

ShenzhenPanlongCommunications Technology Co., Ltd.

Address: Room 201, 2nd Floor, Baisi Fu Maker Space, No. 8, North 2nd Alley, Ligang Water Plant, Shiyan, Bao' an District, Shenzhen,
Guangdong Province

Mold and Sample Acknowledgment Form

Customer:	BYM		
Customer Model:	TD-Z1	Number:	Z1
Product Materials:	Half-and-half electrolytic copper	Product Description:	2.4G BT Antenna
Part Number:	Z1	Date:	2026-05-23
Customer Material Code:	Z1		

	Quality	Structure	Radio Frequency

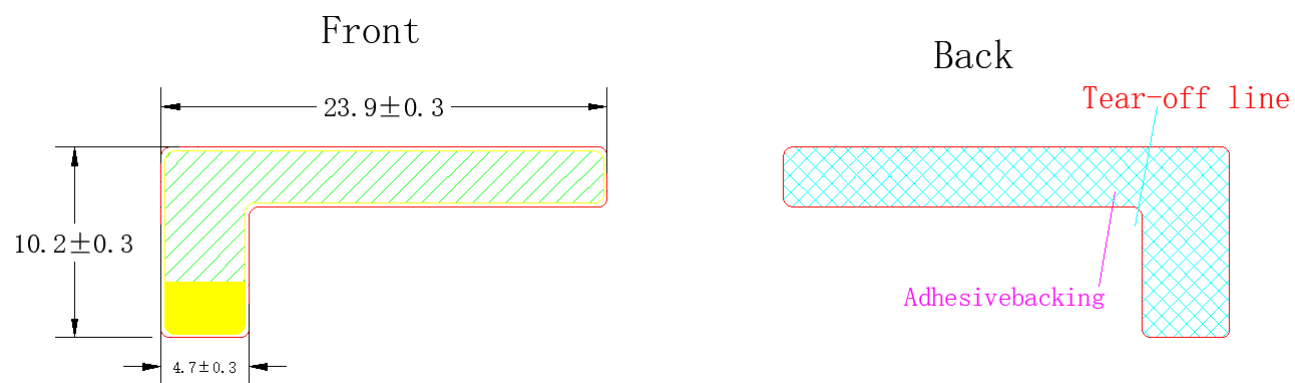
	Quality Department	Engineering Department	Project Department
Customer			

Table of Contents

1. Graphical Reference.....	.
2. Electrical Performance Testing.....	
2.1 Specifications and Standards	
3. VSWR (Voltage Standing Wave Ratio) Testing.....	
3.1 Test Setup	
4. Test Data.....	
4.1 TD-Z1 2.4G BT Passive Test Data	
4.2 TD-Z1 2.4G BT Antenna Pattern	
5. Antenna Drawings.....	
6. Product Test Report .	
7. Antenna Matching Circuit .	



1. Graphical Reference



TD-Z1

Number	
Model	TD-Z1
Frequency band	2.4G
GPS Frequency Bands	None
Input Impedance	50 Ω
Allowed Power	5W
Operating Temperature Range	-25 ~ +65 °C
Storage Temperature Range	-40 ~ +85 °C

2. Electrical Performance Testing

2.1 Specifications and Standards

TD-Z1 The BT antenna resonates in the 2400 MHz - 2500 MHz frequency band.

The table below lists the mass-production performance test specifications for the TD-Z1 antenna design.

TD-Z1	Frequency (MHz)	VSWR	Frequency (MHz)	VSWR
Frequency band	Transmitter End		Receiving End	
BT 2.4G	2400-2500	≤1.86		



3. VSWR (Voltage Standing Wave Ratio) Testing

3.1 Test Setup

The VSWR test setup consists of:

