

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	2400MHz-2500MHz	
Impedance/阻抗	50 (Ω)	
VSWR/驻波比	<2.0	
Directional/辐射方向	Omni directional/全向辐射	
Polarization/极化形式	Vertical polarization/垂直极化	
Test condition/测试条件	passive test (无源测试)	
Total Efficiency/无源效率	36%	

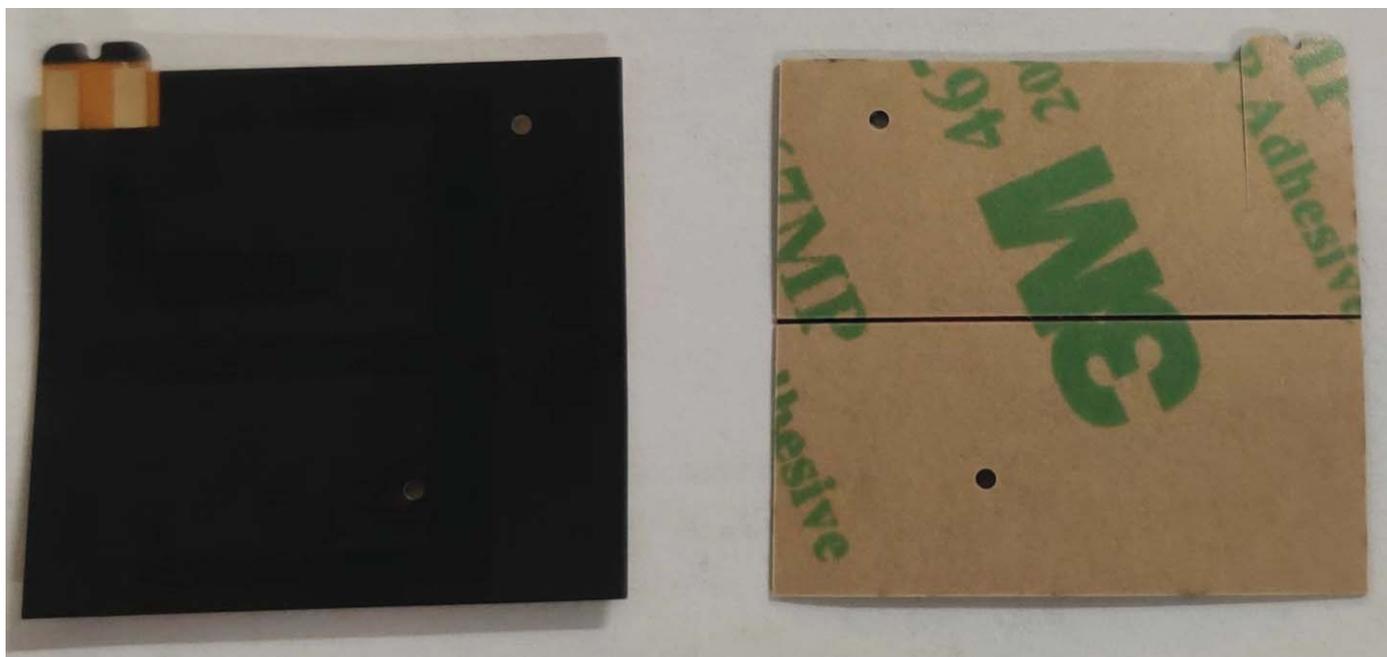
Mechanical Specification/机械指标

Antenna type/天线类型	FPC 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	48 (H)	

