

# APPROVAL SHEET

**PCB Antenna**

**2.4~2.5 / 5.15~5.85 GHz Working Frequency**

**Halogens Free Product**

**P/N: RFPCA402204IMLB301**

**Model: ZAT-6000**

Customer :

Customer 's Part No. :

Approval No. :

Issue Date :

INPAQ TECHNOLOGY CO., LTD.

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P/N : **RFPCA402204IMLB301**

History List

| 版本<br>REV. | 修訂者<br>EDITOR | 修訂頁次<br>PAGE | 修訂內容<br>ITEMS OF CHANGE | 申請日期<br>DATE | 生效日期<br>VALID<br>DATE | ECN 編號<br>ECN NO. |
|------------|---------------|--------------|-------------------------|--------------|-----------------------|-------------------|
| P0         | PIPI          | ALL          | New drawing release     | 2023/08/29   | 依 PLM<br>發行日期         | N/A               |
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UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X = N/A            X.X = N/A            X.XX = N/A  
 ANGLES = N/A            HOLEDIA = N/A



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 DRAWN BY : PIPI            CHECKED BY : huiwenchan  
 DESIGNED BY : Wilson Wang            APPROVED BY : Brianchen

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TITLE : RFPCA402204IMLB301

DOCUMENT NO.

SPEC REV. P0

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# P/N : RFPCA402204IMLB301

## Model: ZAT-6000

### 1. Explanation of part number :

| RF        | PCA          | 4022   | 04   | I  | M  | L  | B  | 3  | 01                  |
|-----------|--------------|--|--|--|--|--|--|--|---------------------|
| Type Code | Product Code | Dimension (Unit: mm)   | Cable Length (unit: cm)                              | Connector Brand  | Type of Connector  | Application  | Project status                               | Wire Diameter  | Project             |
| RF Device | PCB Antenna  | Per 2 digits of length, width<br>e.g.: 0202<br>Length 2.85mm,<br>Width 2mm | 2 digits for cable length<br>e.g.: 10<br>Length 10cm | 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 ISM band<br>B: GSM 900/1800 dual band<br>G: GPS band<br>L: 2.4/5.x GHz 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<br>9: Ø1.37 Low Loss | 01~99 series number |

### 2. Electrical Specification :

| Item                    | Specification  |
|-------------------------|--|
| Working Frequency Range | 2.4~2.5 / 5.15~5.85 GHz  |
| Return Loss             | -10 dB   |
| Peak Gain               | 2450 MHz @ 2.42 dBi (θ=46°, φ=166°)<br>Band1: 5150 MHz @ 3.13 dBi (θ=-34°, φ=14°)<br>Band2: 5.26~5.32GHz @ 2.66 dBi (θ=58°, φ=70°)<br>Band3: 5.5~5.7GHz @ 3.80 dBi (θ=-72°, φ=110°)<br>Band4: 5850 MHz @ 4.41 dBi (θ=-68°, φ=110°) |
| VSWR                    | 2 max.   |
| Impedance               | 50 Ohm Nominal   |
| Radiation               | Omni-directional   |
| Polarization            | Linear Vertical  |
| Operation Temperature   | -20° C~+65° C  |

Remark: Peak gain = reading value + factor

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



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SCALE : N/A

UNIT : mm

DRAWN BY : PIPI

CHECKED BY : huiwenchan

DESIGNED BY : Wilson Wang

APPROVED BY : Brian Chen

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TITLE : RFPCA402204IMLB301

DOCUMENT NO.

