

深圳星河电波科技有限公司

样品承认书

客户名称： GRAB

项目名称： KARTACAM

样品名称： YX0186-KARTACAM-MAIN-V5.0
YX0186-KARTACAM-DIV-V1.0
YX0186-KARTACAM-WIFI-2-V3.0
YX0186-KARTACAM-WIFI-1-V1.0

规格/颜色： 黑色

签样日期： 2023.09.26

供方确认	制作	研发	结构	品质

客户确认	项 目	外 观	结 构	品质

结论	☐ 批量使用 MP ☐ 限量使用 () K
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☐ ROHS

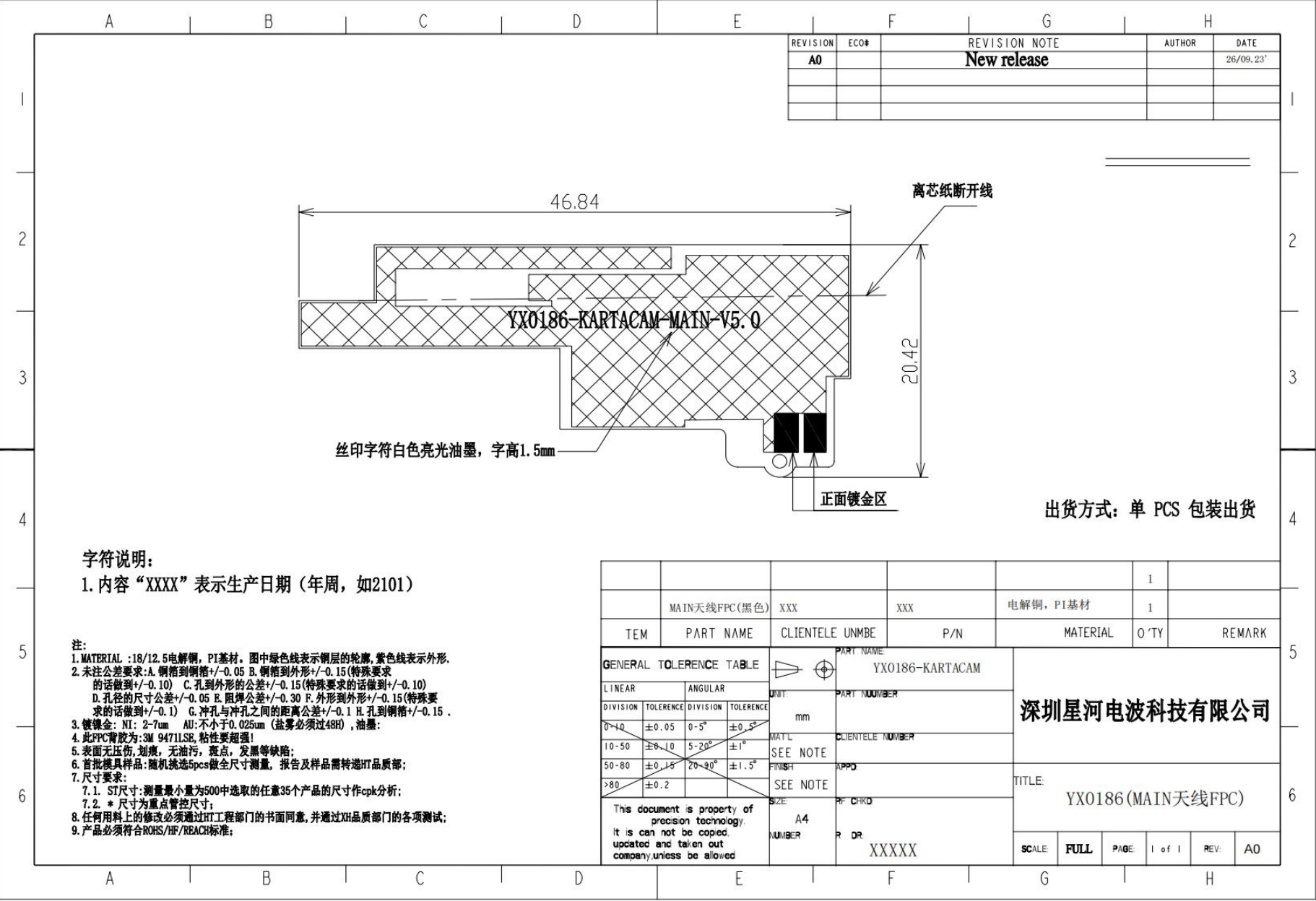
供方名称： 深圳星河电波科技有限公司

供方地址： 深圳市南山区中山园路君翔达大厦A座4楼F区

电话： 0755-86 696901

传真： 0755-86 696901

3. ICD图纸



MAIN天线FPC(黑色)

XXX

XXX

电解铜，PI基材

1

TEM

PART NAME

CLIENTELE UNMBE

P/N

MATERIAL

O'TY

REMARK

GENERAL TOLERANCE TABLE

LINEAR

ANGULAR

DIVISION

TOLERANCE

DIVISION

TOLERANCE

0-10

± 0.05

0-5°

$\pm 0.5^{\circ}$

10-50

± 0.10

5-20°

$\pm 1^{\circ}$

50-80

± 0.15

20-30°

$\pm 1.5^{\circ}$

>80

± 0.2

UNIT:

mm

MAT'L

CLIENTELE NUMBER

SEE NOTE

APPO

SEE NOTE

RF CHKO

SIZE

A4

NUMBER

XXXXXX

PART NAME:

YX0186-KARTACAM

PART NUMBER

TITLE:

YX0186(MAIN天线FPC)

SCALE:

