



South
star

SHENZHEN SOUTH STAR TECHNOLOGY CO., LTD

APPROVAL SHEET

Sample seal

Customer Name Roborock

Product Model Gaia AP

Customer P/N 1. 16. 0061

Southstar P/N 3. N102. 1671

Production date 2026. 10. 16

Revision 1. 0

Southstar		
FICTION	DQE	R&D
Customer		
PUR	QC	R&D

Manufacturers: SHENZHEN SOUTH STAR TECHNOLOGY CO., LTD

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Http: //www.southstar-tech.com



History

Version	Date	Change Description	Note
1.0	2026.10.16	First edition	



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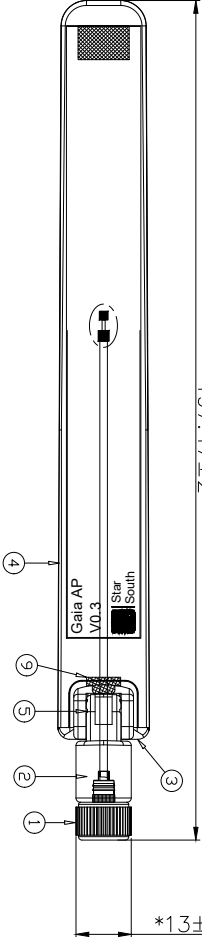
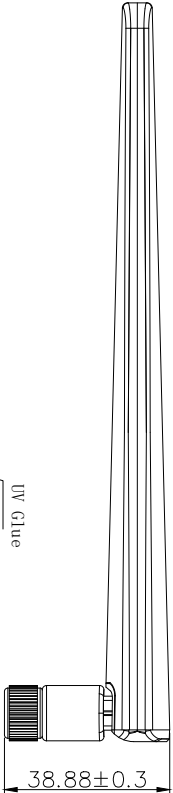
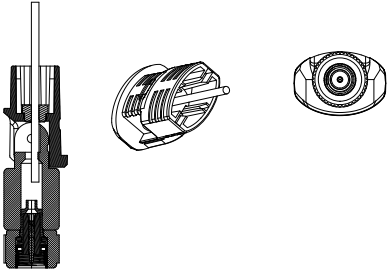
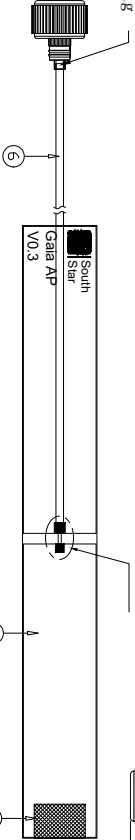
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Antenna Specification

A. Electrical Characteristics	
Frequency	858MHz~ 928MHz,
VSWR	<2
Efficiency	>65%
Impedance	50 Ohm
Polarization	Linear
Gain	900MHz:2.32dBi
Note	
B. Material & Mechanical Characteristics	
Material of Radiator	PCB+cable
Cable Type	178
Connector Type	SMA
C. Environmental	
Operation Temperature	- 30℃ ~ +80℃
Storage Temperature	- 30℃ ~ +80℃

6		7		8	
版本		描述		日期	备注
△		新发文		2026-10-13	

1		2	3	4	5	6		7	8	
A										
										
										
B										
										
										
C										
D										
		1	2	3	4	5		6	7	8
		1.Z09.0027	Waterproof cap	Silica Gel $\phi 8*4\text{mm}$	1					
		1.Z02.0557	Foam	EVA,12*8*3.5	2					
		2.A21.1395	Lora PCB	FR4/Green, T=1mm	1					
		2.A02.2453	Lora Cable	RG178 Cable/Black	1					
		1.S01.0075	Rivet	POM, Black	2					
		2.A07.1528	Rod sleeve	ASA, Ink Grey	1					
		2.A07.1529	Upper Fixing	ASA, Ink Grey	1					
		2.A07.1530	Lower Fixing	ASA, Ink Grey	1					
		1.W10.0424	SMA Plastic connector	Center Pin/POM Black Shell	1					
		No.	Part NO.	Name	Specification	Amount		Remark		
		1								

Note:
1. Marked "*" is the key size, and Marking "CpK" requires process capability analysis;
2. Unmarked tolerance refer to the Undeclared tolerance table;
3. The electrical property meets the requirements of the specification;
4. All parts shall meet the requirements of RoHS2.0 and REACH。