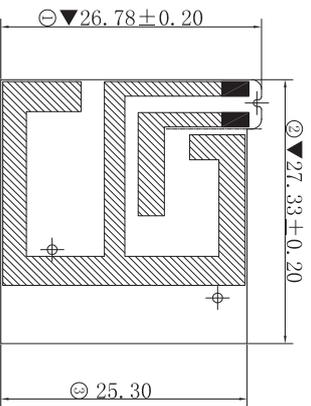
Environmental Specification /环境指标

Operating temp/工作温度	-40°C ~ +75°C	
Storage temp/存储温度	-40°C ~ +75°C	

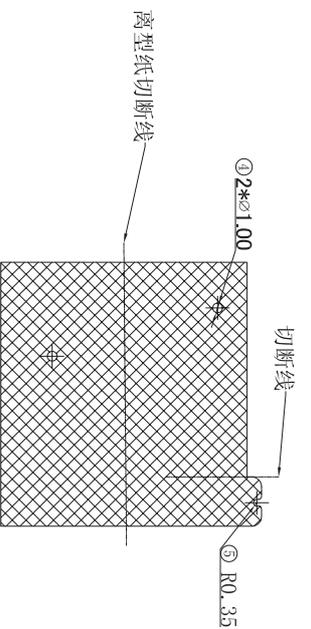
2. Antenna Picture/天线图片



REV.	ECN NUMBER	DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED
X1	ECN224485	初版发行	09/14/22	梁克泉	丁第斌	牛宝星



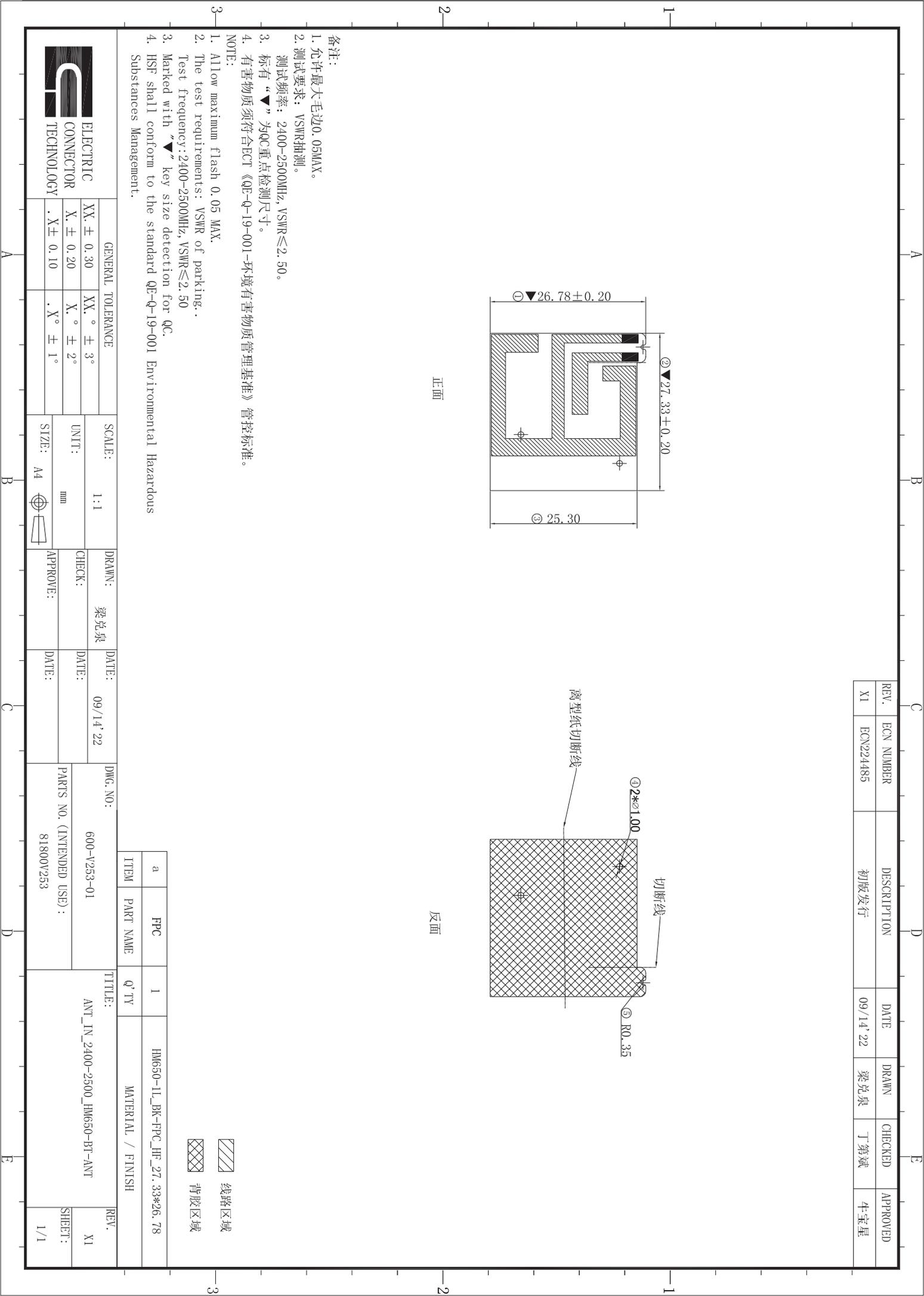
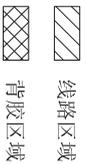
正面