FULL

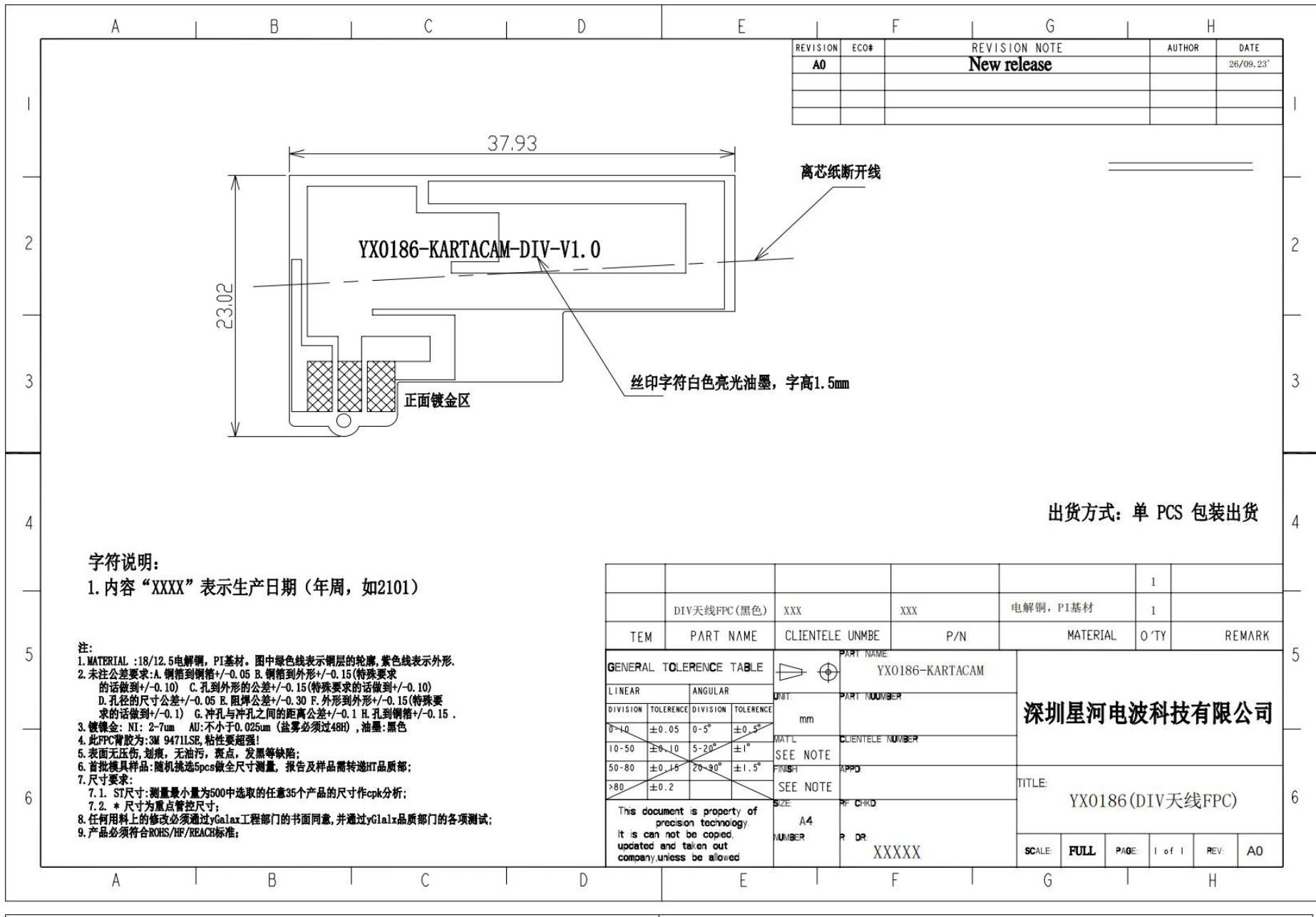
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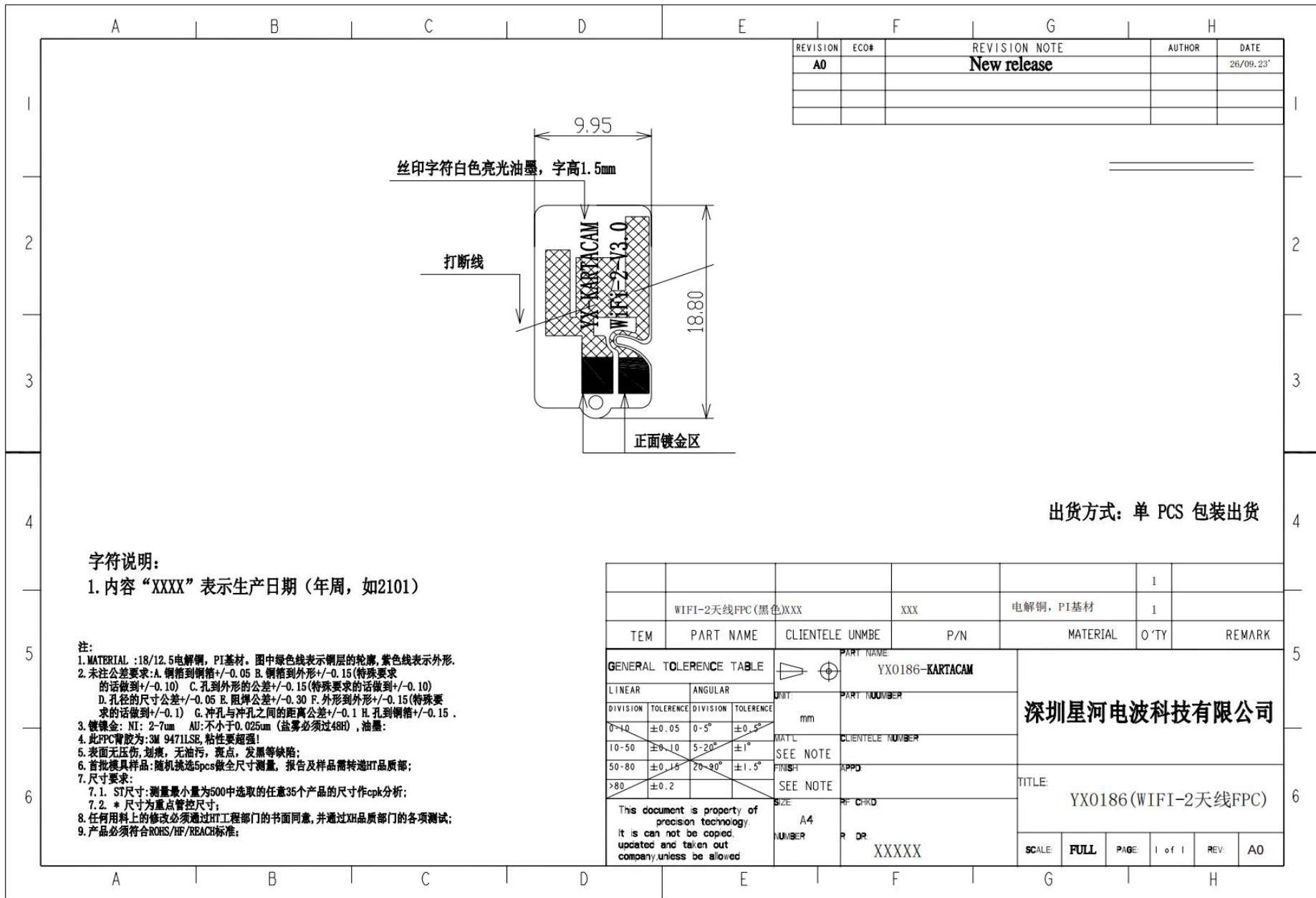
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REV:

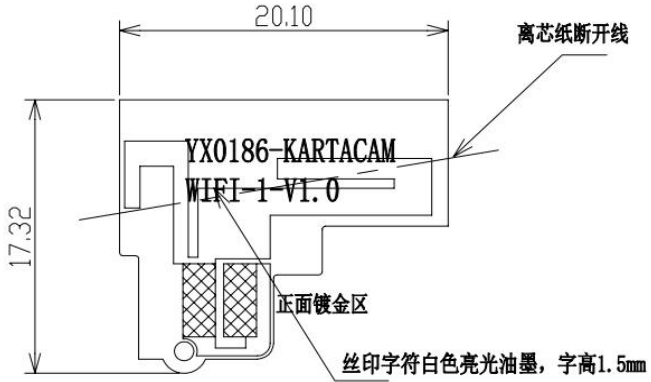
A0

深圳星河电波科技有限公司





REVISION	ECO#	REVISION NOTE	AUTHOR	DATE
A0		New release		26/09.23'



出货方式: 单 PCS 包装出货

字符说明:

1. 内容“XXXX”表示生产日期(年周, 如2101)

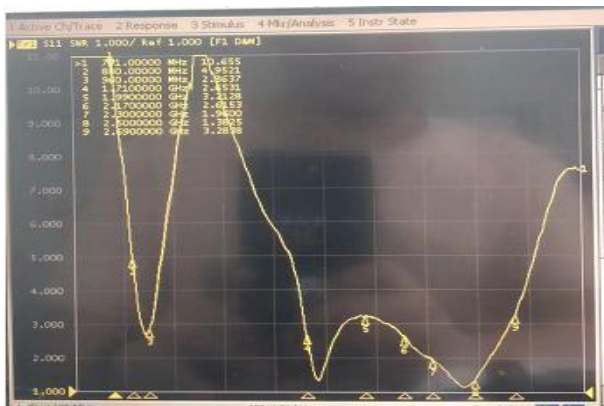
- 注:
- MATERIAL :18/12.5电解铜, PI基材. 图中绿色线表示铜层的轮廓, 紫色线表示外形.
 - 未注公差要求: A. 铜箔到铜箔 ± 0.05 B. 铜箔到外形 ± 0.15 (特殊要求的话做到 ± 0.10) C. 孔到外形的公差 ± 0.15 (特殊要求的话做到 ± 0.10) D. 孔径的尺寸公差 ± 0.05 E. 阻焊公差 ± 0.30 F. 外形到外形 ± 0.15 (特殊要求的话做到 ± 0.1) G. 冲孔与冲孔之间的距离公差 ± 0.1 H. 孔到铜箔 ± 0.15 .
 - 镀镍金: NI: 2-7um AU: 不小于0.025um (盐雾必须过48H), 油墨:
 - 此FPC背胶为: 3M 9471LSE, 粘性要超强!
 - 表面无压伤, 划痕, 无油污, 斑点, 发黑等缺陷;
 - 首批模具样品: 随机挑选5pcs做全尺寸测量, 报告及样品需转送HT品质部;
 - 尺寸要求:
 - ST尺寸: 测量最小量为500中选取的任意35个产品的尺寸作cpk分析;
 - * 尺寸为重点管控尺寸;
 - 任何用料上的修改必须通过HT工程部门的书面同意, 并通过XH品质部门的各项测试;
 - 产品必须符合ROHS/HF/REACH标准;

