



样品承认书Sample acceptance letter

供应商名称(全称) 9/5000 Supplier Name (full name)	深圳市麒鑫通达科技有限公司 Shenzhen Qixin Tongda Technology Co., LTD		供应商代码 5/5000 Supplier code	2038	物料名称name of the material	天线 Antenna
沃特沃德信息料号 (P/N)Waterward Information Material Number (P/N)	3.E-1101-000540-000 3.E-1101-000542-000 3.E-1101-000541-000	供应商标号 (P/N)Supplier part Number (P/N)	RXD-GF029		物料类型Material type	结构料
项 目 project	GF029	承认书版本号Recognize book version numbers	V1.0		物料颜色 The material color	黑色black
送样数量Deliver quantity	8PCS	送样日期 Deliver date	2024/7/2		是否环保要求物料 Whether environmental	环保要求物料
物料描述 Material description	主天线：主天线，4G，N/A，材质：FPC，ROHS+Reach+无卤，45.94*21.59*0.1mm，2G（B3/B5/B8）+W1/5/8+L1/3/5/8 分级天线：分级天线，4G，N/A，材质：FPC，ROHS+Reach+无卤，21.47*21.39*0.1mm 蓝牙天线：蓝牙天线，4G，N/A，材质：FPC，ROHS+Reach+无卤，21.33*16.65*0.1mm					

送样原因:

☒ 新物料 ☐ 新供应商 ☐ 替代料2nd Source ☐ 工程变更(PCN/ECN) ☐ 其他_____

Sample submission reason:

☒ new material/supplier/alternative material from 2nd Source mind engineering change (ECN/PCN) and other _____

附送报告列表: Attached is a list of reports:

■ 产品规格书 (Spec) *■ Product

Specification *

☐ 原理图 (电子料) ☐ Schematic diagram (electronic materials)

■ 标准2D图纸 *■ Standard 2D drawings

*

☐ 安规认证报告 ☐ Safety certification report

■ 关键元器件清单 (BOM)*■ List of Key components (BOM)*

☐ 实物解剖图 ☐ Physical anatomy

☐ 工艺菲林图 ☐ Process film drawing

■ 测试报告 (☐ 沃特沃德信息 ☐ 供应商 ☐ 第三方 ☐ 客户) *■ Test Report (☐ Waterward Information ☐ Supplier ☐ Third Party ☐ Customer) *

■ 产品绿色环保数据 (☐ 环保声明书 ☐ 环保报告) *■ Product green environmental protection data (☐ Environmental protection statement ☐ Environmental protection report) *

■ FMP或QC Chart管流程图 *■ FMP or QC Chart control flow Chart *

■ 全尺寸测量报告 (CPK) *■ Full scale Measurement Report (CPK) *

■ 包装方式说明 *■ Description of packing method *

☐ 供应商产品命名规则 ☐ Supplier's product naming rules

☐ 品质管控计划 ☐ Quality control plan

说明: 物料承认书必须包含带“*”文件, 其他列表文件根据物料特性及要求提供。且必须与实物信息一致。其中电子物料测试报告必须包含可靠性测试报告及性能测试报告。包材、辅料可只提供全尺寸报告。有环保要求的物料必须提供环保数据 (环保声明书或环保测试报告)。Note: The material acknowledgement must contain the file with “*”, other list files are provided according to the material characteristics and requirements. It must be consistent with the physical information. The electronic material test report must include reliability test report and performance test report. Packaging materials, accessories can only provide full - size report. Environmental data (environmental declaration or environmental test report) must be provided for materials with environmental requirements.

评估结果: Evaluation Results:

☐ 完全认可 (符合沃特沃德信息及客户要求) 21/5000

☐ Fully approved (in accordance with Waterward information and customer requirements)

☐ 条件性认可 (☐ 客户需求 ☐ 初步认可, 规格认证 ☐ 其他_____) 限量数量: _____ - conditional approval (/ customer requirements/preliminary approval, the certification/specifications for other _____) limited quantity: _____

☐ 其他: _____ other: _____

备注: Remark:

供应商物料制作确认: (须盖章, 纸质文档加盖骑缝章) Supplier material production confirmation : (must be sealed, paper documents stamped with seal)

组 织Set of woven	制 作making	商务确认Business confirmation	研发审核Research and development of audit	品质确认Quality confirmation	批 准approved
签 字 Sign a word	代庆蓉Dai Qingrong	李瑞Li Rui	傅梁成Fu Liangcheng	曹光平Cao Guangping	龙超群Long Chaoqun
日 期Day period	2024/7/2	2024/7/2	2024/7/2	2024/7/2	2024/7/2

沃特沃德信息核准: (涉及定制化标贴类需商务签核, 手写签字附带签字日期) Waterward information approval : (business signature is required for customized labeling, handwritten signature is attached with signature date)

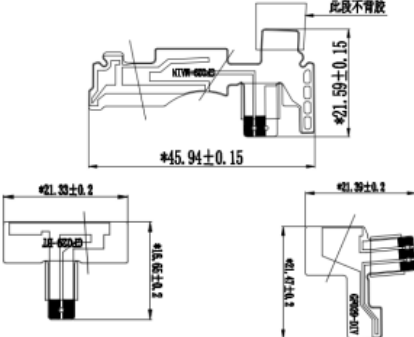
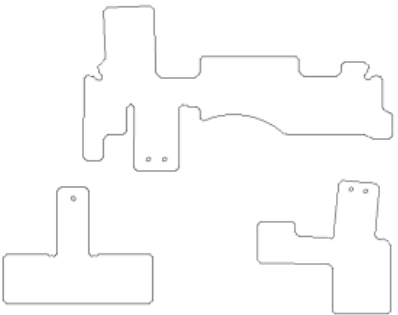
组 织Set of woven	商务确认Business confirmation	项目确认Project confirmation	项目核准Project approval	品质确认Quality confirmation	品质核准Quality approval
签 字 Sign a word					
日 期Day period					

一、变更记录栏1. Change record column

序号 The serial number	版本号The version number	变更内容Change the content	修订人 Revised one	变更日期 Change the date
1	V1.0	初始版本	代庆蓉	2024/7/2
2				
3				

二、样品图片2. Sample pictures

正面图片Positive image	背面图片On the back of the photo	丝印/条形码图片 Screen printing/bar code picture
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		主天线: GF029-MAIN 分集天线: GF029-DIV BT天线: GF029-BT
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三、物料基本情况 Iii. Basic information of materials

1	类别Class don't	☐ 拉杆 材料类型及规格 _____ - pull rod material type and specification _____ ☒ 金属冲压 材料类型及规格 _____ stamping material type and specification _____ ☒ metal							
2	FPC	材料类型及规格Material type and specification	单面半对半	金手指化金厚度Gold finger gold thickness	1麦	背胶型号 Lamination model	9471	背胶供应商 Gum supplier	3M

备注: 上述不适用请使用“/”填充表示

四、BOM (关键物料清单) Iv. BOM (List of Key Materials)

序号 The serial number	物料名称The name of the material	规格/性能参数Specifications/performance parameters	单位 unit	用量 The dosage	供应商supplier	备注note
1	主天线main	45.94*21.59*0.1mm	PCS	1	麒麟通达 Qi Xin Tong Da	
2	分集天线DIV	21.47*21.39*0.1mm	PCS	1	麒麟通达 Qi Xin Tong Da	
3	BT天线	21.33*16.65*0.1mm	PCS	1	麒麟通达 Qi Xin Tong Da	
4						
5						
6						
7						
8						
9						

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1. 图形参考 Graphic reference

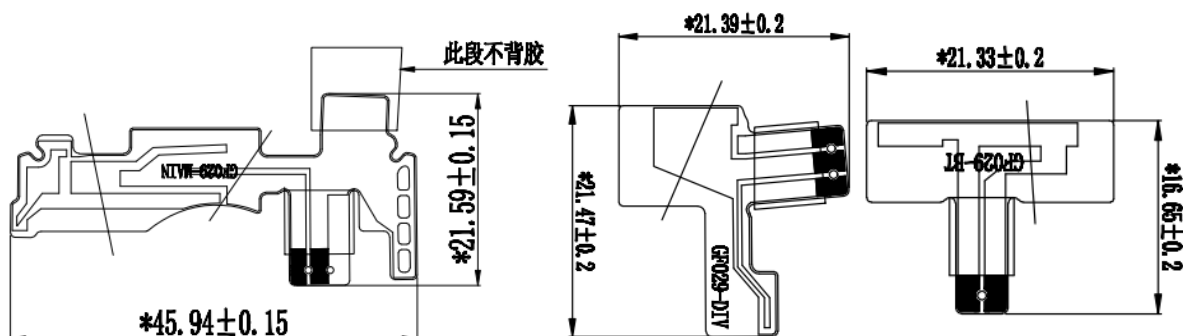


图1 GF029_主天线 ANTENNA RXD

品名 name	ANTENNA
机型 models	GF029
频段 spectrum	GSM:3/5/8 WCDMA:1/5/8 FDD:1/3/5/7/8/20/28 TDD:38/40/41
输入阻抗 input impedance	50Ω
容许功率 Permissible power	5W
工作温度范围 Operating temperature range	-25 ~ +65 °C
保存温度范围 Storage temperature range	-40 ~ +85 °C

2. 电性能测试 Electrical performance test

2.1测试步骤 Test steps

VSWR测试装置为 test device is:



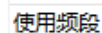
2.2 测试场地 Test site

RXD 微波暗室：测试频率范围为 800MHz-6GHz, 静区范围为 25cm 圆周，反射率小于-90dB. RXD microwave blackout: the test frequency range is 800MhZ-6ghz, and the quiet zone range is 25cm

Fire rate less than -90dB

SKU2

主天线匹配:

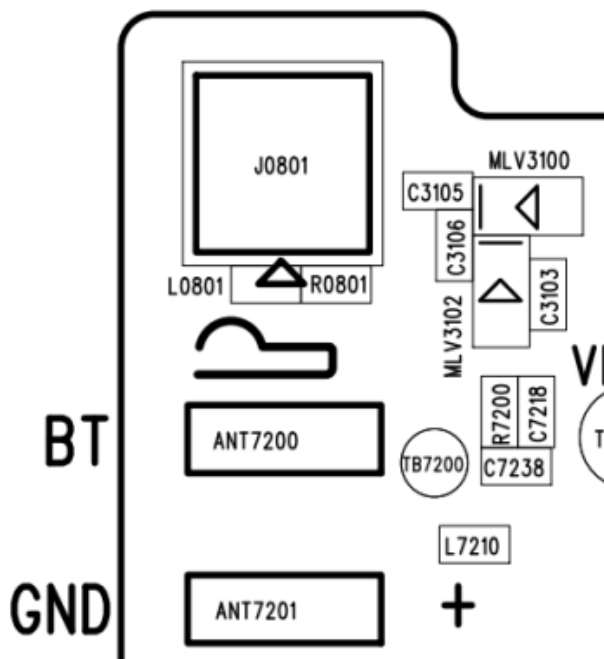


分集大线匹配:



分集天线匹配说明:

1.分集天线匹配未更改



BT天线匹配说明:

1. BT天线匹配未更改;

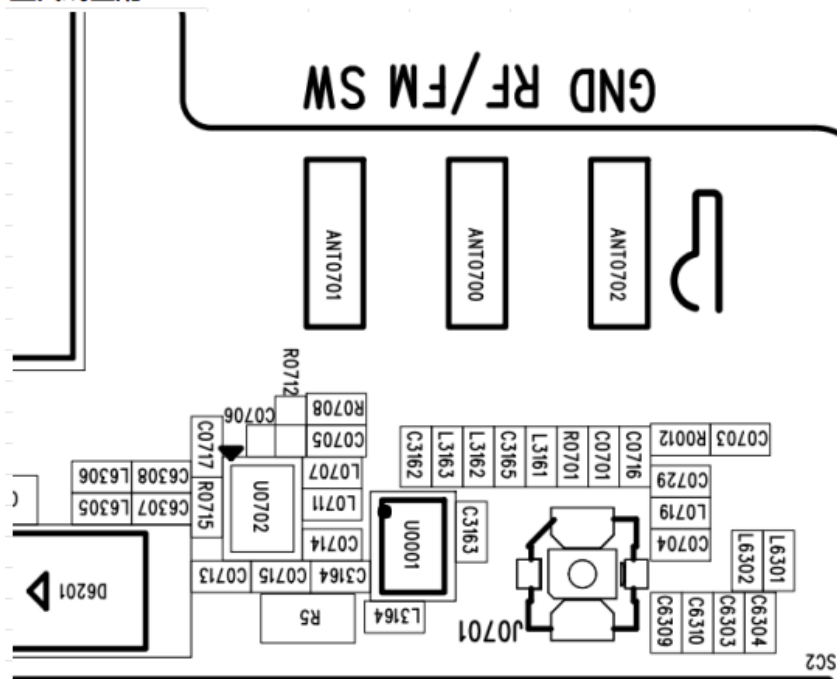


OTA测试:																						
Band	SPEC for NOKIA FS(class B)		Conducted Power 辐射功率0.7dBm		OTA (EVT一号机)		GAP		OTA (EVT二号机)		GAP		BHHL/R for VDF		BHHL (EVT二号机)		GAP		BHHR (EVT二号机)		GAP	
	TRP	TIS	TX	RX	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS
GSM850	25.5	-102			28.15		2.65								22.4				20.19			
	25.5	-102			28.22		2.72								22.5				20.25			
	25.5	-102			28.35	-105.4	2.85	3.4							22.5	-98.41			20.33	-97.40		
	25.5	-102			28.36		2.86						19	-95	22.2		3.15		20.13		1.13	
GSM900	25.5	-102			28.55		3.05						19	-95	22.4		3.39		20.36		1.36	
	25.5	-102			28.61	-105.32	3.11	3.32					19	-95	22.5	-97.63	3.52	2.63	20.25	-97.39	1.25	2.39
	24.5	-103			25.80		1.3						18	-96	22.7		4.7		21.68		3.68	
	24.5	-103			25.89		1.39						18	-96	22.6		4.55		21.55		3.55	
DCS1800	24.5	-103			26.11	-105.0	1.61	1.95					18	-96	22.6	-100.20	4.59	4.2	21.36	-100.00	3.36	4
	24.5	-103																				
	24.5	-103																				
	18	-106			18.07		0.07						14	-100	14.1		0.05		14.23		0.23	
WCDMA1	18	-106			17.35		-0.65						14	-100	13.3		-0.68		13.90		-0.1	
	18	-106			17.02	-106.11	-0.98	0.11					14	-100	13.2	-101.23	-0.82	1.23	13.66	-101.41	-0.34	1.41
	18	-105																				
	18	-105																				
WCDMA2	18	-105																				
	18	-105																				
	18	-105																				
	18	-105																				
WCDMA4	18	-105																				
	18	-105																				
	18	-105																				
	18	-105																				
WCDMA5	16.5	-103			18.55		2.05								13.1				13.13			
	16.5	-103			18.63		2.13								13.2				13.22			
	16.5	-103			18.71	-105.05	2.21	2.05							13.3	-99.06			13.15	-99.768		
	16.5	-103.5			18.83		2.33						11	-96	11.6		0.55		12.08		1.08	
WCDMA8	16.5	-103.5			18.78		2.28						11	-96	11.1		0.12		11.69		0.69	
	16.5	-103.5			18.45	-105.46	1.95	1.96					11	-96	11.2	-98.33	0.15	2.33	11.50	-99.31	0.5	3.31
	17.5	-93			18.66		1.16						13	-88	15.1		2.05		15.05		2.05	
	17.5	-93			18.03		0.53						13	-88	14.2		1.23		13.78		0.78	
FDD1(10M)	17.5	-93			17.16	-92.49	-0.34	-0.51					13	-88	13.3	-87.55	0.25	-0.45	13.40	-88.00	0.4	0
	17.5	-93																				
	17.5	-93																				
	18	-93.5			17.55		-0.45						14	-90	14.4		0.36		13.56		-0.44	
FDD3(10M)	18	-93.5			17.63		-0.37						14	-90	14.4		0.4		14.41		0.41	
	18	-93.5			18.08	-93.55	0.08	0.05					14	-90	14.2	-89.12	0.23	-0.88	14.89	-89.31	0.89	-0.69
	17.5	-93																				
	17.5	-93																				
FDD4(10M)	17.5	-93																				
	17.5	-93																				
	17.5	-93																				
	17.5	-93																				
FDD5(10M)	16	-91			18.56		2.56								12.6				13.55			
	16	-91			18.65		2.65								12.7				13.63			
	16	-91			19.02	-93.36	3.02	2.36							12.5	-88.90			12.88	-88.25		
	17.5	-94			18.88		1.38						13	-89	14.0		1.01		13.92		0.92	
FDD7(10M)	17.5	-94			17.63		0.13						13	-89	13.5		0.51		13.71		0.71	
	17.5	-94			17.35	-94.71	-0.15	0.71					13	-89	13.4	-89.53	0.39	0.53	13.55	-89.23	0.55	0.23
	16.5	-91			19.02		2.52						10	-84	12.0		2.02		12.72		2.72	
	16.5	-91			19.11		2.61						10	-84	11.4		1.35		12.15		2.15	
FDD8(10M)	16.5	-91			19.15	-95.05	2.65	4.05					10	-84	10.4	-87.11	0.39	3.11	11.16	-88.22	1.16	4.22
	16.5	-91			18.63		2.13						11	-86	12.4		1.43		12.65		1.65	
	16.5	-91			18.79		2.29						11	-86	12.6		1.55		12.25		1.25	
	16.5	-91			19.00	-94.02	2.5	3.02					11	-86	12.0	-87.18	0.97	1.18	12.19	-88.40	1.19	2.4
FDD20(10M)	16	-91											9	-83								
	16	-91											9	-83								
	16	-91											9	-83								
	17.5	-93																				
FDD28(10M)	17.5	-93																				
	17.5	-93																				
	17.5	-93																				
	17.5	-93																				
FDD66(10M)	16.5	-92											13	-89								
	16.5	-92											13	-89								
	16.5	-92											13	-89								
	16.5	-92											13	-89								
TDD38(10M)	16	-89																				
	16	-89																				
	16	-89																				
	16	-89																				
TDD39(10M)	16	-91																				
	16	-91																				
	16	-91																				
	16	-91																				
TDD40(10M)	16	-89																				
	16	-89																				
	16	-89																				
	16	-89																				
TDD41(10M)	16	-89																				
	16	-89																				
	16	-89																				
	16	-89																				

SKU3

天线工程师	李 工 (137 6025 5827)			
结构工程师	龙 工 (151 1812 5046)			
审 阅				
测试环境	温度	22.5℃	湿度	52%
机器状态	主板版本	FF646-MB-V0.2		
	PA匹配	ANT switch-matching-PA		
	天线版本	最新打样天线		
	天线匹配	ANT-matching-ANT switch		
	软件版本			
	调试频段	GSM:3/5/8 WCDMA:1/5/8 FDD:1/3/5/7/8/20/28 TDD:38/40/41		
	其他	最新天线测试数据		

主天线匹配:



主天线匹配说明

馈电脚匹配

主天线信号馈脚位置匹配未更改;

