



SHENZHEN YINGJIACHUANG TECHNOLOGY ELECTRONIC CO. LTD

<http://www.szsyjc.com>

# APPROVAL SHEET

CUSTOMER NAME	Poor Handwriting	
CUSTOMER P/N		
PART NAME	2.4G, an integrated antenna	
P/ N	YJC-6C110-R01	
APPROVAL REV.	A0	
DELIVERY DATE	September 05, 2024	
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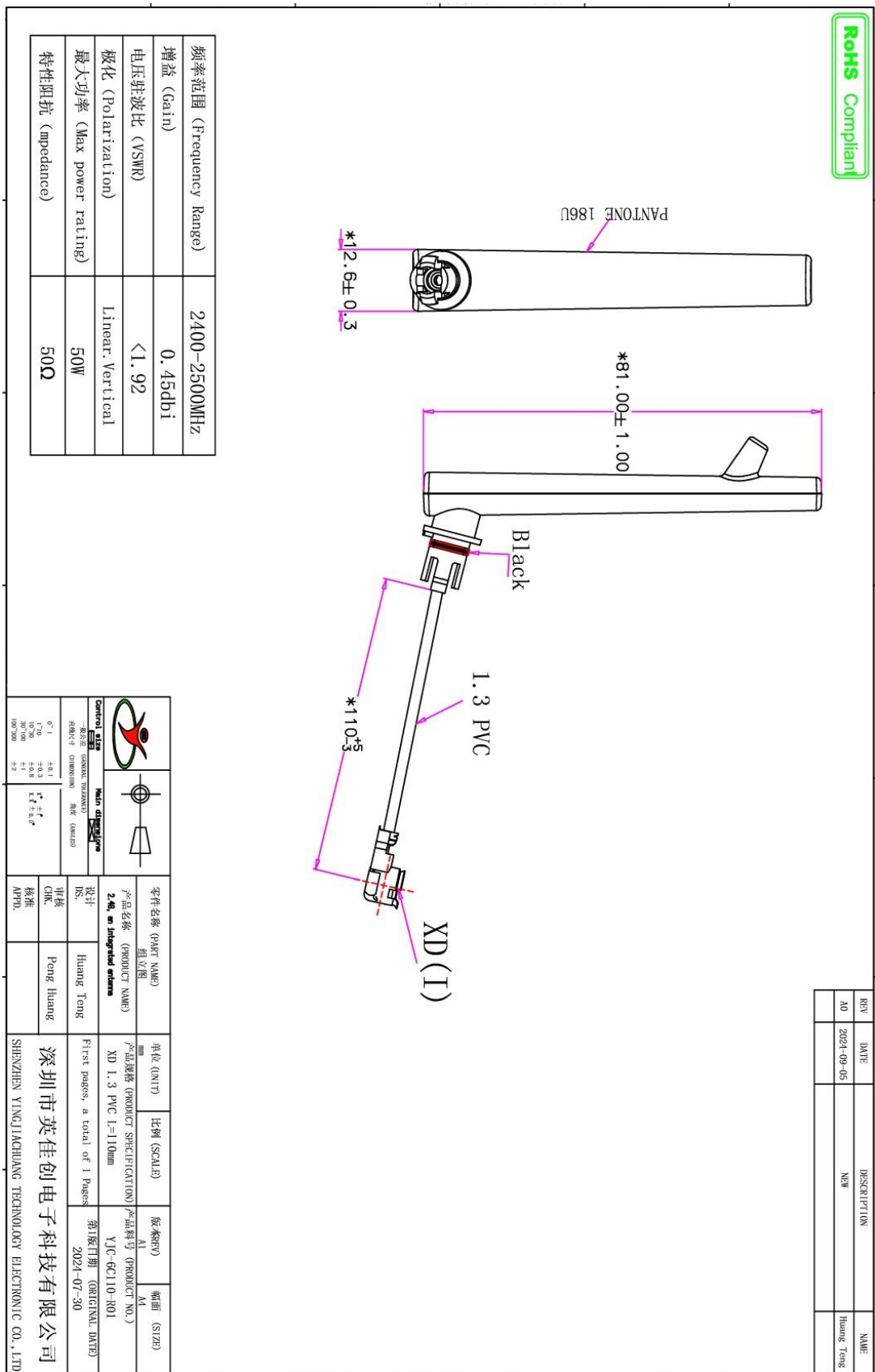


