

Tianpin Intelligent iot Technology (Shenzhen) Co., LTD

Letter of acceptance

Customer name: TOUMEI

Customer model: X5 projector

Customer number:

Specification description:

Built-in Antenna: 2.4G&5.8G-WiFi/3dBi/50ohm/FPC 43.40*12.00mm/
RF1.13mm/Grey coaxial line/L=270mm+Ipex1

Confirm signature and seal					
Company confirmation			Customer confirmation		
Sample	Examine	Permission	Verify	Examine	Permission
Tianpin Intelligent iot Technology (Shenzhen) Co., LTD					
Date	2022-11-23		Date	2022- -	

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2. Document preparation/revision/repeal of the resume

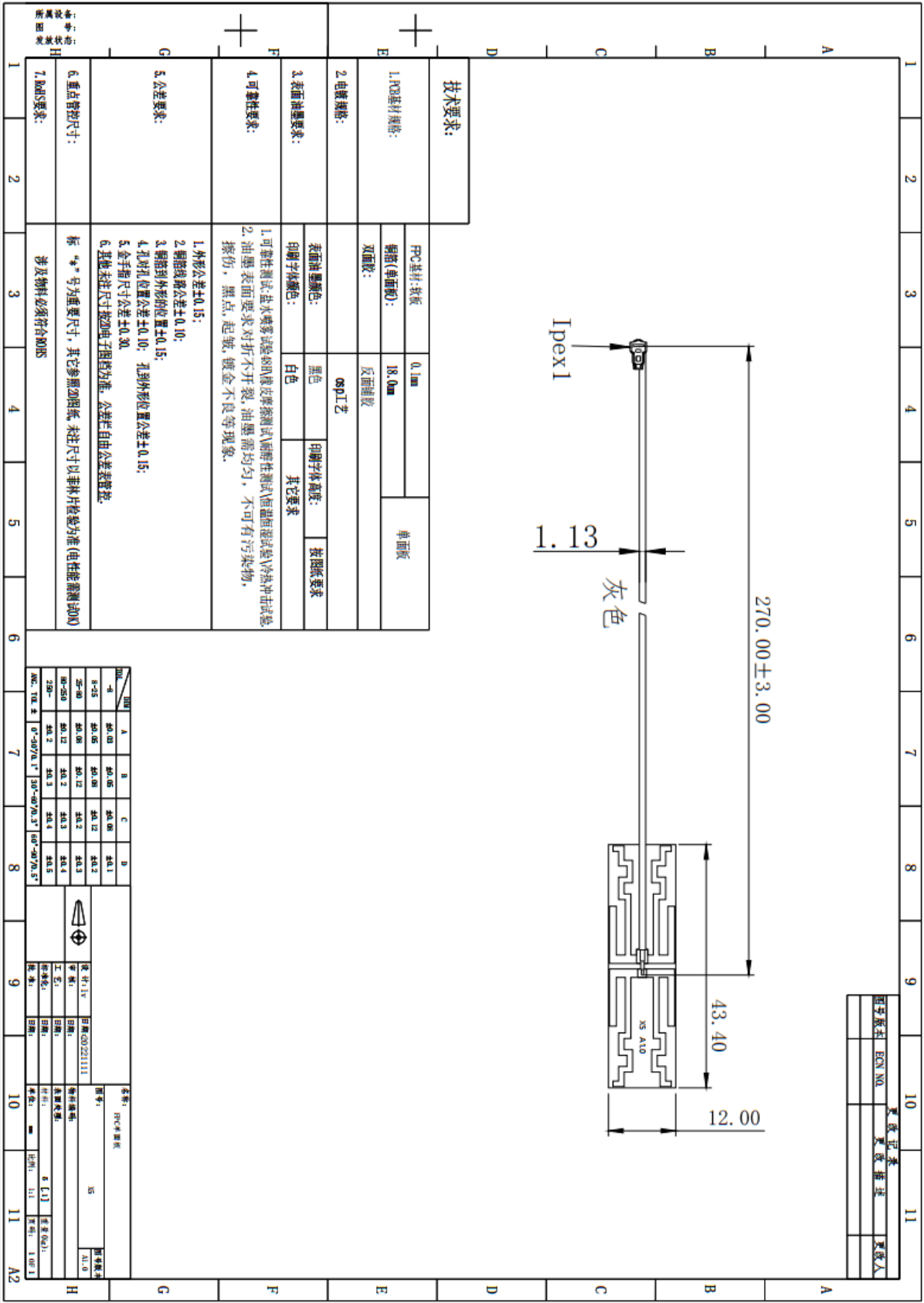
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3. Catalogue

