

Shenzhen yGalax Technologies Limited

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Development Report of Antenna Radio Frequency System for Weike AI106 Project

The main purpose of this report is to provide feedback on the test data of the sample antenna of version v1.0.

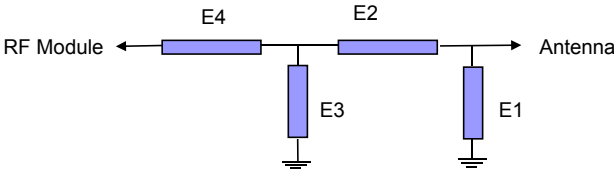
The main conclusion of this report: The performance test is okay.

Key points to note in this report: Pay attention to the introduction of the matching circuit.

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Project frequency band information: BLE/2.4G WiFi

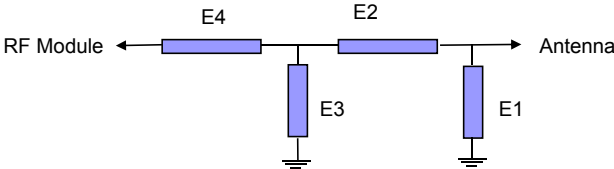
WiFiMatching parameters



WiFi antenna	Element	Value
	E1	N/C
	E2	0Ω
	E3	N/C
	E4	

Original matching

BT Matching parameters



BT Antenna	Element	Value
	E1	2.0 PF
	E2	0Ω
	E3	N/C
	E4	

Parallel 2.0pf capacitors

Note: Pay attention to the import of antenna matching!

Antenna passive efficiency test parameters

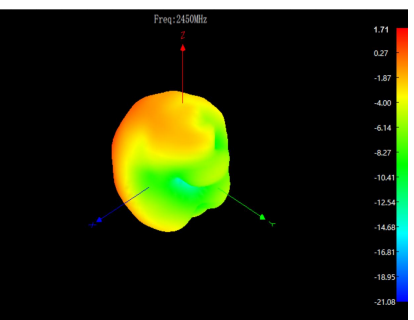
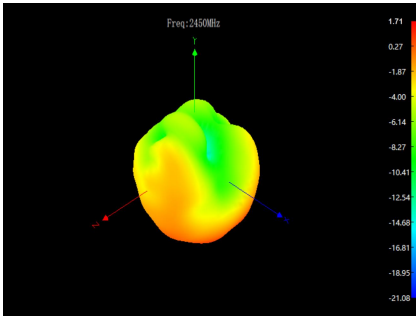
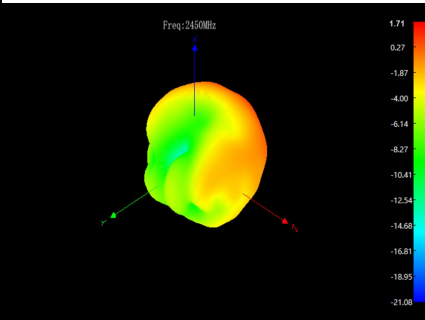
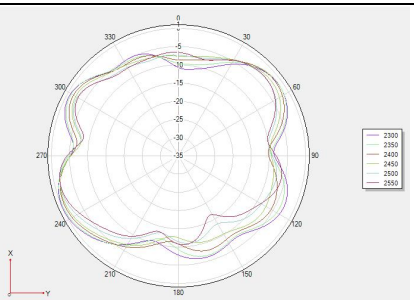
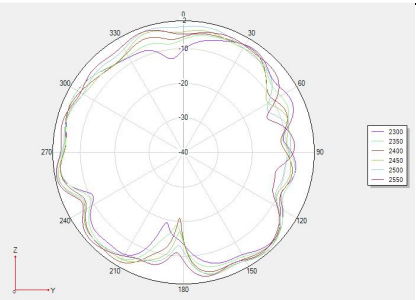
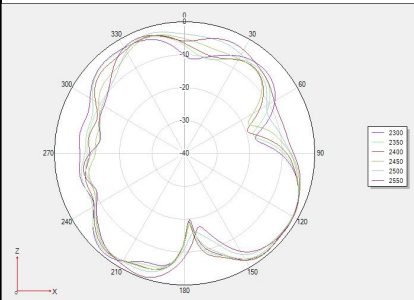
WiFi效率与增益

