

Signal Plus Technology co., Ltd.

SPECIFICATION FOR APPROVAL

DATE: 2025.06.10

REV.: A

CUSTOMER: Shanghai Huace Navigation Technology Co., Ltd.

CUSTOMER P/N:

PART NAME: 410-470MHz Soft Plastic Antenna with RP SMA Male

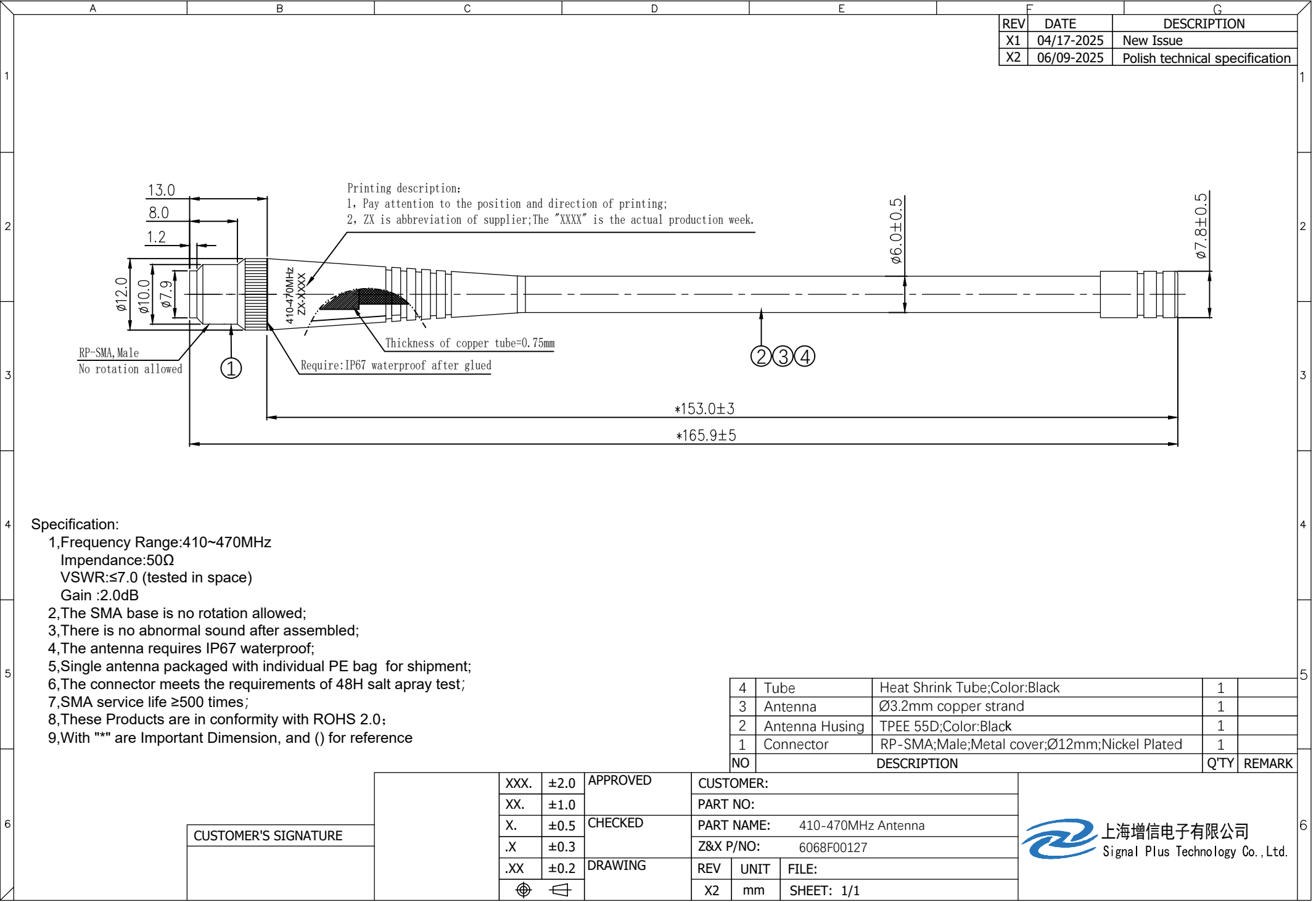
SUPPLIER P/N: 6068F00127

|                      |            |              |
|----------------------|------------|--------------|
| Date:                | Q'TY:      | Pcs          |
| CUSTOMER APPROVED BY |            |              |
| Approved by          | Checked by | Confirmed by |
|                      |            |              |

|                    |            |             |
|--------------------|------------|-------------|
| SUPPLIER SIGNATURE |            |             |
| Approved by        | Checked by | Prepared by |
| Andy               |            | Cindy       |