调谐逻辑说明

RF1位号 (C0717) :0Ω

使用频段

GSM:3/8 WCDMA:1/8 FDD:1/3/7/8+TDD:38/40/41

RF2位号 (R0715) :2.7nH

使用频段

GSM:5 WCDMA:5 FDD:5/20

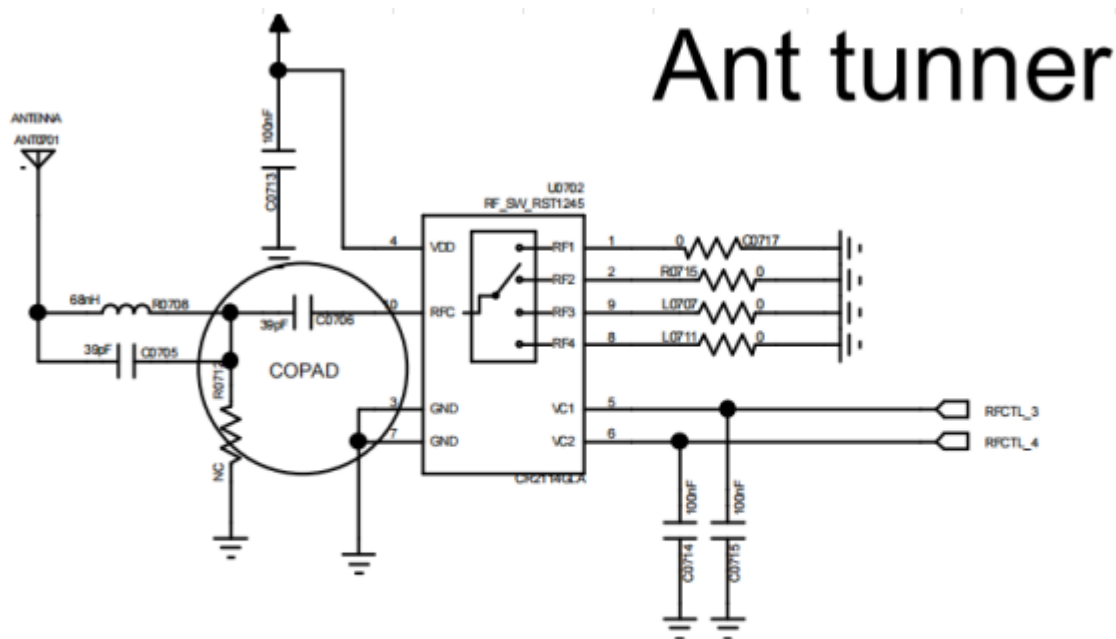
RF3位号 (L0707) :15nH

使用频段

FDD:B28

RF4位号 (L0711) : 0Ω

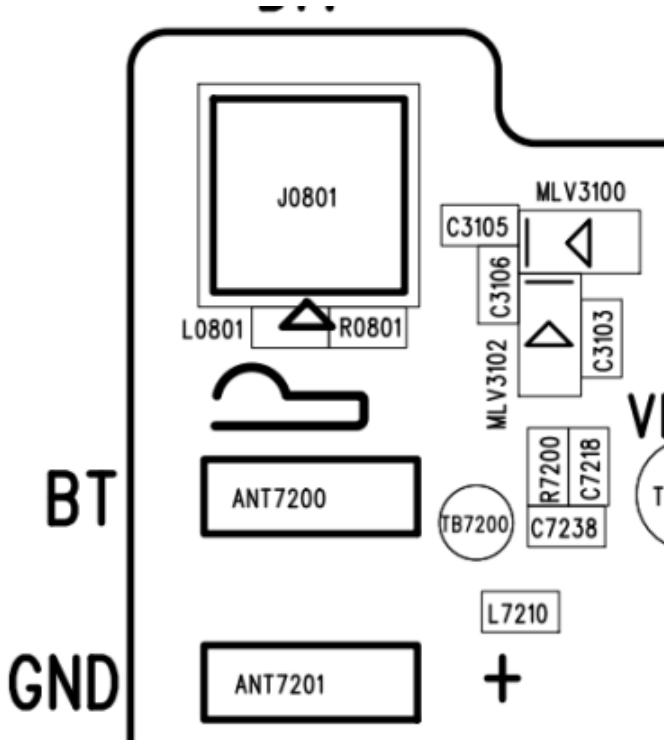
使用频段



分集天线匹配:

分集天线匹配说明:

1.此项目未用分集天线;



BT天线匹配说明:

1. BT天线匹配未更改;

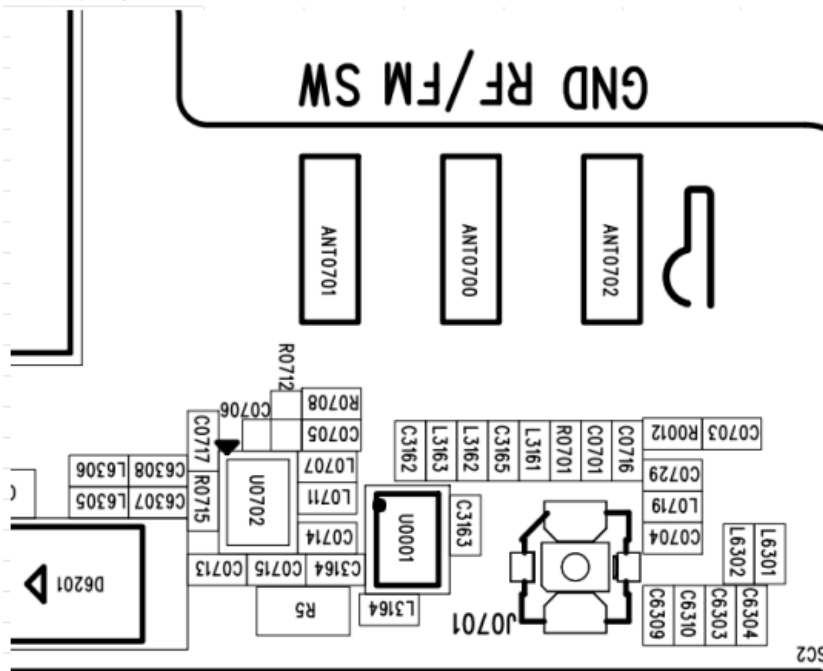
OTA测试:

Band	SPEC for NOKIA FS(class B)		Conducted Power 功率0.7dBm		OTA (EVT 四等机)		GAP		OTA (EVT 一等机)		GAP		BHHL/R for VDF		BHHL (EVT 四等机)		GAP		BHHL (EVT 四等机)		GAP	
	TRP	TIS	TX	RX	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS
GSM850	25.5	-102			27.42		1.92								21.3				20.53			
	25.5	-102			27.89		2.39								21.5				21.12			
	25.5	-102			28.13	-105.71	2.63	3.71							21.6	-98.10			21.10	-98.59		
GSM900	25.5	-102			28.38		2.88						19	-95	21.4		2.43		21.29		2.29	
	25.5	-102			28.55		3.05						19	-95	21.2		2.23		21.23		2.23	
	25.5	-102			28.63	-105.49	3.13	3.49					19	-95	20.9	-97.15	1.86	2.15	21.31	-98.28	2.31	3.28
DCS1800	24.5	-103			25.77		1.27						18	-96	22.0		4.02		22.12		4.12	
	24.5	-103			25.81		1.31						18	-96	21.7		3.69		22.13		4.13	
	24.5	-103			26.02	-104.5	1.52	1.46					18	-96	21.4	-100.19	3.35	4.19	22.20	-99.66	4.2	3.66
PCS1900	24.5	-103																				
	24.5	-103																				
	24.5	-103																				
WCDMA1	18	-106			17.58		-0.42						14	-100	12.9		-1.12		13.13		-0.87	
	18	-106			17.2		-0.8						14	-100	13.0		-0.98		13.12		-0.88	
	18	-106			17.11	-105.57	-0.89	-0.43					14	-100	12.7	-101.23	-1.29	1.23	13.13	-100.16	-0.87	0.16
WCDMA2	18	-105																				
	18	-105																				
	18	-105																				
WCDMA4	18	-105																				
	18	-105																				
	18	-105																				
WCDMA5	16.5	-103			19.01		2.51								13.1				12.53			
	16.5	-103			18.53		2.03								12.8				12.55			
	16.5	-103			18.69	-106.15	2.19	3.15							12.6	-99.71			12.32	-100.01		
WCDMA8	16.5	-103.5			18.75		2.25						11	-96	11.5		0.46		11.25		0.25	
	16.5	-103.5			19.01		2.51						11	-96	11.3		0.33		11.16		0.16	
	16.5	-103.5			19.05	-106.16	2.55	2.66					11	-96	10.8	-99.29	-0.19	3.29	10.46	-99.26	-0.54	3.26
FDD1(10M)	17.5	-93			18.31		0.81						13	-88	13.3		0.25		14.31		1.31	
	17.5	-93			17.65		0.15						13	-88	13.2		0.2		14.13		1.13	
	17.5	-93			17.10	-91.59	-0.4	-1.41					13	-88	13.1	-87.32	0.11	-0.68	13.15	-86.63	0.15	-1.37
FDD2(10M)	17.5	-93																				
	17.5	-93																				
	17.5	-93																				
FDD3(10M)	18	-93.5			17.05	-92.9	-0.95						14	-90	14.0		-0.01		13.93		-0.07	
	18	-93.5			17.21	-93.53	-0.79						14	-90	14.2		0.2		14.10		0.1	
FDD4(10M)	18	-93.5			18.36	-93.11	0.36	-0.39					14	-90	14.4	-89.19	0.39	-0.81	14.13	-89.83	0.13	-0.17
	17.5	-93																				
	17.5	-93																				
FDD5(10M)	16	-91			19.1		3.1								13.3				12.88			
	16	-91			19.18		3.18								13.2				12.51			
	16	-91			19.23	-93.25	3.23	2.25							12.9	-89.01			12.32	-88.79		
FDD7(10M)	17.5	-94			18.35		0.85						13	-89	13.5		0.53		14.11		1.11	
	17.5	-94			18.44		0.94						13	-89	13.3		0.26		14.04		1.04	
	17.5	-94			17.66	-93.56	0.16	-0.44					13	-89	13.1	-87.72	0.12	-1.28	13.39	-89.09	0.39	0.09
FDD8(10M)	16.5	-91			18.99		2.49						10	-84	12.0		2.02		11.59		1.59	
	16.5	-91			19.02		2.52						10	-84	11.2		1.15		11.23		1.23	
	16.5	-91			18.83	-93.8	2.33	2.8					10	-84	10.3	-88.80	0.25	4.8	10.12	-89.53	0.12	5.53
FDD20(10M)	16.5	-91			19.10		2.6						11	-86	12.3		1.3		11.78		0.78	
	16.5	-91			19.22		2.72						11	-86	11.9		0.93		11.53		0.53	
	16.5	-91			19.03	-93.8	2.53	2.8					11	-86	11.9	-89.78	0.89	3.78	11.43	-88.58	0.43	2.58
FDD28(10M)	16	-91			16.05		0.05						9	-83	11.5		2.51		11.12		2.12	
	16	-91			17.27		1.27						9	-83	12.0		3.02		11.55		2.55	
	16	-91			18.11	-93.3	2.11	2.26					9	-83	12.4	-88.95	3.41	5.95	11.40	-88.58	2.4	5.58
FDD66(10M)	17.5	-93																				
	17.5	-93																				
	17.5	-93																				
TDD38(10M)	16.5	-92			18.14		1.64						13	-89	13.0		0.03		13.59		0.59	
	16.5	-92			17.71		1.21						13	-89	13.1		0.11		13.50		0.5	
	16.5	-92			17.2	-92.45	0.7	0.45					13	-89	12.8	-87.56	-0.2	-1.44	13.51	-87.55	0.51	-1.45
TDD39(10M)	16	-89																				
	16	-89																				
	16	-89																				
TDD40(10M)	16	-91			16.26		0.26								13.5				12.21			
	16	-91			17.28		1.28								13.3				13.10			
	16	-91			17.35	-92.62	1.35	1.62							13.6	-87.23			13.44	-86.30		
TDD41(10M)	16	-89			17.39		1.39								13.1				14.32			
	16	-89			17.63		1.63								13.2				13.89			
	16	-89			18.08	-91.16	2.08	2.16							12.8	-86.22			13.25	-86.53		

