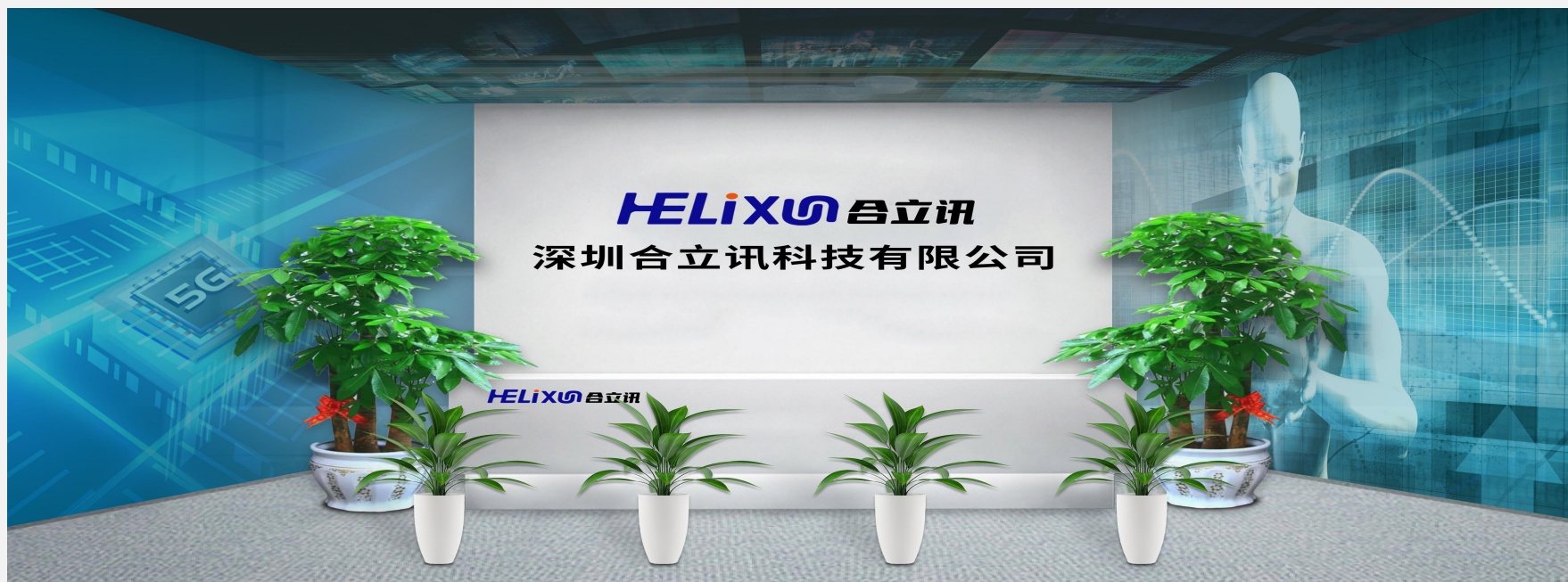


Antenna Test Report



Customer	天翼
Project	M11
Antenna Revision	A0
Prepared by	15993920520
Checked by	17279710721
Date	2023. 11. 15

Purpose

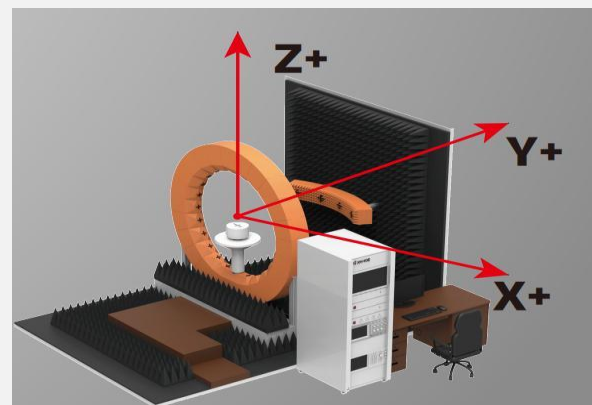
This report is to measure the performance of antenna for **M11** The antenna operating frequency at 2400-2500MHz, All test data are showed as below.

Content

- 1.Test system
- 2.Product Overview Dimension
- 3.Test Result
 - 3.1 S11 Parameter
 - 3.2 Gain & Efficiency
 - 3.3 2D Pattern
- 4.OTA

1.TestSystem

Sequence Number	Test Item	equipment
S parameter	VSWR	Agilent 5071C & Agilent 5071B
OTA Test	TRP&TIS	Agilent 8960 & CMW500 STIMO
Gain & Efficiency	Gain & Efficiency	SATIMO Agilent 5071C