# *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   |



| REV | DATE       | DESCRIPTION                    |
|-----|------------|--------------------------------|
| X1  | 04/17-2025 | New Issue                      |
| X2  | 06/09-2025 | Polish technical specification |

Specification:

- Frequency Range:410~470MHz
- Impedance:50Ω
- VSWR:≤7.0 (tested in space)
- Gain :2.0dB
- The SMA base is no rotation allowed;
- There is no abnormal sound after assembled;
- The antenna requires IP67 waterproof;
- Single antenna packaged with individual PE bag for shipment;
- The connector meets the requirements of 48H salt apray test;
- SMA service life ≥500 times;
- These Products are in conformity with ROHS 2.0;
- With "\*" are Important Dimension, and () for reference

|    |                |                                             |      |        |
|----|----------------|---------------------------------------------|------|--------|
| 4  | Tube           | Heat Shrink Tube;Color:Black                | 1    |        |
| 3  | Antenna        | Ø3.2mm copper strand                        | 1    |        |
| 2  | Antenna Husing | TPEE 55D;Color:Black                        | 1    |        |
| 1  | Connector      | RP-SMA;Male;Metal cover;Ø12mm;Nickel Plated | 1    |        |
| NO | DESCRIPTION    |                                             | Q'TY | REMARK |

|                      |  |                                                                                     |                                                                                     |          |                               |      |            |
|----------------------|--|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------|-------------------------------|------|------------|
|                      |  | XXX.                                                                                | ±2.0                                                                                | APPROVED | CUSTOMER:                     |      |            |
|                      |  | XX.                                                                                 | ±1.0                                                                                |          | PART NO:                      |      |            |
| CUSTOMER'S SIGNATURE |  | X.                                                                                  | ±0.5                                                                                | CHECKED  | PART NAME: 410-470MHz Antenna |      |            |
|                      |  | .X                                                                                  | ±0.3                                                                                |          | Z&X P/NO: 6068F00127          |      |            |
|                      |  | .XX                                                                                 | ±0.2                                                                                | DRAWING  | REV                           | UNIT | FILE:      |
|                      |  |  |  |          | X2                            | mm   | SHEET: 1/1 |



## Antenna Test Report

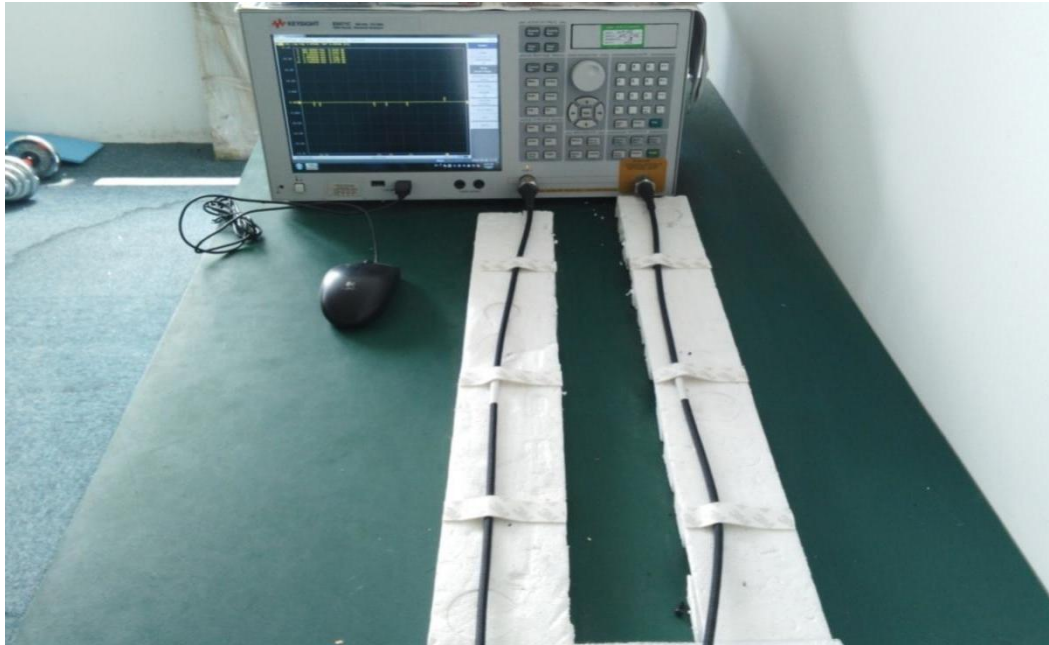
Manufacturer: GEOMATE POSITIONING PTE. LTD.  
Address: 13 Tampines Lane #09-53 Singapore 528479

