

VLG TECHNOLOGY

ShenZhen VLG Wireless TECHNOLOGY CO.,LTD

Shenzhen VLG Wireless Technology Co., LTD Acknowledgment

Customer/project name	RuxTek RTM-103	Frequency band	WIFI		
VLG P/N	V1842-008-A-02	Version	R:A		
RF	HeJunSun	Quality	YuHong	Confirmation	
Structure	ShaoBing	PM	ZengCong		
Date	2023-12-6				
Customer project name and P/N	Customer project name:				
	Customer project P/N:				
Customer Confirmation					
VLG Communication Technology					
R&D Customer satisfaction survey of R&D projects (Customers please comment on the work of our R & D or PM management staff and urge us to better serve you)					
RF technician	☐ satisfaction	☐ be basically satisfied	☐ Dissatisfaction		
Structural technician	☐ satisfaction	☐ be basically satisfied	☐ Dissatisfaction		
Project Management (PM Manager)	☐ satisfaction	☐ be basically satisfied	☐ Dissatisfaction		
Description of suggested items:					
ANT Picture:					
					

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Design Specifications	Typical	Units
Antenna form	FPC	
working Frequency	2400-2500	MHz
Gain	≤ 4	DBi
Antenna efficiency	50-65	%
VSWR	≤ 3	
Ploriaztion	Line polarization	
Axial Ratio	/	N/A
Radiation pattern	all-around	
impedance	50 ohm	
Power handling	33	
Interface	Shrapnel contact	
Overal dimensions	See drawing section	
Weight	No requirement	
Operatin Temp	-30 ~ 85	
Storing Temp	-30 ~ 70	

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1、 **Specifications:** The report mainly provides the test status of the electrical performance parameters of the WIFI antenna. WIFI antennas are in the 2400~2500MHz band.

2、 Electrical Specification

2.1 specification standard

The working frequency band of WIFI antenna is in 2400~2500MHz frequency band. The following table is the passive performance test index of the antenna

2.2 Antenna matching circuit:

No tuning match was added

2.3 ANT VSWR

2.3.1 Test setup

□ VSWR The test device is successively connected as: 8714ET: **network analyzer**→50 Ω coaxial

Cable→→**Test Fixture**

Treatment of test fixture: a cable is used to lead out the SMA connector at the 50 ohm test point of the antenna, which is connected with the copper tube with a choke, and then connected to other devices in turn.

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2.3.2 ANT VSWR:



2.4 Passive test data:

Frequency	Efficiency	Efficiency . dB	Gain . dB
2400	53%	-2.7	2.7
2410	53%	-2.7	3.2
2420	55%	-2.6	3.6
2430	53%	-2.8	3.7
2440	51%	-2.9	3.8
2450	53%	-2.8	4.1
2460	53%	-2.7	4.2
2470	52%	-2.9	4.0
2480	53%	-2.7	4.0
2490	55%	-2.6	4.1
2500	56%	-2.6	3.9

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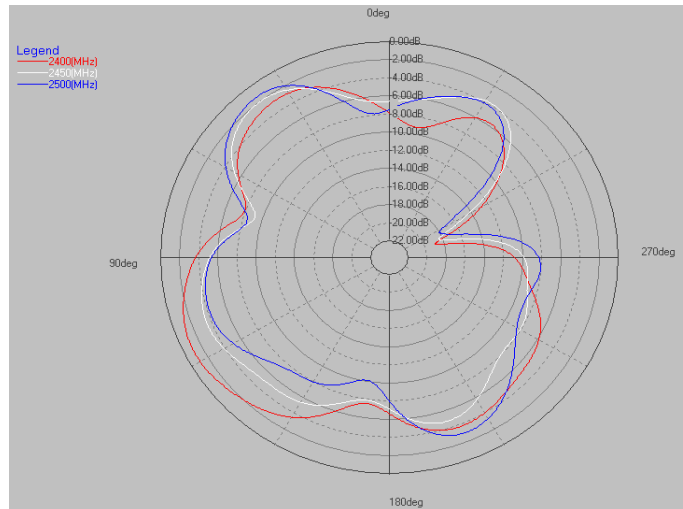
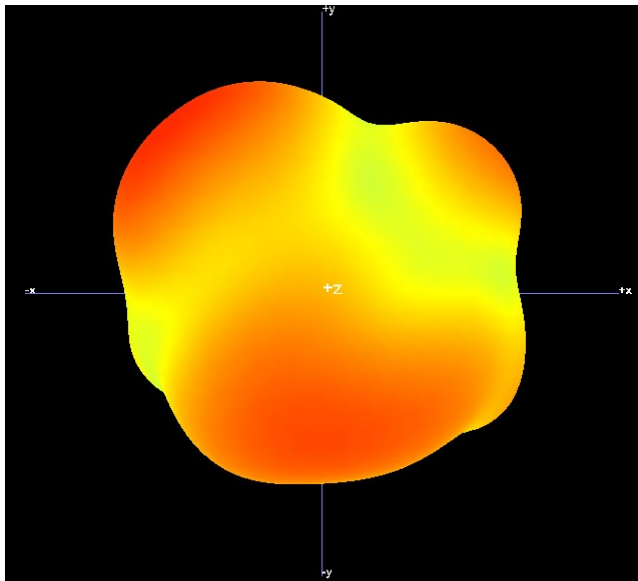
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2.5 Active test data

