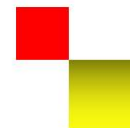


Shenzhen Maya Communication Equipment Co., Ltd.

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District, Shenzhen City.



Aoni Technology-ER02201-Antenna Test Report

Antenna Design And Test Report



报告调试版本: **V2.0**

报告日期: **2023.12.13**



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Additional Notes



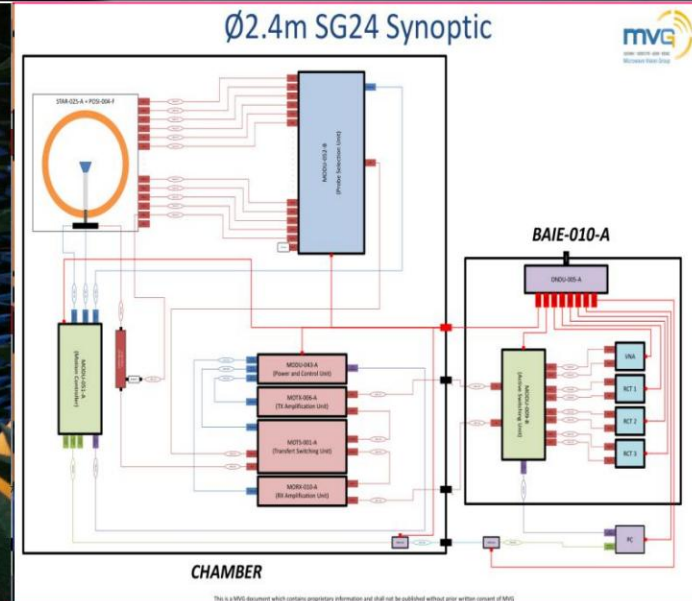
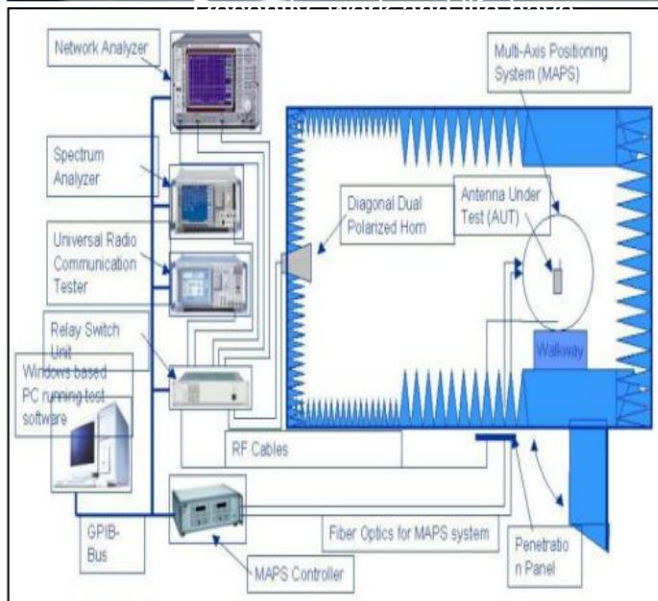
Main antenna design frequency band: main antenna design spectrum	WIFI:2.4G
Antenna Type: Type of antenna	PIFA
Secondary antenna	433MHZ
Type of antenna	Monopole

Report Version: Report version	date Date	content Content
V1.0	2023.12.08	Preliminary commissioning antenna test report
V2.0	2023.12.13	Sample antenna test report



