

acknowledgement

Customer name: Toumei

Customer model: X5 projector

Customer No.:

Specification description: Internal Antenna/2.4G-WiFi/3dBi/50ohm/FPC
43.40*12.00mm/RF1. 13mm

Gray coaxial L=270mm+lpex1

Confirmation of signature and seal

Day frequency intelligent confirmation of customer confirmation

Sample preparation audit approval verification audit approval

Signature and seal of the customer

Date 2022-11-23 Date 2022- -

Address: Room 1002, 10th Floor, Building 6, Zone A, Pingtaichang Science and Technology Park, Yongnan Industrial Zone, Shangcun, Guangming District, Shenzhen
Contact person: Wang Jianguo 13424341872

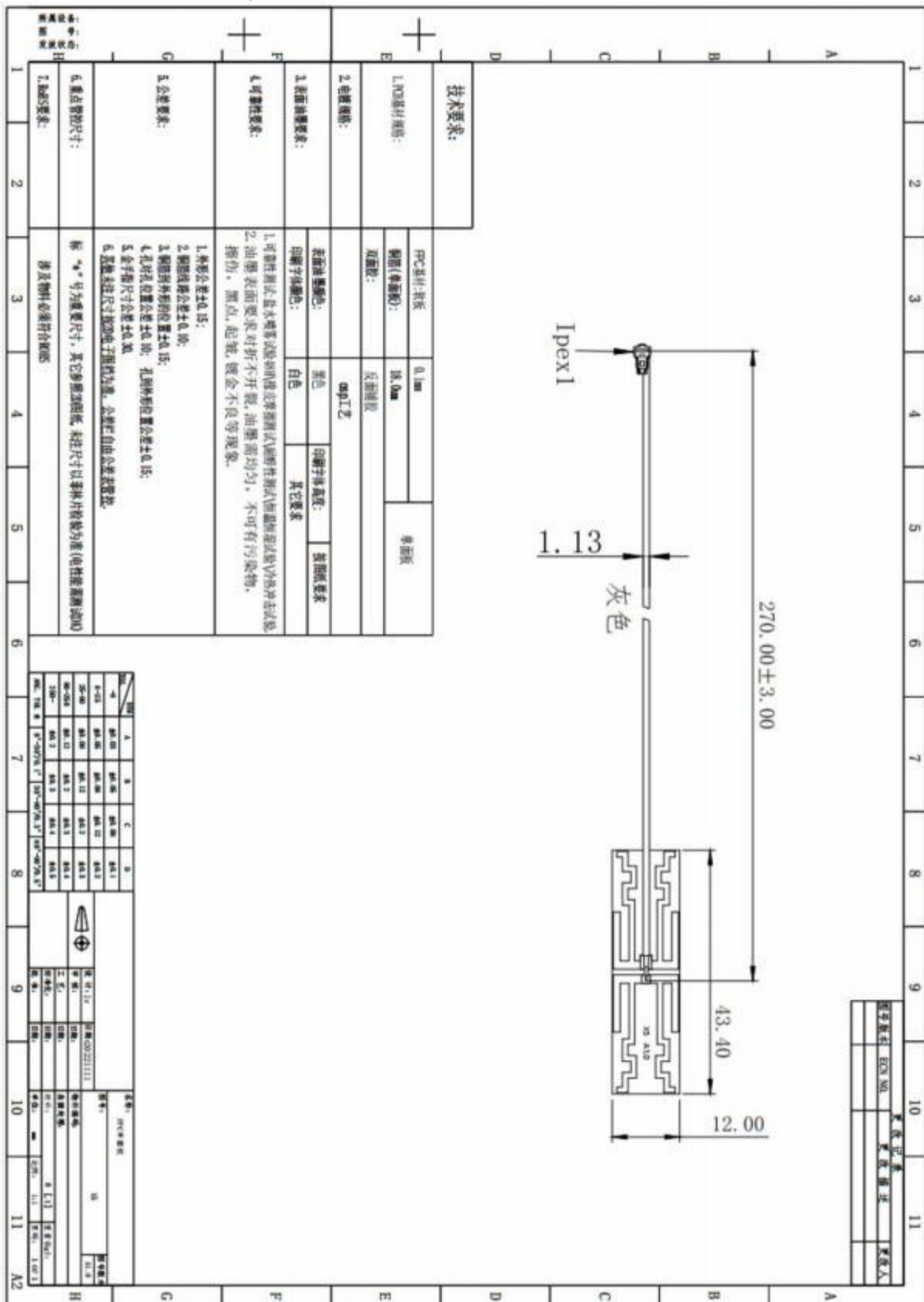
2. Document formulation / revision / abolition of the resume

