



上海增信电子有限公司  
Signal Plus Technology Co., Ltd.

规格承认书  
SPECIFICATION FOR APPROVAL

日期  
DATE: 2024.01.23

版本  
REV.: A

客户  
CUSTOMER: Shanghai Liulian Intelligent Technology Co., LTD

Address: 2405-06, Baotai Building, 1 82 Design Park, 1 82 Bulan Road, Lilan gComm unity, Nan wan Street, Lon ggangDistrict ,Shen zhen

型号  
Model: 0583-X2-Left

品名  
PART NAME: 内置 2.4G&5G WiFi FPC天线, 1.13黑色普通线L=130mm with RF CONN(4代) for ARB39 主端口

供方料号  
SUPPLIER P/N: 6241F00017

送样日期Date: 送样数量Q'TY: Pcs

客户确认CUSTOMER APPROVED BY		
核准 Approved by	审核 Checked by	确认 Confirmed by

供方确认SUPPLIER SIGNATURE		
核准 Approved by	审核 Checked by	拟制 Prepared by
Andy		Cindy

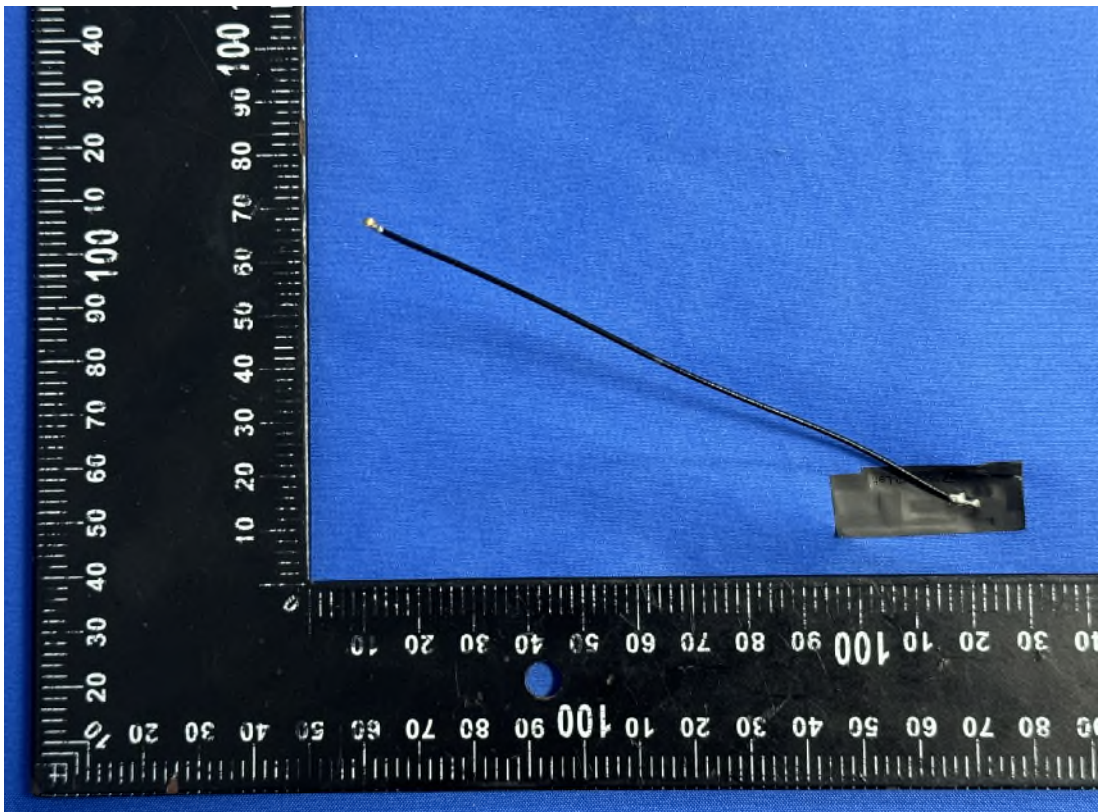
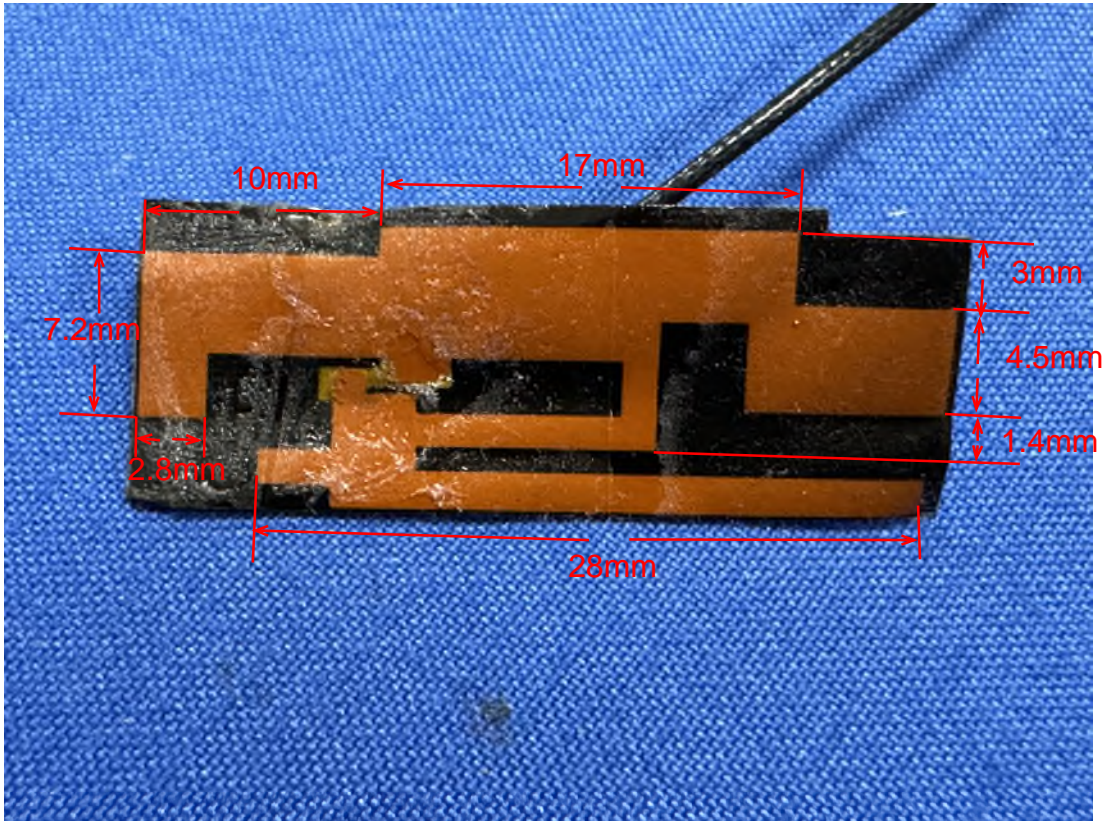
ZX-QT-RD-0011-A1

