



T803-Three-in-one antenna admission book

project name:	T803		class:	triangle	
Internal material number:	384-013-12-OK-A-01		version number:	R:A	
material code:			date:	2021-09-30	
Shenzhen Toppin lot Technology Co., LTD					
examine and verify	radio frequency		design	radio frequency	Li Donghai
	engineering				
	character				
	project			engineering	Zhong Fangmin
	vocational work				
Shenzhen Oulifang Technology Co., LTD					
date:					
affirm	radio frequency				
	engineering				
remarks					



catalogue

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1 Picture of the finished antenna



Antenna diagram



Machine diagram



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test macro

Test System

SATIMO, Agilent E5071C, Anristu MT8820C

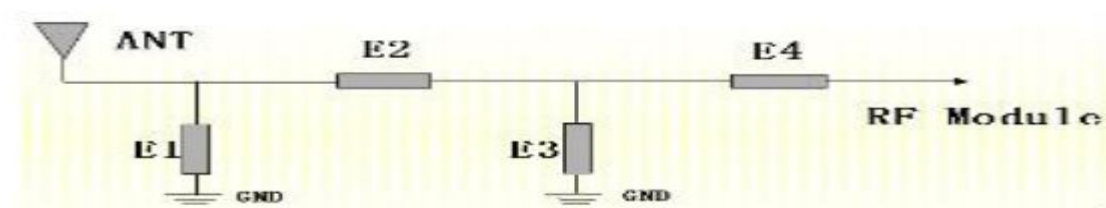


2. Product features

1. Good standing wave in the full frequency band
2. Antenna material PI half to half, stable performance.

3 The antenna performance parameters

antenna loading coil



Element	Value	Vender
E1(0201)	--	--
E2(0201)	--	--
E3(0201)	--	--
E4(0201)	--	--

主板匹配未改动

3.1 Antenna data

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		Channel No.	TRP (dBm)	Whole Band TRP (dBm)	TIS (dBm)	Whole Band TIS (dBm)
WIFI	WIFI-2.4G-B	L	11.47		-78.51	802.11b : 11Mbps
		M	10.58			
		H	10.02		-79.62	
	WIFI-5G-A	L	9.09		-72.94	802.11a : 54Mbps
		M	9.34			
		H	9.63		-73.13	

GPS实测搜星:

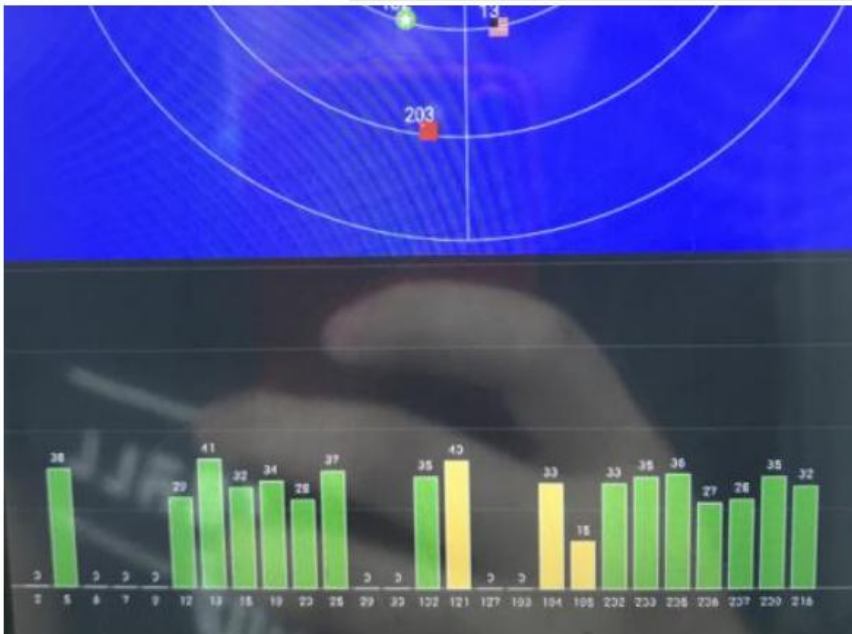
地点: 我司研发窗口

时间: 上午

天气: 多云转晴

状态: 搜到19颗星, 定位16颗, 最大CN值41, CN值35以上的有8颗

搜星时间: 2分钟内





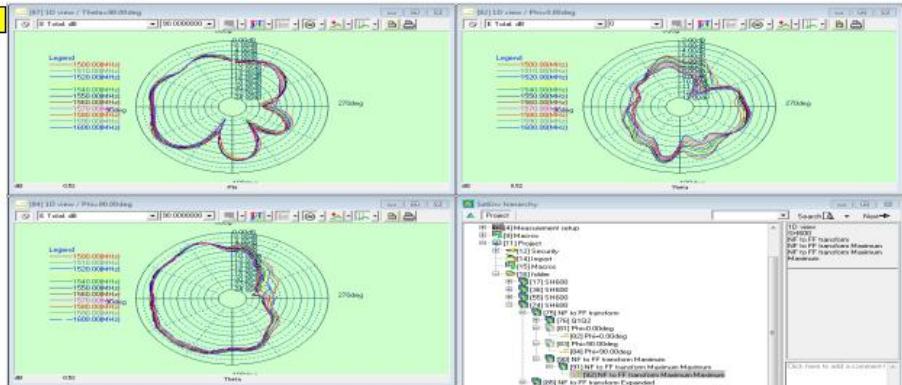
深圳市拓频物联技术有限公司

SHENZHEN FREQUENCY EXTENSION IOT TECHNOLOGY CO.,LTD.

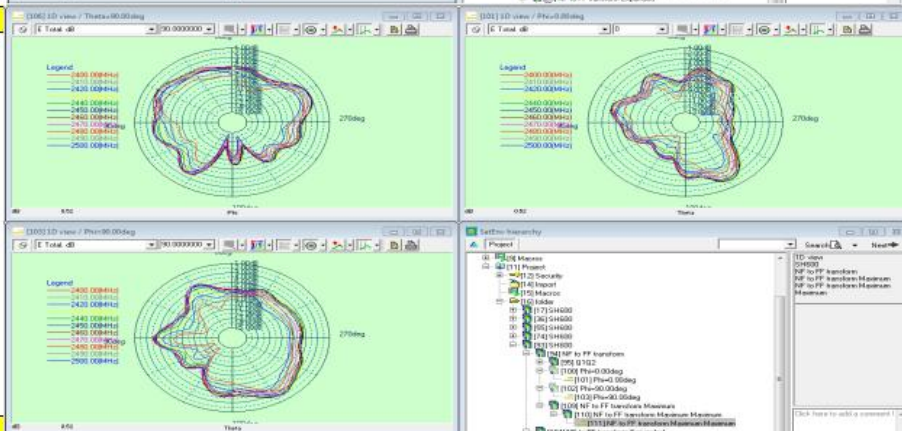
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三合一/GWB

