

1. Antenna Specification/天线标准

Antenna Specification/天线技术参数		
Electrical Specification/电气特性		
Item/目录	Specification/规格	Comment/备注
Freq. Range/频段范围	860-940 (MHz)	
Impedance/阻抗	50 (Ω)	
VSWR/驻波比	≤ 2.5	
Directional/辐射方向	Omni directional	
Polarization/极化形式	Vertical	
Peak Gain/峰值增益	1.90 (dBi)	
Test condition/测试条件	Passive test (无源测试)	
Total Efficiency/无源效率	$\geq 35\%$	
Mechanical Specification/机械指标		
Antenna type/天线类型	内置天线	
Connector Type/连接器类型	N/A	
RF Cable Type/射频线型号	N/A	
Connector Torque Test/连接器扭力	N/A	
Connector Pull Test/连接器拉力	N/A	
Salt Spray/盐雾测试	48H	
Environmental Specification /环境指标		
Operating temp/工作温度	-40°C ~ +80°C	
Storage temp/存储温度	-40°C ~ +85°C	

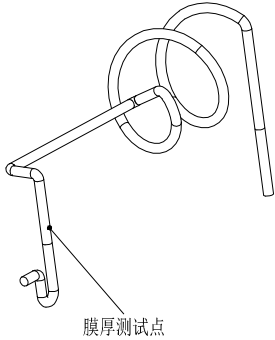
2. Antenna Picture/天线图片



海科规范

文档密级：
商业秘密

REV.	ECN NUMBER	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED
X1	ECN240972	初版发行	02/29'24	刘晓峰	丁第斌	牛宝星

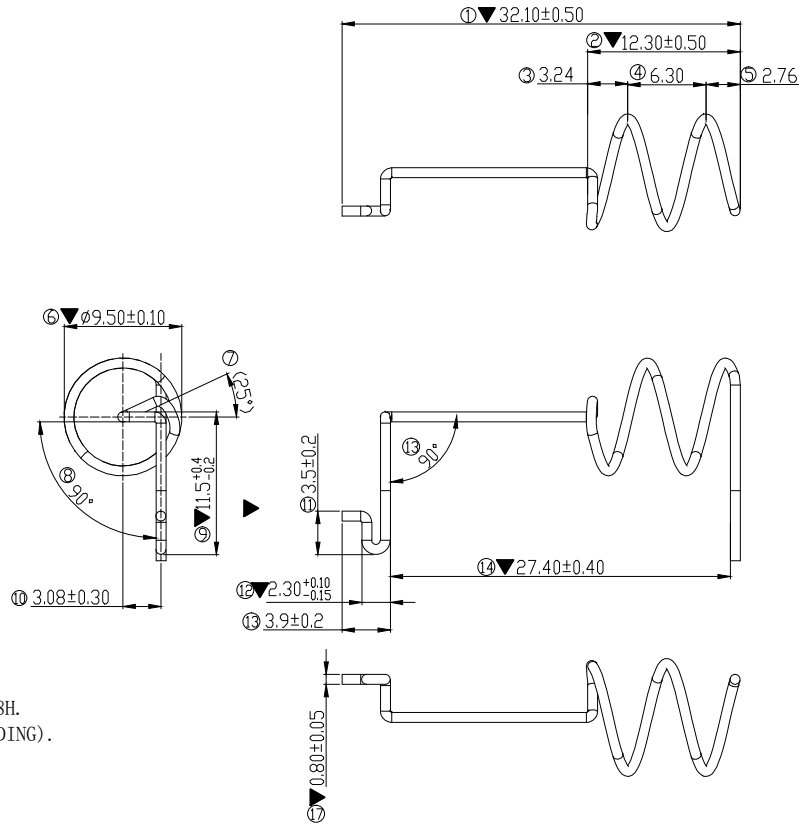


注：

1. 材质：不锈钢SUS304。线径 $\phi 0.8\text{mm}$ 。
2. 表面处理：预镀镍80u"最低，过盐雾48H。
具有良好的可焊接性，需要进行粘锡测试（锡焊）。
3. 外观要求：不能有明显的外观缺陷，无毛刺、刮手；周边平整无变形，未注尖角倒钝。
4. 请以试装作参考，未标注尺寸之特征见3D。
5. 标有“▼”为QC重点检测尺寸。
6. 环保要求：RoHS&REACH(最新版本)。

