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Project 549AA WIFI Antenna  
Electrical performance report

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C h e c k : Liao.Jian

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## 1 Overview

This document is the electrical performance report of the 549AA project antenna. The working frequency band of the WIFI antenna is 2400MHZ-2500MHZ and 5150MHZ-5850MHZ.

## 2 Antenna specification

Band	Frequency(MHz)	Return Loss(dB)
WIFI	2400-2500 & 5150-5850	<-5

## 3 Antenna status



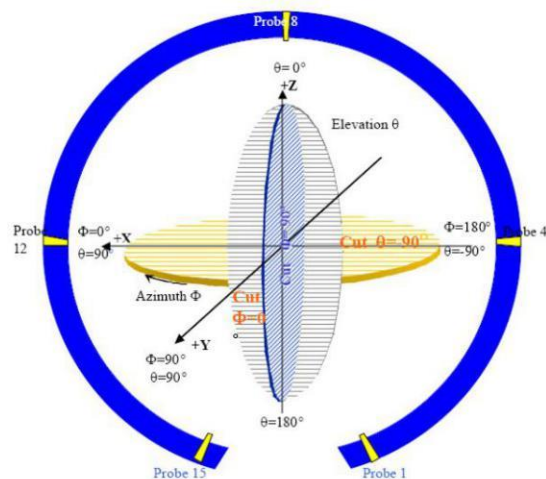
3.1 Antenna photo

## 4 Antenna test environment

### 4.1 Passive antenna test equipment

The antenna input characteristics were tested using an Agilent E5071C vector network analyzer.

The antenna radiation characteristics were tested using a GTS Ray Zone 1800 3D near-field microwave anechoic chamber. The test coordinate system is shown in 4.1.1



4.1.1 3D Microwave anechoic chamber test coordinate system (back view)

## 4.2 Physical drawing of antenna test equipment



4.2.1 Darkroom physical drawing

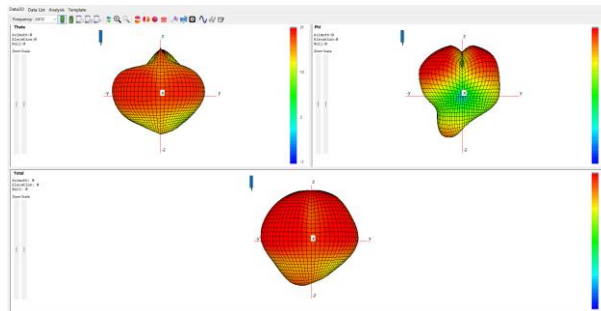
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## 5 Antenna test results

