



SHEN DA CHENG TECHNOLOGY CO, LTD

SPECIFICATION FOR APPROVAL

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

Approval				Customer Approval	
	Prepared By	Checked By	Approval By	Checked By	Approval By
Signature	Huang Zongbao	Yong-hui Yang	FuXueRong		
Date	2023. 08. 01	2023. 08. 01	2023. 08. 01		

Change Log				
Version	Change Description	Person in Charge	Approval By	Date

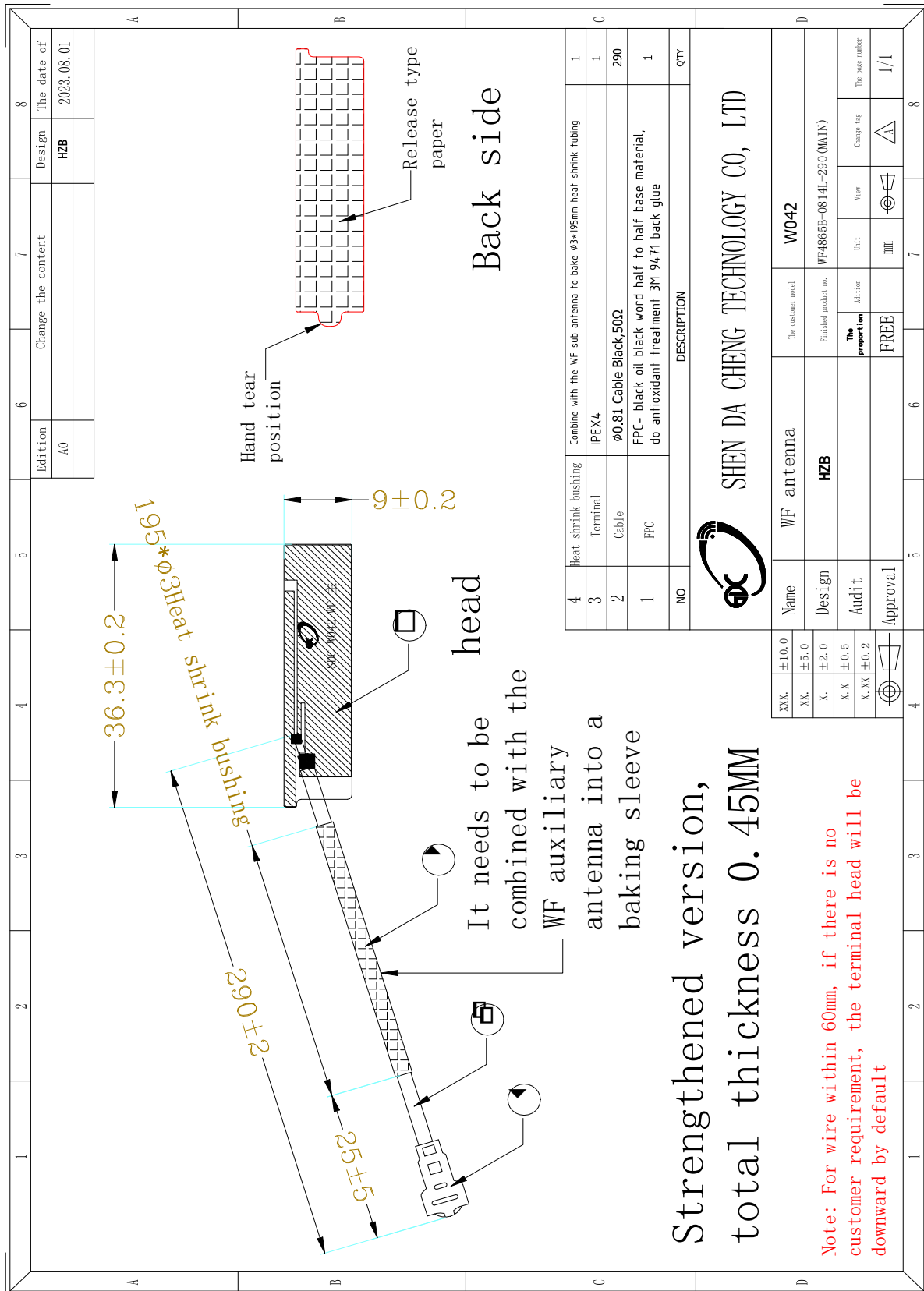


Catalogue

No.	Item	Page No.
1	Drawing or Product Image	3
2	Dimensions Test Report	4
3	RF Performance Test Report	5-7
4	Reliability Test Report1	8
5	Package Document	9
6	RoHS Control list for Sample	10
7	Install Wizard or Other	10



