



## SPECIFICATION FOR APPROVAL

<b>Manufacturer Name/ Address</b>	Huaming Teng technology Co., LTD 702, Building 1, No.68 Xingzhou Road, Shatian Town, Dongguan City, Guangdong Province, China		
<b>Customer Project Name</b>	W042	<b>SDC Project Name</b>	W042
<b>Customer P/N</b>		<b>SDC P/N</b>	WF4865B-0814L-290(MAIN) WF4866B-0814L-235(AUX)
<b>ANTENNA SPEC.</b>	Internal antenna : WIFI/BT 2.4G/5.8G		
<b>Version</b>	A0		
<b>Designer Information</b>			
<b>RF Engineer</b>	Yong-hui Yang	<b>R&amp;D Director</b>	FuXueRong
<b>ME Engineer</b>	Huang Zongbao		

Approval				Customer Approval	
	Prepared By	Checked By	Approval By	Checked By	Approval By
<b>Signature</b>	Huang Zongbao	Yong-hui Yang	FuXueRong		
<b>Date</b>	2023.08.01	2023.08.01	2023.08.01		

Change Log				
Version	Change Description	Person in Charge	Approval By	Date

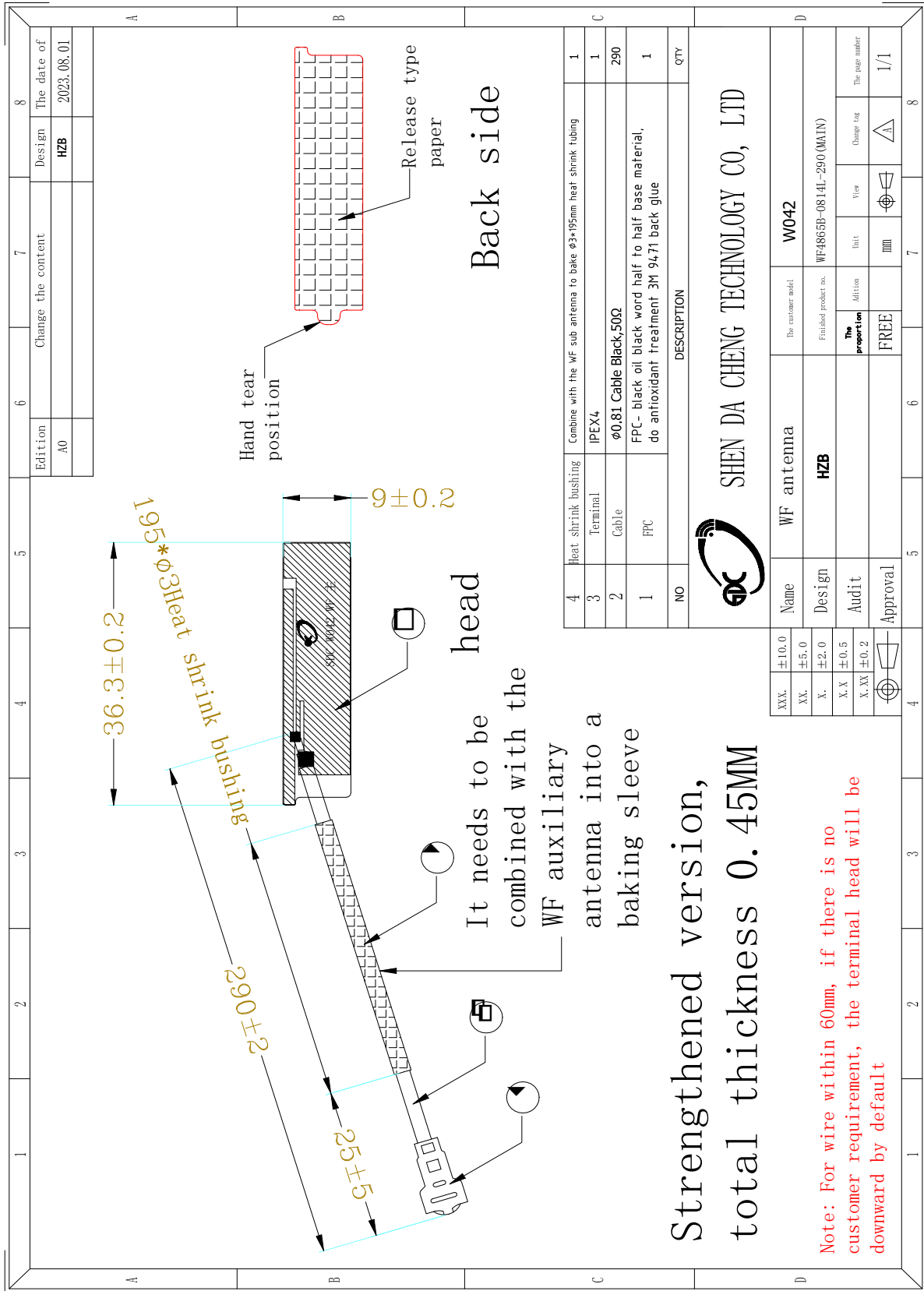


## Catalogue

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Drawing or Product Image



Strengthened version,  
total thickness 0.45MM

Note: For wire within 60mm, if there is no customer requirement, the terminal head will be downward by default

