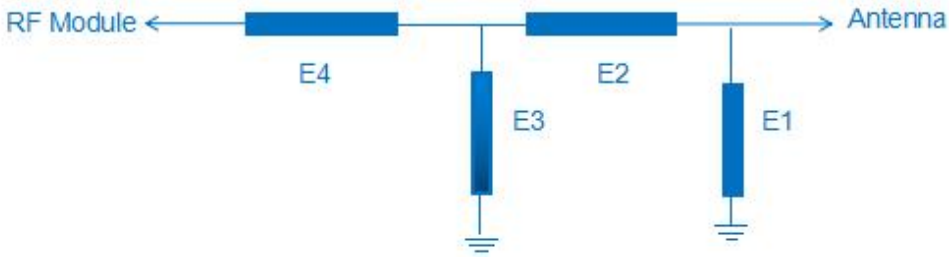
1.1、electrical specifications

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

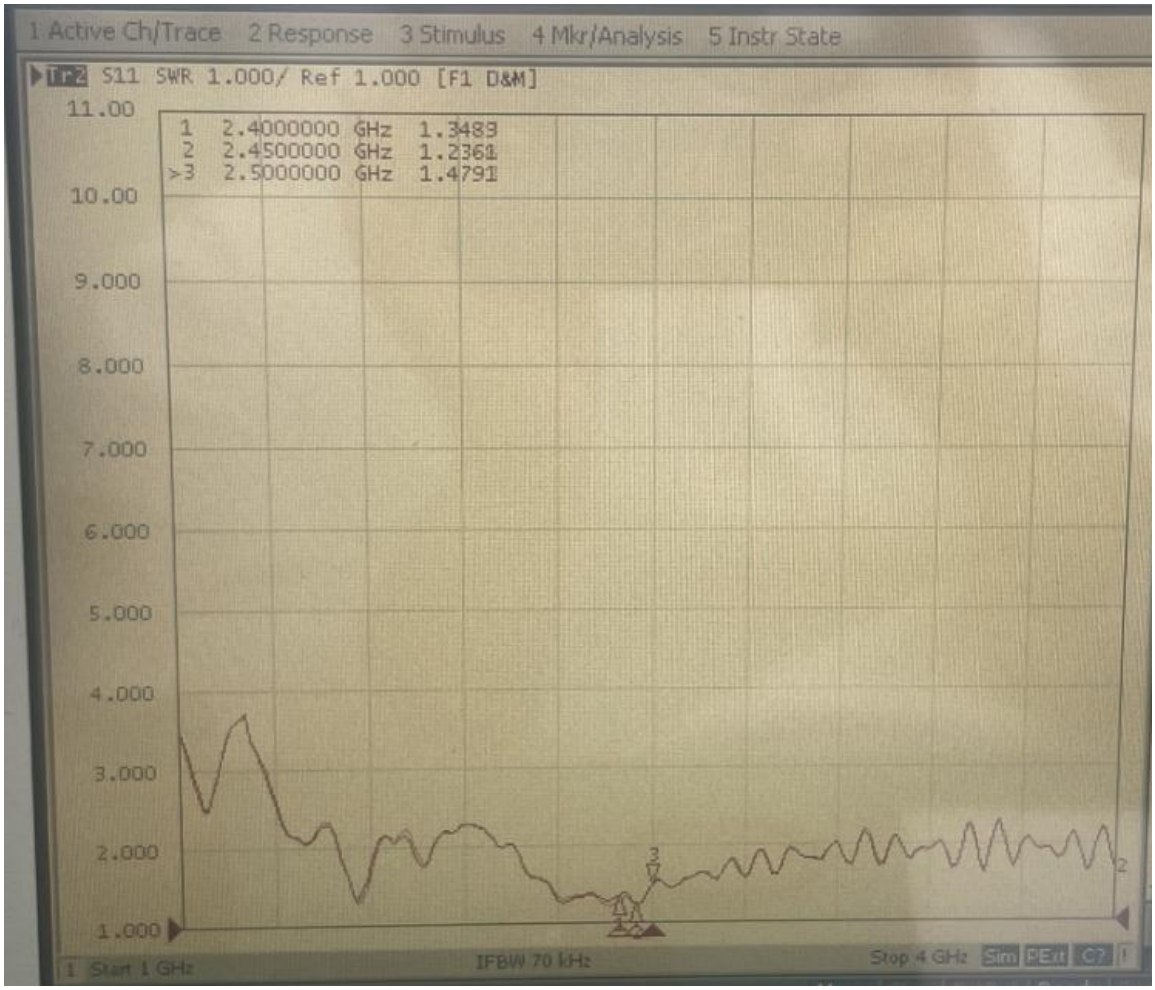


The matching circuit of the WIFI antenna is the original matching circuit of the motherboard and has not been changed.

