

客戶名稱：  
CUSTOMER

**Teltonika**

Document No.: ENS070010080.  
Approval Sheet Rev.: A3.  
Spec. Rev.: A3.

**承認書**

**APPROVAL SHEET**

產品品名/Product Model No. : RFDPA171300SBAB823J4-1

客戶料號/Customer No. : \_\_\_\_\_

發行日期/ Issue Date : 2022/03/10

承認日期/ Approved Date : \_\_\_\_\_

**Approved by customer: (signing or stamping here)**



佳邦科技股份有限公司

**INPAQ TECHNOLOGY CO., LTD.**

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## 品名：RFDPA171300SBAB823J4-1

## 1. Explanation of part number：

| RF               | DPA            | 1713                                                                                 | 00                                                               | S                                                                                                                                         | B                                                                              | A                                                                                                                                                                                                                                               | B                                             | 8                                                                                                                                                                                          | 23                  | J4-1         |
|------------------|----------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------|
| Type Code        | Product Code   | PCB Dimension (Unit: mm)                                                             | Cable Length (unit: cm)                                          | Connector Brand                                                                                                                           | Type of Connector                                                              | Application                                                                                                                                                                                                                                     | Project status                                | Wire Diameter                                                                                                                                                                              | Project             | Customer P/N |
| Walsin RF Device | Dipole Antenna | Per 2 digits of length, width<br>e.g.: 3087<br>Length 30.0mm,<br>Width $\phi$ 87.5mm | 2 digits for cable length<br>e.g.: 1A<br>Cable Length: 1000~1999 | 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 Female<br><b>B: Reverse Male</b><br>F: Female<br>M: Male<br>N: None | <b>0: 0GHz</b><br><b>3: 3GHz</b><br><b>5: 5GHz</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: 2.4/5.2/5.8 GHz tri-band<br>R: 902~928 MHz<br><b>N: NFC</b><br><b>T: LTE band</b><br>W: WCDMA band | B: MP<br><b>T: During Test</b><br>X: Pile Run | 0: None<br>1: $\phi$ 0.81<br>2: $\phi$ 1.32<br>3: $\phi$ 1.13<br>4: Low Loss $\phi$ 1.13<br>5: $\phi$ 0.5<br>6: RG316<br>7: $\phi$ 1.37<br>8: RG178<br>9: Low Loss $\phi$ 1.37<br>A: RG174 | 01~99 series number |              |

## 2. Electrical Specification：

| Item                          | Specification               |
|-------------------------------|-----------------------------|
| Working Frequency Range       | 2400 ~ 2500 MHz             |
| VSWR                          | 2.5 max.                    |
| Gain                          | $\leq 5$ dBi                |
| Impedance                     | 50 $\Omega$                 |
| Directional Characteristics   | Omni-directional            |
| Polarization Characteristic   | Linear Vertical             |
| Name of Antenna Gain Test Lab | General test system Chamber |

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：詹惠雯

CHECKED BY：詹惠雯

DESIGNED BY：黄瑞郎

APPROVED BY：陳振榮

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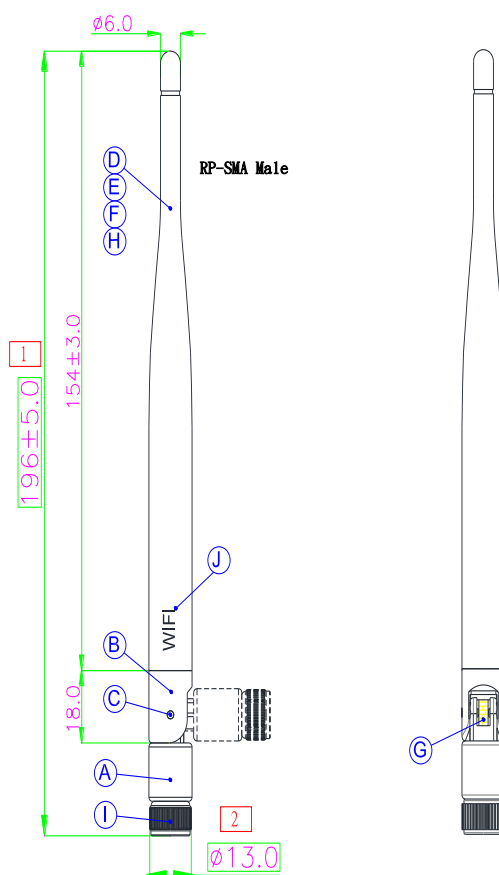
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### 3. Antenna Drawing :



