SPECIFICATIONS FOR APPROVAL

All data in this report only represent the data when the sample antenna is correctly installed in the designated test object. Replacing the test object or changing the installation method and position of the antenna will render the data in the report invalid.

Antenna manufacturer: Shenzhen Lejin radio frequency technology Co., LTD

Company Address: 3rd Floor, Building A4, No. 176 Chongqing Road, Fuhai Street, Bao'an District, Shenzhen, Guangdong Province. (Phone number: 13603098741)

Customer Name:	ZW
Product Name:	A5R
Product Model:	WIFI/BT ANT
Part Number:	LJF02-240510003-R0A
Write By :	李明进
Issued Date:	2024/5/10

CUSTOMER				
ENGINEER R&D DEPT	BUSSINESS DEPT	APPROVED BY	DATE	Edition/Part number
LEJIN				
R&D DEPT	ENGINEER R&D DEPT	APPROVAL	DATE	Edition/Part number
		李明进		数字签名者：李明进 DN：cn=李明进, o=乐进射频, ou=研发, email=13603098741@163.com, c= 无 日期：2024.07.31 00:15:17 +08'00'

ECN/ECR			

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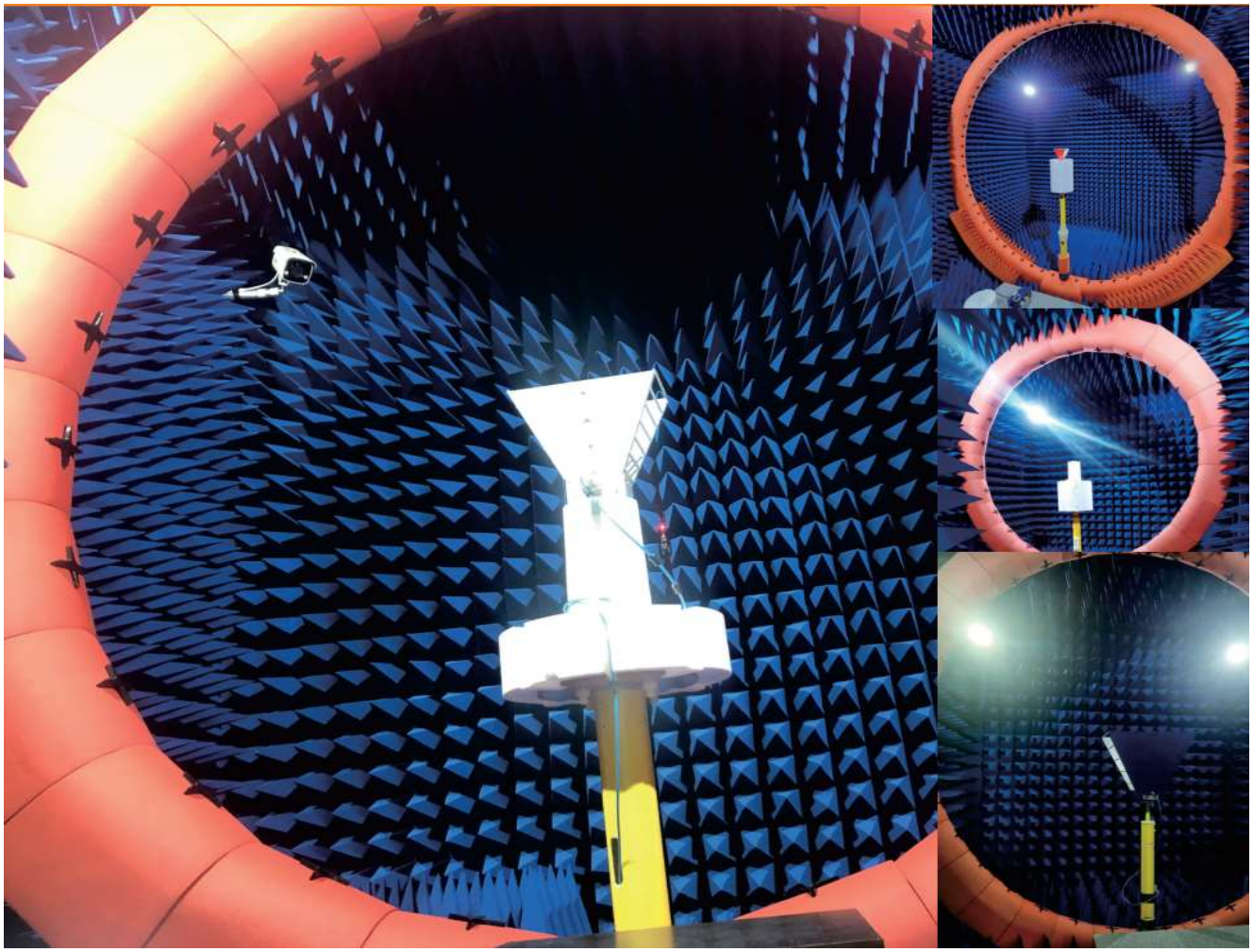
Electrical Characteristics					
Frequency	VSWR	Efficiency	Impedance	Polarization	Gain（dB)
2.4GHZ-2.5GHZ	<1.8	>35%	50 Ohm	Linear	⩾0,<2.0
5.15GHZ-5.85GHZ	<2.5	>50%	50 Ohm	Linear	⩾0,<2.0