2.Product Overview & Dimension



3.Test Result

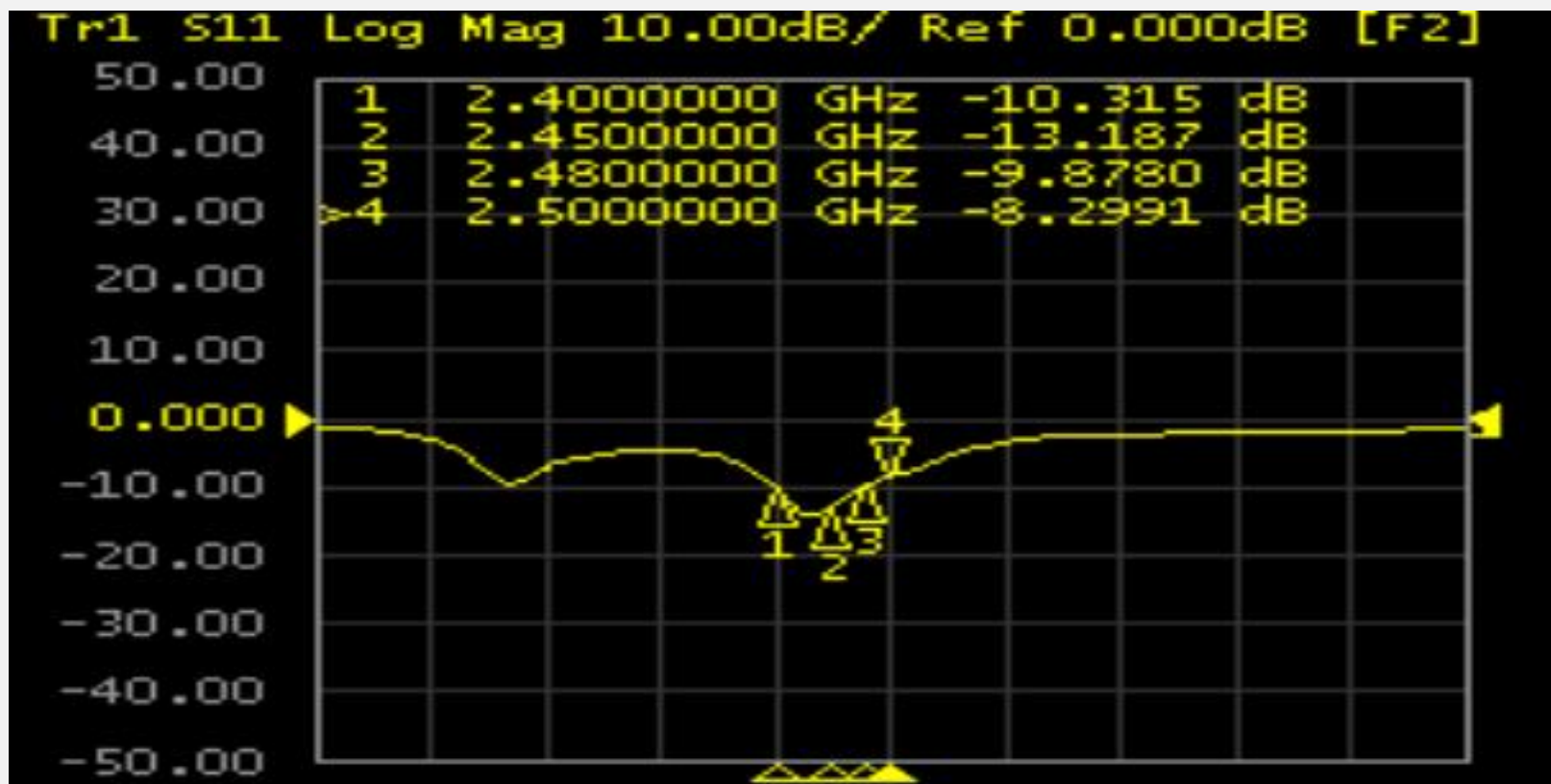
3.1 S11 Parameter-VSWR



Frequency (MHz)	2400	2450	2480	2500
VSWR	1.87	1.56	1.94	2.25

3. Test Result

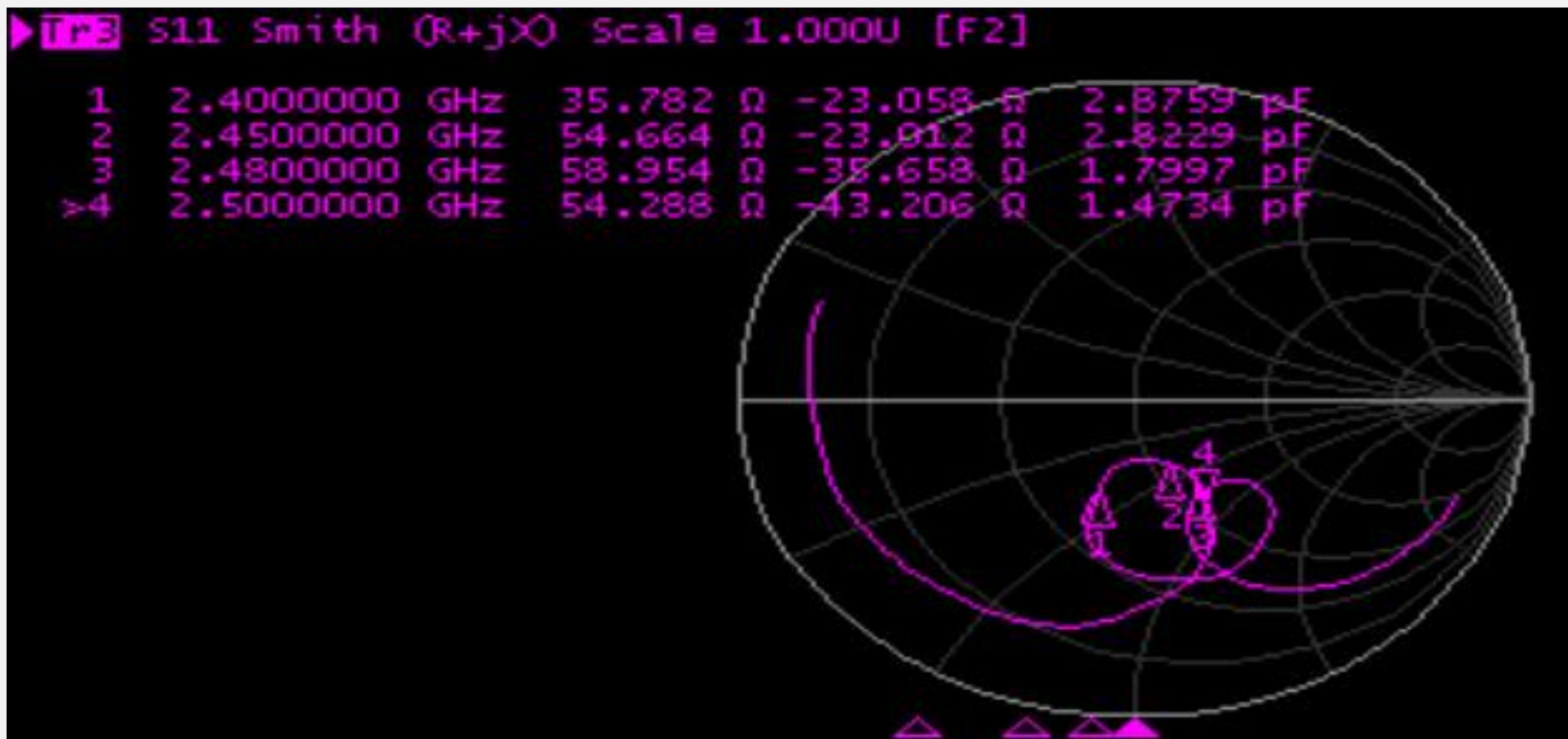
3.1 S11 Parameter-Log Mag



