

## SPECIFICATION FOR APPROVAL

Customer Name	DeYe		
Customer Project Name	SUN-wifi stickV1.0	Surbaner P/N	3160-180-00983
Customer P/N	/	Working Band	2400-2500MHz
Product description	WIFI antenna white silk screen: SUN-wifi stick V1.0: PCB: FR4 green 28 * 20 * 0.8mm+foam+1.13 black wire with first generation terminals, L=36mm		
Version	V01		
Designer Information			
RF Engineer	Zhuhaokui	R&D Diretor	Zhuhaokui
ME Engineer	Zhangyulong		

Surbaner Approval				Customer Approval	
	Prepared By	Checked By	Approval By	Checked By	Approval By
Signature	Wanghaihualin				
Date	2024. 05. 15				

Change Log				
Version	Change Descripti	Person in Charge	Approval By	Date

TEL: 0755-82790675 FAX: 0755-82809726

Address: 2/F, Building B25, Hengfeng industrial city, Hezhou community, Xixiang Street, Baoan District, Shenzhen City.

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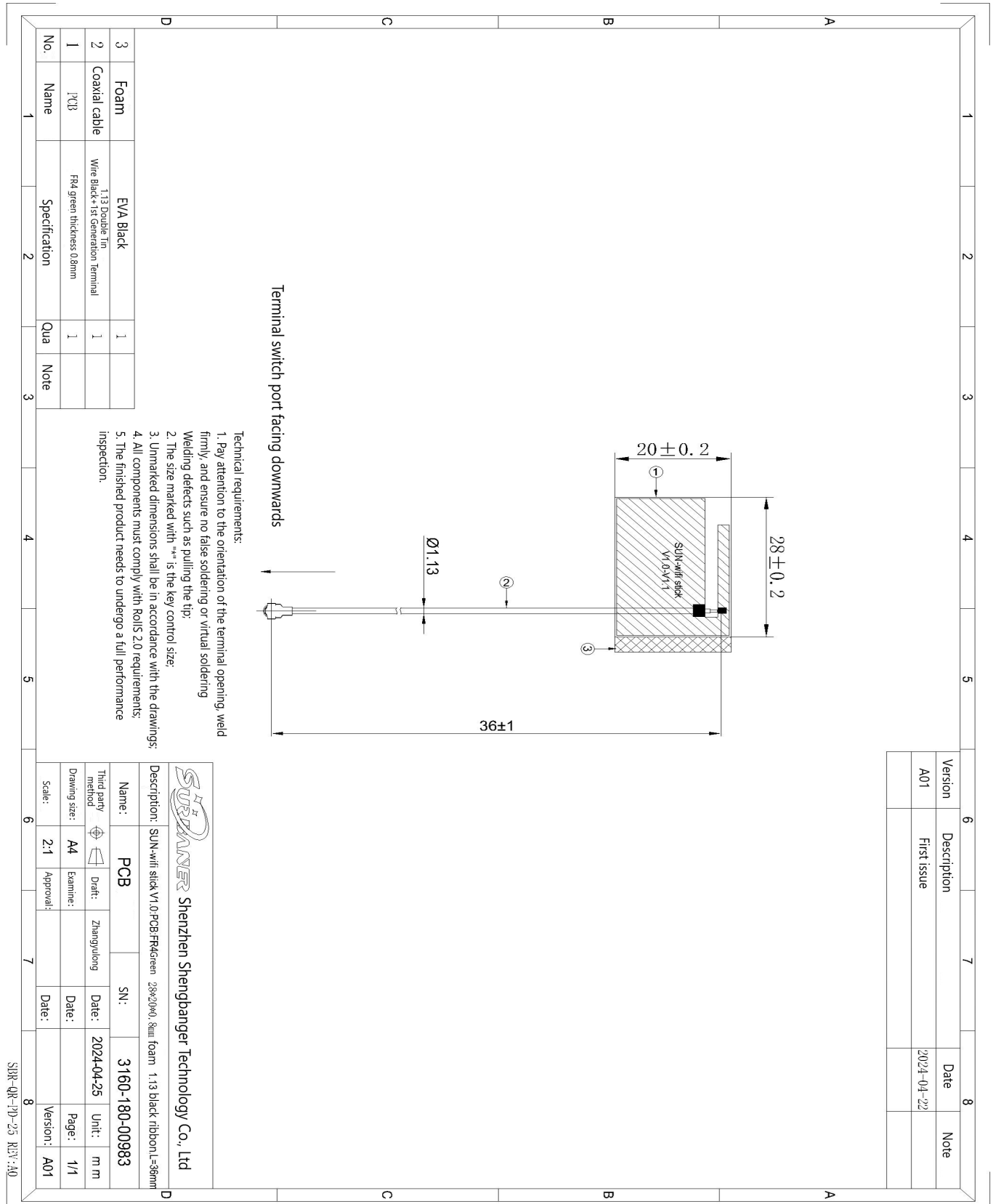
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## 一、Drawing or Product Image



