

# APPROVAL SHEET

**Metal Stamping Antenna**

**2.4 ~2.5GHz Working Frequency**

**P/N: RFMTA250900NNAB001**

Customer : Primax Electronics Ltd.

Customer 's Part No. : 690800022400

Production : 禾邦电子（苏州）有限公司  
INPAQ TECHNOLOGY(SUZHOU) CO., LTD

Address : 中國江苏省无锡市锡山区安泰一路81号  
No.81, Antai 1st Road, Xishan District, Wuxi, Jiangsu, China

[illegible]

## 品名：RFMTA250900NNAB001

## 1. Explanation of part number：

| RF               | MTA                | 2509                                                                         | 00                                                   | N                                                                                                                                      | N                                                                                        | A                                                                                                                                                                                                                                             | B                                            | 0                                                             | 01                  |
|------------------|--------------------|------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------|---------------------|
| Type Code        | Product Code       | Metal Dimension (Unit: mm)                                                   | Cable Length (unit: cm)                              | Connector Brand                                                                                                                        | Type of Connector                                                                        | Application                                                                                                                                                                                                                                   | Project status                               | Wire Diameter                                                 | Project             |
| Walsin RF Device | MTA: Metal Antenna | Per 2 digits of length, width<br>e.g:2509<br>Length 25.50mm,<br>Width 9.91mm | 2 digits for cable length<br>e.g.: 00<br>None Length | A: N<br>C:MCX<br>D:IPEX III<br>E: IPEX IV<br>F: IPEX A13<br>H: Hirose<br>I: IPEX<br>M: MMCX<br>S: SMA<br>T: TNC<br>U:MURATA<br>N: None | A: Reverse<br>Female<br><b>B: Reverse Male</b><br>F: Female<br>M: Male<br><b>N: None</b> | <b>0: 0GHz</b><br><b>3: 3GHz</b><br><b>5: 5 GHz</b><br><b>6: 6GHz</b><br>A: 2.4GHz<br>ISM band<br>B: GSM<br>900/1800 dual band<br>G: GPS band<br>L: 2.4/5.2/5.8 GHz<br>tri-band<br><b>N: NFC</b><br><b>T:LTE band</b><br><b>W: WCDMA band</b> | B: MP<br><b>T:During Test</b><br>X: Pile Run | 0:None<br>1:Ø0.81<br>3:Ø1.13<br>6:RG316<br>7:Ø1.37<br>8:RG178 | 01~99 series number |

## 2. Electrical Specification：

| Item                    | Specification   |
|-------------------------|-----------------|
| Working Frequency Range | 2.4 ~ 2.5 GHz   |
| Return Loss             | -10dB(Max)      |
| VSWR                    | 2 max.          |
| Polarization            | Linear Vertical |
| Radiation Pattern       | Directional     |
| Impedance               | 50Ω             |

UNLESS OTHER SPECIFIED TOLERANCES ON：  
X = N/A      X.X = N/A      X.XX = N/A  
ANGLES = N/A      HOLEDIA = N/A



INPAQ TECHNOLOGY CO., LTD.

