T803-Three-in-one antenna admission book

<table>
<tr><td>project name:</td><td colspan="3">T803</td><td>class:</td><td colspan="2">triangle</td></tr>
<tr><td>Internal material number:</td><td colspan="3">384-013-12-OK-A-01</td><td>version number:</td><td colspan="2">R:A</td></tr>
<tr><td>material code:</td><td colspan="3"></td><td>date:</td><td colspan="2">2021-09-30</td></tr>
<tr><td colspan="7">Shenzhen Toppin Iot Technology Co., LTD</td></tr>
<tr><td rowspan="5">examine and verify</td><td>radio frequency</td><td></td><td rowspan="5">design</td><td rowspan="2">radio frequency</td><td colspan="2" rowspan="2">Li Donghai</td></tr>
<tr><td>engineering</td><td></td></tr>
<tr><td>character</td><td></td><td rowspan="3">engineering</td><td colspan="2" rowspan="3">Zhong Fangmin</td></tr>
<tr><td>project</td><td></td></tr>
<tr><td>vocational work</td><td></td></tr>
<tr><td colspan="7">Shenzhen Oulifang Technology Co., LTD</td></tr>
<tr><td>date:</td><td colspan="6"></td></tr>
<tr><td rowspan="2">affirm</td><td>radio frequency</td><td colspan="5"></td></tr>
<tr><td>engineering</td><td colspan="5"></td></tr>
<tr><td>remarks</td><td colspan="6"></td></tr>
</table>