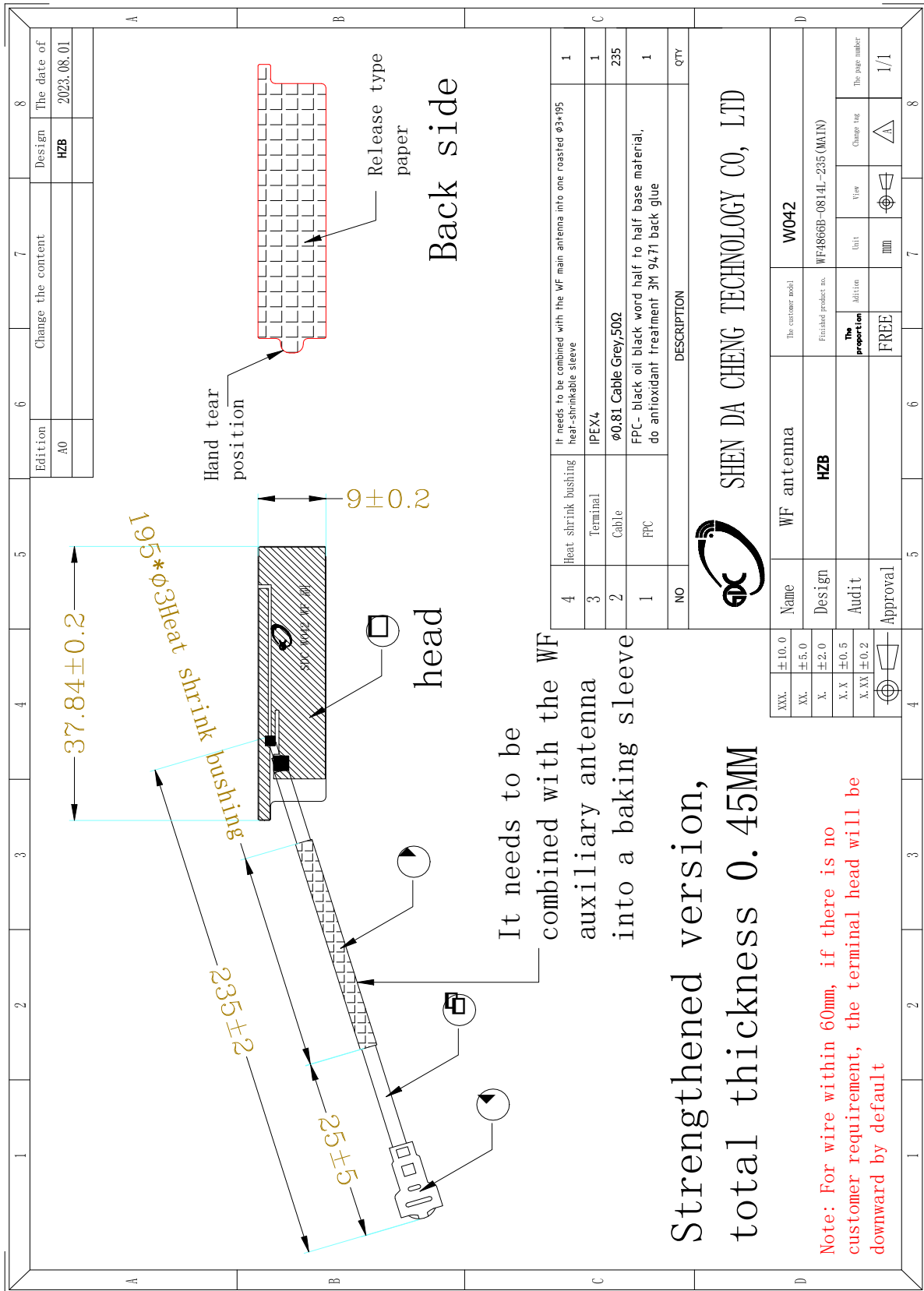


## Sample Dimensions Test Report

Test Date	2023.08.01	Sample Qty.	3	Inspector	Xu Yanfang
Dimension No.	Standard	Sample 1	Sample 2	Sample 3	Pass/NG
①length	36.3±0.2mm	36.3	36.4	36.3	Pass
②width	9±0.2mm	9	9.1	9	Pass
③thickness	0.45±0.03mm	0.45	0.46	0.45	Pass
④Line length	290±2mm	290	291	290	Pass
⑤					
⑥					
⑦					
Conclusion					PASS
Inspector & Date	Xu Yanfang 2023.08.01		Approval & Date		



