



Shenzhen Xingtong Wireless Technology Co., Ltd.

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Address: 3rd Floor, Building A1, Qiangrongdong Industrial Zone, Jiweiqiang, Xixiang, Bao'an District, Shenzhen City

Specification

Project Name: Feeder

Product Name: ANT

Producer	Examine and verify	Date
Huang Jiajun	Wu Yanlong	2023-06-09

Customer Confirmation:

Customer Name: Guangzhou Xiaopai Technology Co., Ltd.
Ratify :
Time :
Explanatory note :

Please return one copy to our company for archiving after signing and stamping it. Thank you for your cooperation!

 Shenzhen Xingtong Wireless Technology Co., Ltd. Shenzhen Xingtong Wieress Technology Co., Ltd		Date	2023-06-09
		Edition	A0
		Document number	XT-YF-004
Product name	Feeder-WIFI&BLE-ANT	Identification of product	XT-APP-RA

1. Product Structure

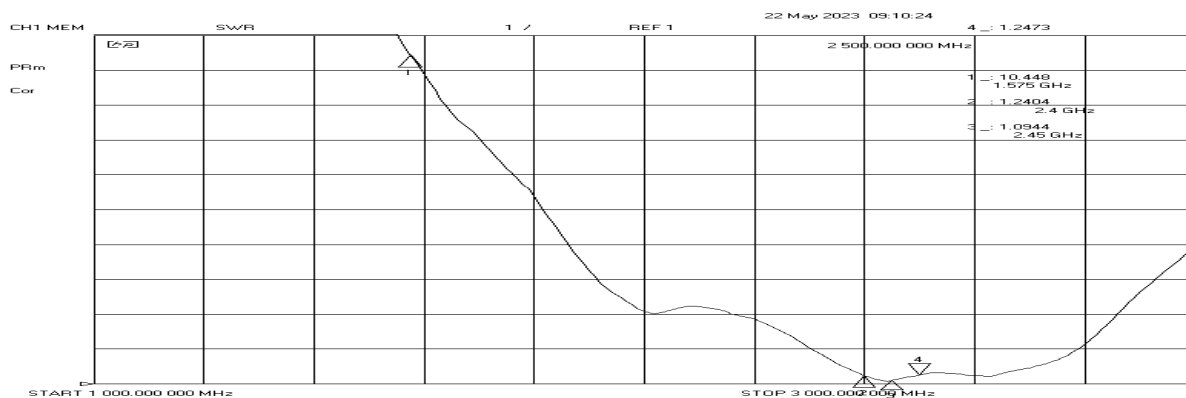
- 1. Antenna Material: FPC
- 2. Adhesive type: 3M9471
- 3. Antenna dimensions: 42.5 × 8.98 mm (tolerance ±0.2 mm)
- 4. Coaxial line dimensions: 140 mm Ø 1.13-1 generation IPEX (tolerance ±0.5 mm)

2. Parameter Index (Parameter index)

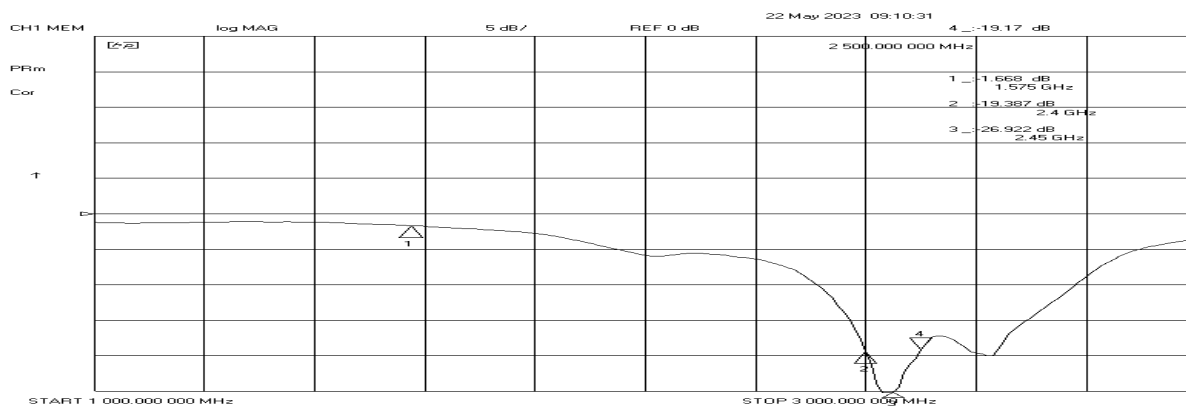
- Scope of Use: Customer-supplied machines
- Antenna Frequency: 2412–2484 MHz
- Antenna impedance: 50 Ω
- Antenna Standing Wave: <1.5 dBm
- Echo Loss: <-15 dB
- Antenna gain: ≥2.62 dBi
- Polarization Mode: Vertical/Horizontal
- Power Capacity: 5 W
- Installation Method: Connect the terminal wires to the motherboard