NOTE:

1. MATERIAL: STAINLESS STEEL SUS304. WIRE DIAMETER $\phi 0.8\text{MM}$.
2. SURFACE TREATMENT: PRE-NICKEL PLATING 80U" MINIMUM, SALT SPRAY 48H.
IT HAS GOOD WELDABILITY AND REQUIRES A TIN BONDING TEST (TIN WELDING).
3. APPEARANCE REQUIREMENTS: NO OBVIOUS APPEARANCE DEFECTS,
NO BURRS, SCRATCHES; PERIPHERAL LEVELHERE IS NO DEFORMATION,
AND NO SHARP CORNERS ARE BLUNTED.
4. PLEASE REFER TO THE TRIAL INSTALLATION. SEE 3D FOR FEATURES
NOT MARKED WITH DIMENSIONS.
5. MARKED WITH "▼" FOR QC KEY DETECTION SIZE.
6. ENVIRONMENTAL REQUIREMENTS :ROHS&REACH(LATEST VERSION).



a	弹簧	1	G3 hybrid弹簧，线径0.8mm，SUS304预镀镍
ITEM	PART NAME	Q'TY	MATERIAL / FINISH



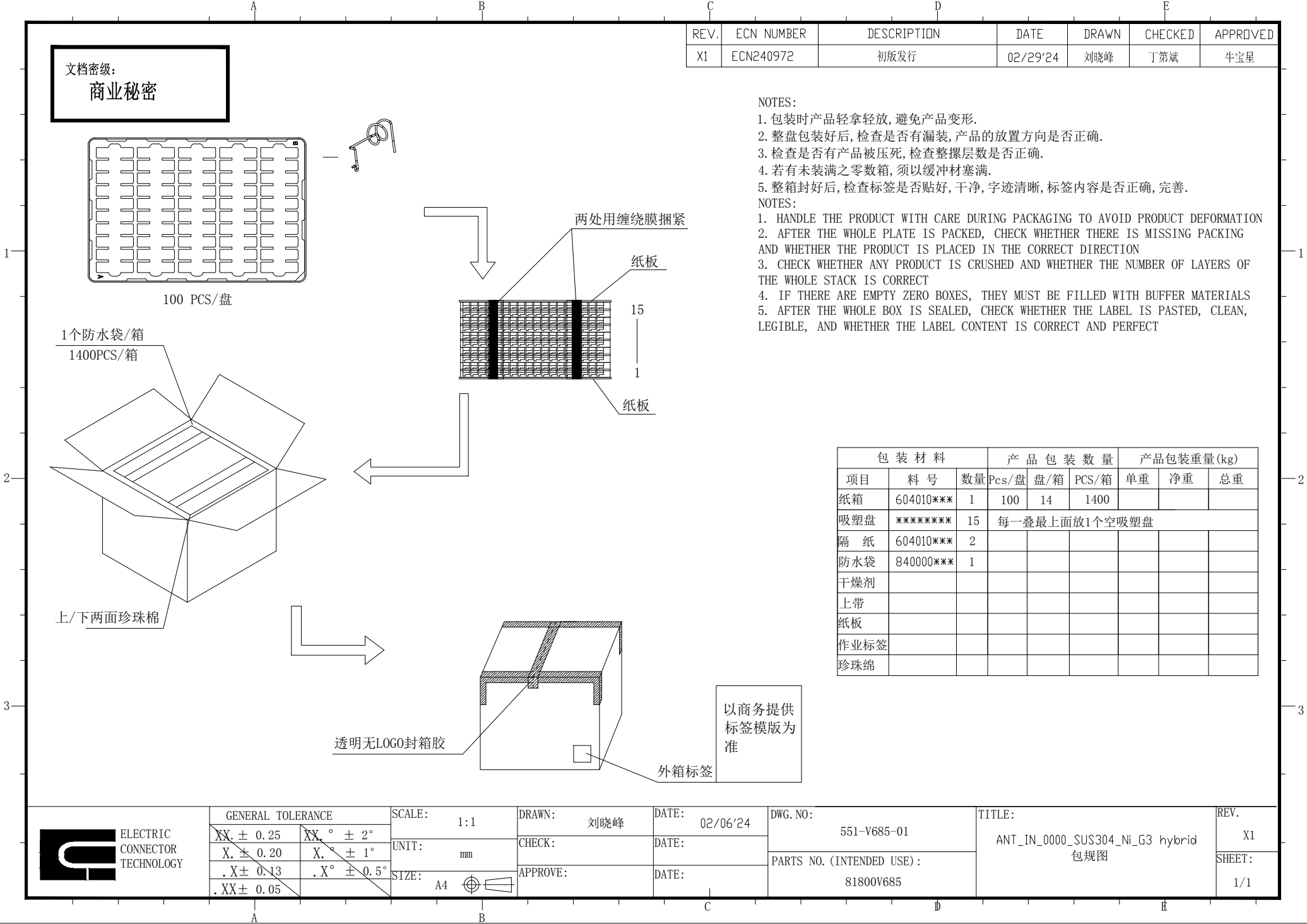
GENERAL TOLERANCE		SCALE:	DRAWN:	DATE:	DWG.NO:	TITLE:	REV.
X,± 0.30	XXX,°± 3°	1:1	刘晓峰	02/29'24	600-V685-01	ANT_IN_0000_SUS304_Ni_G3 hybrid	X1
X,± 0.20	XX,°± 2°	UNIT:	CHECK:	DATE:	PARTS NO.(INTENDED USE):	CUSTOMER DRAWING	SHEET:
XX± 0.15		mm	APPROVE:	DATE:			
		SIZE: A4			81800V685		1/1