Drawing or Product Image



NO	DESCRIPTION	QTY
4	Heat shrink bushing	1
3	Terminal	1
2	Cable	235
1	PPC	1

Name	WF antenna
Design	HZB
Audit	
Approval	
The customer model	W042
Finished product no.	WF4866D-0814L-235 (MAIN)
The proportion	
Unit	mm
View	
Change tag	
The page number	1/1



## Sample Dimensions Test Report

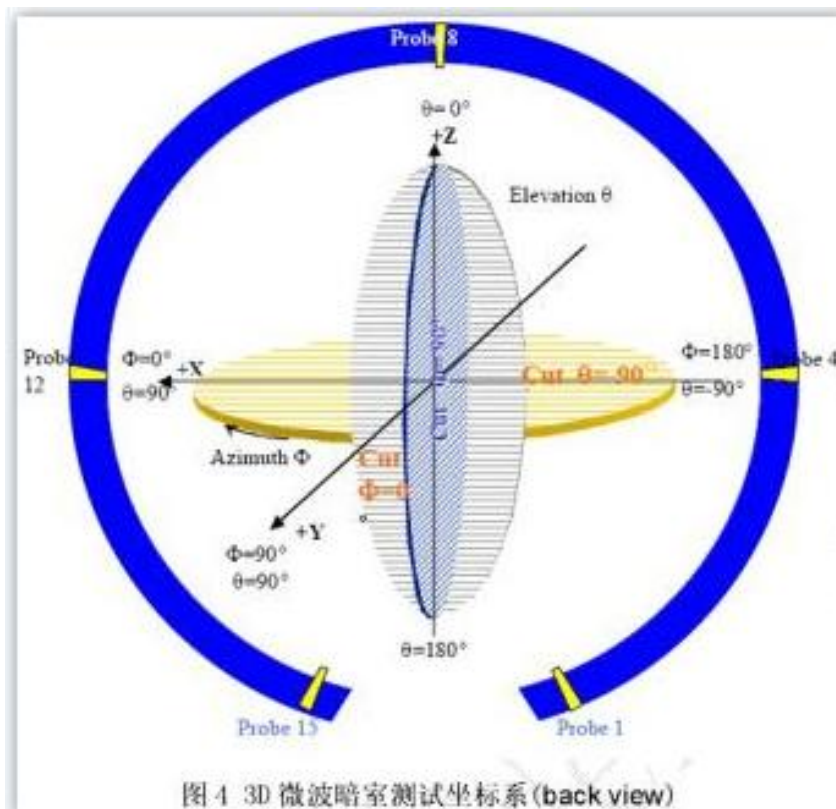
Test Date	2023.08.01	Sample Qty.	3	Inspector	Xu Yanfang
Dimension No.	Standard	Sample 1	Sample 2	Sample 3	Pass/NG
①length	37.84±0.2mm	37.84	37.95	37.9	Pass
②width	9±0.2mm	9	9.1	9	Pass
③thickness	0.45±0.03mm	0.45	0.46	0.45	Pass
④Line length	235±2mm	235	236	235	Pass
⑤					
⑥					
⑦					
Conclusion					PASS
Inspector & Date	Xu Yanfang 2023.08.01		Approval & Date		



## RF Performance Test Report

### Antenna Test Equipment Introduction

Test of antenna input characteristics using **Agilent E5071C** and **Agilent 5062A** vector network analyzer; The radiation pattern of the antenna are tested using the guangping 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:

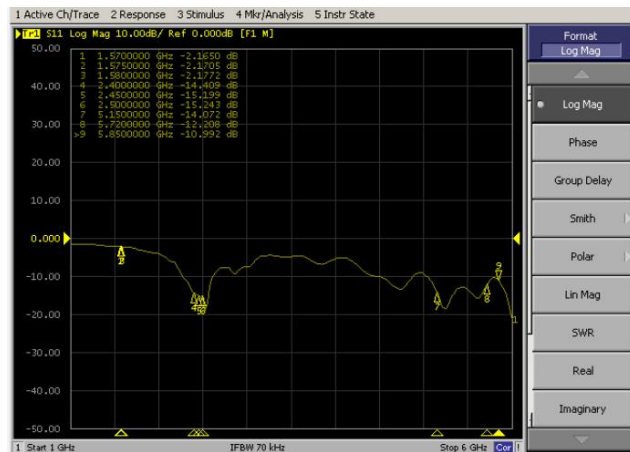
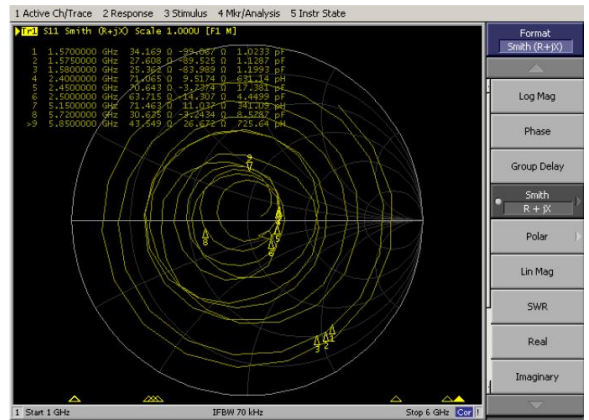
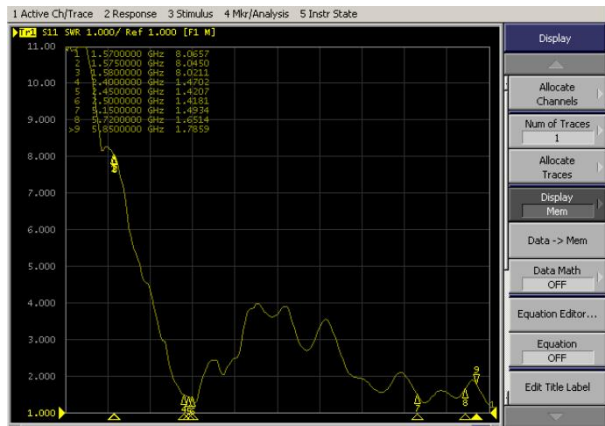


### 1. S11 Parameter-VSWR

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.