					1	
	WIFI-1天线FPC(黑色)XXX		XXX	电解铜, PI基材	1	
TEM	PART NAME	CLIENTELE UNMBE	P/N	MATERIAL	O'TY	REMARK
GENERAL TOLERANCE TABLE		 PART NAME YX0186-KARTACAM		深圳星河电波科技有限公司		
LINEAR		UNIT: mm				
DIVISION		TOLERANCE				
0-10		0-5°				
10-50		5-20°		TITLE: YX0186(WIFI-1天线FPC)		
50-80		20-30°				
>80				SCALE: FULL PAGE: 1 of 1 REV: A0		
This document is property of precision technology. It is can not be copied, updated and taken out company, unless be allowed		PART NUMBER XXXXXX				

无源S参数

主集天线	分集天线
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分集天线



RF1=0 Ω
RF2=0 Ω
RF3=5.2nh (LTE:12/13/28)
RF4=0 Ω

5.2nh

开关

0 Ω

0 Ω

1nh

NC

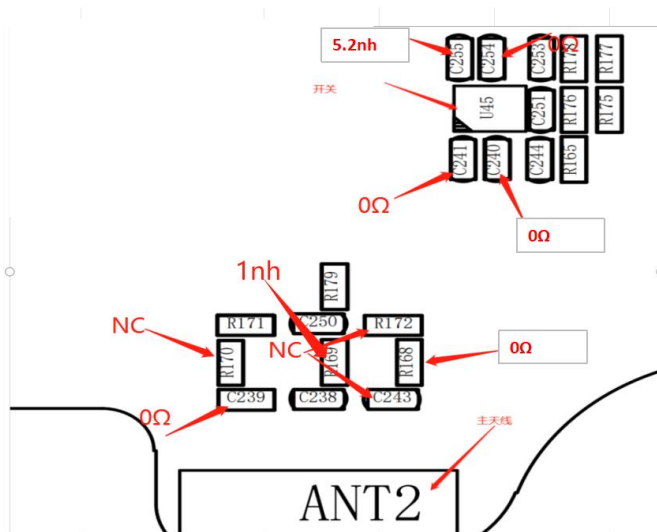
NC

0 Ω

主天线

ANT2

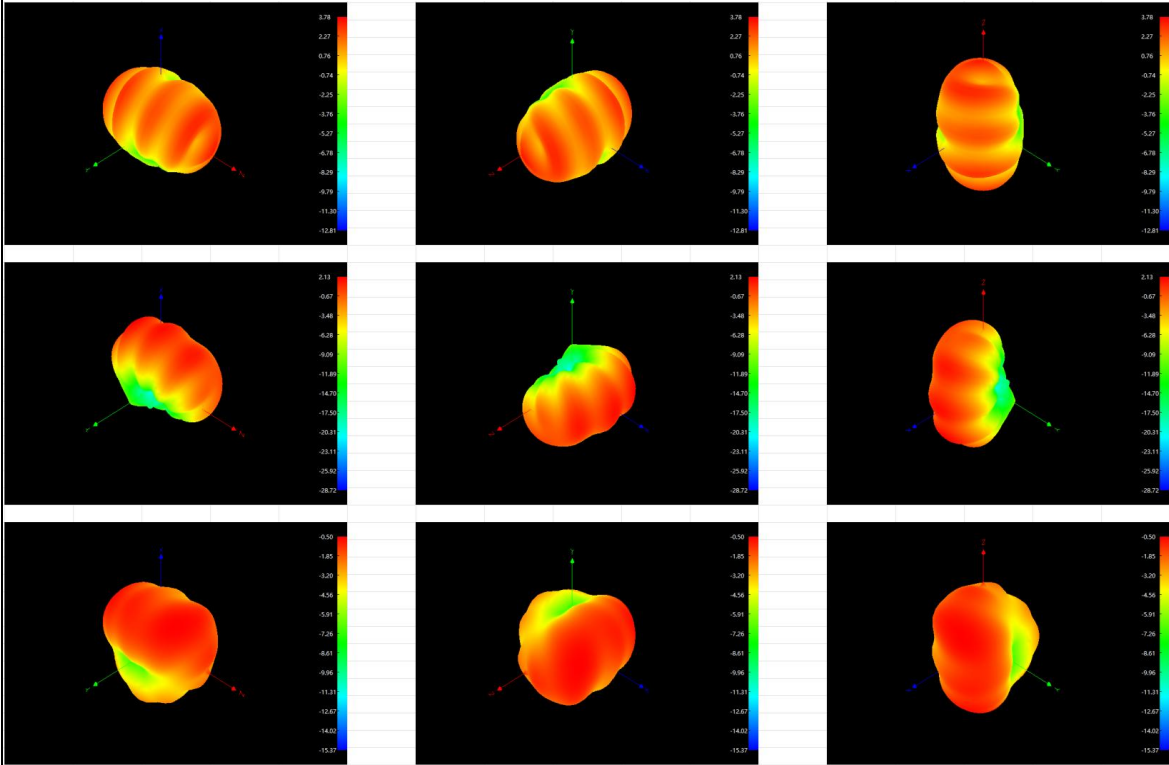
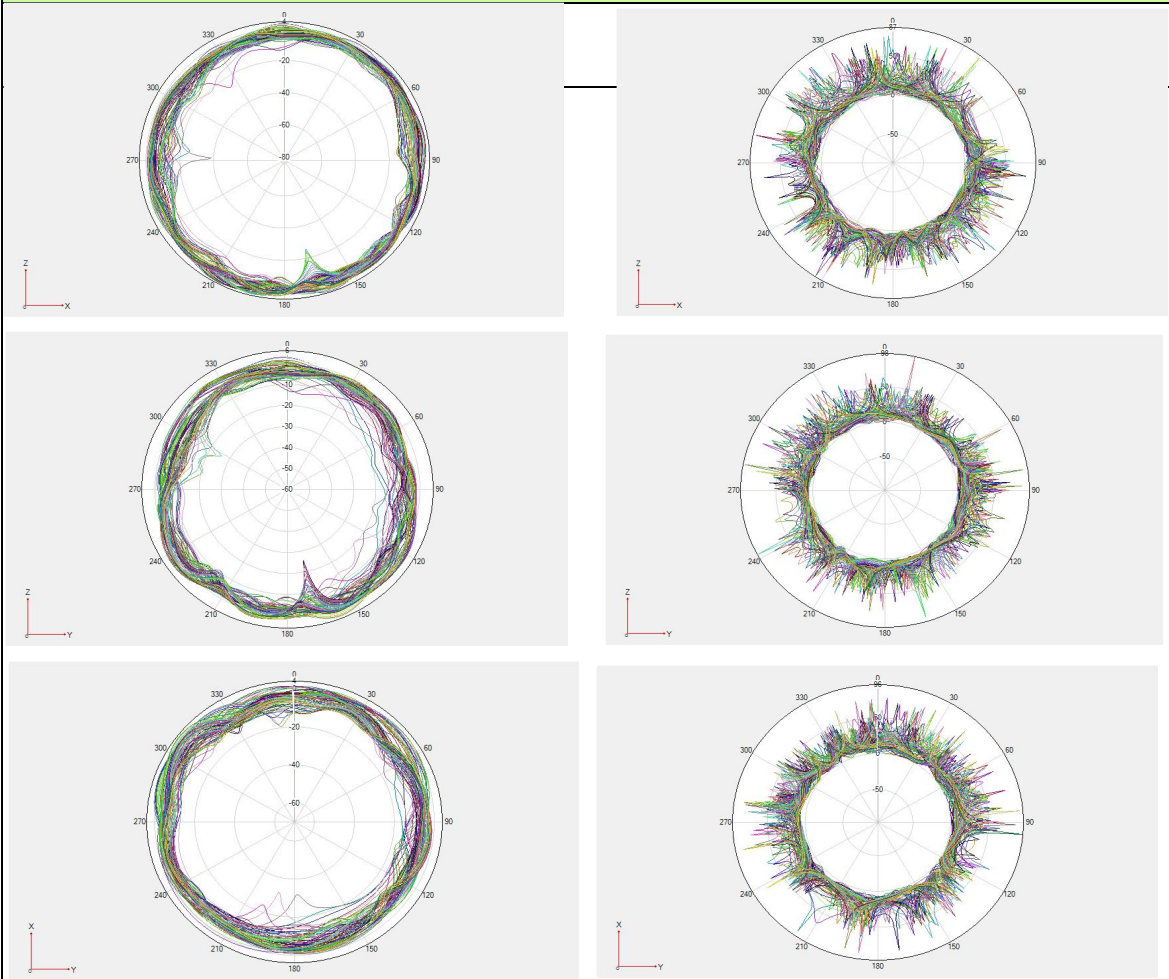
RF1=0 Ω
RF2=0 Ω
RF3=5.2nh (LTE:12/13/28)
RF4=0 Ω