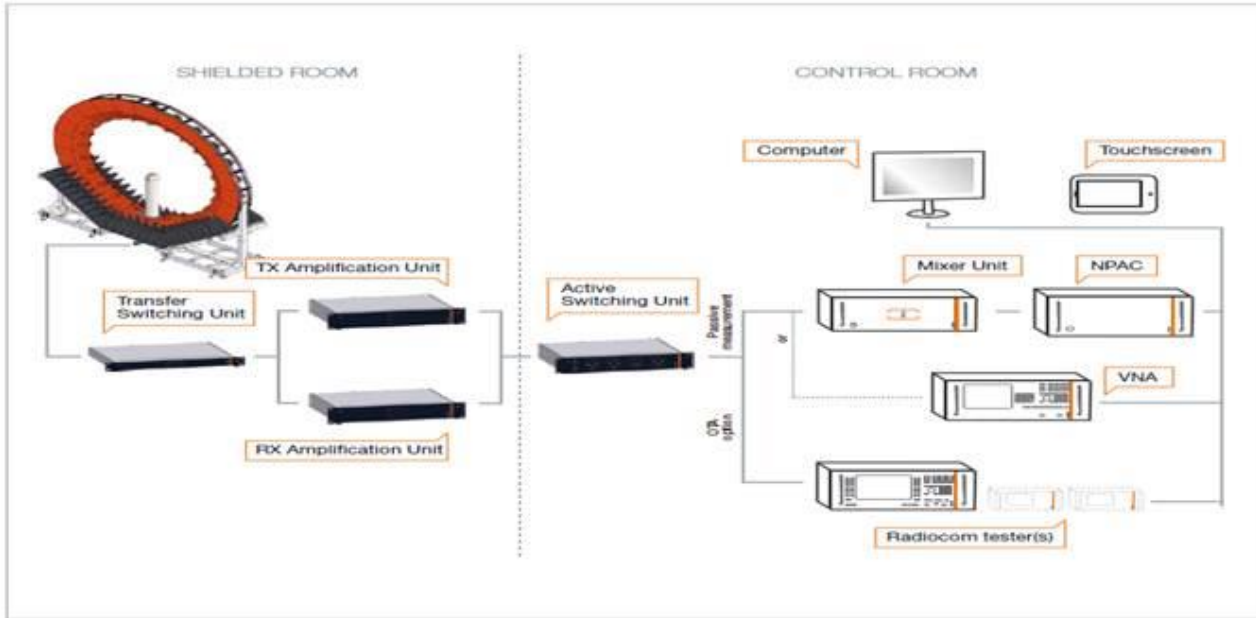
SPEC REV. P0

### 4. Test Equipment

Pattern Measurement:


- Chamber : Satimo
- Test Program: SPM V15
- Setup Photo:

System overview




### Test equipment specifications

| Vender                    | Model No. | Calibrated Date | Calibrated Until |
|---------------------------|-----------|-----------------|------------------|
| Satimo                    | SG24      | 2022/11/29      | 2023/11/29       |
| Keysight Network Analyzer | E5071C    | 2020/3/3        | 2023/3/3         |

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|---|-------------------------|---|------------------------|
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## 6. Test Report

