



样品承认书

SPECIFICATION APPROVAL SHEET

- ☐有样品承认 With sample approval
- ☐无样品承认 Without sample approval
- ☐首次承认 First approval
- ☐非首次承认 Non-first approval

物料编号 Part No.：	120410064A
物料名称 Part Name：	WIFI Antenna 天线_1000MM_2.4-2.5&5.15-7.15GHz_PCB_1 根_IPEX-4 WiFi 7 Chip (QCC2027PB) Antenna
版本号 Version：	A
供应商 Supplier：	成都飞鱼星科技股份有限公司 Chengdu Volans Technology Co., Ltd.
供应商地址 Supplier Address：	中国（四川）自由贸易试验区成都高新区益州大道中段 1800 号天府软件园 G4 栋 7-8F Floors 7-8, Building G4, Tianfu Software Park, No.1800 Middle Yizhou Avenue, Hi-Tech Zone, Chengdu, China (Sichuan) Pilot Free Trade Zone
序 列 号 Sample Serial No.：	（以实际样品为准 MC:WM305373）

供应商确认 Confirmation	制 作 Prepared by	审 核 Checked by	批 准 Approved by	送样日期 Date
	刘志勇	张超冰	谭诣	2026-1-12

鸿合	研发承认	品质复核	批 准	承认日期
承认				

机密文件，未经授权不得公开和转发！



样品变更说明

Sample Change Description

一、变更履历 Change History

- ☐第一次变更
- 时间：_____年_____月_____日
- ☐第一次变更
- 时间：_____年_____月_____日
- ☐其它说明_____
- 时间：_____年_____月_____日

变更原因：☐客户要求 ☐内部变更 ☐磨具损坏☐其它_____

更改类别：☐设计更改 ☐标准更改 ☐工艺更改 ☐包装更改 ☐标贴更改 ☐尺寸更改☐其它__

二、变更内容：

- ☐第一次变更
- ☐第二次变更

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变更记录

MODIFICATION RECORD SHEET

版本 (REV.)	更改日期 (Modification date)	更改内容描述 (Summary of modification content)	拟制 (Signature)	批准 (Approval)
X1	2025/8/15	初版发行 (First Issue)	胡赵海 (Jerry)	朱正锐 (Jongrei)
X2	2025/8/21	端子改为第四代端子, PCB增加C角	胡赵海 (Jerry)	朱正锐 (Jongrei)
X3	2025/10/25	PCB变更, 增加背胶	胡赵海 (Jerry)	朱正锐 (Jongrei)
X4	2025/11/20	性能报告变更	胡赵海 (Jerry)	朱正锐 (Jongrei)

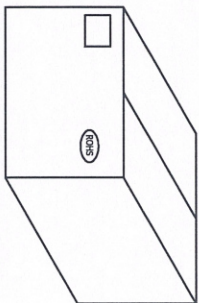
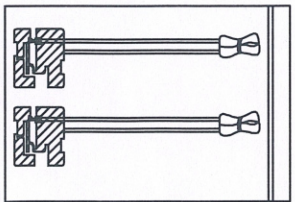
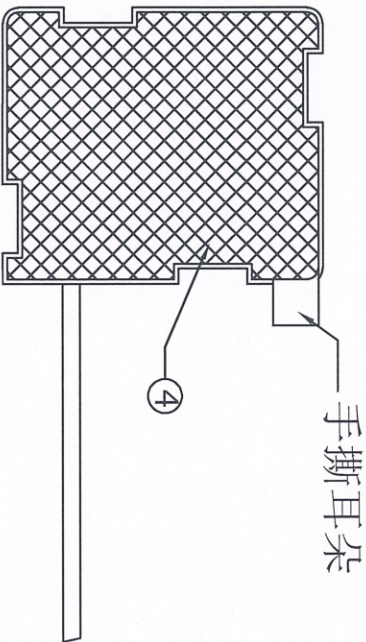
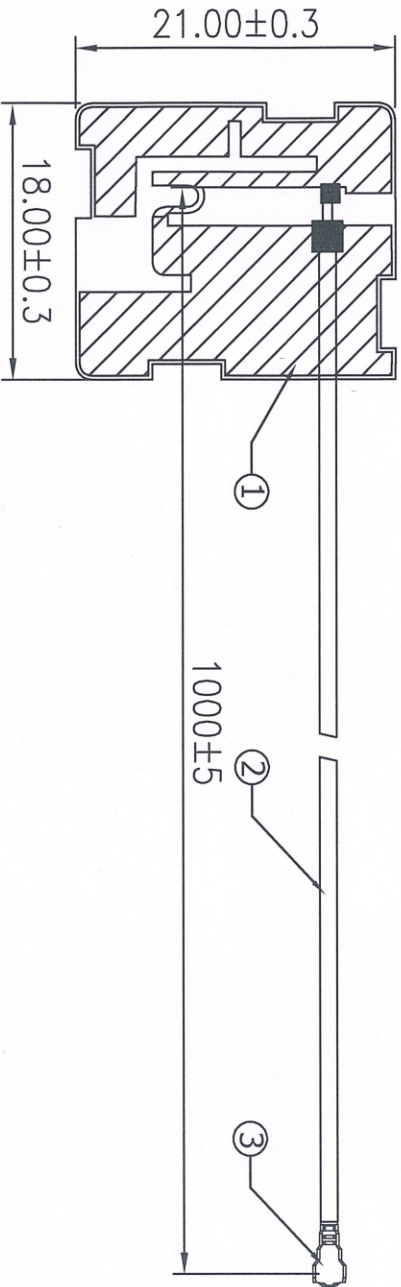
承认书项目表 (Spec Item)

序号 (NO.)	项目 (Project)	备注 (Remark)	页码 (Page)
1	承认书封面 (Spec Cover)		1
2	变更记录 (MODIFICATION RECORD SHEET)		2
3	承认书项目表 (Spec Item)		3
4	工程成品图 (Drawing)		4
5	电性测试报告 (Test Reports)		5
6	S参数测试 (S Parameter Test)		6
7	测试设备 (Test Setup)		7
8	测试效率 (Test Efficiency)		8
9	产品包装规范 (Product packaging specification)		9
10	ROHS清单 (ROHS List)		10

Give clear indication of:

1. The contents of the acknowledgement shall be arranged in order according to the items in the check sheet.
2. The number of copies of the acceptance letter shall be printed according to the customer's requirements, and the SGS report shall be stamped with the engineering seal.
3. All materials shall be confirmed by the customer. Any material/process/changes that may affect product quality and environmental quality must be re-sent to the customer for confirmation before import.
4. SGS report is valid for one year.
5. According to the contents attached to the actual acknowledgement, check the check form: "Yes" is provided, "no" is provided according to customer requirements.