Frequency/MHz	Efficiency / dB	Efficiency / %	MaxGain/dBi
2300	-3.45	44.28	1.71
2350	-3.73	43.41	1.44
2400	-4.03	39.73	1.35
2450	-4.05	39.56	1.7
2500	-4.1	38.01	1.25
2550	-4.02	39.33	1.91

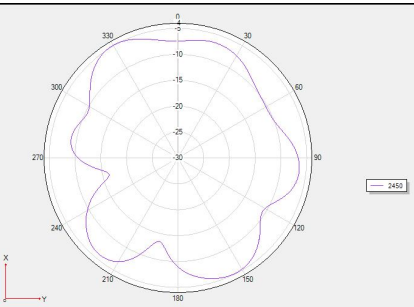
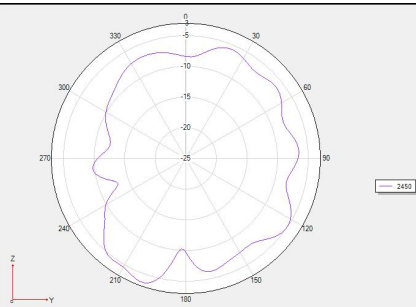
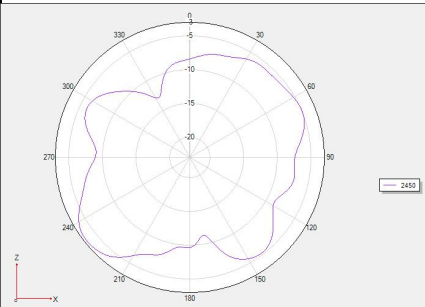
BT 效率与增益

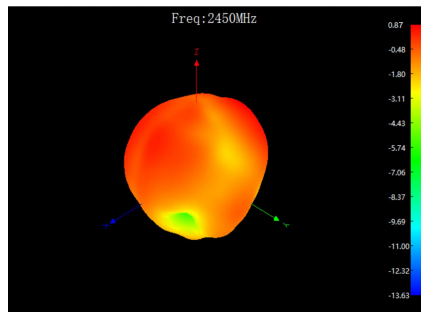
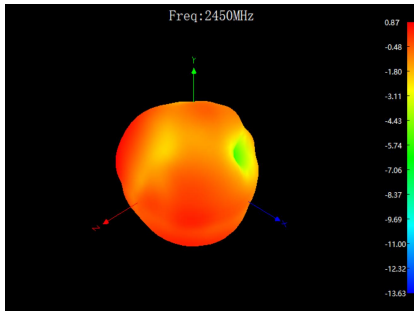
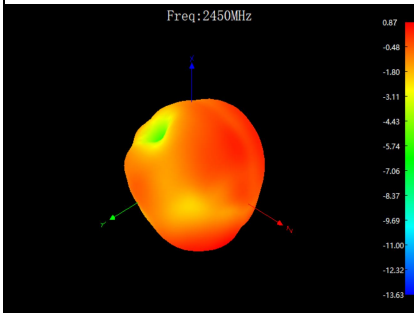
Frequency/MHz	Efficiency / dB	Efficiency / %	MaxGain/dBi
2300	-7.29	18.65	0.14
2350	-7.16	19.22	1.11
2400	-6.6	21.87	0.57
2450	-6.96	20.14	0.87
2500	-7.13	19.34	0.68
2550	-7.37	18.33	-0.27

WiFi-2/3D diagram



BT-2/3D diagram



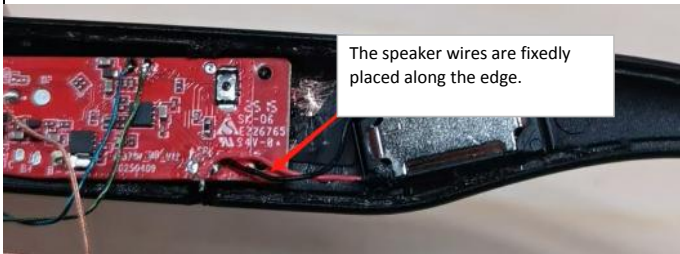
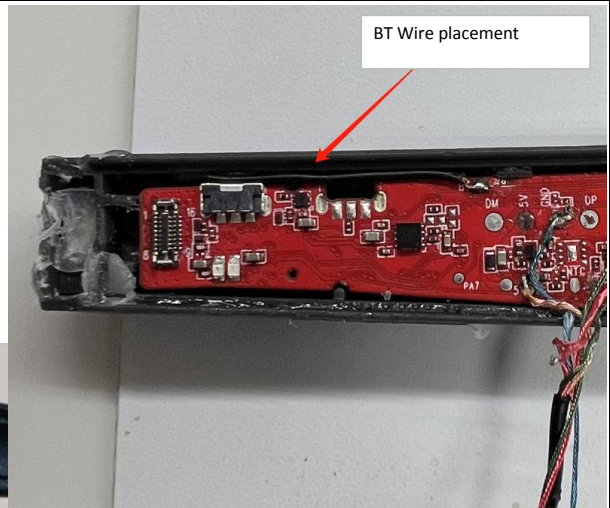