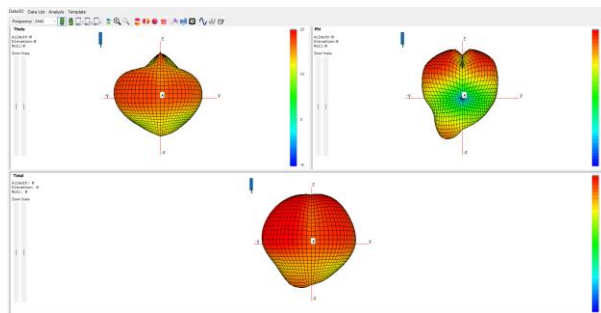
### 5.1 Antenna pattern

11B

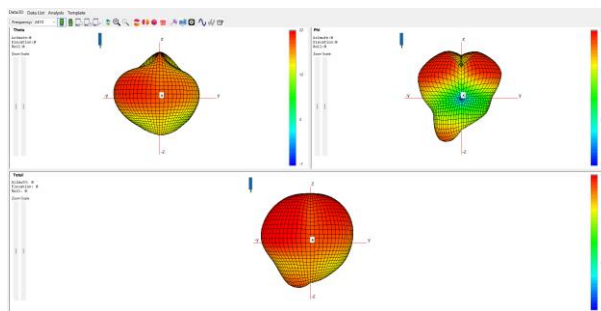
CH 1



CH7

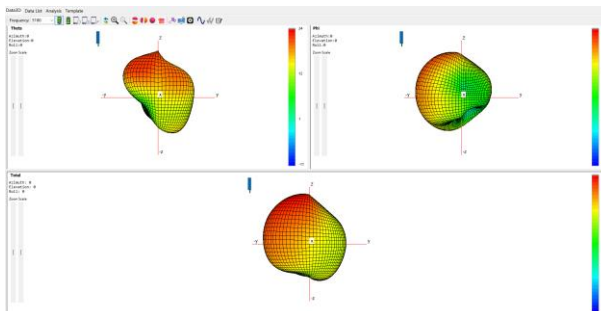


CH13

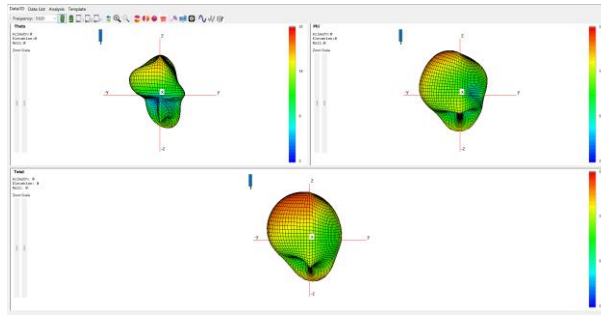


11A

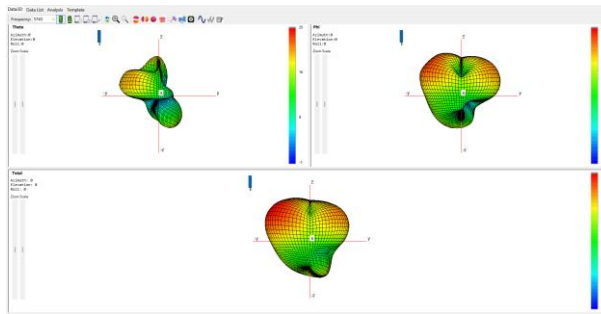
CH36



CH64

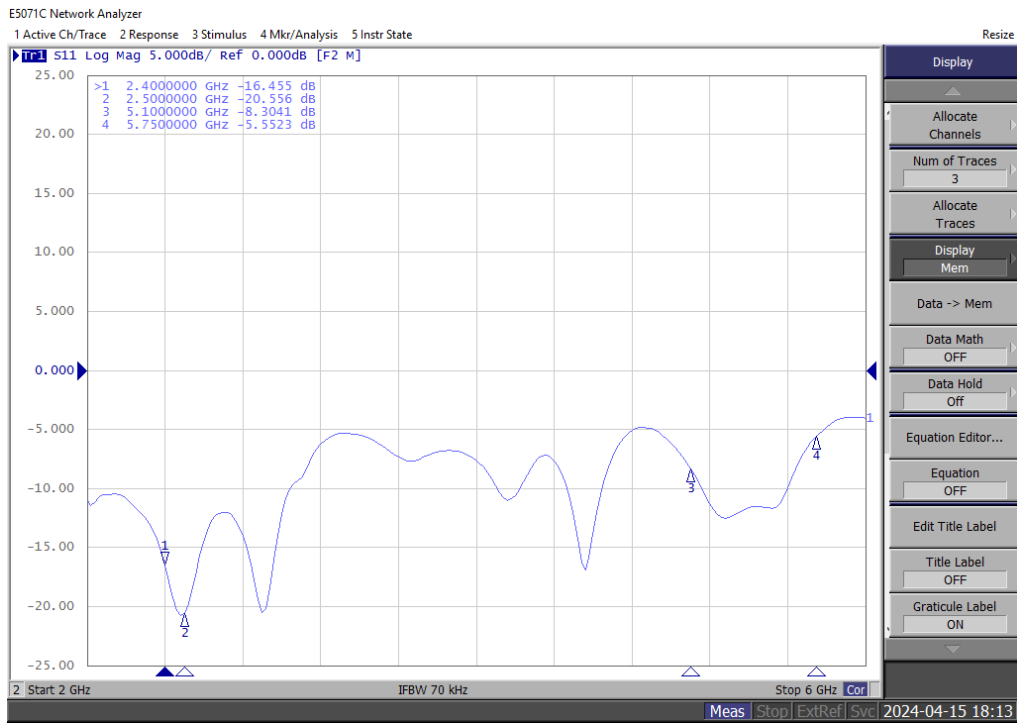


CH149



## 5.2 Reflection Loss

S11:



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### 5.3 Passive efficiency:

频率	效率	增益	频率	效率	增益
2400	-4.10	1.64	5150	-2.06	3.77
2410	-4.12	1.76	5200	-2.01	3.62
2420	-4.21	1.81	5250	-2.19	3.13
2430	-4.18	1.92	5300	-2.14	2.90
2440	-4.07	2.03	5350	-2.19	3.17
2450	-4.12	2.06	5400	-2.49	3.18
2460	-4.13	2.05	5450	-2.76	3.41
2470	-4.12	2.09	5500	-3.00	3.43
2480	-4.11	2.15	5550	-3.28	3.20
2490	-4.17	2.13	5600	-4.07	2.76
2500	-4.36	2.05	5650	-3.83	2.99
			5700	-3.93	2.81
			5750	-4.50	2.49
			5800	-4.20	2.70
			5850	-4.46	2.45
			5900	-4.96	2.09
			5950	-4.56	2.22
			6000	-4.54	2.28

