

Shanghai Shangyuan Communication Technology Co., LTD

Sample acknowledgment

customer name: Shenzhen Best Technology Co., LTD

Supplier name: 100 Slots Charging Station with Screen

specifications and models: 81*24.9mm, With a generation of terminals, The 4G antenna is 300mm long(black), The three-in-one antenna is 300 meters long(grey)

stock number: _____

☐fresh material ☐substitute material applicable models: Dudu 6-port cabinet

datelanded: 2023/5/10 sample quantity: 1 Sample signing date:

Supplier acknowledgement		
FICTION	CHECKER	APPROVER

Customer recognition		
CONFIRMER	EXAMINER	CHECKER
APPROVER		
Nature of the instrument of recognition	☒ official recognition ☐ Provisional recognition Temporary period: ____	



上海尚远通讯科技有限公司

Antenna admission book

Customer name: Best		Project name: Dudu 6-port cabinet
Working frequency band: GSM 900/1800/WCDMA 2100 LTE 1/3/5/8/38/40/41+GPS/WIFI/BT(2.4GHz)		
Motherboard version:		
Shangyuan material specifications		
specifications and models	Shang Yuan material number	Customer material number
100 Slots Charging Station with Screen	SZ23124WB56	

Change the resume			
Preparation / change date	Change the content	Change the person	edition
2023.05.10	A new release	XuWei	A

Shang Yuan will sign the column				
research and development	structure:	examine and verify:	Quality Engineer:	ratify:
	radio frequency:	examine and verify:		
The customer will sign the column				
electronic engineer	project manager	construction engineer	Quality engineer	

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Shenzhen R & D Center: 6th floor, Building 5, Nantai Cloud Innovation Valley Center, Guangming District, Shenzhen

Chongqing R & D Center: ARM Ecological Industrial Park 1F, 19 Xiantao Data Valley East Road, Yubei District, Chongqing

Huizhou factory address: 4-5 floor, No.1, Central cun Road, Longhu Industrial Zone, Shuikou Town, Huicheng District,

1 PROJECT PICTURES

2 LTE ANTENNA DATA

2.1 S11 parameters

2.2 Antenna and efficiency gains

2.3 3D Pattern

2.4 LTE antenna characteristics

3 3-IN-1 ANTENNA DATA

3.1 S11 parameters

3.2 Antenna and efficiency gains

3.3 3D Pattern

3.4 Three-in-one antenna characteristics

4 STRUCTURAL DRAWINGS

5 TERMINAL MATING FORCE TEST REPORT

6 MATERIAL COMPOSITION LIST

7 ROHS REPORTS

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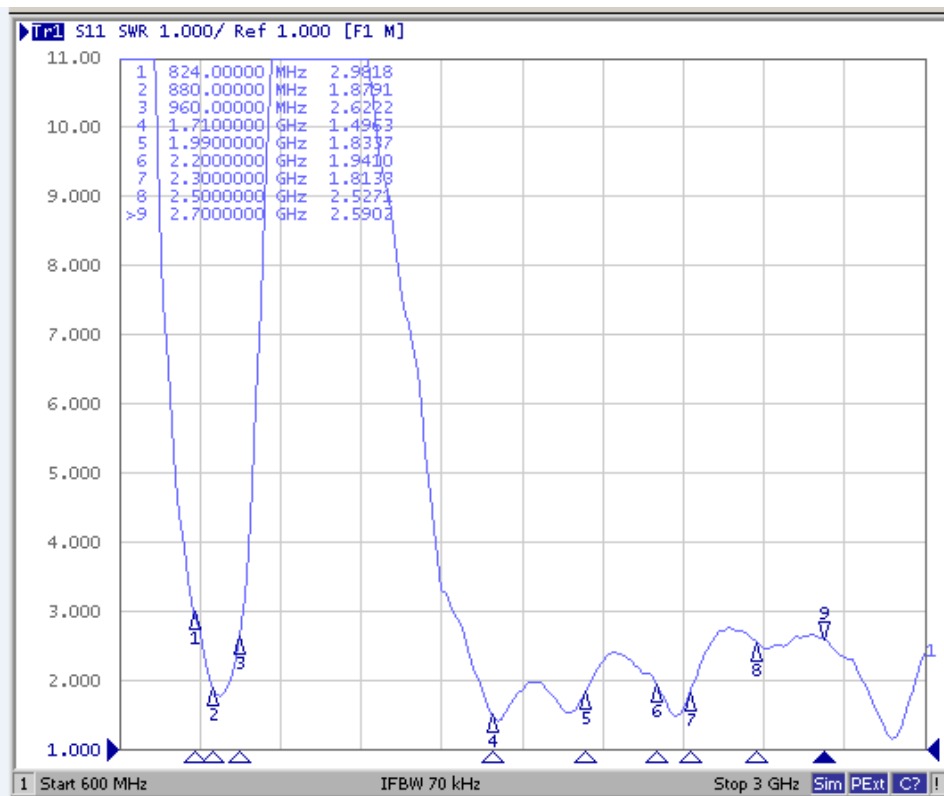
1. PROJECT PICTURES

The project picture is below:



2. LTE ANTENNA DATA

2.1 S11parameters

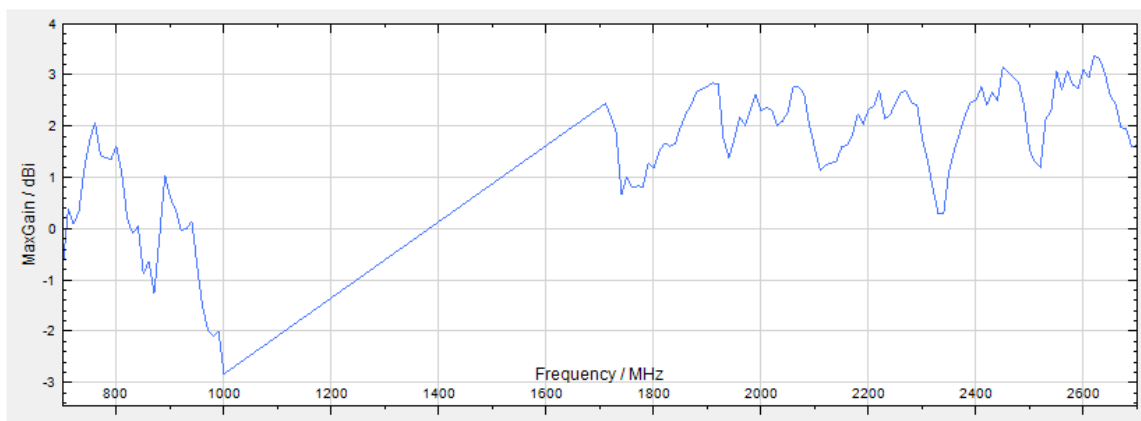
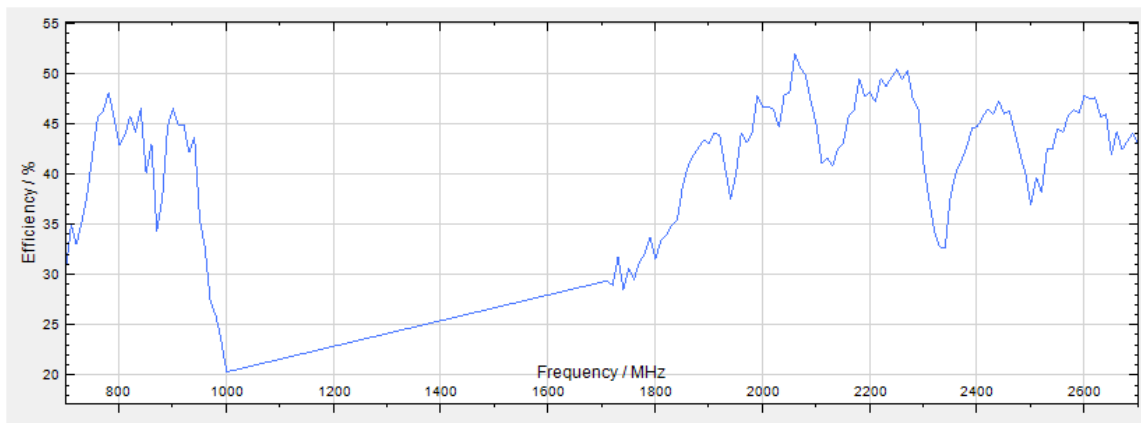