## S11 Parameter-VSWR



## 2. Antenna Matching Network

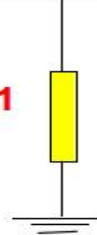
Antenna



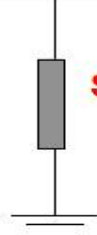
Series  
N/A

PA

Shunt 01  
N/A



Shunt 02  
N/A



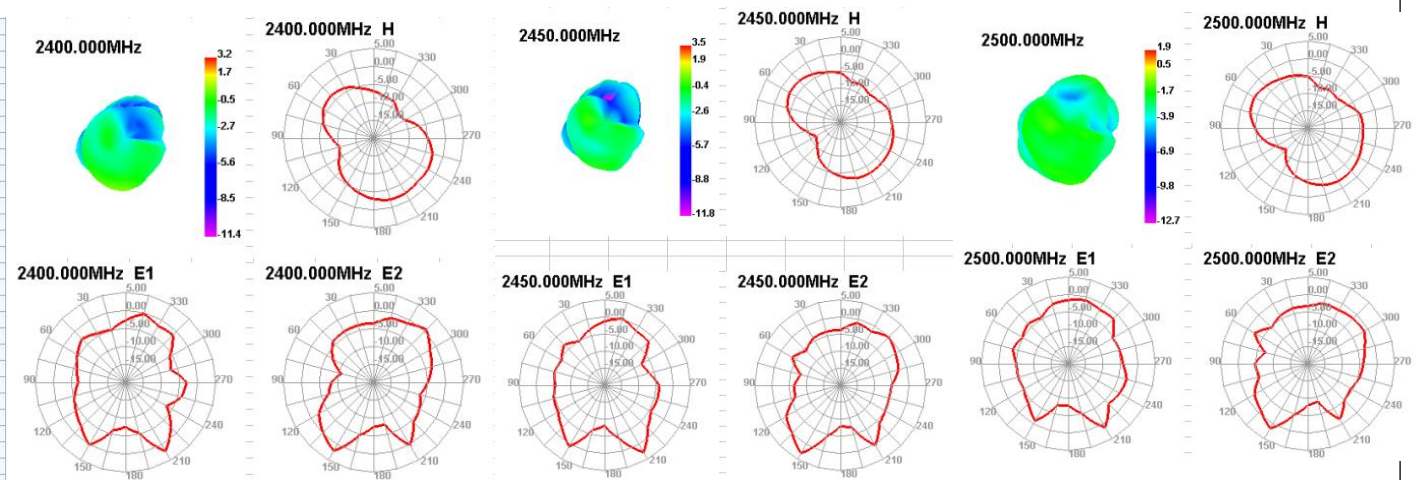




## MANI Antenna

### 3.Gain & Efficiency

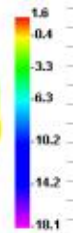
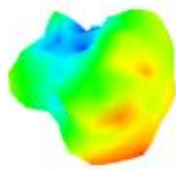
Passive Test For 2.4G											
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	AttH (dB)	AttV (dB)	
2400	46.9	-3.29	3.16	1.01	22.318	24.858	3.16	-11.43	49.25	48.85	
2450	49.71	-3.04	3.46	1.31	22.77	26.939	3.46	-11.81	49.38	49.16	
2500	49.11	-3.36	1.93	-0.22	23.105	23.007	1.93	-12.73	49.46	49.37	



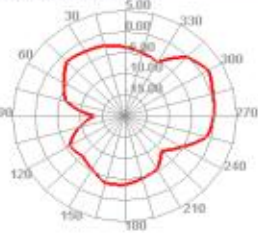
Passive Test For 5.8G											
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	AttH (dB)	AttV (dB)	
5150	43.79	-3.59	1.57	-0.58	26.644	17.141	1.57	-18.08	61.56	60.95	
5207.14	40.4	-4.04	0.87	-1.28	23.155	16.245	0.87	-20.26	60.8	60.51	
5314.28	40.93	-4.33	0.52	-1.63	21.301	16.362	0.52	-17.83	60.49	59.93	
5421.43	42.97	-3.67	1.36	-0.79	24.578	18.389	1.36	-21.39	61.44	60.95	
5528.57	44.41	-3.53	1.87	-0.28	26.025	18.384	1.87	-22.99	63.27	62.62	
5635.71	40.03	-4.31	0.72	-1.43	21.579	15.451	0.72	-21.86	63.73	63.15	
5742.85	42.47	-3.72	1.36	-0.78	23.828	18.643	1.36	-21.09	64.06	63.48	
5849.99	46.72	-3.3	1.82	-0.33	25.53	21.193	1.82	-18.71	64.26	64	



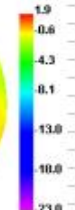
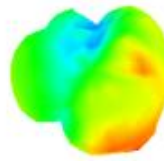
5100.000MHz



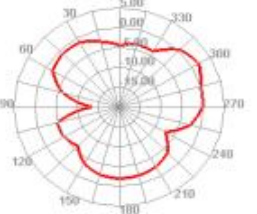
5100.000MHz H



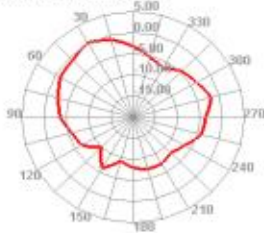
5528.568MHz



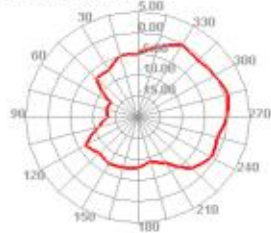
5528.568MHz H



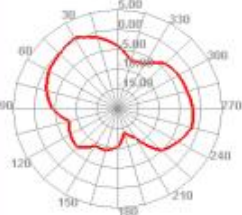
5100.000MHz E1



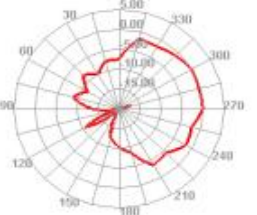
5100.000MHz E2



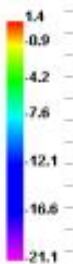
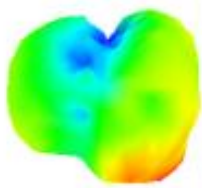
5528.568MHz E1



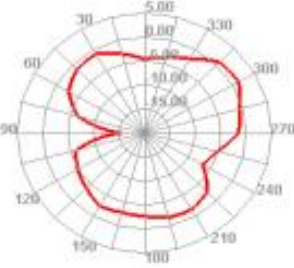
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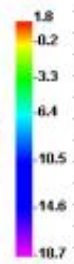
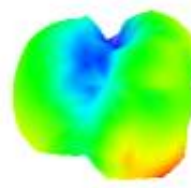
5742.852MHz