catalogue

1 Picture of the finished antenna

Antenna diagram

Machine diagram

test macro

Test System

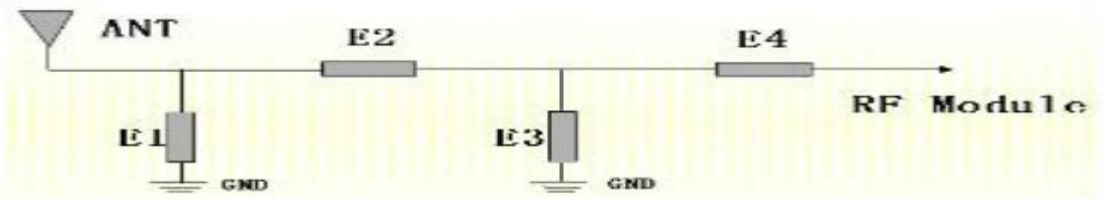
SATIMO，Agilent E5071C，Anristu MT8820C

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)	--	--

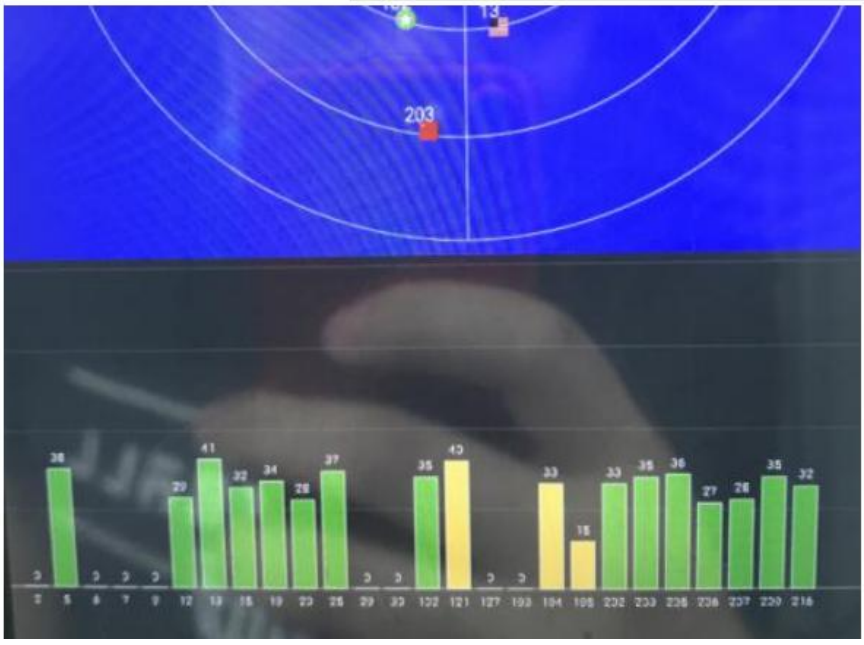
主板匹配未改动

3.1 Antenna data

		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：

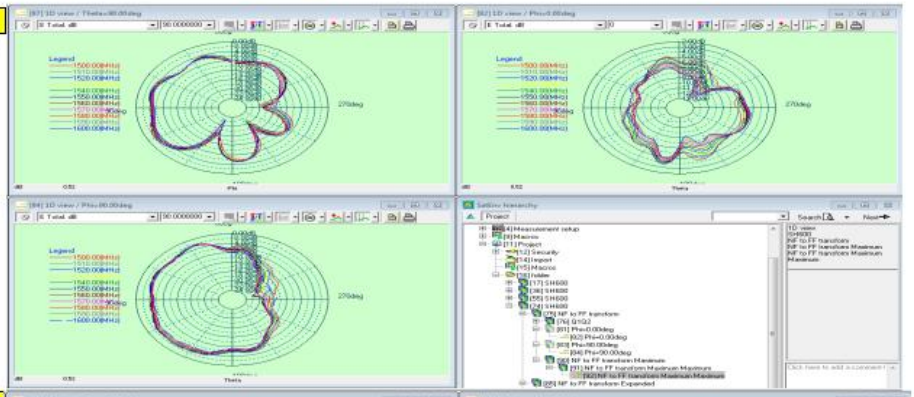
地点：我司研发窗口
时间：上午
天气：多云转晴
状态：搜到19颗星，定位16颗，最大CN值41，CN值35以上的有8颗
搜星时间：2分钟内