| Version | Date       | Description                                | Author |
|---------|------------|--|--------|
| V01     | 2023/08/03 | New Release                                | Wilson |
| V02     | 2023/08/14 | Design PCB ANT with cable                  | Wilson |
| V03     | 2023/08/18 | Change the dimension of PCB ANT with cable | Wilson |
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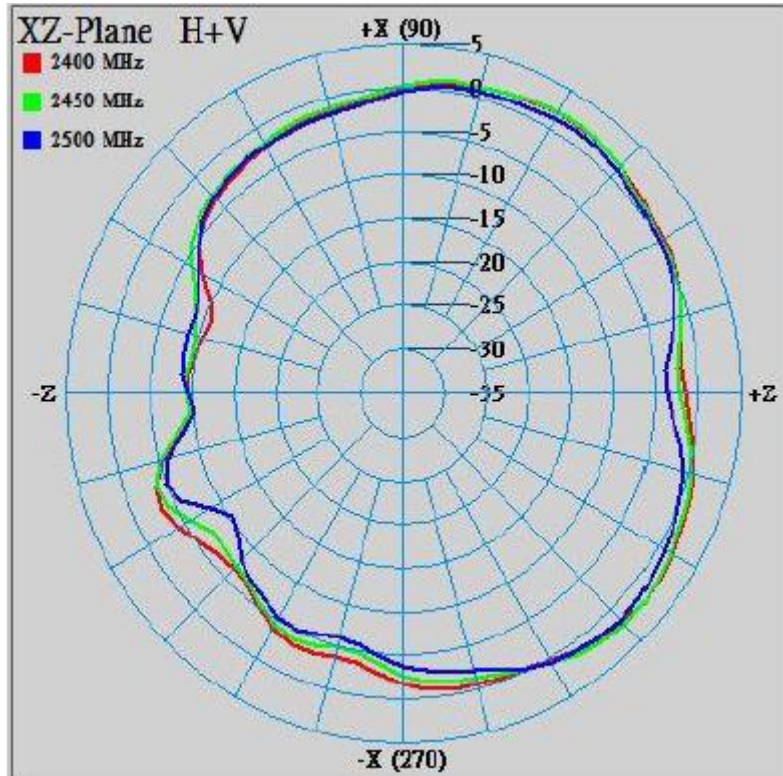
# Radiation Patterns

2G

X-Z Plane

Phi=0.00deg

Gain . dB



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



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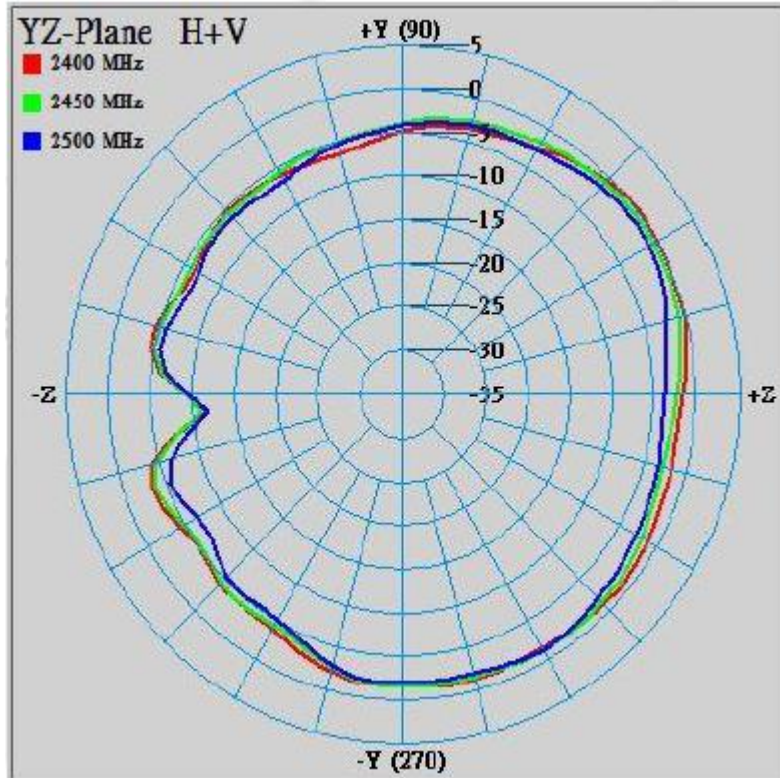
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Y-Z Plane

