

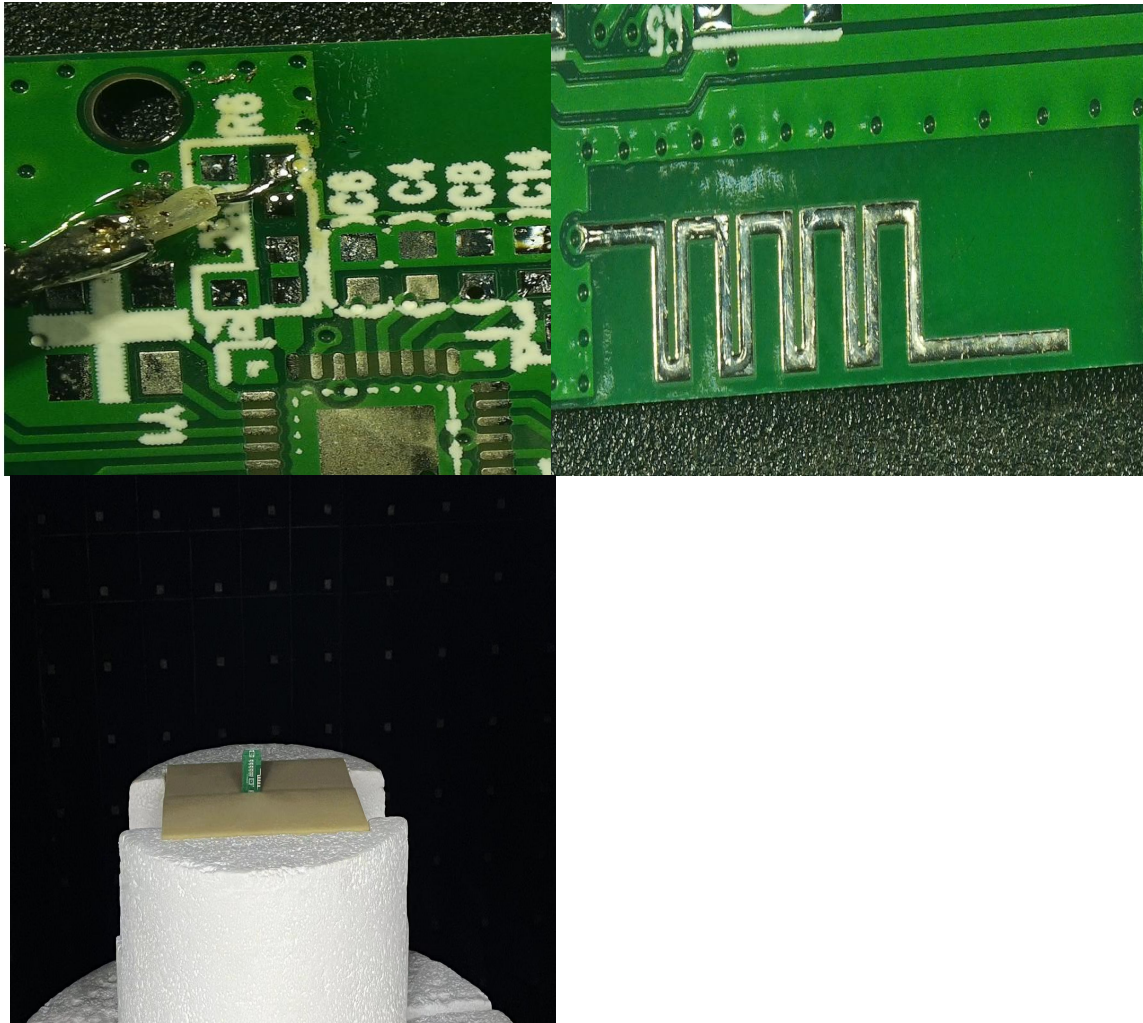
Antenna report

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1、Hardware testing

1.1 、PCB bare board test

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 、 equipment 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:

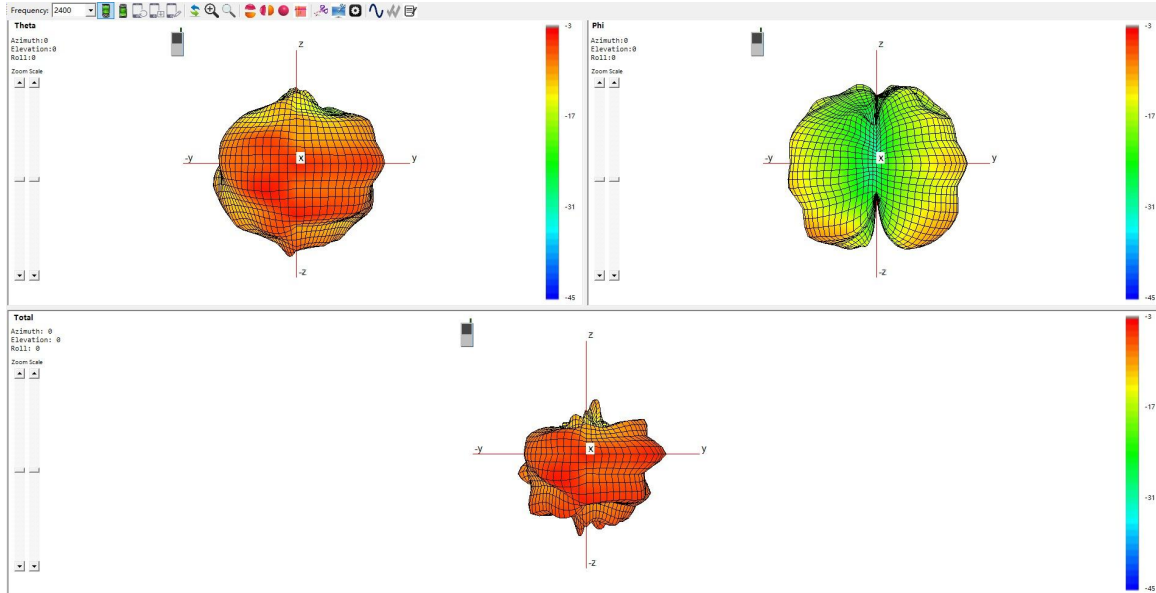
- Parameters (Agilent_5071C/Passive/):** Includes fields for Trace Name (S21), IF Bandwidth (6.1 KHz), Factor Average (0), Power (5 dB), Test Mode (Log), Skip Calibration (True), DUT Type (Linear), Radiation Test (False), and S11 Calibration File (State01).
- Angular Coordinator Setup:** Includes fields for Phi (Step: 90), Theta (Ant No: 1), 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.