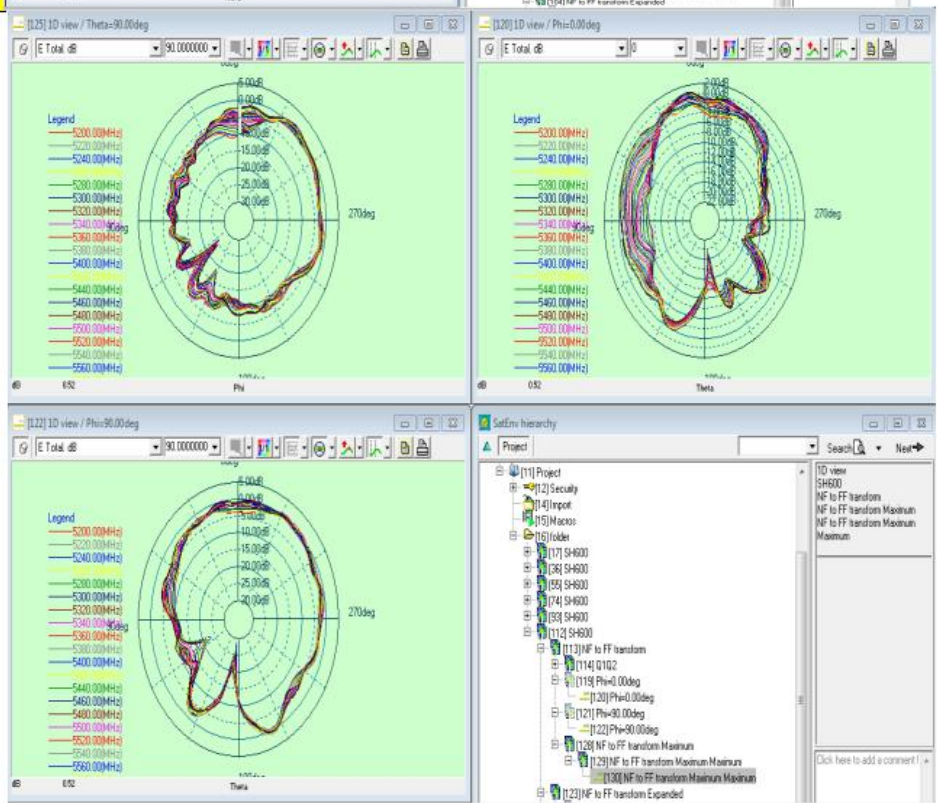
GPS		
Frequency	Efficiency	Gain, dBi
1500MHz	24%	-1.62
1510MHz	24%	-1.55
1520MHz	24%	-1.68
1530MHz	23%	-1.89
1540MHz	22%	-2.00
1550MHz	22%	-2.21
1560MHz	21%	-2.35
1570MHz	20%	-2.48
1580MHz	19%	-2.79
1590MHz	19%	-2.82
1600MHz	19%	-2.77



2.4G		
Frequency	Efficiency	Gain, dBi
2400MHz	18%	-2.88
2410MHz	21%	-2.43
2420MHz	23%	-2.00
2430MHz	26%	-1.80
2440MHz	27%	-1.86
2450MHz	28%	-1.92
2460MHz	27%	-2.05
2470MHz	25%	-2.16
2480MHz	23%	-2.40
2490MHz	22%	-2.13
2500MHz	21%	-2.27

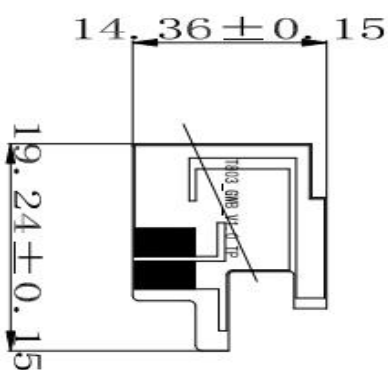


5G		
Frequency	Efficiency	Gain, dBi
5200MHz	32%	-0.43
5220MHz	32%	-0.31
5240MHz	31%	-0.43
5260MHz	31%	-0.48
5280MHz	33%	-0.11
5300MHz	36%	0.16
5320MHz	39%	0.71
5340MHz	42%	1.02
5360MHz	43%	1.05
5380MHz	42%	0.93
5400MHz	39%	0.65
5420MHz	40%	0.64
5440MHz	38%	0.42
5460MHz	39%	0.33
5480MHz	40%	0.37
5500MHz	42%	0.55
5520MHz	43%	0.71
5540MHz	45%	1.08
5560MHz	46%	1.12
5580MHz	47%	1.28
5600MHz	45%	1.07
5620MHz	44%	1.06
5640MHz	42%	0.79
5660MHz	42%	0.79
5680MHz	40%	0.60
5700MHz	39%	0.45
5720MHz	41%	0.76
5740MHz	42%	0.87
5760MHz	44%	1.06
5780MHz	46%	1.38
5800MHz	46%	1.29





4.. Antenna file



- 技术要求:
1. 打*为重点尺寸;
 2. A代表FPC部分, B代表不干胶纸部分, 背胶3M467
 3. 黄色部分外露并作电镀处理; 镀金厚度: 0.5U", 盐雾试验48小时需合格。
 4. 请使用单面板。
 5. 绿色部分为走线部分。
 6. 边缘冲切要平整, 不可有锯齿形状。
 7. 产品符合ROHS最新标准要求。
 8. 白色字符