[illegible]

主集无源效率与增益

Frequency	Efficiency	Efficiency	Gain/ dBi				Frequency	Efficiency	Efficiency	Gain/ dBi	
700	-3.46	45.08	3.78				1710	-2.38	57.81	4.91	
710	-3.37	46.03	2.83				1725	-2.64	54.45	4.63	
720	-3.69	42.76	1.71				1740	-2.59	55.08	5	
730	-3.56	44.06	1.77				1755	-2.94	50.82	4.58	
740	-3.86	41.11	1.23				1770	-2.95	50.7	4.51	
750	-3.89	40.83	1.37				1785	-2.85	51.88	4.43	
760	-4.26	37.5	1.68				1800	-3	50.12	3.88	
770	-4.25	37.58	1.76				1815	-3.2	47.86	3.27	
780	-3.43	45.39	1.33				1830	-3.31	46.67	2.78	
790	-2.49	56.36	2.61				1845	-3.48	44.87	2.76	
800	-2.66	54.2	1.58				1860	-3.85	41.21	2.49	
810	-2.87	51.64	1.4				1875	-4.62	34.51	1.79	
820	-2.87	51.64	1.15				1890	-4.77	33.34	1.6	
830	-2.68	53.95	2.13				1905	-4.95	31.99	1.27	
840	-3.07	49.32	1.91				1920	-5.02	31.48	1.14	
850	-3.34	46.34	1.52				1935	-4.86	32.66	1.58	
860	-2.87	51.64	2.35				1950	-4.83	32.89	1.74	
870	-2.4	57.54	2.59				1965	-4.78	33.27	1.69	
880	-1.9	64.57	1.7				1980	-4.61	34.59	1.45	
890	-1.58	69.5	1.21				1995	-4.18	38.19	1.47	
900	-1.28	74.47	2.52				2010	-3.53	44.36	2.01	
910	-1.67	68.08	2.41				2025	-3.35	46.24	2.17	
920	-2.12	61.38	1.14				2040	-3.3	46.77	2.36	
930	-2.35	58.21	1.36				2055	-3.22	47.64	2.66	
940	-2.75	53.09	1.73				2070	-3.22	47.64	3.1	
950	-3.32	46.56	0.7				2085	-3.16	48.31	3.45	
960	-3.87	41.02	-0.5				2100	-3.43	45.39	3.16	
							2115	-3.26	47.21	3.23	
							2130	-2.89	51.4	3.48	
Frequency	Efficiency	Efficiency	Gain/ dBi				2145	-3.03	49.77	3.24	
2300	-2.62	54.7	2.58				2160	-3.15	48.42	3.04	
2315	-2.59	55.08	2.66								
2330	-2.48	56.49	2.62								
2345	-2.54	55.72	2.77								
2360	-2.42	57.28	3.18								
2375	-2.63	54.58	3.03								
2390	-2.8	52.48	2.95								
2405	-2.73	53.33	2.73								
2420	-2.96	50.58	2.46								
2435	-2.89	51.4	2.45								
2450	-2.85	51.88	2.38								
2465	-3.04	49.66	2.28								
2480	-2.81	52.36	2.77								
2495	-2.87	51.64	2.59								
2510	-3.05	49.55	2.38								
2525	-2.86	51.76	2.56								
2540	-3.02	49.89	2.51								
2555	-3.04	49.66	2.53								
2570	-3.05	49.55	2.59								
2585	-3	50.12	2.93								
2600	-2.84	52	3.2								
2615	-2.91	51.17	3.25								
2630	-2.81	52.36	3.68								
2645	-2.61	54.83	4.4								
2660	-2.89	51.4	4.73								
2675	-2.7	53.7	5.44								
2690	-2.57	55.34	5.98								