3. Antenna S11 Value (S11)

■ 3.1: Antenna Standing Wave Ratio



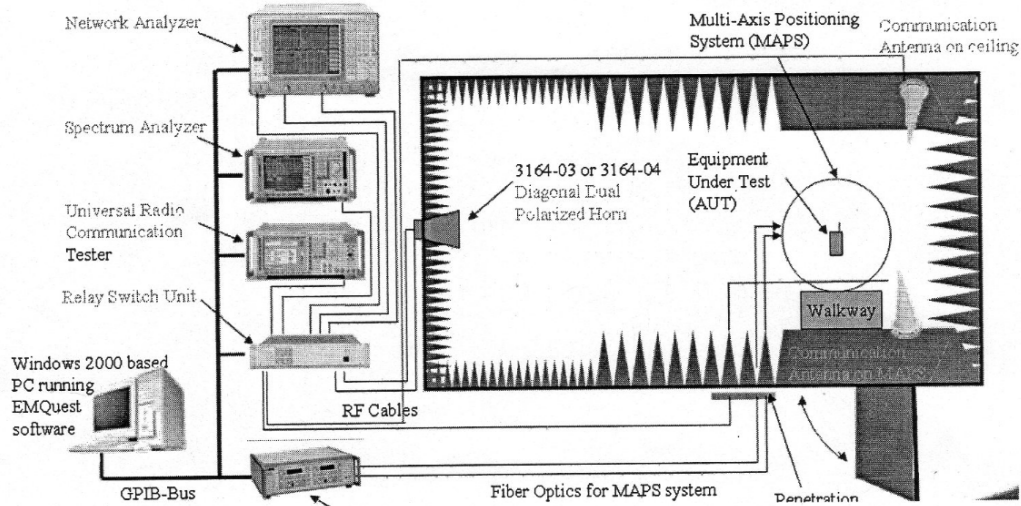
■ 3.2: Antenna Return Loss Value



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4. Antenna (OTA) Testing Environment

- 4.1: Testing Environment and Instruments: 3D microwave anechoic chamber, network analyzer, PC-based testing software, engineering samples, 10 dB attenuator, etc.