SCALE：N/A

UNIT：mm

DRAWN BY：劉采璇

CHECKED BY：詹惠雯

DESIGNED BY：林育帆

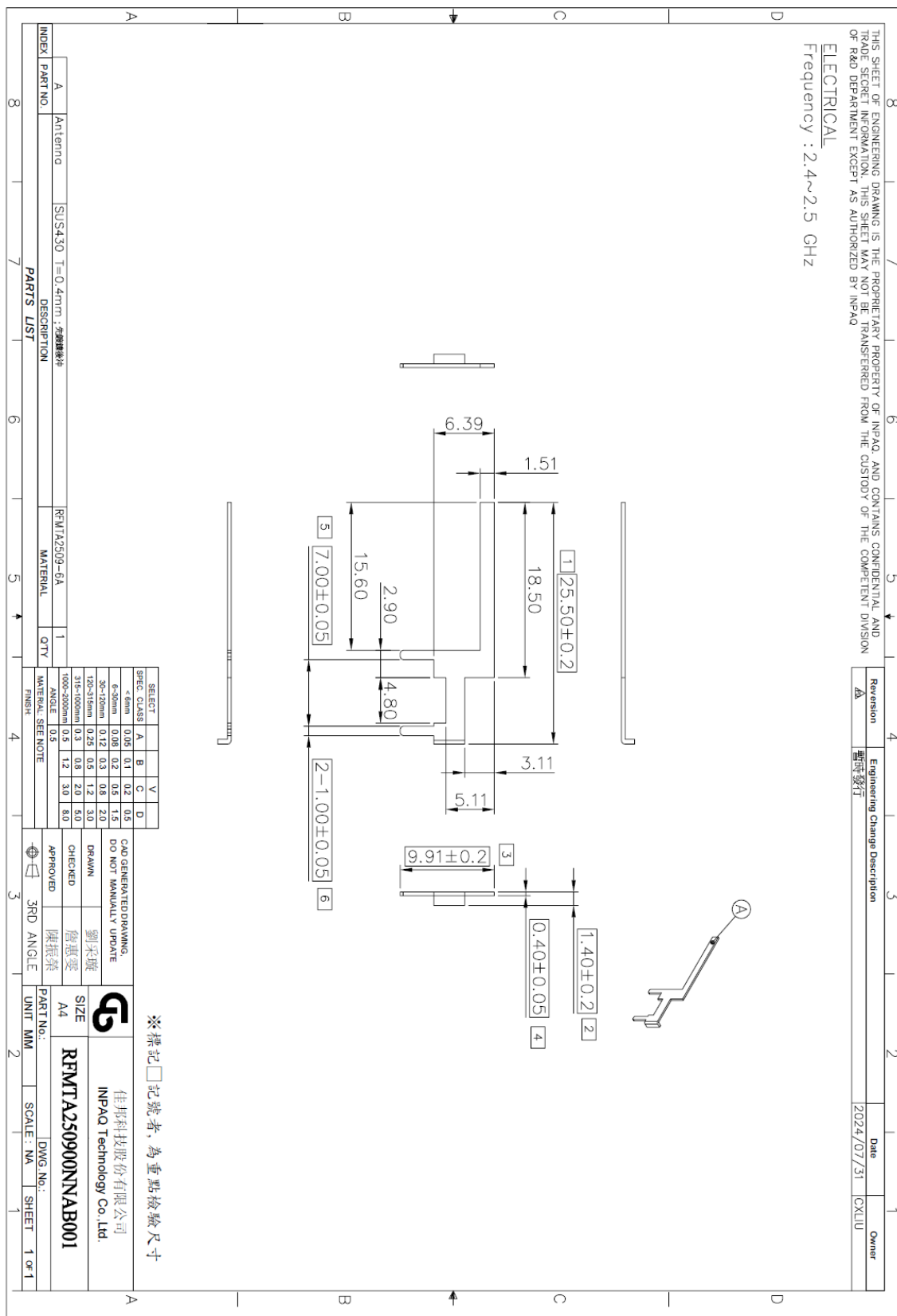
APPROVED BY：陳振榮

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TITLE：RFMTA250900NNAB001

DOCUMENT  
NO.SPEC REV.  
P0

## 3. Antenna Drawing :



UNLESS OTHER SPECIFIED TOLERANCES ON :  
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ANGLES = N/A      HOLEDIA = N/A



INPAQ TECHNOLOGY CO., LTD.

SCALE : N/A

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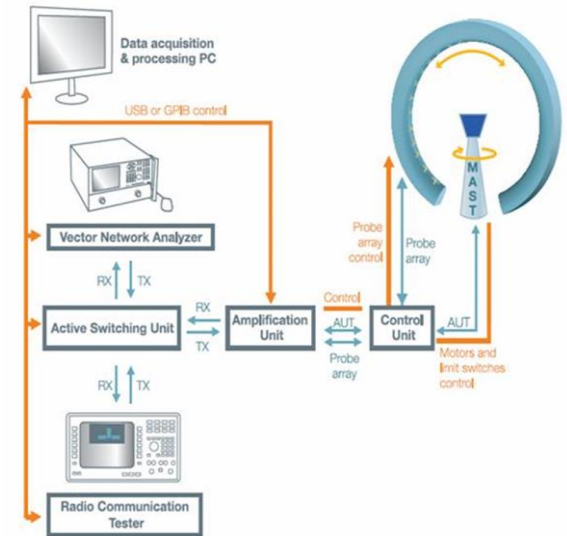
# Bubblicious