11b	TRP (1M)		TIS (1M)	
	1	14.33	1	-91.52
	6	12.03	6	-90.79
	11	12.89	11	-90.32
11b	TRP (11M)		TIS (11M)	
	1	14.65	1	-83.06
	6	12.17	6	-82.25
	11	12.97	11	-82.22
11g	TRP (6M)		TIS (54M)	
	1	14.7	1	-65.82
	6	12.04	6	-64.97
	11	13.24	11	-65.47

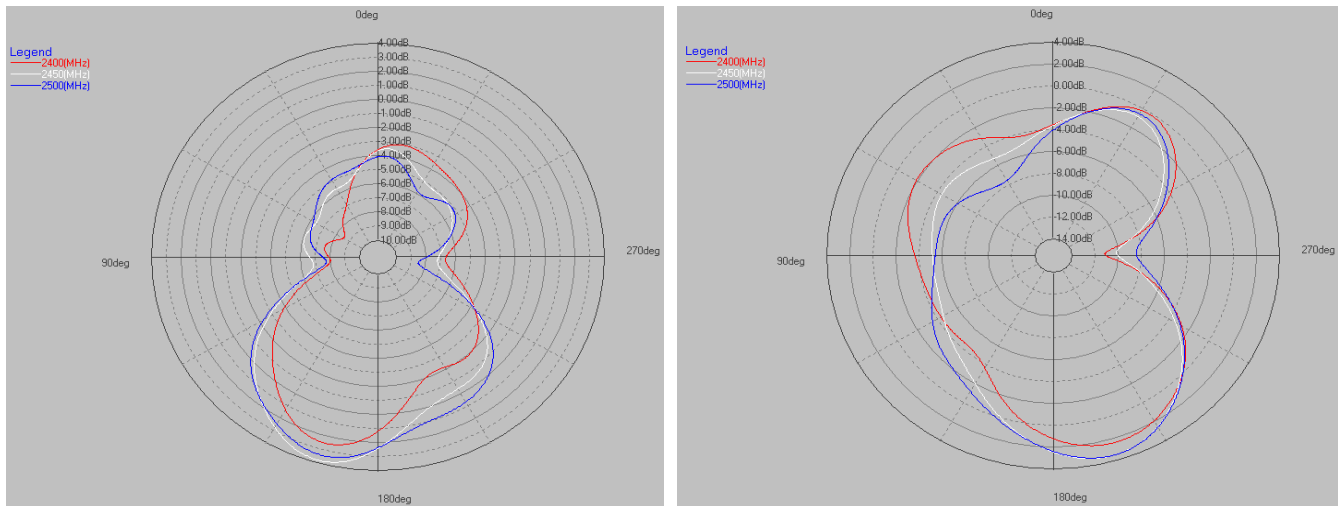
2.6 Directions

2450MHz



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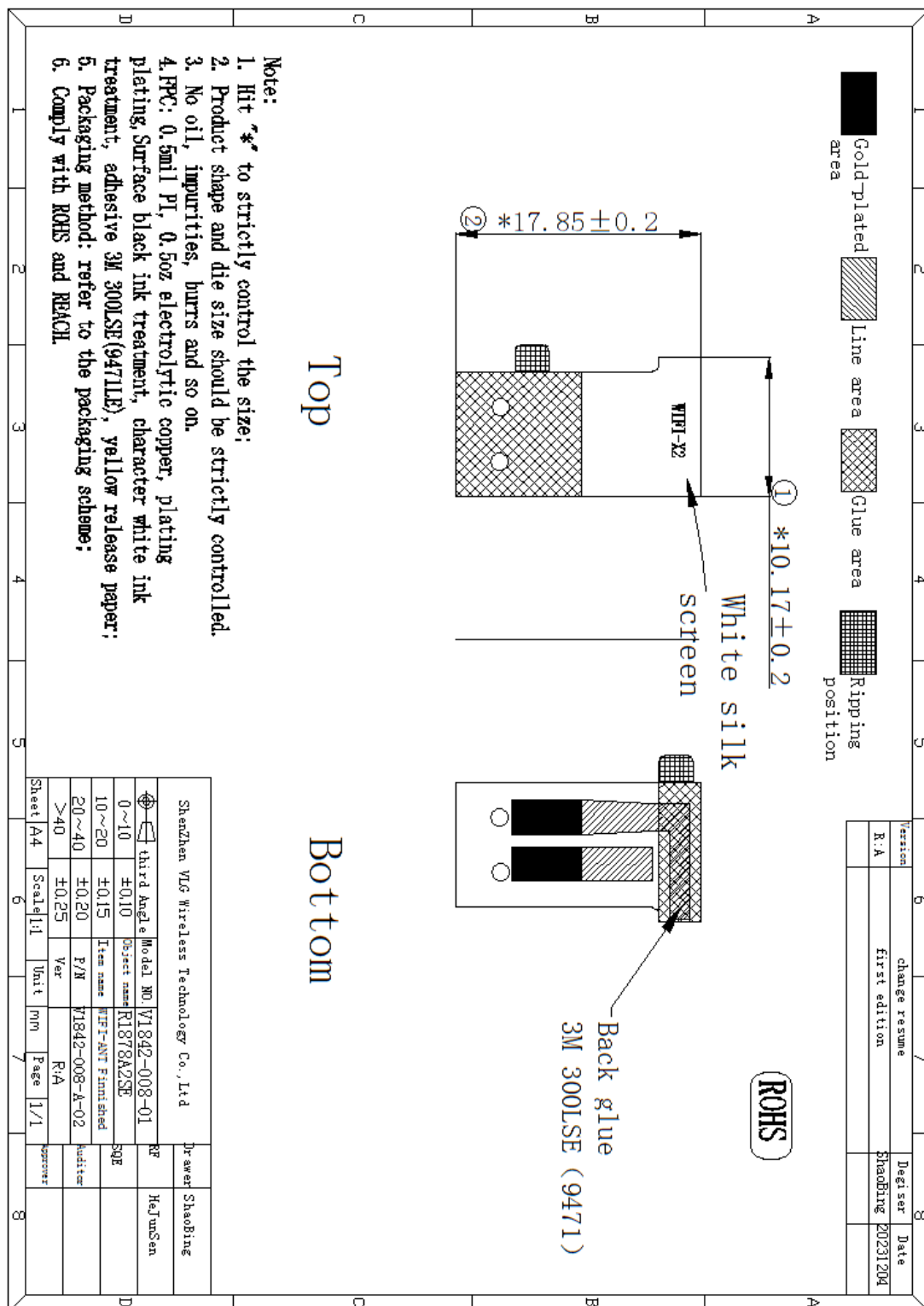
3、Recommendations and conclusions

This report is based on the electrical performance of the final version of the R1878A2SE WIFI antenna supplied by the customer. As can be seen from the above test data, this antenna provides better electrical performance. VLG R & D staff look forward to your confirmation, thank you for your cooperation!

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4、Product 2D Drawing:



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Sample size test report (FAI)

customer name		RuxTek RTM-103		product name				type		WIFI			
supplier		/		P/N		V1842-008-A-02		Tester		YuHong			
Drawing version		A		Unit		mm		Survey Date		11/19			
NO.	test item	test standard				measurement					result	instrument	remark
1	aspect	Brief description of bad appearance				OK	OK	OK	OK	OK	OK	test	
	drawing size	★	10.17	±	0.20	10.16	10.17	10.18	10.16	10.19	OK	PM	
		★	17.85	±	0.20	17.85	17.89	17.88	17.80	17.82	OK	PM	
		blank below											
final judgment : OK ☒ NG ☐													

Testing instrument for short: PG - plug (round hole) gauge, RG - R gauge, SG - block gauge, LG - ring gauge DC-digital caliper PM - quadratic coordinate projector

Version :A.0 Form Number :VLG/QRF8.2-28/A.0

Inspection: Jiang Tao Audit: Approved: Yu Hong

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R1878A2SE-FPC product raw material list

name	Raw material type	Raw material brand
base material	Half and half gel single side electrolytic	CAI Lungetti
gum	3M9471 adhesive paper	3M
printing ink	Matte black oil (PSM-800)	Youli
characte	wrongly written or mispronounced	Chuanyu
release liner	Yellow release paper	Ze Xingyu
gold plating	0.03um	ZhiFu