Add:上海市徐汇区桂箐路69号30栋603室 Tel:021-54266190 Fax:021-54266191

# *Contents*

<i>Item</i>	<i>Description</i>	<i>Page</i>
1. ....	Cover	..... 1
2. ....	Content	..... 2
3. ....	Drawing	..... 3
4. ....	Antenna Test Report	..... 4~14

# Antenna size





上海增信电子有限公司

Signal Plus Technology Co., Ltd.

## Antenna Test Report

©V2

2024.1.19

Signal Plus Technology Co., Ltd

## List of contents

---

Test setup  
Antenna Solution  
S Parameter --- Return Loss, Isolation  
Efficiency and Peak Gain  
Radiation Patterns  
Summary

# 1. Test system description---S Parameter

---

## 1.1. Test Setup

### 1.1.1 VNA Test Setup

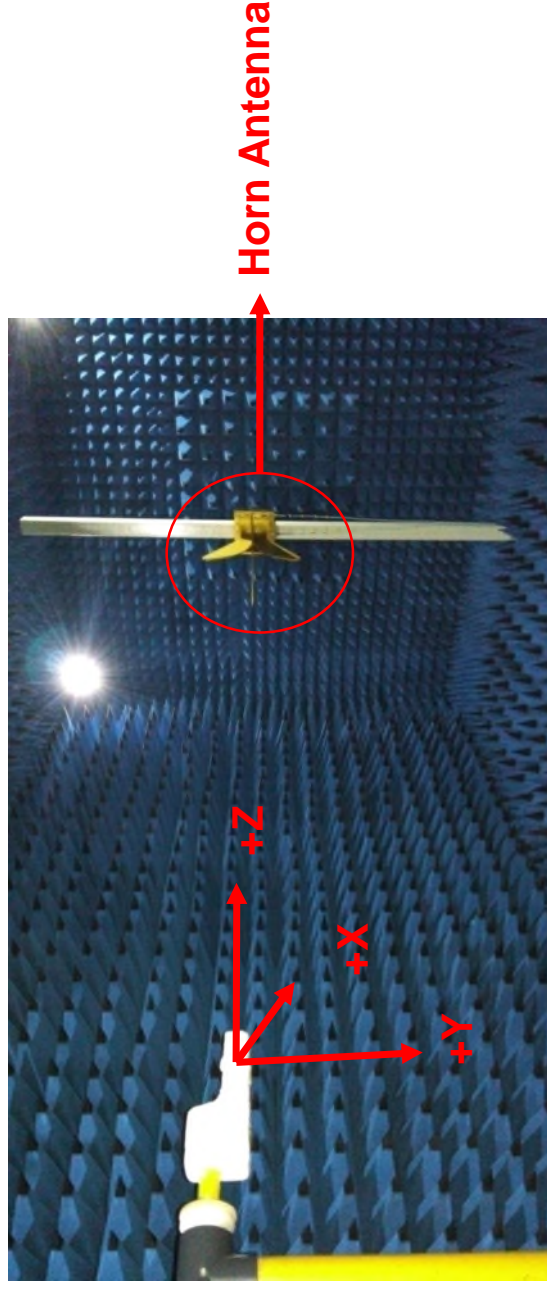
S parameter measurements (S ) were performed using an Keysight E5071C Network Analyzer and previously described test fixtures. The isolation between antennas is also tested. The testing was performed with apparatus in free space.