VSWR

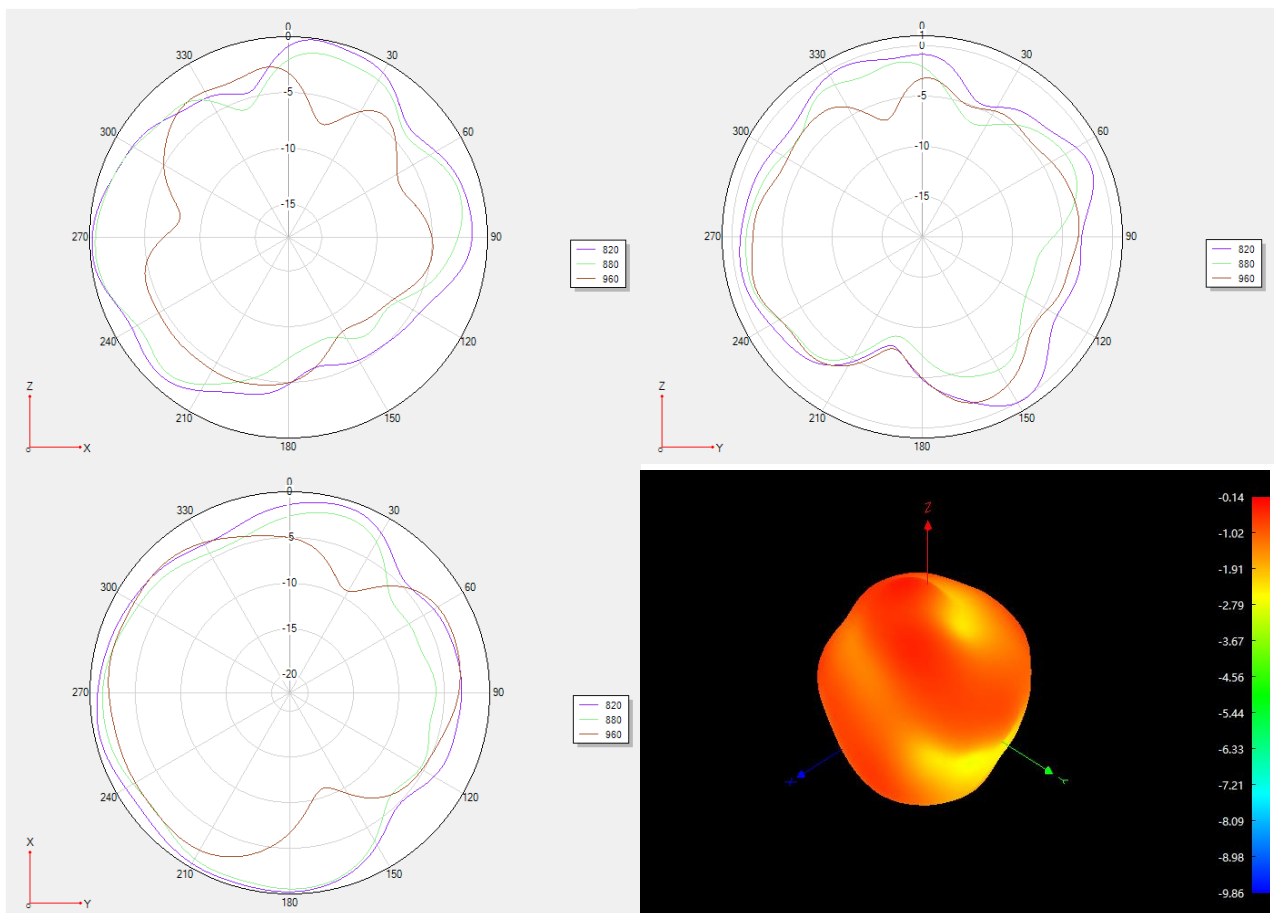
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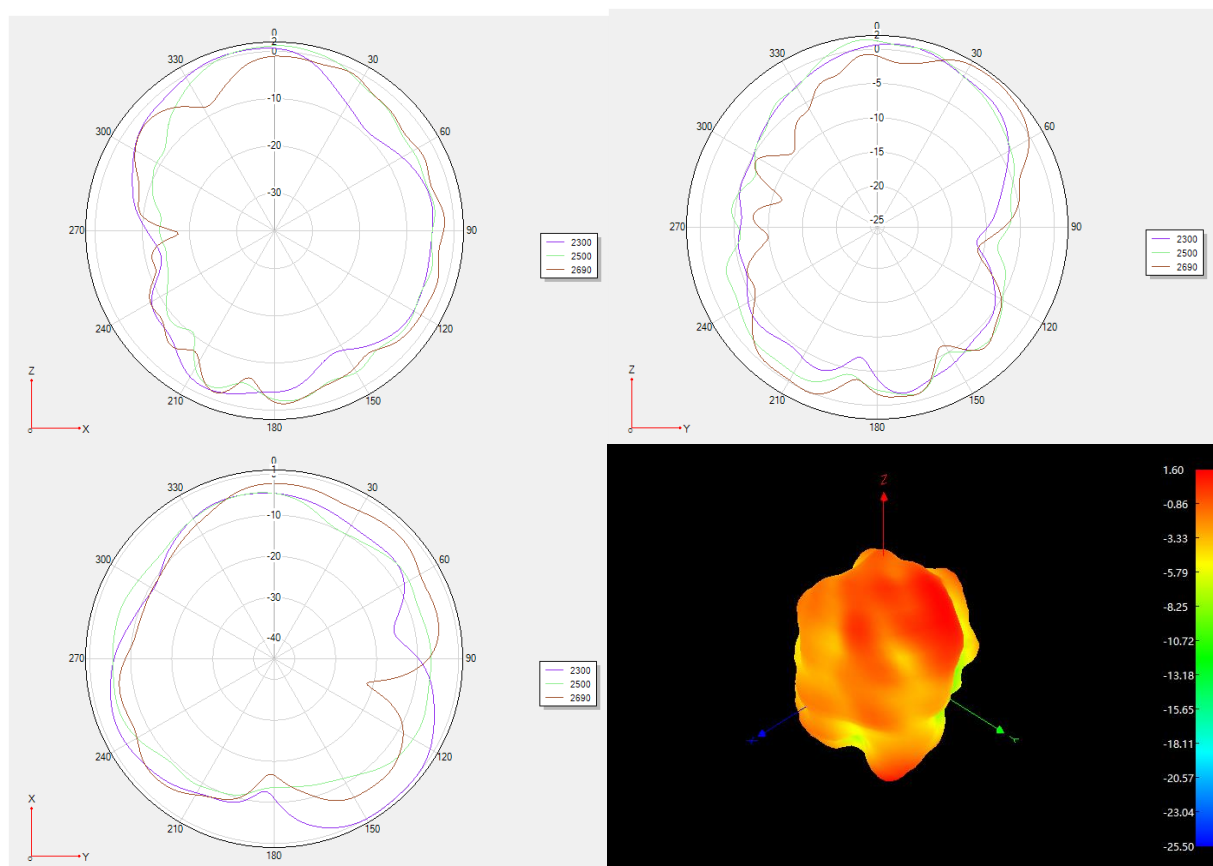
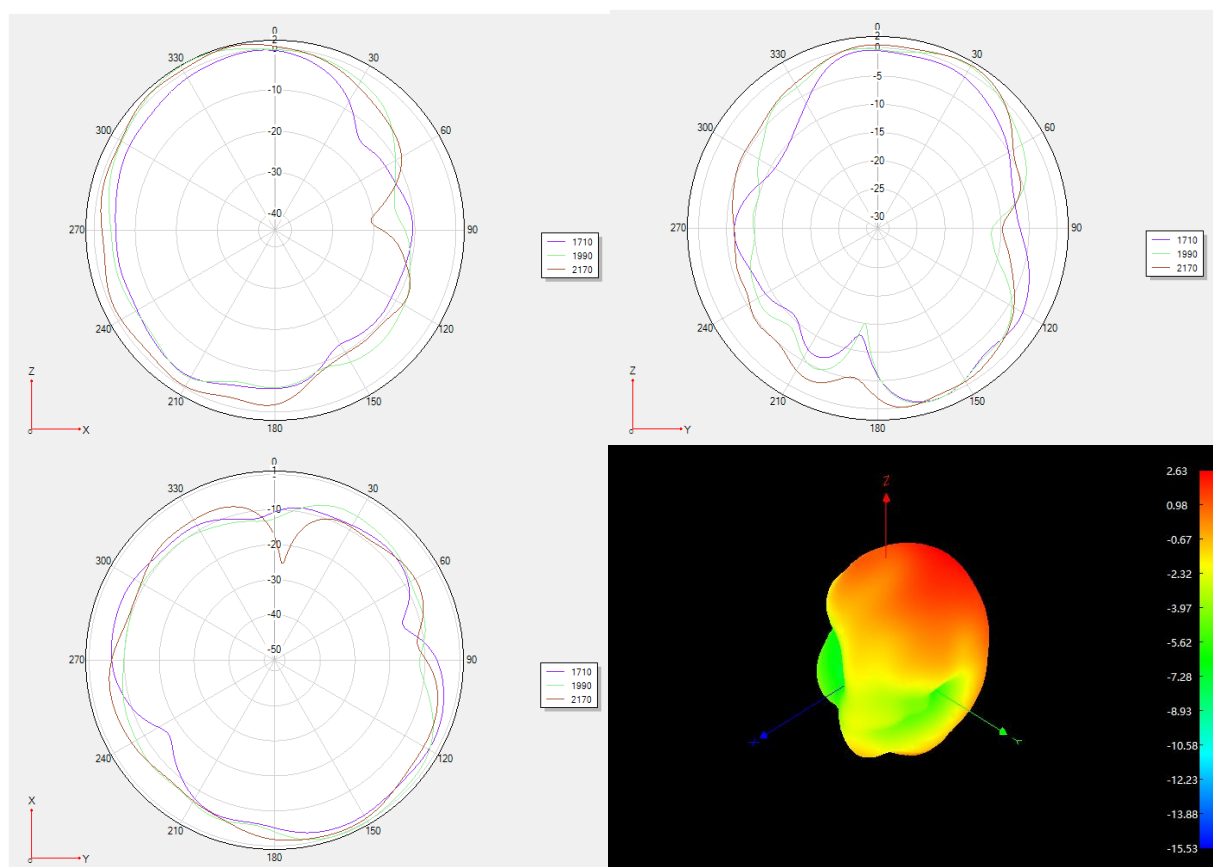
2.2 Antenna and efficiency gains

Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)	Freq (MHz)	Effi (%)	Gain (dBi)
820	45.81	0.2	1710	29.44	2.45	2070	50.58	2.78	2420	46.03	2.51
830	44.26	-0.08	1730	31.84	1.89	2090	47.21	2.02	2430	46.03	2.51
840	46.56	0.06	1750	30.69	1.03	2110	41.11	1.15	2440	47.32	2.78
850	40.09	-0.87	1770	31.33	0.84	2130	40.83	1.29	2450	46.03	2.42
860	43.05	-0.63	1790	33.73	1.29	2150	43.15	1.61	2460	46.34	2.67
870	34.36	-1.24	1810	33.42	1.51	2170	46.34	1.84	2470	44.16	2.5
880	37.5	-0.14	1830	34.99	1.62	2190	47.75	2.05	2480	42.07	3.17
890	44.77	1.06	1850	38.64	1.99	2210	47.21	2.41	2490	40.09	2.95
900	46.56	0.62	1870	41.88	2.43	2230	48.75	2.71	2500	36.98	2.38
910	44.98	0.38	1890	43.45	2.74	2250	50.47	2.16	2510	39.72	1.31
920	44.98	-0.02	1910	44.16	2.85	2270	50.35	2.22	2530	42.56	2.15
930	42.17	0.01	1930	40.55	1.76	2290	46.45	2.45	2550	44.57	3.08
940	43.75	0.16	1950	39.99	1.75	2310	37.58	2.7	2570	45.92	3.09
950	35.56	-0.71	1970	43.15	2.03	2330	32.81	2.43	2590	46.13	2.75
960	32.66	-1.51	1990	47.86	2.63	2350	37.84	1.35	2610	47.53	2.95
			2010	46.77	2.38	2370	41.3	0.3	2630	45.71	3.32
			2030	44.67	2.02	2390	44.57	1.14	2650	41.98	2.61
			2050	48.19	2.29	2410	45.71	1.89	2670	42.46	1.98
							46.56	2.48	2690	44.16	1.6