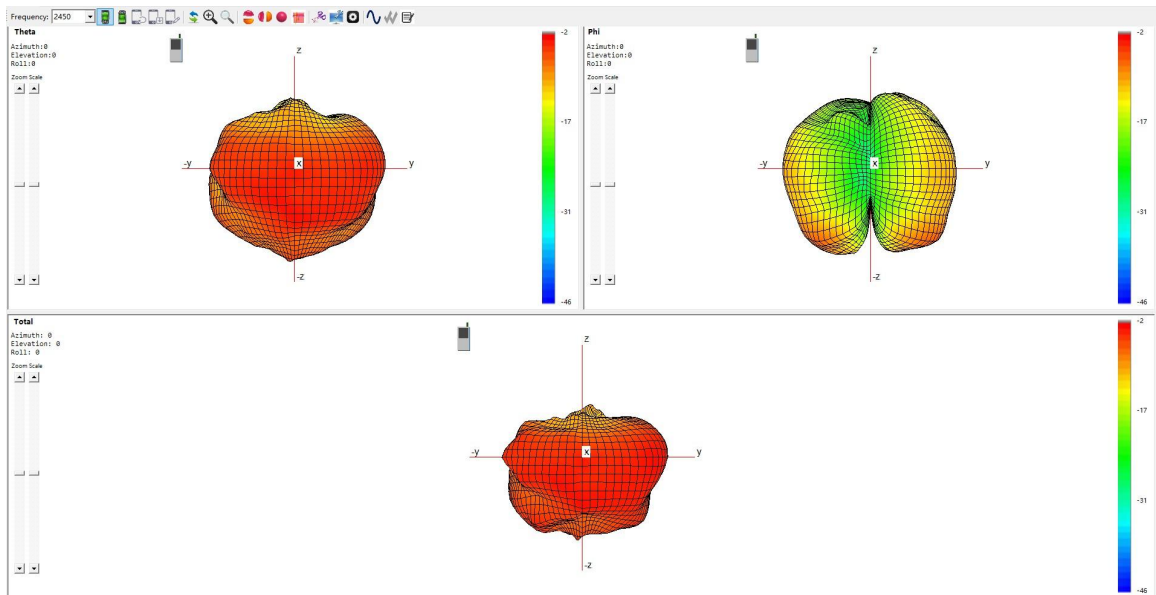
3、Data read

3.1、Scan the antenna for 3D radiation

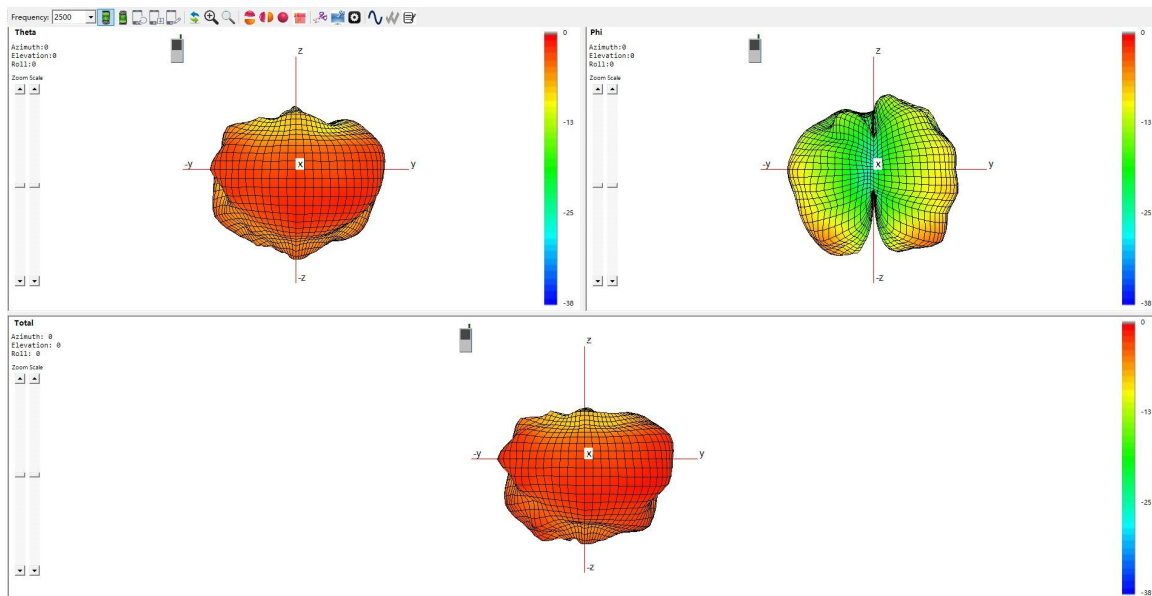
2400MHz:



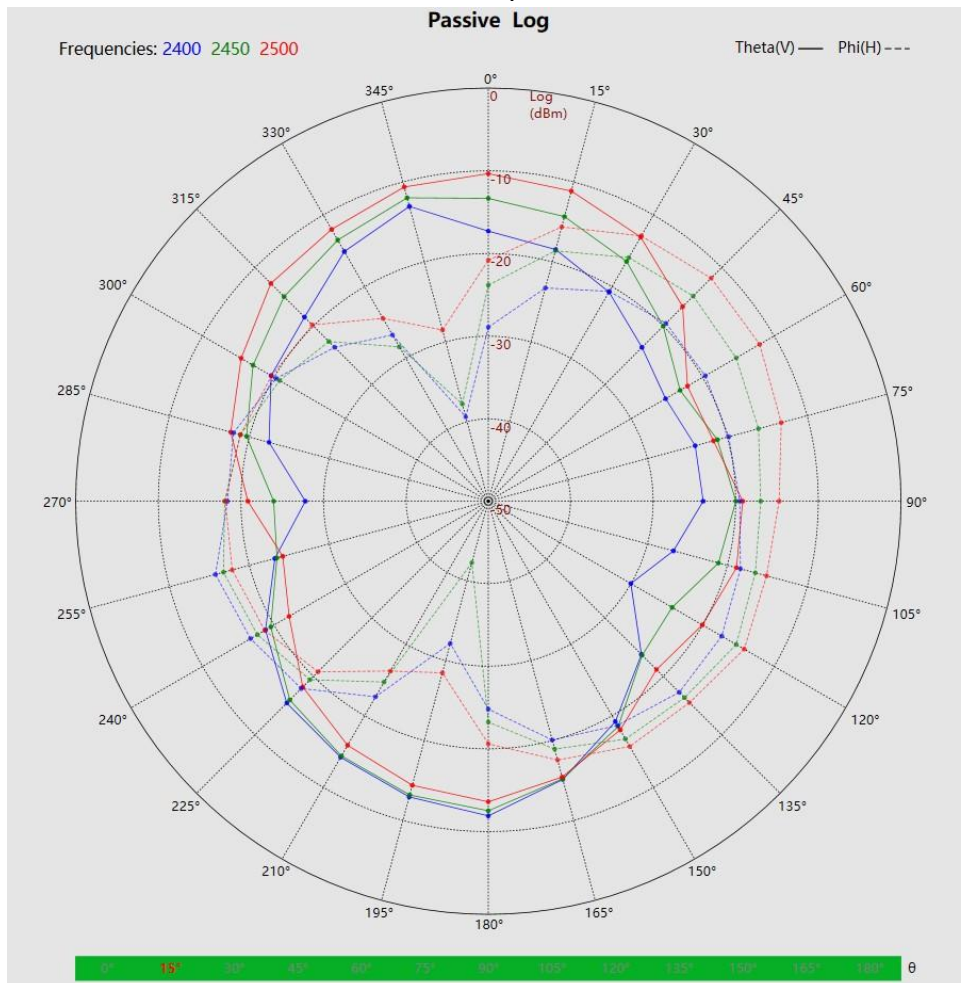
2450MHz:



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	-3.70	-9.21	12.01
2410	-3.31	-8.63	13.71
2420	-3.03	-8.08	15.57
2430	-3.12	-7.64	17.22
2440	-2.81	-7.32	18.54
2450	-2.44	-6.72	21.28
2460	-2.15	-6.23	23.85
2470	-1.72	-5.98	25.22
2480	-1.10	-5.60	27.54
2490	-0.81	-5.35	29.14
2500	-0.63	-5.01	31.57

Summary

ITEM	ANT SPEC		
Model Name	2.4G ANT		
Antenna plate	PCB antenna		
Center Frequency	2400MHz	2450MHz	2500MHz
	-3.70dBi	-2.44dBi	-0.63dBi
MAX. Gain	-0.63dBi		
Polarization	Horizontal and Vertical		
Impedance	50Ohm		
Manufacture			

AntennaPhoto&Length(mm)