日期	标记	处数	修	改	内	容	变更人	备注

深圳市拓频物联技术有限公司										SHENZHEN FREQUENCY EXTENSION IOT TECHNOLOGY CO.,LTD																	
 										第三视角																	
(一)~10 ±0.10 10~20 ±0.12 20~50 ±0.15 ANGLE ±0.15 垂直度 ±0.025 平面度 ±0.15										品名		GNB_FPC								绘图		钟方敬		日期			
										机种		T803								审核		陈: 李东海		日期		2021.09.26	
										料号		384-013-2-0K-A										陈: 钟方敬		日期		2021.09.26	
										材质		P1半导牛+铜箔+亚克力油								确认		日期		日期			
										表面处理																	
位置		单位		mm		比例		PRICE		版本																	
5		6		7		8																					



5. Environmental reliability test

order number	class	Test parameter indicators	Test situation	conclusion
M1	solderability	Temp: $260 \pm 5^{\circ}\text{C}$; 5 seconds temperature $360 \pm 5^{\circ}\text{C}$; for 5 seconds	The upper bunk is uniform and full	OK
M2	Pull Test Tension force	holding with individual specification; force applied to axis of terminal. Define the product tension separately	1. Directive DUT specification 2. Frequency TOL. $\leq 5\%$ Compliance to the specifications to be tested. Frequency offset of 5%	OK
M3	Torque Test Torque force	Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal separately defines the clockwise and counterclockwise torque of the product	1. Directive DUT specification 2. Frequency TOL. $\leq 5\%$ Compliance to the specifications to be tested. Frequency offset of 5%	N/A
M4	Dimension Size	Inspection of dimension, color, material, package, surface process. Check the dimensions, color, materials, packaging, and surface treatment	Directive DUT specification Compliance with the specifications to be tested	OK
M5	Waterproof Waterproof water	With Reference to IEC 60529\\IP code Definition Refer to the IEC60529 IP definition	Directive DUT specification Compliance with the specifications to be tested	N/A
M6	Salt Spray Salt spray	GB/T2423.17-2008 Temp: 35°C ; RH: $\geq 95\%$; NaCl solution: $\geq 5\%$; Time: 24H Temperature 35°C ; humidity 95%; saline humidity 5%; test 24H	1. NO Visual Damage 2. Frequency TOL. $\leq 5\%$ No obvious poor appearance; frequency offset of 5%	OK
M7	Temperature and Humidity Chamber Constant temperature and humidity	GB/T2423.3-2006 Temp $80^{\circ}\text{C}/12\text{H}$; $-40^{\circ}\text{C}/12\text{H}$; RH: $\geq 90\%$; Time: 24H Temperature 80°C Test 12H to -40°C Test 12H: Humidity 90%; Time 24H	After 2 Hours Recovery 1. NO Visual Damage 2. Frequency TOL. $\leq 5\%$ After 2H recovery, there was no obvious poor appearance; frequency offset of 5%	N/A
M8	Thermal Shock Cold and cold shock	GB/T2423.22-2008 -40°C (30 minutes) to $+80^{\circ}\text{C}$ (30 minutes); Cycles: 24 -40°C 30 min to 80°C 30 min per cycle; 24 cycles	After 2 Hours Recovery 1. NO Visual Damage 2. Frequency TOL. $\leq 5\%$ After 2H recovery, there was no obvious poor appearance; frequency offset of 5%	N/A
M9	Aging Test Aging	GB/T 2423.2-2008 TEMP: 80°C ; Time: 24 hours Temperature 80°C , test 24H	After 2 Hours Recovery 1. NO Visual Damage 2. Frequency TOL. $\leq 5\%$ After 2H recovery, there was no obvious poor appearance; frequency offset of 5%	N/A
M10	High Temp High temperature	Temp. $270 \pm 10^{\circ}\text{C}$; Times: 120 seconds The temperature was $270 \pm 10^{\circ}\text{C}$, and the test time was 120 seconds	NO Visual Damage No obvious poor appearance	N/A