1.2、Test

1.2.1、Passive test

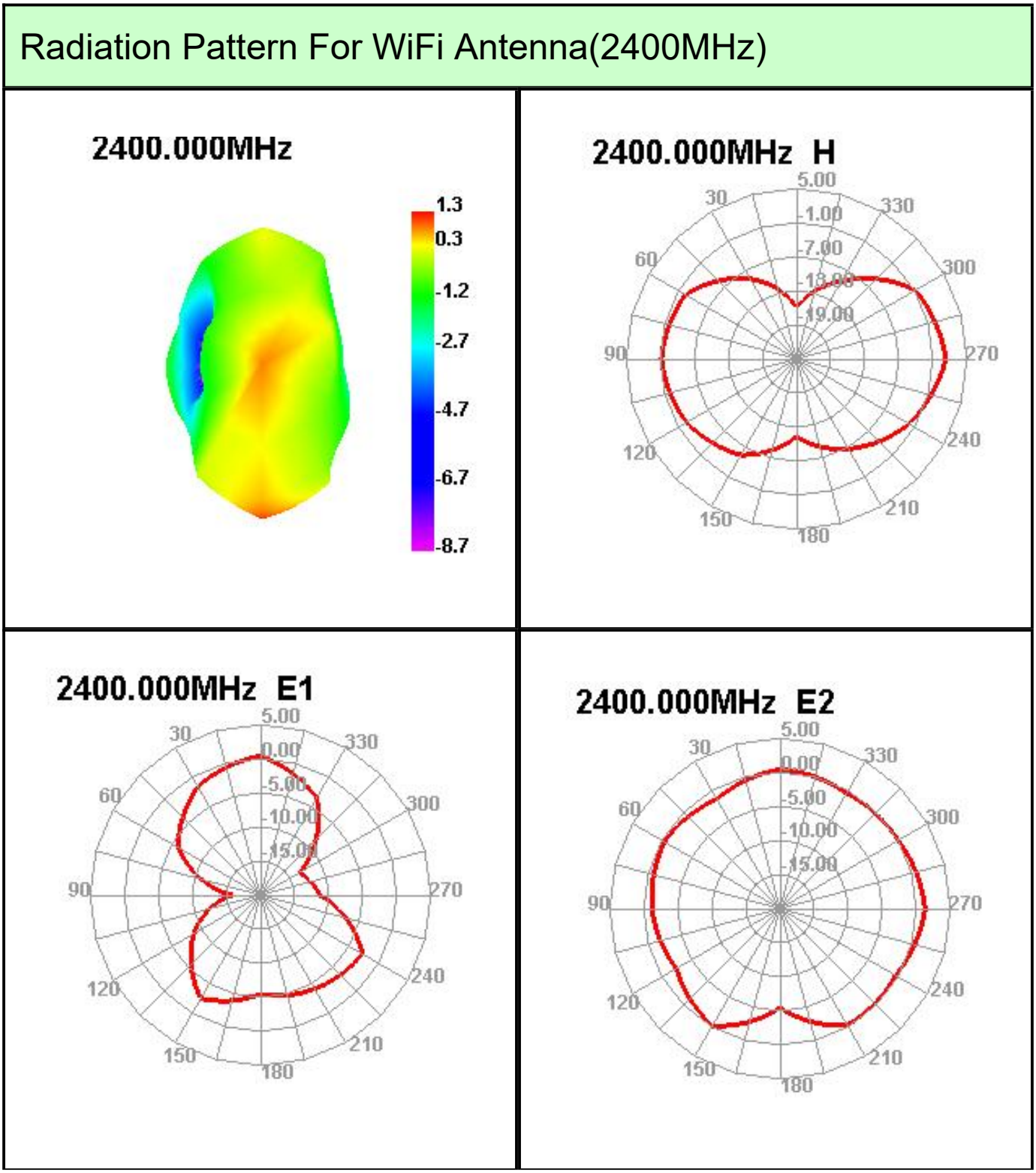
1.2.1.1、Antenna standing wave test（VSWR）