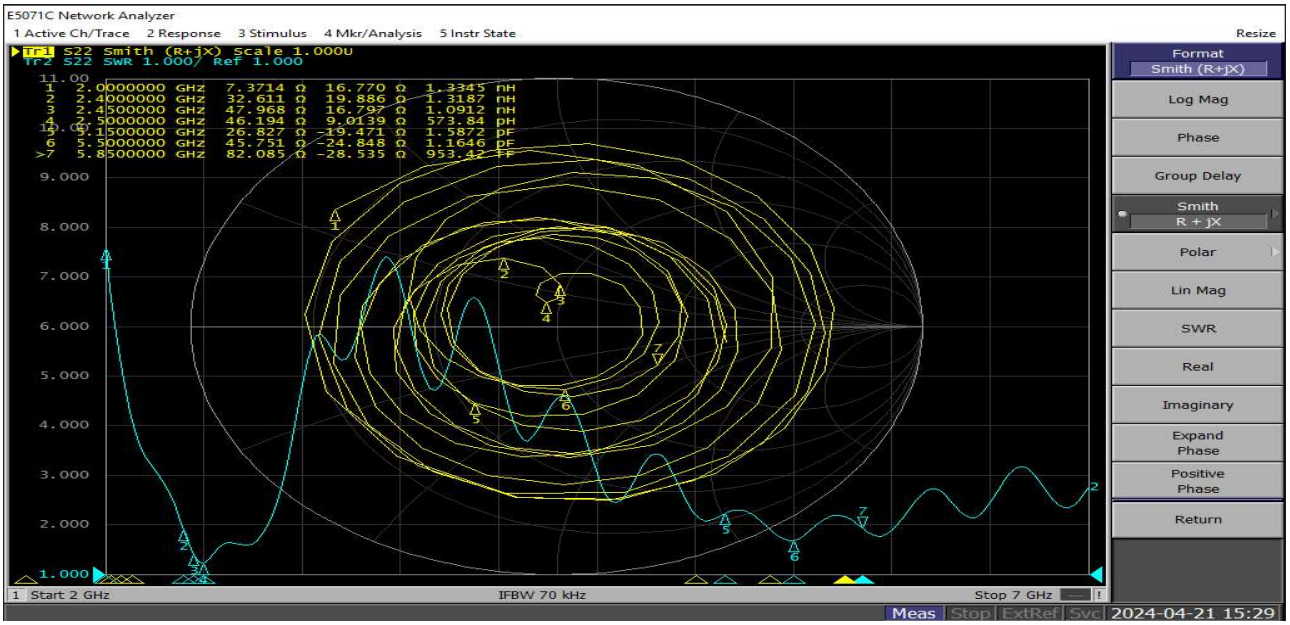
Material & Mechanical Characteristics				Environmental	
Material of Radiator	Cable Type	Connector Type	Dimension	Operation Temperature	Storage Temperature
BL	0.81 L:50 Black	KCC232		- 20 ℃ ~ + 50 ℃	- 30 ℃ ~ + 80 ℃

Test Equipment & Conditions

1. **Network Analyzers :Agilent 5071C**
2. **Communications Test Set:Agilent E5515C/CMW500/AT8826**
3. **3D Chamber Test System(ETS743)/STM23+1**