HP8753D Network Analyzer



50 Ohm's Coaxial Cable

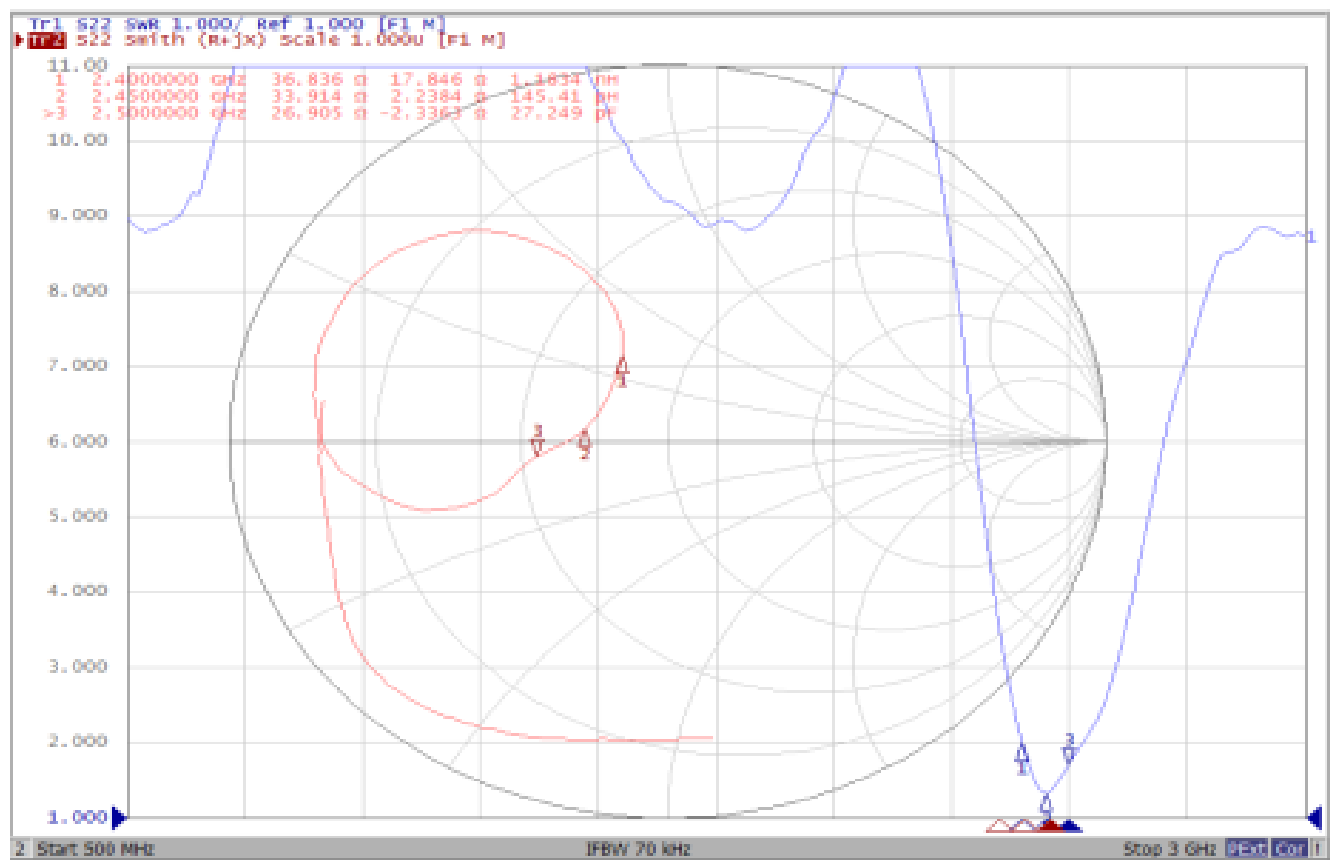


100mm Long Copper Pipe



Test Fixtures

Test Fixture Setup: Run a rigid cable from the 50-ohm antenna test point on the mobile phone PCB to an SMA-J connector, connect it to a copper tube fitted with a choke, and then connect the other devices in sequence.

