

Antenna specification

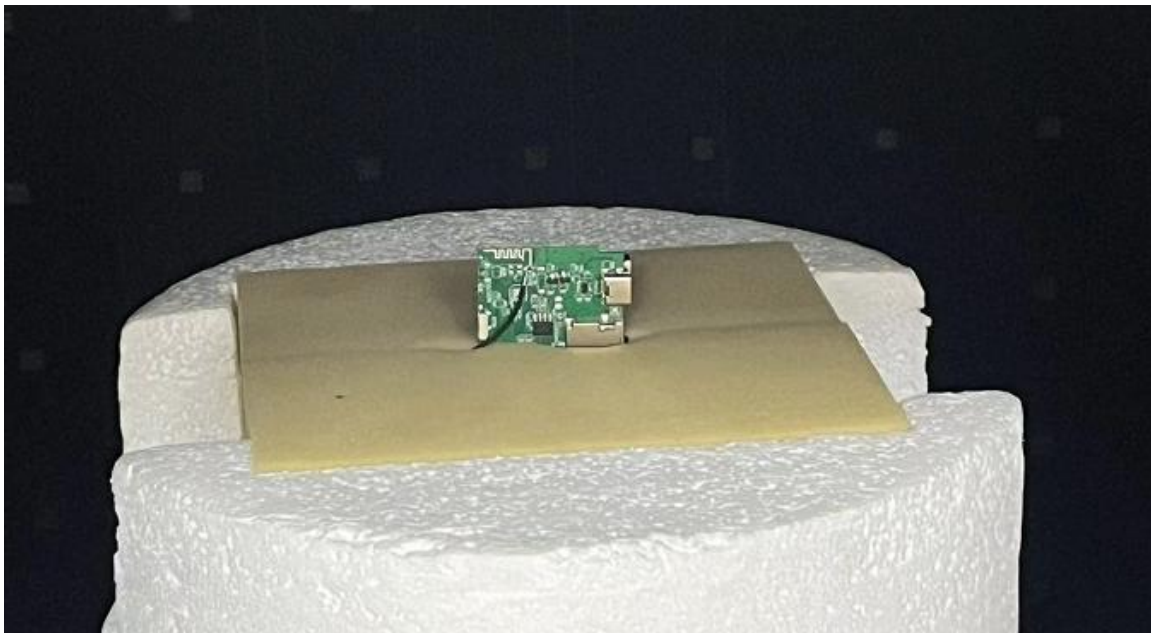
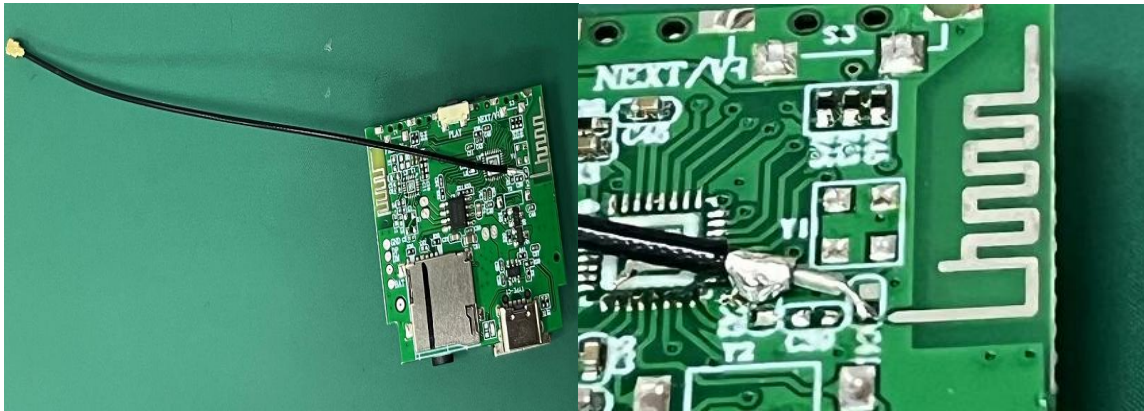
Manufacture's: Shenzhen Xingmi Intelligent Products Co., LTD