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Salt spray test report

customer name	RuxTek RTM-103		quantity of test	3pcs			
product name	WIFI ANT		P/N	/			
date of survey	2023/11/28		testing standard	ANSI/IEEE Std 149-2008			
test time: 2023.8.26-2023.8.28							
test Object	Standard	Actual Value	judge	test Object	Standard	Actual Value	judge
instrument specification	KD-60	KD-60	OK	test time	24H	24H	OK
Salt spray test type	NSS PH	NSS PH	OK	Salt spray tank temperature	35±2° C	35° C	OK
saline water PH	6.5-7.2	6.8	OK	The amount of salt spray settling (H. 80C)	1-2ml	1.6	OK
Spraying mode	continuous spray	continuous spray	OK	Salt spray humidity	>85%	95%	OK
Brine composition	5±1%/NaCL	5%/NaCL	OK	Compressed air node pressure	1±0.1KG/CM ²	1KG/CM ²	OK
saturation temperature	34° C	34° C	OK	Sample horizontal direction placement Angle	70-75°	75°	OK
No.	1	2	3	4	5	result	remark
No surface corrosion, coating peeling, foaming and other bad phenomena	OK	OK	OK	OK		OK	
judgeStandard: According to the national standard 5944-86 rating method judge, grade 9 or above is qualified							
Final judge	Pass ☒			NO Pass ☐			
tester	jiangtao		check	/	approve	Yuhong	
remark: Common salt spray test methods are: NSS neutral salt spray test, AASS Acetic acid salt spray test, CASSA ccelerated copper acetic acid test.							

versions: A.0

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VLG ShenZhen VLG Wireless Technology Co.,.Ltd**Low temperature storage test report**

customer name	RuxTek RTM-103			production batch	N		
product name	WIFI ANT			quantity of test	3		
P/N	V1842-008-A-02			testing standard	ANSI/IEEE Std 149-2008		
date of survey	2023/11/25			Goods material			
test time: 2023.8.8-2023.8.10							
testing standard	Stand ard	Actual Value	jud ge	testing standard	Standard	Actual Value	jud ge
instrument specification	80L	80L	OK	State testing standard	GB/T 2423. 1-2001	GB/T 2423. 1-2001	OK
Cal High Fusing	. -40 ℃	. -40℃	OK	Temperature	5° C-30° C	28℃	OK
HUMI SV	0%	0%	OK	humidity	25%-85%	40%	OK
test time	48 H	48 H	OK	open air compressor below 61℃	open	open	OK
Recovery time	2 H	2 H	OK				
Test observation time	Low temperature observation						
24H	No abnormal products (no deformation, no bubbles)						
48H	No abnormal products (no deformation, no bubbles)						
Final judge	Pass ☐ 				NO Pass ☐		
tester	jiangtao	che ck		Zhangwang	approve	Yuhong	

remark: After the test, it is necessary to check whether the electrical performance meets the original test requirements。

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High temperature storage test report

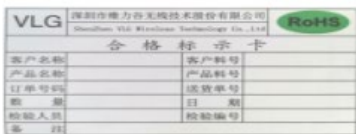
customer name	RuxTek RTM-103			production batch	N		
product name	WIFI ANT			quantity of test	3		
P/N	V1842-008-A-02			testing standard	ANSI/IEEE Std 149-2008		
date of survey	2023/11/23			Goods material			
testing standard	Stand ard	Actual Value	jud ge	testing standard	Standard	Actual Value	jud ge
instrument specification	80L	80L	OK	State testing standard	GB/T 2423.1-200 1	GB/T 2423.1-200 1	OK
Cal High Fusing	85°C	85°C	OK	Temperature	5° C-30° C	28°C	OK
HUMI SV	65%	65%	OK	humidity	25%-85%	40%	OK
test time	24 H	24 H	OK	open air compressor below 61°C	open	open	OK
Recovery time	2 H	2 H	OK				
Test observation time	High temperature observation						
24H	No abnormal products (no deformation, no bubbles)						
48H	No abnormal products (no deformation, no bubbles)						
Final judge	Pass ☒				NO Pass ☐		
tester	jiangtao	che ck		wanghailing	approve	Yuhong	

remark: After the test, it is necessary to check whether the electrical performance meets the original test requirements。

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Packing

Step	project	Note
1		Full page (packaging) inspect ok
2		Full page take into PE bag
3		Label PE bag
4		carton
5		seal the box
6		label of the outer carton

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