Frequency (MHz)	2400	2450	2480	2500
Log Mag	-10.31	-13.18	-9.87	-8.29

3.Test Result

3.1 S11 Parameter-Smith



Frequency (MHz)	2400	2450	2480	2500
Smi th(Ω)	35.78	54.66	58.95	54.28

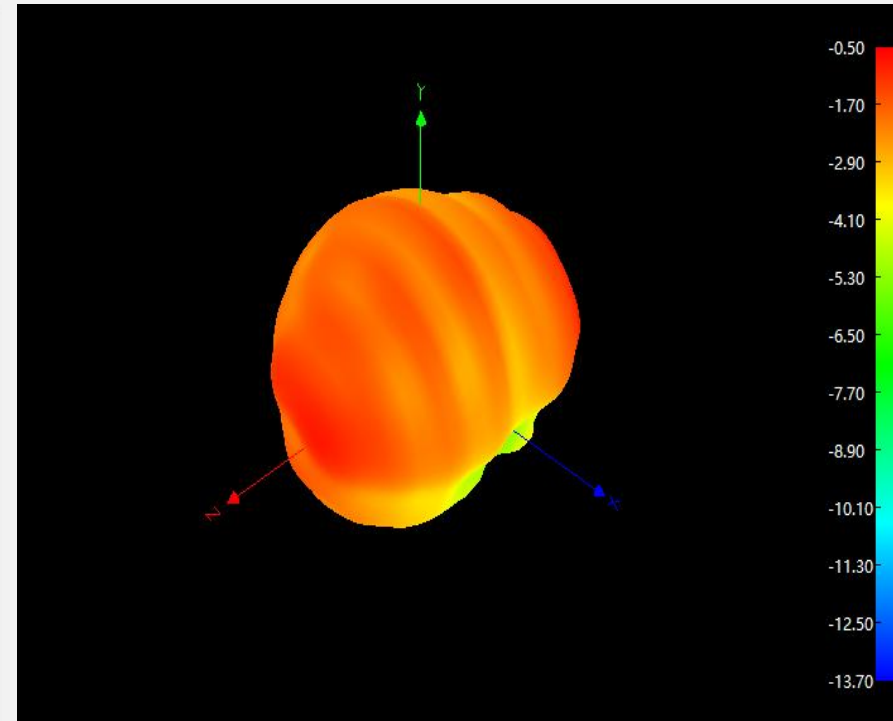
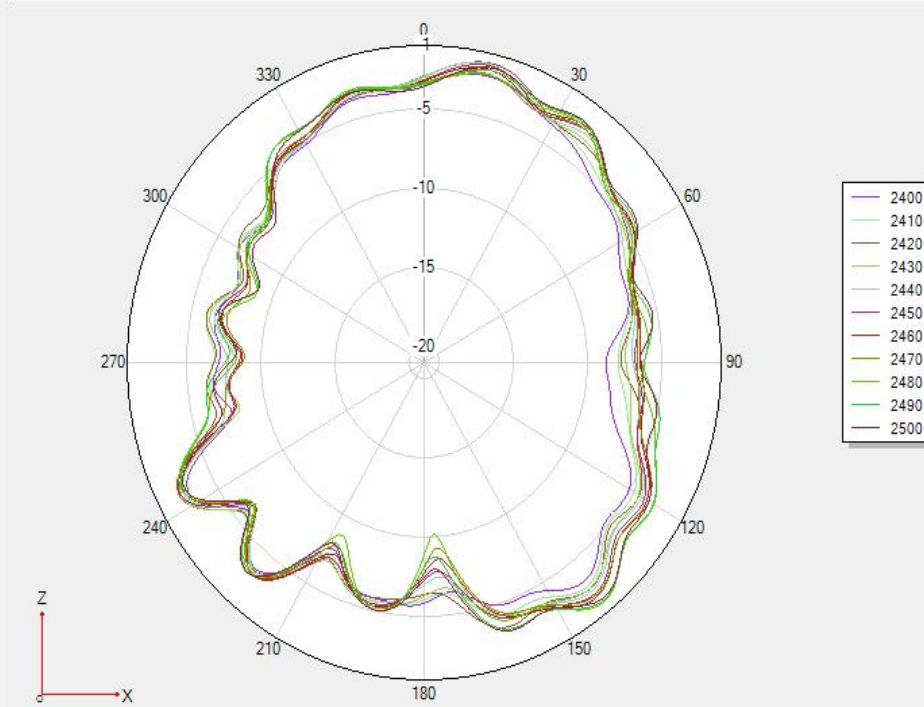
3.Test Result