三合一/GWB

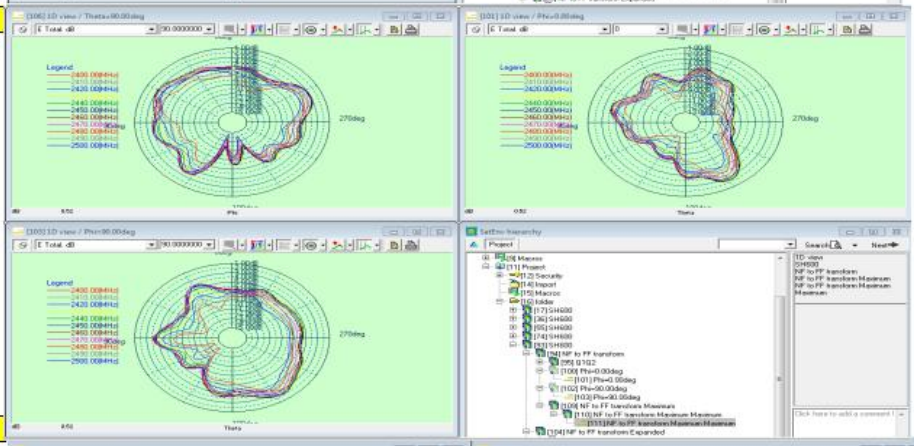
GPS

Frequency	ficiency(	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



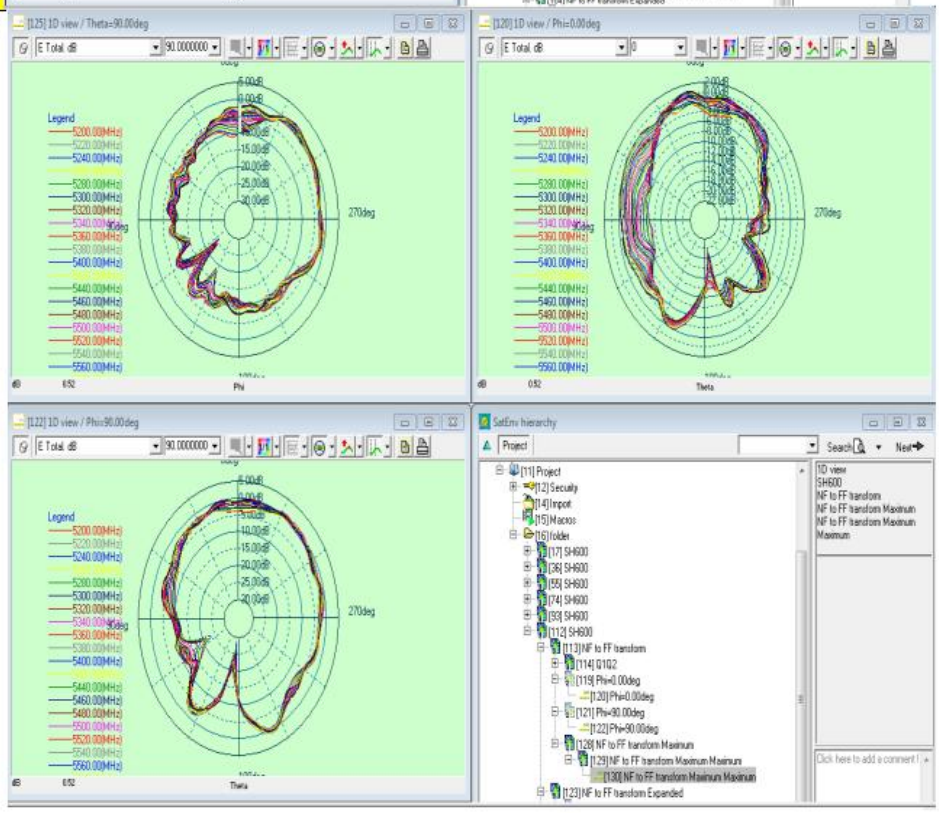
2.4G

Frequency	ficiency(	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

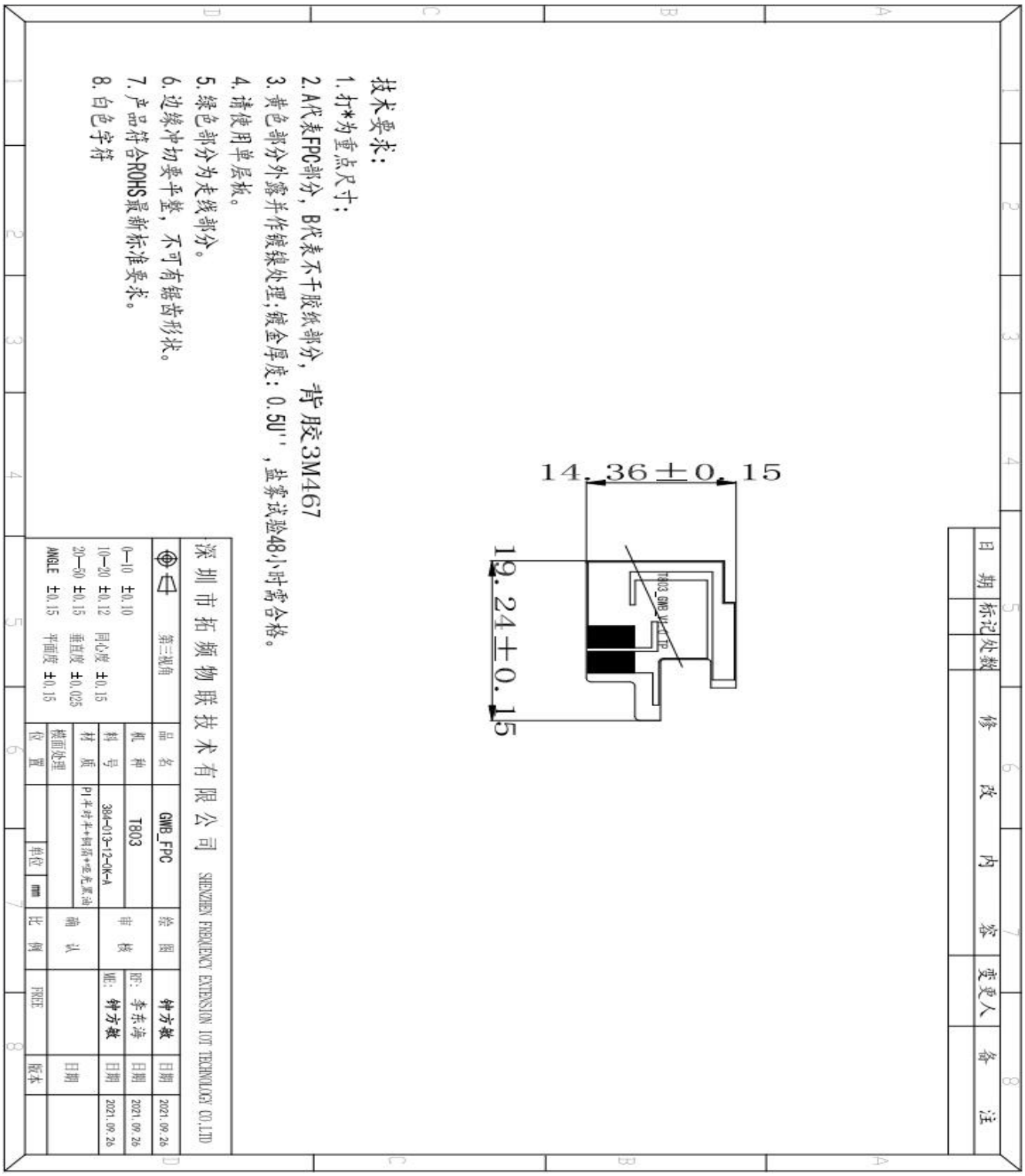


5G

Frequency	ficiency(	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



5. Environmental reliability test

order number	class	Test parameter indicators	Test situation	conclusion
M1	solderability	Temp: 260 ± 5℃; 5 seconds temperature 360 ± 5℃; 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.≦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 counterc lockwise to the axis of terminal separately defines the clockwise and counterclockwise torque of the product	1.Directive DUT specification 2.Frequency TOl.≦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	SaitSpray Salt spray	GB/T2423.17-2008 Temp：35℃；RH:≧95%;NaCL soiution:≧5%;Time:24H Temperature 35℃; humidity 95%; saline humidity 5%; test 24H	1.NO Visual DAmage 2.Frequency TOL.≦5% No obvious poor appearance; frequency offset of 5%	OK
M7	Temperature and Humidity Cchamber Constant temperature and humidity	GB/T2423.3-2006 Temp80℃/12H;-40℃/12H; RH: ≧90%; Time:24H Temperature 80℃ Test 12H to-40℃ Test 12H: Humidity 90%: Time 24H	After 2 Hours Recovery 1.NO Visual DAmage 2.Frequency TOL.≦5% After 2H recovery, there was no obvious poor appearance; frequency offset of 5%	N/A
M8	Themrmal Shock Cold and cold shock	GB/T2423.22-2008 -40℃(30 minutes)to+80℃(30 minutes);Cycles:24 -40℃ 30 min to 80℃ 30 min per cycle; 24 cycles	After 2 Hours Recovery 1.NO Visual DAmage 2.Frequency TOL.≦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℃;Time:24 hours Temperature 80℃, test 24H	After 2 Hours Recovery 1.NO Visual DAmage 2.Frequency TOL.≦5% After 2H recovery, there was no obvious poor appearance; frequency offset of 5%	N/A
M10	High Temp High temperature	Temp.270±10℃;Times:120 seconds The temperature was 270 ± 10℃, and the test time was 120 seconds	NO Visual DAmage No obvious poor appearance	N/A

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	SHISE131318MT	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-800FSMBL6	优立	環氧丙烯酸衍生樹脂	28064-14-4	45%	SGS	CE/2019/A0149 CE/2019/A0157	2019.10.14	SGS
						硫酸鋇	7727-43-7	25%				
						芳香族溶劑	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	BP/铜镀锡/铜镀银	Silver plated	-	SGS	SHAEC1921022103	2019.09.24	SGS

7 Packaging reference signal

图示区：

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
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±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：