Test Environment

Test environment



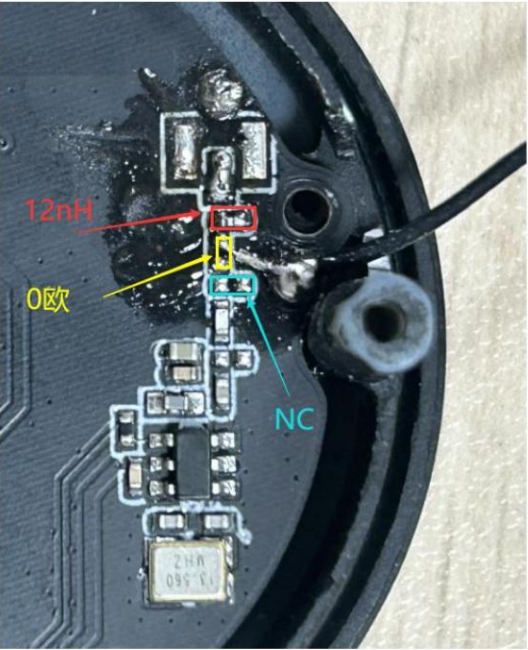
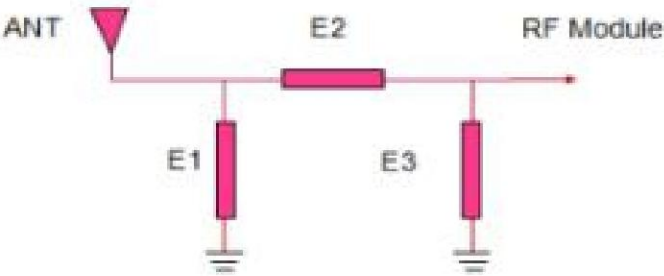
3 far-field 3D full-wave microwave anechoic chamber laboratory systems, 1 MVG SG24LT (Satmio) near-field 3D microwave anechoic chamber laboratory system (synchronized with relevant national laboratories)



Matching Circuit

Matching circuit

Main antenna design: main antenna design		Secondary antenna design: Deputy antenna design	
element Element	value Value	element Element	value Value
E1(0201):		E1(0201):	
E2(0201):		E2(0201):	
E3(0201):		E3(0201):	



Note: Our company has debugged the matching circuit of the antenna.

The whole figure

Machine diagram

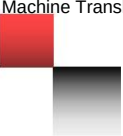




1. Wi-Fi antenna assembly diagram.



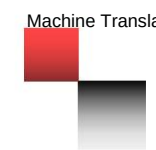
2.433 Antenna assembly diagram.



433 Antenna Passive Efficiency and Gain

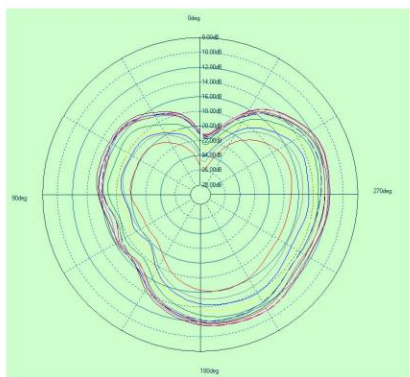
Frequency	Efficiency	Gain . dBi
420000000	1.72%	-12.70
422000000	2.21%	-12.08
424000000	2.63%	-11.47
426000000	3.13%	-10.70
428000000	3.79%	-9.64
430000000	4.64%	-8.81
432000000	5.07%	-8.84
434000000	4.92%	-9.02
436000000	4.57%	-9.31
438000000	4.31%	-9.51
440000000	4.19%	-10.12

Measurement instrument: Agilent Technologies E5071B 300kHz-8.5GHz ENA Series Network Analyzer