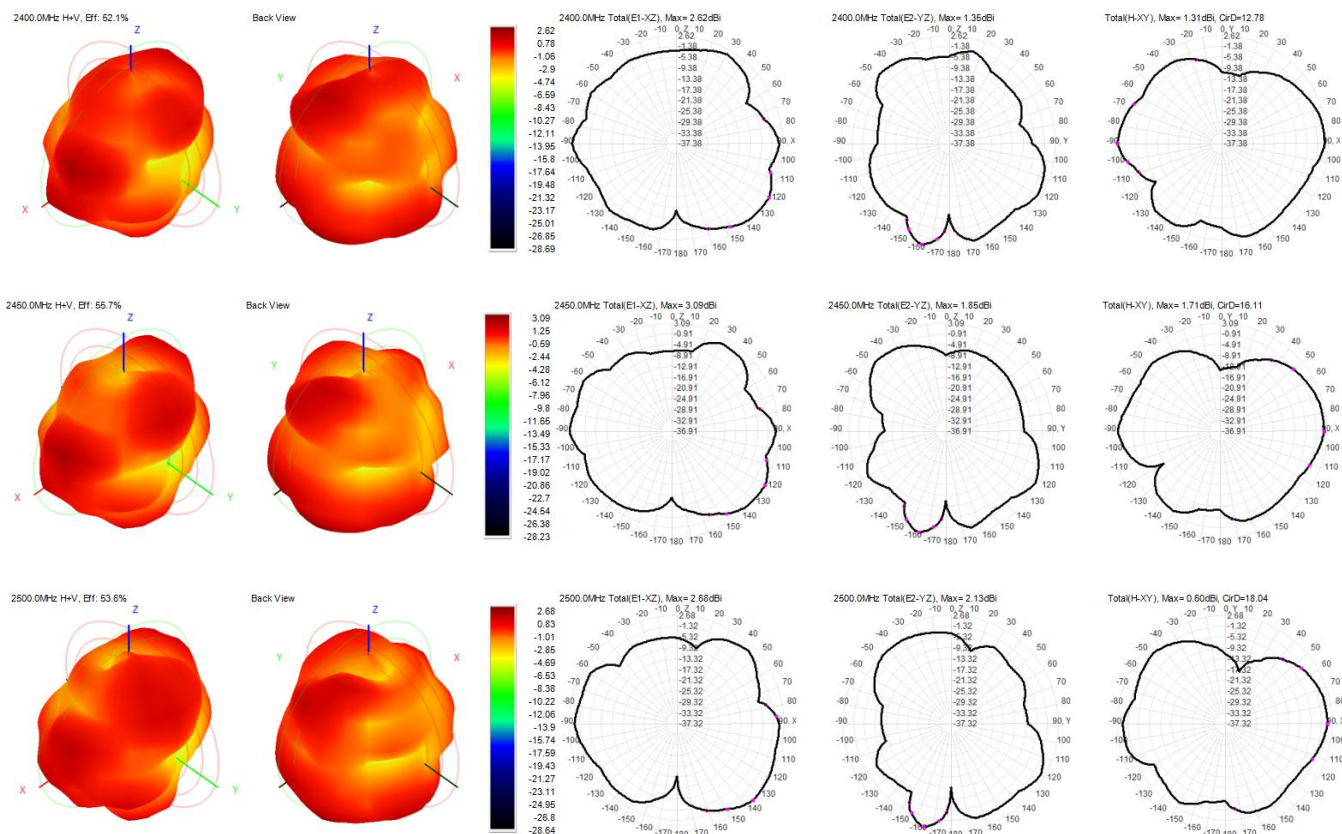


- 4.2: Antenna Efficiency/Gain

Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Efficiency (dBi)	-2.84	-2.87	-2.70	-2.72	-2.91	-2.54	-2.59	-2.82	-2.46	-2.65	-2.71
Gain (dBi)	2.62	2.62	2.80	2.92	2.78	3.09	3.03	2.65	2.91	2.68	2.68
Efficiency (%)	52.05	51.61	53.65	53.43	51.14	55.68	55.07	52.28	56.82	54.30	53.60
Directivity (dB)	5.46	5.49	5.50	5.64	5.69	5.63	5.62	5.47	5.36	5.33	5.39
Peak Gain Position (Theta)	120.00	120.00	165.00	165.00	165.00	120.00	120.00	120.00	165.00	150.00	135.00
Peak Gain Position (Phi)	180.00	180.00	315.00	315.00	315.00	180.00	195.00	195.00	315.00	240.00	180.00
Efficiency ThetaPol (%)	19.82	19.63	20.60	20.65	19.49	20.71	20.31	19.54	21.33	20.37	20.30
Efficiency PhiPol (%)	32.24	31.98	33.04	32.78	31.65	34.98	34.75	32.74	35.48	33.92	33.30
Upper Hem. Efficiency (%)	20.38	20.02	20.58	20.27	19.07	20.50	20.12	19.16	20.96	20.28	20.32
Lower Hem. Efficiency (%)	31.67	31.59	33.07	33.16	32.07	35.19	34.94	33.12	35.86	34.01	33.27