# 1. Test system description--- Anechoic Chamber Test Setup

## 1.1.2 Anechoic Chamber Test Setup

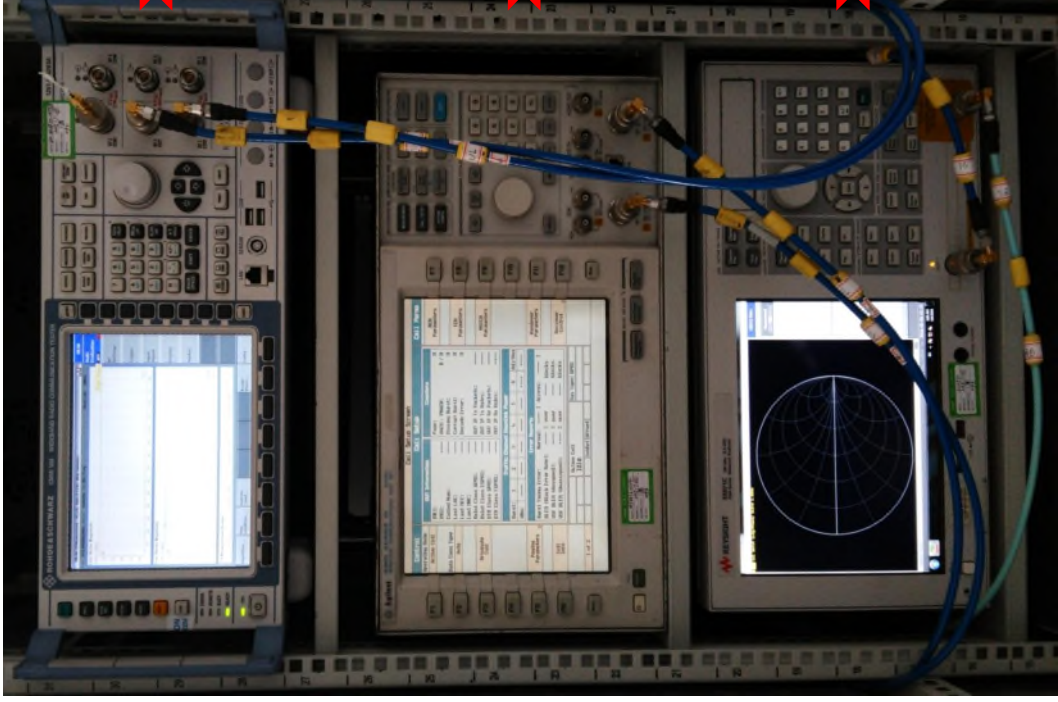
The gain of the antenna was measured in the anechoic chamber(ETS 3D). The chamber provides less than  $-30$  dB reflectivity from 400 MHz through 6 GHz. The chamber size is:  $7\text{m} * 4\text{m} * 3\text{m}$ . The measurement results are calibrated using a leaky wave horn standard. We can measure the antenna gain and efficiency accurately.