## Resumer:

Version	Change contents and reasons	Date	Issue
A0	NEW	September 05, 2024	



## The antenna's floor plan:





## Antenna technical parameters and environmental testing:

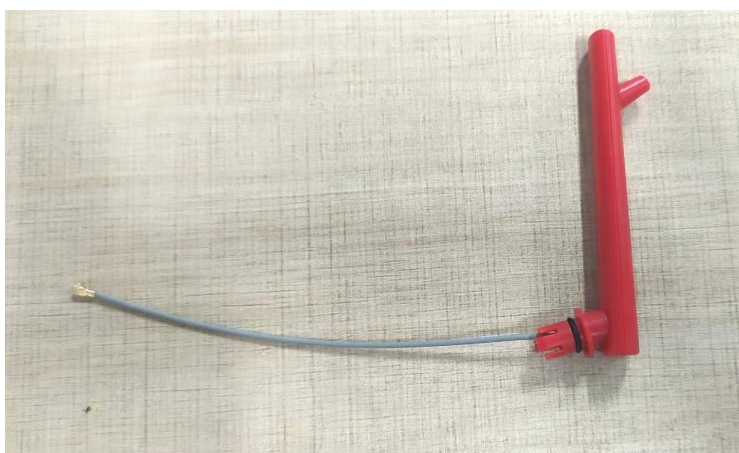
Electrical parameters of electrical apparatus			
Electrical Specifications		Mechanical Specifications	
Frequency Range	2400-2500MHz	Cable Color	PANTONE 186U
VSWR	<1.92:1	Input connector	XD (I)
Input Impedance	50 $\Omega$	Cable length	110mm
Direction	All	Working Temperature	-20℃~+70℃
Gain	0.45 dBi	Working Humidity	20%~80%

## Environmental performance test:

project	test condition	standard
Storage Conditions	In the absence of specified test temperature, humidity, air pressure is as follows: 1. Temperature is - 20 °C ~ + 70 °C 2. Relative humidity of 45% to 45% 3. Air pressure is 86 kpa to 106 kpa	Electrical and mechanical properties is normal
high and low temperature test	Between 70 °C and -20 °C for 5 loops, then 1-2 h under normal conditions, check the appearance quality.	Size should meet the requirements and should satisfy the content with the electrical and mechanical properties
Constant damp and hot resistance test	95 + / - 3% relative humidity, temperature test: 40 °C. Lasts 2 h after, try to take out the determination of electrical properties, within 5 min after try 1-2 h under article normal thing, check the appearance quality	Size should meet the requirements and should satisfy the content with the electrical and mechanical properties
vibration test	10-55 hz, vibration frequency range of displacement amplitude: 0.35 MM, acceleration amplitude: 50.0 M/S, sweep cycles: 30 times	Electrical and mechanical properties is normal
fall down test	1 m high altitude in accordance with the perpendicular axis free drop 3 times	Electrical and mechanical properties is normal



Physical picture of antenna and attach location picture:



Antenna performance test chart:

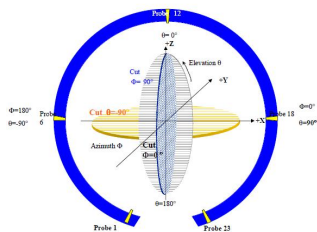
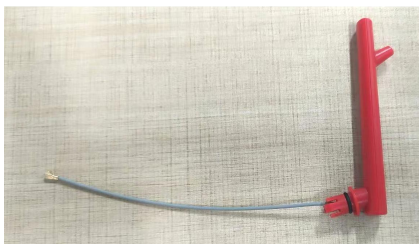






## Testing facility

	Test items	Test equipment
S Parameter	1. Return Loss 2. VSWR	Network analyzer (Agilent E5071B) (Calibration date December 20, 2023-December 19, 2024)
Passive test	1. Frequency 2. Gain 3. Radiation Pattern	1. 3D microwave darkroom (5m*4m*4m) 2. Network analyzer (Agilent E5071B) (Calibration date December 20, 2023-December 19, 2024)
Active test	1. TRP 2. TIS	1. 3D microwave darkroom (5m*4m*4m) 2. Comprehensive test instrument (CMW500) (Calibration date : December 20, 2023-December 19, 2024)

Passive is to collect DUT spherical near-field data through multi-probe, and then the direction map of DUT is calculated through the near-far-field conversion formula. Finally, the gain and efficiency are calculated by the directionality coefficient on the direction map

暗室坐标(Dark room coordinates)	测试天线(Test the antenna)
	
