

Antenna Specification

Customer Name:	Shenzhen Seeed Technology Co., Ltd
Project Name:	LORA Second generation node antenna
Material Model:	M04-0101720R0A
Product Name:	LORA Antenna shrapnel
Customer Number:	
Entry Category:	Mold Sample
FileVersion:	A

supplier		customer	
PREPARED BY		Purchase	
CHECKED BY		engineering	
APPROVED BY		quality	
<input checked="" type="checkbox"/> The new material <input type="checkbox"/> recycle (The number to be recycled)			
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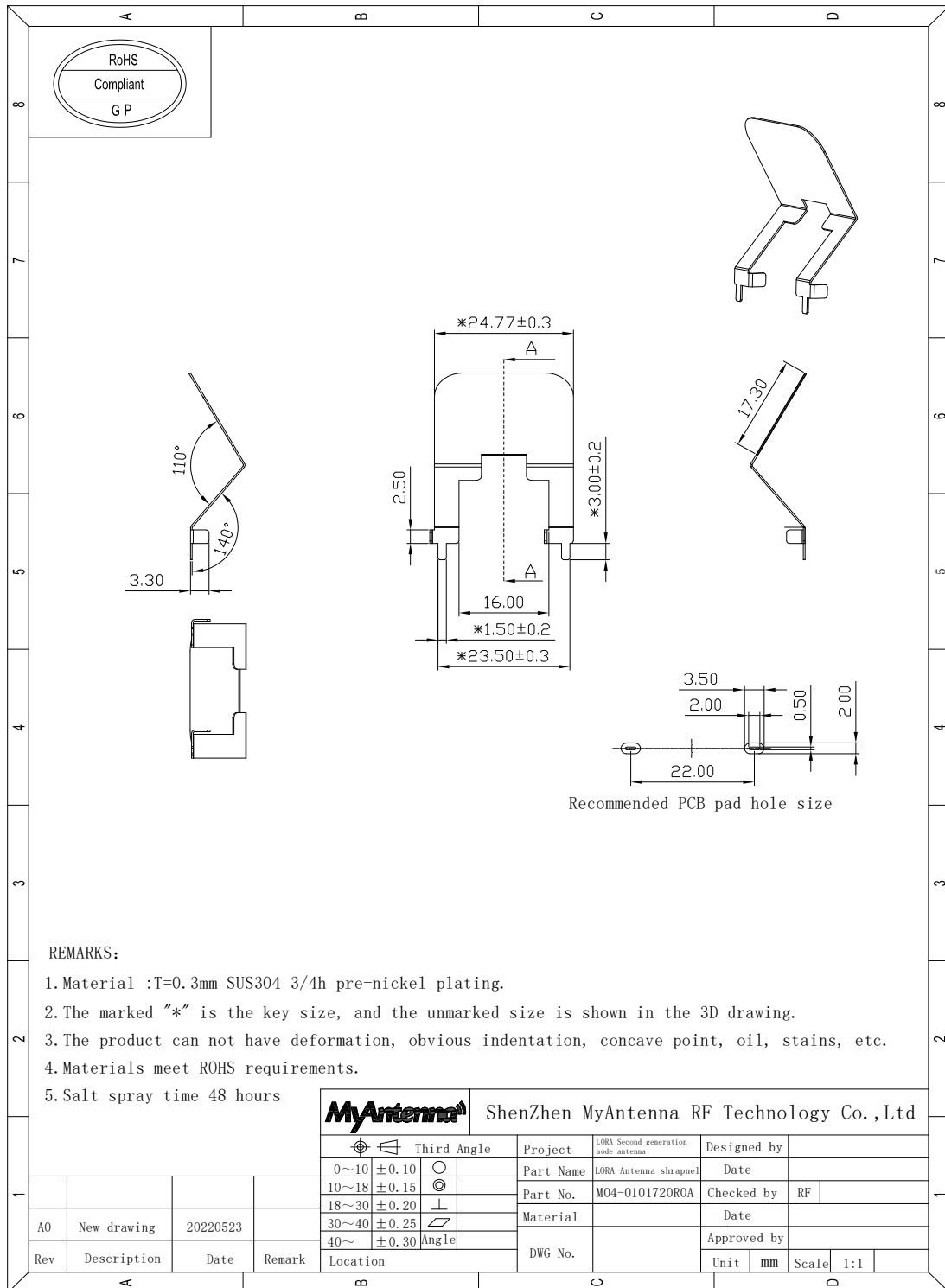
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3. The performance parameters