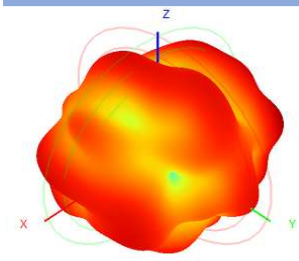


Antenna Impedance: WIFI ANT M:

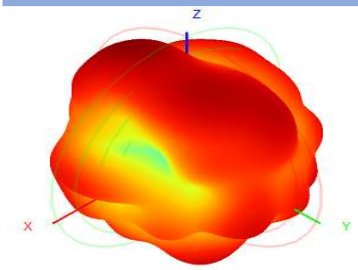


Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	
Gain (dBi)	2.15	2.36	2.27	2.45	1.98	2.47	2.52	2.12	2.74	1.93	2.23	
Efficiency (%)	39.84	40.25	43.36	41.25	42.78	45.59	47.22	45.53	43.89	44.71	44.22	
Frequency (MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5750	5800
Gain (dBi)	3.33	3.32	3.45	3.15	3.35	3.11	3.59	3.64	3.78	3.45	3.11	3.83
Efficiency (%)	48.84	50.59	50.11	52.12	55.65	57.12	51.21	49.12	52.17	48.84	44.33	49.78

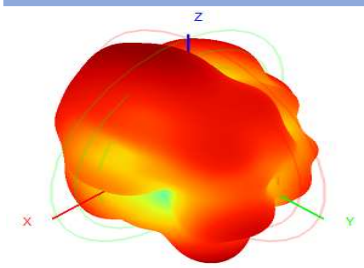
2400.0MHz H+V, Eff:39.84% / Gain：2.15



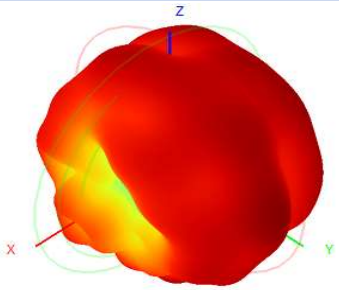
2450.0MHz H+V, Eff: 45.59% / Gain：2.47



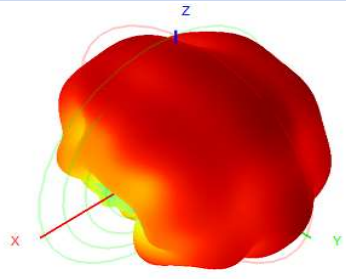
2500.0MHz H+V, Eff: 44.22% / Gain：2.



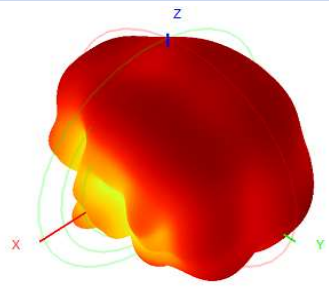
5150.0MHz H+V, Eff: 48.84% / Gain：2.15



5550.0MHz H+V, Eff: 52.17% / Gain：2.15



5800.0MHz H+V, Eff: 49.78% / Gain：2.