REV.	ECN NUMBER	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED
X1	ECN240972	初版发行	02/29'24	刘晓峰	丁第斌	牛宝星

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- NOTES:
1. 包装时产品轻拿轻放，避免产品变形。
 2. 整盘包装好后，检查是否有漏装，产品的放置方向是否正确。
 3. 检查是否有产品被压死，检查整摞层数是否正确。
 4. 若有未装满之零数箱，须以缓冲材塞满。
 5. 整箱封好后，检查标签是否贴好，干净，字迹清晰，标签内容是否正确，完善。
- NOTES:
1. HANDLE THE PRODUCT WITH CARE DURING PACKAGING TO AVOID PRODUCT DEFORMATION
 2. AFTER THE WHOLE PLATE IS PACKED, CHECK WHETHER THERE IS MISSING PACKING AND WHETHER THE PRODUCT IS PLACED IN THE CORRECT DIRECTION
 3. CHECK WHETHER ANY PRODUCT IS CRUSHED AND WHETHER THE NUMBER OF LAYERS OF THE WHOLE STACK IS CORRECT
 4. IF THERE ARE EMPTY ZERO BOXES, THEY MUST BE FILLED WITH BUFFER MATERIALS
 5. AFTER THE WHOLE BOX IS SEALED, CHECK WHETHER THE LABEL IS PASTED, CLEAN, LEGIBLE, AND WHETHER THE LABEL CONTENT IS CORRECT AND PERFECT

包 装 材 料			产 品 包 装 数 量			产 品 包 装 重 量 (kg)		
项 目	料 号	数 量	Pcs/盘	盘/箱	PCS/箱	单 重	净 重	总 重
纸箱	604010***	1	100	14	1400			
吸塑盘	*****	15	每一叠最上面放1个空吸塑盘					
隔 纸	604010***	2						
防水袋	840000***	1						
干燥剂								
上带								
纸板								
作业标签								
珍珠绵								