Drawing or Product Image



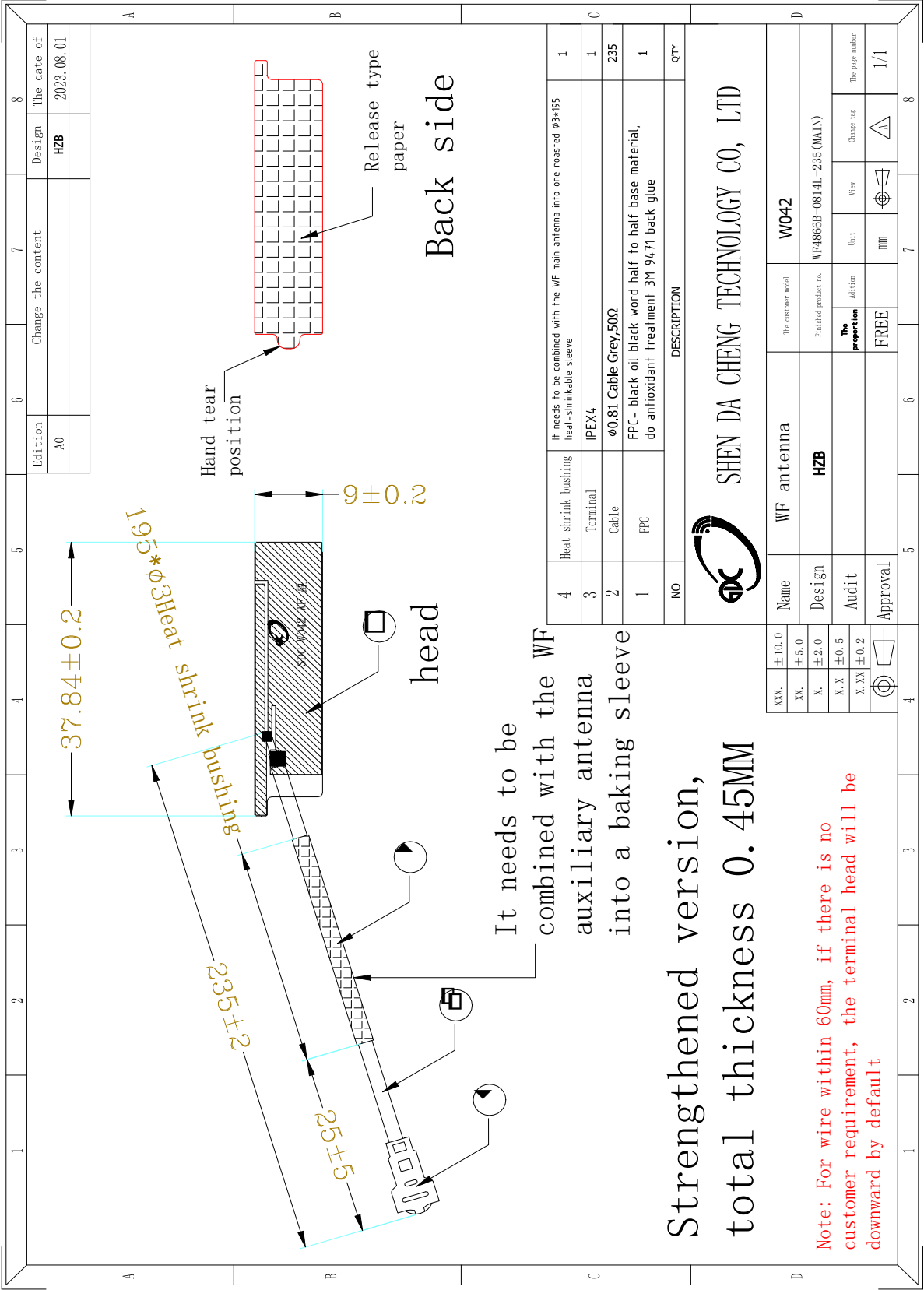


Sample Dimensions Test Report

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





Sample Dimensions Test Report

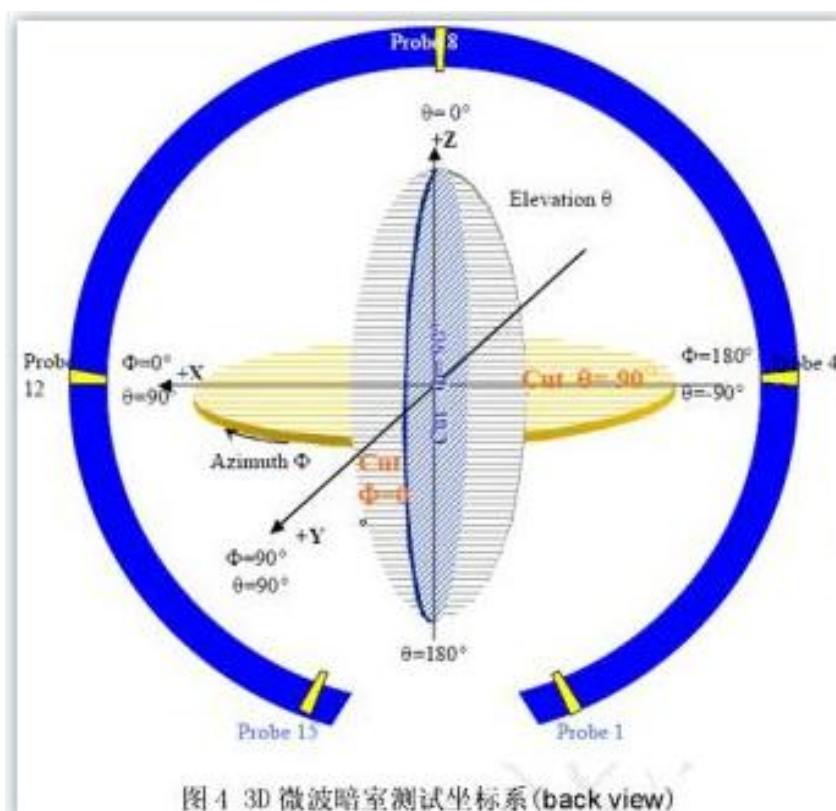
Test Date	2023.08.01	Sample Qty.	3	Inspector	Xu Yanfang
Dimension No.	Standard	Sample 1	Sample 2	Sample 3	Pass/NG