| NO. | DESCRIPTION                       | MAT'L  | Color          | Q'TY |
|-----|-----------------------------------|--------|----------------|------|
| A   | Antenna Down Base                 | PC+PBT | Black (024+UV) | 1    |
| B   | Antenna Up Base                   | PC     | Black (024+UV) | 1    |
| C   | Rivet                             | POM    | Black          | 2    |
| D   | Antenna Cover                     | TPEE   | Black (024+UV) | 1    |
| E   | Brass Tube                        | Brass  | --             | 1    |
| F   | Spring                            | SUS    | --             | 1    |
| G   | RG178 CABLE                       | --     | Brown          | 1    |
| H   | TUBE                              | CB-HFT | Black          | 1    |
| I   | Connector Reverse SMA Plug (公头母针) | --     | Black          | 1    |
| J   | "WIFI" Marking                    | --     | White          | 1    |

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SCALE : N/A

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#### 4. Antenna Photo :



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ANGLES = N/A      HOLEDIA = N/A



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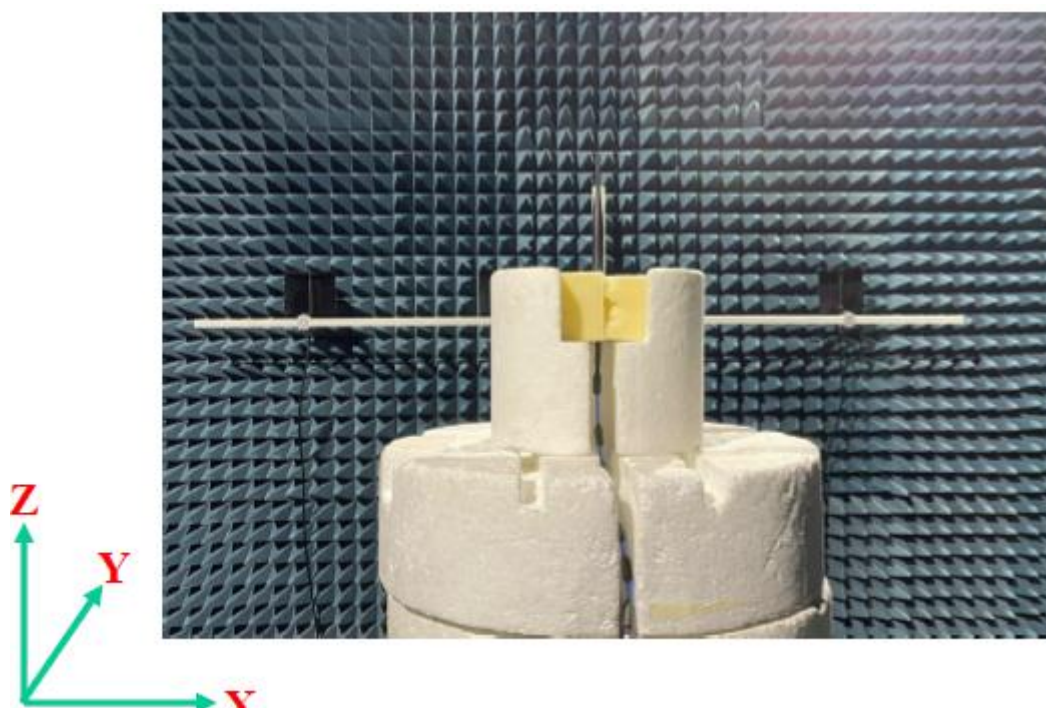
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## 5. Performance Report :

### ■ Experimental Setup



Antenna

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 ANGLES = N/A      HOLEDIA = N/A



