



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: 2022.10.28

版本  
REV.: A

客 户  
CUSTOMER: 上海华测导航技术股份有限公司

客 户 料 号  
CUSTOMER P/N: 0101020174

品 名  
PART NAME: Built-in 2.4G FPC antenna with 1.13mm black cable, L=80mm, with RF connector for P2

供 方 料 号  
SUPPLIER P/N: 6068F00033

送样日期Date: 送样数量Q'TY: Pcs

| 客户确认CUSTOMER APPROVED BY |                  |                    |
|--------------------------|------------------|--------------------|
| 核准<br>Approved by        | 审核<br>Checked by | 确认<br>Confirmed by |
|                          |                  |                    |

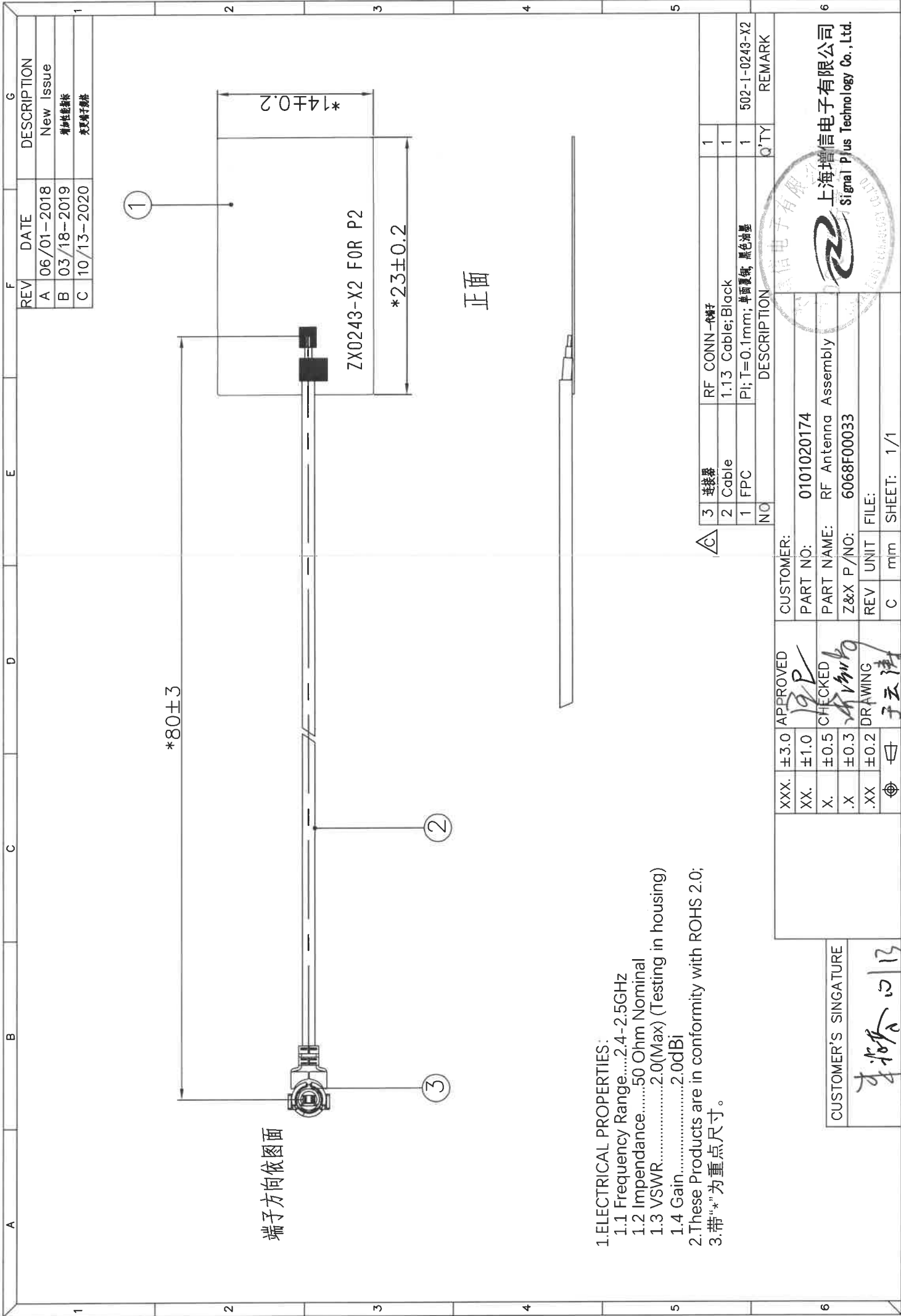
| 供方确认SUPPLIER SIGNATURE |                  |                   |
|------------------------|------------------|-------------------|
| 核准<br>Approved by      | 审核<br>Checked by | 拟制<br>Prepared by |
| Andy                   |                  | Cindy             |