①length	$37.84 \pm 0.2\text{mm}$	37.84	37.95	37.9	Pass
②width	$9 \pm 0.2\text{mm}$	9	9.1	9	Pass
③thickness	$0.45 \pm 0.03\text{mm}$	0.45	0.46	0.45	Pass
④Line length	$235 \pm 2\text{mm}$	235	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:

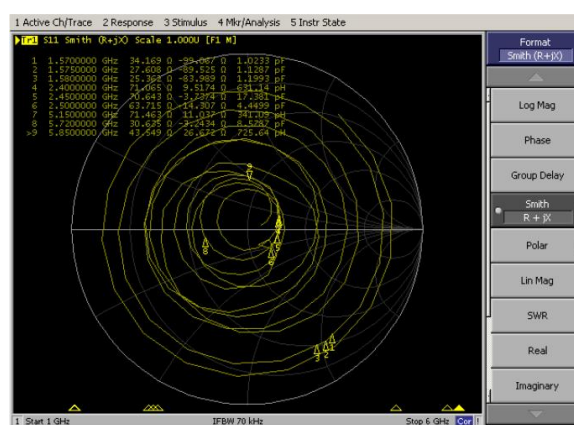
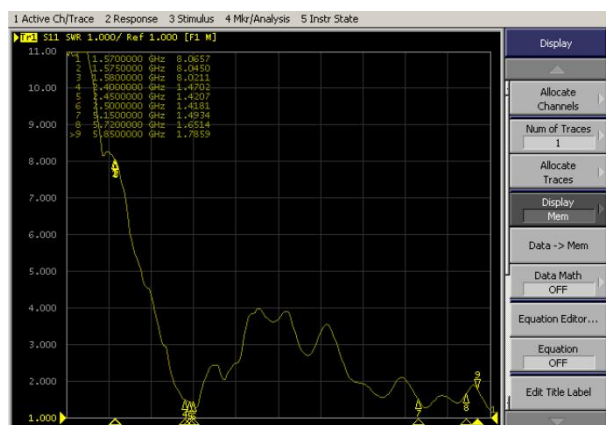