Electrical parameters	
Frequency range	863~928MHz
The input impedance	50 Ω
868MHz The whole machine VSWR	<2.0
915MHz The whole machine VSWR	<2.0
The whole machine Gain	>0.6dBi
The whole machine Efficiency	>60%
On and off the test	pathways
Polarization mode	Linear polarization
Radiation direction	omnidirectional
The mechanical parameters	
size	24.77*34.43mm (Reference drawings)
material	Nickel plating on stainless steel
Salt spray test	48H
Environmental parameters	
Working temperature	-40℃~85℃

4. Engineering Drawing

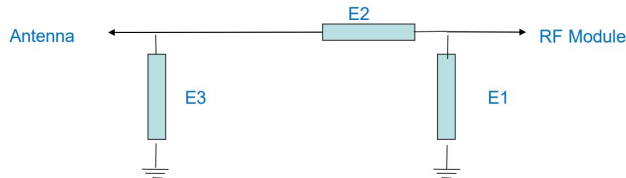


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5. Antenna Test

5.1 Processing Mode

5.1.1 Matching Circuit

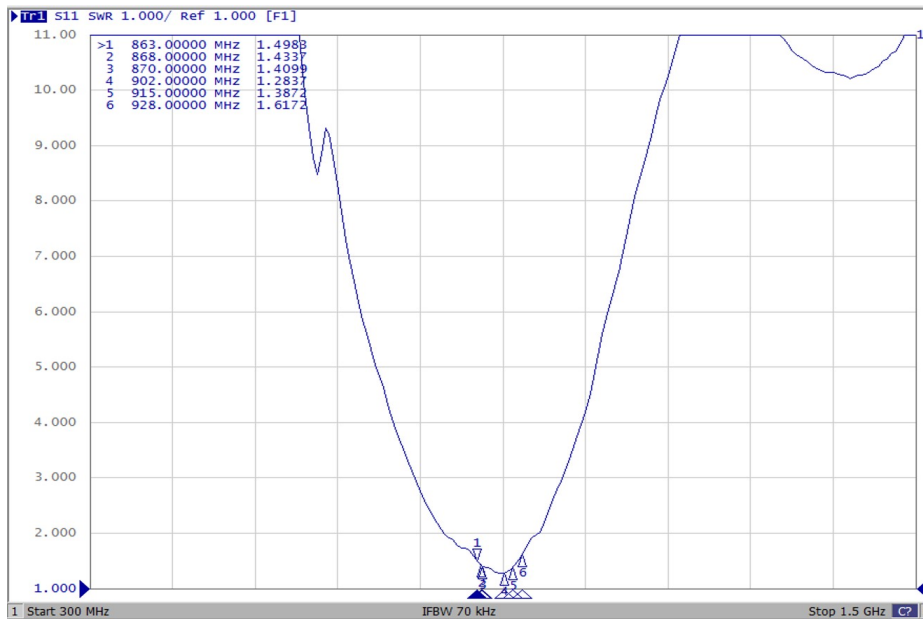


Component	Value
E1(0201)	NC
E2(0201)	0R
E3(0201)	3.9PF

5.1.2 Environmental Treatment (Nothing)

5.2 Performance Testing

5.2.1 VSWR



Standing wave ratio data

Freq/MHz	863MHz	868MHz	870MHz	902MHz	915MHz	928MHz
VSWR	1.50	1.43	1.41	1.28	1.39	1.62