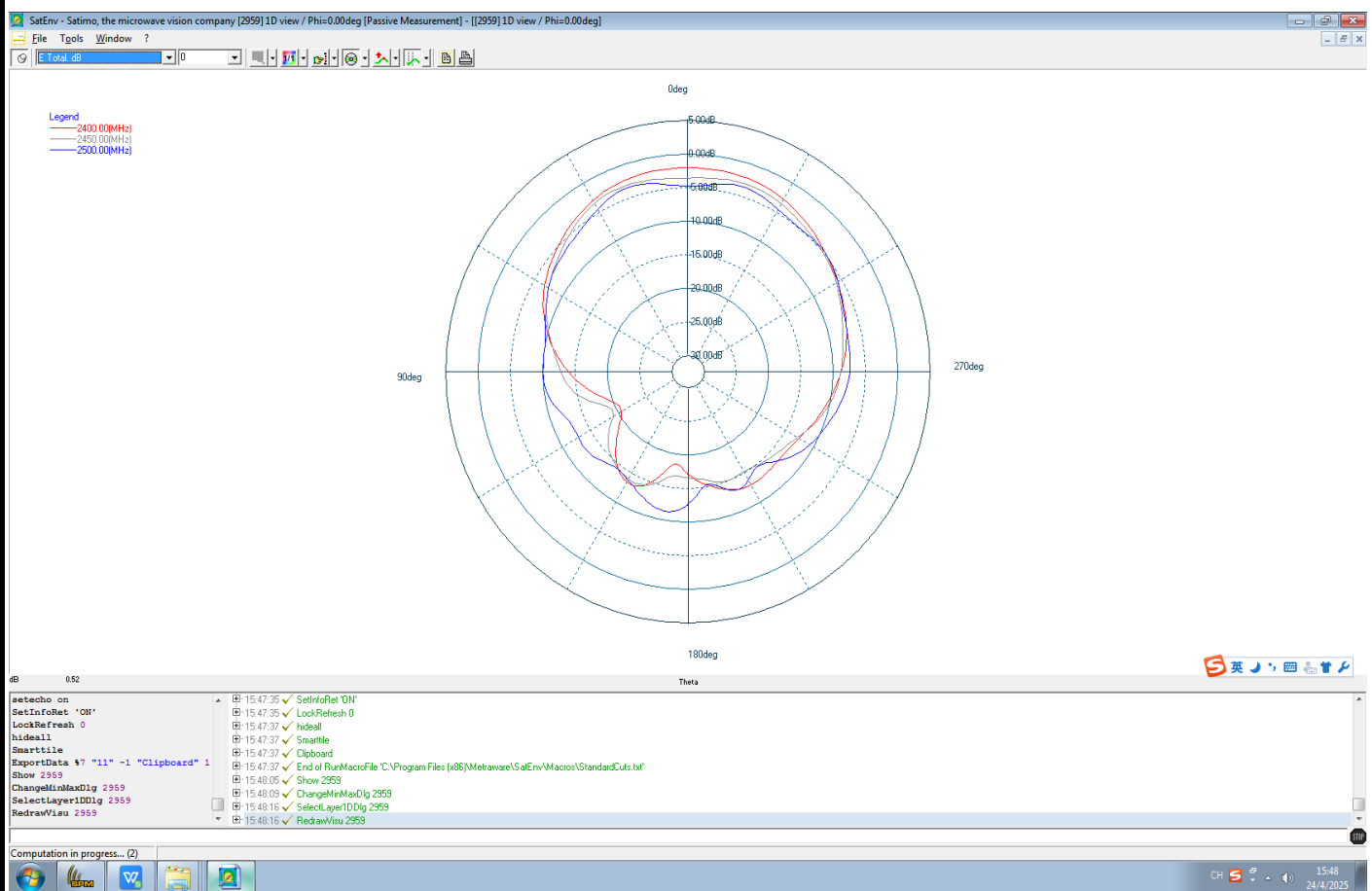
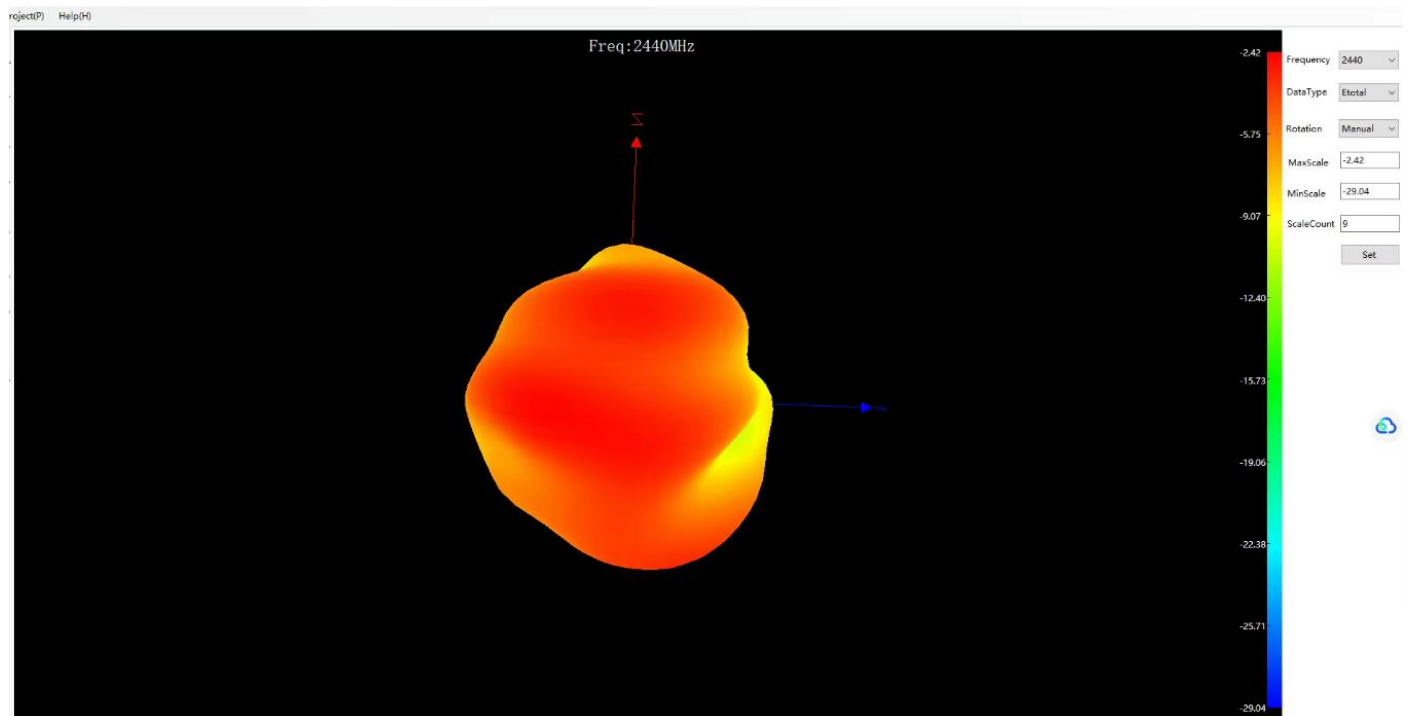