1. **S11 Parameter-VSWR**

Measuring Method is a 50 Ω 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

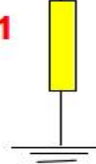
Antenna



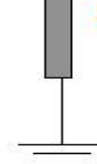
Series
N/A

PA

Shunt 01
N/A



Shunt 02
N/A

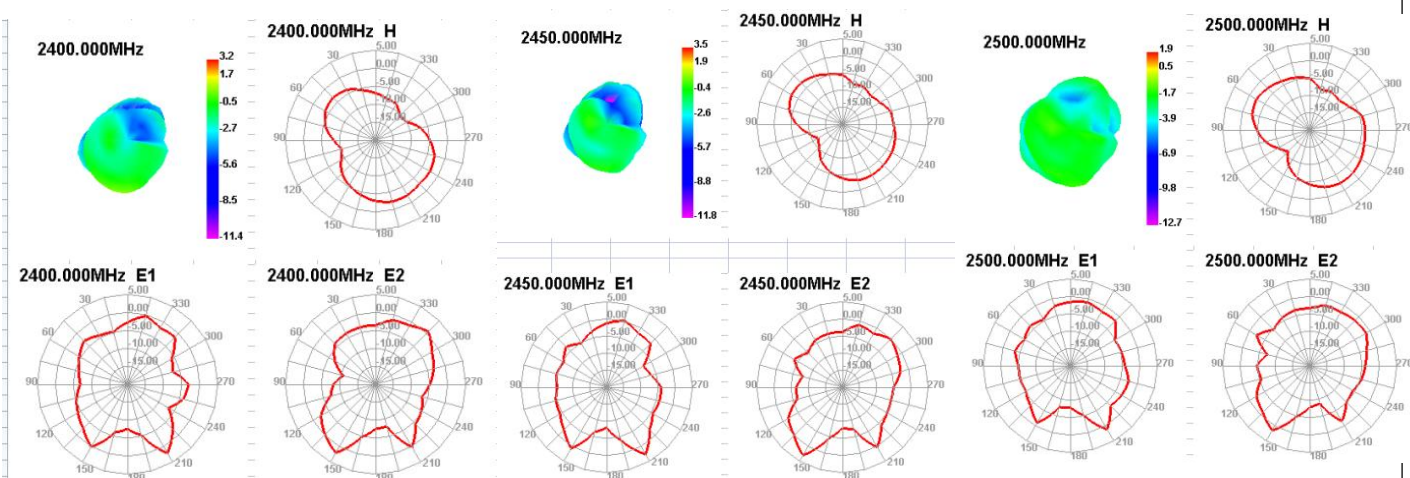




MANI Antenna

3.Gain & Efficiency

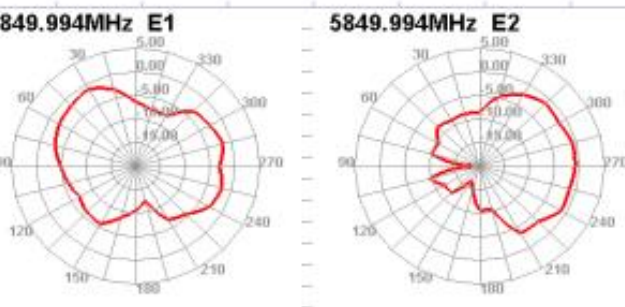
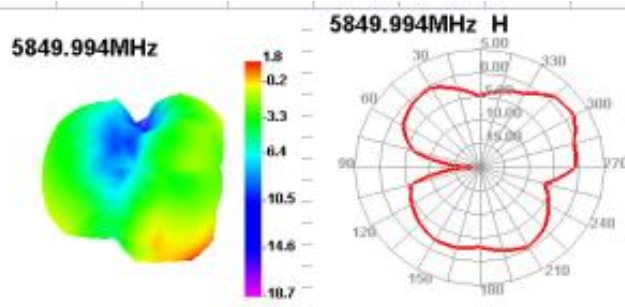
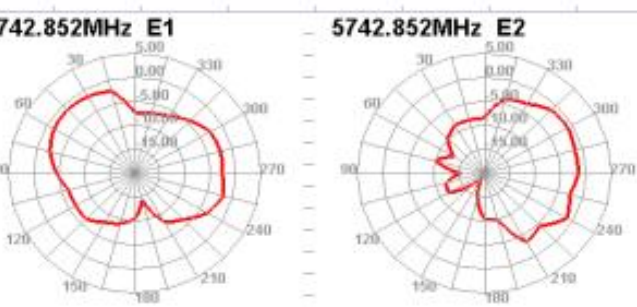
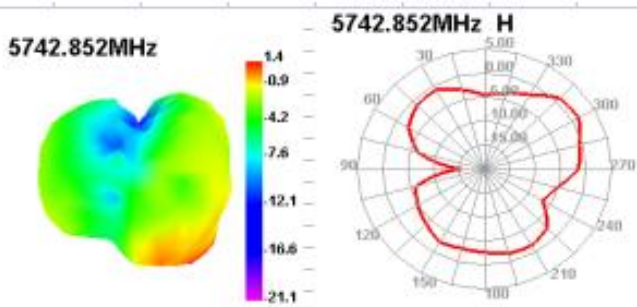