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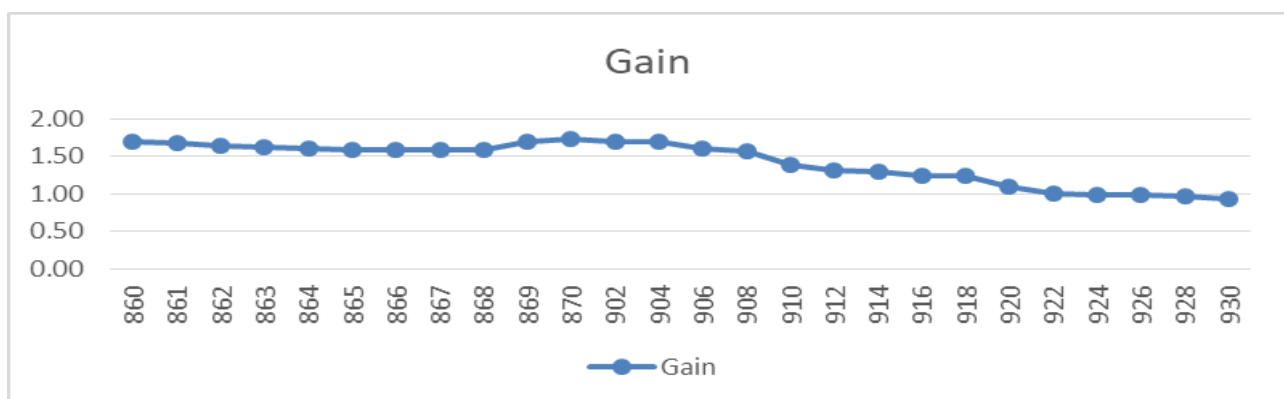
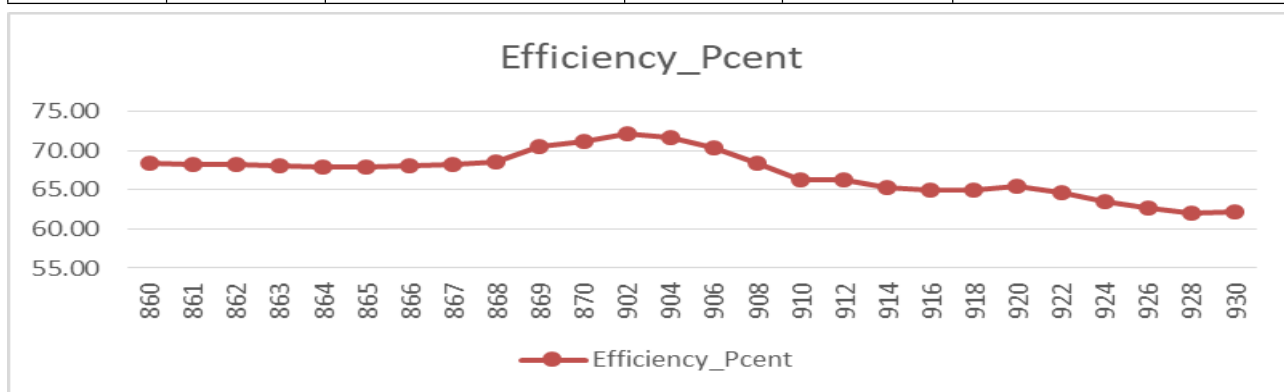
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5. 2. 2 Active Antenna Test (Nothing)

5. 2. 3 Passive Antenna Test

Freq (MHz)	Gain (dBi)	Efficiency_Pcent (%)	Freq (MHz)	Gain (dBi)	Efficiency_Pcent (%)
860	1.70	68.44	906	1.61	70.41
861	1.67	68.27	908	1.56	68.44
862	1.65	68.18	910	1.40	66.25
863	1.63	68.06	912	1.31	66.25
864	1.60	67.97	914	1.29	65.36
865	1.59	67.97	916	1.24	64.99
866	1.59	68.11	918	1.24	64.92
867	1.58	68.29	920	1.10	65.45
868	1.59	68.63	922	1.00	64.62
869	1.70	70.47	924	0.99	63.52
870	1.74	71.15	926	0.99	62.71
902	1.70	72.13	928	0.96	62.05
904	1.69	71.74	930	0.94	62.27