ELECTRIC
CONNECTOR
TECHNOLOGY

GENERAL TOLERANCE	
XX. ± 0.25	XX. ° ± 2°
X. ± 0.20	X. ° ± 1°
. X ± 0.13	. X ° ± 0.5°
. XX ± 0.05	

SCALE:	1:1
UNIT:	mm
SIZE:	A4

DRAWN:	刘晓峰
CHECK:	
APPROVE:	

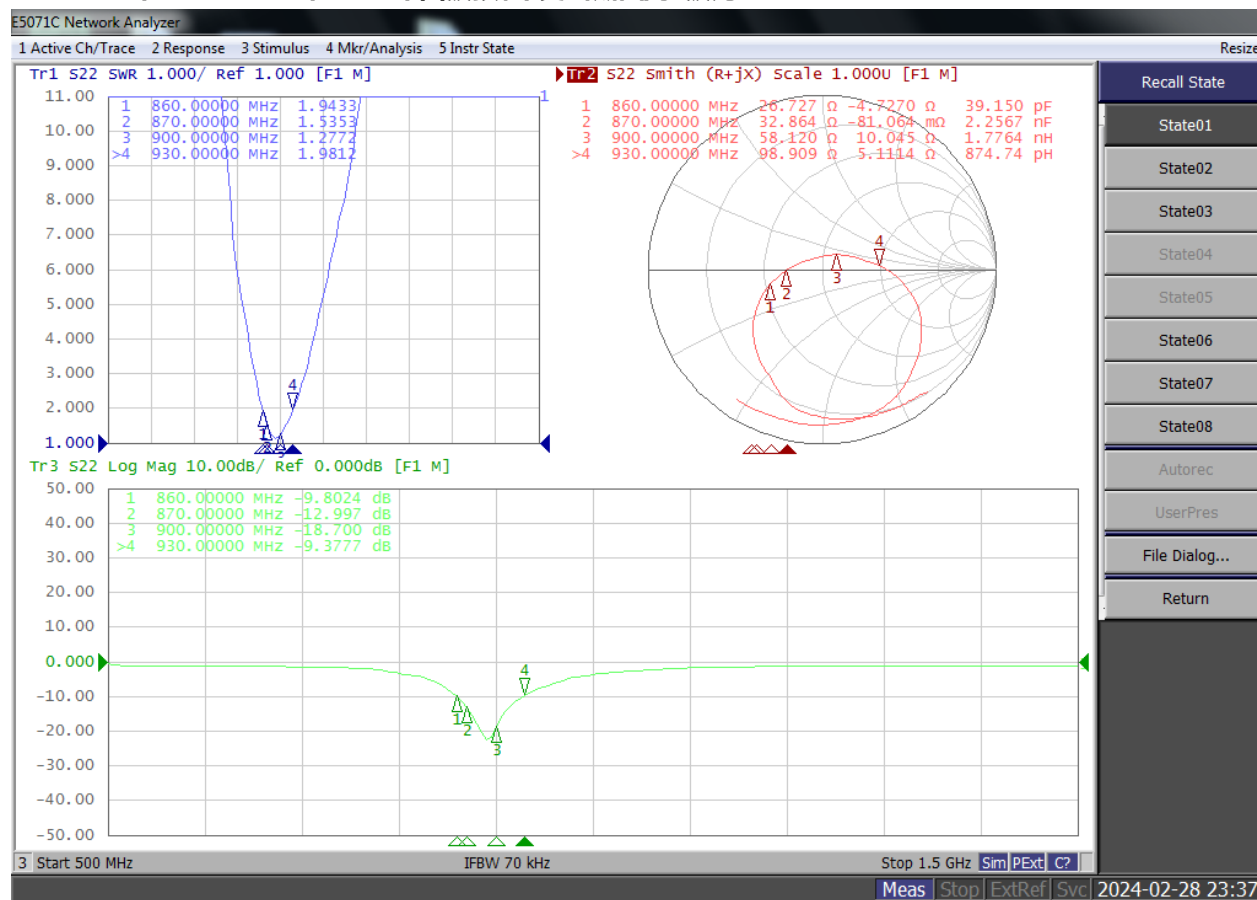
DATE:	02/06'24
DATE:	
DATE:	