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## 二. Technical Parameter

1. Antenna		
No	Part Name	SPEC
1	Frequency Range/	2400-2500MHz
2	Impendence	50 ohm nominal
3	Gain	$\geq 1\text{dBi}$
4	Polarization	LINE
5	VSWR	$< 2$
6	Efficienc	$\geq 45\%$ AVG
7	RF Cable	1.13 black 36mm
8	RF Connector	1 Generation
2. Environmental Characteristics		
No	Part Name	SPEC
1	Operation Humidity	5~95% Not condensing
2	Operating Temperature	-20~+60℃
3	Store Temperatuer	-30~+70℃
4	Salt Spray Test	48H

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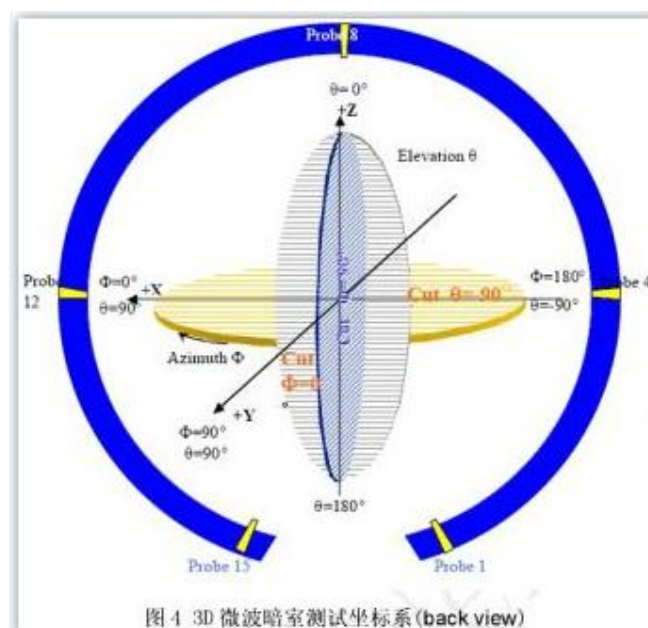
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## RF Performance Test Report

Customer Name	DeYe	Project Name	SUN-wifistickV1.0	Surbaner P/N	3160-180-00983
Band	2400-2500MHz	Test Date	2024/04/26	Inspector	Zhuhaokui

### Antenna Test Equipment

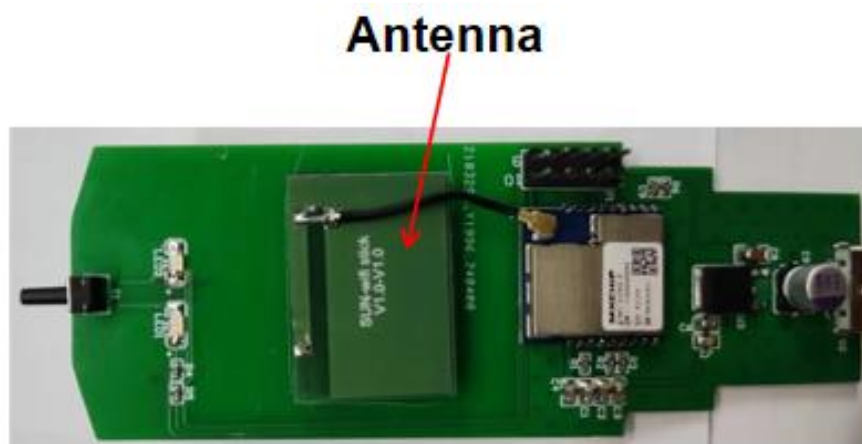
IntroductionTest of antenna input characteristics using **Agilent E5071C** and **Agilent 5062A** vector network analyzer; The radiation pattern of the antenna are tested using the Satimo starlab 3D near field Anechoic Chamber, and the instrument is used to agilent8960 E5515 and Agilent E4438C. The test coordinates of the darkroom are as follows:



### 1. S11 Parameter-VSWR

Measuring Method is a 50  $\Omega$  coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the S11 parameter, Keeping this fixture away from metal at least 20cm.

## 2. Product Overview & Environmental Treatment



### Test System

Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5062A
OTA Test	TRP&TIS	Agilent 8960 E5515C& Agilent 4438C&CMW500 &CMW270 ETS&SATIMO
Gain & Efficiency	Gain & Efficiency	ETS&SATIMO Agilent 5071C



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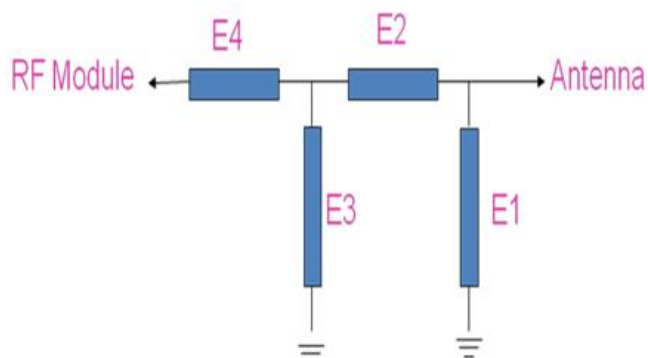
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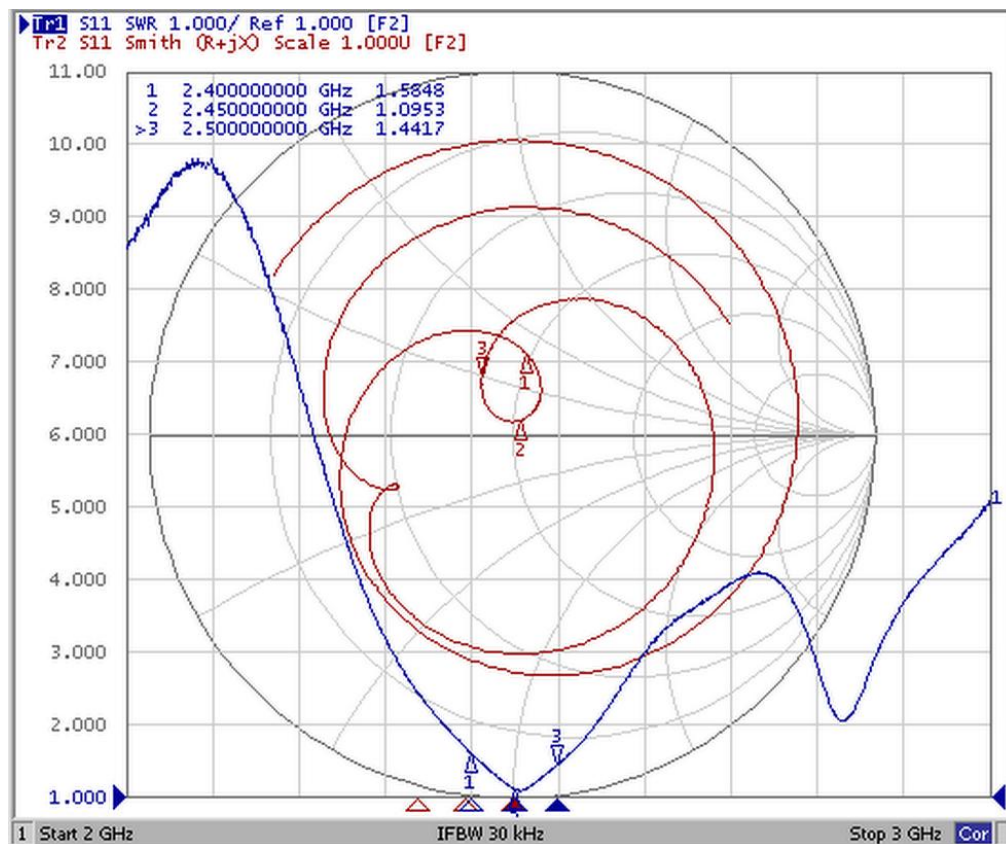
### 3. Antenna MatchingNetwork