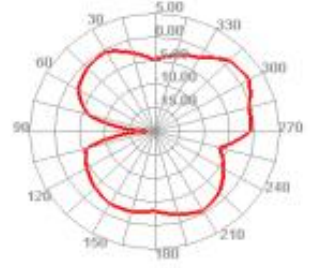
5742.852MHz H



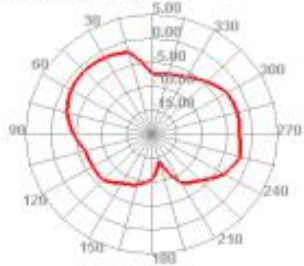
5849.994MHz



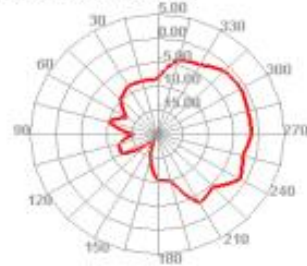
5849.994MHz H



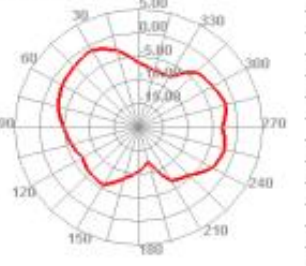
5742.852MHz E1



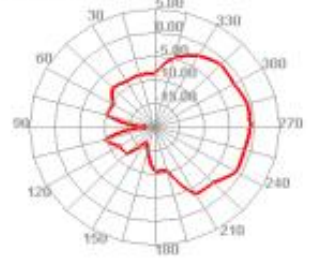
5742.852MHz E2



5849.994MHz E1



5849.994MHz E2

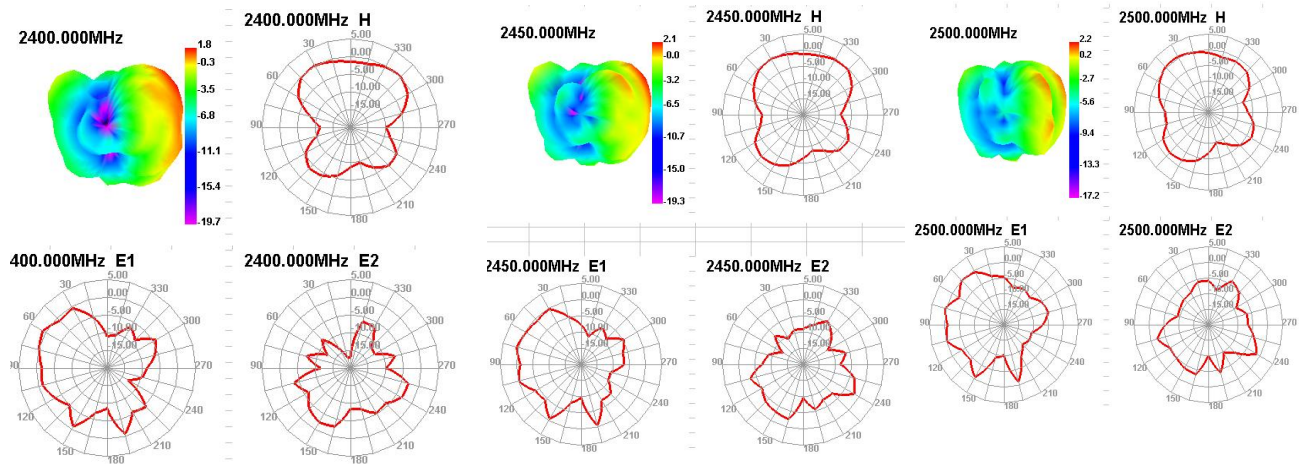




## AUX Antenna

### Passive Test For 2.4G

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	AttH (dB)	AttV (dB)
2400	43.91	-3.57	1.84	-0.31	22.401	21.511	1.84	-19.67	49.25	48.85
2450	44.86	-3.48	2.13	-0.02	22.886	21.973	2.13	-19.33	49.38	49.16
2500	45.49	-3.42	2.16	0.01	23.63	21.862	2.16	-17.15	49.46	49.37



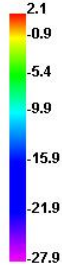
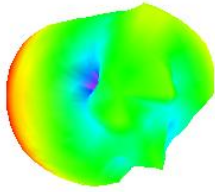
### Passive Test For 5.8G

Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	AttH (dB)	AttV (dB)
5150	43.79	-3.59	1.57	-0.58	26.644	17.141	1.57	-18.08	61.56	60.95
5207.14	40.4	-4.04	0.87	-1.28	23.155	16.245	0.87	-20.26	60.8	60.51
5314.28	40.93	-4.33	0.52	-1.63	21.301	16.362	0.52	-17.83	60.49	59.93
5421.43	42.97	-3.67	1.36	-0.79	24.578	18.389	1.36	-21.39	61.44	60.95
5528.57	44.41	-3.53	1.87	-0.28	26.025	18.384	1.87	-22.99	63.27	62.62
5635.71	40.03	-4.31	0.72	-1.43	21.579	15.451	0.72	-21.86	63.73	63.15
5742.85	42.47	-3.72	1.36	-0.78	23.828	18.643	1.36	-21.09	64.06	63.48
5849.99	46.72	-3.3	1.82	-0.33	25.53	21.193	1.82	-18.71	64.26	64