2.3 3D Pattern



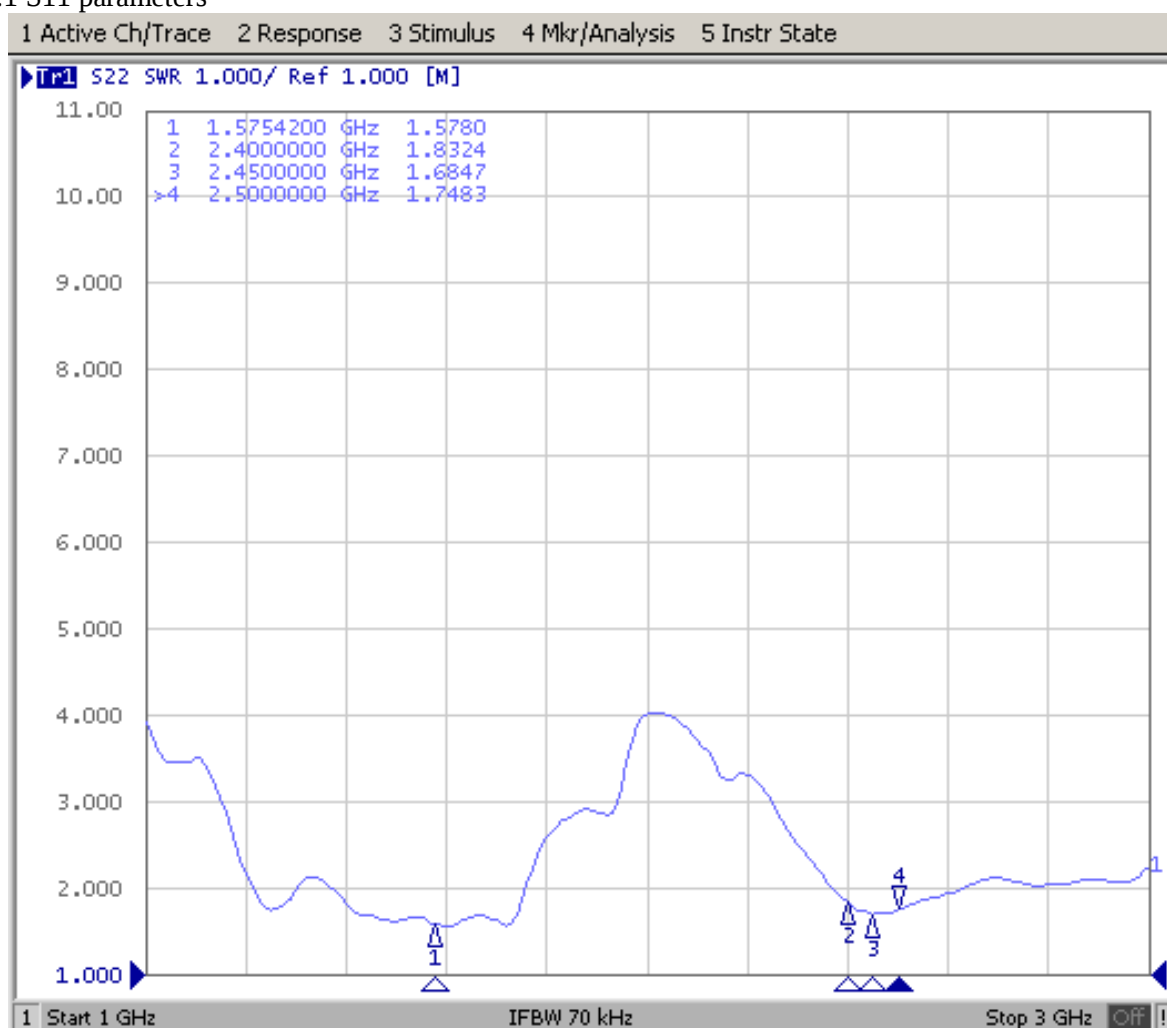


2.4 LTE antenna characteristics

NO.	(Item)	(Specifications)
1	Range of Receiving Frequency	824MHz-2690MHz
2	V.S.W.R(in Center Frequency)	≤ 3
3	Peak Gain (Zenith) (dBi typ)	5.0
4	Polarization	线极化
5	Impedance(Ω)	50