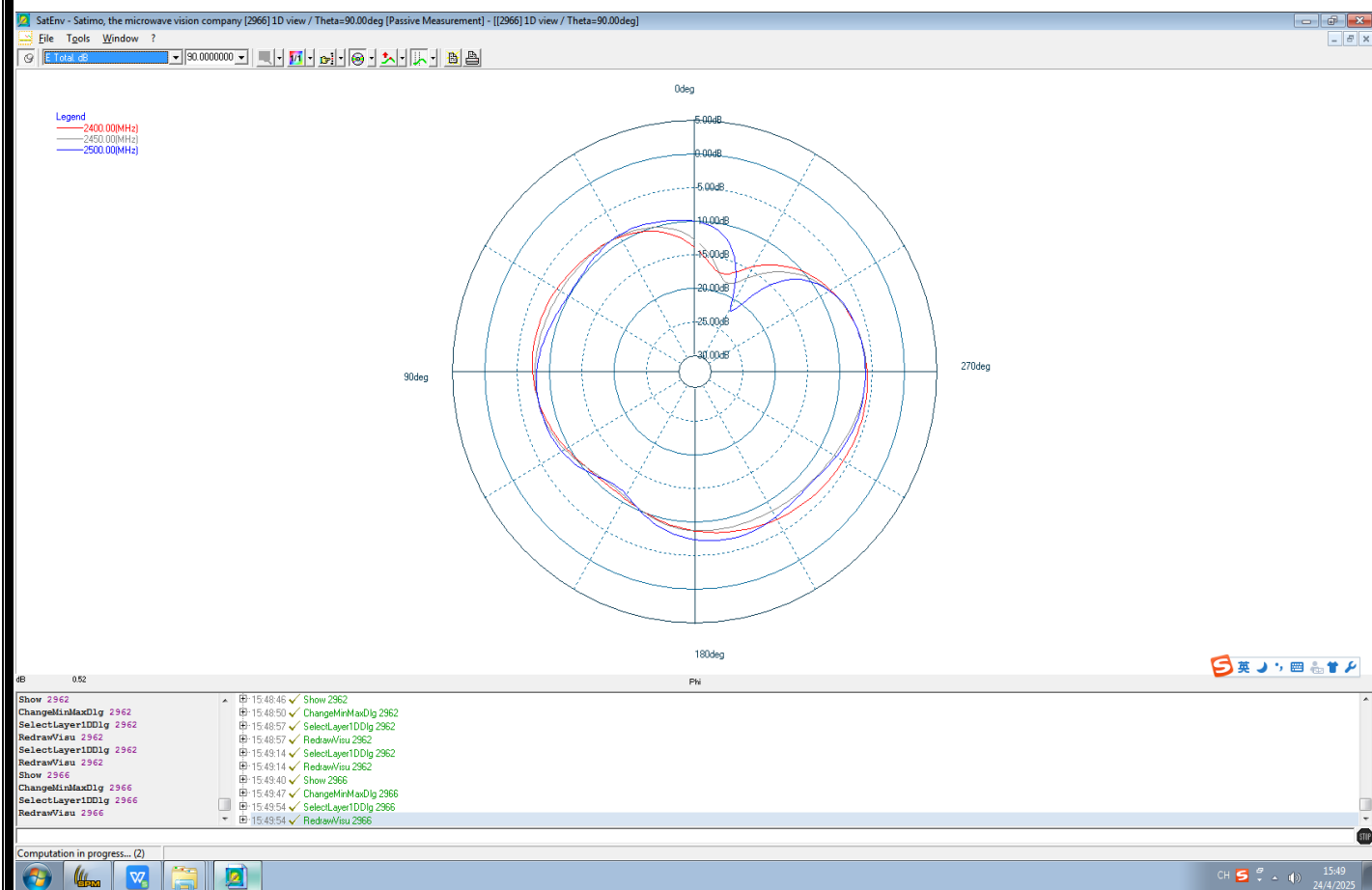