[illegible]

3. Directory

1. Cover.....	1
2. Document formulation / revision / abolition of the resume.....	2
3, catalogue.....	3
4. Product drawings.....	4
5. passive performance test parameters.....	5-6
6. Electrical performance test report.....	7
7. Reliability test report.....	8-9
8. Packaging specifications.....	10

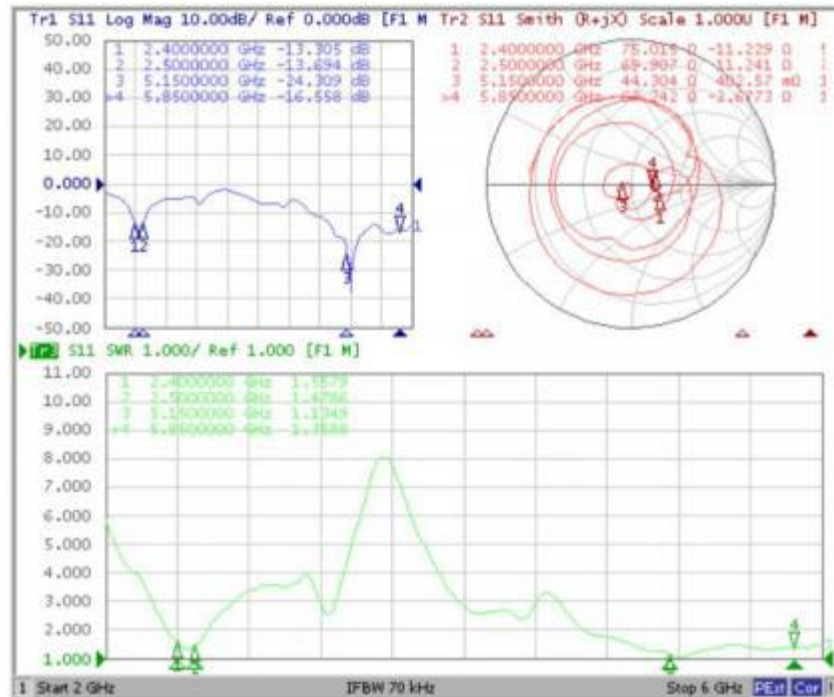
4. Product drawings



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5. passive performance test parameters