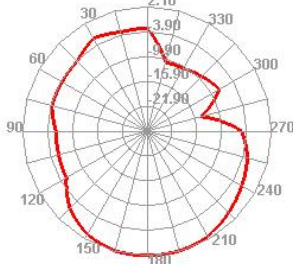


# SHEN DA CHENG TECHNOLOGY CO, LTD

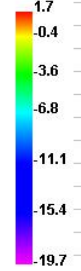
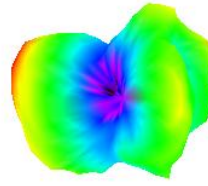
5100.000MHz



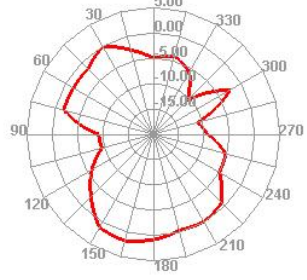
5100.000MHz H



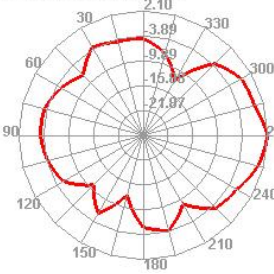
5421.426MHz



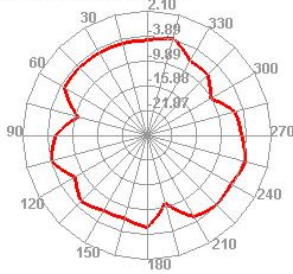
5421.426MHz H



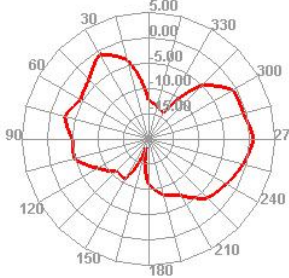
5100.000MHz E1



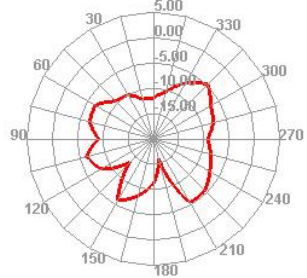
5100.000MHz E2



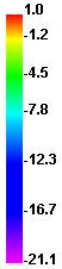
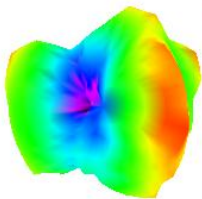
5421.426MHz E1



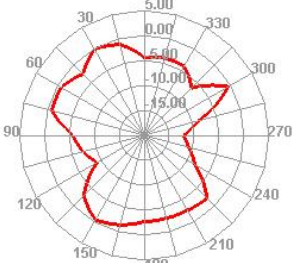
5421.426MHz E2



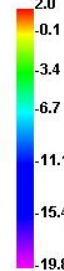
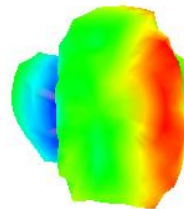
5635.710MHz



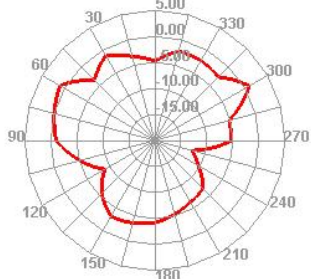
5635.710MHz H



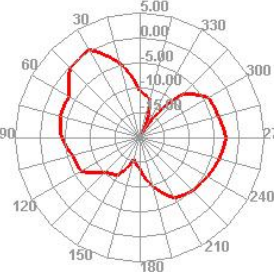
5849.994MHz



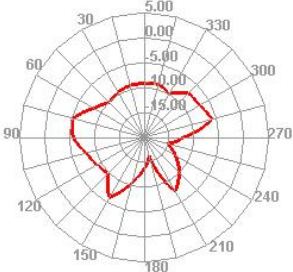
5849.994MHz H



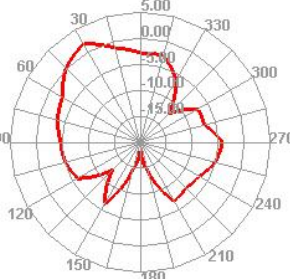
5635.710MHz E1



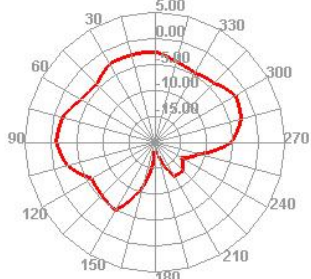
5635.710MHz E2



5849.994MHz E1



5849.994MHz E2





## 4. OTA Data

<b>2.4G</b>	802.11b, (2.4G) 11M		
Channel	CH1	CH6	CH11
TRP	11.92	11.07	11.14
TIS	-81.17	-81.52	-80.63
<b>5.8G</b>	802.11a, (5.8G) 54M		
Channel	CH36	CH60	CH161
TRP	9.09	10.43	9.87
TIS	-70.28	-70.34	-70.8