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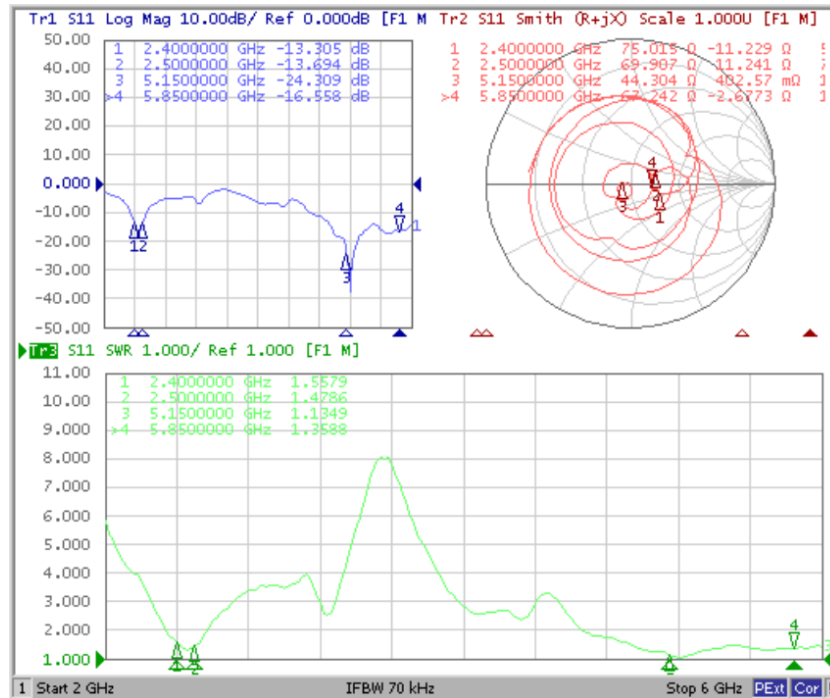
4. Product drawing



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5.Passive performance test parameters

S11



Fre(GHz)	2.4	2.5	5.15	5.85
ReeturnLoss	-13.30	-13.69	-24.30	-16.55
VSWR	1.55	1.47	1.13	1.35

