

承认书

APPROVAL SHEET

客户名称 Customer Name

产品型号 Product Model

产品名称 Product Name

客户料号 Customer P/N

南斗星料号 SouthstarP/N

制作日期 Production date

封样版本 Sample Version

Encore 2

FM054 TX Shrapnel

178-FM054-10A

3. N204. 0419

2024-10-22

2. 0

南斗星（Southstar）		
编制（FICTION）	品质（DQE）	研发（R&D）
客户（Customer）		
采 购（PUR）	品质（QC）	研发（R&D）

Manufacturers: SHENZHEN SOUTH STAR TECHNOLOGY CO.,LTD

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Guangdong Province

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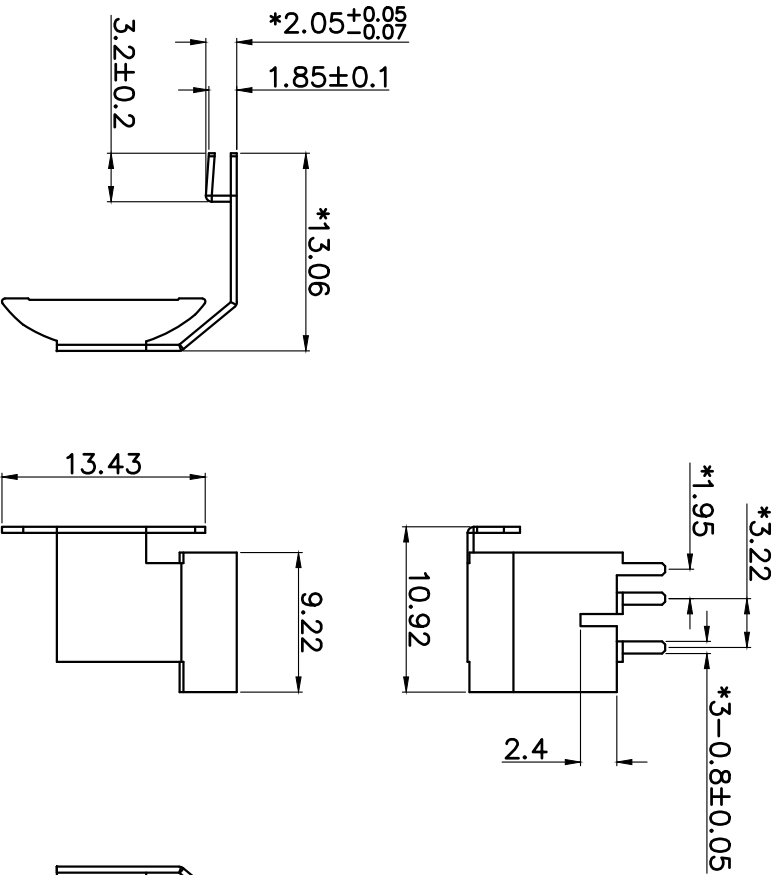
九、CPK（Complex ProcessCapability Index）

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10

基本参数(The basic parameters)

A. Electrical Characteristics	
Frequency	2400MHZ~2500MHZ
VSWR	< 2
Efficiency	>50%
Impedance	50 Ohm
Polarization	Linear
Peak Gain	2.4G: 2.41dBi
B. Material & Mechanical Characteristics	
Material of Radiator	Shrapnel
Cable Type	/
Connector Type	/
Dimension	



- Technical requirements:
1. Material: SUS304 T=0.4mm nickel plating $\geq 2\mu\text{m}$;
 2. The salt spray meets 48H;
 3. The "M" size is the key control size, and the "CpK" size requires process capability analysis;
 4. No marked tolerance according to the drawing no tolerance table;
 5. Environmental protection: ROHS2.0, REACH, SVHC, CP65, TSCA, VOC, halogen-free;
 6. Packaging: carrier;

Rev	Description	Date	Remark
A	New drawing	2024-11-15	
B			

 South Star	深圳市南斗星科技有限公司 Shenzhen South Star Technology Co., Ltd Dongguan South Star Technology Co., Ltd
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Undeclared tolerance table				Project		Encore2	Designed by	Kenny 2024-11-15	
0.5~6	±0.1	—	0.1	Part Name		FM054 Antenna	RF by	CBJ	2024-11-15
>6~30	±0.2	○	0.1	Part No.		3.N204.0419	Approved by	ZH	2024-11-15
>30~120	±0.3	◎	0.1	Customer		178-FM054-10A	Unit	mm	
>120~400	±0.5	⊥	0.1	P/N			Scale	FIT	Rev
>400~1000	±0.8	∠	0.1	Page 1 of 1		Third Angle			A
>1000	±1.2	Angle	±1.0°						