3. 3-IN-1 ANTENNA DATA

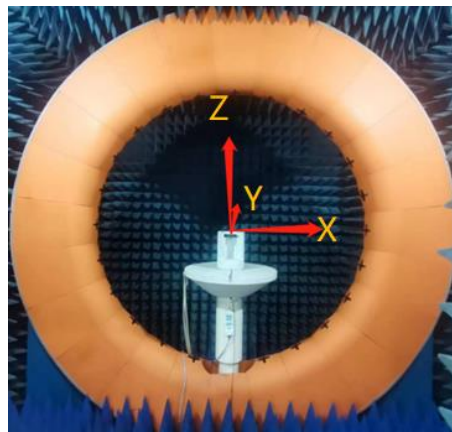
3.1 S11 parameters



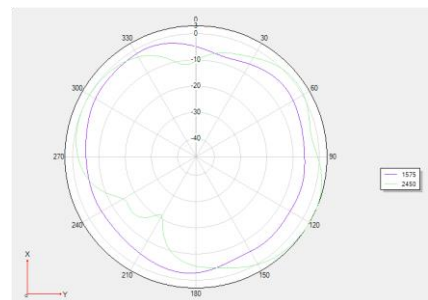
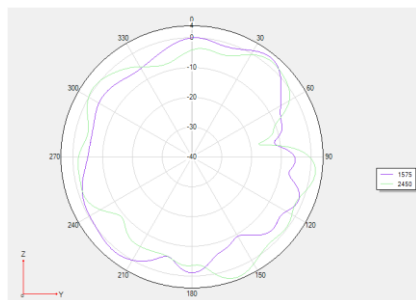
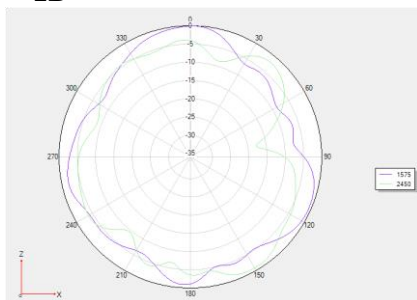
3.2 Antenna and efficiency gains

Frequency/Mhz	Efficiency / dB	Efficiency / %	Frequency/Mhz	Efficiency / dB	Efficiency / %
1560	-3.06	49.43	2400	-2.84	52
1565	-3	50.12	2410	-2.97	50.47
1570	-2.98	50.35	2420	-2.83	52.12
1575	-2.98	50.35	2430	-2.87	51.64
1580	-2.83	52.12	2440	-2.83	52.12
1585	-2.79	52.6	2450	-2.79	52.6
1590	-2.71	53.58	2460	-2.97	50.47
1595	-2.65	54.33	2470	-2.54	55.72
1600	-2.78	52.72	2480	-2.59	55.08
1605	-2.7	53.7	2490	-2.65	54.33
1610	-2.51	56.1	2500	-2.83	52.12

