

Yuande Electronics (Shenzhen) Co., Ltd

Sample Approval Sheet

Product Information:

Customer	1 by one
Material Description	LP11 BT Antenna
Customer's Part number	
Specifications	LP11 BT Antenna: FPC (L48*W17.5mm) +Black Coaxial Cable (Φ1.13*130mm) +Welding
Supplier's Part number	136-LP11X-10A
Date	2023-3-13

Supplier:

Prepared By	Checked By	Approved By
Zhang Dengqiao	Li Yuepeng	Zhang Hongying



Customer Approval:

Accepted By	Checked By	Approved By

Results:

- Full Approval
- Conditional Approval
- Unqualified
- Others:

This sample approval sheet is guaranteed to be true. If it is confirmed by your R&D department, please send it back to us as soon as possible. If there are other reasons, please inform us in writing.

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1、 Specification

This report mainly provides the testing status of various electrical and structural performance parameters of LP11 BT Antenna.

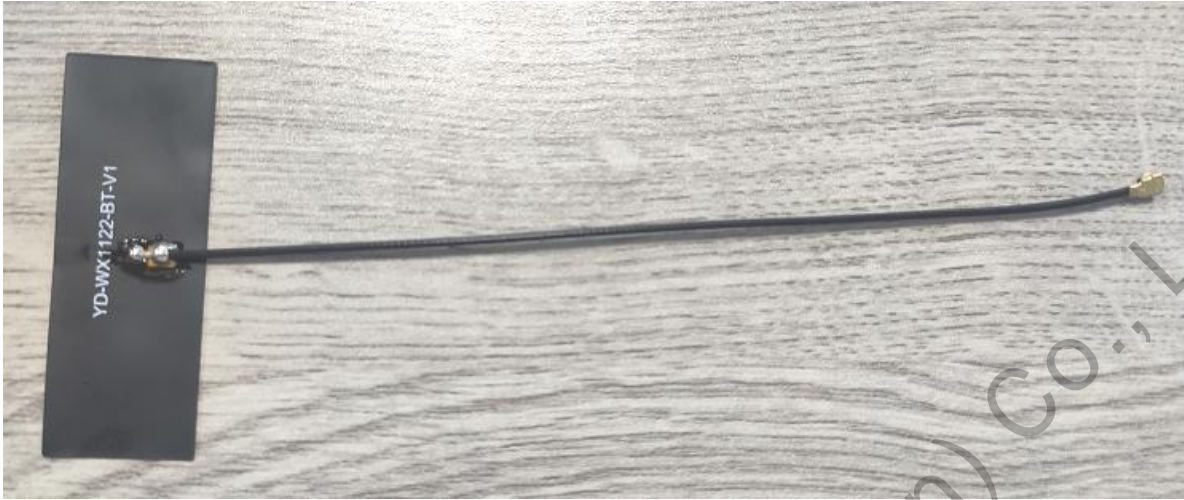


Figure 1 Antenna

1.1 Electrical specification standard

1.1.1 Electrical Specifications

The antenna operates in the 2400-2480 MHz. The following table is the electrical performance index of the antenna designed by our company.

Antenna	LP11 BT Antenna
Frequency Range	2400-2480MHz
VSWR	< 2.0
Efficiency	> 50%
Gain	< 2.5
Impedance	50 ohm
Polarization	Linear polarization

2、 Test

The antenna was debugged and tested with the prototype provided by the customer.