CMW500	Agilent E5071B
	



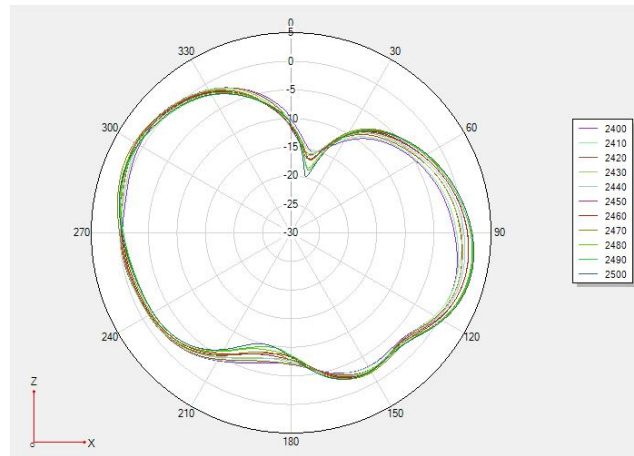
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**2D,3D Antenna pattern testing:**

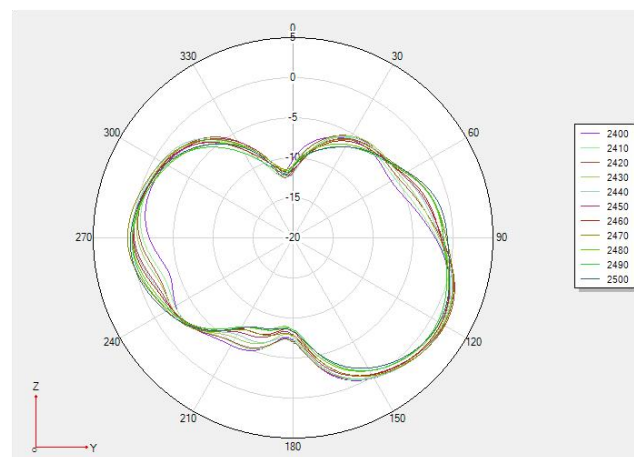
Frequency	Efficiency (%)	Gain. (dBi)
2400MHz	58.08	0.07
2410MHz	59.98	0.20
2420MHz	62.11	0.41
2430MHz	63.96	0.10
2440MHz	64.82	0.21
2450MHz	64.64	0.45
2460MHz	63.96	0.17
2470MHz	69.62	0.22
2480MHz	65.51	0.21
2490MHz	64.30	0.01
2500MHz	64.82	0.21



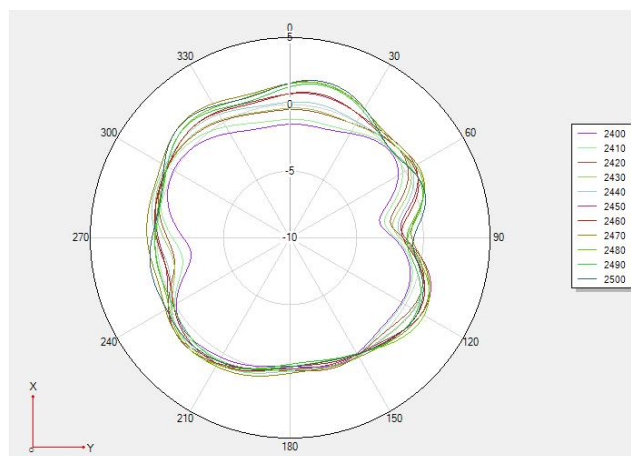
(Phi 0 2D graph)



(Phi 90 2D graph)



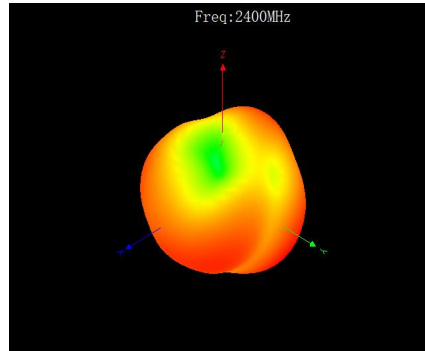
(Theta 90 2D graph)



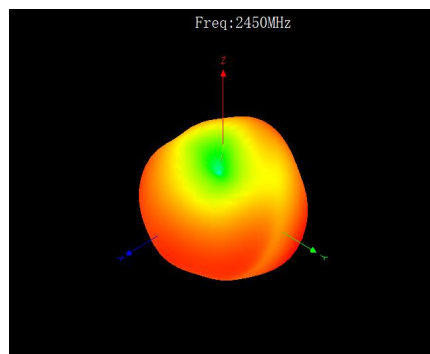


### 3D Test Fig

(3D 2400MHz)



(3D 2450MHz)



(3D 2500MHz)