REV.	CONTENT	DATE
X1	First Sample	2025.08.15
X2	端子改为第四代端子,PCB增加C角	2025.08.21
X3	PCB变更, 增加背胶	2025.10.25



Specification:
Frequency Rang:2.4-2.5/5.15~5.85/5.95-7.15GHz
Return Loss:-8dB or less
VSWR:2.2 Max

25pcs/Bundle
Packing:50pcs/bag

外箱须贴ROHS标签与物料标签各1PCS

NO	PART NAME	DESCRIPTION	REMARK	QTY	SCALE: 1/1	TOLERANCE UNLESS OTHERWISE SPECIFIED	UNIT:mm	ANGLES ±0.5°	OTHERWISE SPECIFIED	SIZE	DRAWN	CHECKED	APPROVED
4	Adhesive	JA215,L20.4*W17.4*TO.2mm		1									
3	Connector	MHF Plug for Φ1.13 Cable	第四代端子	1									
2	Cable	Φ1.13mm Coaxial Cable Black,50Ω		1									
1	PCB	FR4,L21*W18*TO.8mm,Color:Green		1									
8	PART NAME	DESCRIPTION	REMARK	QTY	SCALE: 1/1	XXX. ±2.0							

电性测试报告

Test Reports

Electrical Properties	
Frequency	2.4-2.5/5.15-7.15 GHz
Impedance	50 Ohm Nominal
V.S.W.R	≤ 1.92
Return Loss	-10dB Max
Radiation	Omni-directional
Gain	2.5 ± 1 dBi
Polarization	Linear, Vertical
Admitted Power	2 W
Connector	MHF
Physical Properties	
Antenna Material	PCB
Cable Type	$\Phi 1.13$ mm Black
Operating Temp	-40°C-85°C
Storage Temp.	-40°C-85°C