2.1 Test of passive S11

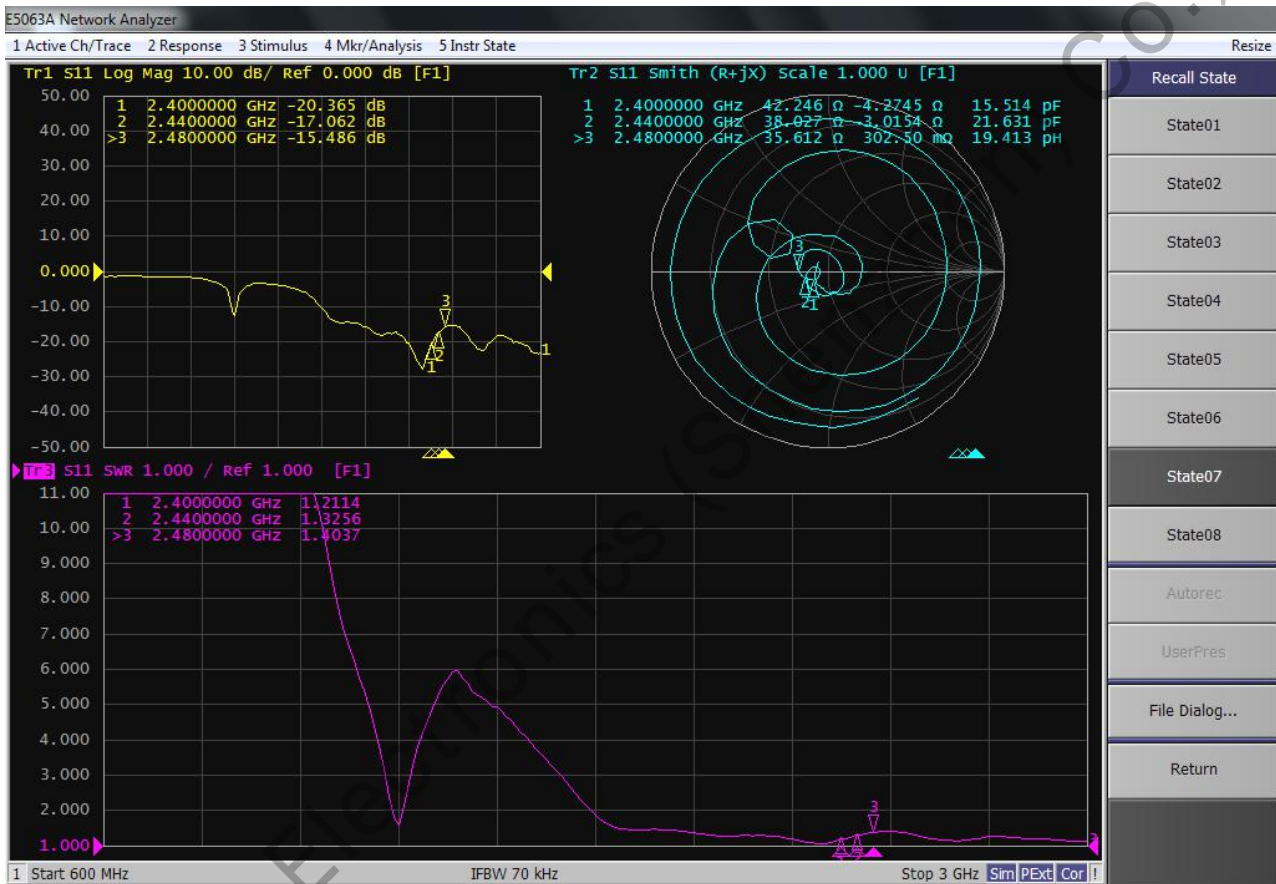
2.1.1 Test connection

The passive S11 test device is connected as follows: Network Analyzer → Test Line → Test Fixture.

2.1.2 Passive S11

The following table shows the standing wave ratio values of the edge frequency points of the antenna operating frequency band. The waveform of Return Loss and VSWR obtained by the test is shown as follows.

Frequency (MHz)	2400	2440	2480
VSWR	1.21	1.32	1.40
Return Loss	-20.36	-17.06	-15.48



2.1.3 Results Summary

In the microwave anechoic chamber, the measured values related to efficiency and gain are shown in the table below.

Frequency (MHz)	Directivity (dB)	Efficiency (dBi)	Efficiency (%)	Gain (dBi)
2400	4.44	-2.95	50.68	1.49
2410	4.41	-2.81	52.41	1.60
2420	4.44	-2.79	52.63	1.65
2430	4.64	-2.74	53.19	1.90
2440	4.82	-2.71	53.60	2.11
2450	4.92	-2.68	53.92	2.24
2460	4.82	-2.64	54.49	2.18
2470	4.75	-2.60	55.01	2.16
2480	4.66	-2.56	55.47	2.10
2490	4.58	-2.53	55.88	2.05
2500	4.59	-2.52	55.94	2.06

3、 Conclusion

This antenna is designed on the basis of the prototype provided by the customer. The above electrical performance parameters are tested under the environmental treatment conditions of the test prototype. The electrical parameters and structural performance have met the technical requirements. Please confirm!

4、Part Drawing

1	2	3	4	5	6	7	8	
					Rev	Description	Date	Remark
					A	New drawing		

技术要求:
 1. 标“*”尺寸为重点管控尺寸;
 2. 未标注尺寸依照图纸;
 3. 无虚焊、假焊、连锡、短路、断路等焊接不良现象;
 4. 所有部件需符合RoHS要求。

No.	Part No.	Name	Specification	Amount	Remark
1	100-00005X-005	A3118 2.4G-FPC	单面板D1电焊铜, 黑色, 背胶3M9471	1	
2	104-00005X-003	A3118 2.4G焊锡线	φ1.13mm/双锡线/黑色/一代端子	1	

Third Angle	0.02	0.03	0.02	0.04	±0.5°
0~10	±0.05	0	0.02	0.04	±0.5°
10~18	±0.10	0	0.03	0.02	±0.5°
18~30	±0.12	0	0.02	0.04	±0.5°
30~40	±0.15	0	0.02	0.04	±0.5°
40~	±0.20	0	0.02	0.04	±0.5°

Project	LP11	Date	2023-02-22
Part Name	BT天线	Designed by	张登桥
Part No.	136-LP11X-10X	Checked by	RF
Material	/	Approved by	MD
Unit	mm	Scale	1:1
Rev	A1	Scale	1:1