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R1	ROHS	With Reference to IEC 62321:2008 with flow chart Reference to the IEC 62321 test process	Directive RoHS 2011/65/EU Compliance with the ROHS 2011 / 65 / EU standard	OK
R2	PFS	With Reference to USA EPA 3550C:1996 by LC/MS Reference to the USA EPA 3550C test process	Directive RoHS 2011/65/EU Compliance with the ROHS 2011 / 65 / EU standard	N/A

6. Material Report BOM

供应商物料材质成份导入表 Supplier Material Compositions Table												
本导入表只支持1级BOM和二级BOM导入(黄色部分)												
物料型号 Material	品牌名称 Brand	组成序号 The	下阶物料名称 The Name of	下阶物料 编码	下阶物料 品牌	物质名称 Substances	组成物质CAS NO.	物质含量% Content	报告送检 单位	检测报告编号 The Number of	报告日期 The Date	检测机构 名称
N9101	FPC天线	1	覆铜板	SHISEI31318MT	蔡伦格蒂	环氧树脂	25036-25-3	15%	SGS	SHAEC2001939104	2020.3.2	CTI
						聚酰亚胺薄膜	25038-81-7	25%				
						铜箔	7440-50-8	60%				
		2	防焊油墨	PSM-800FSM6	优立	环氧丙烯酸 衍生树脂	28064-14-4	45%	SGS	CE/2019/A0149 CE/2019/A0157	2019.10.14	SGS
						硫酸钡	7727-43-7	25%				
						芳香族溶剂	64742-94-5	10%				
						二氧化矽	7631-86-9	5%				
						二丙二醇甲醚	34590-94-8	15%				
	线缆	3	同轴线连接器		凯博	EP/铜镀锡/铜镀锌	Silver plated	-	SGS	SHAEC1921022103	2019.09.24	SGS



7 Packaging reference signal

图示区：

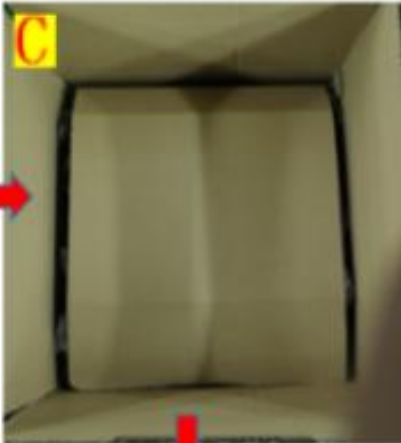
A



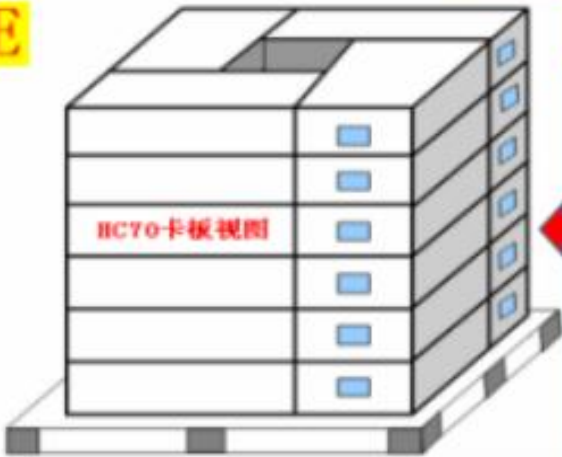
B



C



E



D



A: 单品需使用PET袋包装，每PCS需贴上ROHS标贴。

B: 箱体需放置隔板。

C: 每箱限定放置数量，上层放置隔板。

D: 现品票格式需严格依据我司样品打印，不接受破损，断裂，字体模糊，整箱重量需注明。现品贴符在包装箱左上角，每箱需贴ROHS标贴。

E: 产品堆放限定高度170MM

注：重量管控：单PCS重量 $g \pm 8g$

纸箱限定使用材质k=K，纸箱限定规格330*240*170

变更记录	变更内容	变更人	制定	承认	配布日期:
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