- 1、Hardware test
- 2、Software testing
- 3、Data reading

1、Hardware test

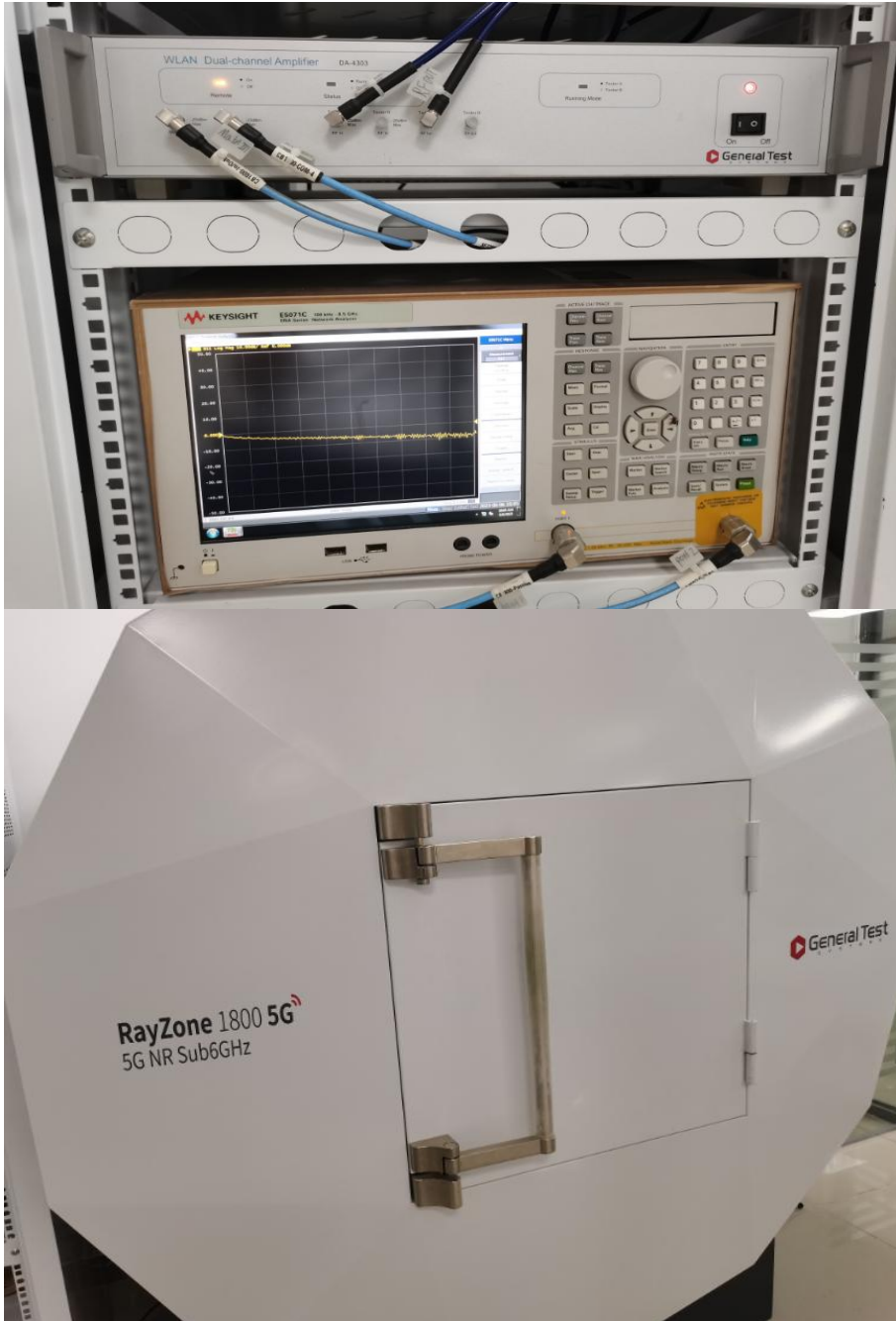
1.1 、PCBA bare-board testing

Solder the RF cable to the bare board and connect it to the OTA device. The following figure shows the connection between the RF cable and the bare board:



1.2 、 Facility environment

The equipment required for this test includes computer, spectrometer, amplifier and darkroom, as shown below:



2. Software testing

The image displays two screenshots of the GT5 MaxSign software interface, specifically the RayZone1800NR_Z version. The top screenshot shows the 'Test Setup' window, and the bottom screenshot shows the 'Template Details' window.