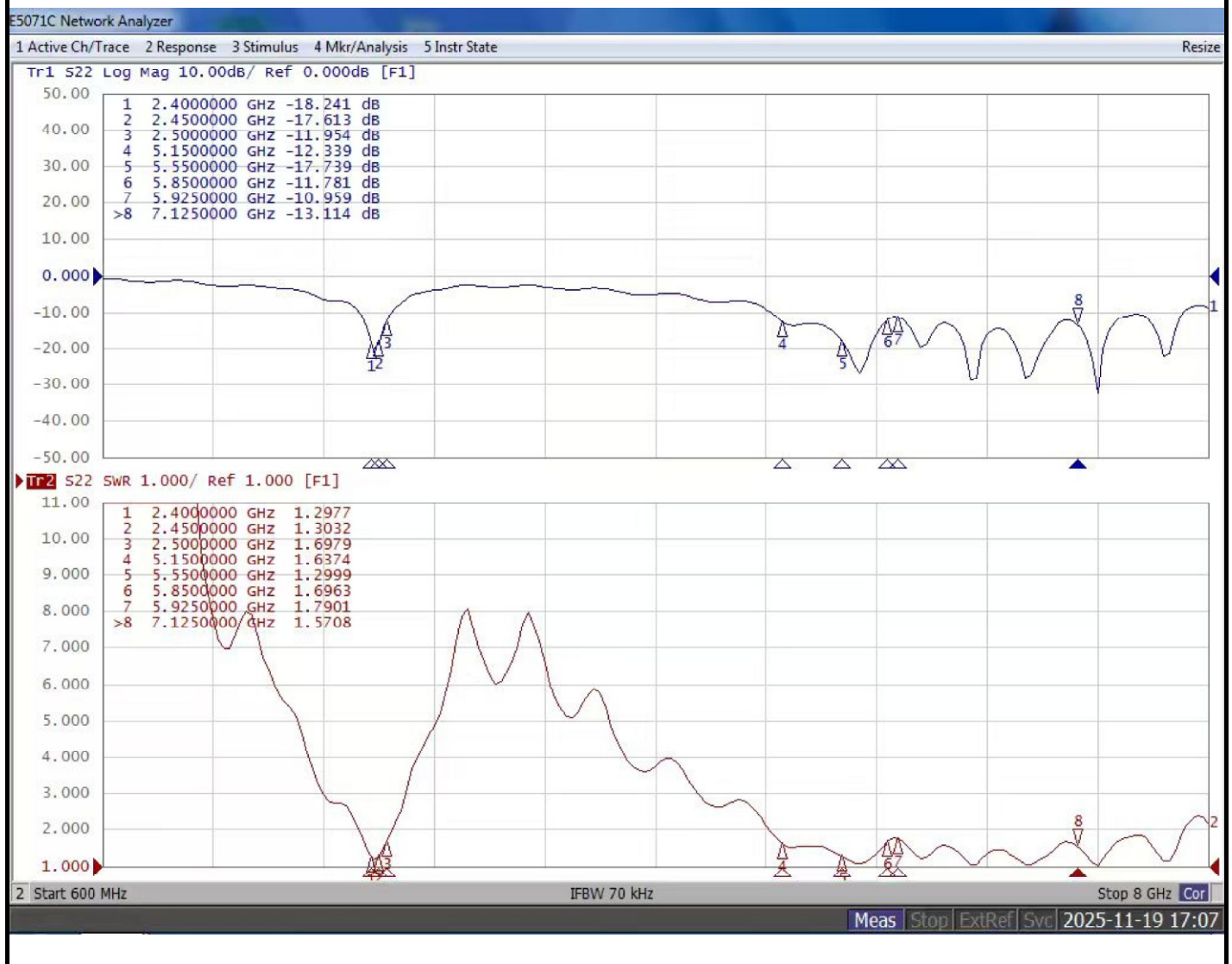
S参数测试

S Parameter Test

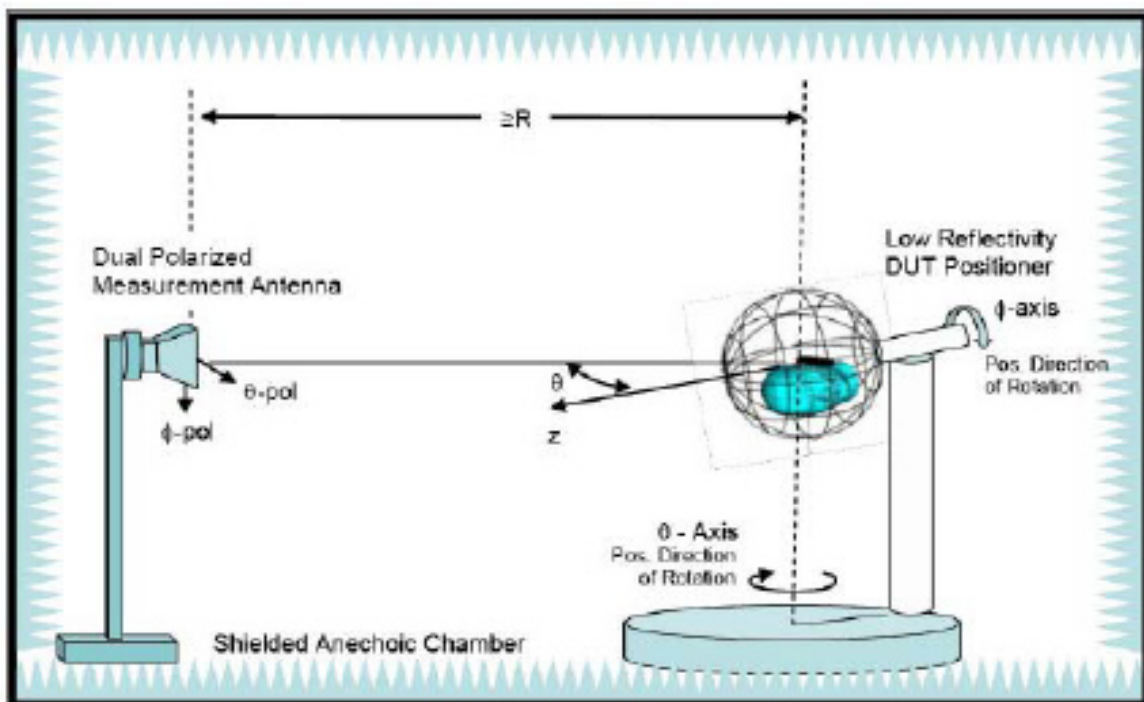
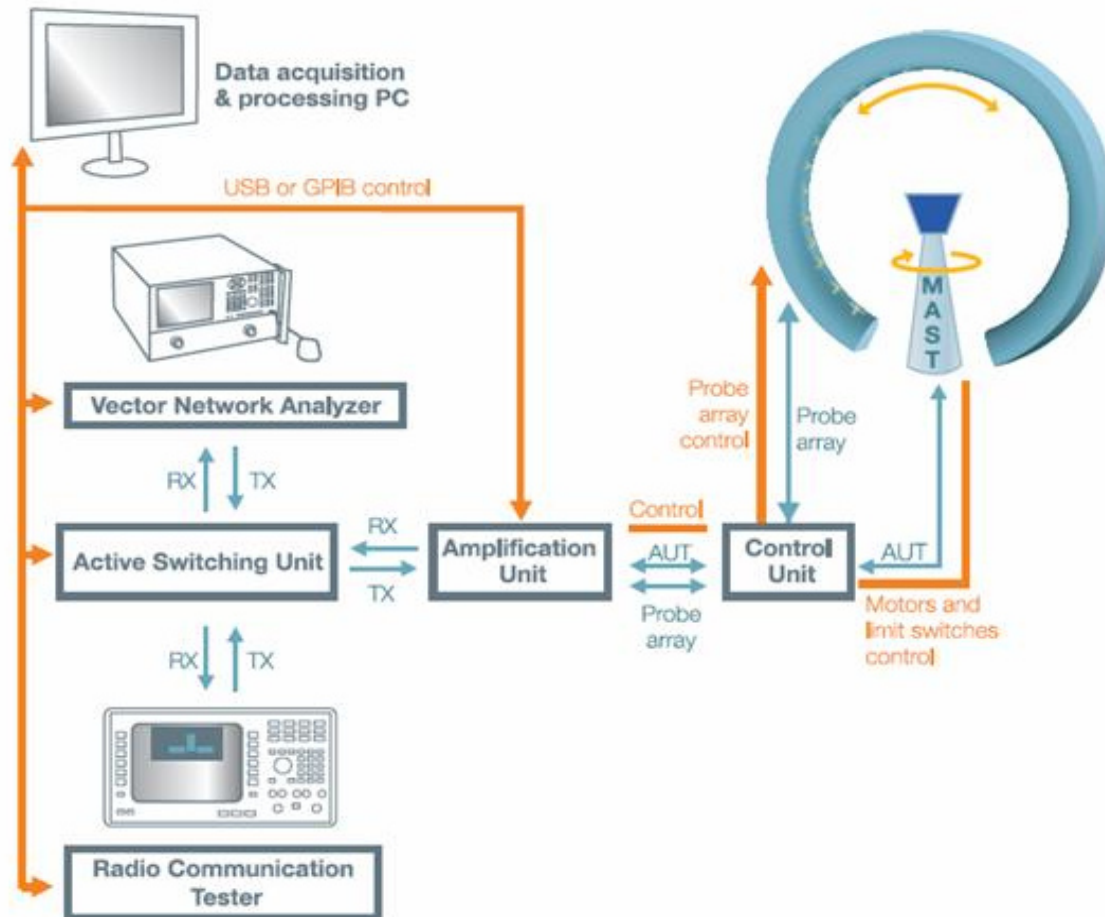
Agilent E5071C Network Analyzer



RF Antenna (Return Loss/VSWR)