## Antenna measurement report



- 1. Brand: Primax
- 2. Model Name : 12-D0101CG01
- 3. Manufacture information: Primax
- 4. Test engineer name :Kyle Wang
- 5. Test date:2024.03.13
- 6. Test Equipment : SATIMO Testing System (SG-24L)
- 7. test set up photo/equipment/ measure method

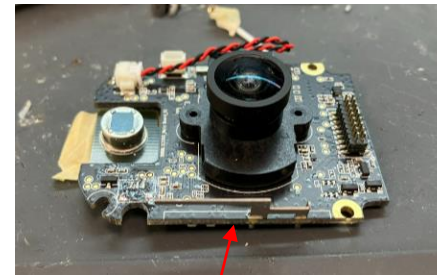
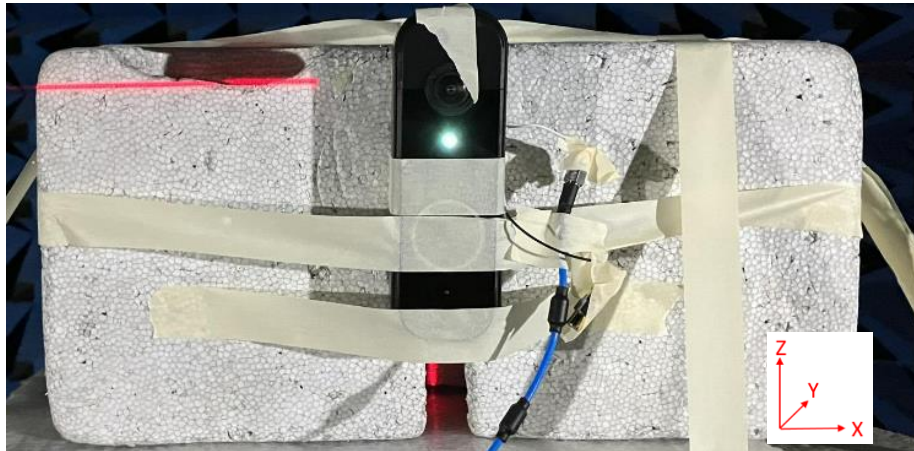
| Antenna        | WiFi               | BLE                |
|----------------|--------------------|--------------------|
| Type           | Metal              | FPC                |
| model          | RFMTA250900NNAB001 | RFFPA301914IMAB301 |
| connector info | X                  | IPEX               |



# Measurement Information

## Test Setup:

1. Test in anechoic chamber( Satimo Antenna Testing System)
2. Use instrument such as VNA(vector network analyzer),active switching unit , amplification unit, radio communication unit
3. Scan WIFI band test frequency
4. Test Return Loss by using Network analyzer
5. The DUT with housing and internal antenna