Element	Capacitor	Inductor
E1	N/A	N/A
E2	N/A	N/A
E3	N/A	N/A
E4	N/A	N/A

The original matching of the PCB board end has not been changed

## S11 Parameter-S11-2.4G



Frequency	2400	2450	2500
VSWR	1.58	1.09	1.44

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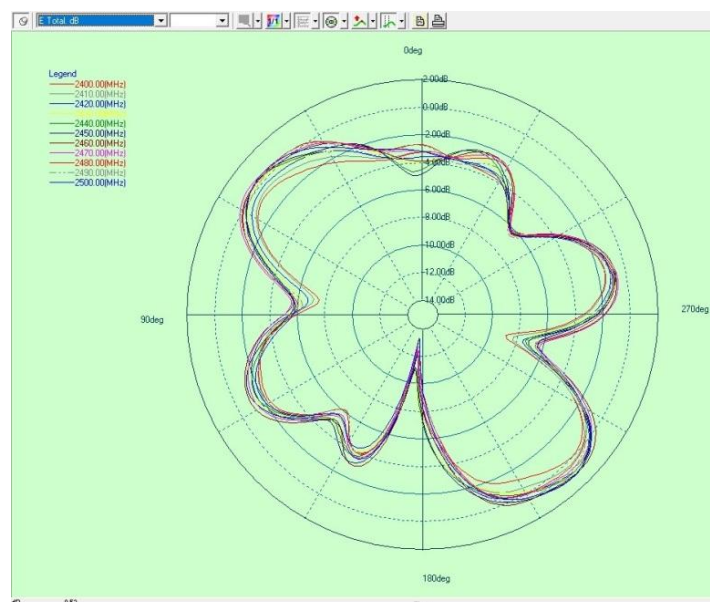


#### 4.Gain & Efficiency-2.4G

Frequency (MHz)	Efficiency (%)	Peak GAIN (dBi)
2400	48.2%	1.44
2410	48.6%	1.40
2420	53.0%	1.82
2430	54.2%	1.79
2440	54.9%	1.81
2450	54.0%	2.04
2460	53.9%	2.08
2470	53.2%	1.60
2480	54.6%	1.44
2490	53.4%	1.80
2500	54.5%	2.02