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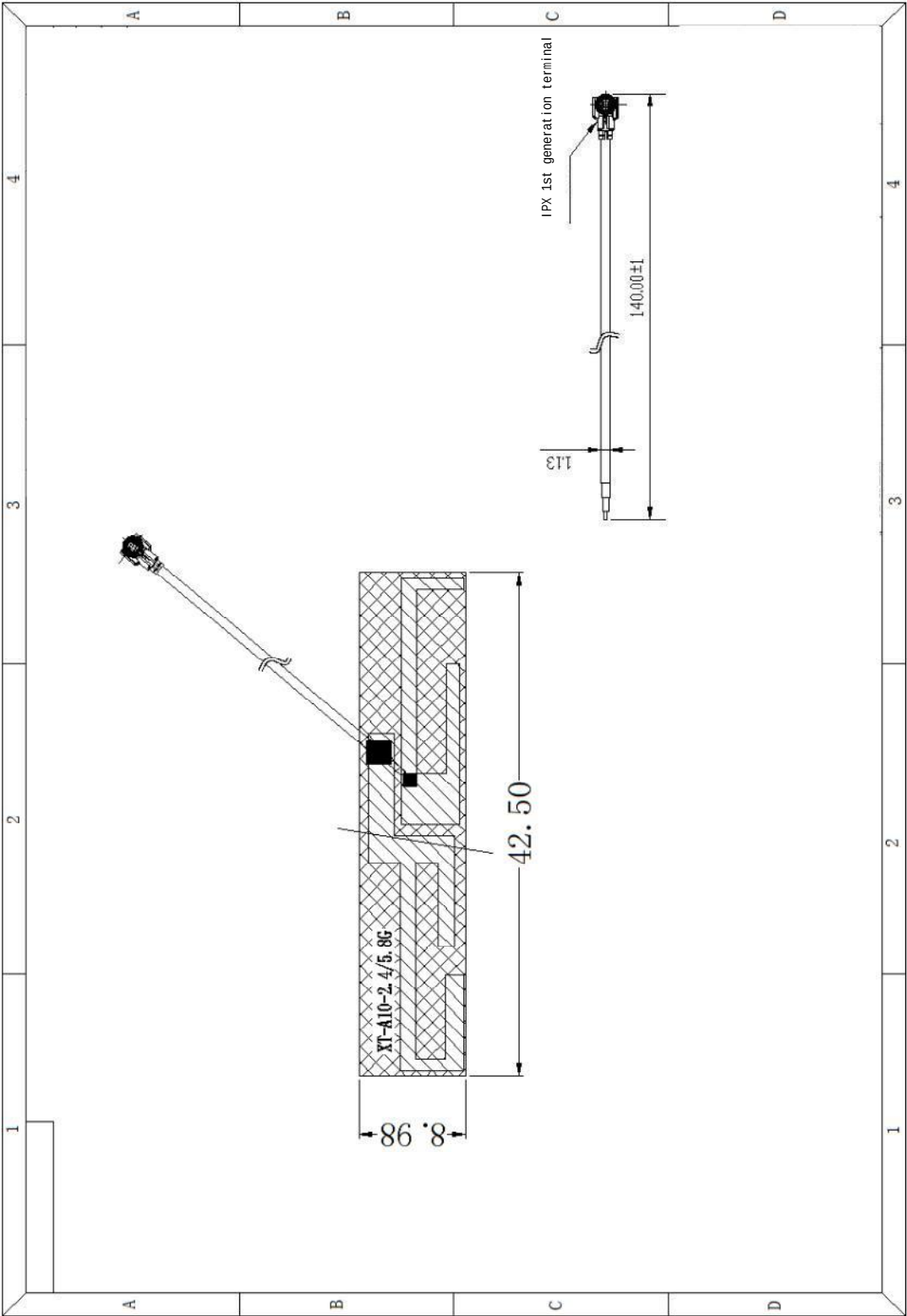
■ 4.3: Antenna OTA-2.4G-3D



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5. Attached Map :

■ 5.1: Final Design Diagram of the Antenna



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6. Durability Verification:

Test/Test Item	Maintenance energy	Inspection Number
Product Name/Specification	FPC Built-in Antenna	Number of Units: 5 PCS
Submission Date: 2023-006-09		Completion Date: 2023-06-09

Testing Equipment:

1. The tensile testing machine was used to conduct 5 tests. (The testing machine is shown in the figure.)



Note: Test at a constant speed; do not test at high speed.