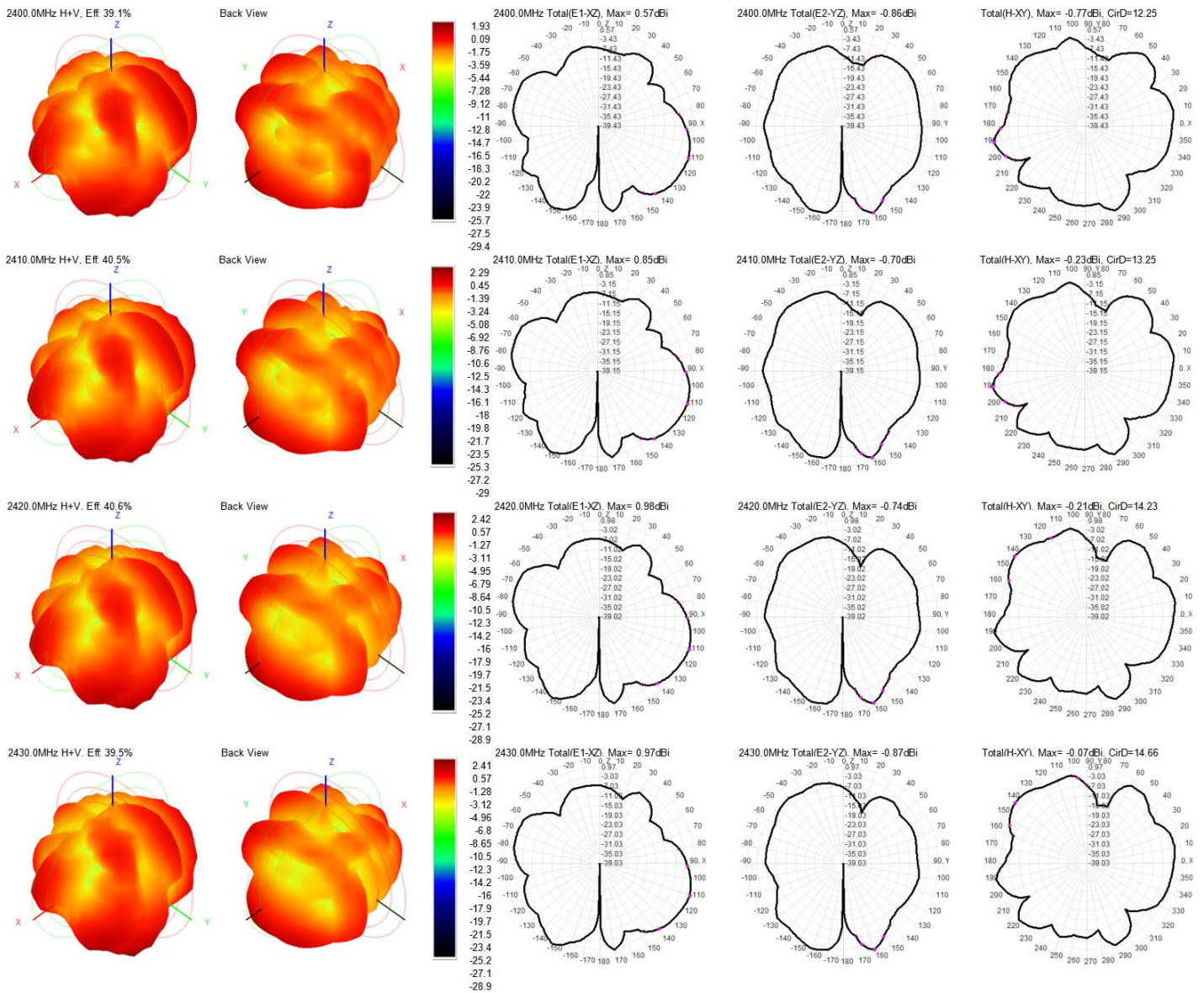


测试设备 Test Setup

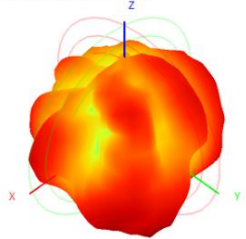


测试效率 Test Efficiency

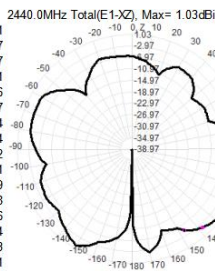
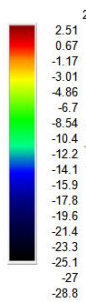
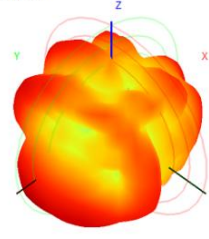
Frequency ID	1	2	3	4	5	6	7	8	9	10	11			
Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500			
Gain (dBi)	1.93	2.29	2.42	2.41	2.51	2.45	2.35	2.15	1.96	2.05	2.13			
Efficiency (%)	39.09	40.51	40.56	39.51	39.75	39.74	40.33	40.83	40.17	40.06	39.25			
Frequency ID	12	13	14	15	16	17	18	19						
Frequency (MHz)	5150	5250	5350	5450	5550	5650	5750	5850						
Gain (dBi)	1.40	1.84	2.51	2.76	2.14	1.79	2.51	1.92						
Efficiency (%)	35.52	33.36	36.83	41.56	40.41	38.03	38.11	40.22						
Frequency ID	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Frequency (MHz)	5900	6000	6100	6200	6300	6400	6500	6600	6700	6800	6900	7000	7100	7200
Gain (dBi)	1.34	1.74	2.83	2.33	1.98	3.18	2.97	3.78	3.16	4.92	4.98	4.22	3.20	4.56
Efficiency (%)	37.18	34.55	39.75	39.13	39.43	42.15	40.98	43.75	42.54	42.80	46.46	44.90	37.45	39.44



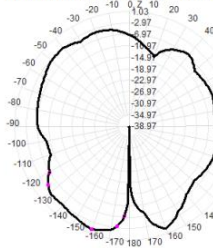
2440.0MHz H+V, Eff. 39.7%



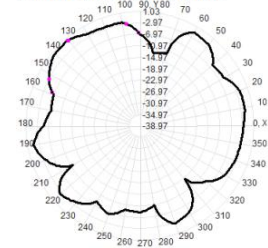
Back View



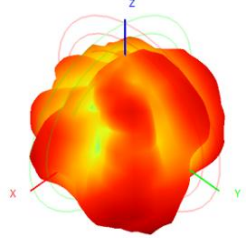
2440.0MHz Total(E2-YZ), Max= -0.78dBi



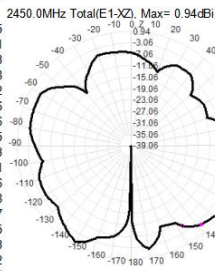
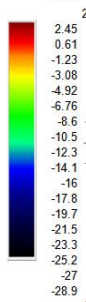
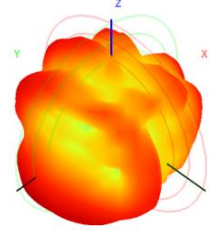
Total(H-XY), Max= 0.09dBi, CirD=14.93



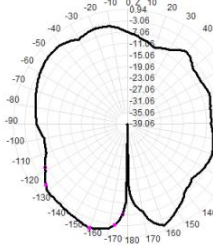
2450.0MHz H+V, Eff. 39.7%



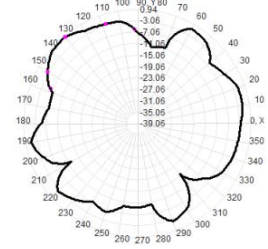
Back View



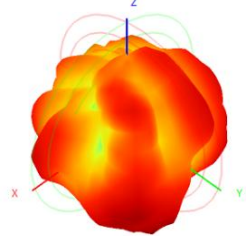
2450.0MHz Total(E2-YZ), Max= -0.35dBi



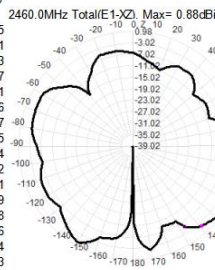
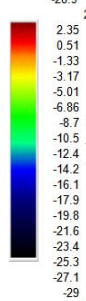
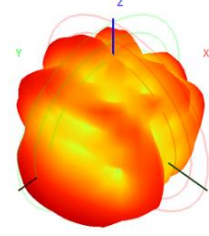
Total(H-XY), Max= 0.52dBi, CirD=16.44



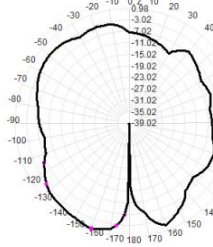
2460.0MHz H+V, Eff. 40.3%



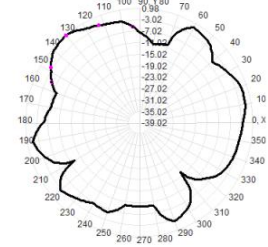
Back View



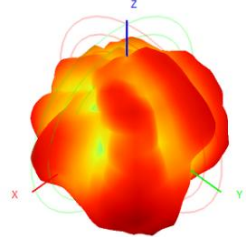
2460.0MHz Total(E2-YZ), Max= 0.05dBi



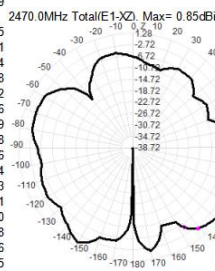
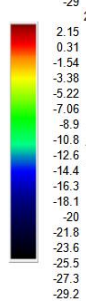
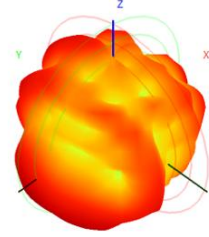
Total(H-XY), Max= 0.98dBi, CirD=17.79