#### 2D Pattern--2.4G

Phi =0



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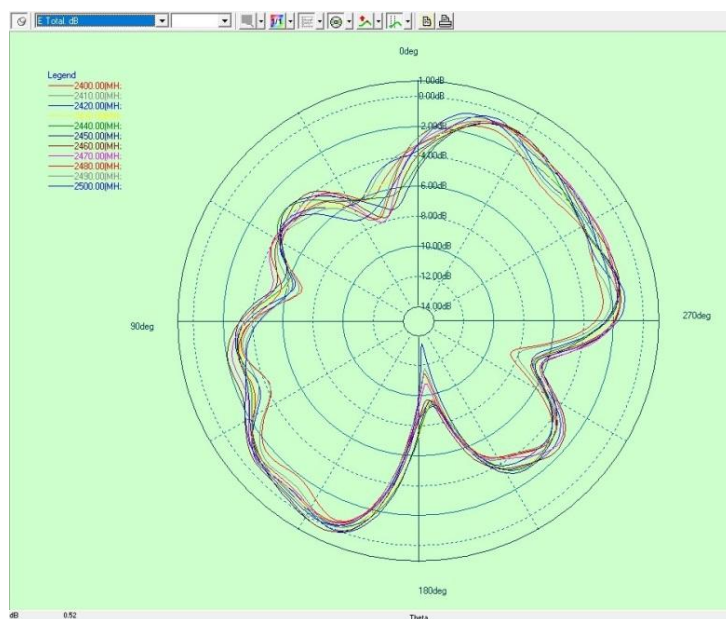
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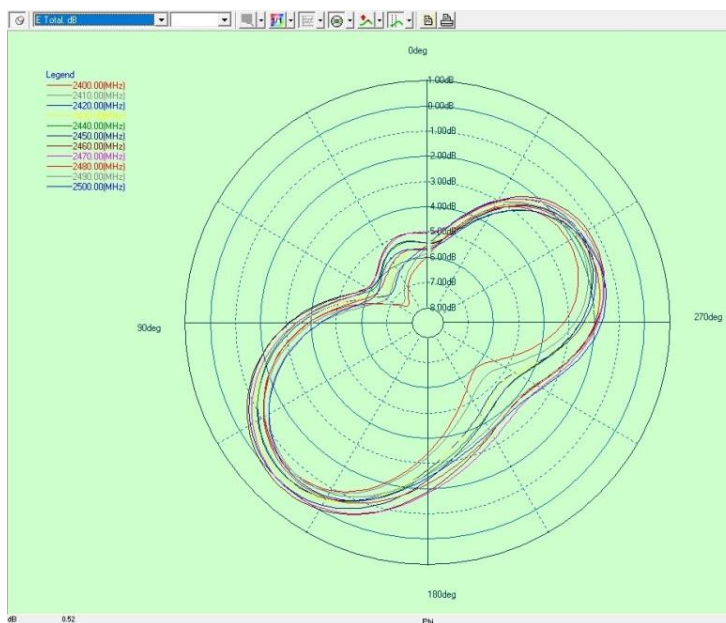
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Phi =90



Theta =90



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## OTA

Mode	Channel	TRP	TIS
802.11B	1	14.11	-85.99
	6	14.00	-84.82
	11	14.34	-85.67
802.11G	1	12.54	-72.82
	6	11.45	-71.60
	11	12.65	-73.54
802.11N	1	10.31	-69.91
	6	10.05	-67.71
	11	10.79	-70.65

### Sample Dimensions Test Report

Customer Name	DeYe	Customer P/N	/	Surbaner P/N	3160-180-00983
Test Date	2024/05/15	Sample Qty.	3	Inspector	Zengxinrong
Dimension No.	Standard	Sample 1	Sample 2	Sample 3	Pass/NG
① PCB L e n	28.00±0.2mm	28. . 10	28.00	27.90	Pass
② PCB W i d	20.00±0.2mm	20.10	20.00	19.90	Pass
③ Coaxial length	36.00±1mm	37.00	36.00	35.00	Pass
④					
⑤					
⑥					
⑦					
Conclusion					PASS
Inspector & Date	Zengxinrong 2024/05/15		Approval & Date		

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## Reliability Test Report

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Test Date	2024/05/15	Sample Qty.	3	Inspector		
Test Item	Requirement	Testing Equipment	Sample 1	Sample 2	Sample 3	PASS/NG
High temperature storage	Expose for 24 hours at +70 °C and test for electrical performance after 2 hours of recovery. Normal electrical performance	Constant temperature and humidity chamber	OK	OK	OK	Pass
Low temperature storage	Expose for 24 hours at -30 °C and test for electrical performance after 2 hours of recovery. Normal electrical performance	Constant temperature and humidity chamber	OK	OK	OK	Pass
High temperature work	After being powered on for 24 hours at +60 °C. Normal electrical performance	Constant temperature and humidity chamber	OK	OK	OK	Pass
Low temperature work	After being powered on for 24 hours at -20 °C. Normal electrical performance	Constant temperature and humidity chamber	OK	OK	OK	Pass
Terminal salt spray test	(5 ± 0.5)% sodium chloride, pH value 6.5-7.2, experimental chamber temperature (35 ± 2) °C <input type="checkbox"/> 24H <input checked="" type="checkbox"/> 48H	Salt spray testing machine	OK	OK	OK	Pass
Terminal riveting and pulling force	1.13 Wire diameter ≥ 10N	Push-pull force gauge	≥ 10N	≥ 10N	≥ 10N	Pass
Conclusion						Pass
Inspector & Date	Hechunhui 2024/05/15		Approval & Date			

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