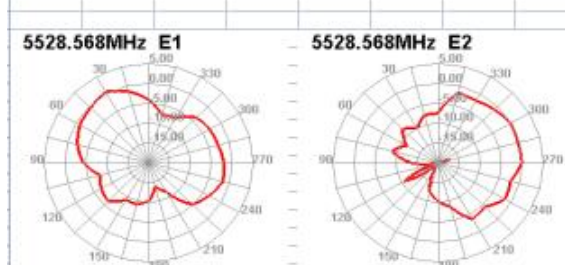
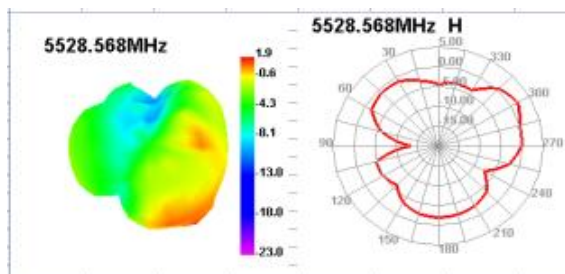
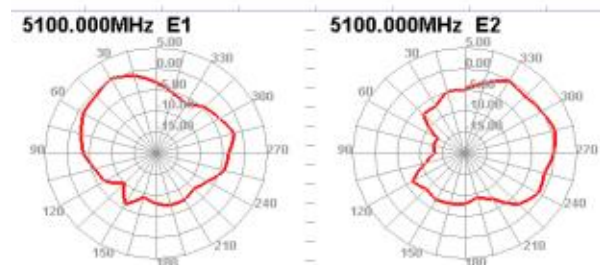
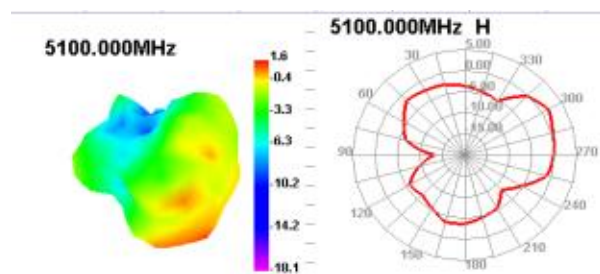
Passive Test For 2.4G										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHS (%)	Max (dB)	Min (dB)	AttH (dB)	AttV (dB)
2400	46.9	-3.29	3.16	1.01	22.318	24.858	3.16	-11.43	49.25	48.85
2450	49.71	-3.04	3.46	1.31	22.77	26.939	3.46	-11.81	49.38	49.16
2500	49.11	-3.36	1.93	-0.22	23.105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