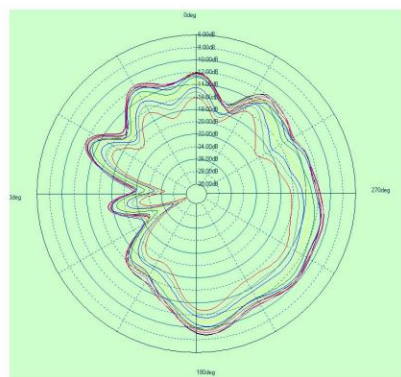


Passive pattern

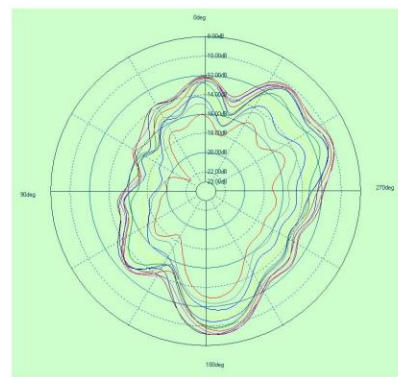
Azimuth 0°



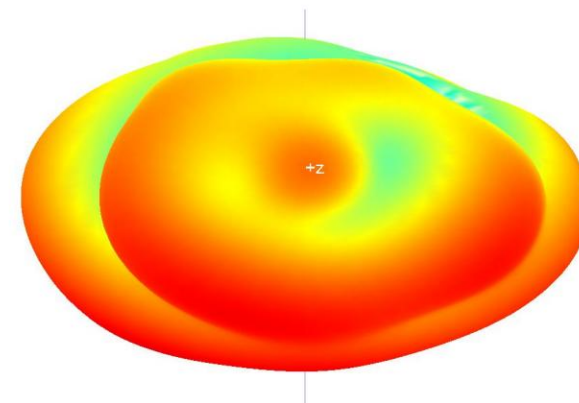
Azimuth 90°



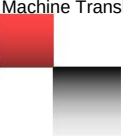
H-Plane (Elevation 90°)



3D view Frequency
433MHz



Measurement instrument: Agilent Technologies E5071B 300kHz-8.5GHz ENA Series Network Analyzer Anechoic chamber system: MVG SG24LT (Satmio)



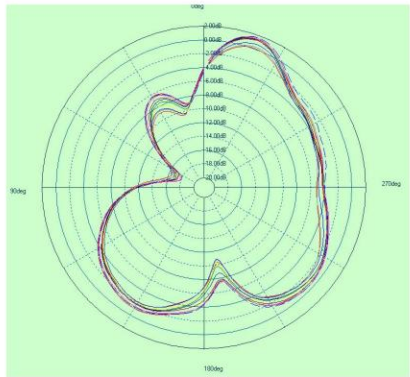
WIFI2.4G antenna passive efficiency and gain

Frequency	Efficiency	Gain . dBi
2400000000	42%	2.74
2410000000	42%	2.86
2420000000	43%	3.07
2430000000	44%	3.03
2440000000	45%	2.74
2450000000	45%	2.82
2460000000	47%	2.85
2470000000	48%	2.55
2480000000	48%	2.30
2490000000	48%	2.51
2500000000	50%	2.59

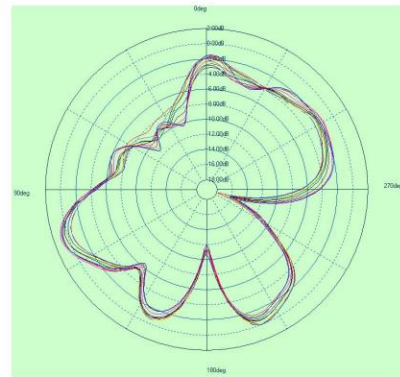
Measurement instrument: Agilent Technologies E5071B 300kHz-8.5GHz ENA Series Network Analyzer

Passive pattern

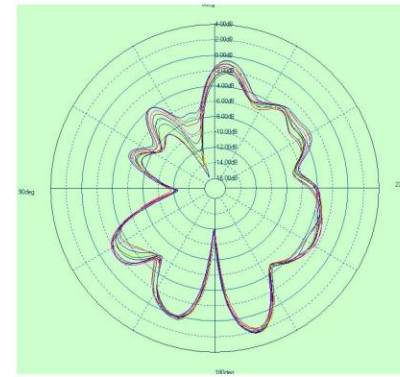
Azimuth 0°



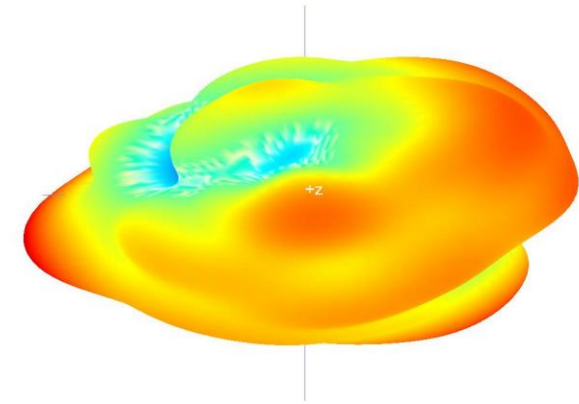
Azimuth 90°



H-Plane (Elevation 90°)