DWG. NO:	551-V685-01
PARTS NO. (INTENDED USE):	81800V685

TITLE:	ANT_IN_0000_SUS304_Ni_G3 hybrid 包规图
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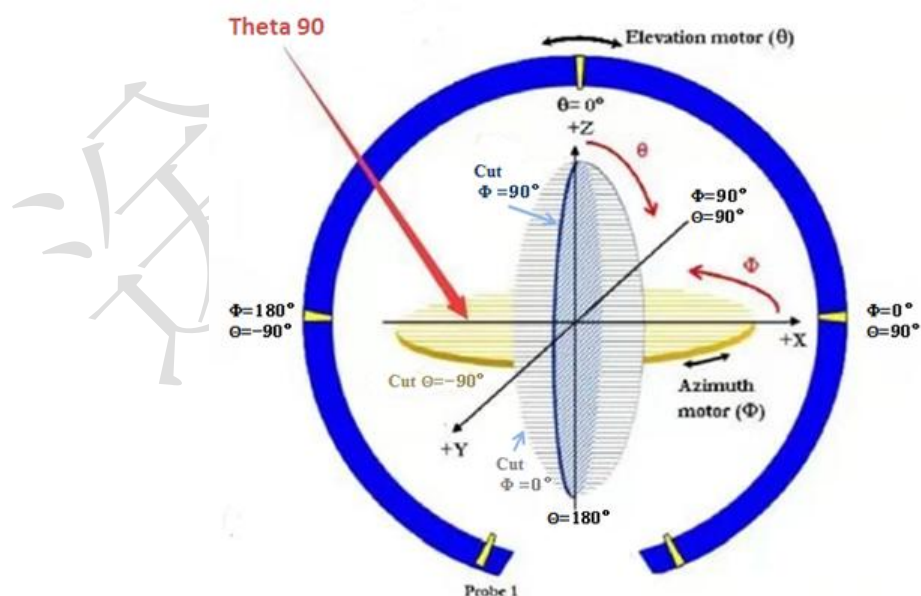
REV.	X1
SHEET:	1/1