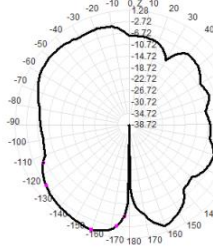
2470.0MHz H+V, Eff. 40.8%



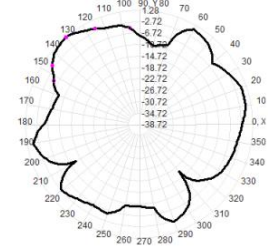
Back View



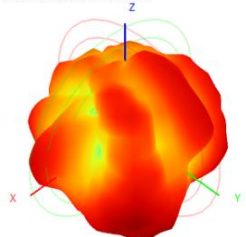
2470.0MHz Total(E2-YZ), Max= 0.38dBi



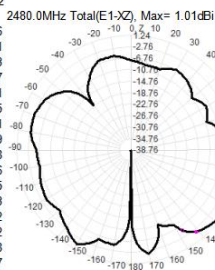
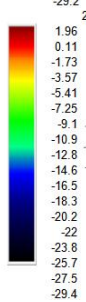
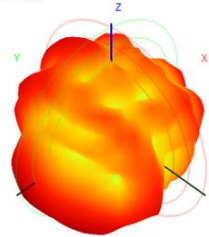
Total(H-XY), Max= 1.28dBi, CirD=18.55



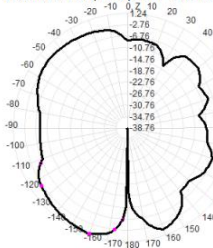
2480.0MHz H+V, Eff. 40.2%



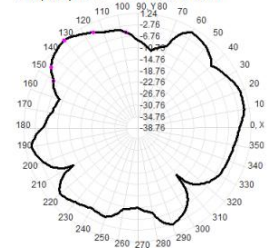
Back View



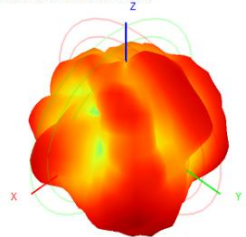
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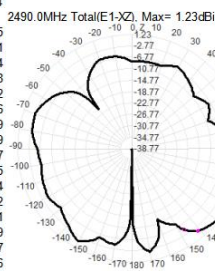
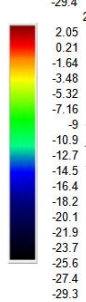
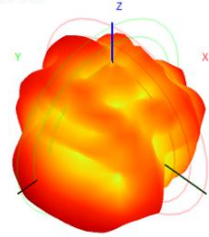
Total(H-XY), Max= 1.24dBi, CirD=18.71