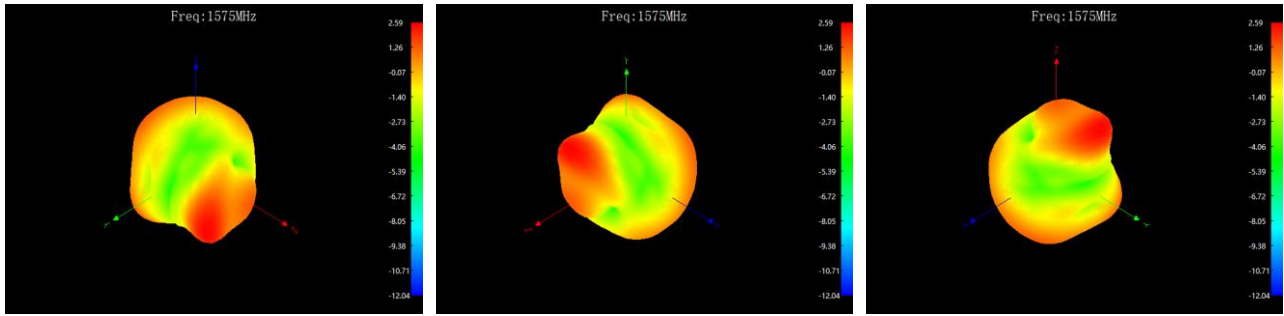
3.3 3D Pattern



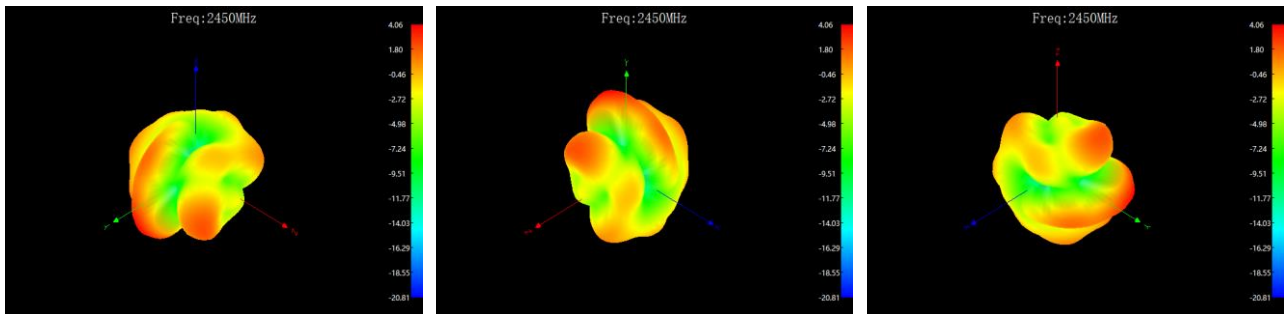
2D



3D For 1575MHz



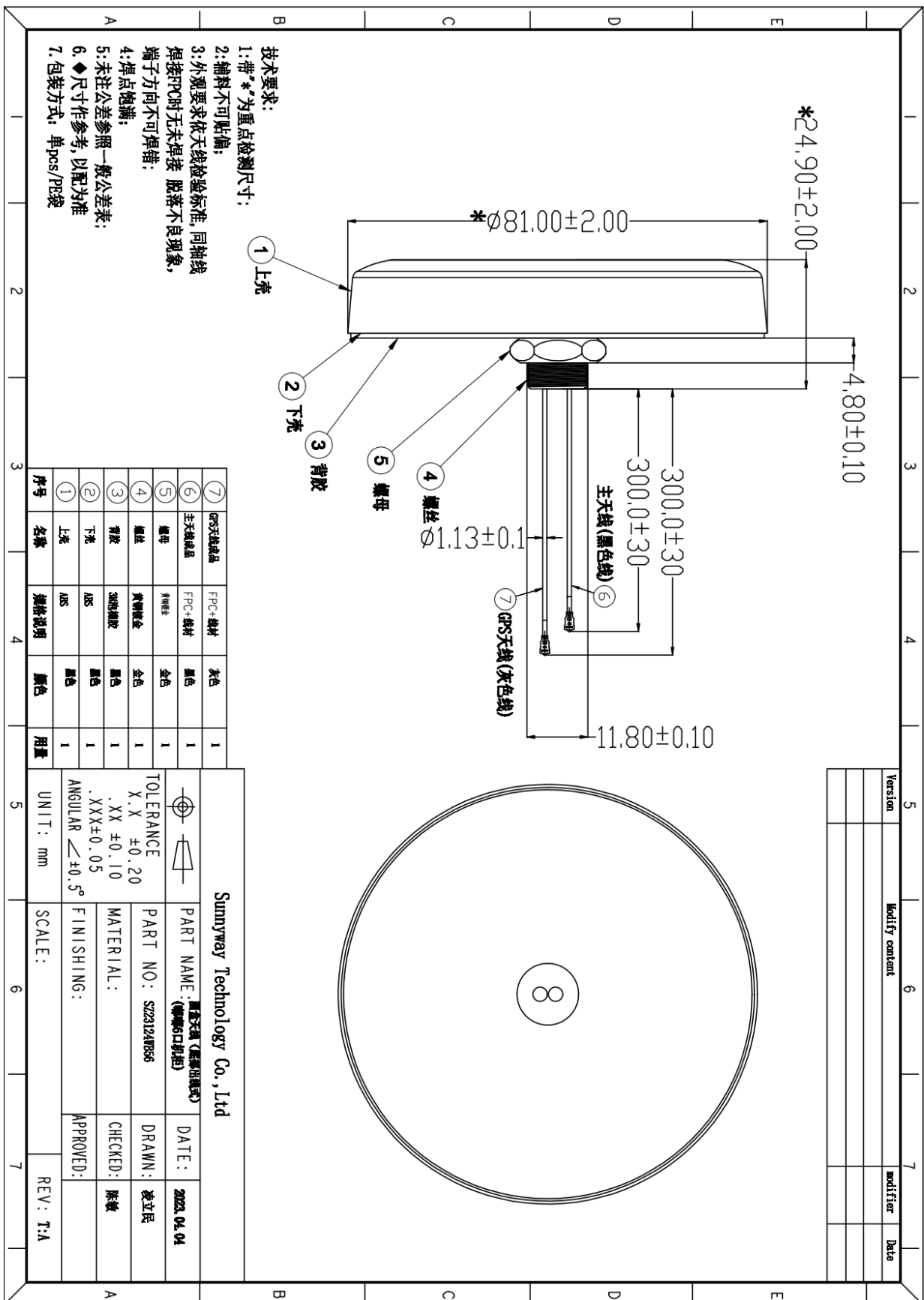
3D For 2450MHz



3.4 Three-in-one antenna characteristics

NO.	(Item)	(Specifications)
1	Range of Receiving Frequency	1550-1610 2400MHz-2500MHz
2	V. S. W. R(in Center Frequency)	≤ 2
3	Peak Gain (Zenith) (dBi typ)	3.0
4	Polarization	linear polarization
5	Impedance (Ω)	50

4. STRUCTURAL DRAWINGS



5. TERMINAL MATING FORCE TEST REPORT

Test Report

Specimen Name	RF1 1.13	Part Number	ANCZ113L-1C1
Manufacturer	CCT	Model/Type	N/A
Department	QE	Applicant	Tan chun zhi
Sample Quantity	10PCS	Sample State	Receptacle: 5pcs Connector: 5pcs
Date of Receipt	2020/6/15	Date of Testing	2020/6/15
Environment	23.5℃ ; 56%RH	Report Type	CCT-20200615-005
Description: Such as testing pictures, according to the requirements of the project.			
Test Item: Mating force and Un-mating force test			
Based on testing: Refer to the EIA - 364-13 part test specification requirements, testing			
Test Conclusion: Test qualified			

Approve : Liyongqi

Check : Panliangyu

Test: Zhengweisonq

Date : 2020/6/15

Date : 2020/6/15

Date : 2020/6/15



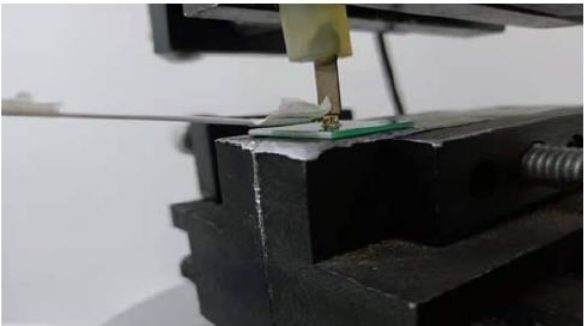
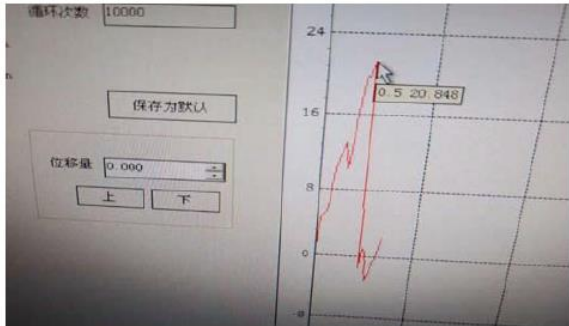
- * The results of the Test Record relate only to the items tested and the specimen received.
- * This test document cannot be reproduced in any way, except in full content or the prior approval in writing of the laboratory.