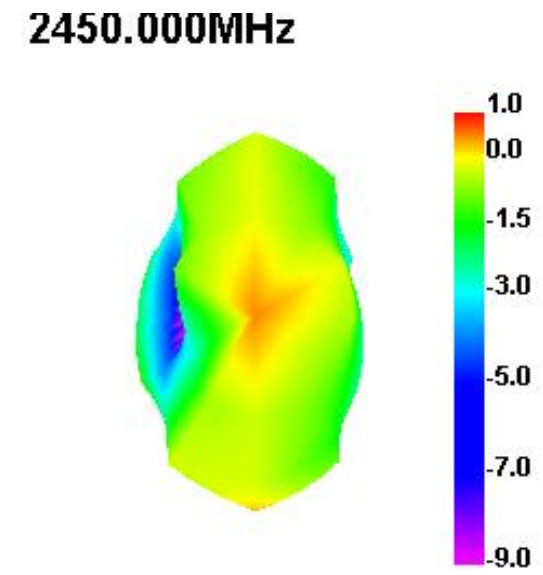
1.2.1.2、Antenna gain, efficiency

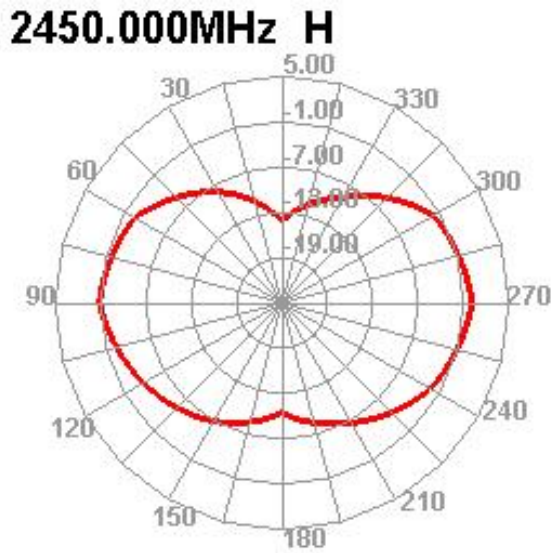
Passive Test For WiFi Antenna(2.4G)			
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	52.99	-2.76	1.3
2410	54.32	-2.65	1.2
2420	54.86	-2.61	0.93
2430	57.76	-2.38	0.35
2440	54.02	-2.67	0.72
2450	56.77	-2.46	1.02
2460	54.11	-2.67	1
2470	51.2	-2.91	1.02
2480	54.94	-2.6	1.05
2490	53.49	-2.72	1.23
2500	52.14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