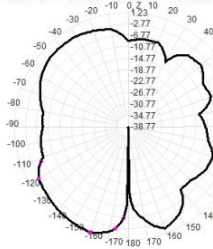
2490.0MHz H+V, Eff. 40.1%



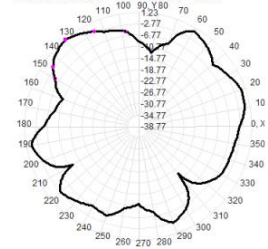
Back View

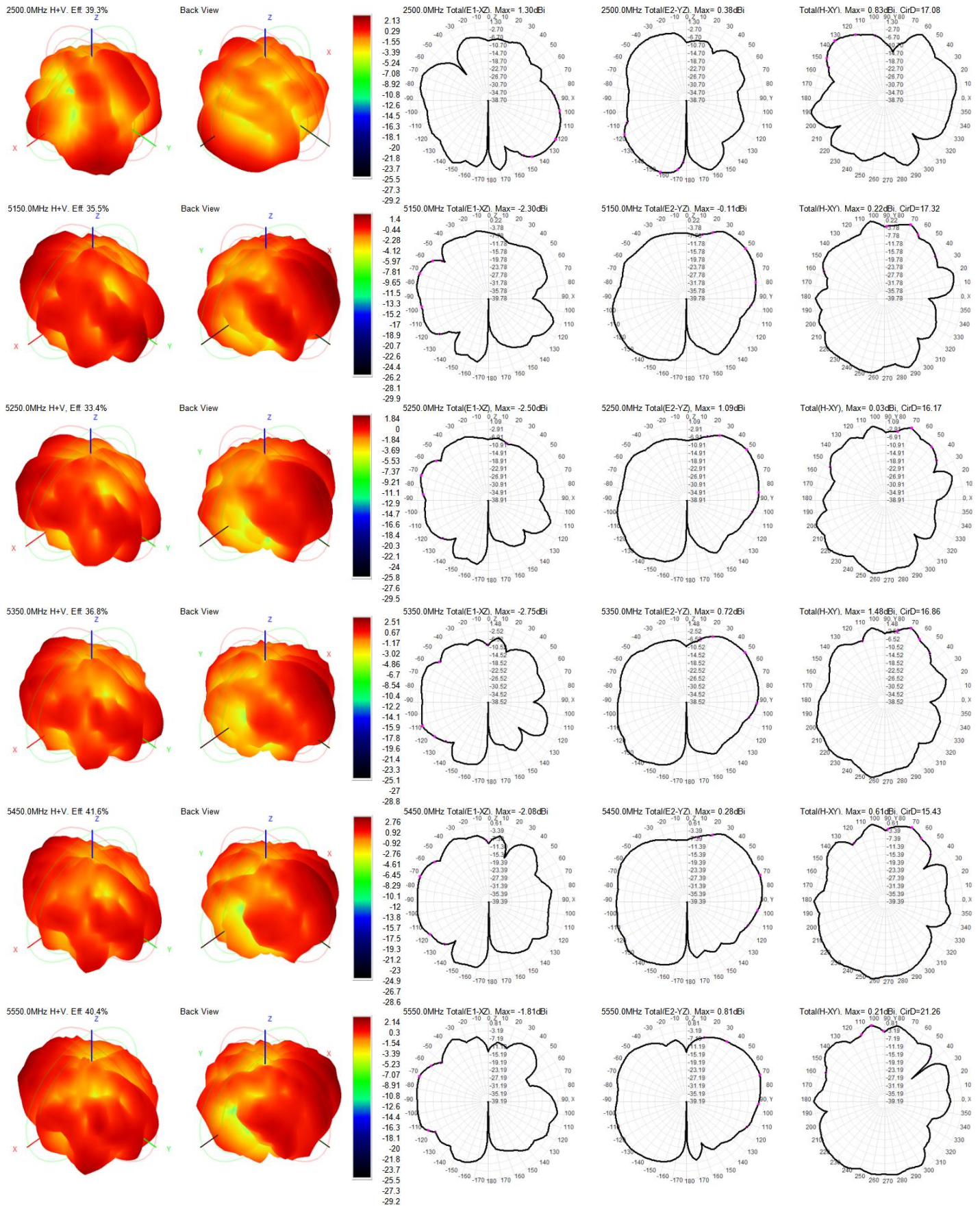


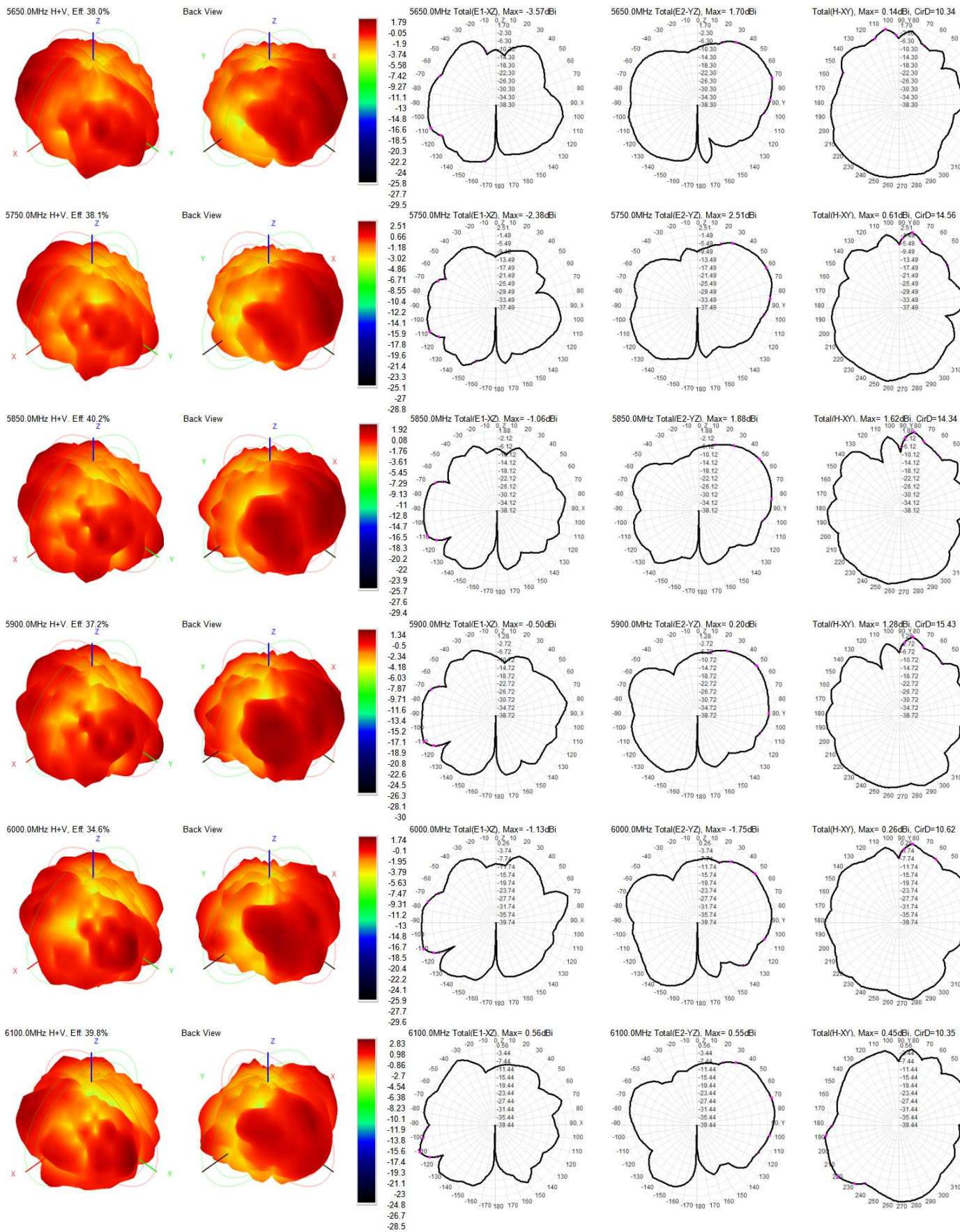
2490.0MHz Total(E2-YZ), Max= 0.48dBi



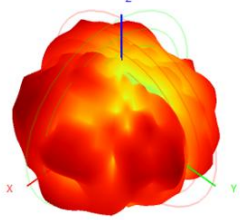
Total(H-XY), Max= 1.08dBi, CirD=18.34



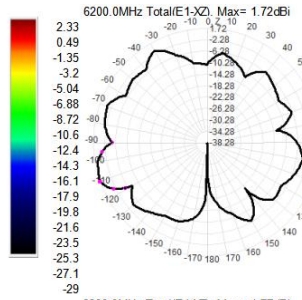
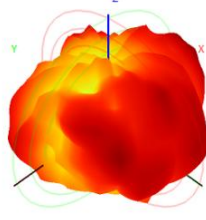




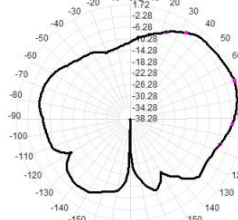
6200.0MHz H+V. Eff. 39.1%



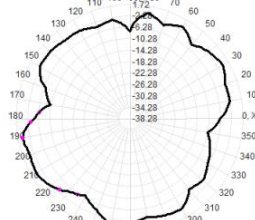
Back View



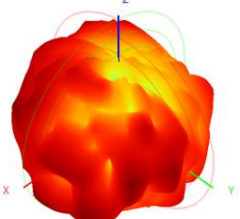
6200.0MHz Total(E2-YZ). Max= 0.74dBi



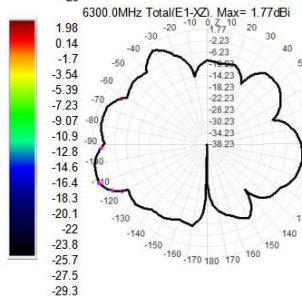
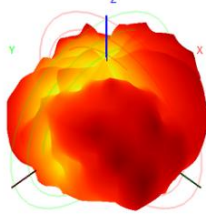
Total(H-XY). Max= 0.02dBi. CirD=10.68



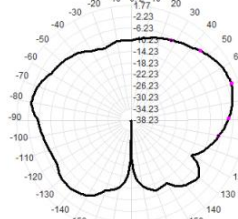
6300.0MHz H+V. Eff. 39.4%



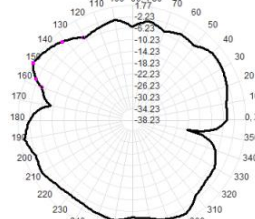
Back View



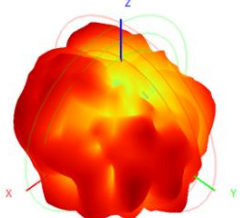
6300.0MHz Total(E2-YZ). Max= 0.88dBi



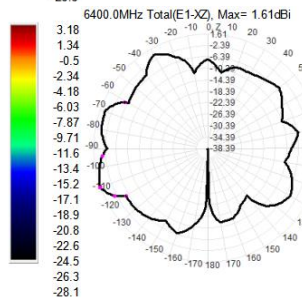
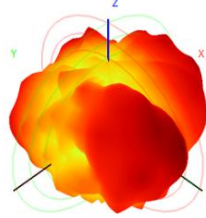
Total(H-XY). Max= 1.62dBi. CirD=20.53