## 1. RF Fixture Experiment

### 1.1 Test Setup

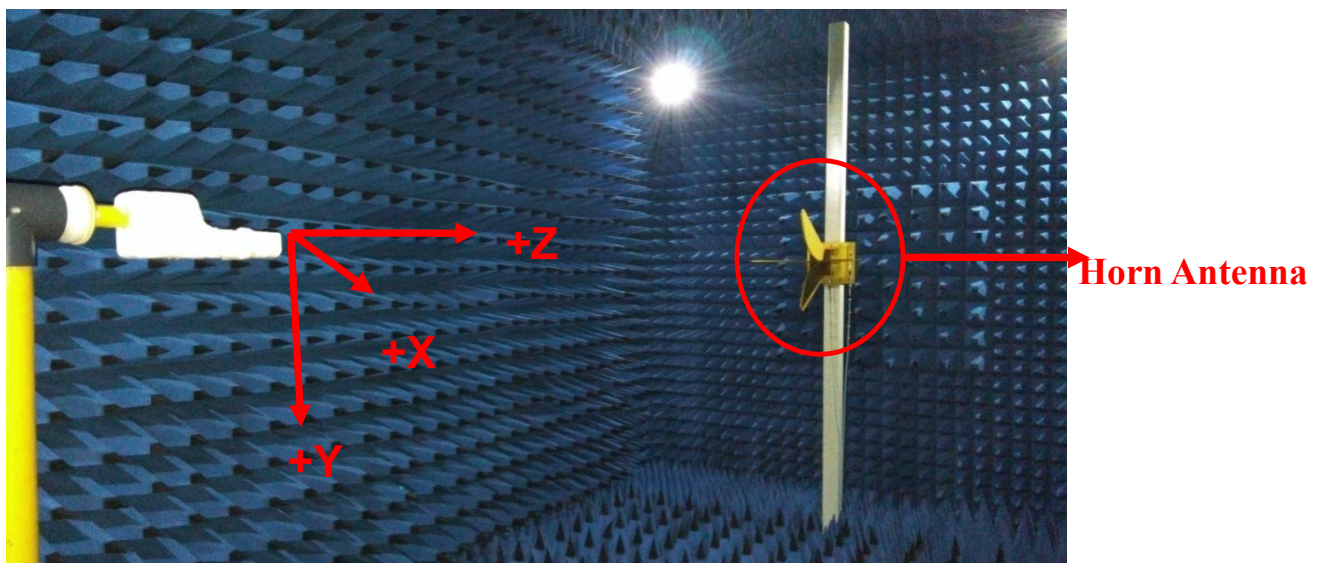
#### 1.1.1 VNA Test Setup

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.

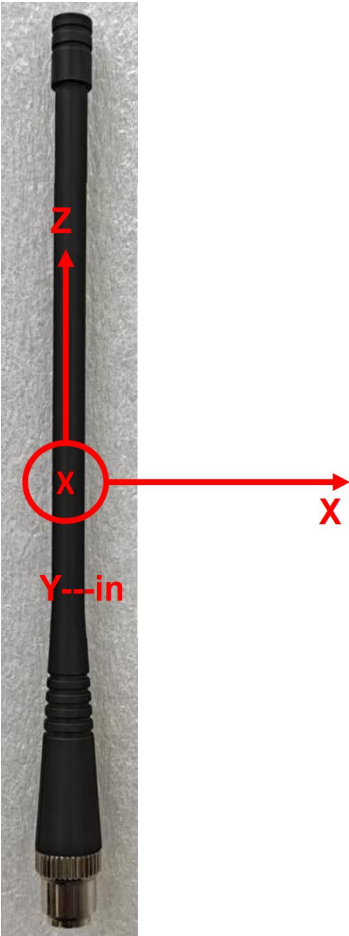


#### 1.1.2 Anechoic Chamber Test Setup

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.