SKU4

天线工程师	李 工 (137 6025 5827)			
结构工程师	龙 工 (151 1812 5046)			
审阅				
测试环境	温度	22.5℃	湿度	52%
机器状态	主板版本	FF646-MB-V0.2		
	PA匹配	ANT switch-matching-PA		
	天线版本	最新打样天线		
	天线匹配	ANT-matching-ANT switch		
	软件版本			
	调试频段	GSM:3/5/8 WCDMA:1/5/8 FDD:1/3/5/8/28 TDD:38/39/40/41		
	其他	最新打样天线复测数据		

主天线匹配:



主天线匹配说明

馈电脚匹配

主天线信号馈脚位置匹配未更改;

调谐逻辑说明

RF1位号 (C0717) :0Ω

使用频段

GSM:3/8 WCDMA:1/8 FDD:1/3/8+TDD:38/39/40/41

RF2位号 (R0715) :2.7nH

使用频段

GSM:5 WCDMA:5 FDD:5

RF3位号 (L0707) :15nH

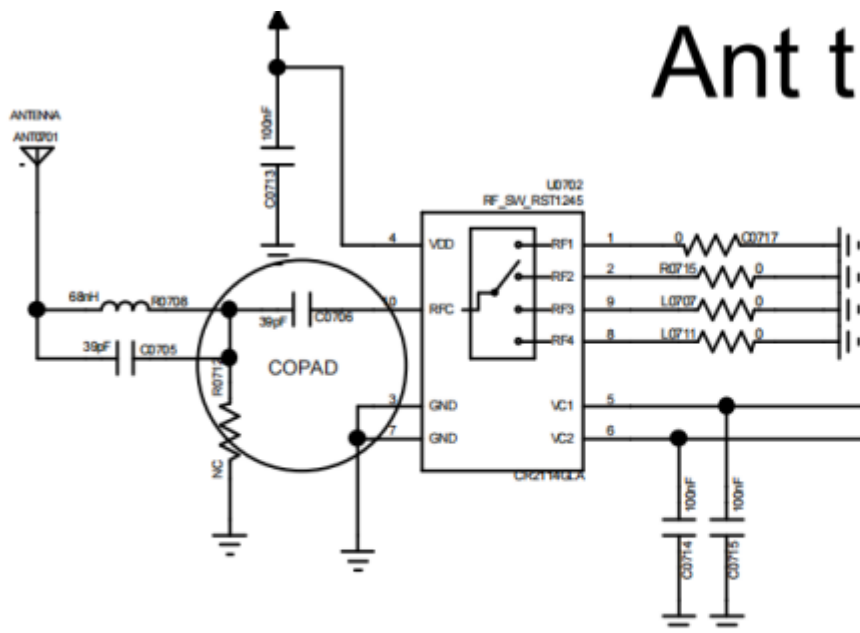
使用频段

FDD:B28

RF4位号 (L0711) :0Ω

使用频段

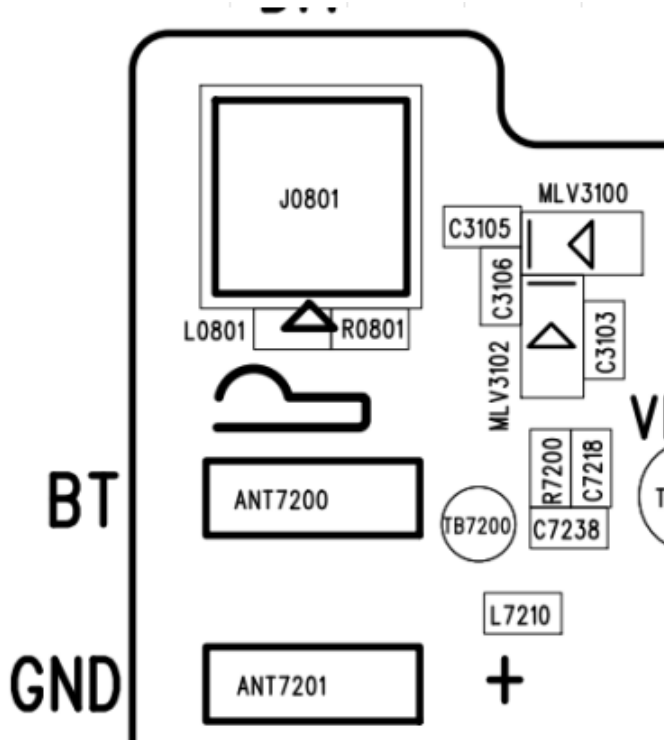
Ant tuner



分集天线匹配:

分集天线匹配说明:

1.此项目未用分集天线;



BT天线匹配说明:

1. BT天线匹配未更改;

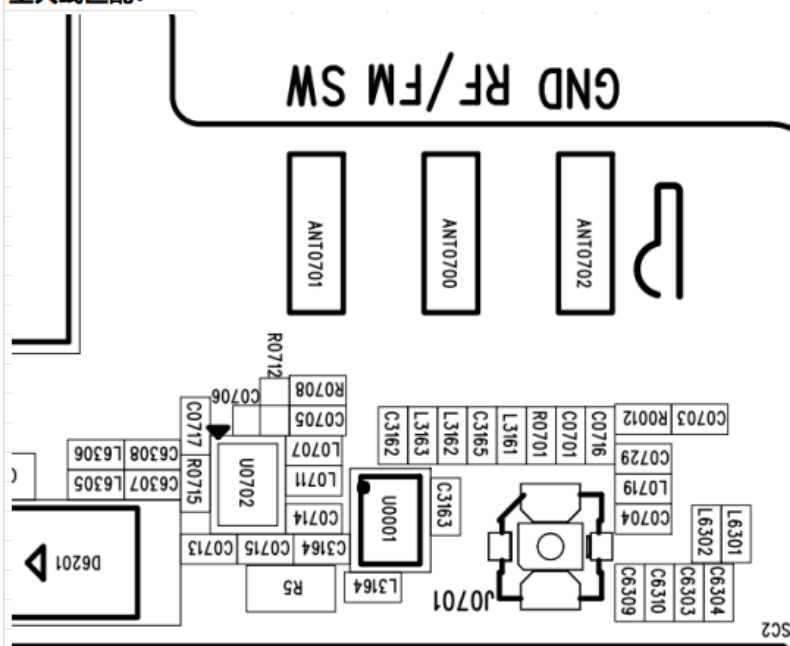
OTA测试:

Band	SPEC for NOKIA FS(class B)		Conducted Power 功率0.7dBm		OTA (EVT二手机)		GAP		OTA (EVT一手机)		GAP		BHHL/R for VDF		BHHL (EVT二手机)		GAP		BHHR (EVT二手机)		GAP	
	TRP	TIS	TX	RX	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS
GSM850	25.5	-102			28.07		2.57								21.2				20.76			
	25.5	-102			28.13		2.63								21.2				21.02			
	25.5	-102			28.22	-105.46	2.72	3.46							21.4	-97.36			21.28	-98.50		
	25.5	-102			28.36		2.86						19	-95	20.8		1.81		21.29		2.29	
GSM900	25.5	-102			28.55		3.05						19	-95	20.5		1.52		21.53		2.53	
	25.5	-102			28.59	-105.66	3.09	3.66					19	-95	20.3	-97.06		2.06	21.35	-98.58	2.35	3.58
	24.5	-103			25.72		1.22						18	-96	21.9		3.89		22.24		4.24	
	24.5	-103			25.89		1.39						18	-96	21.4		3.35		22.33		4.33	
DCS1800	24.5	-103			26.03	-104.4	1.53	1.4					18	-96	21.0	-99.05	2.95	3.05	22.31	-100.72	4.31	4.72
	24.5	-103																				
	24.5	-103																				
	24.5	-103																				
PCS1900	18	-106			18.18		0.18						14	-100	13.8		-0.17		14.29		0.29	
	18	-106			17.12		-0.88						14	-100	13.6		-0.44		13.53		-0.47	
	18	-106			17.06	-105.19	-0.94	-0.81					14	-100	13.2	-100.82	-0.85	0.82	13.36	-100.66	-0.64	0.66
	18	-105																				
WCDMA1	18	-105																				
	18	-105																				
	18	-105																				
	18	-105																				
WCDMA2	16.5	-103			18.92		2.42								13.4				12.81			
	16.5	-103			19.12		2.62								13.1				12.66			
	16.5	-103			19.11	-106.22	2.61	3.22							13.0	-97.95			12.53	-99.31		
	16.5	-103.5			19.15		2.65						11	-96	11.7		0.68		11.66		0.66	
WCDMA4	16.5	-103.5			19.08		2.58						11	-96	11.4		0.35		11.19		0.19	
	16.5	-103.5			18.78	-106.16	2.28	2.66					11	-96	10.7	-98.55	-0.31	2.55	10.68	-99.93	-0.32	3.93
	17.5	-93			18.83		1.33						13	-88	14.2		1.19		14.67		1.67	
	17.5	-93			17.89		0.39						13	-88	13.4		0.35		14.10		1.1	
FDD1(10M)	17.5	-93			17.26	-91.66	-0.24	-1.34					13	-88	12.9	-86.98	-0.11	-1.02	13.48	-86.86	0.48	-1.14
	17.5	-93																				
	17.5	-93																				
	17.5	-93																				
FDD2(10M)	18	-93.5			18.12		0.12						14	-90	14.3		0.28		14.68		0.68	
	18	-93.5			18.33		0.33						14	-90	14.3		0.33		14.86		0.86	
FDD3(10M)	18	-93.5			18.46	-93.78	0.46	0.28					14	-90	14.5	-88.61	0.51	-1.39	15.02	-89.78	1.02	-0.22
	17.5	-93																				
	17.5	-93																				
	17.5	-93																				
FDD4(10M)	16	-91			19.12		3.12								14.0				13.49			
	16	-91			19.05		3.05								13.5				13.35			
	16	-91			19.18	-92.89	3.18	1.89							13.3	-88.06			12.89	-88.63		
	17.5	-94											13	-89								
FDD5(10M)	17.5	-94											13	-89								
	17.5	-94											13	-89								
	16.5	-91			19.26		2.76						10	-84	12.4		2.35		12.16		2.16	
	16.5	-91			19.16		2.66						10	-84	11.5		1.53		11.63		1.63	
FDD6(10M)	16.5	-91			19.04	-93.51	2.54	2.51					10	-84	10.6	-88.26	0.56	4.26	10.59	-89.40	0.59	5.4
	16.5	-91											11	-86								
	16.5	-91											11	-86								
	16.5	-91											11	-86								
FDD7(10M)	16	-91			16.16		0.16						9	-83	11.9		2.87		11.29		2.29	
	16	-91			17.22		1.22						9	-83	12.0		3.02		11.53		2.53	
	16	-91			18.18	-93.3	2.18	2.25					9	-83	12.8	-88.39	3.78	5.39	12.01	-88.26	3.01	5.26
	17.5	-92																				
FDD8(10M)	17.5	-92																				
	17.5	-92																				
	16.5	-92			17.53		1.03						13	-89	13.6		0.56		14.78		1.78	
	16.5	-92			17.66		1.16						13	-89	13.4		0.35		14.55		1.55	
FDD9(10M)	16.5	-92			17.78	-92.36	1.28	0.36					13	-89	13.3	-87.56	0.25	-1.44	14.10	-87.51	1.1	-1.49
	16	-89			18.89		2.89															
	16	-89			18.60		2.6															
	16	-89			18.53	-92.2	2.53	3.2														
FDD10(10M)	16	-89			17.28		1.28															
	16	-91			18.00		2								13.5				13.65			
	16	-91			18.12	-91.85	2.12	0.85							14.1				13.78			
	16	-91			17.53		1.53								14.8	-86.87			14.13	-86.80		
FDD11(10M)	16	-89			17.19		1.19								14.3				14.63			
	16	-89			17.27	-90.79	1.27	1.79							14.0				14.35			
	16	-89													13.3	-86.16			14.28	-86.61		
	16	-89																				

SKU5

天线工程师	李 工 (137 6025 5827)			
结构工程师	龙 工 (151 1812 5046)			
审 阅				
测试环境	温度	22.5℃	湿度	52%
机器状态	主板版本	FF646-MB-V0.2		
	PA匹配	ANT switch- matching -PA		
	天线版本	天线优化数据		
	天线匹配	ANT- matching -ANT switch		
	软件版本			
	调试频段	GSM:2/3/5/8 WCDMA:1/2/4/5/8 FDD:1/2/3/4/5/7/8/28/66 TDD:40		
	其他	模具壳料样品天线调试		

主天线匹配:



主天线匹配说明

馈电脚匹配

主天线信号馈脚位置匹配未更改:

调谐逻辑说明

RF1位号 (C0717) :0Ω

使用频段

GSM:2/3/8	WCDMA:1/2/4/8	FDD:1/2/3/4/7/8/66+TDD:40
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RF2位号 (R0715) :2.7nH

使用频段

GSM:5	WCDMA:5	FDD:5
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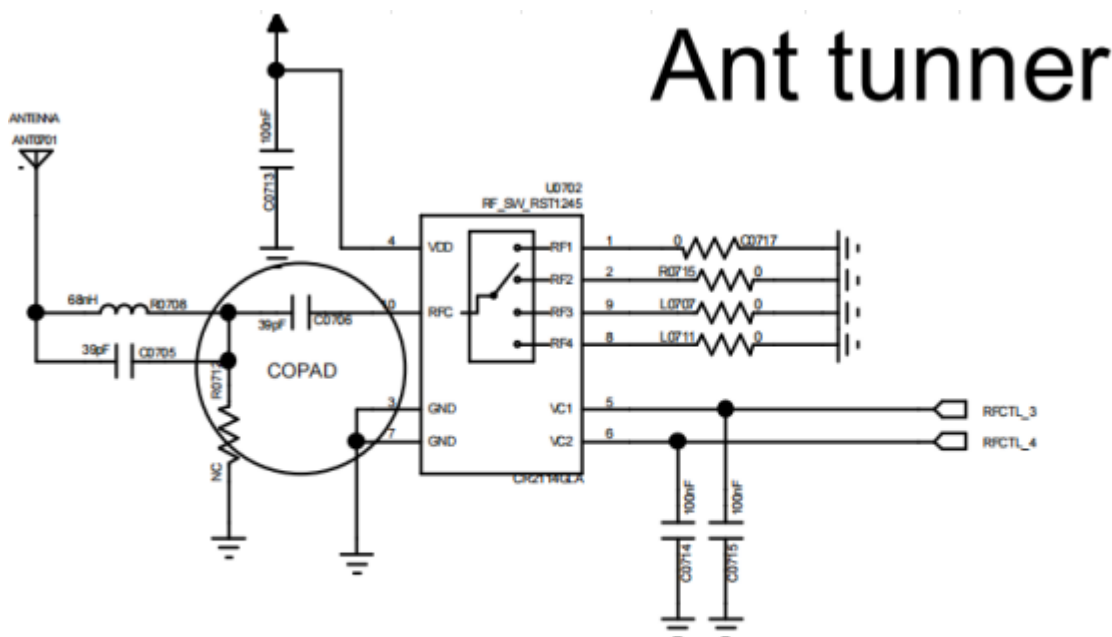
RF3位号 (L0707) :15nH

使用频段

FDD:B28

RF4位号 (L0711) :0Ω

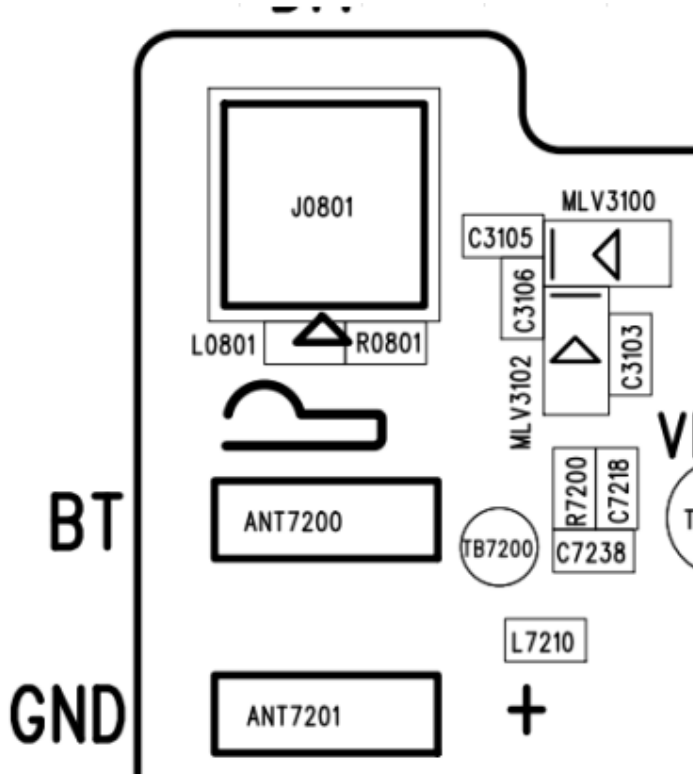
使用频段



分集天线匹配:

分集天线匹配说明:

1.此项目未用分集天线;



BT天线匹配说明:

1. BT天线匹配未更改;

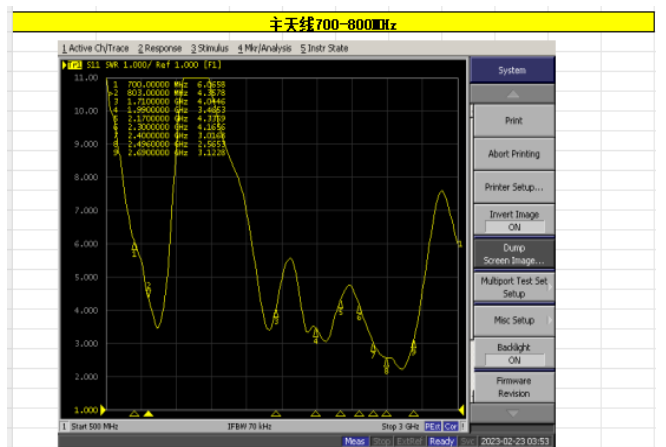
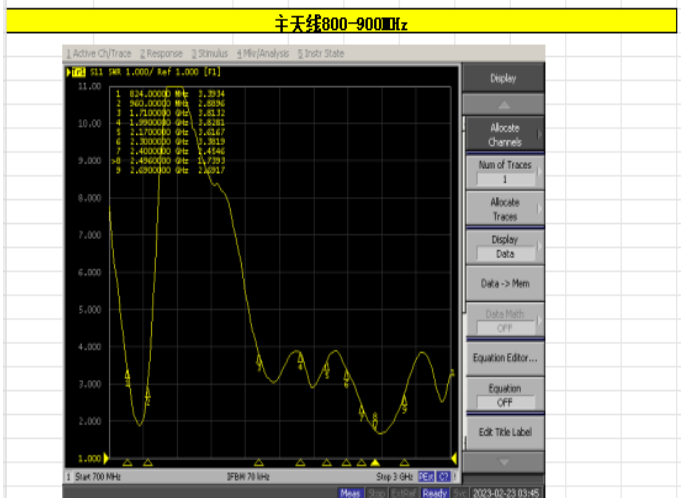
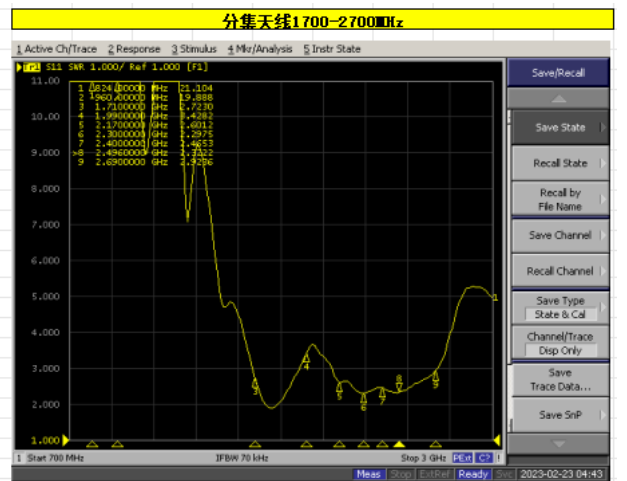
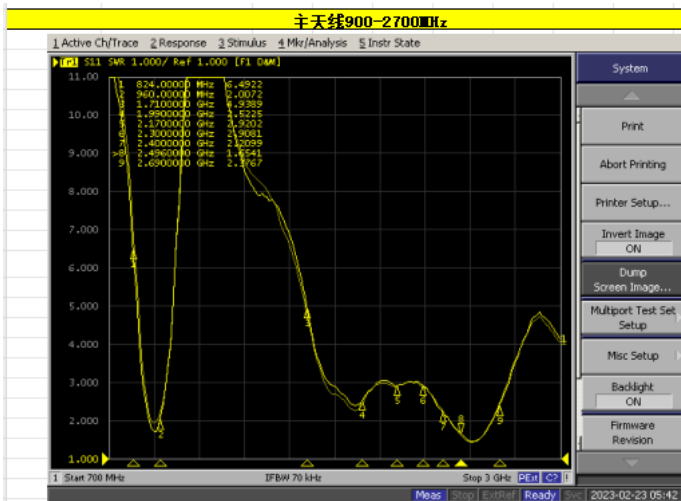
Band	SPEC for NOKIA FS(class B)		Conducted Power 功率0.7dBm		OTA (EVT一手机)		GAP		OTA (EVT二手机)		GAP		BHHL/R for VDF		BHHL (EVT二手机)		GAP		BHHR (EVT二手机)		GAP	
	TRP	TIS	TX	RX	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS	TRP	TIS
GSM850	25.5	-102							28.11		2.61				21.6				20.62			
	25.5	-102							28.02		2.52				21.4				20.55			
	25.5	-102							28.08	-105.13	2.58	3.13			21.4	-96.93			20.51	-95.05		
GSM900	25.5	-102							28.12		2.62		19	-95	21.1		2.05		20.69		1.69	
	25.5	-102							28.35		2.85		19	-95	20.9		1.89		21.13		2.13	
	25.5	-102							28.29	-105.1	2.79	3.1	19	-95	20.8	-96.83	1.75	1.83	21.23	-97.02	2.23	2.02
DCS1800	24.5	-103							25.68		1.18		18	-96	22.5		4.48		22.40			
	24.5	-103							25.89		1.39		18	-96	22.2		4.15		22.35			
	24.5	-103							25.98	-105.2	1.48	2.16	18	-96	22.1	-99.98	4.09	3.98	22.78	-100.65		
PCS1900	24.5	-103							25.33		0.83				19.8				21.03			
	24.5	-103							25.2		0.65				20.2				21.22			
	24.5	-103							25.19	-103.85	0.69	0.85			20.3	-96.65			21.52	-99.09		
WCDMA1	18	-106							18.12		0.12		14	-100	13.9		-0.14	-100	13.48		-0.52	
	18	-106							18.22		0.22		14	-100	13.6		-0.37	-100	13.55		-0.45	
	18	-106							18.38	-105.05	0.38	-0.95	14	-100	12.7	-101.18	-1.32	1.18	13.13	-100.55	-0.87	0.55
WCDMA2	18	-105							17.17		-0.83				11.4				12.39			
	18	-105							17.53		-0.47				11.9				13.03			
	18	-105							18.12	-106.68	0.12	1.68			12.1	-98.78			13.11	-99.26		
WCDMA4	18	-105							17.03		-0.97				11.7				12.01			
	18	-105							17.55		-0.45				11.8				12.12			
	18	-105							17.80	-104.58	-0.2	-0.42			12.2	-100.98			12.60	-100.13		
WCDMA5	16.5	-103							18.35		1.85				12.4				11.71			
	16.5	-103							19.00		2.5				12.3				11.63			
	16.5	-103							19.12	-105.4	2.62	2.4			12.3	-99.81			11.43	-99.09		
WCDMA8	16.5	-103.5							19.00		2.5		11	-96	11.3		0.25		11.13		0.12	
	16.5	-103.5							19.30		2.8		11	-96	11.3		0.33		11.03		0.03	
	16.5	-103.5							19.03	-106.12	2.53	2.62	11	-96	10.7	-98.07	-0.35	2.07	10.39	-99.01	-0.61	3.01
FDD1(10M)	17.5	-93							18.65		1.15		13	-88	12.7		-0.35		14.17		1.17	
	17.5	-93							18.55		1.05		13	-88	13.1		0.11		13.88		0.88	
	17.5	-93							18.62	-92.21	1.12	-0.79	13	-88	13.2	-87.36	0.16	-0.64	13.17	-86.55	0.17	-1.45
FDD2(10M)	17.5	-93							17.55		0.05				11.2				12.93			
	17.5	-93							18.18		0.68				11.2				12.77			
	17.5	-93							18.30	-94.04	0.8	1.04			11.1	-87.87			12.98	-90.11		
	18	-93.5							17.98		-0.02		14	-90	13.2		-0.82		14.09		0.09	
FDD3(10M)	18	-93.5							18.18		0.18		14	-90	13.6		-0.41		14.33		0.33	
	18	-93.5							18.78	-93.23	0.78	-0.27	14	-90	14.0	-87.65	0.02	-2.35	14.29	-89.95	0.29	-0.05
FDD4(10M)	17.5	-93							17.55		0.05				11.3				12.12			
	17.5	-93							17.26		-0.24				11.6				12.33			
	17.5	-93							17.13	-92.31	-0.37	-0.69			11.7	-86.36			12.58	-86.51		
FDD5(10M)	16	-91							19.05		3.05				13.1				12.12			
	16	-91							18.75		2.75				12.8				12.02			
	16	-91							19.03	-93.22	3.03	2.22			12.6	-87.86			11.55	-87.77		
FDD7(10M)	17.5	-94							18.12		0.62		13	-89	14.3		1.29		15.13		2.13	
	17.5	-94							18.22		0.72		13	-89	14.1		1.13		14.66		1.66	
	17.5	-94							18.08	-93.98	0.58	-0.02	13	-89	14.1	-88.05	1.08	-0.95	14.60	-90.17	1.6	1.17
FDD8(10M)	16.5	-91							18.33		1.83		10	-84	11.8		1.79		11.12		1.12	
	16.5	-91							18.51		2.01		10	-84	11.4		1.35		10.65		0.65	
	16.5	-91							18.18	-92.78	1.68	1.78	10	-84	10.6	-88.06	0.62	4.06	10.23	-88.18	0.23	4.18
FDD20(10M)	16.5	-91											11	-86								
	16.5	-91											11	-86								
	16.5	-91																				
FDD28(10M)	16	-91							16.15		0.15		9	-83	11.6		2.55		11.13		2.13	
	16	-91							17.29		1.29		9	-83	11.6		2.63		11.25		2.25	
	16	-91							17.78	-92.2	1.78	1.2	9	-83	12.7	-88.27	3.68	5.27	11.52	-87.50	2.52	4.5
FDD66(10M)	17.5	-93							18.23		0.73				13.1				13.60			
	17.5	-93							17.8		0.31				13.1				13.83			
	17.5	-93							17.32	-92.37	-0.18	-0.63			13.3	-87.87			14.07	-88.07		
TDD38(10M)	16.5	-92											13	-89								
	16.5	-92											13	-89								
	16	-89											13	-89								
TDD39(10M)	16	-89																				
	16	-89																				
	16	-91							16.26		0.26				12.1				12.52			
TDD40(10M)	16	-91							16.75		0.75				13.5				13.35			
	16	-91							17.15	-91.2	1.15	0.2			14.1	-86.46			14.15	-86.37		
TDD41(10M)	16	-89																				
	16	-89																				