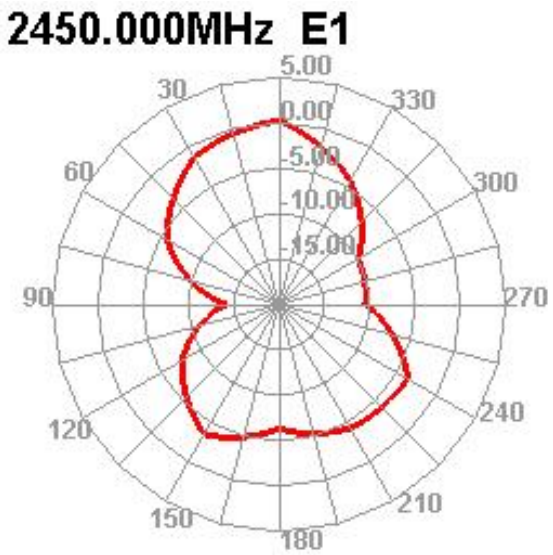
1.2.1.3、Antenna pattern

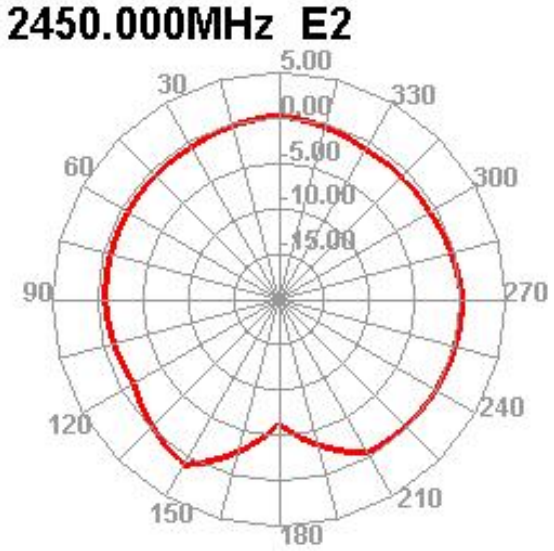


Radiation Pattern For WiFi Antenna(2450MHz)