 South Star
东莞市南斗星科技集团有限公司
Dongguan South Star Technology Group co.,Ltd

Undeclared tolerance table					Project		Gaia AP		Designed by	曾俊珪 2026-10-13	
					Part Name		Lora Antenna		RF by	张锦江 2026-10-13	
					Part No.		3.N102.1671		Approved by	张辉 2026-10-13	
					Customer		1.16.0061		Unit	mm	
					P/N					mm	
					角度		±1.2		第三角	Scale	
					页码		1/1			FIT	
										Rev	
										A	



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Test Equipment & Conditions

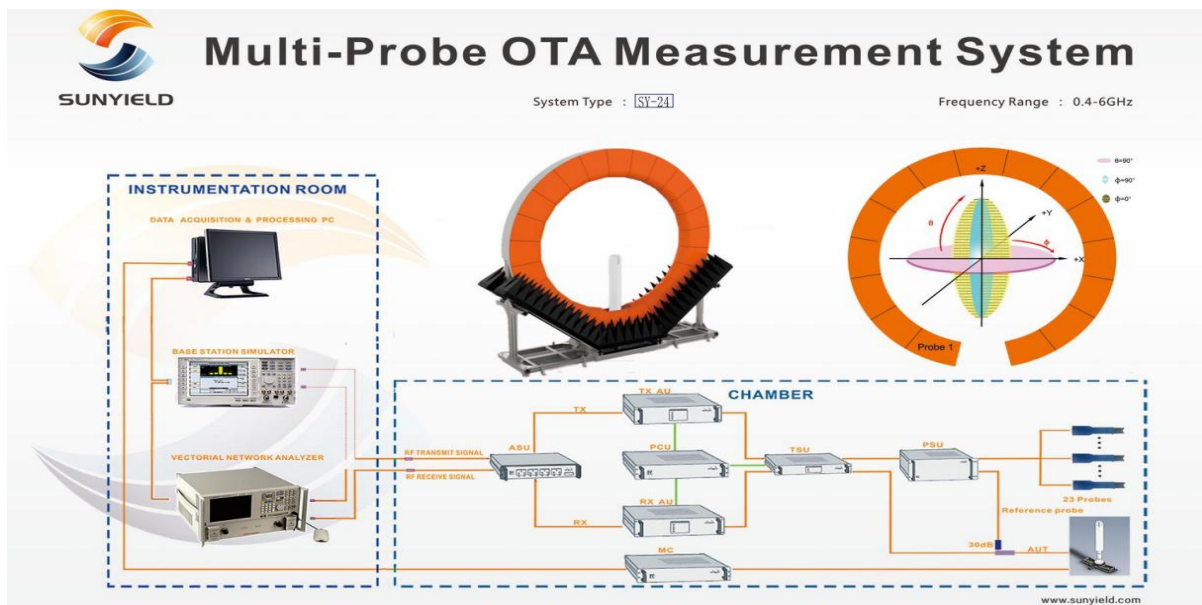
1. NetWork Analyzers:

Keysight E5071C

2. Comprehensive tester:

CMW500 、 MT8000A、 MT8862A

3. 3D Chamber Test System:





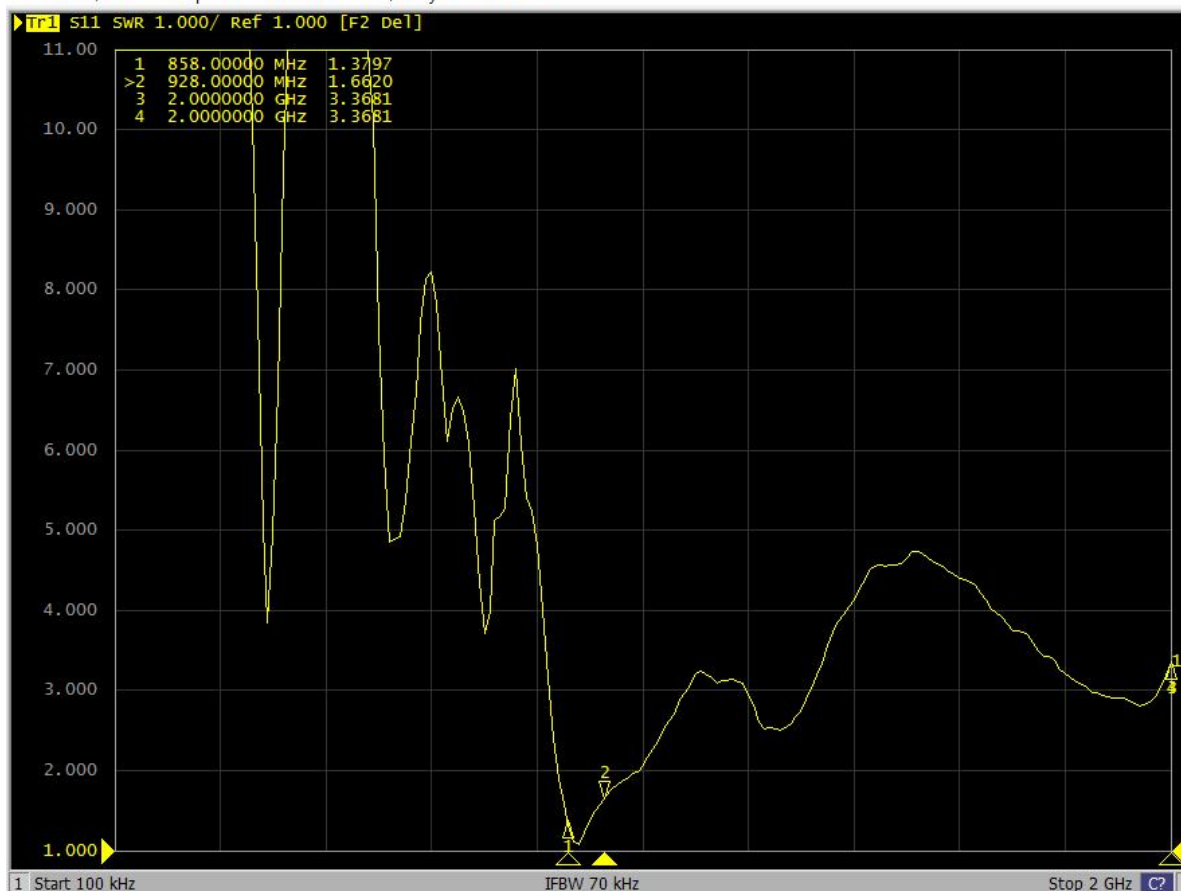
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Antenna Impedance: S11

E5071C Network Analyzer

1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State

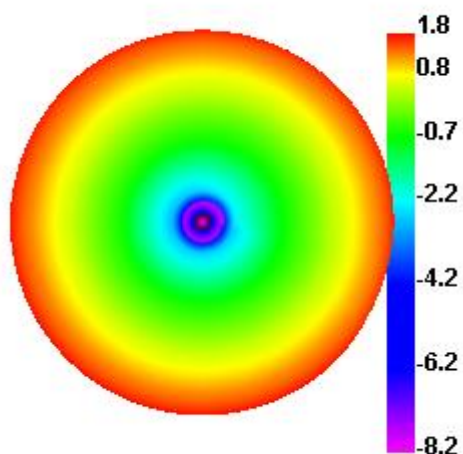


Efficiency & Gain:

Freq (MHz)	Effi (%)	Gain (dBi)
850	68.63	0.62
860	74.68	1.15
870	84.66	1.78
880	82.96	2.29
890	80.55	2.24
900	80.56	2.32
910	77.1	1.83
920	73.36	1.72
930	71.44	1.64

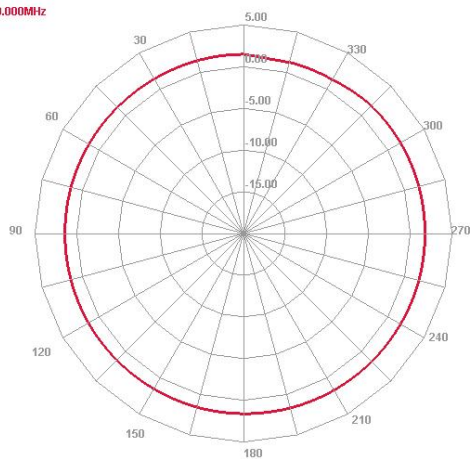
Antenna 3D & 2D pattern:

870.000MHz



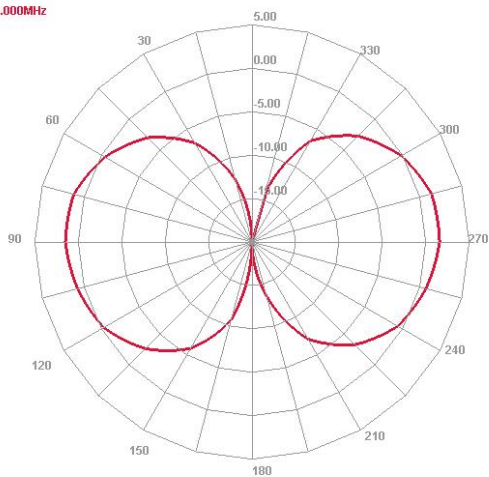
Horizontal

870.000MHz



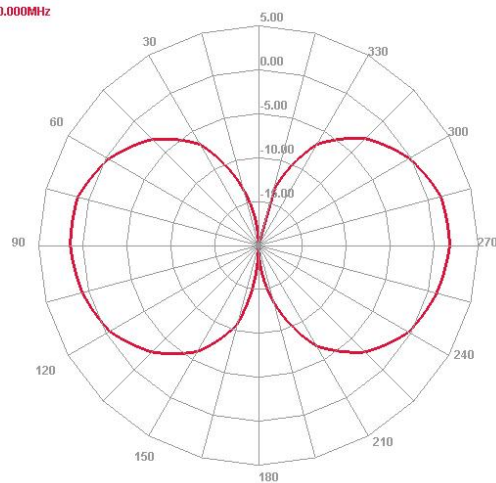
E1 Face

870.000MHz



E2 Face

870.000MHz





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Antenna assembly picture:



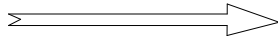


Date: 2026-05-28

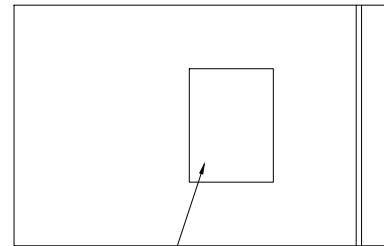
page: 1 of 1

Name : Gaia AP Antenna	Version: A
	Customer:

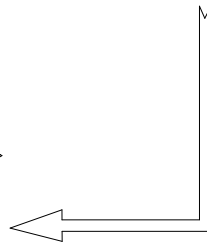
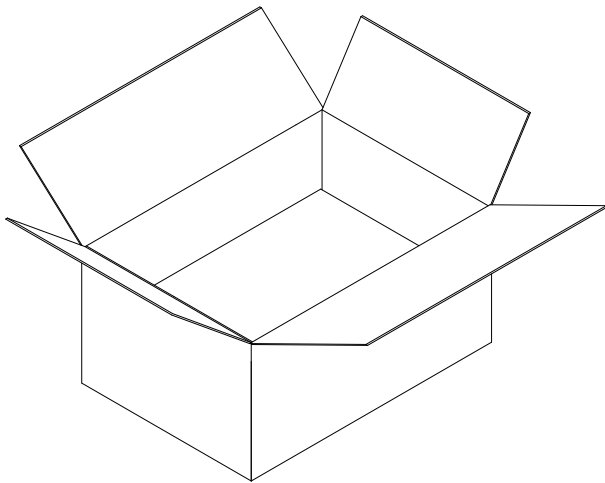
1. The Product



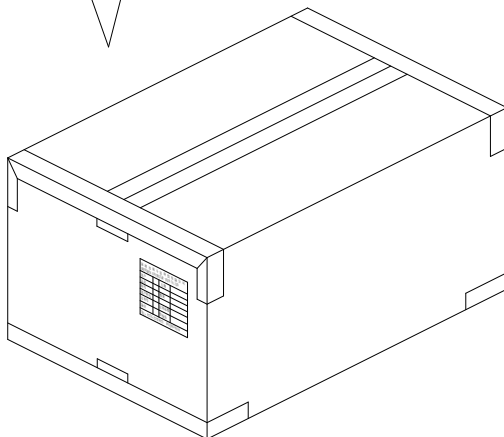
2. 40PCS/per Bag



Inner label



3. Packing (subject to actual packing) .



DESIGNED By: ZJY

APPROVED By: ZH