反面

- 备注:
1. 允许最大毛边0.05MAX。
 2. 测试要求：VSWR抽测。
测试频率：2400-2500MHz, VSWR ≤ 2.50。
 3. 标有“▼”为QC重点检测尺寸。
 4. 有害物质须符合ECT 《QE-Q-19-001-环境有害物质管理基准》管控标准。
- NOTE:
1. Allow maximum flash 0.05 MAX.
 2. The test requirements: VSWR of parking.
Test frequency: 2400-2500MHz, VSWR ≤ 2.50
 3. Marked with "▼" key size detection for QC.
 4. HSF shall conform to the standard QE-Q-19-001 Environmental Hazardous Substances Management.

GENERAL TOLERANCE		SCALE: 1:1		DRAWN: 梁克泉		DATE: 09/14/22		DWG. NO: 600-V253-01		TITLE: ANT_IN_2400-2500_HM650-BT-ANT		REV. X1	
XX ± 0.30	XX ° ± 3°	UNIT: mm		CHECK:	DATE:	PARTS NO. (INTENDED USE): 81800V253		ITEM a		Q'TY 1		SHEET: 1/1	
X ± 0.20	X ° ± 2°	SIZE: A4		APPROVE:	DATE:	PARTS NO. (INTENDED USE): 81800V253		PART NAME FPC		MATERIAL / FINISH			
X ± 0.10	X ° ± 1°							1		HM650-1L_BK-FPC_HF_27.33*26.78			