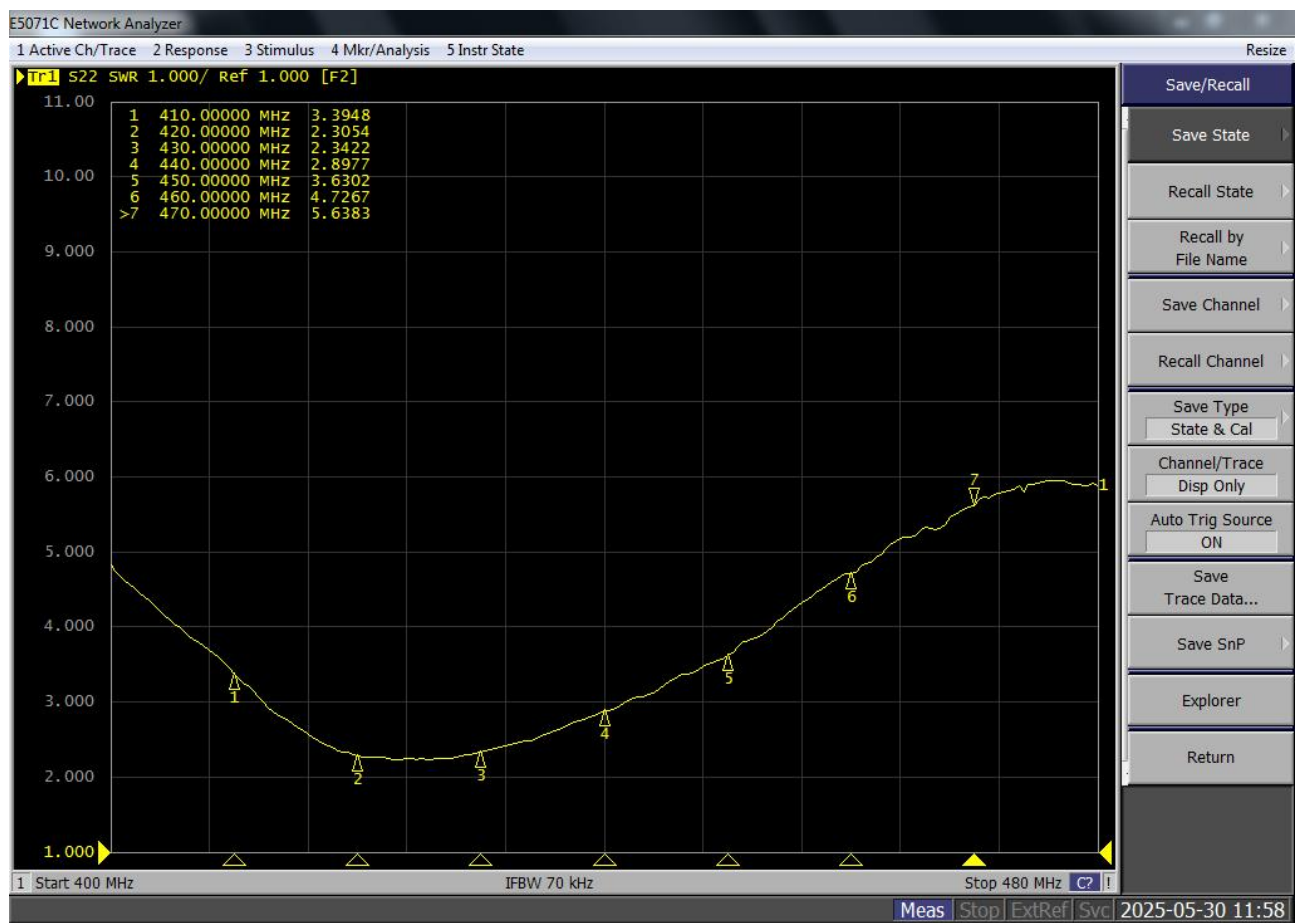
2.Antenna Solution



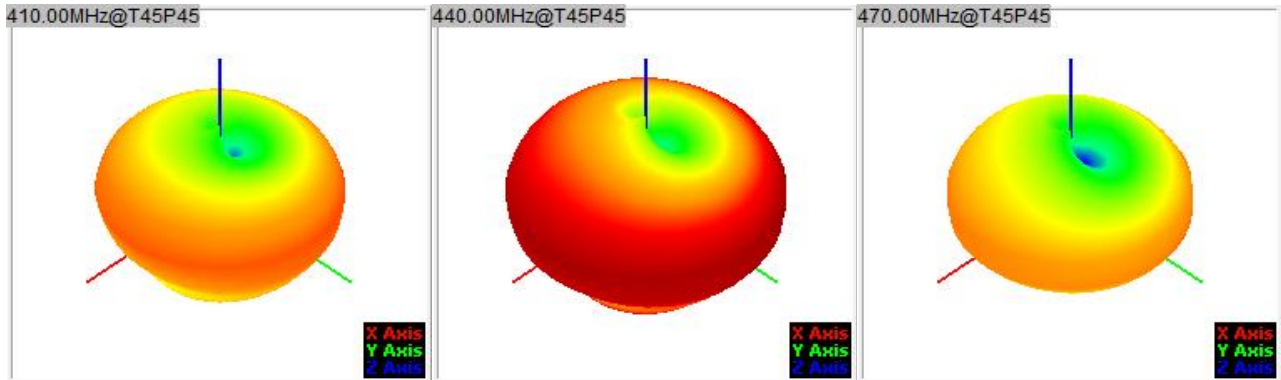
## Data Preview

| Freq.(MHz) | 410   | 440   | 470   |
|------------|-------|-------|-------|
| Gain(dBi)  | -3.95 | 2.00  | -4.12 |
| Eff.%      | 21.60 | 76.22 | 18.00 |

## S11



## Radiation patterns:3D(410/440/470MHz)



## Radiation patterns:2D(410/440/470MHz)