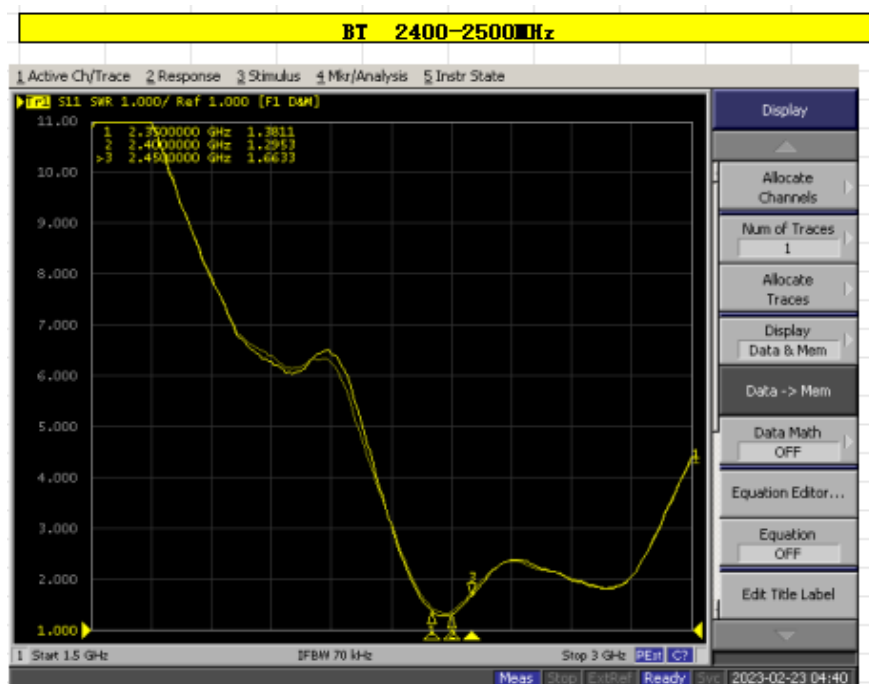
无源增益与效率测试

BT																												
2400~2500MHz	Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21						
	Frequency (MHz)	2350.0	2360.0	2370.0	2380.0	2390.0	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0	2510.0	2520.0	2530.0	2540.0	2550.0						
	Efficiency (%)	48.50	48.10	51.10	44.90	47.70	45.60	45.70	45.50	46.10	46.40	46.40	42.80	42.30	42.40	46.60	42.40	45.50	41.90	44.80	44.00	43.70						
	Gain (dBi)	0.58	0.60	0.81	0.36	0.65	0.41	0.26	0.10	0.09	0.06	0.11	-0.13	0.07	0.18	0.61	0.25	0.59	0.26	0.48	0.37	0.29						
主天线	Frequency ID	1	2	3	4	5	6																					
	Frequency (MHz)	700.0	720.0	740.0	760.0	780.0	800.0																					
	Efficiency (%)	25.60	26.50	27.20	31.30	33.80	37.00																					
	Gain (dBi)	-2.97	-2.74	-2.41	-1.96	-1.75	-1.09																					
700~960MHz	Frequency ID	1	2	3	4	5	6	7	8	9																		
	Frequency (MHz)	800.0	820.0	840.0	860.0	880.0	900.0	920.0	940.0	960.0																		
	Efficiency (%)	26.60	26.40	35.50	44.60	41.50	41.80	44.90	46.80	44.40																		
	Gain (dBi)	-3.69	-2.80	-1.73	-1.83	-2.24	-2.04	-2.06	-2.04	-1.98																		
1700~2700MHz	Frequency ID	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33					
	Frequency (MHz)	1700.0	1720.0	1740.0	1760.0	1780.0	1800.0	1820.0	1840.0	1860.0	1880.0	1900.0	1920.0	1940.0	1960.0	1980.0	2000.0	2020.0	2040.0	2060.0	2080.0	2100.0	2120.0					
	Efficiency (%)	28.20	27.10	34.50	35.80	37.40	37.90	37.90	38.10	35.30	38.50	31.20	33.10	38.10	33.10	33.70	31.20	31.30	32.20	32.80	30.80	30.90	30.30					
	Gain (dBi)	-0.56	-0.84	0.59	0.79	0.89	0.70	0.93	1.00	0.87	0.94	0.06	0.72	-0.19	-0.19	-0.61	-0.72	-1.01	-1.05	-1.69	-1.13	-0.94	-1.07					
34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
1140.0	1160.0	1180.0	1200.0	1220.0	1240.0	1260.0	1280.0	1300.0	1320.0	1340.0	1360.0	1380.0	2400.0	2420.0	2440.0	2460.0	2480.0	2500.0	2520.0	2540.0	2560.0	2580.0	2600.0	2620.0	2640.0	2660.0	2680.0	2700.0
31.80	31.50	31.80	35.60	33.30	38.30	35.70	38.90	36.10	40.20	43.50	45.30	50.50	46.60	54.20	54.80	55.40	58.80	63.10	69.50	64.60	63.30	55.30	54.70	52.60	51.60	49.30	41.30	45.10
-0.27	0.49	0.36	0.62	0.42	1.16	0.77	1.00	0.79	1.12	1.17	1.02	2.46	2.66	3.38	3.34	3.44	3.35	3.17	3.55	2.96	2.29	1.20	1.15	1.40	1.61	1.06	0.05	0.76

分集天线

1700-2700MHz		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1700-2700MHz	Frequency (MHz)	1700.0	1750.0	1800.0	1850.0	1900.0	1950.0	2000.0	2050.0	2100.0	2150.0	2200.0	2250.0	2300.0	2350.0	2400.0	2450.0	2500.0	2550.0	2600.0	2650.0	2700.0
	Efficiency (%)	43.90	54.90	58.10	53.40	48.30	40.60	38.80	31.30	29.00	36.40	34.70	30.60	36.20	47.50	40.30	40.80	49.10	41.00	42.00	43.10	41.80
	Gain (dBi)	1.94	3.23	3.24	3.33	2.02	0.93	0.89	0.39	1.32	2.06	1.65	1.26	1.54	2.96	2.46	2.09	2.40	1.34	1.30	1.49	0.12

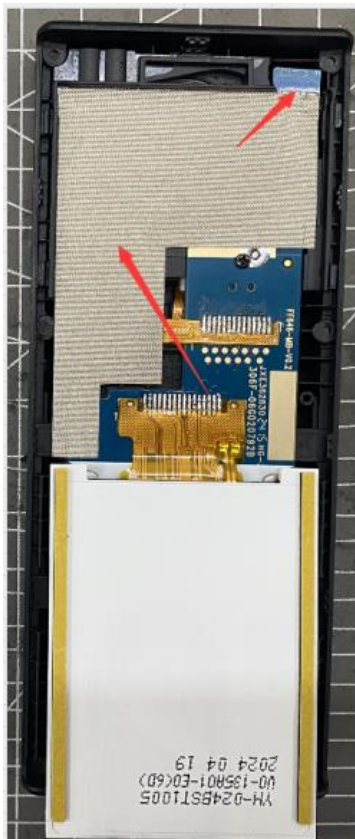




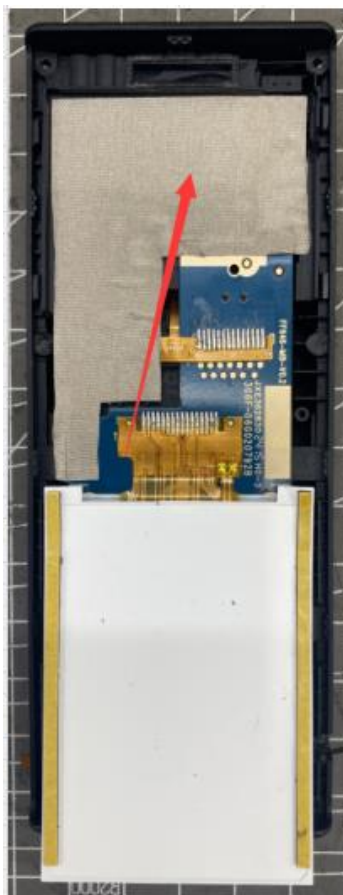
BAND	Peak Gain(dBi)
GSM850	-1.73
GSM900	-2.04
GSM1800	0.89
GSM1900	0.94
WCDMA2100	0.72
WCDMA1900	0.94
WCDMA1700	0.79
WCDMA850	-1.73
WCDMA900	-2.04
FDD BAND1	0.72
FDD BAND2	0.94
FDD BAND3	0.89
FDD BAND4	0.79
FDD BAND5	-1.73
FDD BAND7	3.55
FDD BAND8	-2.04
FDD BAND20	-1.73
FDD BAND28A	-2.41
FDD BAND28B	-2.41
FDD BAND66	0.79
TDD BAND38	2.29
TDD BAND39	0.94
TDD BAND40	2.66
TDD BAND41	2.29
Bluetooth	0.41

4. 环境处理 nvironmental treatment:

SKU2



1. 此项目主板为断板，需要按图所示贴导电布，延长主板地长度，给主板一个完整的参考地；
2. 分集天线小板露铜区域贴导电布做好接地处理；



1. 此项目主板为断板，需要按图所示贴导电布，延长主板地长度，给主板一个完整的参考地；

5: 零件表 BOM table

深圳市麒鑫通达科技有限公司Shenzhen Qixin Tongda Technology Co., LTD								
BOM 表 BOM table								
客户:沃特沃德 Guest: Waterward								
产品名称:GF029 Product name :GF029				版本: V1.0 Version: V1.0			2024/7/2	
序号The serial number	物料名称The name of the material	物料编号The material number	使用材料Use the material	数量The number of	描述describe	供应商supplier	材料损耗Material loss	备注note
1	主天线	3.E-1101-000540-000	PI电解铜	1	黑色black	麒鑫通达 Qixin Tongda		
2	分级天线	3.E-1101-000542-000	PI电解铜	1	黑色black	麒鑫通达 Qixin Tongda		
3	蓝牙天线	3.E-1101-000541-000	PI电解铜	1	黑色black	麒鑫通达 Qixin Tongda		
说明:Description:								
1、此文件为麒鑫通达内部受控文件,盖有效受控章与图纸同时使用生效; 1. This document is an internal controlled document of Qixin Tongda, and it takes effect when the effective controlled seal is used together with the drawing;								
2、此表单原版一件留工程存档,复印两份分发至厂务部及品质部; 2. One original copy of this form shall be kept in the project for archiving, and two copies shall be distributed to the factory Affairs Department and the Quality Department;								
3、此表单只作采购、生产、检验依据; 任何人不得随意手改其内容,违者必究; 3. This form is only used as the basis for purchase, production and inspection; No one shall alter its contents at will, the offender shall be prosecuted;								
4、此表单需由工程部在每种机型量产前及时准确下发到相关部门。4. This form shall be delivered to relevant departments timely and accurately by the engineering department before each type of machine quantity.								
制表:龙超群Watchmaking: Long Chaoqun			审核:傅梁成Reviewed by: Fu Liangcheng			批准:曹光平Approved by: Cao Guangping		

