



Product Performance and Specifications Certification

Tian wei xun antenna the research and development department

Customer name : CUSTOMER NAME	BOSGAME		
Product Name: PRODUCT NAME	E4	Antenna Version: BOARD MODEL	VO
Tianwei Material Number:	TWX-152-011		

Customer Client	Formulator Admit manufacturing party		
Customer Confirmation Customers confirmation	Quality department Quality department	Research and development department R&D	Approval
		ME: RF:	
Date (Date):	Date: May 28,2026		

Shenzhen Tianwei Information Wireless Technology Co., Ltd.

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Prepare	Liao Xianliang	Specification	Edition	A1
Issuing Department	Ministry of Technology		Date of issue	2024-03-26

Index of Matrix

1.1 Project Image.....	2
1.1.1 Antenna Matching Diagram.....	2
2.1 purpose.....	3
3.1 main antenna.....	3
3.1.1 Electrical Specifications and Materials of the Main Antenna.....	3
3.1.2 Antenna Type.....	3
3.1.3 Working frequency band for antenna design.....	3
3.1.4 Main antenna measurement data in the ETS-SG24SYSTEM 3D test system.....	3
3.1.5 Passive standing wave and echo loss in antennas.....	4
3.1.6 Actual test results of the Wi-Fi antenna.....	6
4.1 Product Design Diagram.....	8
5.1 Product Assembly Diagram.....	11
5.1.1 Antenna Composition.....	11
5.1.2 Antenna Assembly.....	11
5.1.3 After the antenna is assembled, it is shown in the diagram within the entire device.....	12
5.1.4 Environmental Treatment Diagram.....	12

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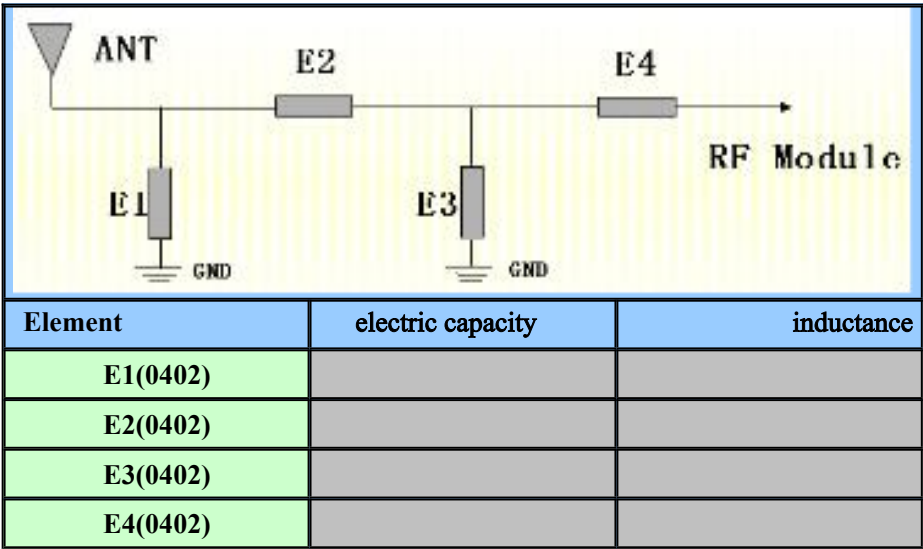
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Issuing Department	Ministry of Technology		Date of issue	2024-03-26

1.1 Project Image



1.1.1 Antenna Matching Diagram



Matching Instructions: The matching follows the original motherboard configuration without modification.

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Issuing Department	Ministry of Technology		Date of issue	2024-03-26

2.1 Purpose

Standardize the product specifications and testing methods for mobile communication terminal antennas manufactured by **Shenzhen Tianweixun Wireless Technology Co., Ltd.**, to prevent errors caused by variations in testing conditions or methods.

3.1 Main Antenna

3.1.1 Electrical Specifications and Materials of the Main Antenna

This report primarily provides the test results of the structural performance parameters of the prototype antenna P2 (P3, P4).



Physical diagram of the antenna designed by Tianwei Information

3.1.2 Antenna Type

Type: PIFA antenna

3.1.3 Working Frequency Band for Antenna Design

The antenna operating frequency bands are 2400 MHz to 2500 MHz and 5100 MHz to 5800 MHz.