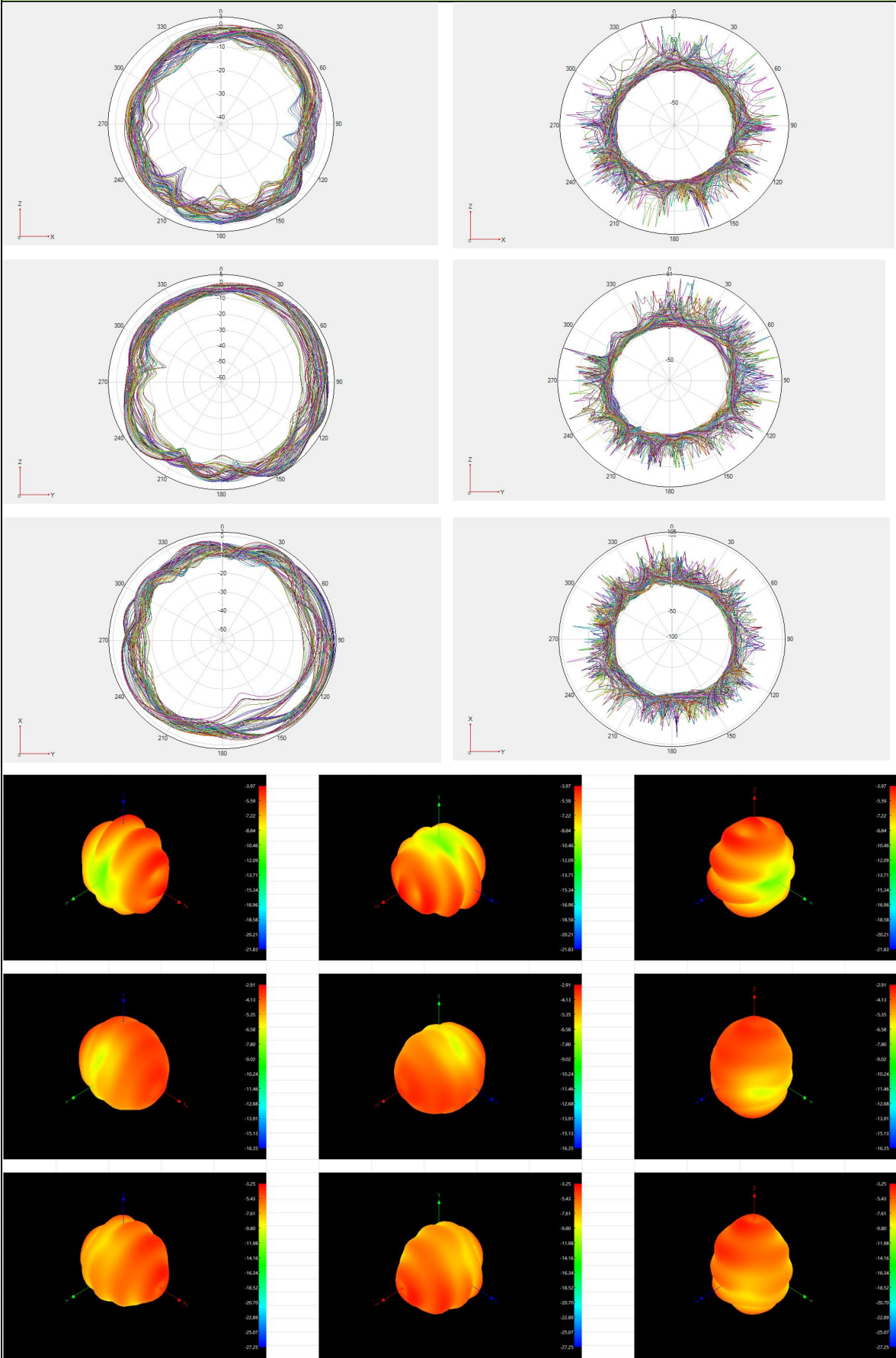
主集天线2D/3D图

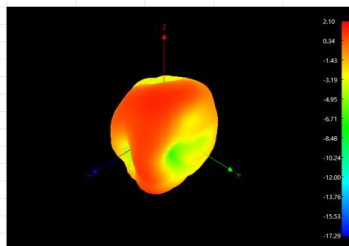
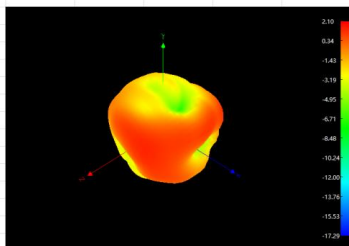
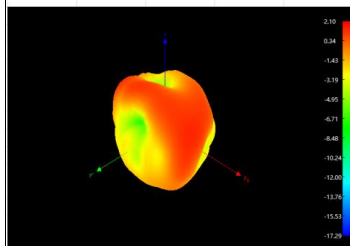
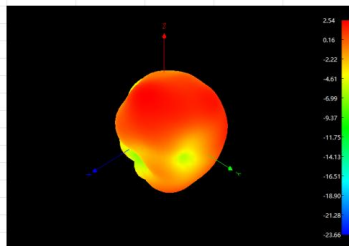
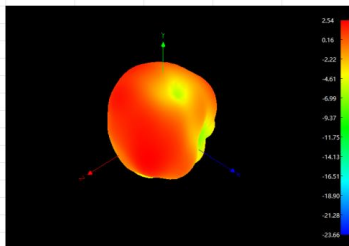
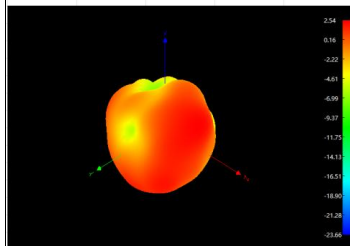
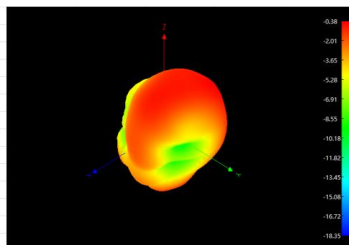
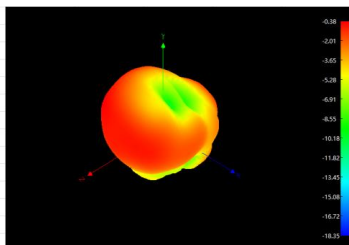
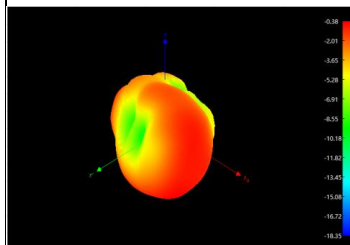