Phi=90.00deg

Gain . dB



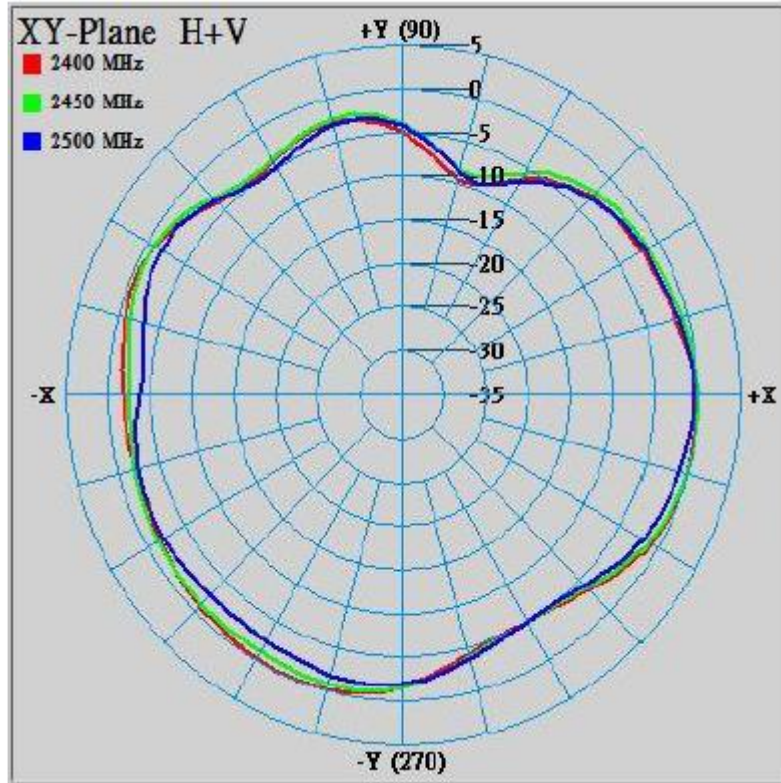
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X-Y Plane

Theta=90.00deg

Gain . dB



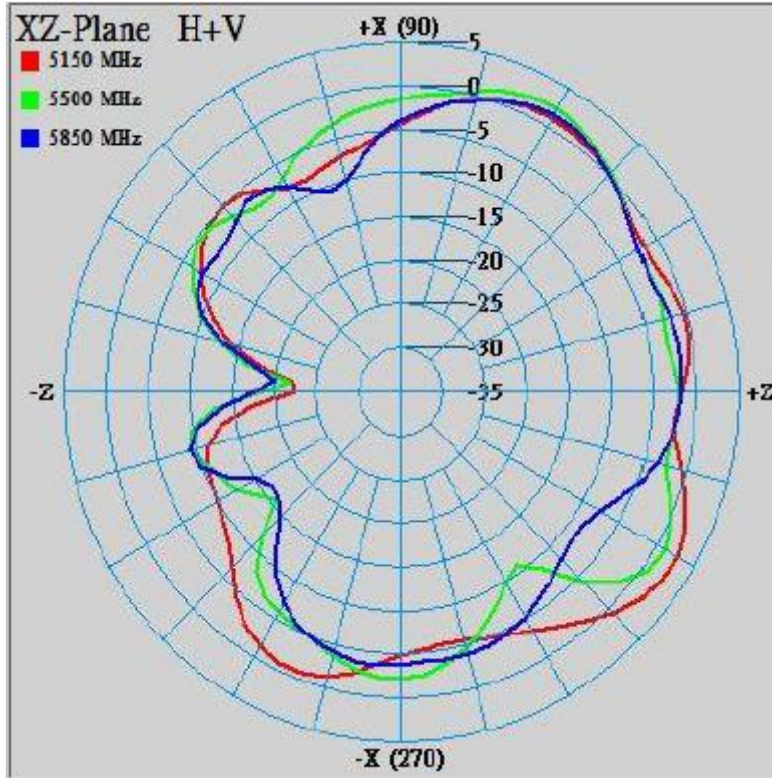
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5G