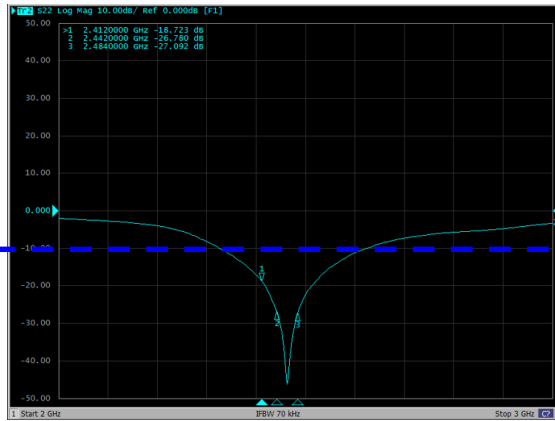
Wi-Fi ANT



BLE ANT

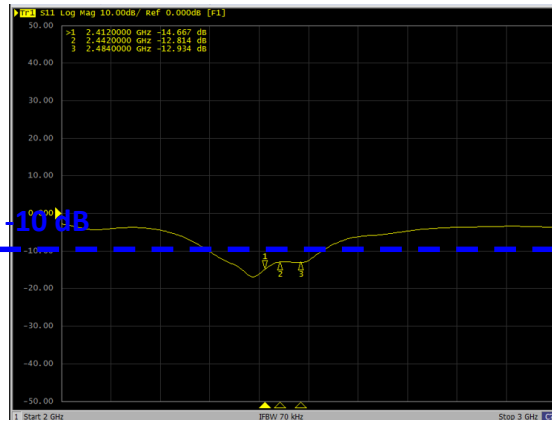
# Bubblicious Performance

## WIFI

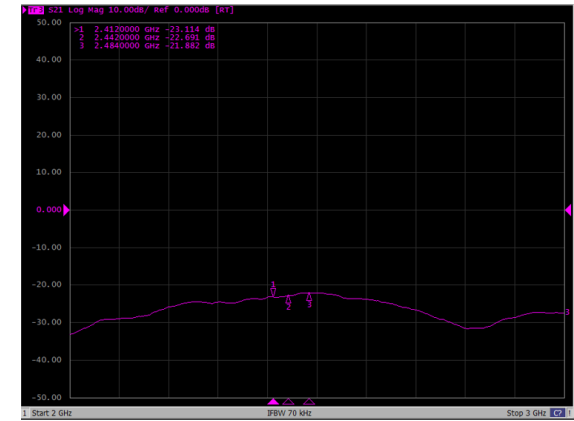


## BLE

RL = -10 dB



## Isolation



| Frequency(MHz) | WiFi          |                | BLE           |                |
|----------------|---------------|----------------|---------------|----------------|
|                | Efficiency(%) | Peak Gain(dBi) | Efficiency(%) | Peak Gain(dBi) |
| 2412           | 51%           | 0.87           | 45%           | 1.81           |
| 2442           | 55%           | 1.18           | 47%           | 1.65           |
| 2484           | 56%           | 1.37           | 47%           | 1.96           |