3.1.4 Main Antenna Measurement Data in the ETS-SG24SYSTEM 3D Test System

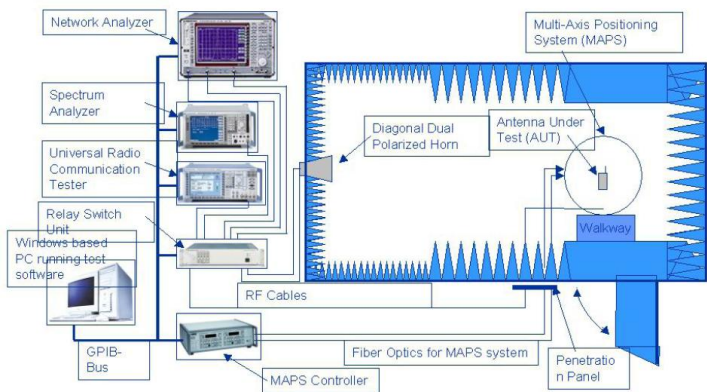


Figure (2) ETS Testing System

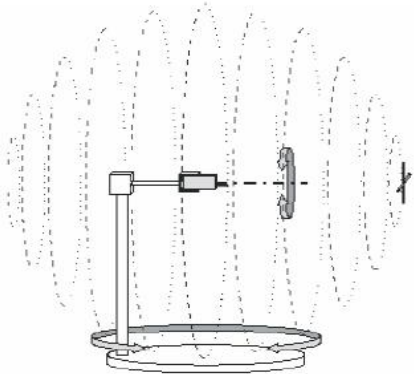


Figure (3) Three-dimensional positioning device for mobile phones in a dark room

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Issuing Department	Ministry of Technology		Date of issue	2024-03-26

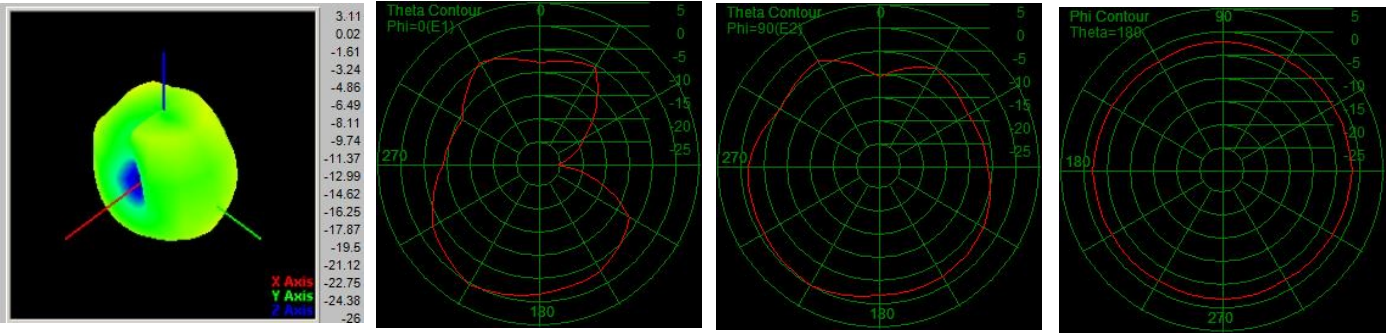
3.1.5 Passive Standing Wave and Echo Loss in Antennas

MAIN Passive Data:

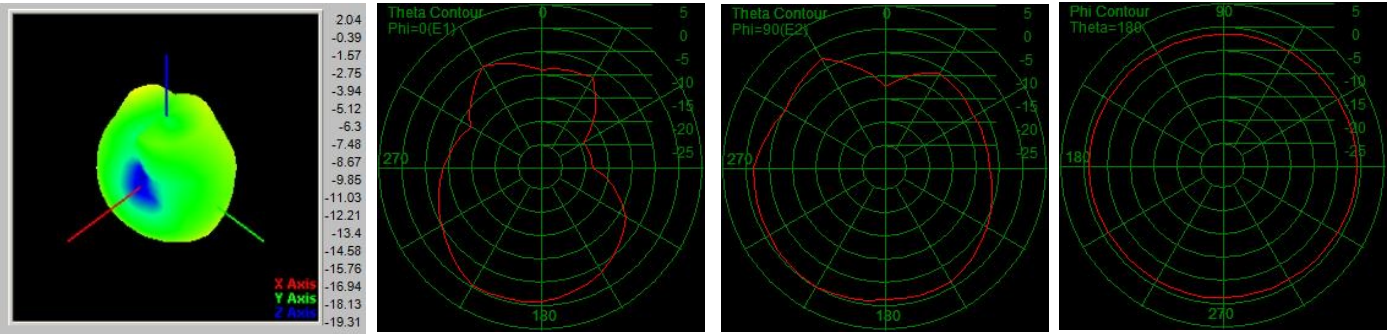
Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)
2400	3.11	48.7	5100	4.26	48.1	5485	4.51	50.7
2410	2.93	47.1	5135	4.16	48.2	5520	3.96	43.0
2420	2.78	47.1	5170	4.55	52.9	5555	4.41	44.7
2430	2.57	45.7	5205	4.25	50.5	5590	5.02	49.7
2440	2.25	44.1	5240	3.61	44.7	5625	4.40	44.3
2450	2.04	43.0	5275	4.01	47.7	5660	4.64	43.4
2460	2.05	42.5	5310	3.83	43.2	5695	4.48	47.9
2470	1.93	40.5	5345	3.84	43.9	5730	3.73	41.9
2480	2.01	40.5	5380	4.63	50.2	5765	3.06	42.1
2490	2.06	39.6	5415	4.18	46.5	5800	3.53	41.4
2500	2.05	38.5	5450	4.28	46.9			

主天线

2400MHZ:



2450MHZ:

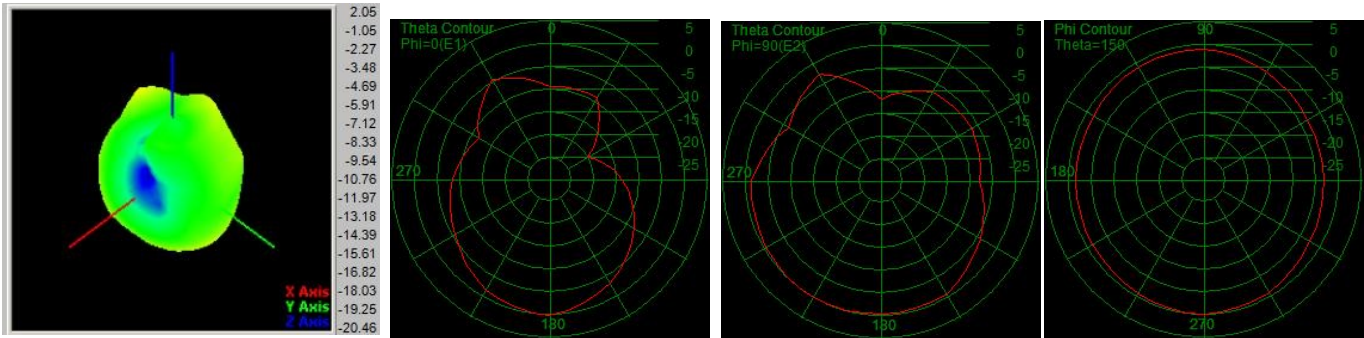


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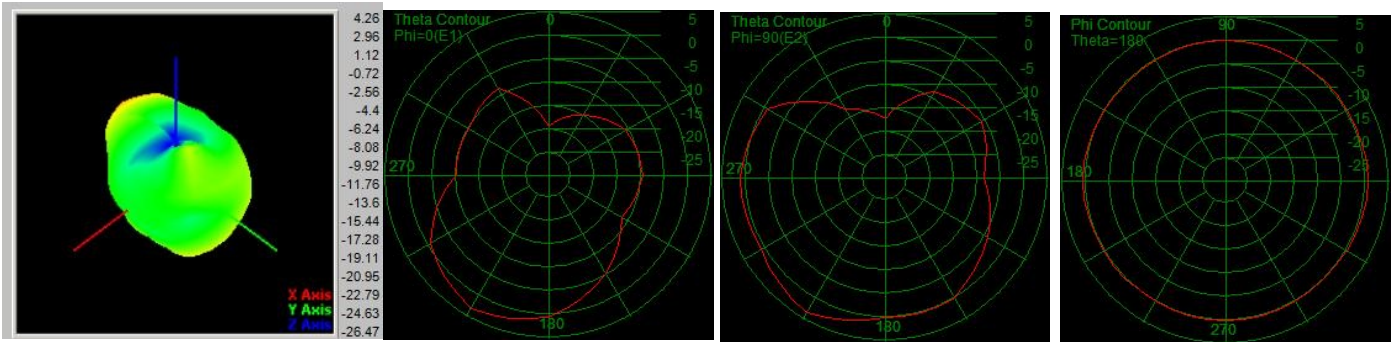
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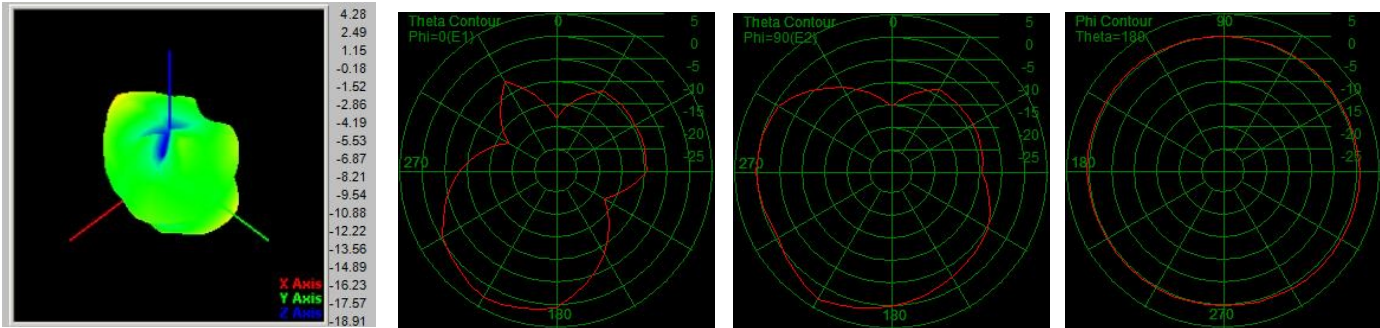
2500MHZ:



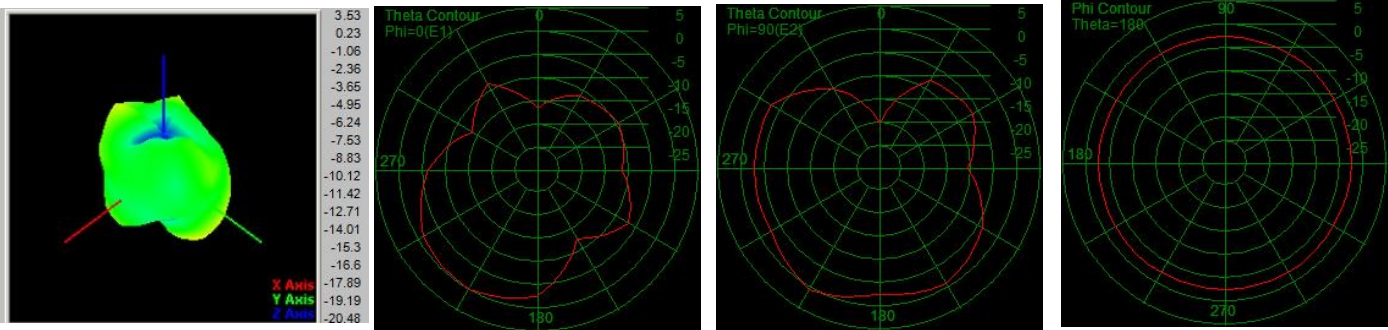
5100MHZ:



5450MHZ:



5800mhz:



AUX Passive Data:

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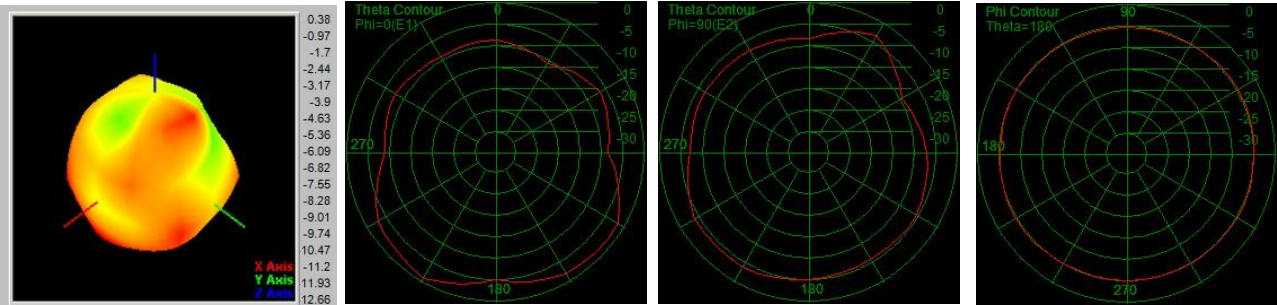
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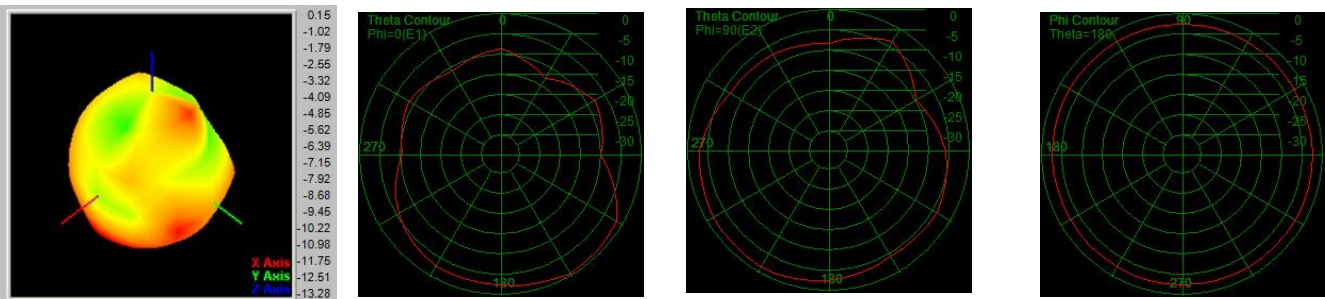
Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)	Freq. (MHz)	Gain (dBi)	Efficiency (%)
2400	0.38	40.5	5100	2.04	36.9	5485	2.55	38.2
2410	-0.22	36.6	5135	2.18	36.9	5520	2.10	34.8
2420	0.04	38.0	5170	2.53	39.5	5555	1.96	35.8
2430	0.13	36.5	5205	2.28	36.9	5590	2.77	41.5
2440	0.20	36.3	5240	1.69	32.8	5625	1.96	37.8
2450	0.15	35.9	5275	2.06	35.7	5660	2.56	37.7
2460	0.27	36.6	5310	1.71	31.5	5695	2.85	41.6
2470	0.23	36.2	5345	1.77	32.0	5730	2.05	34.7
2480	0.35	37.5	5380	2.25	36.4	5765	1.97	35.4
2490	0.16	36.1	5415	2.01	34.3	5800	2.03	33.3
2500	0.44	38.0	5450	2.17	35.3			

分天线

2400MHZ:



2450MHZ:



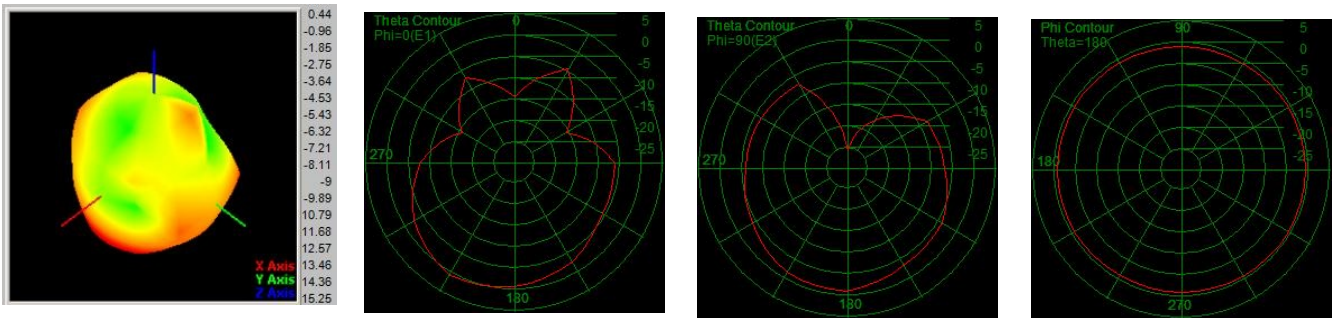
2500MHZ:

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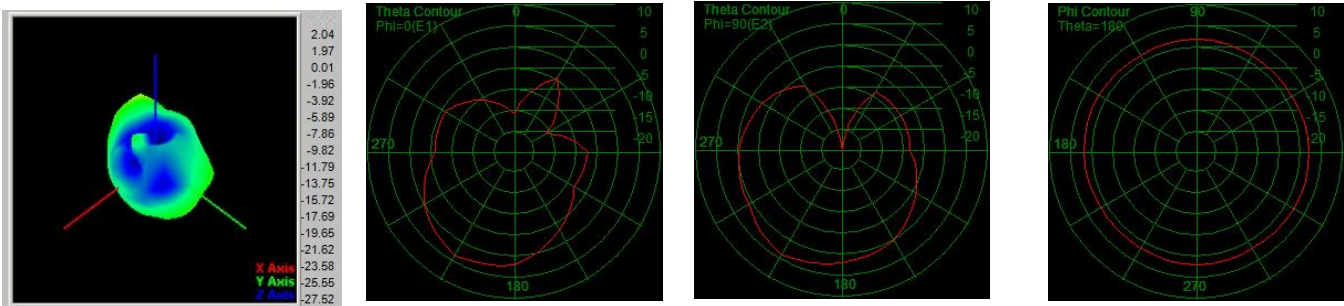
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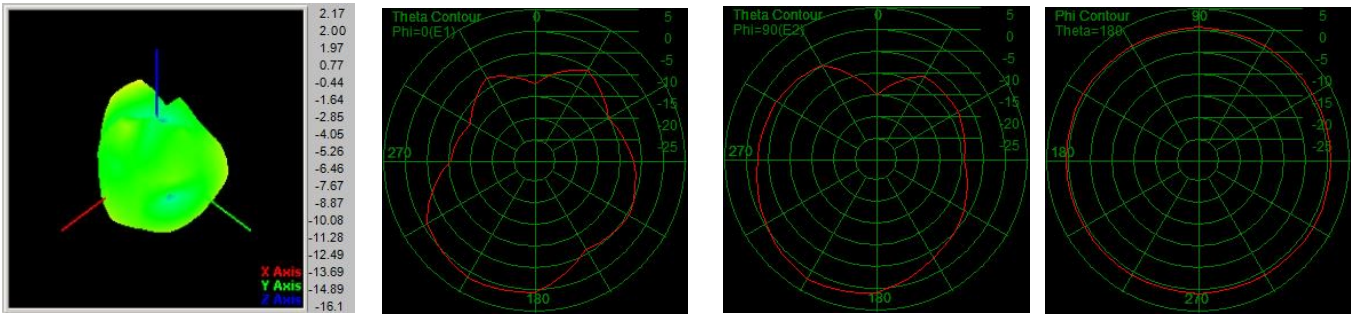
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Issuing Department	Ministry of Technology		Date of issue	2024-03-26