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SCALE : N/A

UNIT : mm

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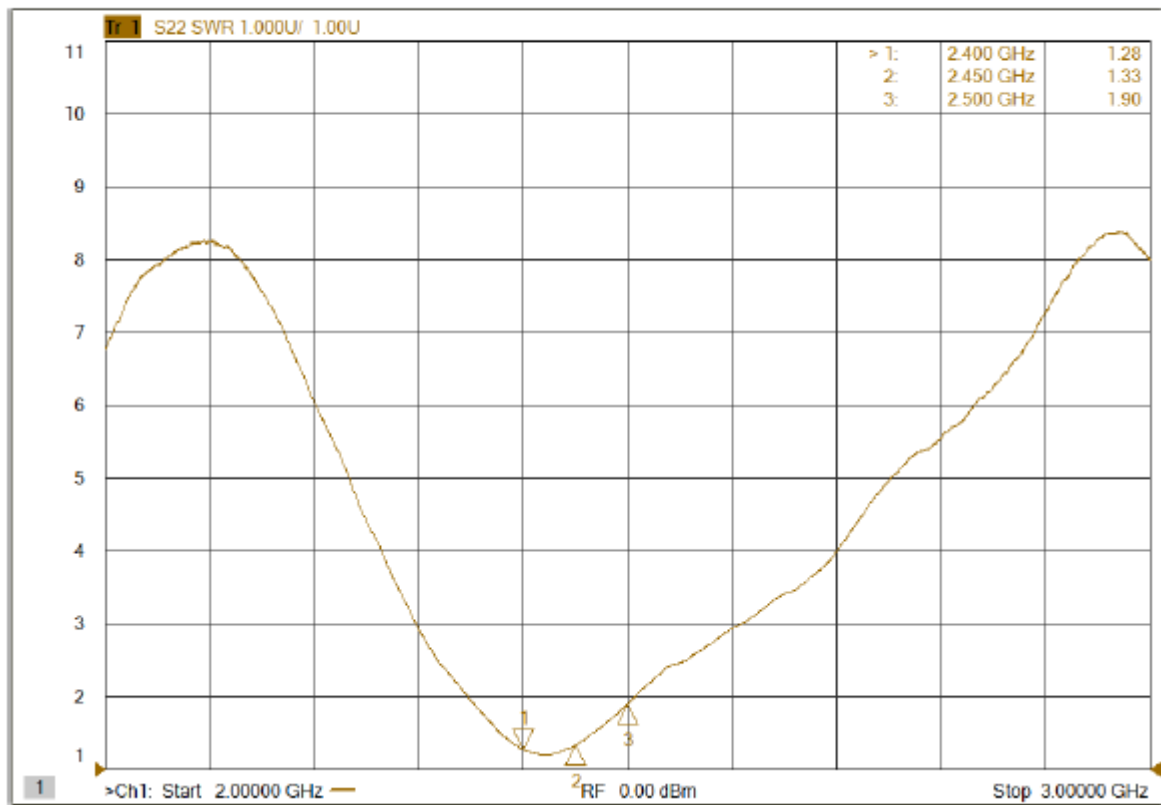
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# ELECTRICAL CHARACTERISTICS

## VSWR



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 ANGLES = N/A      HOLEDIA = N/A