Efficiency, gain, direction chart

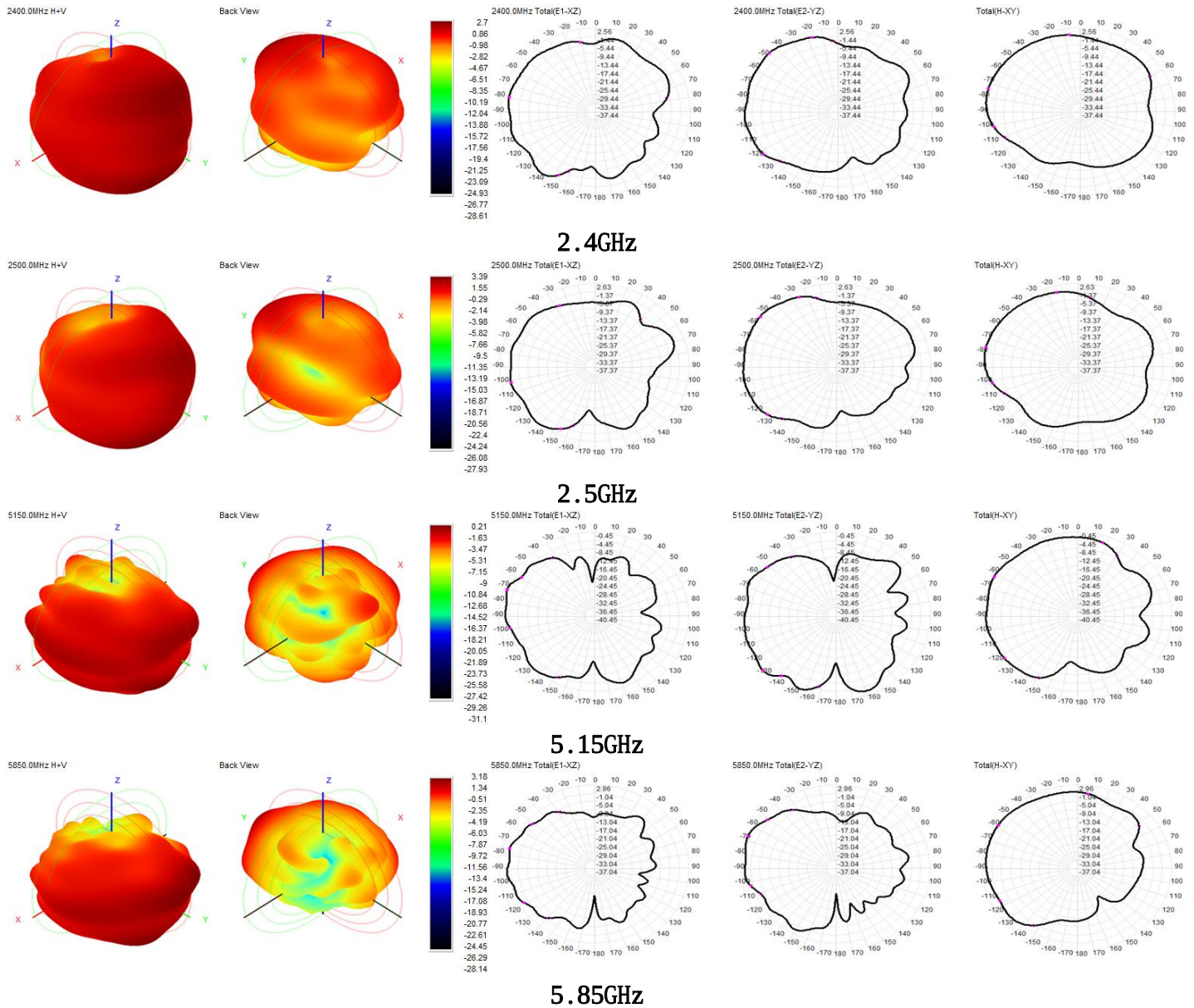


Frequency ID	1	3	5	7	9	11	12	14	16	18	20	22	24	26
Frequency (MHz)	2400.0	2420.0	2440.0	2460.0	2480.0	2500.0	5150.0	5250.0	5350.0	5450.0	5550.0	5650.0	5750.0	5850.0
Efficiency (dBi)	-2.60	-2.61	-3.08	-3.39	-3.03	-2.61	-4.71	-4.91	-3.51	-3.51	-4.15	-4.60	-4.46	-4.21
Gain (dBi)	2.70	2.75	2.63	2.54	2.65	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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6. Electrical performance test report

Electrical parameter		
Frequency range		2.4-2.5GHz /5.15-5.85GHz
Input impedance		50 Ω
VSWR		<2.0
Gain	2.4GHz	3 dBi
	5.8GHz	3 dBi
Polarization mode		Cross polarization
Radiation direction		Omnidirectional
Type		Ipex1
Mechanical parameter		
Line length		270mm
Maintenance power		/
Coaxial cable		1.13mm gray
Salt spray test		
Environmental parameter		
Operating temperature		-40~85 $^{\circ}$ N

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7. Reliability test report

7.1. Constant temperature and humidity test

Trials/pilot projects	Constant temperature and humidity test	Inspection number
Product/specification	2.4G&5.8G-FPC RF1.13mm,L: 270mm, Ipex1	Number of tests: 5PCS
Date of submission: 2022-11-9		Completion Date: 2022-11-10
Test/inspection equipment: 1. Programmable constant temperature and humidity test chamber 2. 8753ES Network Analyzer		
Test/inspection conditions: 1. Constant temperature -40℃ 12H 2. +65℃~70%RH 12H Total 24 hours		
Test Result		
Judging criteria: 1, the metal surface is not cracked wrinkles, separation, etc.; Non-metallic parts should not discolor, crack, deformation, degumming and other bad. 2. Electrical test meets standard requirements; VSWR test passed		
Test/inspection decision: ●PASS ●FAIL ●Not Application		
Test: Examine:		

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7.2.High and low temperature cold and heat shock

Trials/pilot projects	High and low temperature cold and heat shock	Inspection number
Product/specification	2.4G&5.8G-FPC RF1.13mm,L: 270mm, Ipex1	Number of tests: 5PCS
Date of submission: 2022-11-9		Completion Date: 2022-11-10
Test/inspection equipment: 1. High and low temperature alternating humidity and heat 2.8753ES Network Analyzer		
Test/inspection conditions: -40N (2H)---interval 80N (2H),6 cycles, 24 hours in total		
Test Result		
Judging criteria: 3, the metal surface coating should not flake, crack wrinkles, separation, etc.; Non-metallic parts should not discolor, crack, deformation, degumming and other bad; 4, electrical test in line with standards; VSWR test passed.		
Test/inspection decision: ●PASS ●FAIL ●Not Application		
Test' Examine:		

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8. Packing specification

Product Part number:							
Specification description: Built-in Antenna: 2.4G&5.8G-WiFi/3dBi/50ohm/FPC 43.40*12.00mm/ RF1.13mm/Grey coaxial line/L=270mm+Ipexl							
1.Label requirements							
Inner label length 45 wide 70					Outer label length 45 wide 70		
demander					demander		
supplier	Tianpin Intelligent iot Technology (Shenzhen) Co., LTD				supplier	Tianpin Intelligent iot Technology (Shenzhen) Co., LTD	
Customer order number					Customer order number		
Part number					Part number		
Material code					Material code		
Name specification		inspector				inspector	
Quantity/unit		Production date				Production date	
Remark					Remark		
2. Packing requirements							
Inner packaging							
Product							
50PCS							
5000PCS							
Outer packaging							
Note:							