6.成品尺寸报告 Finished size report

深圳市麒鑫通达科技有限公司尺码检测表

Shenzhen Qixin Tongda Technology Co., LTD Measurement list

型号 model: GF029 天线 ANTENN 制表日期 Tabulating date: 2024-7-2

图纸尺寸 Drawing size	穴号 Acupuncture point no				检测设备 Testing equipment	判断 judge
	1#	2#	3#	4#	A	OK
45.94±0.20	45.93	45.96	45.98	45.95	A	OK
21.59±0.20	21.56	21.60	21.55	21.58	A	OK
21.47±0.20	21.48	21.49	21.46	21.44	A	OK
21.39±0.20	21.36	21.37	21.40	21.41	A	OK
21.33±0.20	21.32	21.35	21.34	21.36	A	OK
16.65±0.20	16.66	16.67	16.63	16.67	A	OK
检测设备: A: 数显卡尺 B: 投影仪 C: 二次元 Testing equipment A: Digital caliper B: projector C: Secondary yuan						
制表: Create table	代庆蓉 Dai qingrong	审核: audit	龙超群 Long chaoqun	核准: Appro ved by the	曹光平 Cao Guangping	



7.包装方式 packing way

包装规范-CKD包装 Packaging specification-CKD Packaging					
项目名称: entry name:		GF029	版次 Revision	VO	日期 2024/7/2
序号 NO.	物料名称 Material name		用量 consumption	加工流程 Processing flow	备注 remarks
1	底壳组件 Shell assembly		1	注塑+组装 Injection +assembly	
包装材料及尺寸规格: Packaging materials and dimensions:					
序号 NO.	名称 name	规格 Specifications	用量consumption		
1	大纸箱 Large carton	540*380*320mm	1		
2	吸塑盒 Blister box	17格 17 cells	40		
3	PE膜 PE film	600*400mm	40		
4	纸板 cardboard	520*360mm	2		
5	大PE袋 Large PE bag	650*650*0.35mm	1		
6	干燥剂 desiccant	/	4		
包装要求: Packaging requirements:					
先把平卡放到下面, 吸塑盒垫棉每格装1PCS产品, 产品表面朝下放置, 然后叠加直到50层装满箱为止, 最上面用平卡覆盖, 然后用绳子以“十”字或“井”字形方式捆绑(方便放置与提取产品), 共850PCS/箱Put the flat card on the bottom, pad the plastic box with cotton and pack 1 PCS of products in each grid, place the product surface downward, and then stack it until the 50 layers are full, cover the top with the flat card, and then bind it with a rope in a "cross" or "well" shape (convenient for placing and extracting products), a total of 850 PCS/box					
制定formulate: 陈沛兴 cheng pei xing		审核examine: /		核准approval: 代庆蓉 Dai Qing Rong	

8.QC Chart 管控流程图 QC Chart control flow Chart

冲 压 Q C 管控流程图 Stamping Q C control flow chart								
文件编号 Document number	ZX-0013	制定日期 Formulation date	2019/3/15	批准 approval	李瑞 Li Rui	审核 to examine	曹光平 Cao Guangping	作成 Make
工程名称 Project name	主要设备 major equipment	指导书 Instruction	控制项目/方法/责任 Control items / methods / Responsibilities				使用记录 Usage record	
			控制项目 Control items	控制方法 Control method	操作者 operator	复查者 Reviewer		
原料型号 Raw material model	计划单 Plan sheet	检验规程 Inspection procedure	1. 外观 Appearance 2. 材质型号 Material model	1. 目视检验 Visual inspection 2. 核对计划材质型号 Check the material and model of the plan	物料员 Material clerk	技术组长 Technical team leader	检验记录表 Inspection record form	
模具型号 Mold model	计划单 Plan sheet	检验规程 Inspection procedure	内部模具编号 Internal mold number	核对计划模具型号 Check the planned mold model	物料员 Material clerk	技术员 technician	核对记录表 Checklist	
产 品 P r o d u c t	模具安装 Mold installation	升降车 冲压车 Lift truck Stamping machine	1. 升降车操作规程 Operating procedures of lift truck 2. 冲压车操作规程 Operating procedures of stamping machine	1. 人员设备安全 Personnel and equipment safety 2. 模具与机器对中心 Centering of mould and machine	1. 专人培训持证作业 Special personnel shall be trained to operate with certificates 2. 对位目视 Visual alignment	技术员 technician	技术组长 Technical team leader	模具切换单 Mold switching sheet
	调试 debugging	冲压车 Stamping machine	1. 冲压车操作规程 Operating procedures of stamping machine 2. 作业标准书 Operation standard	工艺参数 process parameters	1. 目视核对 Visual check 2. 空运转目视 Idling visual inspection	技术员 technician	技术组长 Technical team leader	调试记录表 Commissioning record sheet
成 品 m o d e l	首件确认 First article confirmation	投影机 显微镜 卡尺 Projector Microscope calipers	1. 产品承认书 Product recognition 2. 作业标准书 Operation standard 3. 投影机操作规程 Projector operating procedures 4. 显微镜操作规程 Operating procedures of microscope	1. 卡尺 calipers 2. 外观 Appearance 3. 韧性、强度、高度 Toughness strength, brightness	1. 实测在图纸公差内 The actual measurement is within the tolerance of the drawing 2. 对照样品目视 Visual inspection of control sample 3. 组零件实测测试 Actual measurement and test of assembly parts 4. 性能测试 Performance test	技术员 technician	品质 quality	首件检验记录 First article inspection record
全检外观 Full inspection appearance	台灯 Desk lamp	1. 作业标准书 Operation standard	油污、变形、毛边、压伤 Oil stain Deformation Burr Crush injury	目视 visual	操作员 operator	品质组长 Quality team leader	生产实验单 Production delivery inspection sheet	
包 装 packing	电子秤 封口机 Electronic scale Sealing machine	1. 电子秤操作规程 Operating procedures for electronic scale 2. 包装作业规程 Packing operation procedures	1. 包装规格、数量 Packing specification quantity 2. 产品保护 Product protection	1. 与标准书对照目视 Visual comparison with standard book 2. 防堆积、防尘、防混装 Prevent accumulation Dust proof Anti mixed loading	操作员 operator	品质组长 Quality team leader	生产实验单 Production delivery inspection sheet	
终检 (FQC) Final inspection (FQC)	/	抽样计划表 Sampling schedule	1. 产品外观 Product appearance 2. 包装规格 Package specification	目视 visual	品质 Quality	品质组长 Quality team leader	FQC日报表 FQC daily report	
储 存 Store	/	产品防护控制程序 Product protection control procedure	产品防护 Product protection	防潮、防尘、防重压、防混、防盗、防晒 moisture-proof, Dust proof Prevent heavy pressure Guard against Muddle along Guard against theft Sunscreen	仓管 Warehouse tube	仓库组长 Warehouse leader	库存卡 Inventory card	

供应商环保声明

——深圳市麒鑫通达科技有限公司——(以下简称我司)保证:向深圳市沃特沃德信息有限公司供应HMD项目的所有物料(如原料,组件,半成品、成品以及包装材料)均符合深圳市沃特沃德信息有限公司产品和活动的环保法律和法规,包括但不限于以下要求,且所提供的相关资料真实有效,当提供的原材料或包装物有害物质含量超出此基准而造成事故时,我司将无条件承担因此造成的索赔和一切损失。

管控物质	管控依据
◆ 欧盟 REACH 法规: 附件 17 限制物质	(EC) 1907/2006
◆ 欧盟 REACH 法规: 附件 14 授权物质	(EC) 1907/2006
◆ 欧盟 REACH 法规: SVHC	(EC) 1907/2006
◆ 欧盟 RoHS 指令	2011/65/EU 及其修订指令 (EU) 2015/863
◆ 欧盟持久性有机污染物 (POP)	(EU) 2019/1021
◆ 放射线物质	2013/59/EURATOM
◆ 消耗臭氧层物质 (ODS)	蒙特利尔协议; (EC) 1005/2009; 美国清洁空气法案
◆ 氟化温室气体	(EC) 517/2014
◆ 加州 65 号提案列出的物质 (对使用者有暴露风险且需要警告的所有应用)	Prop65
◆ 可能引起皮肤过敏的物质 (禁止用于可能长时间接触皮肤的所有应用)	(EC) 1272/2008
◆ 欧盟电池指令	2006/66/EC 及其修订指令 2013/56/EU

第 1 页 共 2 页

◆ 欧盟包装指令	94/62/EC 其修订指令 (EU) 2018/852
◆ 三氧化二锑 (限值 0.09%)	Prop65
◆ 氧化铍 (禁用)	Prop65
◆ 铍及其化合物 (氧化铍除外) (限值 0.1%)	Prop65
◆ 溴及其化合物 (限值 0.09%)	无卤
◆ 氯及其化合物 (限值 0.09%)	无卤
◆ 甲醛 (包装材料中禁用; 其它材料避免使用, 如有需报告)	Prop65
◆ 镍 (禁止用于可能长时间与皮肤接触的所有应用)	皮肤致敏物
◆ 全氟辛酸 (PFOA) (限值 25ppb)	(EU) 2017/1000
◆ 聚乙烯 (PE) 泡棉 (包装材料中禁用)	客户要求
◆ 发泡聚苯乙烯 (包装材料中禁用)	客户要求
◆ 聚氨酯 (包装材料中禁用)	客户要求
◆ 聚氯乙烯 (PVC) (禁用)	客户要求

公司注册编号: 91440300319681231G

公 司 名: 深圳市麒鑫通达科技有限公司

公 司 盖 印:

法 人 代 表: 周在芝

日 期: 2022 年 12 月 5 日

第 2 页 共 2 页

Technical drawing of a microfluidic chip with dimensions and a table of properties.

Dimensions:

- Overall width: 45.94 ± 0.15
- Overall height: 21.59 ± 0.15
- Chip width: 21.33 ± 0.15
- Chip height: 17.25 ± 0.15
- Chip width (bottom): 21.47 ± 0.15
- Chip height (bottom): 21.99 ± 0.15

Table of properties:

名称	单位	名称	单位
一般公差		材料	PI
I. ± 0.5		表面处理	喷金
II. ± 0.25		颜色	黑色/白色/黄色
III. ± 0.05		比例	1:1
IV. ± 0.05		版本	A