3.2 Gain & Efficiency——ANT

Frequency (MHz)	Efficiency (%)	Max GAIN (dBi)
2400	24.24	-0.50
2410	24.41	-0.22
2420	25.96	-0.03
2430	25.04	0.02
2440	26.83	-0.22
2450	27.81	-0.11
2460	27.32	0.12
2470	26.89	-0.22
2480	26.81	0.15
2490	25.91	0.05
2500	24.51	0.08

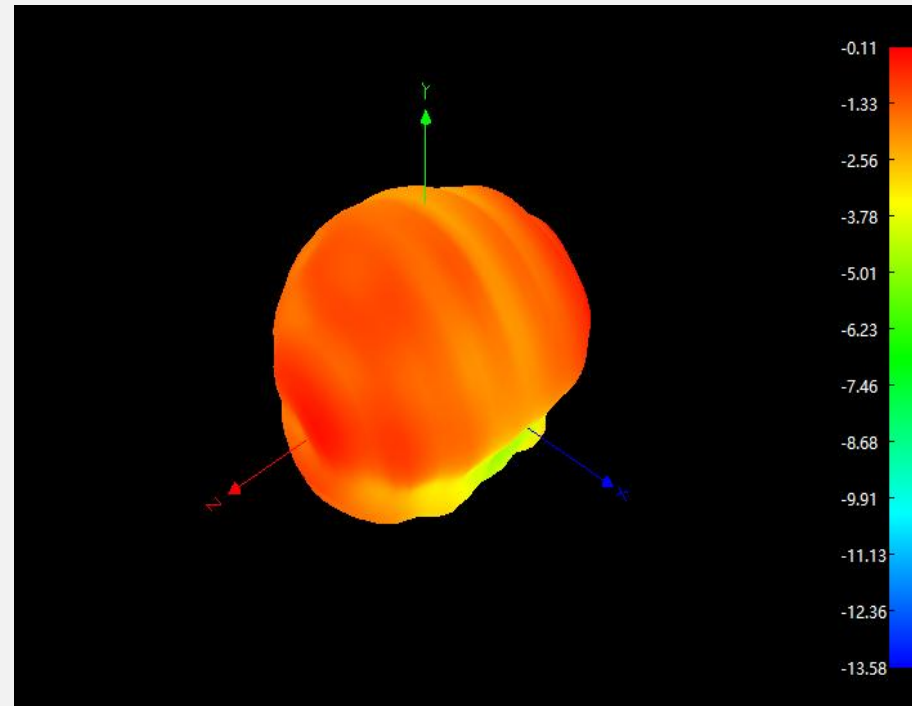
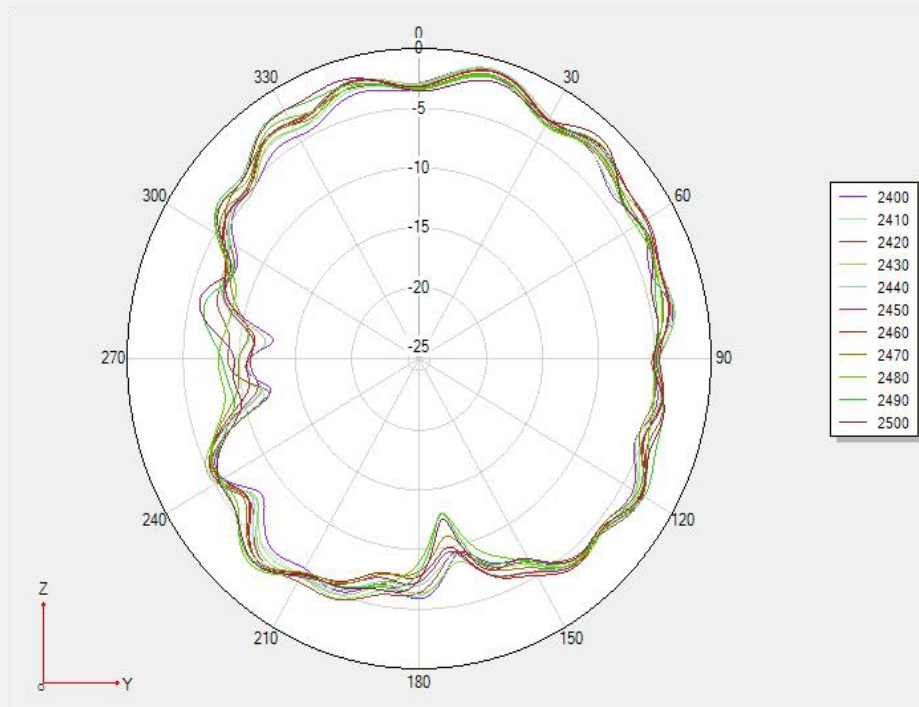
3. Test Result