Test Summary

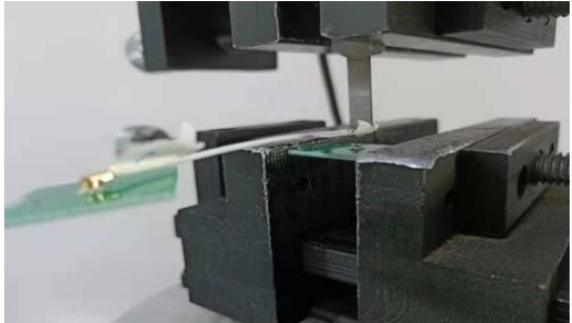
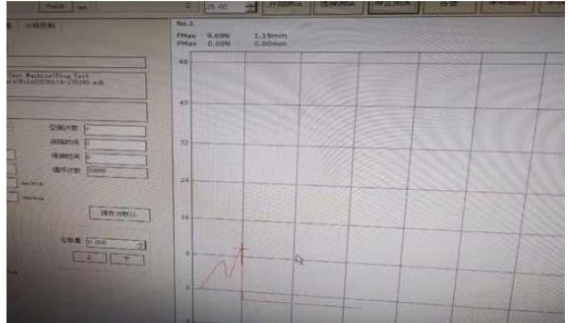
Un-mating force test

Project Matching mode	Spec	Result			PASS FAIL
		NO	Mating force	Un-mating force	PASS
Un-mating force test	Mating force 30N max Un-mating force 5N min Speed:25±3mm/min	1	20.84	9.69	PASS
		2	24.68	12.30	PASS
		3	24.06	11.10	PASS
		4	21.87	10.56	PASS
		5	19.70	9.91	PASS

Test Photo

Plug-and-pull machine	
	
Mating force	DATA



	
Un-mating force	DATA

Testing equipment

Serial number	Name	Specification Model	Control Number	Term of validity
1	Plug-and-pull machine	1220S	CCT-NJ-006	2020/6/24

6. MATERIAL COMPOSITION LIST

part name	order number	Name of raw material	Name of substance
FPC	1	Base material	Halogen-free epoxy resin adhesive
			Polyamide membrane
			copper foil
	2	gum	Thickening acrylic polymer
	3	printing ink	Epoxy acrylic acid derived resin
			Barium sulfate
			Aromatic solvent
			Silica dioxide
			Methyl ether of dipropylene glycol
	4	metals	aurous potassium cyanide
coaxial cable	1	restrictive coating	Polyfluoroethylene propylene FEP
	2	tinned wire	tin
			copper
	3	Polyfluoroethylene propylene	Polyfluoroethylene propylene FEP
	4	inner conductor	silver
			copper (Cu)

7. ROHS REPORTS

material	report number	report date	SGS REPORTS
FPC base material	SHAEC2202460504	2022. 02. 21	 电解中文 ROHS
printing ink	ETR22705905	2022. 08. 05	 ETR22705 905 ROHS(黑 色系列)
gold-plating	CANEC2217111902	2022. 08. 16	 2022SGS
300LSE	CANEC2200386501	2022. 01. 12	 93005LE,9 3010LE,93 015LE,930
Coaxialcablesheat h layer	A2220187773101001E	2022. 05. 16	 12、线材- 护套本体 ROHS
Coaxial outer conductor	A2210461380101001C	2021. 11. 05	 11、线材- 导体 ROHS

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Coaxial insulation layer	NGBML2200124301	2022. 01. 27	 14. 线材- 绝缘层 ROHS
terminal	CANEC2201952001	2022. 2. 18	 6. 端子-外 壳C5191 ROHS

8. MSDS

Department Name	Serial number No.	Raw Material Name	Substance Name	CAS No.	Release(Y/N)	SVHC SVHC(Y/N)
FPC	1	基材	Halogen-free epoxy resin adhesive	24969-06-0	N	N
			Polyamide membrane	25038-81-7	N	N
			copper foil	7440-50-8	N	N
	2	gum	Thickening acrylic polymer	08-9111-9	N	N
	3	printing ink	Epoxy acrylic acid derived resin	28064-14-4	N	N
			Barium sulfate	7727-43-7	N	N
			Aromatic solvent	64742-94-5	N	N
			Silica dioxide	7631-86-9	N	N
	4		Methyl ether of dipropylene glycol	34590-94-8	N	N
			potassium dicyanoaurate	13967-50-5	N	N

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		golden				
coaxial cable	1	restrict ive coating	Polyfluoroethylene propyleneFEP	25067-11-2	N	N
	2	outer conducto r	tin	7440-31-5	N	N
			copper	7440-50-8	N	N
	3	insulati ng layer	Polyfluoroethylene propylene FEP	25067-11-2	N	N
	4	inner conducto r	ilver	7440-22-4	N	N
			copper	7440-50-8	N	N