Connector orientation	
standard	±45°
Cable L≤ 100	±90°
100<L≤ 200	Don't control
Cable L> 200	Don't control

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测试设备(Test Equipment & Conditions)

1 测试仪器 (Testing equipment)

The VSWR was tested using the Agilent E5071B connected to the test fixture, with the status being free space.

2 测试环境及方式 (Testing environment and methods)

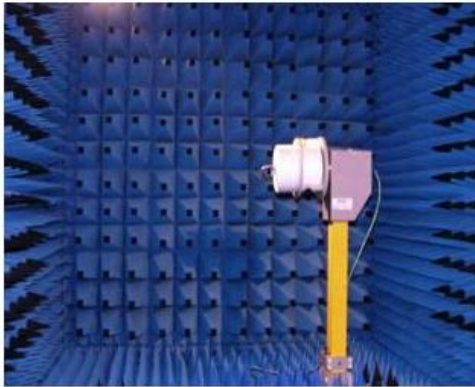
暗室规格: ETS-7 4 3

TD-SCDMA测试设备:StarPoint SP6010/Agilent 8960

LTE-TDD/FDD-SCDMA测试设备:StarPoint SP8011 /CMW500

WCDMA/GSM/CDMA测试设备: Agilent 8960

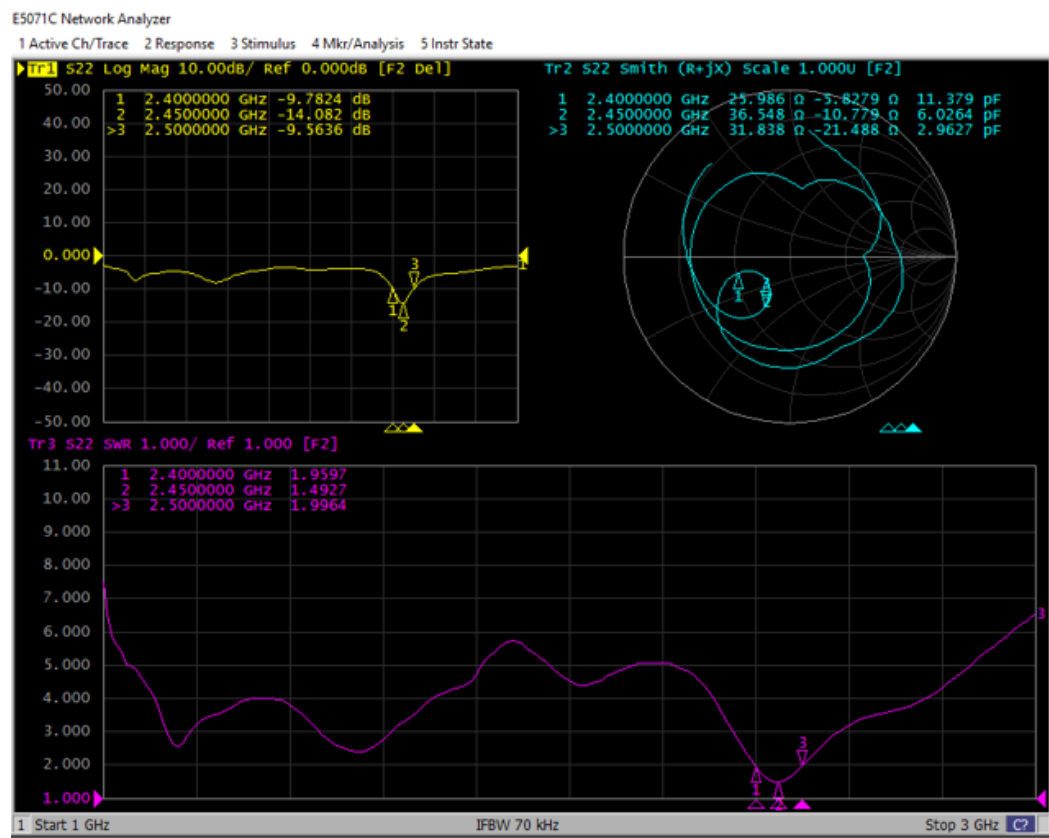
无源效率测试设备: Agilent Technologies E5071B



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S11:



效率&增益(Efficiency & gain):

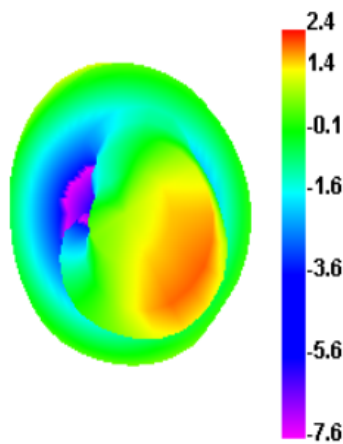
Freq (MHz)	Effi (%)	Gain (dBi)
2400	55.4	2.23
2410	53.81	2.41
2420	52.91	2.31
2430	53.17	2.37
2440	55.79	2.39
2450	56.31	2.38
2460	56.91	2.4
2470	55.19	2.39
2480	52.35	2.24

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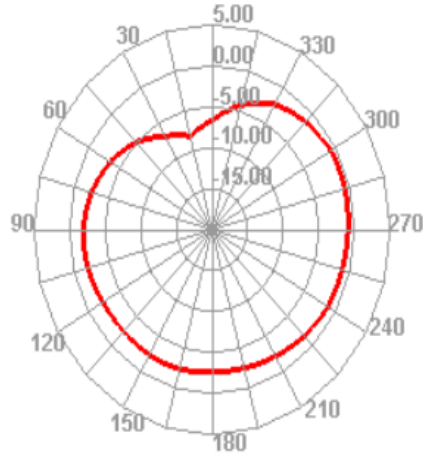
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2D/3D方向图(2D/3D Directional diagram):

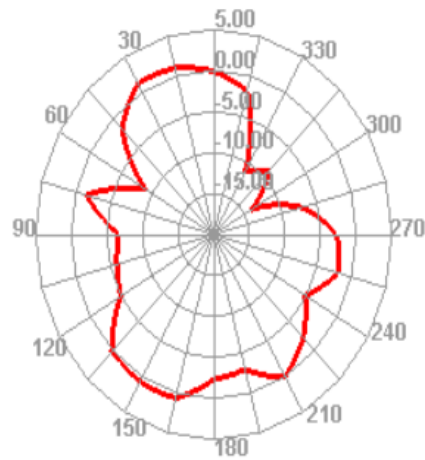
2410.000MHz



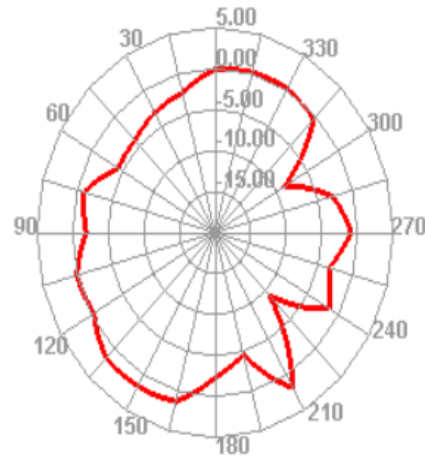
2410.000MHz H



2410.000MHz E1



2410.000MHz E2



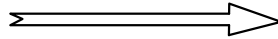
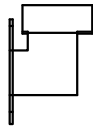


Date: 2024-11-15

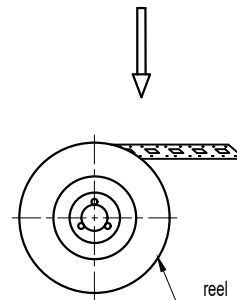
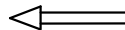
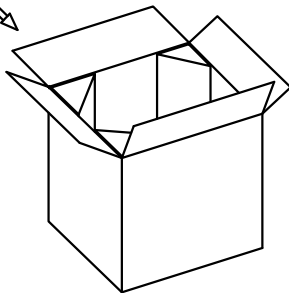
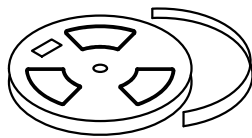
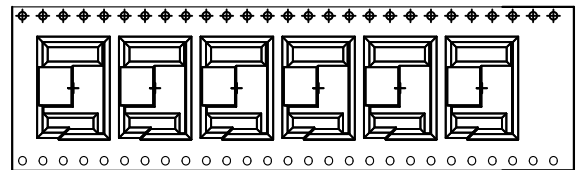
page: 1 of 1