3.3 2D Pattern—BT ANT



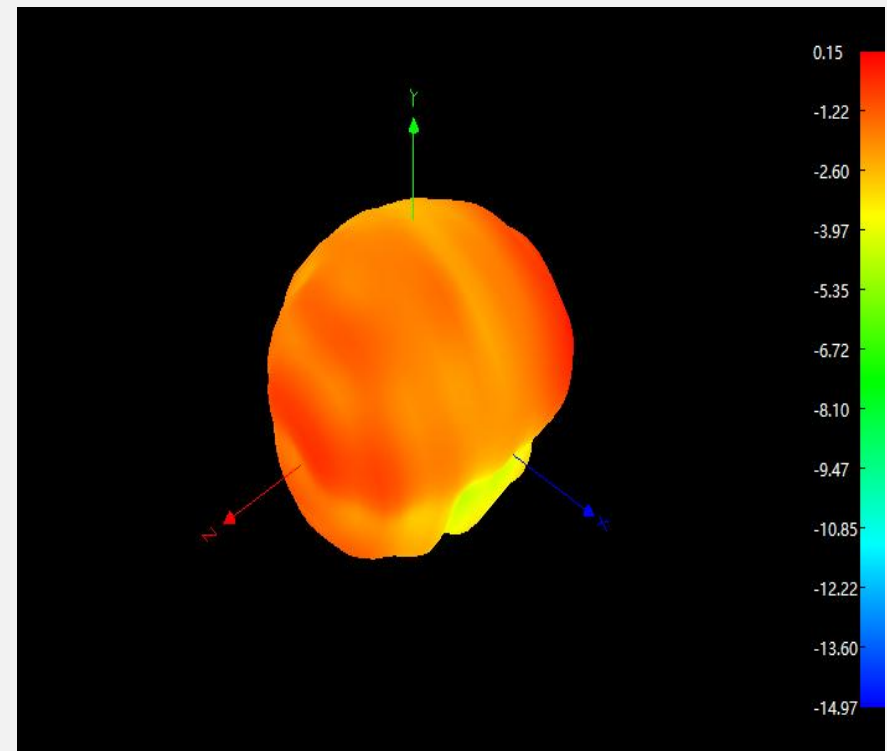
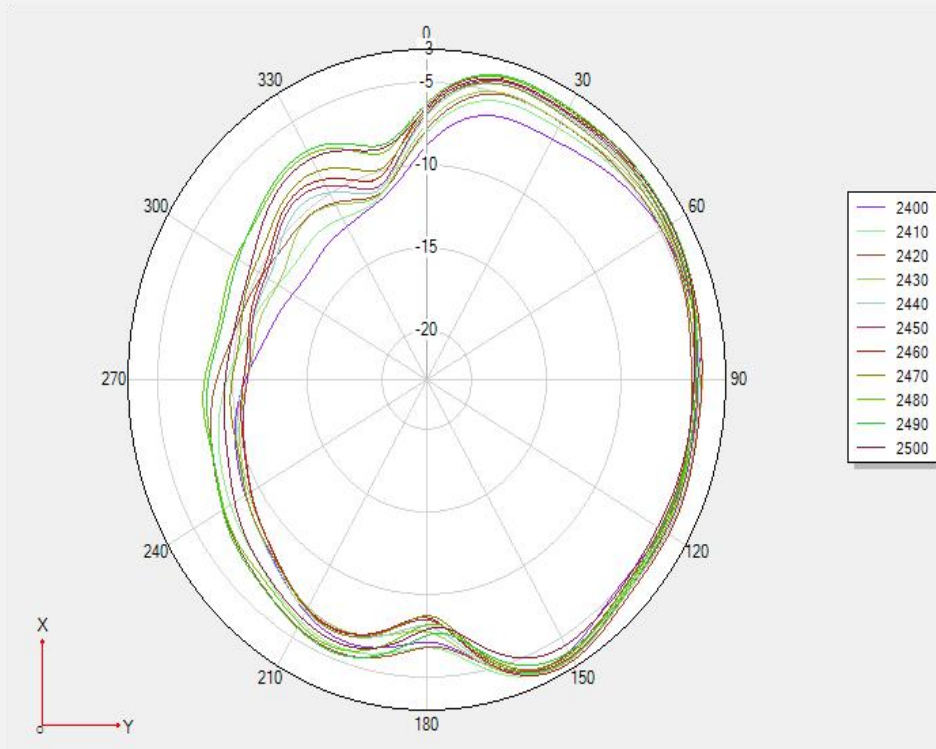
3. Test Result