4. Antenna test result/测试结果

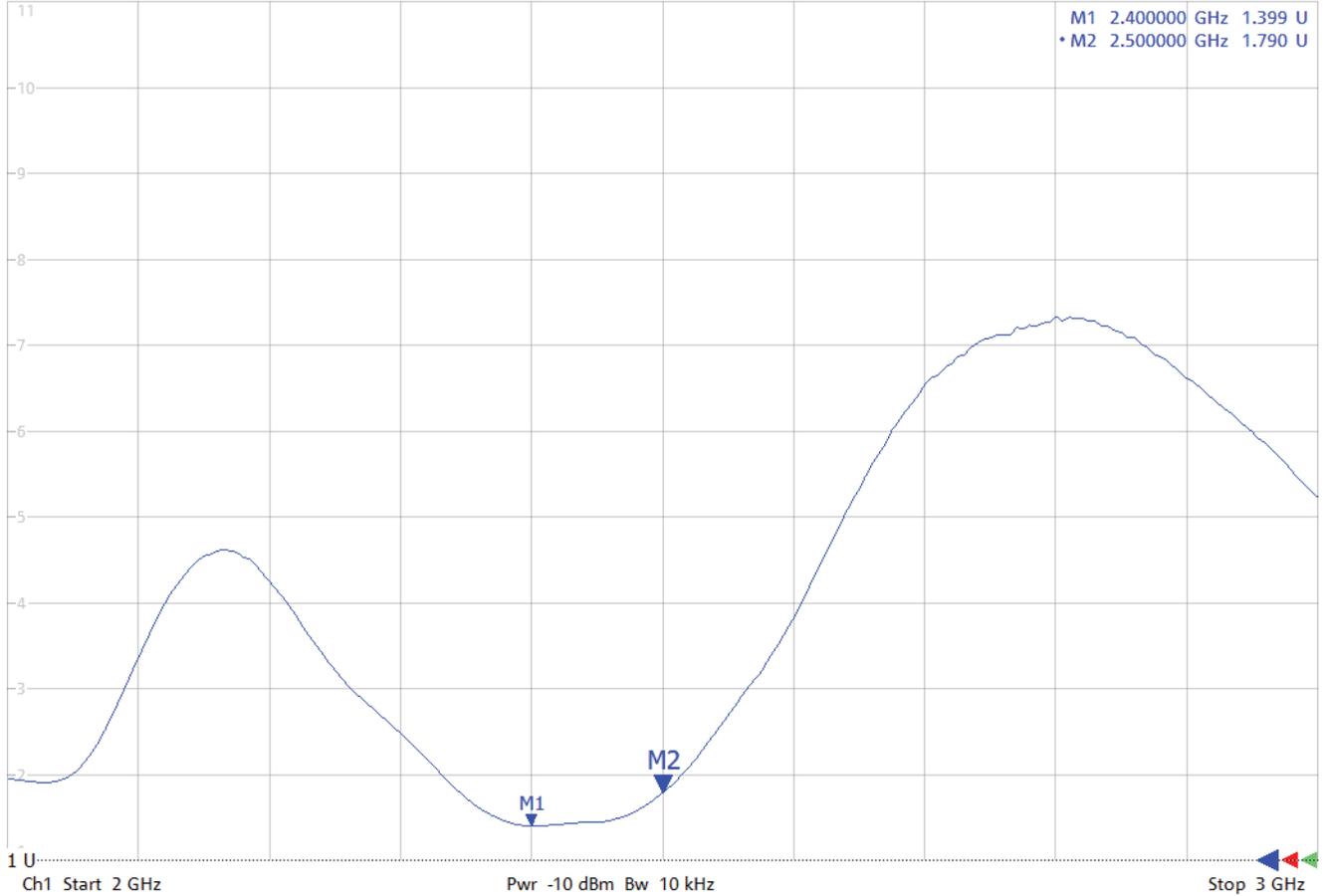
4.1 Return loss/Smith chart/VSWR/回波损耗/史密斯图/驻波比

Trc1 — S22 SWR 1 U/ Ref 1 U Cal

Mem3[Trc1] — S22 SWR 1 U/ Ref 1 U Invisible

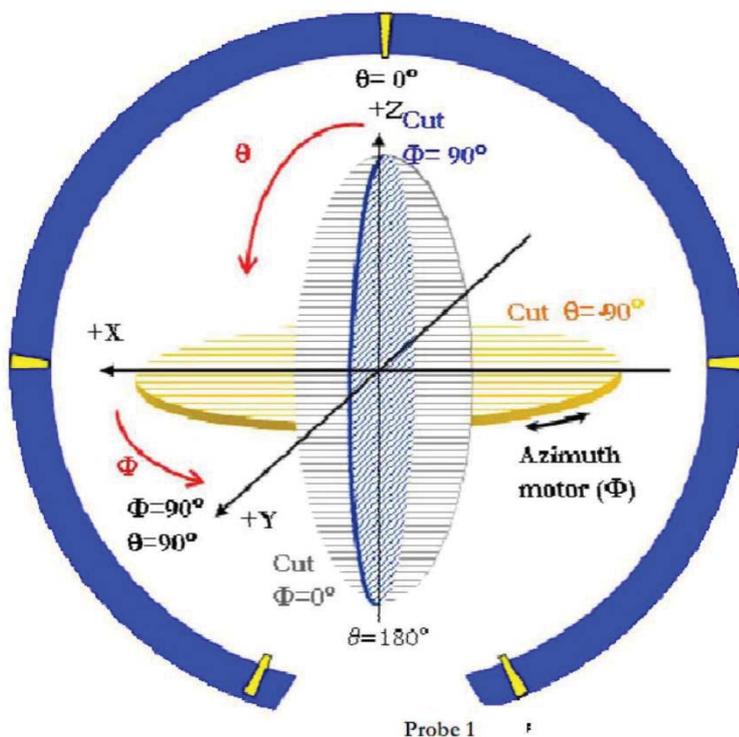
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Mem4[Trc1] — S22 SWR 1 U/ Ref 1 U Invisible