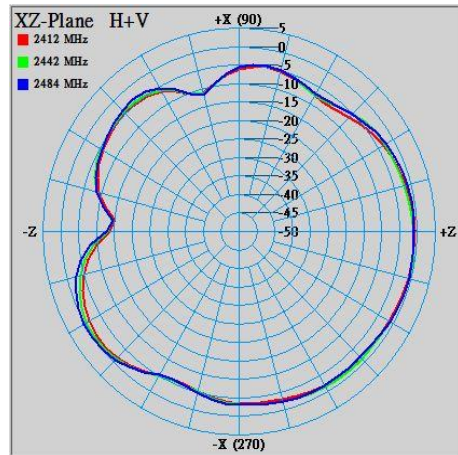
Wi-Fi ANT



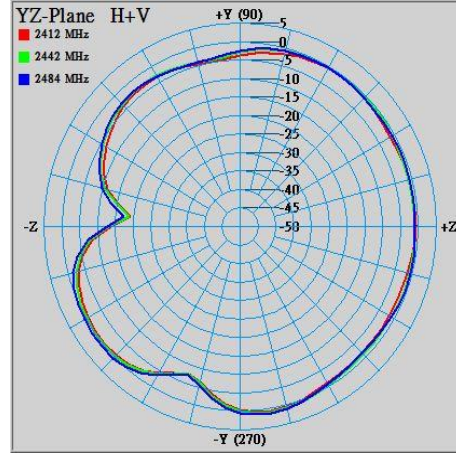
BLE ANT

# 2D Radiation Patterns \_ Wi-Fi

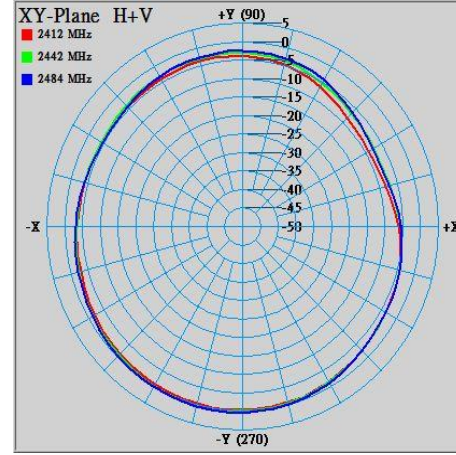
XZ-Plane



YZ-Plane

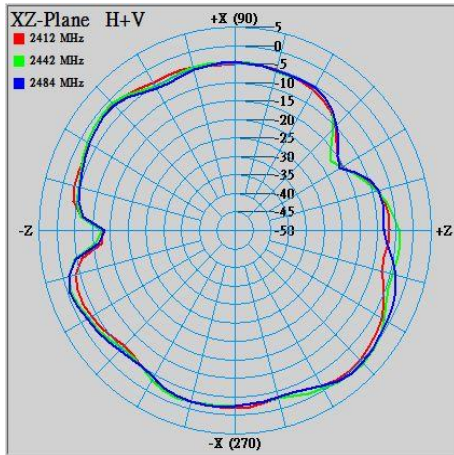


XY-Plane

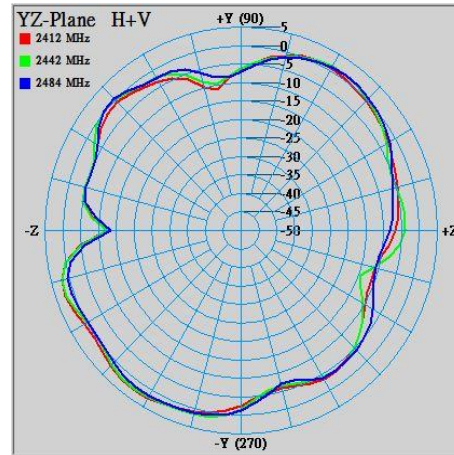


# 2D Radiation Patterns \_ BLE

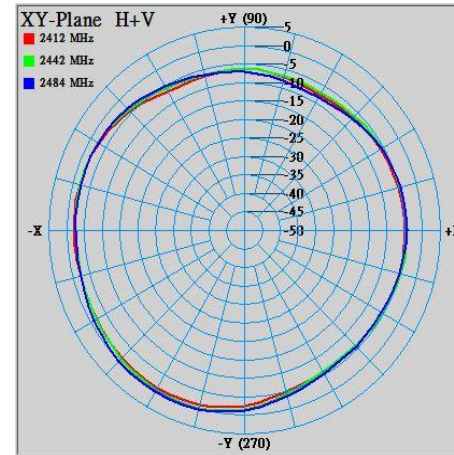
XZ-Plane



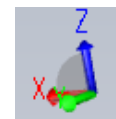
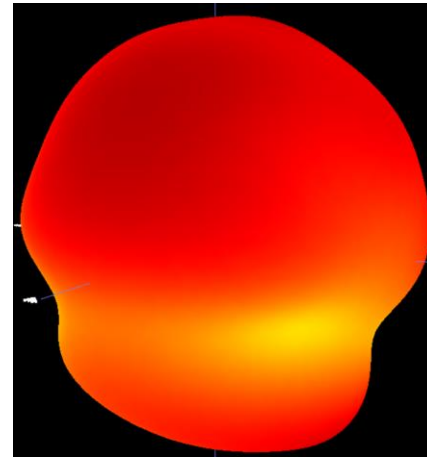
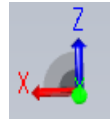
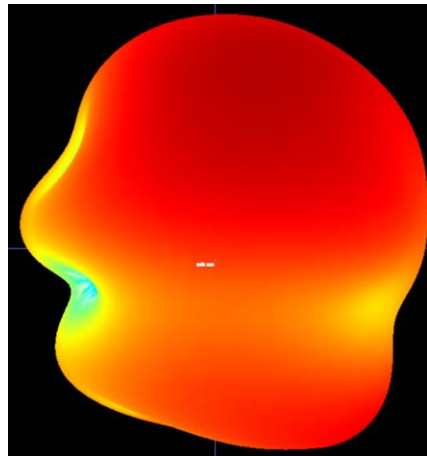
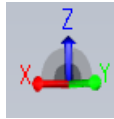
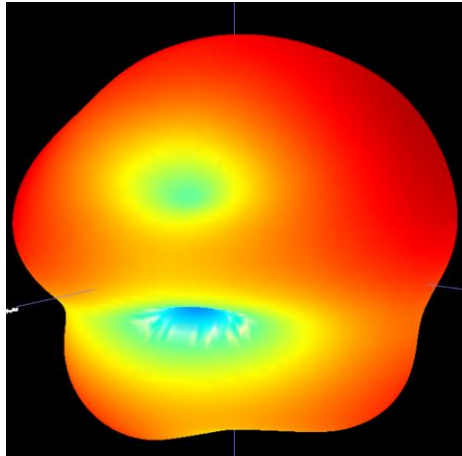
YZ-Plane



XY-Plane



## 3D Radiation Patterns



# 3D Radiation Patterns\_BLE

## 3D Radiation Patterns