S11



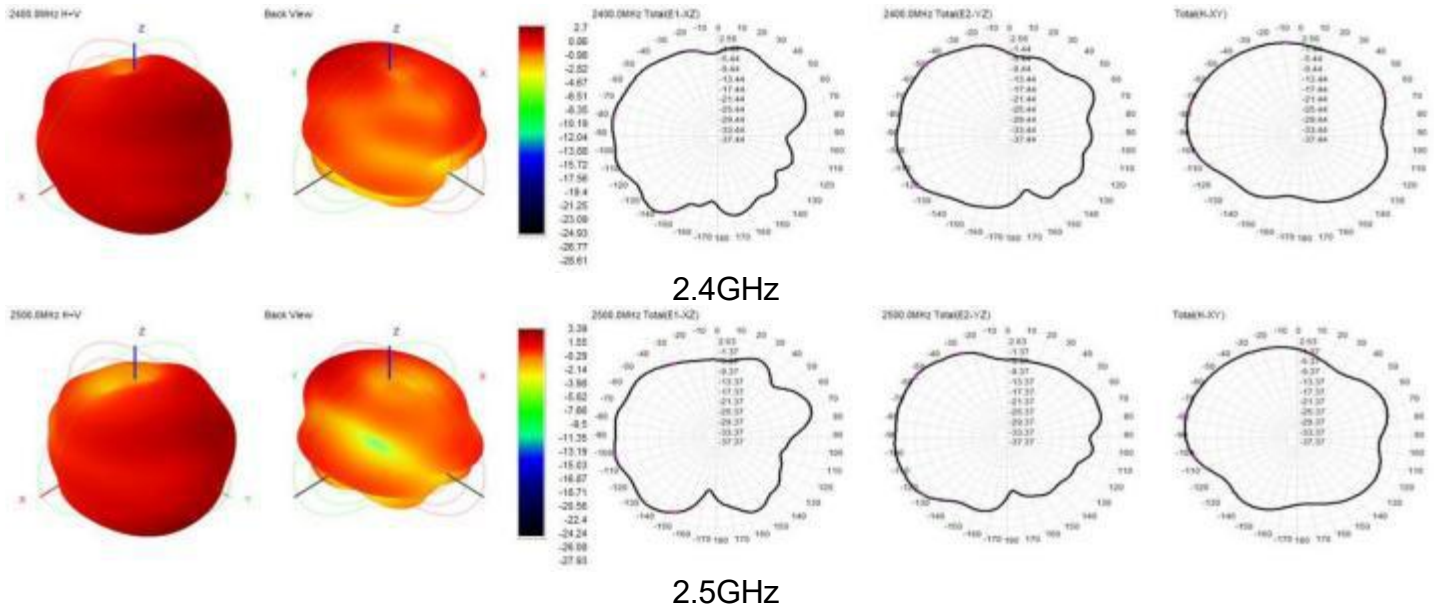
Fre(GHz)	2.4	2.5
ReeturnLoss	-13.30	-13.69
VSWR	1.55	1.47

Efficiency, gain, and direction diagram

														
Frequency ID	1	3	5	7	9	11	12	14	16	18	20	22	24	26
Frequency (MHz)	2400.0	2420.0	2440.0	2460.0	2480.0	2500.0	5150.0	5250.0	5350.0	5450.0	5550.0	5650.0	5750.0	5850.0
Efficiency (dBi)	-2.60	-2.61	-3.08	-3.39	-3.03	-2.61	-4.71	-4.91	-3.51	-3.51	-4.15	-4.60	-4.46	-4.21
Gain (dBi)	2.70	2.75	2.63	2.54	2.65	3.39	2.86	2.48	4.01	4.09	3.53	3.30	3.28	3.18
Efficiency (%)	54.95	54.81	49.21	45.78	49.77	54.86	33.80	32.28	44.58	44.59	38.50	34.67	35.81	37.97
Directivity (dB)	5.30	5.36	5.70	5.94	5.68	6.00	7.57	7.39	7.52	7.60	7.67	7.90	7.74	7.38
Peak Gain Position (Theta)	96.00	110.00	98.00	96.00	101.00	108.00	99.00	68.00	96.00	71.00	70.00	69.00	70.00	99.00
Peak Gain Position (Phi)	71.00	62.00	70.00	72.00	69.00	65.00	64.00	91.00	74.00	87.00	89.00	87.00	84.00	63.00
Efficiency ThetaPol (%)	44.13	43.69	39.28	37.66	40.31	44.84	30.68	28.07	40.36	40.98	34.90	30.84	32.28	34.08
Efficiency PhiPol (%)	10.82	11.12	9.93	8.11	9.46	10.02	3.12	4.20	4.23	3.61	3.60	3.83	3.53	3.90
Upper Hem. Efficiency (%)	31.68	30.27	26.30	25.46	28.01	29.56	20.11	17.97	25.14	25.47	22.73	20.81	21.25	22.10
Lower Hem. Efficiency (%)	23.27	24.54	22.92	20.32	21.76	25.31	13.69	14.31	19.44	19.12	15.76	13.86	14.56	15.88