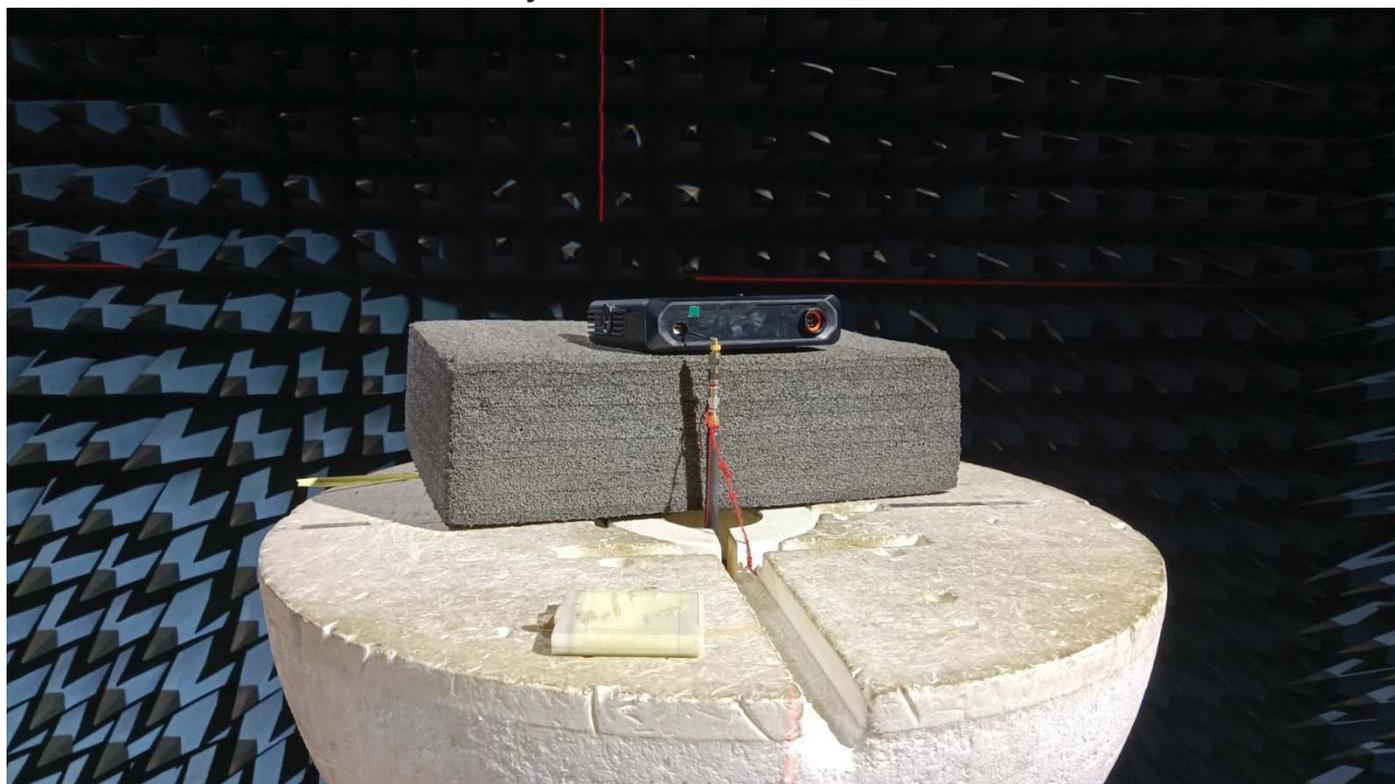


4.2 The gain and total efficiency test/增益和效率测试

4.2.1 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

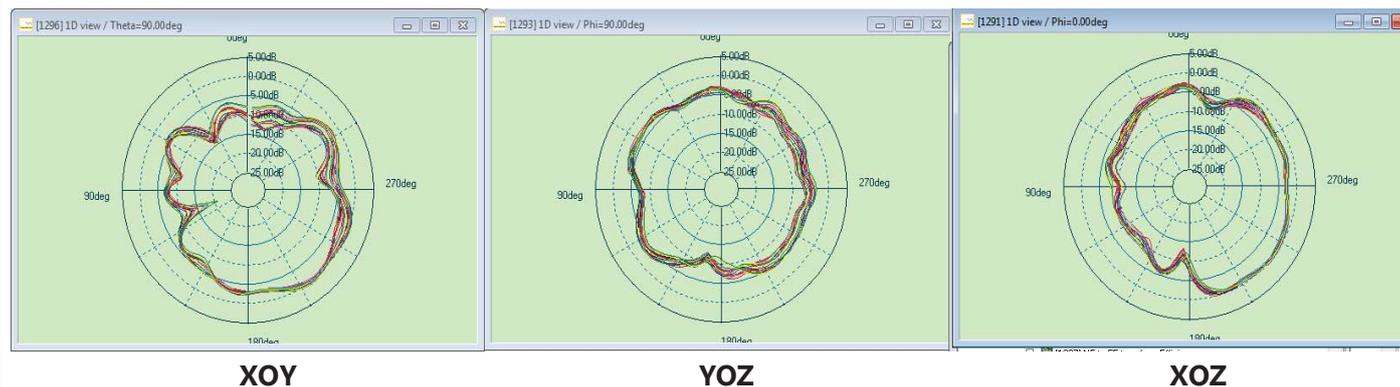
4.2.2 The test result of total efficiency and total gain/天线效率及增益测试结果

2350MHz-2550MHz

Frequency	Efficiency(%)	Gain (dBi)
2350MHz	38%	0.46
2360MHz	36%	0.08
2370MHz	37%	0.21
2380MHz	39%	0.63
2390MHz	40%	0.84
2400MHz	39%	0.89
2410MHz	38%	1.01
2420MHz	37%	0.90