3D view Frequency
2450MHz



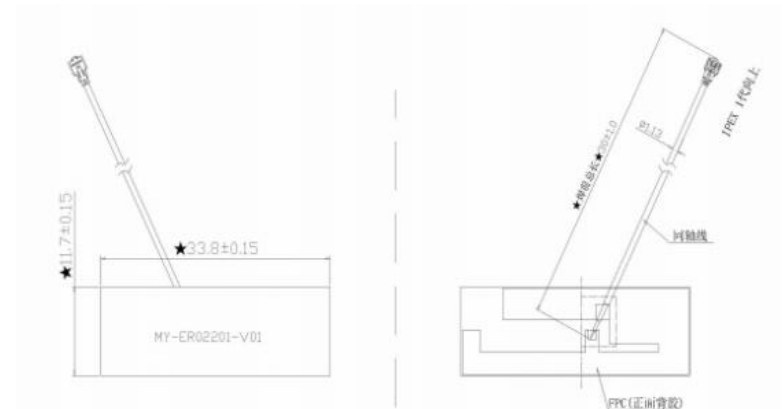
Measurement instrument: Agilent Technologies E5071B 300kHz-8.5GHz ENA Series Network Analyzer Anechoic chamber system: MVG SG24LT (Satmio)



standard	BAND	B			G		
free space	CHANNAL	L	M	H	L	M	H
	TRP	14.8	15.23	15.72	12.22	13.26	13.82
	TIS			-82.66			-70.92
	Band	N					
	channal	L	M	H			
	TRP						
	TIS						
	Note: 3D data						

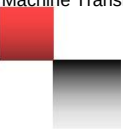


Dimensional Inspection Report

material quality	FPC antenna			图 示： 					
project name	ER 02201								
The number of samples	5 PCS								
The sample date	2025. 7. 29								
I. Appearance inspection:									
Visually inspect the items		casual inspection	result						
1. Dirty surface		5PCS	OK						
2. Gel			OK						
3. Waste			OK						
4. Rip			OK						
5. Gold surface oxidation			OK						
6. Ink (black)			OK						
二、Reliability test (randomly selected 5PCS):									
test project	standard		1	2	3	4	5	result	
1. Adhesion test	The ink does not fall off		not have	not have	not have	not have	not have	OK	
2. Salt spray test conditions	The gold surface is corrosion resistant		not have	not have	not have	not have	not have	OK	
3. Wear resistance test	Do not leak the substrate							OK	
4. Screen-printed content	MY-ER 02201-V01							OK	
三、Dimension measurement (randomly selected 5 PCS):									
position	standard(m m)	common differenc e+(mm)	common differen ce-(mm)	1	2	3	4	5	detect ion result
1	11.7	0.15	0.15	11.71	11.72	11.70	11.73	11.69	OK
2	33.8	0.15	0.15	33.80	33.83	33.82	33.81	33.80	OK
3 日期	30	1.0	1.0	30.10	30.00	30.00	30.10	30.00	9- OK

433 Antenna size





The above data are 3D free space data measured in a darkroom.

If you have any questions, please contact us by phone. Thank you.



01

Whether the antenna matching circuit is modified or whether the antenna-related environmental treatment is added in the report will directly affect the antenna performance. Please check carefully.

02

If your company has the latest trial production or updated products (such as software, ESD, materials, etc.), please provide them to our company for verification as soon as possible to **confirm** whether there are any changes affecting the antenna performance.

03

If your company needs to send the product for retesting by a third-party testing agency or for customer testing, please be sure to first conduct antenna-related testing with our company to confirm the results . Factors such as motherboard assembly consistency and differences in antenna assembly may cause deviations in antenna parameters.

Thanks

THANK YOU

If you have any questions,
please contact us. Daily service hours: Monday
to Saturday 9:00-18:00 Switchboard hotline: 0755-36615535 Sales hotline: 0755-36615535 Fax:
 0755-82916227 Website: www.mayaant.com