Project Conditions 0.6 kgf	The holding force between the terminal and the cable is $\geq$				
Number of Tests	1	2	3	4	5
Test result	0.6	0.7	0.7	0.9	0.7

Test/inspection result: Pass

Test/Inspection Conclusion: ☒ Qualified ☐ Unqualified ☐ Do not make a judgment

Test: Zhu Yongjian Review: Wu Yanlong

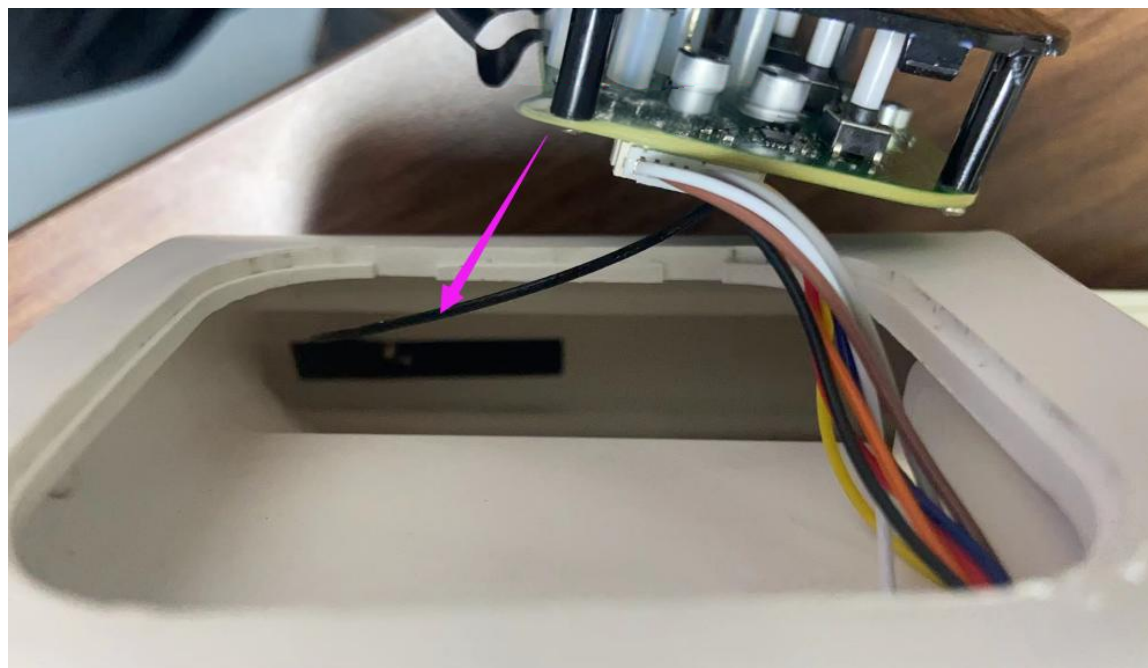
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7. Reliability Test :

Order number	Test item	Test Requirements	Test tools	Test result
1	Tin melting point	288°C, 10 seconds; no stratification or bubbling observed	Copper stove	Ok
2	Solderability	245°C, 5s; the solder surface is smooth, and the solder coverage area ≥95%.	Copper stove	Ok
3	Traction force	N/A	Tensimeter	Ok
4	Reverse Traction Force	N/A	Tensimeter	Ok
5	Stripping strength (coating film)	≥0. 35kg/cm	Stripping Strength Test Instrument	Ok
6	Stripping strength (copper foil)	≥0. 8kg/cm	Stripping Strength Test Instrument	Ok
7	Flowability of hot melt adhesive	0. 1~0. 15	/	Ok

8. Matters Need Attention :

Photo of the antenna's attachment location



After opening, carefully check if the items are intact. If any damage is found, contact us immediately.