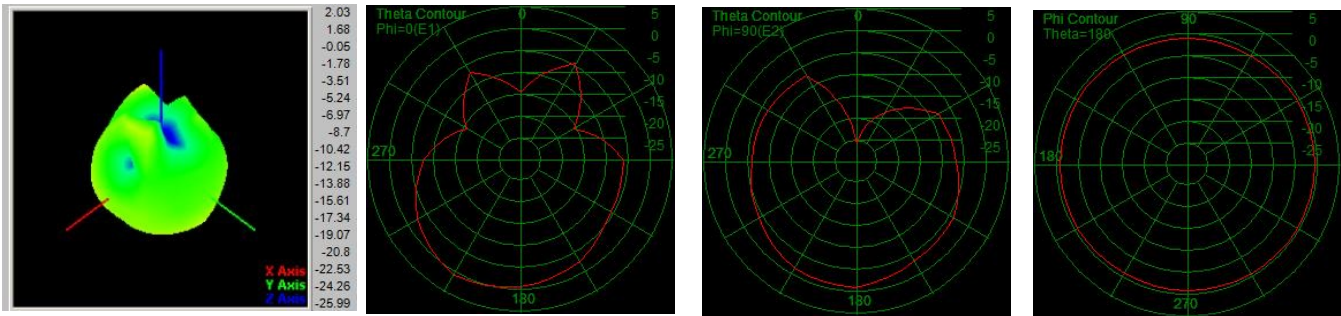
5100MHZ:



5450MHZ:



5800MHZ:



3.1.6 Actual Test Results of the WiFi Antenna

2.4G Throughput Test

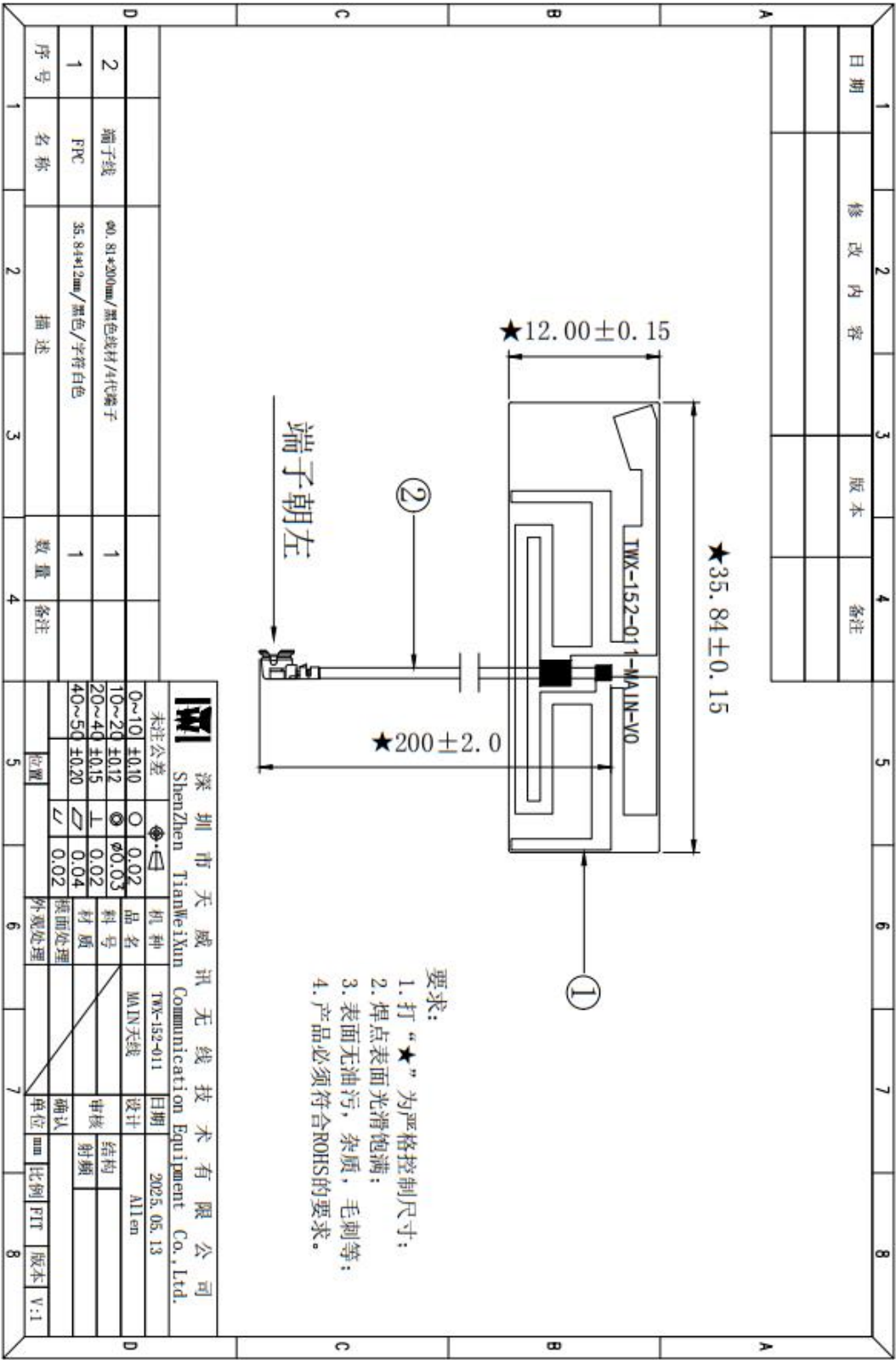
5.8G Throughput Test

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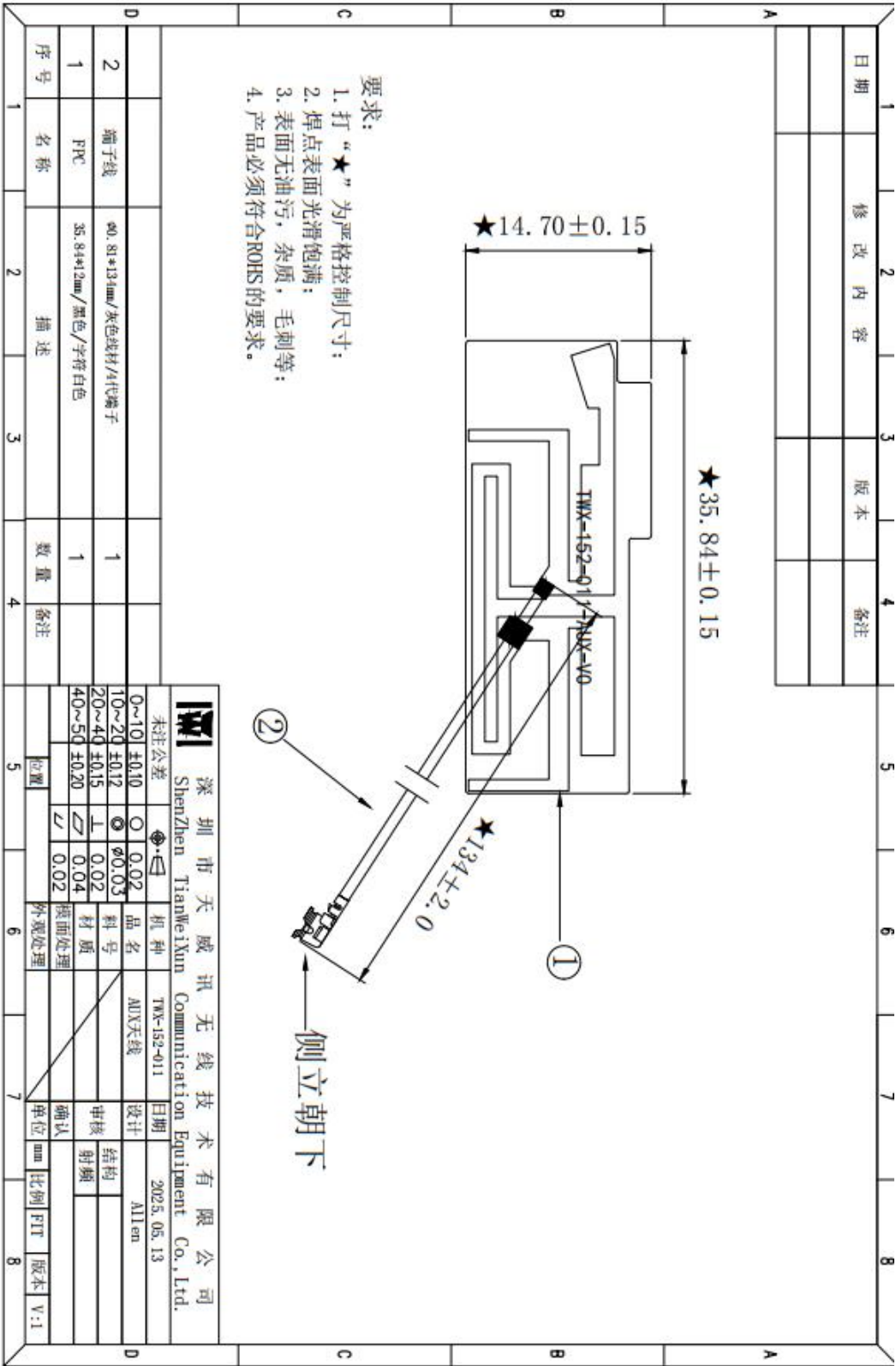
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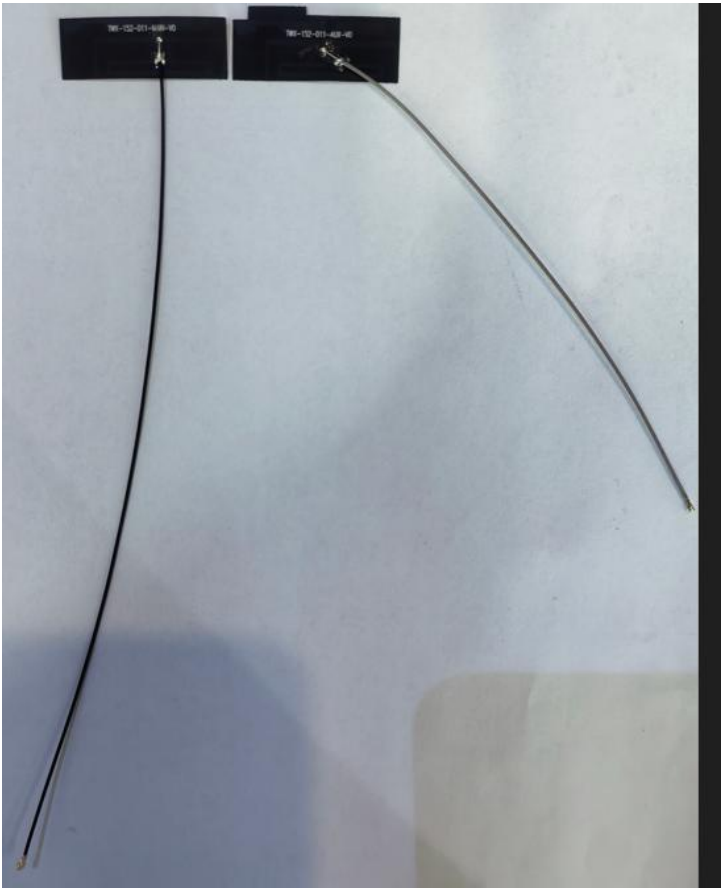
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5.1 Product Assembly Diagram