Name : FM054 Antenna	Version: A
	Customer:

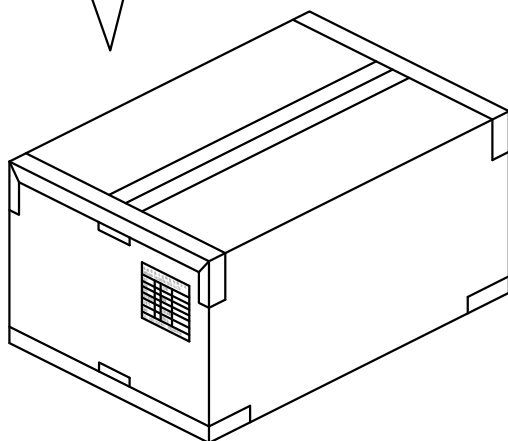
1. The Product



2: Carrier packaging ; each roll contains 300PCS products.



3. Packing (subject to actual packing) .



DESIGNED By: Kenny

APPROVED By: ZH

CPK

零件名称		零件料号		模具状态		序号		机台吨数		产品重量		供应商		青年量		页
Part Name		Part NO		Tooling status		Model NO		Machine (Tonn)		Part Weight		Supplier		批准人		Page
原料	MATL	缩水率		颜色	绿色	模穴数	1	检验人	莫天沃	检验日期	2024/11/11	审核人		批准人		1
		SHRINKAGE RATE		COLOR		Cavity		Prepared by		Prepared Date		Reviewed by		Approved by		

数据 (Data)

检查项目/Insitem	P1	P1	CP	CP	CP	P1	CP									
尺寸等级/Grade																
规格/Specification	3.22	1.95	0.80	0.80	0.80	13.06	2.05									
公差/Tolerance(+)	0.10	0.10	0.05	0.05	0.05	0.20	0.05									
公差/Tolerance(-)	0.10	0.10	0.05	0.05	0.05	0.20	0.07									
测量数据 Checked Data	1	3.235	1.968	0.820	0.800	0.780	13.026	2.030								
	2	3.248	1.965	0.810	0.810	0.810	13.048	2.050								
	3	3.223	1.973	0.810	0.790	0.800	13.051	2.020								
	4	3.215	1.945	0.820	0.800	0.820	13.088	2.030								
	5	3.267	1.981	0.800	0.810	0.810	13.022	2.040								
	6	3.248	1.942	0.790	0.810	0.780	13.012	2.060								
	7	3.235	1.978	0.810	0.820	0.820	13.075	2.020								
	8	3.248	1.954	0.810	0.800	0.810	13.026	2.030								
	9	3.223	1.968	0.810	0.790	0.810	13.088	2.050								
	10	3.215	1.984	0.810	0.810	0.820	13.081	2.020								

判定/Judgment	11	3.267	1.973	0.790	0.810	0.800	13.088	2.030								
	12	3.248	1.945	0.800	0.810	0.790	13.022	2.040								
	13	3.235	1.981	0.820	0.810	0.800	13.002	2.060								
	14	3.248	1.942	0.810	0.800	0.810	13.075	2.020								
	15	3.223	1.978	0.810	0.810	0.780	13.016	2.030								
	16	3.215	1.984	0.820	0.790	0.790	13.088	2.050								
	17	3.267	1.988	0.800	0.820	0.810	13.081	2.020								
	18	3.248	1.984	0.790	0.810	0.800	13.088	2.030								
	19	3.235	1.973	0.810	0.800	0.810	13.022	2.040								
	20	3.248	1.945	0.810	0.800	0.810	13.002	2.030								
备注/Remark	21	3.235	1.981	0.820	0.810	0.790	13.075	2.020								
	22	3.248	1.942	0.810	0.790	0.820	13.016	2.030								
	23	3.223	1.978	0.												