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 | ..... 4~8   |





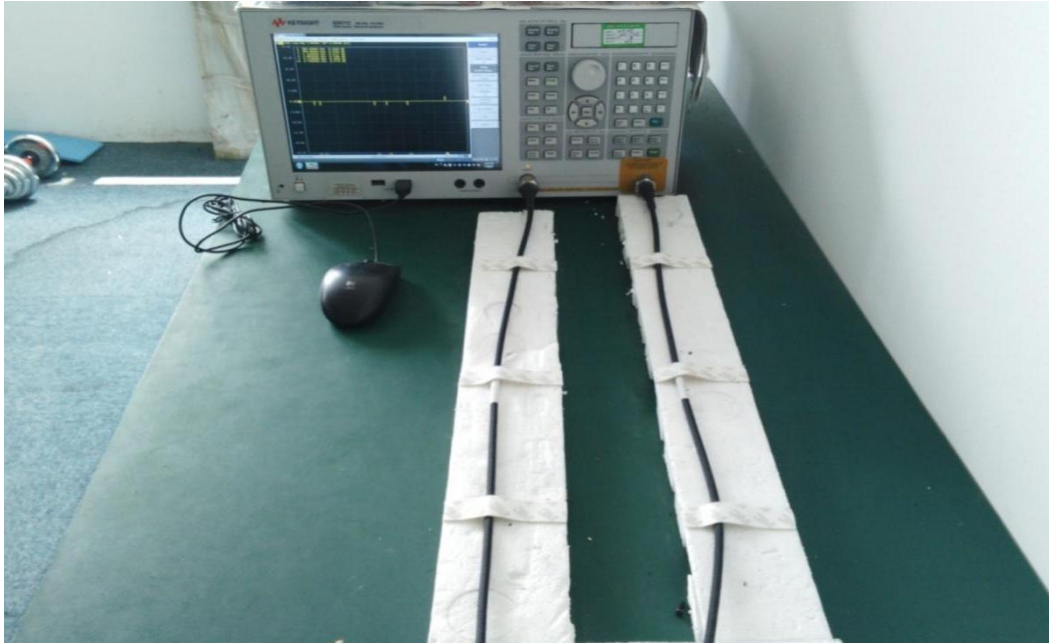
## Antenna Test Report

## 1. RF Fixture Experiment

### 1.1 Test Setup

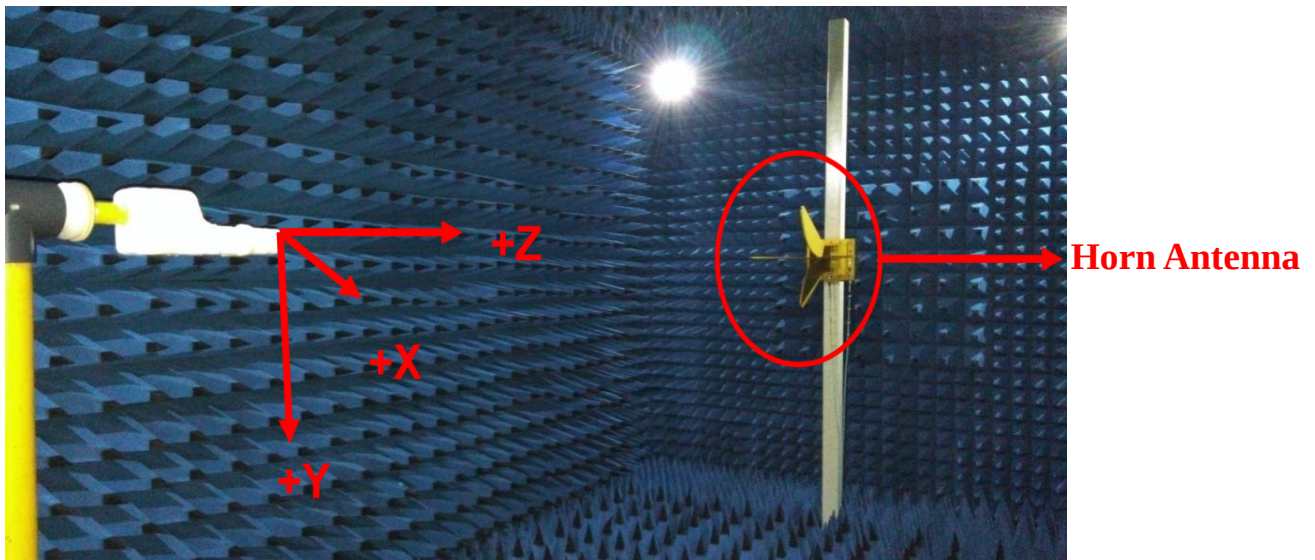
#### 1.1.1 VNA Test Setup

VSWR and Return Loss measurements ( $S_{11}$ ) were performed using an Keysight E5071C Network Analyzer. The isolation between antennas is also tested. The testing was performed with apparatus in free space.