WiFi-Active test data

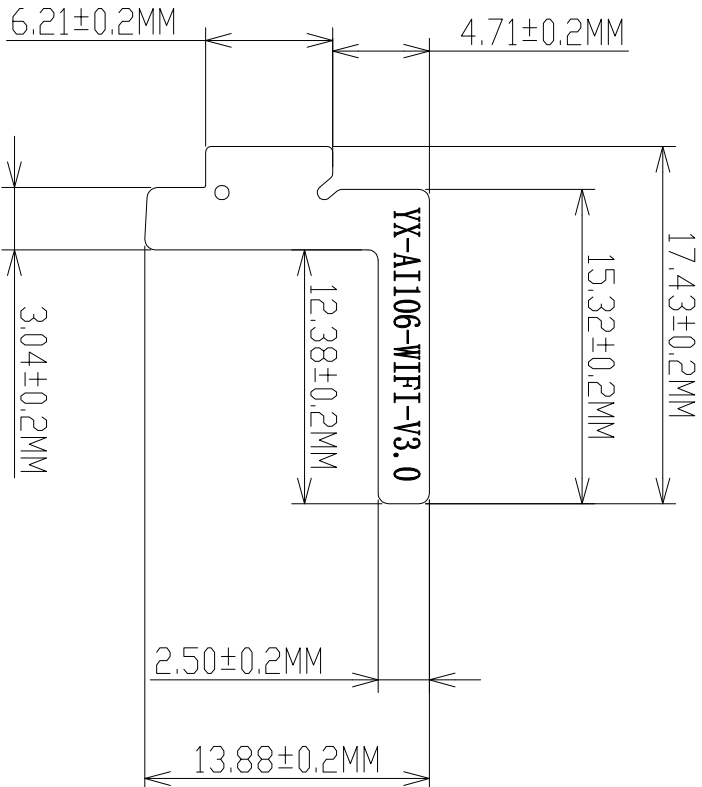
FS	Channel	TX (dBm)	RX (dBm)	FS	Channel	TX (dBm)	RX (dBm)	FS	Channel	TX (dBm)	RX (dBm)
2. 4G-11b (11M)	1	17. 83	-84. 29								
	6	17. 61	-84. 26								
	11	16. 91	-85. 44								

Performance conclusion: The overall performance test of the machine is ok

Installation Precautions



REVISION	ECO#	REVISION NOTE	AUTHOR	DATE
A0		New release		13/05, 22'



出货方式: 单PCS包装出货

字符说明:

1. 内容“XXXX”表示生产日期(年周, 如2101)

注:

1. MATERIAL :18/12.5电镀铜, PI基材(1对半); 图中绿色线表示铜层的轮廓, 紫色线表示外形.
2. 未注公差要求:A.铜箔到铜箔 ± 0.05 B.铜箔到外形 ± 0.15 (特殊要求的话做到 ± 0.10) C.孔到外形的公差 ± 0.15 (特殊要求的话做到 ± 0.10) D.孔径的尺寸公差 ± 0.05 E.阻焊公差 ± 0.30 F.外形到外形 ± 0.15 (特殊要求的话做到 ± 0.1) G.冲孔与冲孔之间的距离公差 ± 0.1 H.孔到铜箔 ± 0.15 .
3. 镀锡金: NI: 2-7um AU: 不小于0.025um (盐雾必须过48H), 油墨:
4. 此PCB背胶为:3M 9471LSL, 粘性要超强!
5. 表面无压伤, 刮痕, 无油污, 斑点, 发黑等缺陷;
6. 首批模具样品: 随机挑选5pcs做全尺寸测量, 报告及样品需转递以品质部;
7. 尺寸要求:
- 7.1. ST尺寸: 测量最小量为500中选取的任意35个产品的尺寸作CPK分析;
- 7.2. * 尺寸为重点管控尺寸;
8. 任何用料上的修改必须通过Yalax工程部门的书面同意, 并通过Yalax品质部门的各项测试;
9. 产品必须符合RoHS/HF/REACH标准;