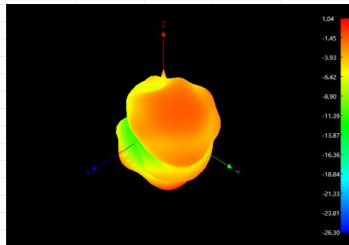
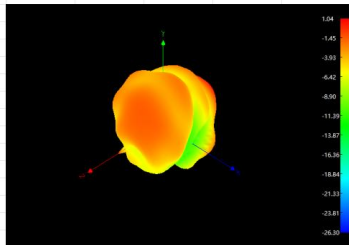
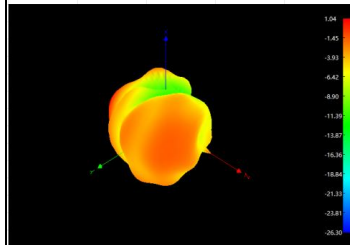
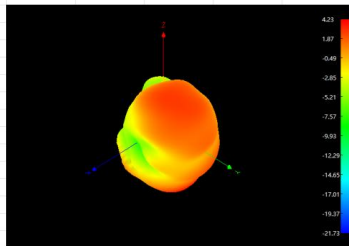
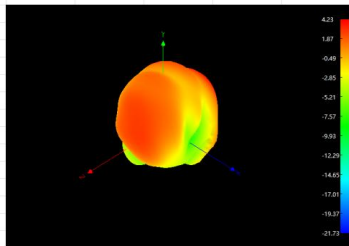
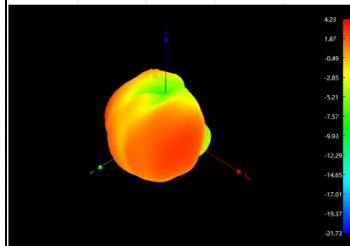
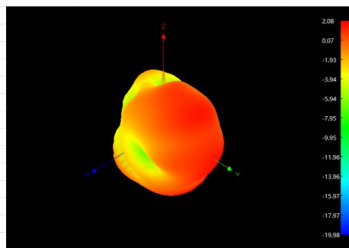
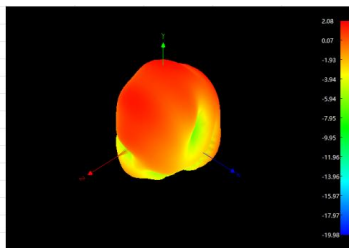
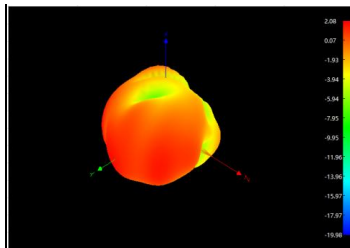


分集无源效率与增益

[illegible]