SHEN DA CHENG TECHNOLOGY CO, LTD



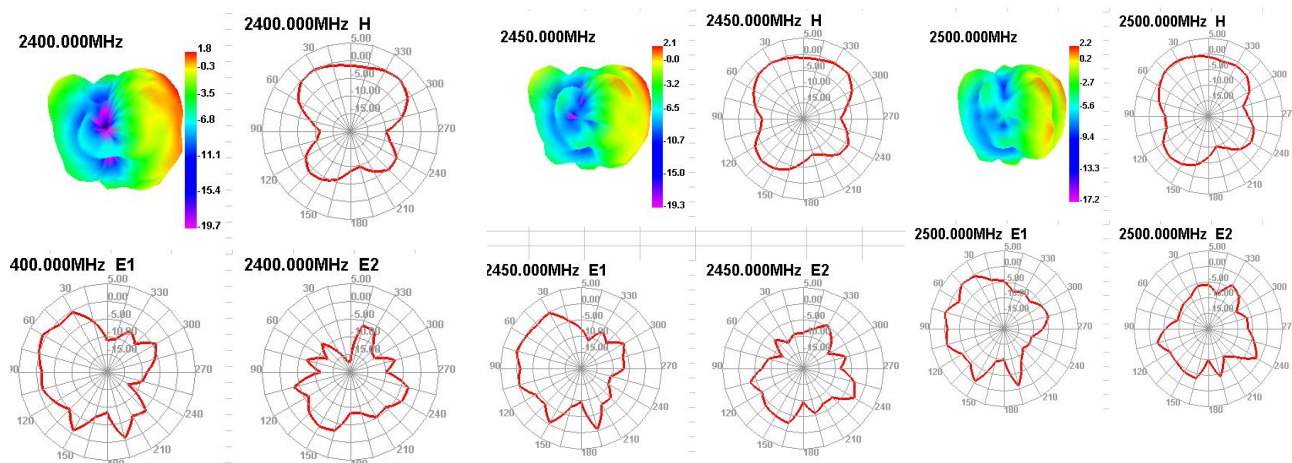


SHEN DA CHENG TECHNOLOGY CO, LTD

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



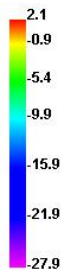
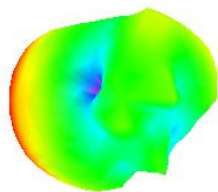
Passive Test For 5.8G

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

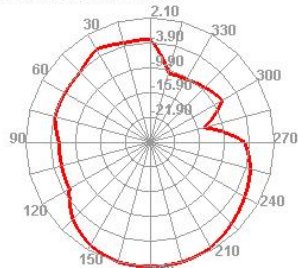


SHEN DA CHENG TECHNOLOGY CO, LTD

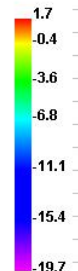
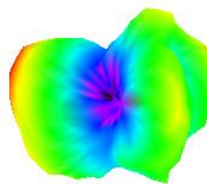
5100.000MHz