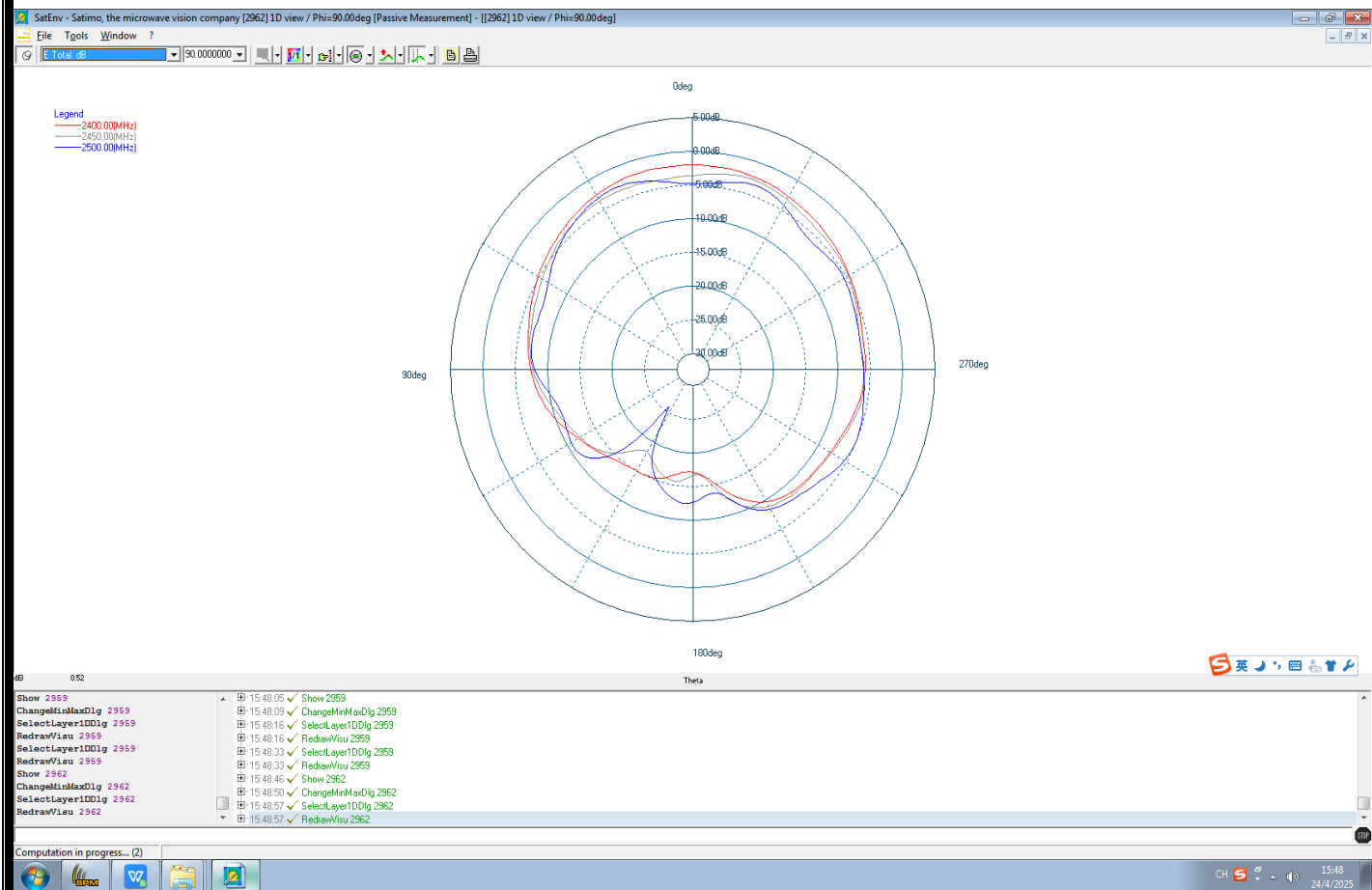
4. Test Data