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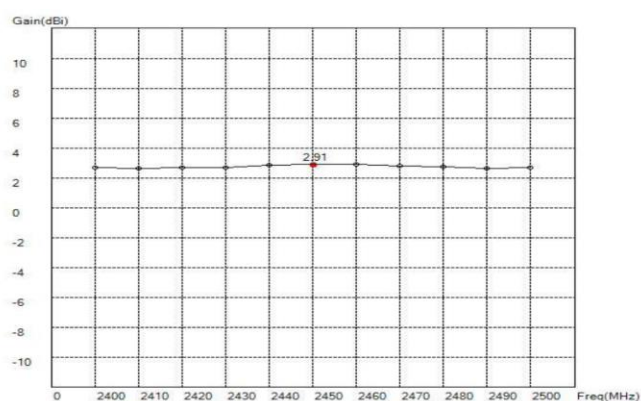
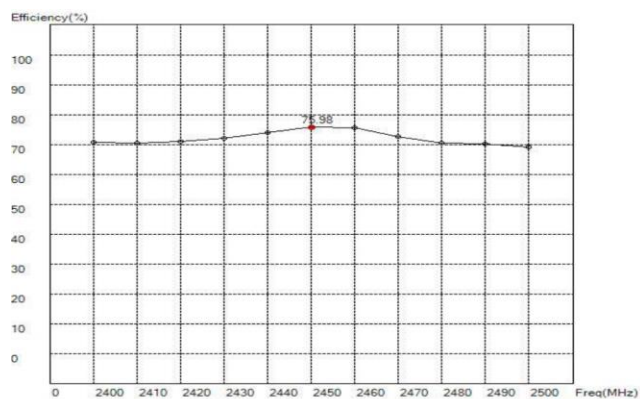
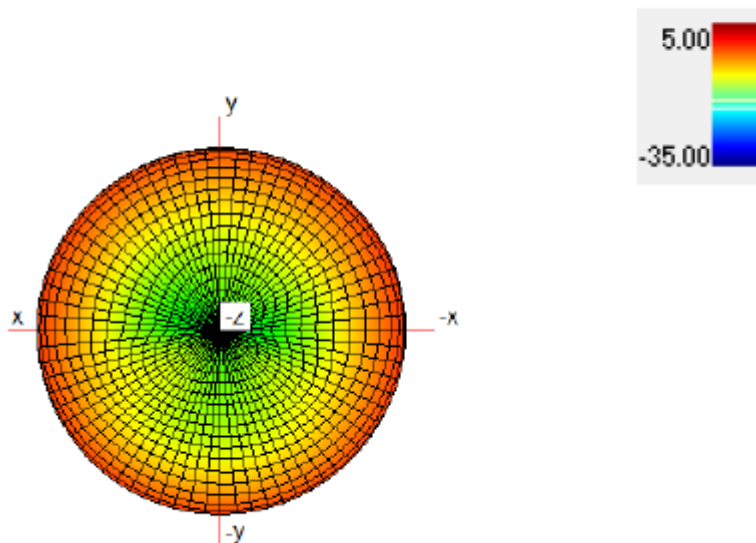
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## Antenna Efficiency & Peak Gain

2450 MHz



Maximum Efficiency at 2450 MHz : 75.98%

Maximum Peak Gain at 2450 MHz : 2.91 dBi

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 ANGLES = N/A      HOLEDIA = N/A



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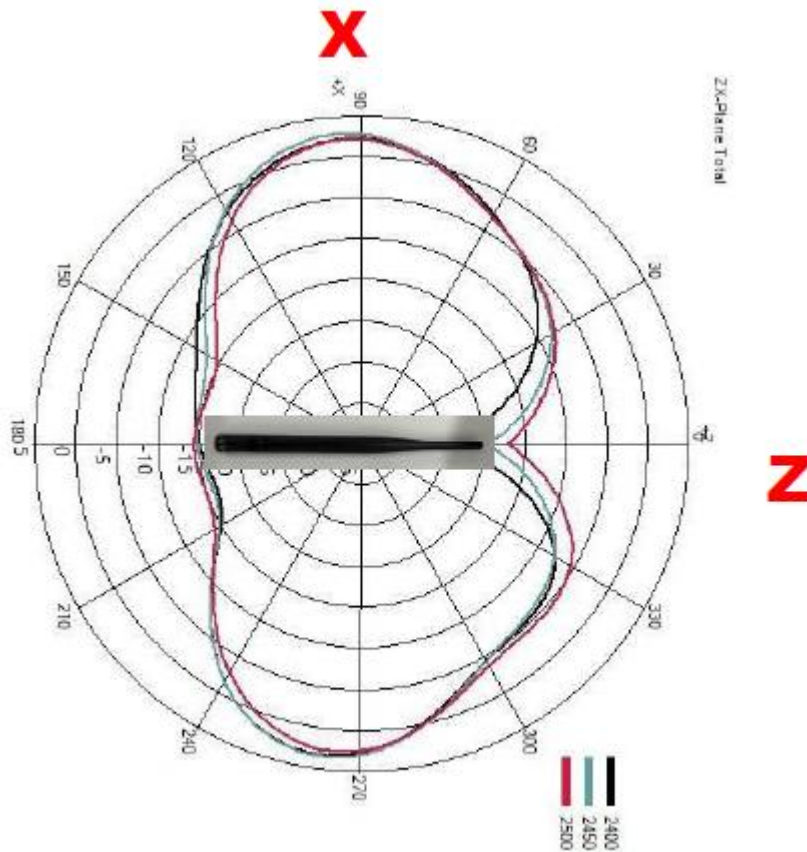
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## RADIATION PATTERN