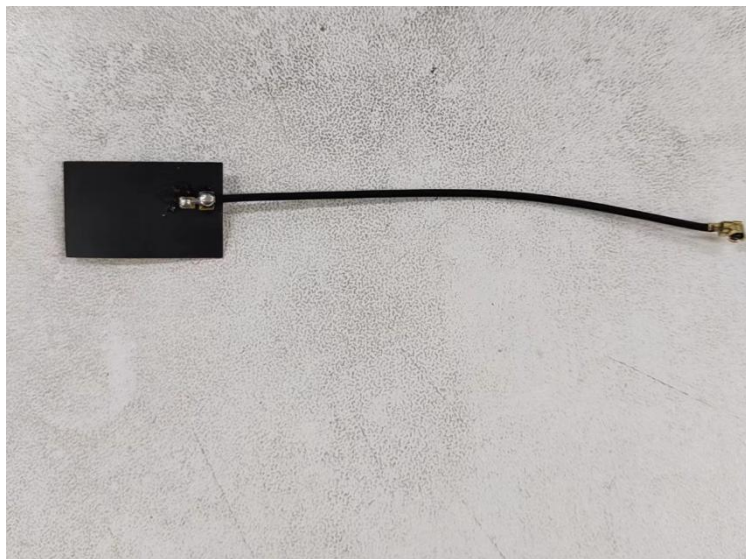


#### 1.1.2 Anechoic Chamber Test Setup

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



## 2. Antenna Solution

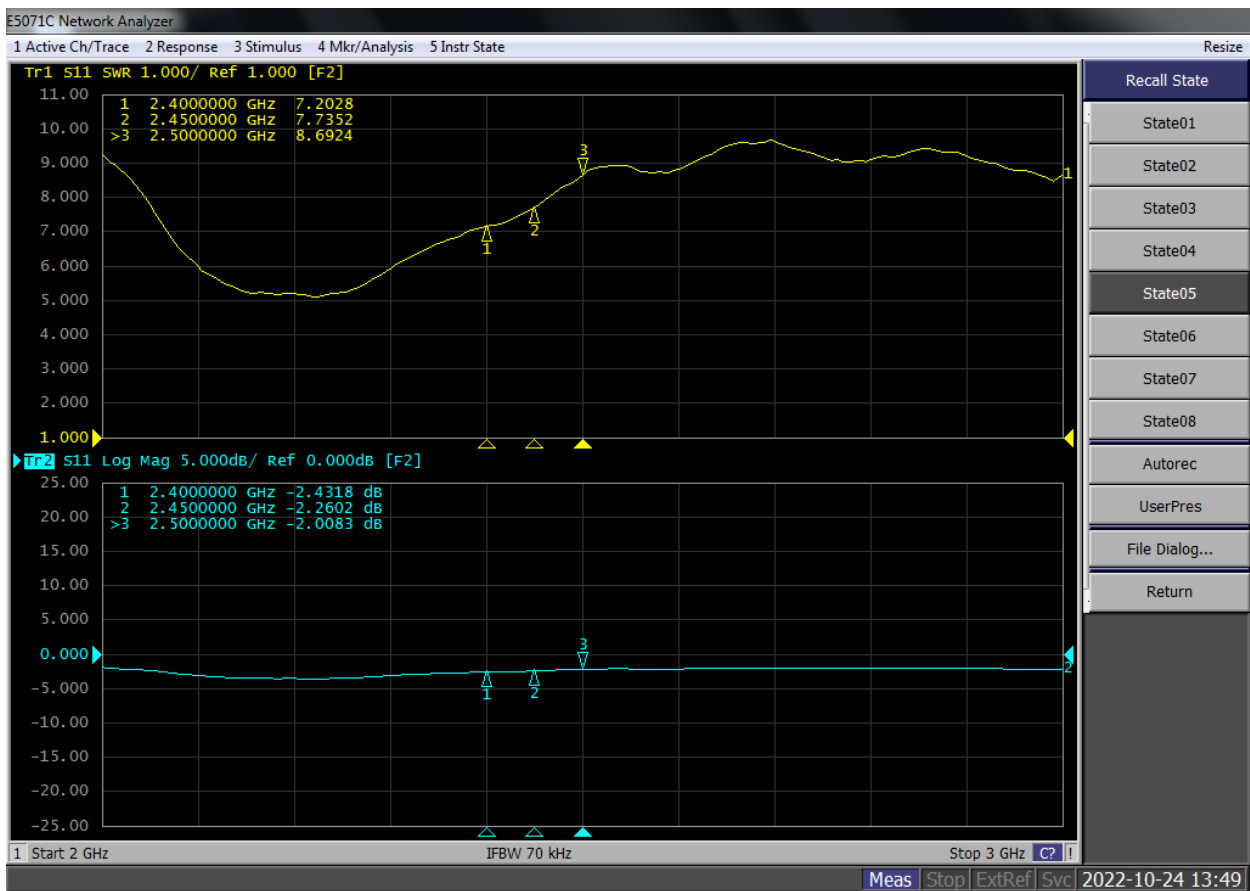


### 3. Data Preview

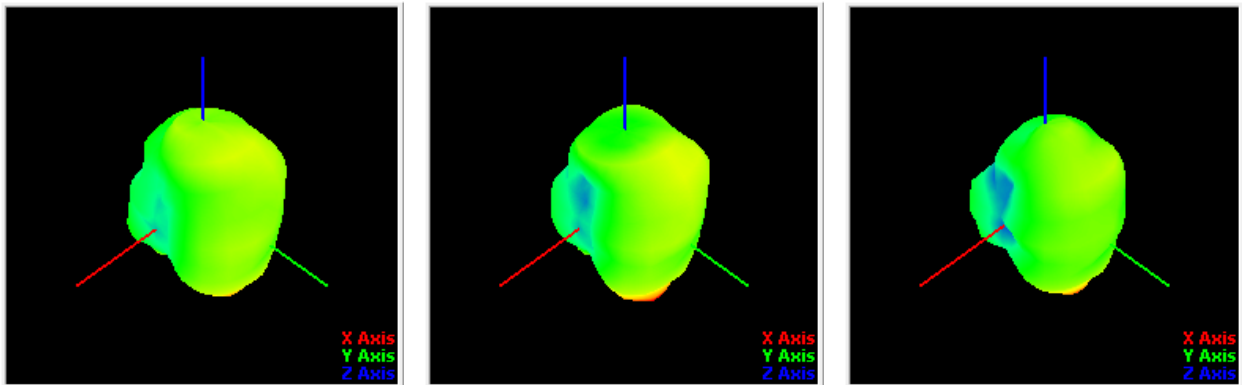
2.4G:

| Freq.(MHz) | 2400  | 2450  | 2500  |
|------------|-------|-------|-------|
| Gain(dBi)  | -0.62 | -0.91 | -0.89 |
| Eff.%      | 29.4  | 26.8  | 24.0  |

### S11(2.4G)



### Radiation patterns:3D (2400/2450/2500)



### Radiation patterns:2D (2450)