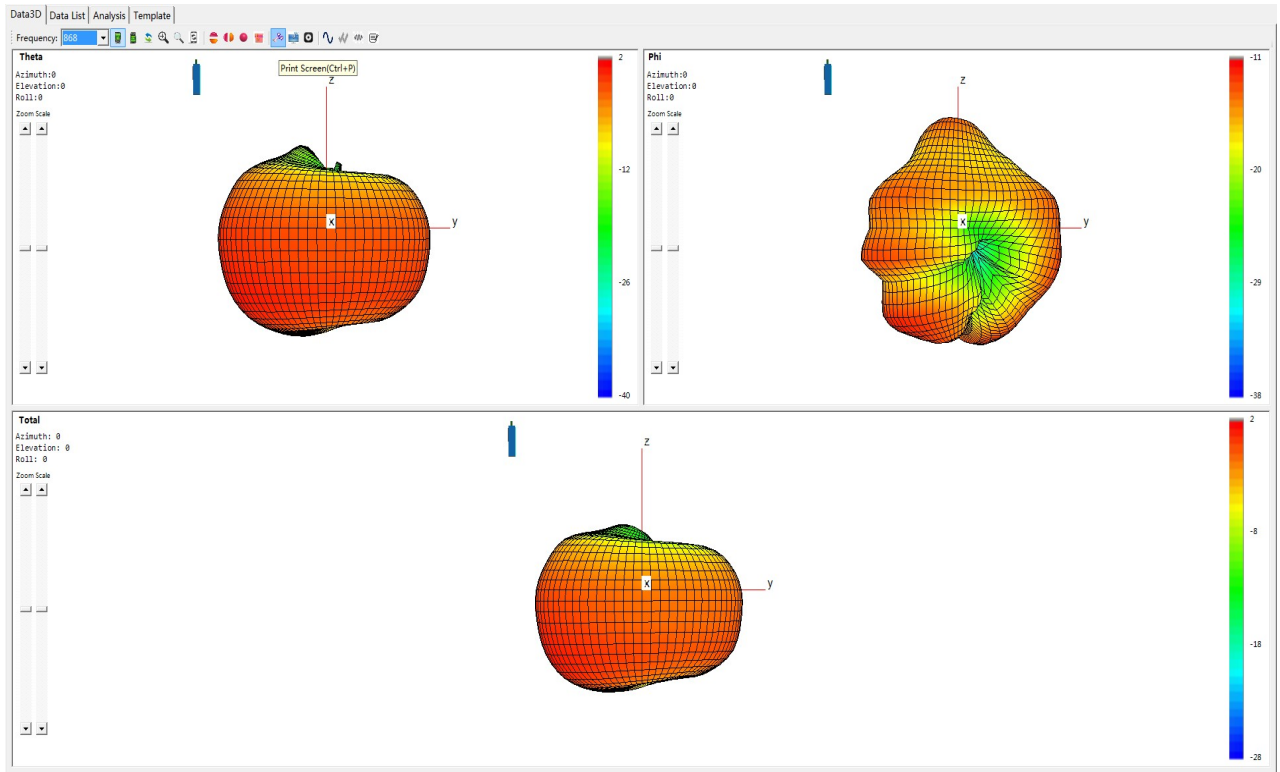
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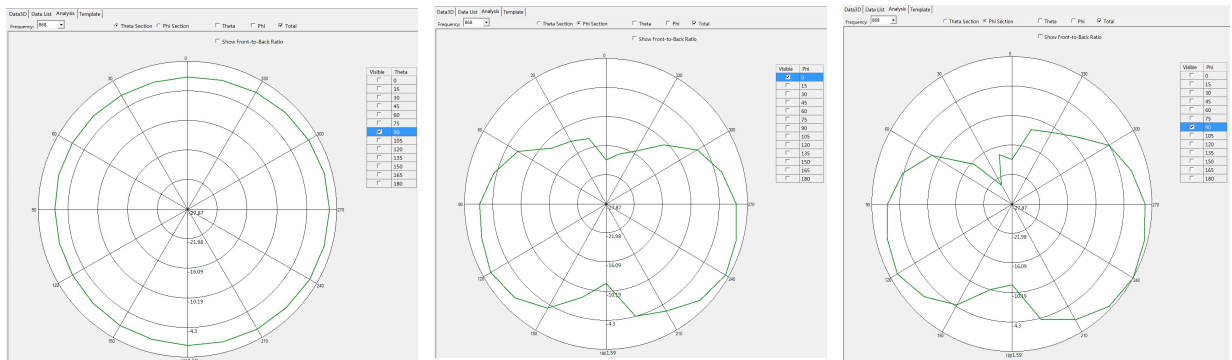
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5. 2. 4 3D graphics



4. 2. 5 2D graphics



6. Real figure

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7. Inspection Report

Project Name		LORA Second generation node antenna		Antenna Type	LORA Antenna shrapnel	Inspection Date	2022-05-23		
Appearance Standard				1、 No abnormality on the antenna surface					
Dimension Standard				2、 Within the required tolerances based on the drawing					
No	Inspection subject	Standard	Inspection tool	Sampling number	Result	Remark			
1	Appearance	As Above	Visually	6PCS	OK	1			
2	Dimension	As Below Chart	Vernier Caliper	6PCS	OK	2			
No	Inspection Subject	Dimension	Tool	Test Results (Recorded six groups of testing data includes the highest & lowest values)					
				1	2	3	4	5	6
1	Dimension	24. 77±0. 3	Caliper						
2		23. 5±0. 3							
3		1. 5±0. 2							
4		3. 0±0. 2							
Remark									
Supervisor: SAM			Audit: CHEN			Inspector: DONG			

8. RoHS test report

The project item name	Item code	Reports the detection sample name	Testing agencies	Detection time	The test report number	Test conclusion	remark
LORA Second generation node antenna	M04-0101720R0A	SUS304	SGS	2022. 01. 14	SZXEC2200093010	OK	
Fiction : DONG		Review: Chen Jianyou		Date:2022-05-23		Stamping office:	