Top Screenshot: Test Setup

The 'Test Setup' window is divided into several sections:

- Settings:** Includes fields for Operation (GT5), Temperature (20 °C), Humidity (50 %), Test Polar (Both), Pole Test Manner (Single), Test Position (FS), Instrument Preset (Once), Ring Off End (True), and Manual Page Max (10).
- Equipment:** Includes fields for Product Series (RayZone), Instrument (Agilent 5071C), Instrument Addr (TCP/IP0:K-E5071C-28615.local:inst0:INS), Working Port (Port1), and Link Port (Port1). It also lists various ports (UL Port1, UL Port2, AMP (L), Port1, Port2, UL Port3, UL Port4, DL Port1, DL Port2, AMP (L), Port1, Port2, DL Port3, DL Port4) and their corresponding values (Agilent 5071C, NULL, NULL, R85 CMW500B37, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL, NULL).
- Manual Operation:** Includes a Command field (Reset) and an Execute button.

Bottom Screenshot: Template Details

The 'Template Details' window shows the configuration for a specific test template:

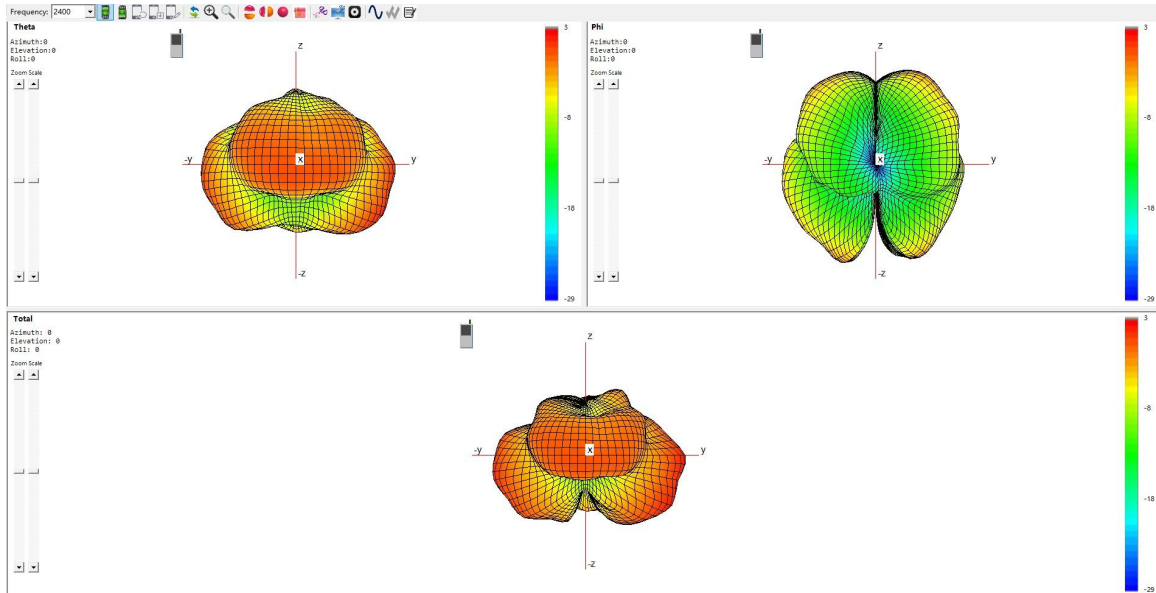
- Parameters (Agilent_5071C/Passive/):** Includes fields for Trace Name (S21), IF Bandwidth (6.1 KHz), Factor Average (0), Power (5 dB), Test Mode (Log), Skip Calibration (True), DUT Type (Linear), Radiation Test (False), and S11 Calibration File (State01).
- Angular Coordinator Setup:** Includes fields for Phi (Step: 90), Theta (Ant No: 3), Start (0), End (180), and Step (30).
- Display Setup:** Includes fields for Display Frequency Mode (Auto) and Display Frequency (MHz).
- Frequency List:** Includes a table with columns Start(MHz), End(MHz), and Step(MHz). The table contains two rows: 1 (2400, 2500, 10) and 2 (2500, 2600, 10).
- Added Pathloss Correction:** Includes fields for Correction Method (Load File) and Load File (D:\MaxSign\YysData\passive offset_new.csv).

Red arrows in both screenshots highlight specific fields and buttons, indicating the steps for setting up the test.