4.1 TD-Z1 2.4G BT Passive Test Data

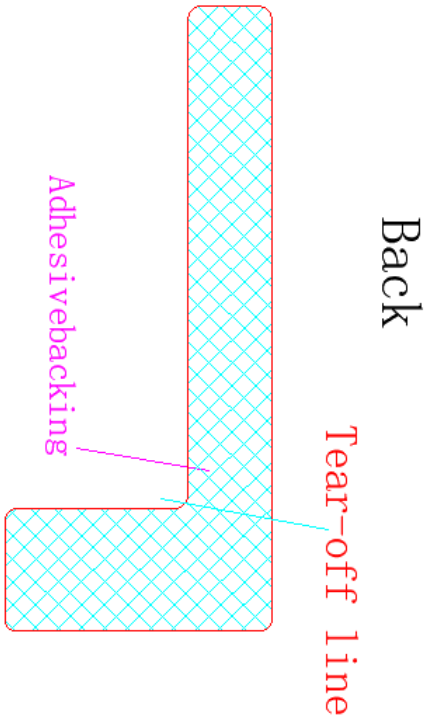
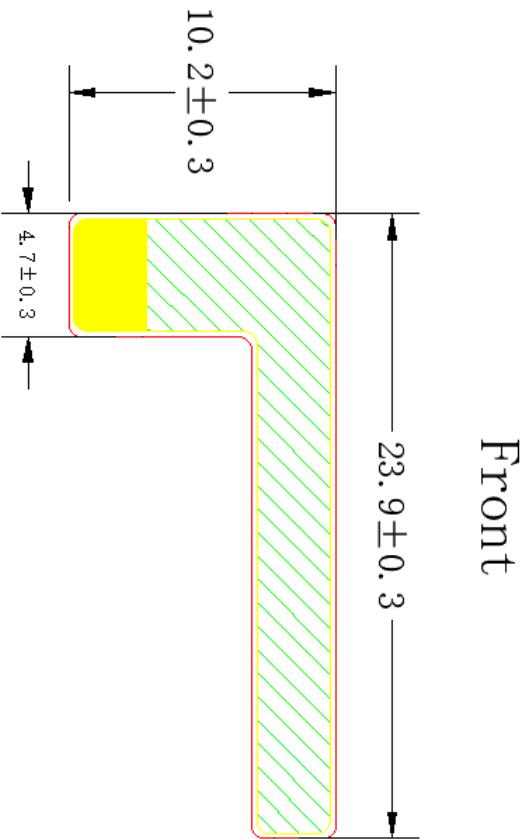
Frequency	Efficiency	Efficiency	Gain . dB
2.4E+09	19%	-7.10009	-1.92158
2.41E+09	19%	-7.16655	-1.87744
2.42E+09	19%	-7.26761	-2.07685
2.43E+09	18%	-7.34169	-2.3336
2.44E+09	18%	-7.53262	-2.49287
2.45E+09	17%	-7.71904	-2.81177
2.46E+09	16%	-7.91313	-2.71113
2.47E+09	16%	-7.98334	-2.36891
2.48E+09	16%	-7.98575	-2.57893
2.49E+09	16%	-7.95209	-2.55266
2.5E+09	16%	-7.87686	-2.73396