GENERAL TOLERANCE TABLE

LINEAR	TOLERANCE	ANGULAR	TOLERANCE
DIVISION	TOLERANCE	DIVISION	TOLERANCE
0-10	± 0.05	0-5°	$\pm 0.5^{\circ}$
10-50	± 0.10	5-20°	$\pm 1^{\circ}$
50-80	± 0.15	20-90°	$\pm 1.5^{\circ}$
>80	± 0.2		

UNIT: mm

PART NAME: YX0722-A1371

深圳星河电波科技有限公司

TITLE:

YX0722 (WIFI 天线FPC)

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APPD:

Dr:

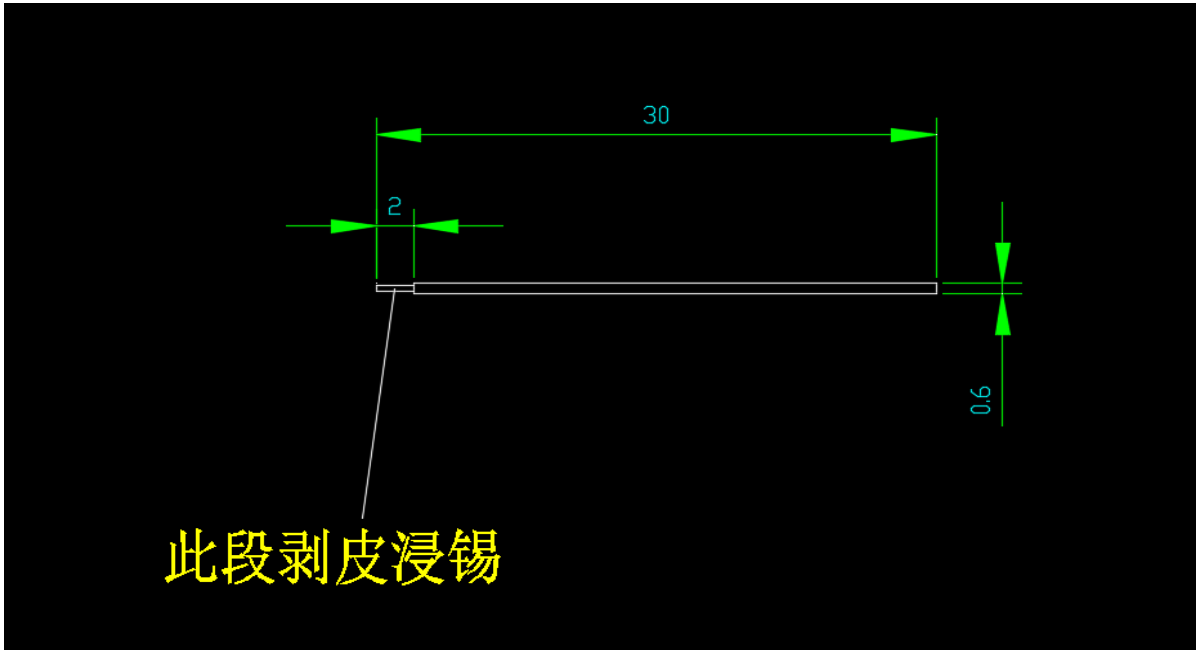
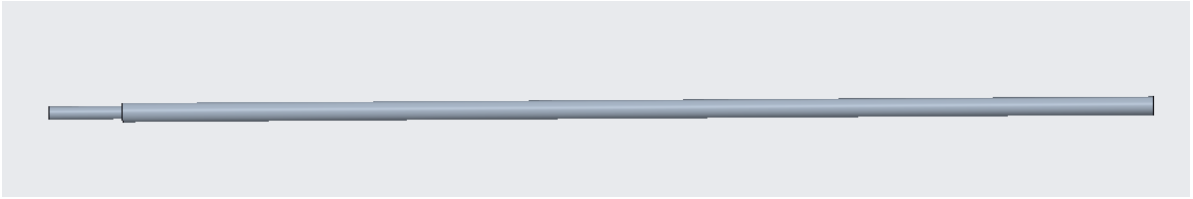
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BT Structural diagram and dimension diagram