分集天线2D/3D图

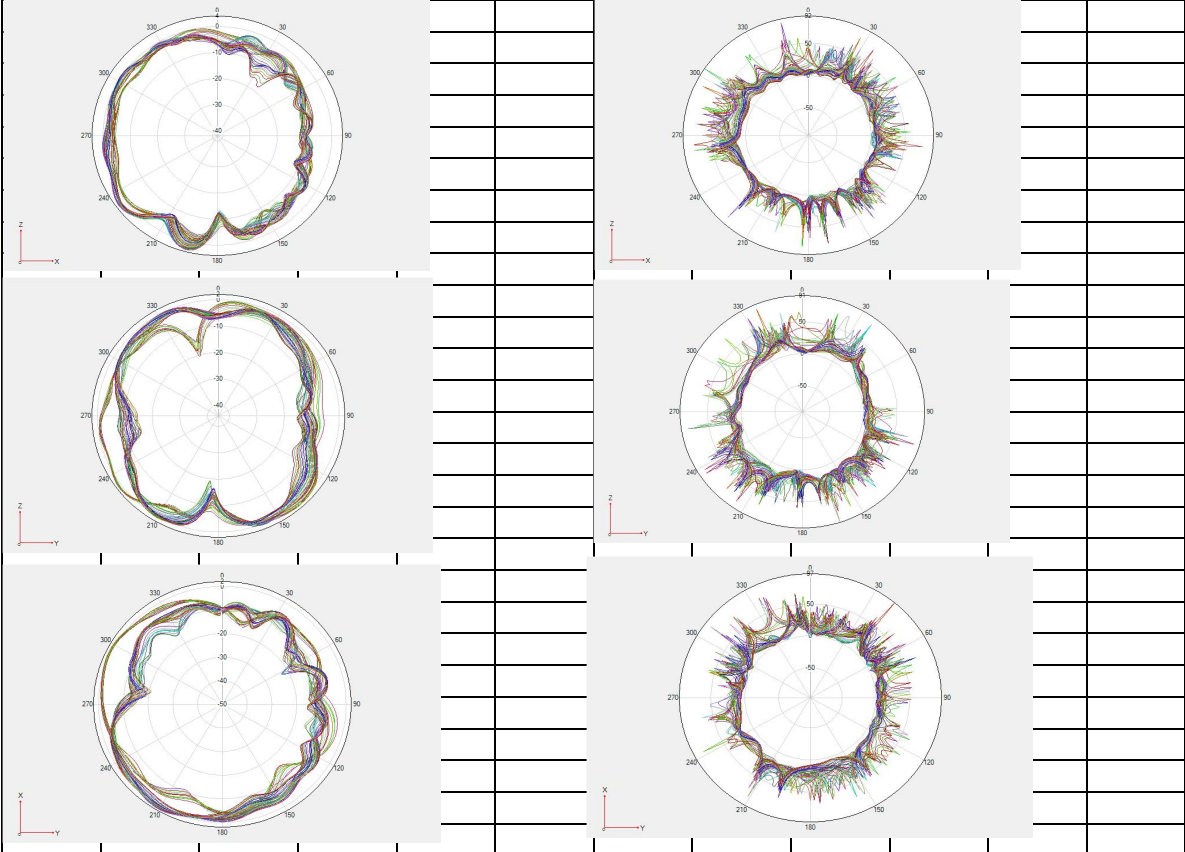




WiFi天线无源效率与增益

Frequency	Efficiency	Efficiency	Gain/ dBi			Frequency	Efficiency	Efficiency	Gain/ dBi		
2400	-3.49	44.77	1.84			5150	-3.81	41.59	4.12		
2410	-3.37	46.03	1.86			5170	-3.6	43.65	4.45		
2420	-3.28	46.99	1.89			5190	-3.44	45.29	4.73		
2430	-3.17	48.19	2.26			5210	-3.29	46.88	4.74		
2440	-3.09	49.09	2.08			5230	-3.32	46.56	4.81		
2450	-2.68	53.95	2.11			5250	-3.05	49.55	5.11		
2460	-2.92	51.05	2.18			5270	-3.09	49.09	4.99		
2470	-2.87	51.64	2.41			5290	-2.99	50.23	5.2		
2480	-2.55	55.59	2.29			5310	-2.96	50.58	5.07		
2490	-2.46	56.75	2.55			5330	-2.7	53.7	5.54		
2500	-2.7	53.7	3.01			5350	-2.7	53.7	5.55		
						5370	-2.5	56.23	6.01		
						5390	-2.34	58.34	6.02		
						5410	-2.28	59.16	5.88		
						5430	-2.5	56.23	5.61		
						5450	-2.45	56.89	5.33		
						5470	-2.63	54.58	5.32		
						5490	-2.77	52.84	5.04		
						5510	-2.94	50.82	4.73		
						5530	-2.9	51.29	4.77		
						5550	-2.92	51.05	4.58		
						5570	-2.84	52	4.71		
						5590	-2.9	51.29	4.6		
						5610	-2.85	51.88	4.69		
						5630	-3.02	49.89	4.45		
						5650	-2.95	50.7	4.43		
						5670	-3	50.12	4.52		
						5690	-2.99	50.23	4.35		
						5710	-3.32	46.56	4.23		
						5730	-3.42	45.5	4.05		
						5750	-3.45	45.19	3.98		
						5770	-3.36	46.13	4.09		
						5790	-3.63	43.35	3.63		
						5810	-3.62	43.45	3.67		
						5830	-3.73	42.36	3.4		
						5850	-3.96	40.18	3.15		

WiFi天线2D/3D图



LORA天线无源效率与增益

Frequenc	Efficiency	Efficiency	Gain/ dBi								
700	-10.36	9.2	-3.97								
710	-9.97	10.07	-3.86								
720	-10.25	9.44	-4.68								
730	-9.85	10.35	-5.08								
740	-10.11	9.75	-5.23								
750	-9.73	10.64	-4.59								
760	-9.72	10.67	-4.75								
770	-9.61	10.94	-4.99								
780	-9.71	10.69	-5.31								
790	-8.27	14.89	-4.09								
800	-7.9	16.22	-4.79								
810	-7.47	17.91	-4.38								
820	-7.09	19.54	-4.58								
830	-6.31	23.39	-2.91								
840	-6.18	24.1	-2.63								
850	-5.85	26	-3.45								
860	-5.29	29.58	-2.53								
870	-4.74	33.57	-1.45								
880	-4.77	33.34	-1.62								
890	-4.39	36.39	-1.65								
900	-4.04	39.45	0.08								
910	-4.19	38.11	0								
920	-4.53	35.24	-0.74								
930	-4.91	32.28	-1								
940	-5.34	29.24	-0.51								
950	-6.25	23.71	-2								
960	-6.84	20.7	-3.25								

LORA天线2D/3D图