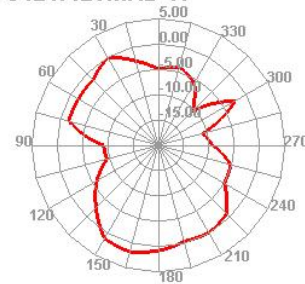
5100.000MHz H



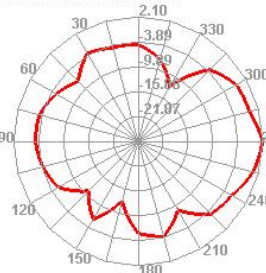
5421.426MHz



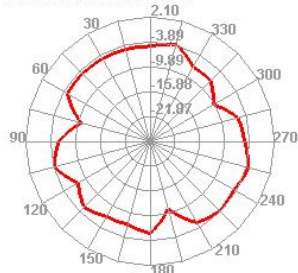
5421.426MHz H



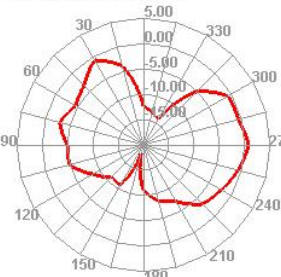
5100.000MHz E1



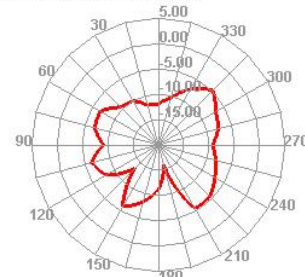
5100.000MHz E2



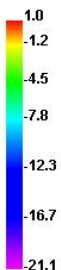
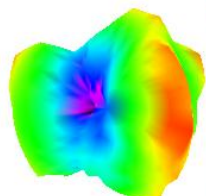
5421.426MHz E1



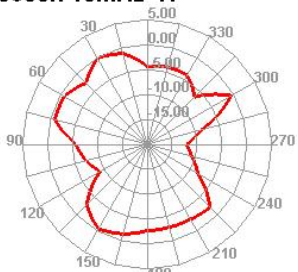
5421.426MHz E2



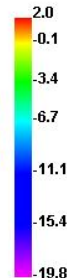
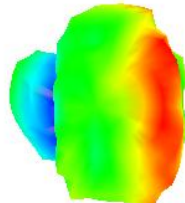
5635.710MHz



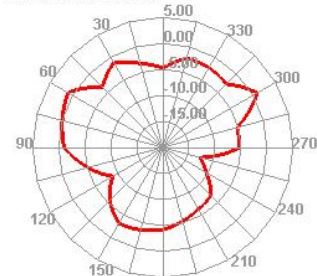
5635.710MHz H



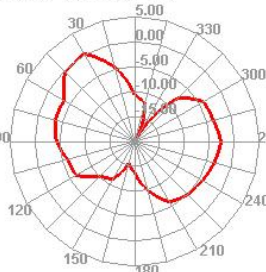
5849.994MHz



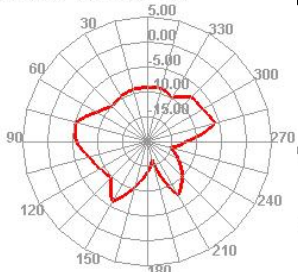
5849.994MHz H



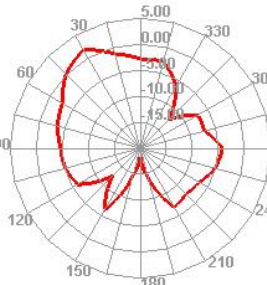
5635.710MHz E1



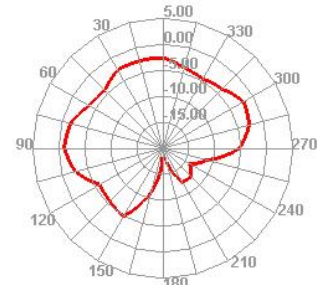
5635.710MHz E2



849.994MHz E1



5849.994MHz E2





4. OTA Data

2.4G	802.11b, (2.4G) 11M		
Channel	CH1	CH6	CH11
TRP	11.92	11.07	11.14
TIS	-81.17	-81.52	-80.63
5.8G	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℃ 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℃ and 2H recovery	Constant temperature and humidity box	OK	OK	OK	Pass
High temperature work	At +60℃ for 24H	Constant temperature and humidity box	OK	OK	OK	Pass
Work in low temperature	At -20℃ 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)℃ ☐ 24H ☒ 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
Conclusion						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, Jiahongyuan 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.uni-lab.hk/ E-mail: hofferlma@uni-lab.hk



Certificate of Compliance