4.2 TD-Z1 2.4G BT Antenna Pattern

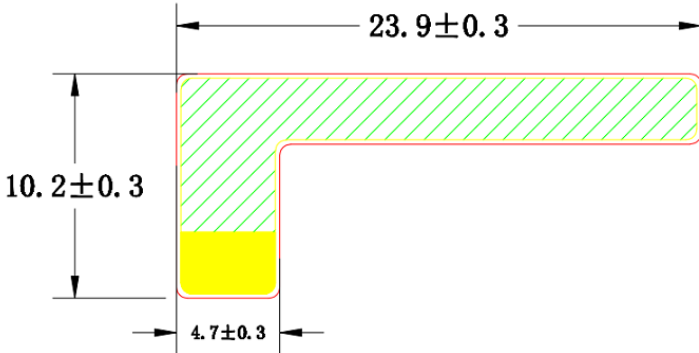




5. Antenna Drawings



6. Product Inspection Report

Comprehensive Evaluation		☒ OK		☐ NG				Confirm	Review	Approval
Models	TD-Z1			Illustration: 						
Product Name	2.4G BT Antenna									
Customer Part Number										
Company Part Number										
Shipment Date	2026-05-28									
I. Visual Inspection:										
Visual Inspection Items		Inspect ion	Test Results							
1. Surface impurities and dirt		10PCS	OK							
2. Excess Adhesive			OK							
3. Scrap			OK							
4. Tear			OK							
5. Gold-Plated Oxidation			OK							
II. Reliability Testing (Randomly Selected 5 Units):										
Test Items		Standards		1	2	3	4	5	Test Results	
1. Adhesion Test		The ink must not peel off		None	None	None	None	None	OK	
2. Salt Spray Test Conditions		The gold surface is corrosion-free		None	None	None	None	None	OK	
3. Abrasion Test		Do not leave any areas of the substrate uncovered		None	None	None	None	None	OK	

III. Dimension Measurement (Randomly Selected 5 Pieces):

Location	Reference Value (mm)	Tolerance + (mm)	Tolerance - (mm)	1	2	3	4	5	Test Results
Antenna	23.9	0.30	0.30	24.01	24.0	24.2	24.0	24.1	OK
	10.2	0.30	0.30	10.21	10.28	10.2	10.26	10.3	OK
									OK
									OK

IV. Packaging Inspection:

No.	Test Items	Test Results
1	Is the Right Packaging Material Being Used?	OK
2	Is the quantity in the package correct?	OK
3	Are the tags correct?	OK

7. Antenna Matching Circuit

Connect a 1pF capacitor in parallel at position C28