5.1 Return loss/Smith chart/VSWR/回波损耗/史密斯圖/驻波比

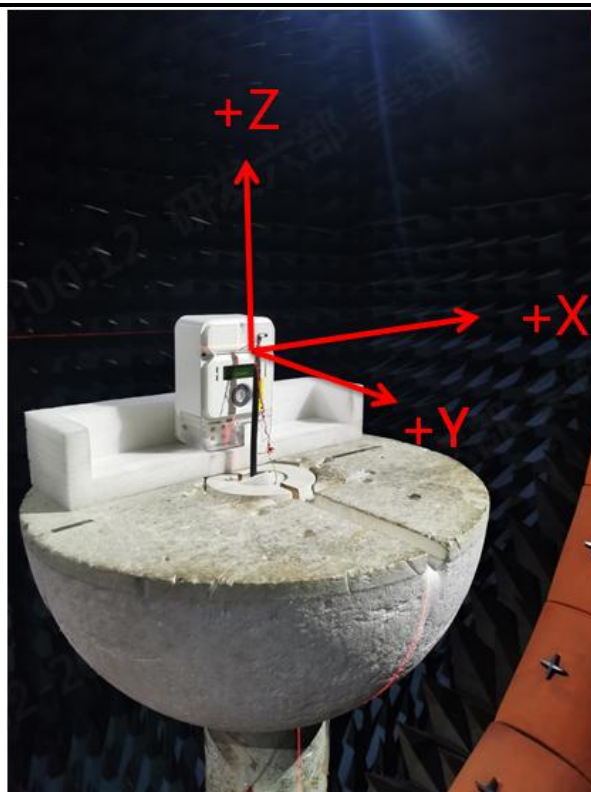


5.2 The gain and total efficiency test/增益和效率测试

5.2.1 The definition of coordinate system/坐标系定义-Satimo SG24



The coordinate system of Chamber/暗室坐标系



The production test position/天线测试放置位置

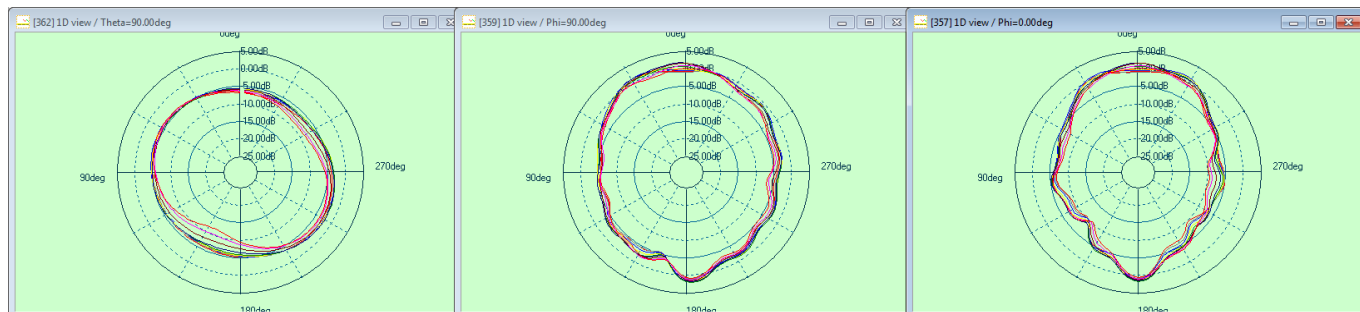
5.2.2 The test result of total efficiency and total gain/天线效率及增益测试结果

860MHz-940MHz

Frequency	Efficiency (%)	Gain(dBi)
860MHz	40%	1.08
870MHz	43%	1.29
880MHz	46%	1.64
890MHz	46%	1.58
900MHz	45%	1.90
910MHz	46%	1.69
920MHz	41%	1.41
930MHz	37%	1.14
940MHz	36%	0.66
AVG	42%	1.38

5.2.3 The antenna radiation pattern(2D)/天线辐射方向图 (2D)

860MHz-940MHz



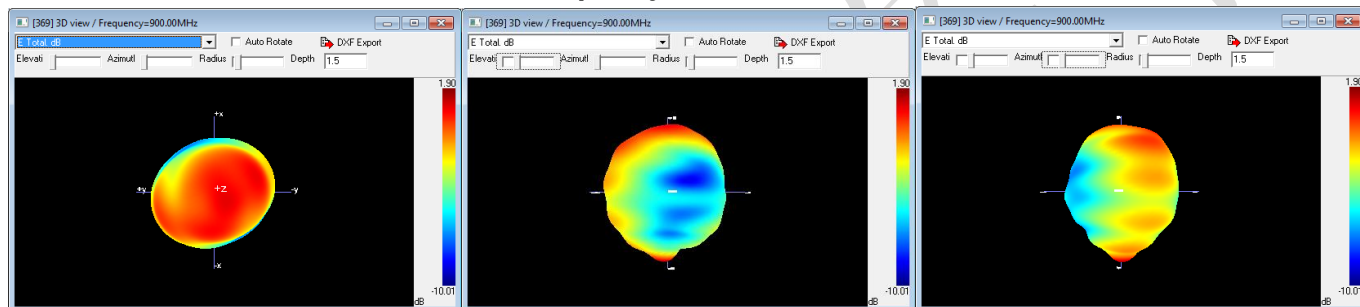
XOY

YOZ

XOZ

5.2.4 The antenna radiation pattern(3D)/天线辐射方向图 (3D)

Frequency/频点 900MHz



XOY

YOZ

XOZ