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Tianfeng IntelligentIoT Technology (Shenzhen) Co., Ltd



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6. Electrical performance parameters

Electrical parameters	
frequency range	working temperature
input impedance	
standing-wave ratio	
gain	2.4GHz
	5.8GHz
Polarization mode	
radiation direction	
Connector model	
wire length	
Mainten	
ance	
force	
coaxial	
cable	

salt

spray

test

2.4-2.5GHz		olarized	
50Ω		omnidire	
		ctional	
<2.0		Ip ex1	
3 dBi		Mechanical parameters	
3 dBi		270m	
C		m/	
r		Gray is 1.13mm	
o			
s			
s		enviromental parameter	
-			
p		-40~85℃	
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Contactperson: Wang Ji anguo 13424341872			

7. Reliability test report

7.1. Constant temperature and humidity test

Test / test items	steady temperature damp test	Inspection sheet number
Product name / specification	2.4G-FPC RF1.13mm Line, line length of 270mm, Ip ex1	Number of tests: 5 PCS
Inspection date: November 29, 2022		Completion date: 20-2022
Test / inspection equipment:		
1. Program-type constant temperature and humidity test box		
2. 8753 ES network analyzer		
Test / Inspection Conditions:		
1. Test for 12H at constant temperature -40°C		
2. + 65 ° 65 ~ 70% RH test 12H, a total of 24 hours;		
end of test		
requirement:		
1. No cracks and separation on the metal surface; the non-metallic part should not have discoloration, cracking, deformation, glue and other bad;		
2. The electrical test meets the standard requirements; the voltage ratio test is qualified		
Test / inspection determination: ☐ qualified ☒ unqualified ☐ Do not make judgment		

Test: Audit:

7.2. Cold and cold shock at high and low temperature

Test / test items	Cold and cold shock at high and low temperature	Inspection sheet number
	2.4G-FPC	Number of tests: 5 PCS
	RF1.13mm Line, line length of 270mm, 1p ex1	Completion date: 20-2022
Inspection date: November 29,2022		
Test / inspection equipment: 1. High and low temperature are alternating with humid heat 2.8753 ES Network Analyzer		
Test / Inspection Conditions: -40℃ (2H) - -80℃ (2H) interval, 6 cycles, a total of 24 hours;		
end of test		
requirement: 3. The metal surface coating shall not be peeling, cracking, separation, etc.; the non-metallic part shall not have discoloration, cracking, deformation, bonding and other bad; 4. The electrical test meets the standard; the voltage wave ratio test is qualified.		
Test / inspection determination: ☒ qualified ☐ unqualified ☐ Do not make judgment		

Test: Audit:

8. Packaging specifications

Product material number:

Product specification: InternalAntenna/2.4G-WiFi/3dBi/50ohm/FPC43.40*12.00mm/RF1.13mm
Graycoaxial lineL=270mm + Ipex 1

1. labeling requirement

Inner label length 45 wide 70				Outer label long 45 wide 70			
demander				demander			
supplier				supplier			
Tianfrequency Intelligent Internet of Things Technology (Shenzhen) Co., LTD				Tianfrequency Intelligent Internet of Things Technology (Shenzhen) Co., LTD			
Customer order number				Customer order			
Custom	2. Packaging				Custome		
er					r		
material		matters need attention:		examination clerk	material		
number					number		
material				date of manufacture	material		
code					code		
product				product			
name				name			
specific				specifica			
ation				tion			
Quantity / unit				Quantity / unit			
remarks				remarks			

2. The packing requirements

1. Internal
packagin
g
products
50 PCS
5000 PCS

examination clerk

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