Signal Plus  
Antennas

# 1. Test system description--- Test Instruments

## 1.1.3 Instruments



**R&S CMW500**  
**4G/WIFI**  
**(LTE/WIFI b/g/a)**

**Agilent 8960**  
**2G/3G**  
**(GSM/CDMA/WCDMA)**

**KeySight E5071C**  
**(400MHz~6GHz)**

Signal Plus  
Antennas



## 2. Antenna Solution

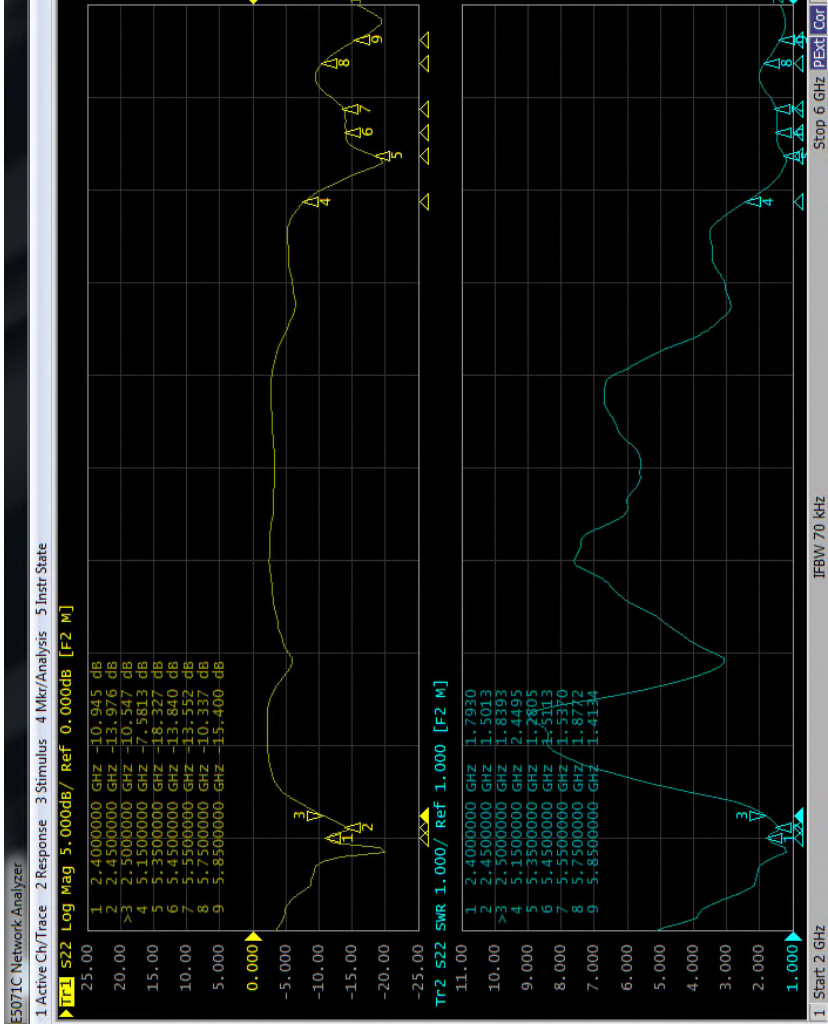
---

### 2.1 Antenna Location Pictures for passive



# 3. Test Result---Return Loss

S11(Main):