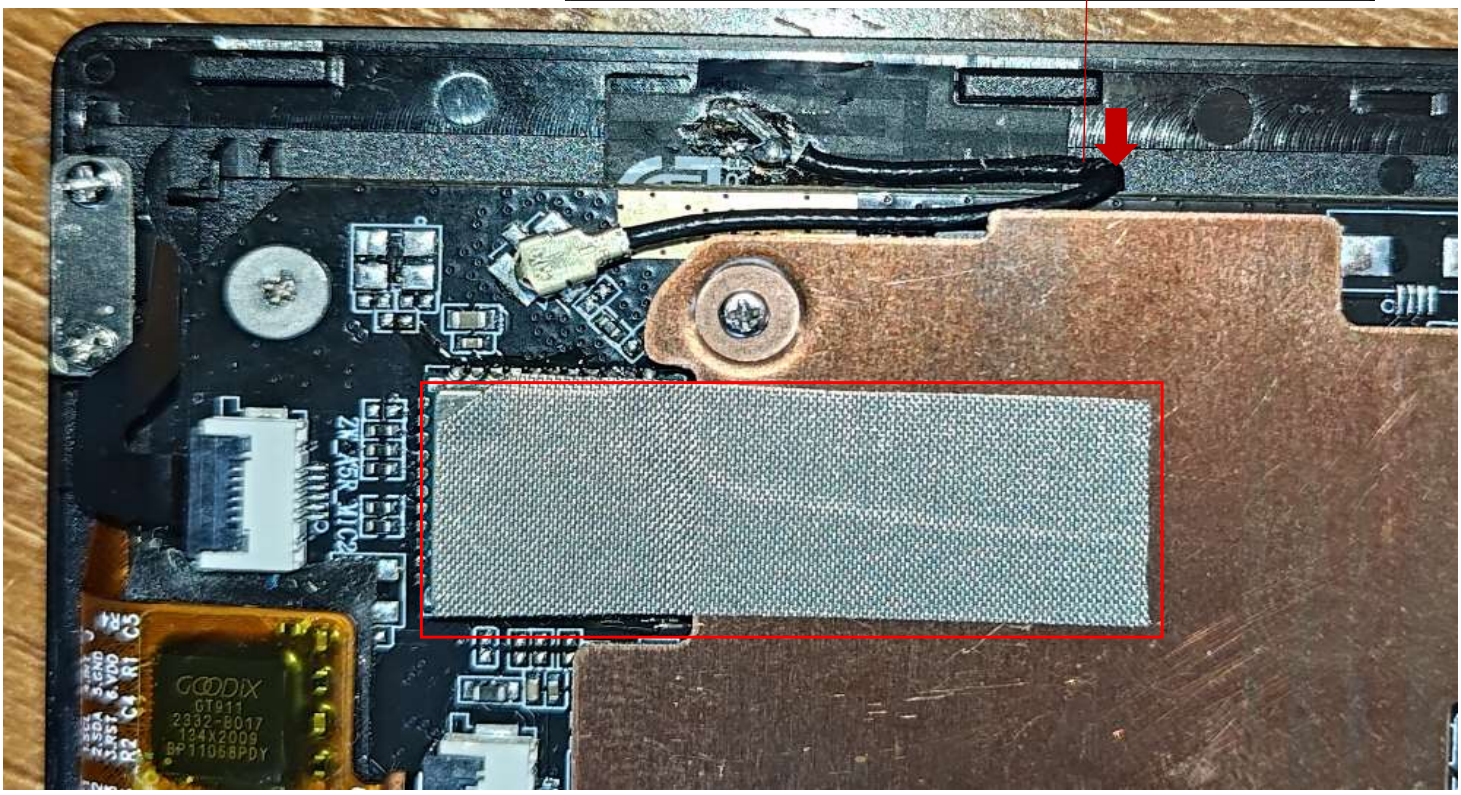


Antenna Performance Table

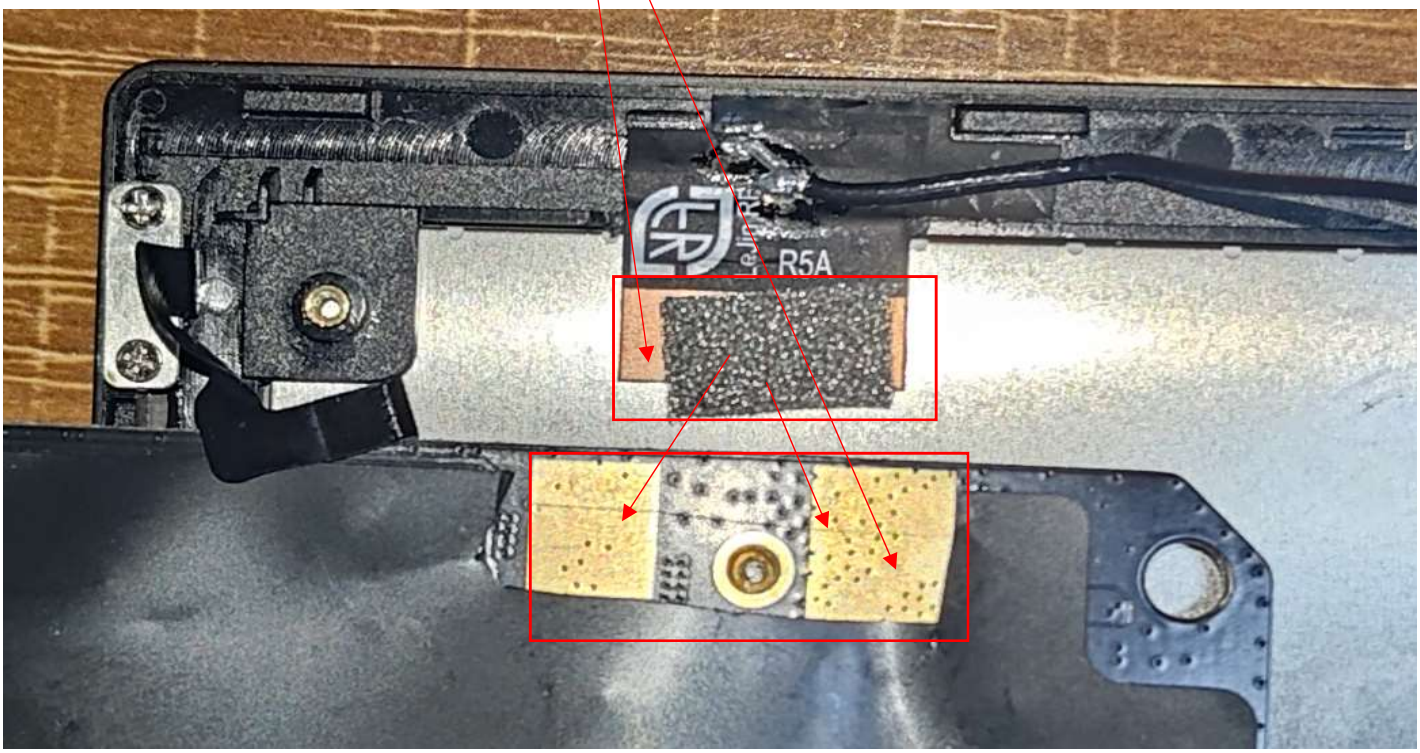
TRP /TIS(dBm)			13.55	-77.66	TRP /TIS(dBm)			11.69	-67.63	TRP /TIS(dBm)			14.37	-70.18
802.11B	Channel No.	Freq. (MHz)	TRP (dBm)	TIS (dBm)	802.11G	Channel No.	Freq. (MHz)	TRP (dBm)	TIS (dBm)	802.11A	Channel No.	Freq. (MHz)	TRP (dBm)	TIS (dBm)
Tx_11M / Rx_11M	1	2412	13.77	-77.96	Tx_6M / Rx_54M	1	2412	11.78	-67.54	Tx_6M / Rx_54M	36	5180	14.11	-70.78
	6	2437	13.25	-78.25		6	2437	11.36	-67.25		149	5745	14.78	-70.23
	11	2462	13.64	-76.78		11	2462	11.94	-68.11		165	5825	14.23	-69.54