5.1.1 Antenna Composition

The antenna integrates an FPC antenna and a coaxial cable. As shown in the figure, the MIAN port is soldered with its pin hole facing downward when placed flat, and the AUX port is similarly arranged with its pin hole facing downward.

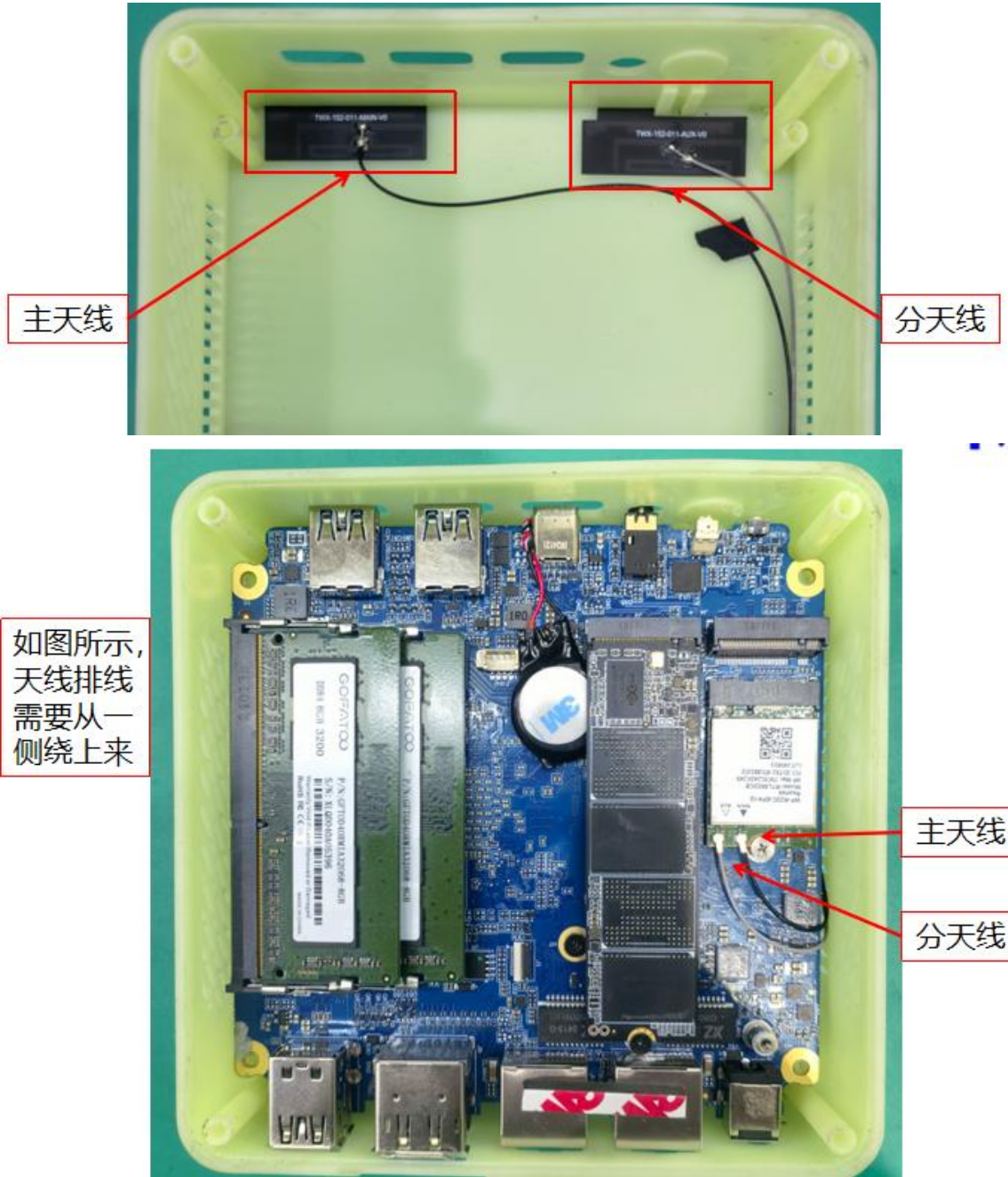


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