3.3 2D Pattern—BT ANT



3. Test Result

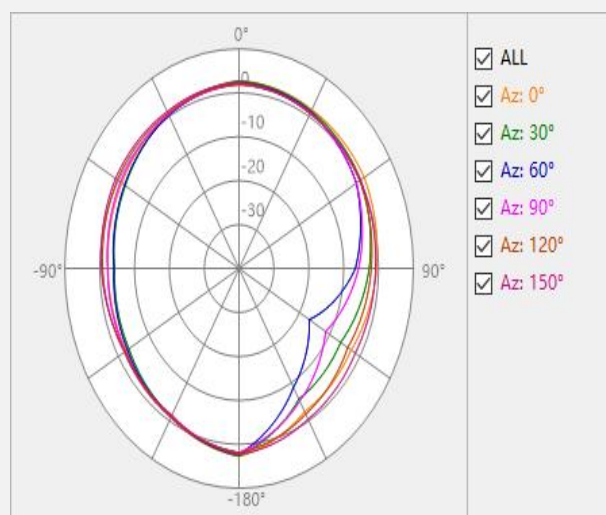
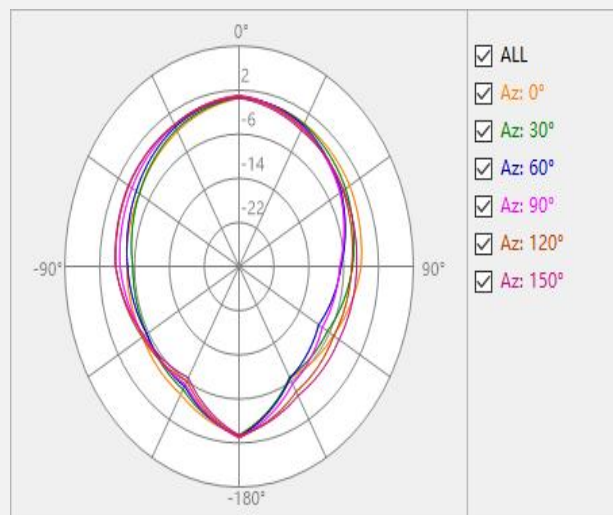
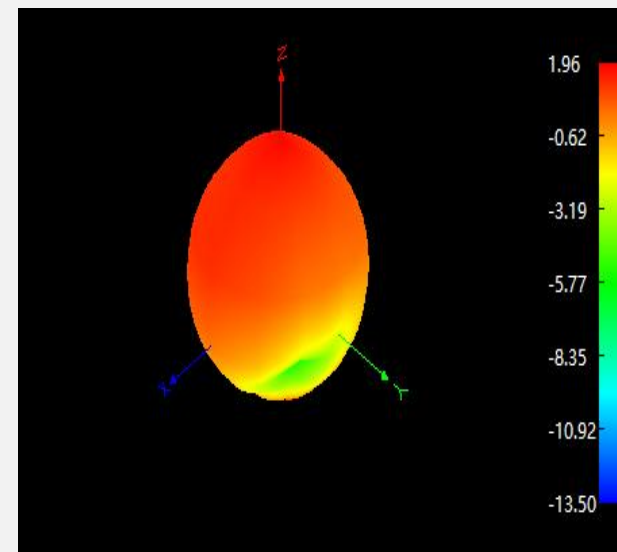
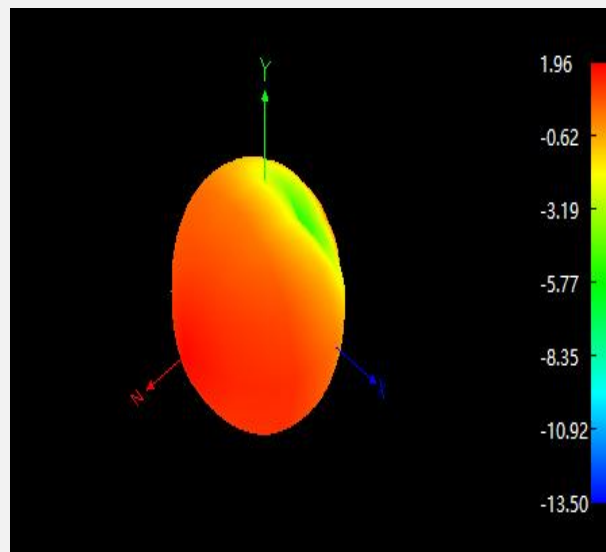
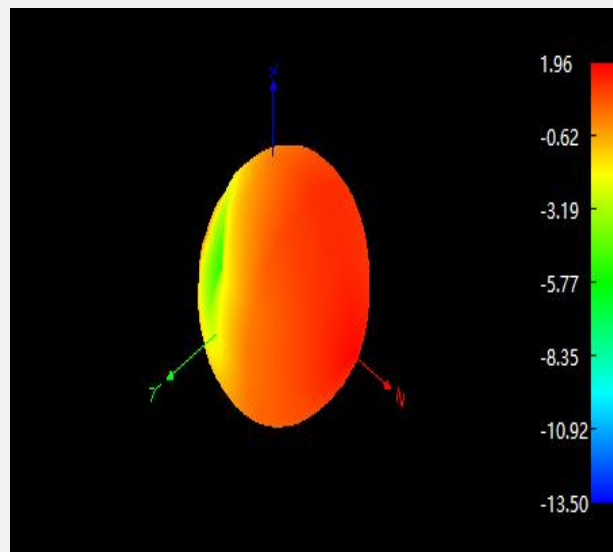
3.3 2D Pattern——BT ANT