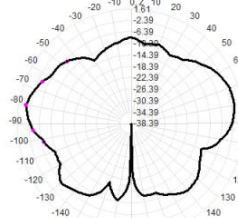
6400.0MHz H+V. Eff. 42.2%



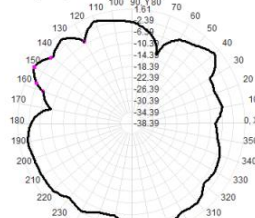
Back View



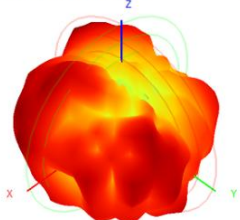
6400.0MHz Total(E2-YZ). Max= -1.04dBi



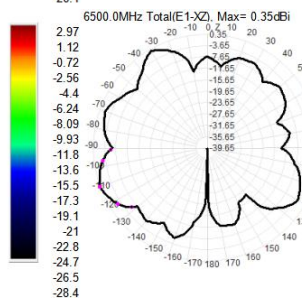
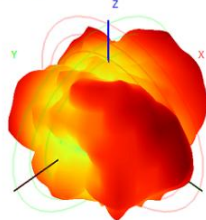
Total(H-XY). Max= 1.13dBi. CirD=14.12



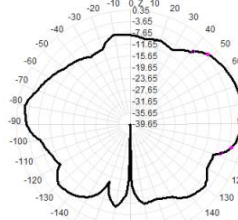
6500.0MHz H+V. Eff. 41.0%



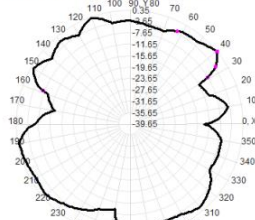
Back View



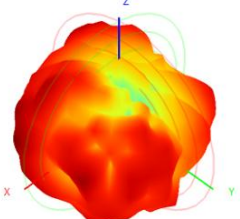
6500.0MHz Total(E2-YZ). Max= 0.18dBi



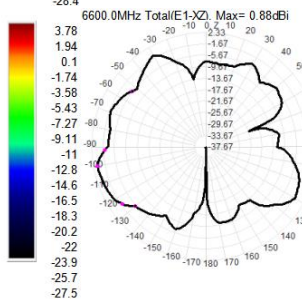
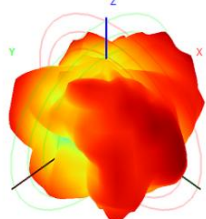
Total(H-XY). Max= 0.08dBi. CirD=13.74



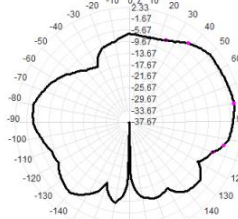
6600.0MHz H+V. Eff. 43.8%



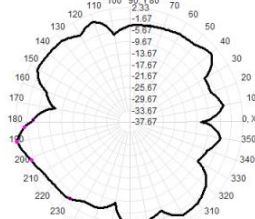
Back View



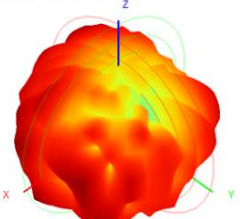
6600.0MHz Total(E2-YZ). Max= -0.34dBi



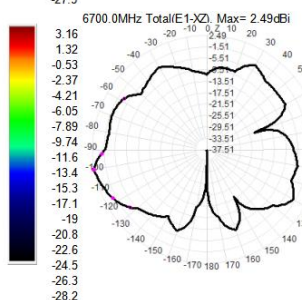
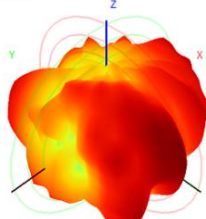
Total(H-XY). Max= 2.33dBi. CirD=14.98



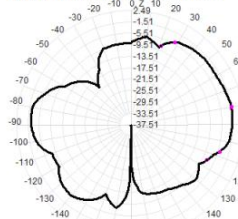
6700.0MHz H+V. Eff. 42.5%



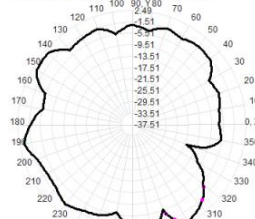
Back View



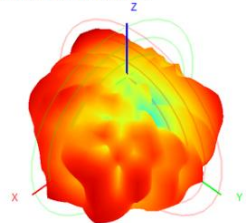
6700.0MHz Total(E2-YZ). Max= -1.86dBi



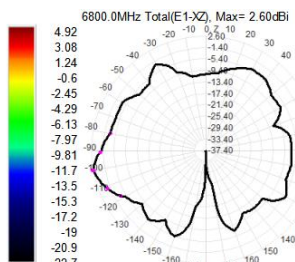
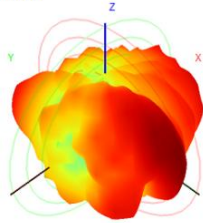
Total(H-XY). Max= 1.68dBi. CirD=19.12



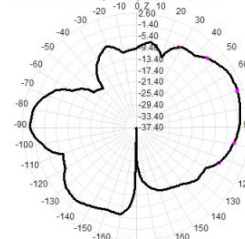
6800.0MHz H+V, Eff. 42.8%



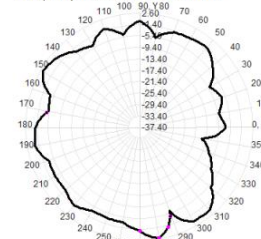
Back View



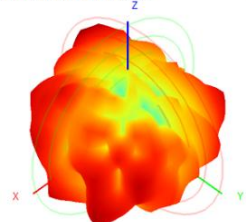
6800.0MHz Total(E2-YZ), Max= 0.38dBi



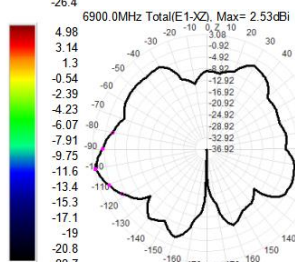
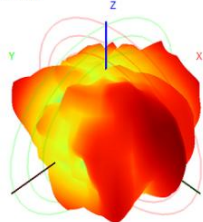
Total(H-XY), Max= 1.92dBi, CirD=17.25



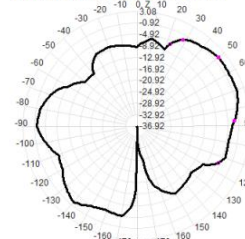
6900.0MHz H+V, Eff. 46.5%



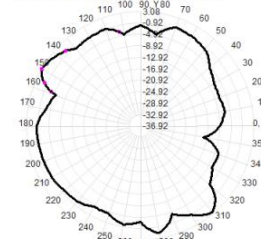
Back View



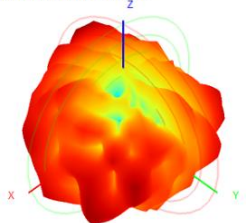
6900.0MHz Total(E2-YZ), Max= 0.42dBi



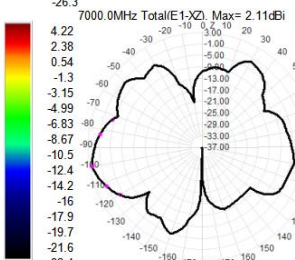
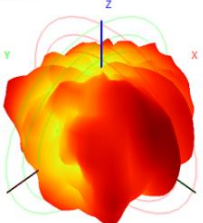
Total(H-XY), Max= 3.08dBi, CirD=17.80