# 6 Antenna Drawings

LAB  QE  OQC  IPQC  IQC  注通  冲压  组装

NO.	DESCRIPTION	DESIGNER	DATE
		Liu Hongfei	2024.04.15

端子朝上

不含PC天线罩

2	物料名称	物料规格	物料数量	物料单位
1	浙江海通信电子有限公司	549AA	1	PCS

**NHAIIT** 浙江海通信电子有限公司  
ZHEJIANG HAITONG COMMUNICATION ELECTRONICS CO., LTD.

PROJECT NAME: 549AA (IPC)

PRODUCT NAME: XIA0094\_549AA\_PPC-天线冲套组件

APPD: LJ 冲套组件 共 1.0E+0081

CHKD: ME 冲压成品图

DRAW: LEP 客户图纸 180000-1609-01

SCALE: 1:1 PAGE: 1/1 REV: A1

UNIT: MM SIZE: A4 DRAWING NO: 6

**PCB技术要求:**

1. 为标注尺寸参考3D, 关键尺寸CPK值大于1.33.
2. 材料:
  - (1) 材料: FR4或V1, 铜厚0.035mm-0.05mm
  - (2) 工艺: 阻焊
  - (3) 颜色: 黑色
  - (4) 产地: 符合IPC-A600 & IPC-A601
3. 表面处理: 化学镀金, 厚度: 0.05um
4. 表面处理: 化学镀金, 厚度: 0.05um

**外观技术要求:**

1. 外观: (A类) 外观无划伤、无毛刺、无污渍。
2. 外观: (B类) 外观无划伤、无毛刺、无污渍。
3. 外观: (C类) 外观无划伤、无毛刺、无污渍。
4. 外观: (D类) 外观无划伤、无毛刺、无污渍。

**尺寸公差:**

1. 公差: 0.1mm
2. 公差: 0.1mm
3. 公差: 0.1mm
4. 公差: 0.1mm
5. 公差: 0.1mm
6. 公差: 0.1mm
7. 公差: 0.1mm
8. 公差: 0.1mm
9. 公差: 0.1mm
10. 公差: 0.1mm