4.OTA Data

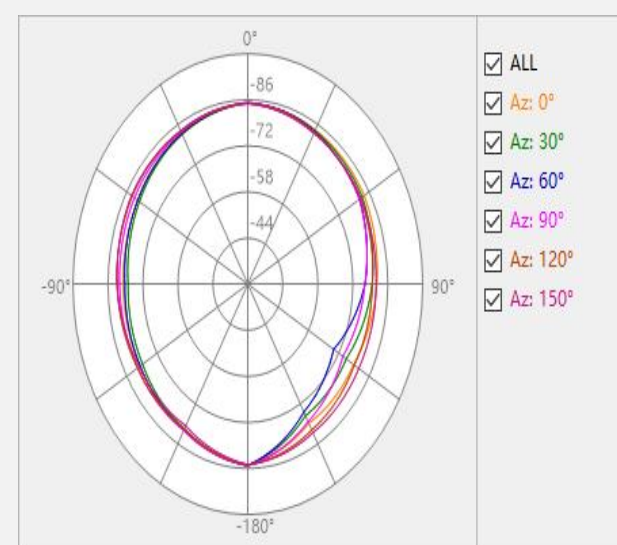
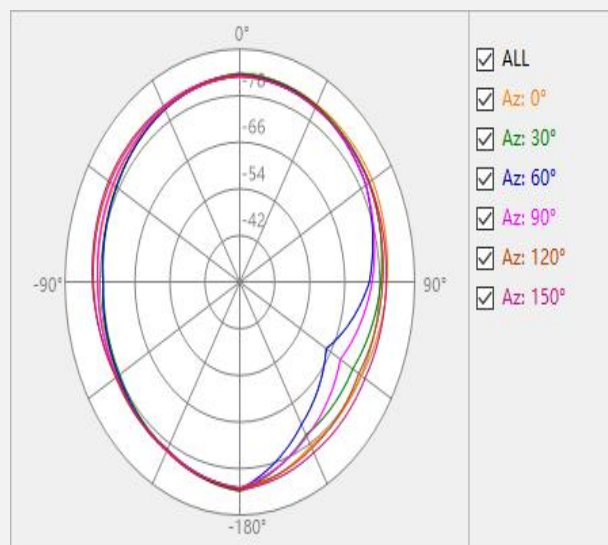
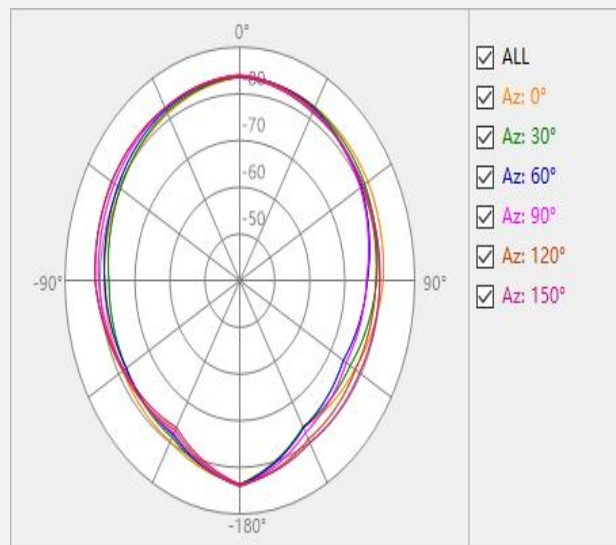
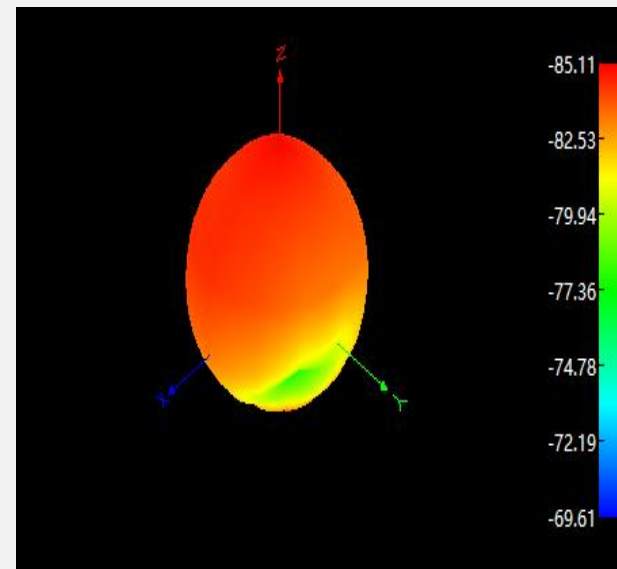
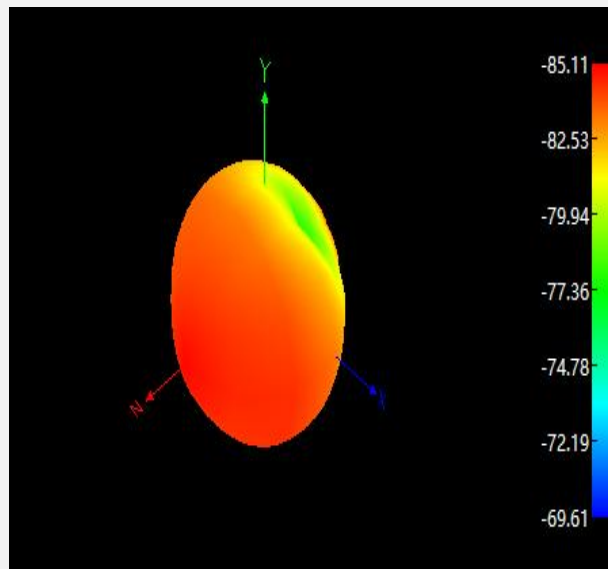
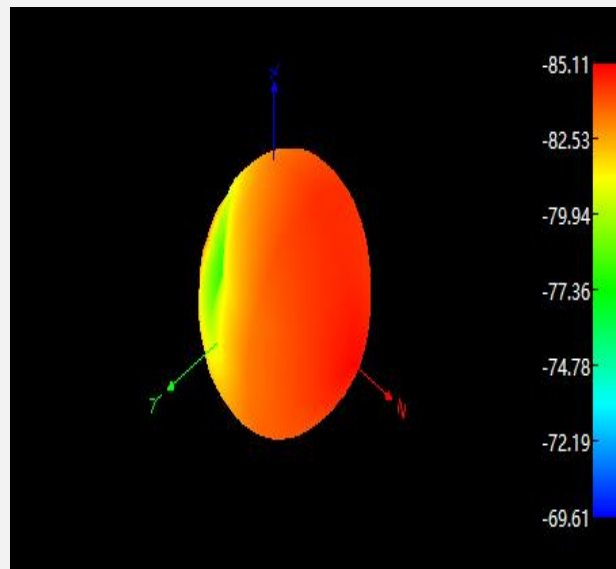
Test Equipment:	R&S CMW500		
Test Condition:	3D chamber		
Band	Channel	TRP(dBm)	TIS(dBm)
BT	0	0.16	-80.46
	39	-0.94	-80.09
	78	-1.53	-80.53