X-Z Plane

Phi=0.00deg

Gain . dB

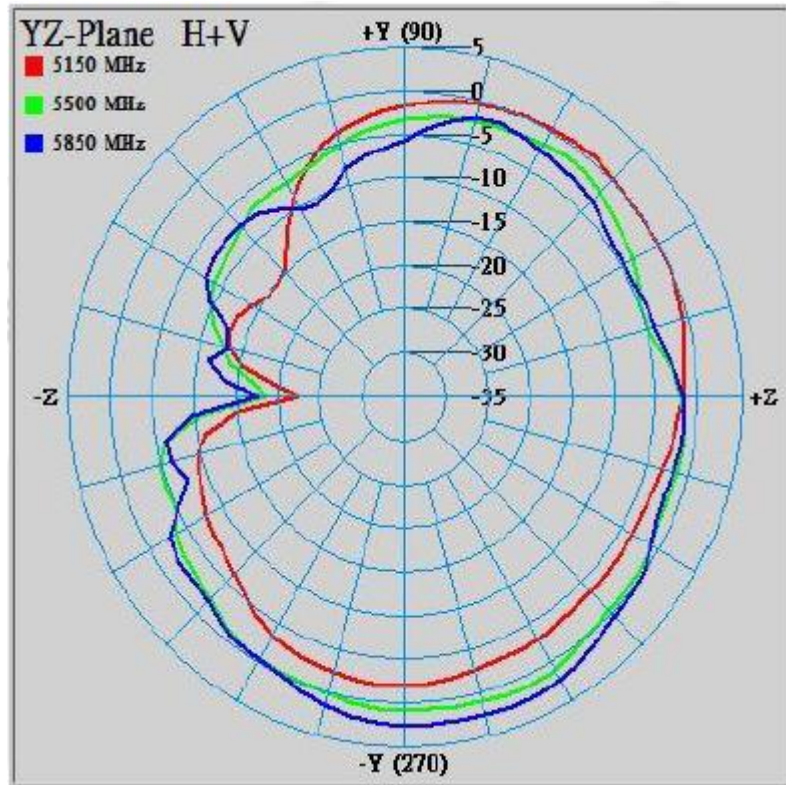



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Y-Z Plane

Phi=90.00deg

Gain . dB

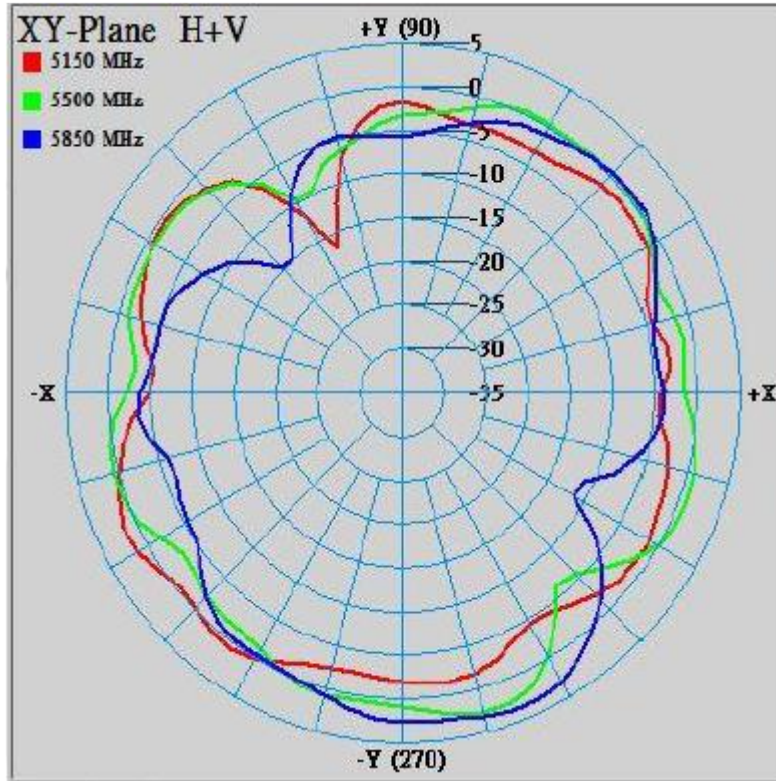



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