X-Z Plane

Phi=0.00deg

Gain . dB



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



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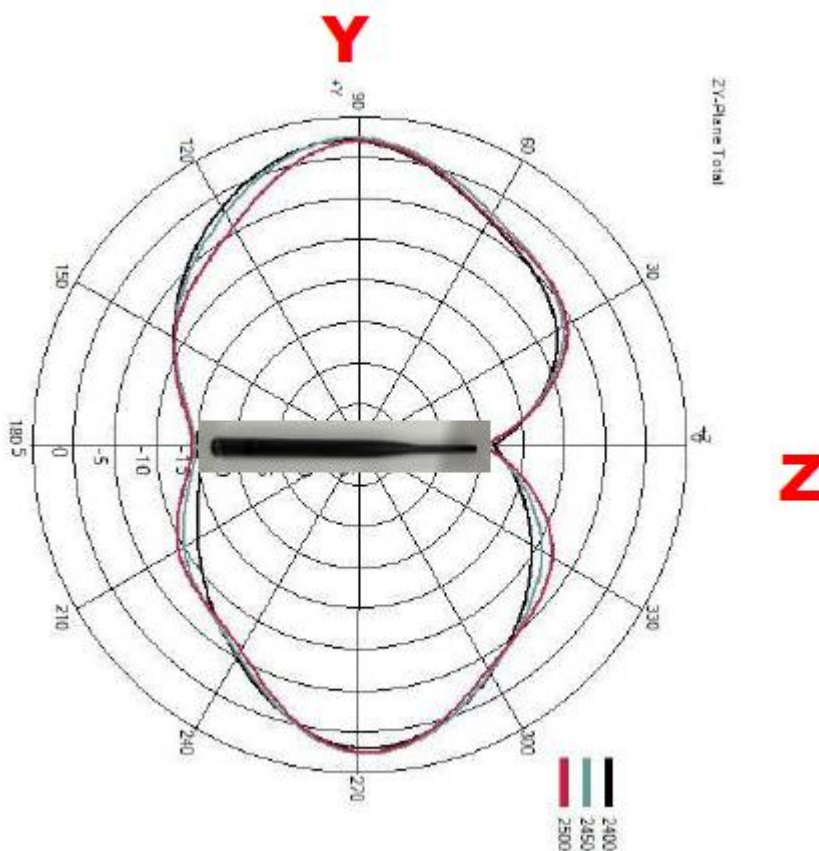
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## Y-Z Plane

Phi=90.00deg

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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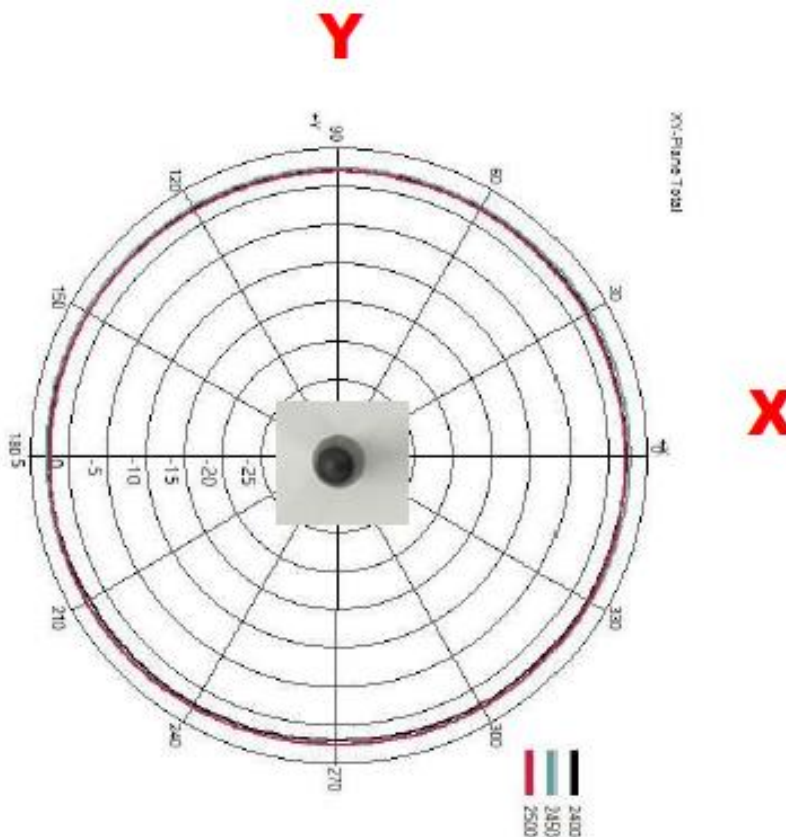
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## X-Y Plane