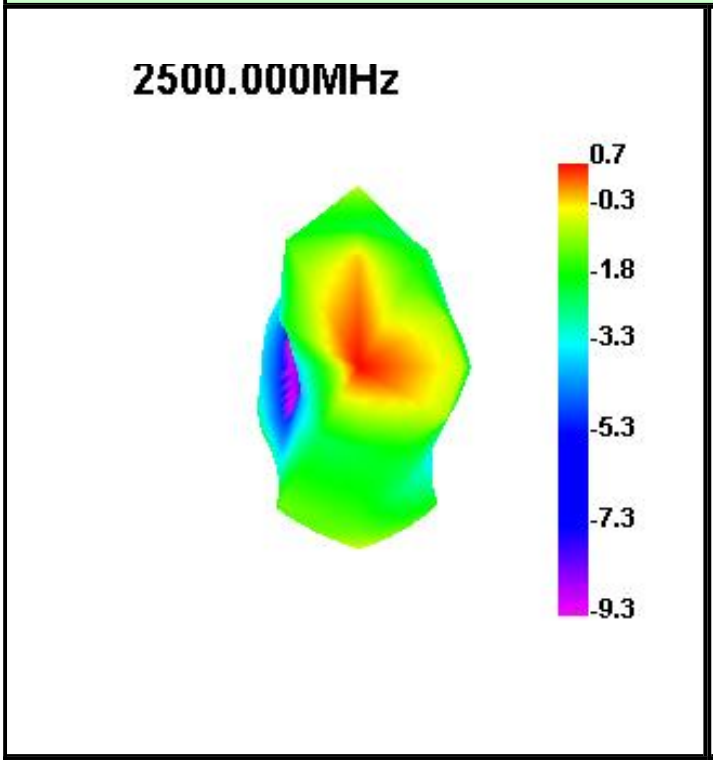


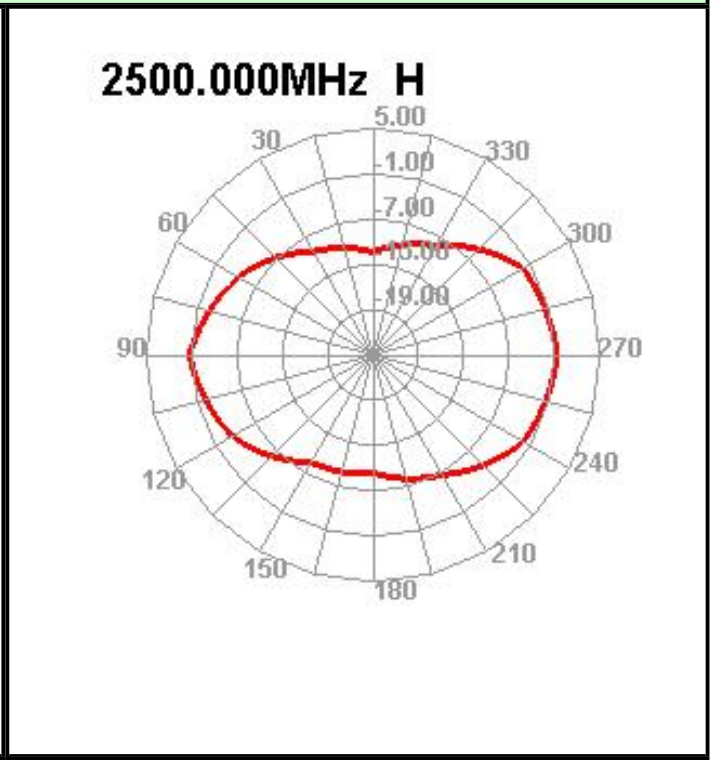


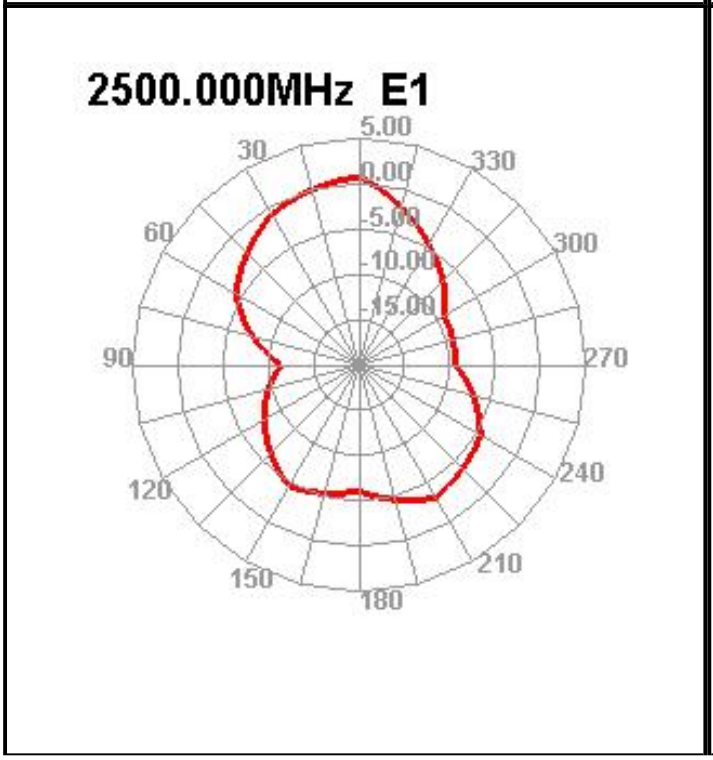


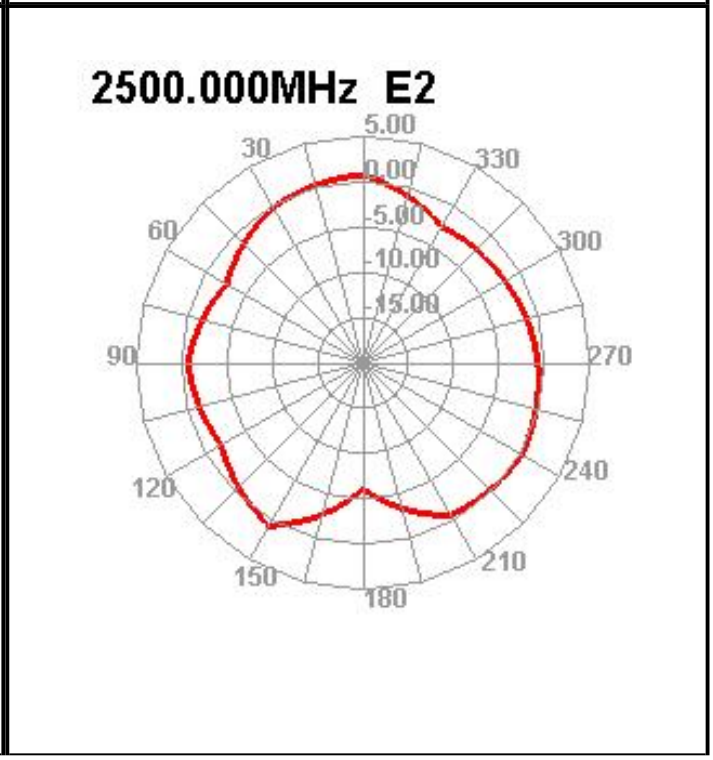


Radiation Pattern For WiFi Antenna(2500MHz)









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 ofCable+FPC，The line length is 935mm.