2430MHz	36%	0.73
2440MHz	36%	0.37
2450MHz	37%	0.43
2460MHz	39%	0.63
2470MHz	41%	0.94
2480MHz	41%	1.14
2490MHz	41%	1.18
2500MHz	41%	1.21
2510MHz	43%	1.49
2520MHz	45%	1.63
2530MHz	46%	1.61
2540MHz	45%	1.62
2550MHz	43%	1.50
AVG	40%	0.92

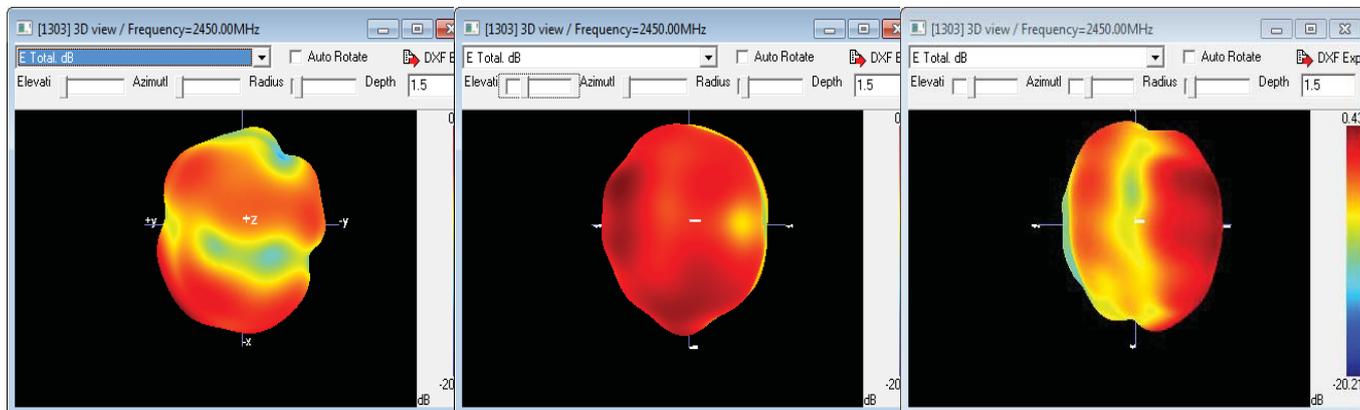
4.2.3 The antenna radiation pattern(2D)/天线辐射方向图 (2D)

2350MHz -2550MHz



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

Frequency/频点 2450MHz



XOY

YOZ

XOZ