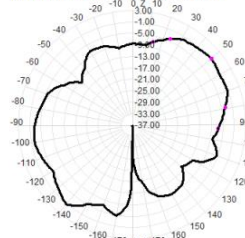
7000.0MHz H+V, Eff. 44.9%



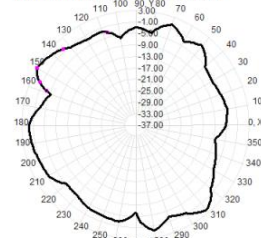
Back View



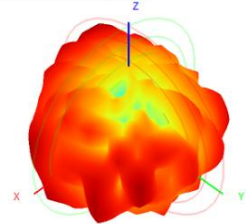
7000.0MHz Total(E2-YZ), Max= -0.83dBi



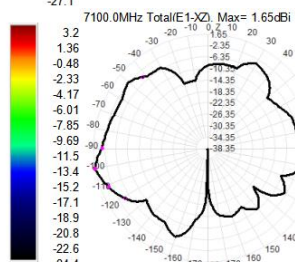
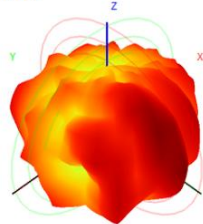
Total(H-XY), Max= 3.00dBi, CirD=11.91



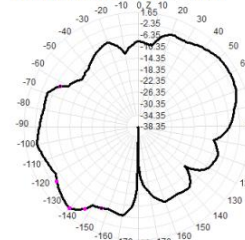
7100.0MHz H+V, Eff. 37.4%



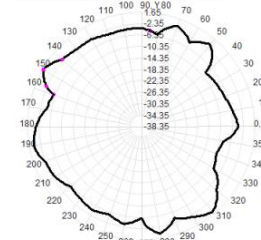
Back View



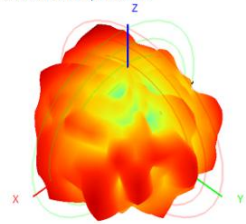
7100.0MHz Total(E2-YZ), Max= -1.05dBi



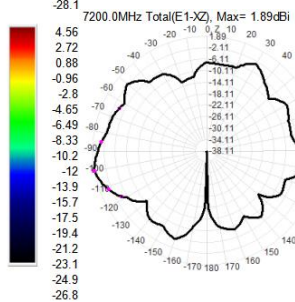
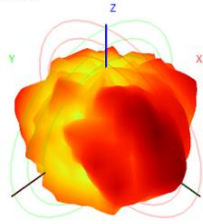
Total(H-XY), Max= 1.40dBi, CirD=11.92



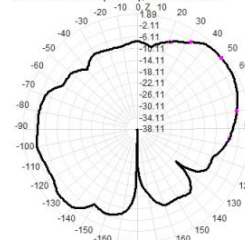
7200.0MHz H+V, Eff. 39.4%



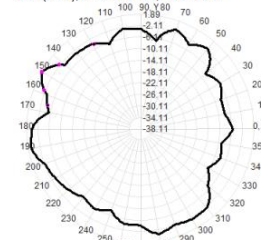
Back View



7200.0MHz Total(E2-YZ), Max= 0.53dBi



Total(H-XY), Max= 1.76dBi, CirD=12.84

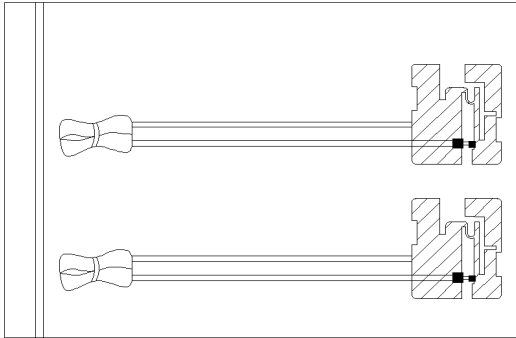
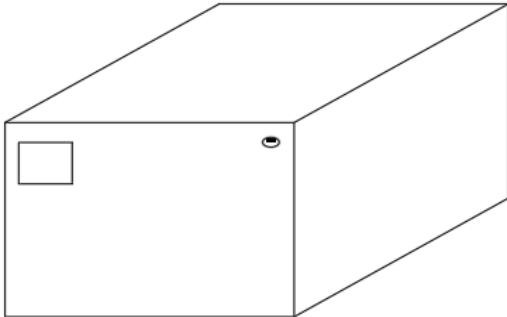


产品包装规范

Product packaging specification

日期/Date: 2025/11/20

page: 1of1

成品名称 Name of finished product		WIFI	客户 customer		
成品料号 Finished product number		SLEingB108191000	版本 REV.	X4	
 单PCS天线  (2) 25PCS一扎，2扎（50PCS）装一PE袋，PE袋上需标贴产品标签，以标示产品名称、规格、数量、日期并热封处理。  (3) 装箱：每箱装20-60包（共2000-6000PCS） (4) 外箱均需贴产品标签，以标示产品名称、规格、数量、日期。 (5) 每批次产品均需附上“出厂检验报告”。 (6) 储存条件：温度：-5℃-+30℃，湿度：20%-70%，年限一年。					
承办 DESIGNED	胡赵海（Jreey）	审核 CHECKED	胡赵海（Jreey）	核准 APPROVED	朱正锐（Jongrei）

产品各零部件ROHS清单 (ROHS list of all parts of the product):

产品ROHS及REACH信息

产品信息				ROHS及REACH信息							
产品料号	部件名称	材质	供应商	ROHS报告编号	测试机构	报告日期	结果	REACH报告编号	测试机构	报告日期	结果
	PCB	基材铜箔	金安国际	CANPC25021701016	SGS	2025.09.11	符合	CANPC25021701012	SGS	2025.09.11	符合
		阻焊油墨	蓝邦	CANEC25013056902	SGS	2025.06.09	符合	CANEC25004606602	SGS	2025.03.14	符合
		字符油墨	蓝邦	CANEC25020940102	SGS	2025.08.28	符合	CANEC25004606601	SGS	2025.05.14	符合
		OSP	恩源	CANEC25000183207	SGS	2025.01.09	符合	CANEC25000183208	SGS	2025.01.09	符合
	CABLE	护套/绝缘	海联通	NGBPC24007471212	SGS	2024.12.23	符合	NGBPC24007471118	SGS	2024.12.23	符合
		内外导体		CANEC25000298402	SGS	2025.01.10	符合	CANEC25000298406	SGS	2025.01.10	符合
	锡线	锡	宝富	CANEC25002201702	SGS	2025.02.17	符合	CANEC25002201704	SGS	2025.02.17	符合
	端子	铜	紫金铜业	CANEC24029407216	SGS	2025.01.08	符合	CANEC25004945102	SGS	2025.03.20	符合
镀金		翔腾电子	A2250437743101001E	CTI	2025.06.27	符合	A2240409846101001E	CTI	2024.11.18	符合	
塑胶 PBT		新光	ETR25703518	SGS	2025.07.28	符合	REACH符合声明			符合	