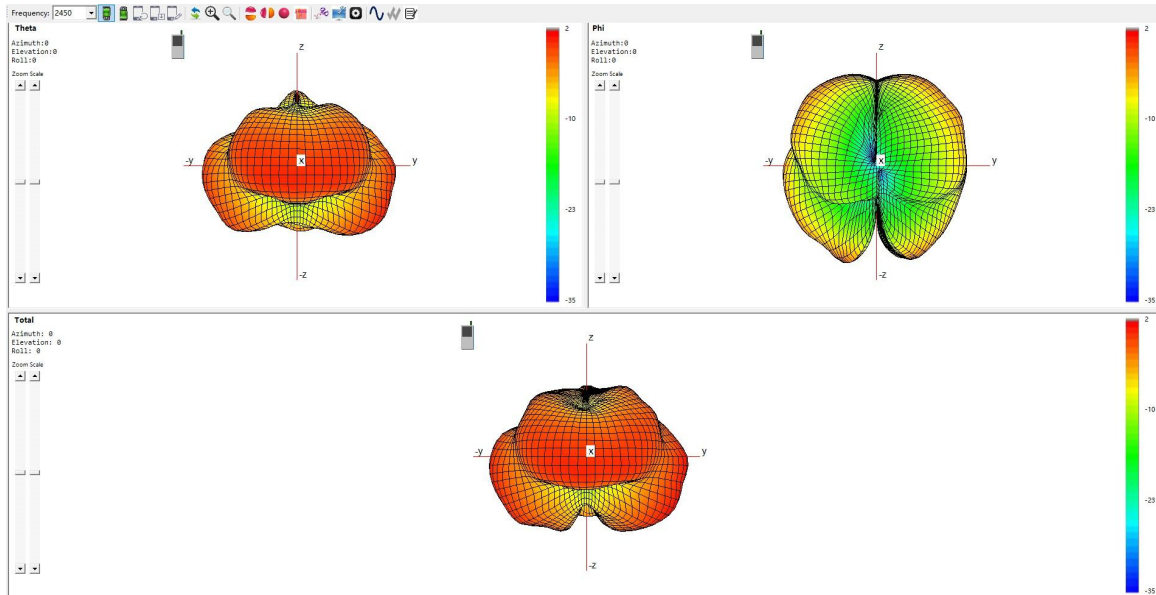
3、Data reading

3.1、Scan the antenna for 3D radiation

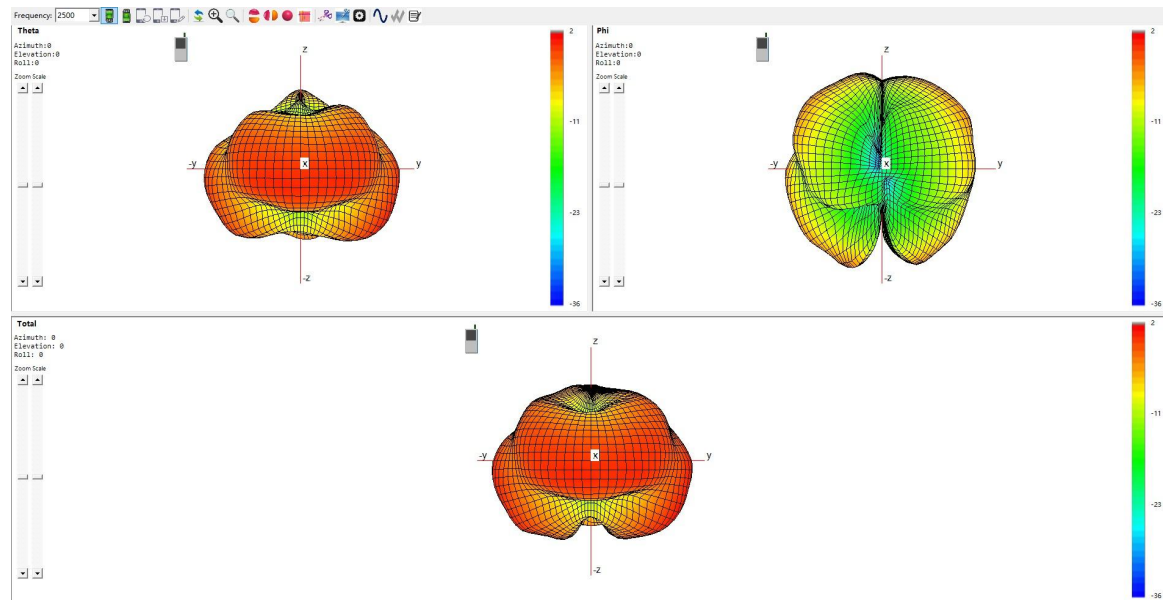
2400MHz:



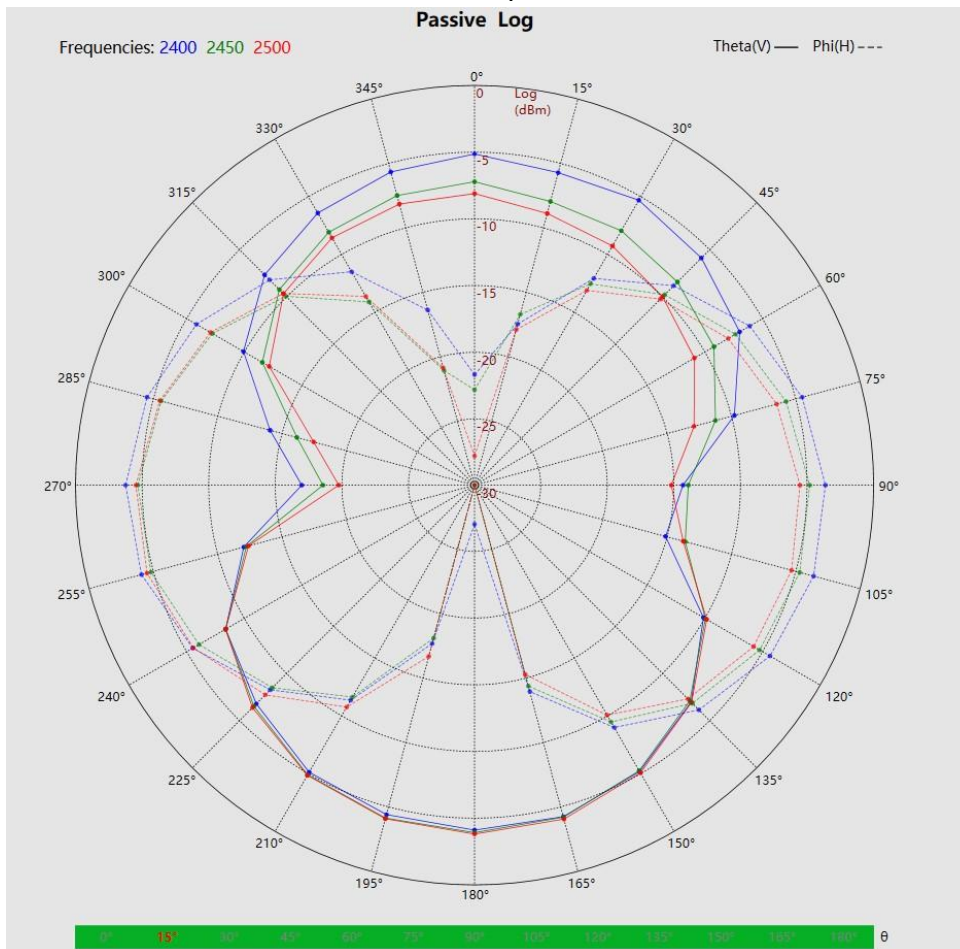
2450MHz:



2500MHz



3.2、Scan the 2D radiation pattern of the antenna



3.3、Detailed scan output data results

Freq(MHz)	Gain(dBi)	Efficiency(dB)	Efficiency(%)
2400	2.439450302	-1.315458833	73.86762176
2410	2.425115232	-1.257033672	74.86806915
2420	2.189613881	-1.443162231	71.72718335
2430	1.679841106	-1.94654243	63.87718323
2440	1.823337224	-1.856435854	65.21633886
2450	1.91771304	-1.736673374	67.03979269
2460	1.664310576	-2.009469258	62.95831182
2470	1.505129151	-2.103071224	61.61591151
2480	1.268578157	-2.234508674	59.77906702
2490	1.326548954	-2.19424501	60.33585884
2500	1.759370082	-1.76274181	66.63859303

Summary

ITEM	ANT SPEC		
Model Name	2.4G ANT		
Antenna plate	PCB antenna		
Center Frequency	2400MHz	2450MHz	2500MHz
	2.44dBi	1.92dBi	1.76dBi
MAX. Gain	2.44dBi		
Polarization	Horizontal and Vertical		
Impedance	50Ohm		
Manufacture			

AntennaPhoto&Length(mm)

Unit:mm