Antenna installation method

T胶固定射频线防止射频外移到天线辐射臂上（重点管控）

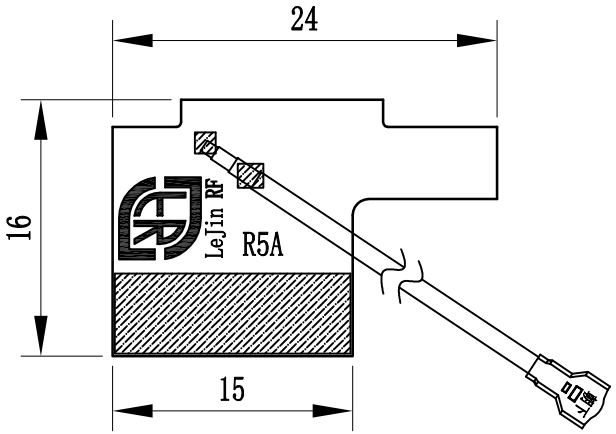


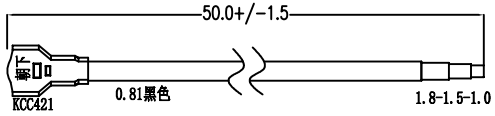
天线金手指上加导电海绵与主板金手指接地



天线工程图:

RoHS
Compliant
G P





Rev	Description	Date	Remark
A	New drawing		

深 圳 乐 进 射 频 科 技 有 限 公 司
SHEN ZHEN LEJIN RADIO FREQUENCY CO.,LTD

Third Angle				Project	A5R	Date	2024-01-28
0～10	±0.05	○	0.02	Part Name		Designed by	
10～18	±0.10	◎	⌀0.03	Part No.		Checked by	MD
18～30	±0.12	⊥	0.02	Material			RF
30～40	±0.15	▱	0.04	Treatment		Approved by	
40～	±0.20	Angle	±0.5°			Unit mm	Scale FIT Rev A
Location							