Theta=90.00deg

Gain . dB



|                 | ZX plane        |               | ZY plane        |               | XY plane        |               |
|-----------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|
| Frequency [MHz] | Max Value [dBi] | Average [dBi] | Max Value [dBi] | Average [dBi] | Max Value [dBi] | Average [dBi] |
| 2400            | 2.71            | 2.28          | 2.15            | -3.23         | 2.71            | -2.91         |
| 2450            | 2.91            | 2.67          | 2.53            | -2.92         | 2.91            | -2.67         |
| 2500            | 2.72            | 2.38          | 2.45            | -3.26         | 2.42            | -3.09         |

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

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 **Gain Table**

| Antenna         |       |       |       |
|-----------------|-------|-------|-------|
| Frequency(MHz)  | 2400  | 2450  | 2500  |
| Peak Gain (dBi) | 2.71  | 2.91  | 2.72  |
| Efficiency(%)   | 70.87 | 75.98 | 69.24 |

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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## 6. Packing Spec:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |                           |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------|--------------|
| <b>禾邦電子有限公司</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |                           |              |
| RFDPA171300SBAB823J4-1<br>Packing specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     | PAGE : 1 of 1             |              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     | Document Number :         | Version : A1 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     | Revision date: 2021/11/29 |              |
| <b>Product packing figure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |                           |              |
| <b>Figure one</b> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <span style="font-size: 24px;">⇒</span> <span style="font-size: 24px;">⇒</span> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>1pcs/PE bag</span> <span>50pcs/bag</span> </div>                                                                                                                                                                                                                                                                                                                                                                                                         |     |                           |              |
| <b>Figure two</b> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <span style="font-size: 24px;">⇒</span> <span style="font-size: 24px;">⇒</span> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |                           |              |
| <b>Figure three</b> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <span style="font-size: 24px;">⇒</span> <span style="font-size: 24px;">⇒</span> <span style="font-size: 24px;">⇒</span> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |                           |              |
| <b>Figure four</b> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;"> <span style="font-size: 24px;">⇒</span> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |                           |              |
| <b>Product packaging specifications:</b> <ol style="list-style-type: none"> <li>1. Put each pcs product into a small PE bag and seal, then put it in a big PE bag, put 50pcs in each big PE bag, seal and paste the manufacturing label, as shown in the figure (1)</li> <li>2. Put the pearl cotton in the outer box (as shown in figure 2)</li> <li>3. Put the finished product (as shown in figure 3) into the outer box, put 500pcs of product in each box, and put 1 piece of pearl cotton on top and bottom. The outer box needs to be pasted with the manufacturing standard. The sealing is '工' type and 6 sides sealing. (Box size: 365*365*210mm, box gross weight: 0.67kg)</li> <li>4. Pack the sealed box (as shown in Figure 4)</li> </ol> |     |                           |              |
| 核准：                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 何耀輝 | 審核：                       | 童明輝          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     | 制定：                       | 郑凯文          |

UNLESS OTHER SPECIFIED TOLERANCES ON :

X = N/A

X.X = N/A

X.XX = N/A

ANGLES = N/A

HOLEDIA = N/A

SCALE : N/A

UNIT : mm

DRAWN BY : 詹惠雯

CHECKED BY : 詹惠雯

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