## Reliability Test Report

Test Date	2023. 08. 01	Sample Qty.	3	Inspector	Xu Yanfang	
Test Item	Requirement	testing equipment	Sample 1	Sample 2	Sample 3	PASS/NG
High temperature storage	The test was carried out after 24H exposure at +85°C and 2H recovery	Constant temperature and humidity box	OK	OK	OK	Pass
Low temperature storage	The test was carried out after 24H exposure at -40°C and 2H recovery	Constant temperature and humidity box	OK	OK	OK	Pass
High temperature work	At +60°C for 24H	Constant temperature and humidity box	OK	OK	OK	Pass
Work in low temperature	At -20°C under the condition of power work for 24H	Constant temperature and humidity box	OK	OK	OK	Pass
Salt spray test	The pH value was 6.5 ~ 7.2, and the temperature of the experimental chamber was (35±2)°C <input type="checkbox"/> 24H <input checked="" type="checkbox"/> 48H	Salt spray testing machine	OK	OK	OK	Pass
Connector riveting and drawing force	1. 13 线径 ≥10N 0. 81 线径 ≥8N RG174 ≥60N RG178 ≥50N	Push pull meter	≥10N	≥10N	≥10N	Pass
<b>Conclusion</b>						Pass
Inspector & Date	Xu Yanfang 2023. 08. 01		Approval & Date			



## Install Wizard or Other

### Installation process:

Take 1PCS of products and tear off the release paper on the back of the FPC by hand. Then align the positioning holes of the FPC with the positioning holes of the shell (positioning bars or positioning wires) and attach them to the shell smoothly. The specific positions are shown in the figure below:

#### Precautions for installation:

- After attaching the antenna, ensure that the FPC is fully attached to the shell;
- The positioning hole is aligned with the position of the housing positioning column;
- FPC edges are aligned with housing edges;
- When connecting the antenna with terminal to the PCBA end of the motherboard, align the terminal first and then close it vertically.
- When removing the antenna terminal, use a tool (such as a dedicated crowbar) to lift the terminal vertically. Do not pull the cable to remove the terminal directly



# SHEN DA CHENG TECHNOLOGY CO, LTD

## ROHS certificate of the product

# Certificate

Certificate Number: UNIB22051904HC-01



Product: Fpc antenna

Applicant: ShenZhen ShunDaCheng Technology Co., Ltd.  
4th Floor, Building B5, Xinfu Industrial Zone, Fuyong Chongqing Road,  
Baoan District, Shenzhen

Manufacturer: ShenZhen ShunDaCheng Technology Co., Ltd.

Model No.: N/A

Trade Name: N/A

Test Methods: IEC 62321-2:2021, IEC 62321-3-1:2013, IEC 62321-4:2013 +A1:2017,  
IEC 62321-5:2013, IEC 62321-6:2015, IEC 62321-7-1:2015  
IEC 62321-7-2:2017, IEC 62321-8:2017

The laboratory tested the product provided by the applicant according to the above test methods. According to the test results, the product conforms to RoHS Directive [(2011/65/EU and Amendment (EU) 2015/863)] issued by the European Commission. It is possible to use CE marking to demonstrate the compliance with RoHS Directive.

The certificate applies to the tested sample above mentioned only and shall not imply an assessment of the whole production. It is only valid in connection with the test report number: UNIB22051904HR-01.

**Note:** According to the requirements of the applicant for testing, details are shown in the test report.

# RoHS

May 27, 2022  
Issue Date



# CE

### Shenzhen United Testing Technology Co., Ltd.

Shenzhen: 2/F, Annex Building, Jiahuaqiyuan Tech Park, No.365, Baotian 1st Road, Bao'an District, Shenzhen, Guangdong, China/518050

Guangzhou: No.47-3, Industrial Road, Zhushan, Dulong Street, Panyu District, Guangzhou, Guangdong, China/511450

Tel: +86-755-86180996 / +86-020-39277769 Fax: +86-0755-86180156

Web Site: [www.umi-lab.hk/](http://www.umi-lab.hk/) E-mail: [hofferlma@umi-lab.hk](mailto:hofferlma@umi-lab.hk)



Certificate of Compliance