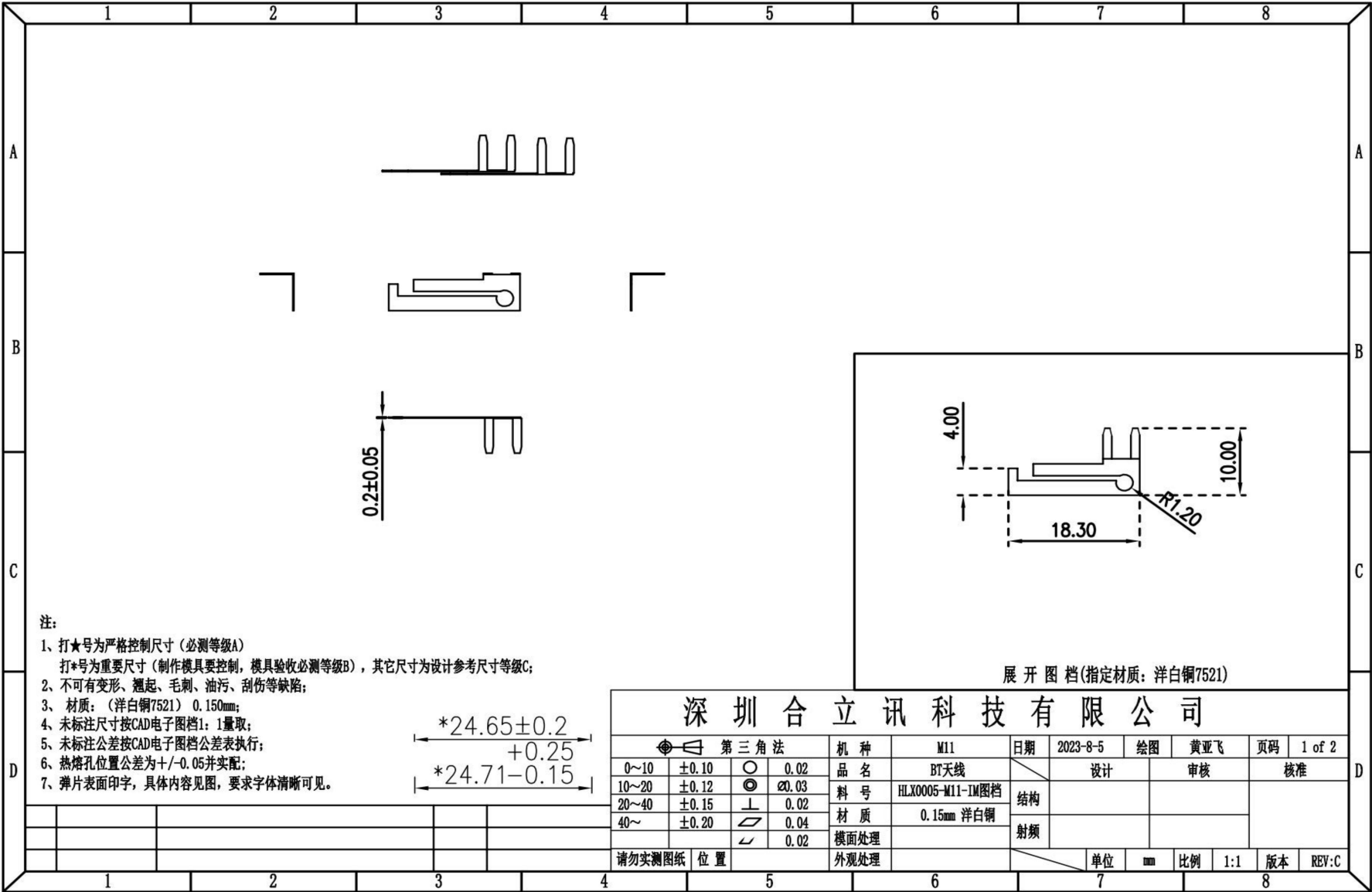
3.Test Result-TRP



3.Test

Result-TIS





Shenzhen Helixun Technology Co., Ltd

客 户	天翼通讯	料 号	M11		品 名		洋白铜天线		日 期	2023-8-5			
		材 质	洋白铜		检验数量		3	检验日期	2023-8-5				
NO	尺寸	公差	测量工具	CAV1	CAV2	CAV3	CAV4	CAV5	CAV6	CAV7	CAV8	判定	
1 长度	18.30mm	±0.2mm	卡尺	18.50mm	18.10mm	18.30mm						Pass	
2 宽度	10.00mm	±0.2mm	卡尺	10.20mm	10.00mm	9.80mm						Pass	
3 厚度	0.2mm	±0.05mm	卡尺	0.16mm	0.20mm	0.24mm						Pass	
4													
5													
6													
7													
8													
9													
外观	外观表面不允许有刮花、拉伤、顶白等现象										检测	判定	
装配：	与所有相关部件进行实际互配组装，不影响使用性能、装配以及所有段差间隙在标准范围内方可接受												
最终判定： ☒合格 ☐不合格 ☐其它													
检验人：													



6、可靠性测试

附可靠性测试报告

客户名称 Customer Name	天翼通讯	客户料号 Customer P/N	M11	合立讯料号 Helixun P/N	HLX005-M11-V3	
测试日期 Test Date	2023-8-5	样品数量 Sample Qty.	3	测试人 Inspector	时震浩	
测试项目 Test Item	要求 Requirement	试验设备 testing equipment	样品 1 Sample 1	样品 2 Sample 2	样品 3 Sample 3	判定 PASS/NG
高温存储	在+85℃条件下暴露 24H, 恢复 2H 后进行测试	恒温恒湿箱	OK	OK	OK	Pass
低温存储	在-40℃条件下暴露 24H, 恢复 2H 后进行测试	恒温恒湿箱	OK	OK	OK	Pass
高温工作	在+60℃条件下通电工 作 24H	恒温恒湿箱	OK	OK	OK	Pass
低温工作	在-20℃条件下通电工 作 24H	恒温恒湿箱	OK	OK	OK	Pass
盐雾试验	(5±0.5)%氯化钠、pH 值为 6.5~7.2, 实验箱 温度 (35±2)℃ ☒ 24H ☐ 48H	盐雾试验机	OK	OK	OK	Pass
连接器铆压 拉拔力	1.13 线径 ≥10N 0.81 线径 ≥8N RG174 ≥60N RG178 ≥50N	推拉力计	/	/	/	/

Thank you!