### 3. Test Result---Efficiency, Gain

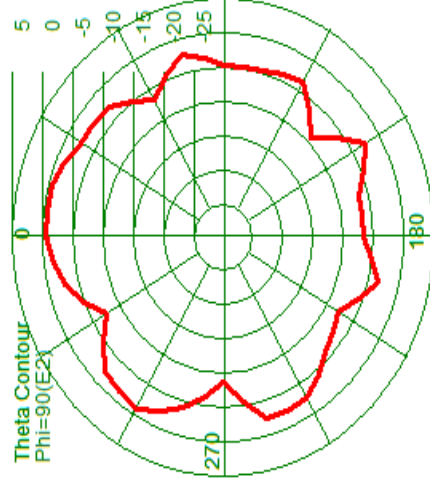
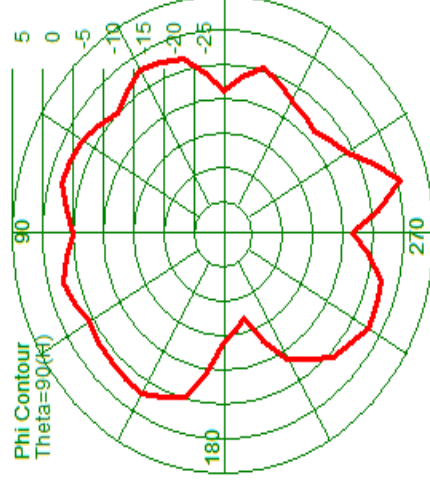
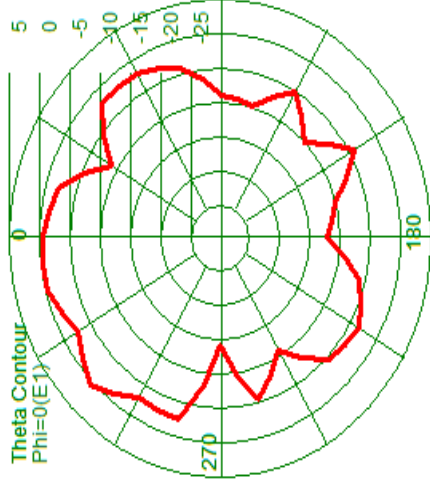
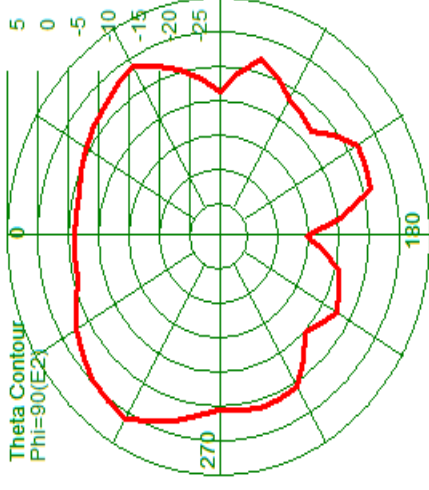
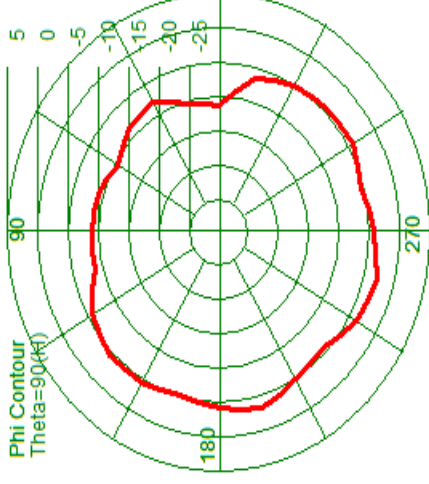
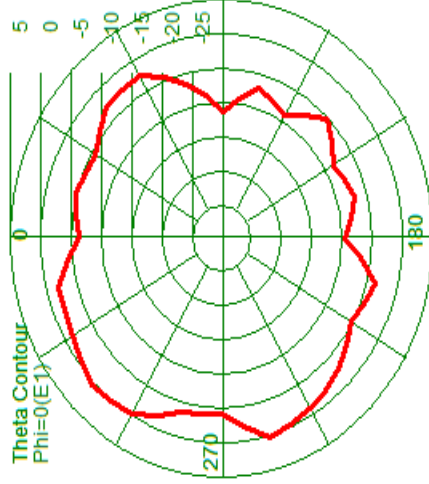
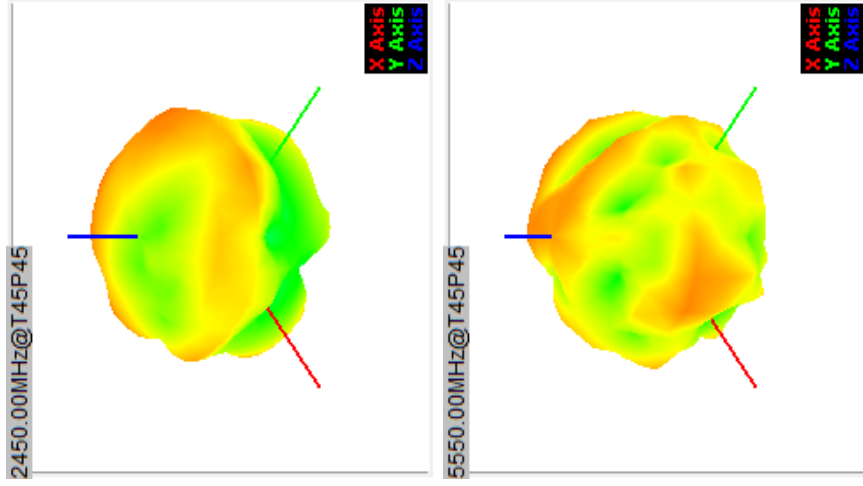
---

Data :

Freq. (MHz)	Gain (dBi)	Efficiency (%)

# 3. Test Result---Efficiency、Gain

Radiation patterns:



Signal Plus  
Antennas

### 3. Test Result---Active data

---

Mode	Channel		
2.4G 802.11 g/n			
5G 802.11a/n			

# 4.Isolation

