

**40x6x0.12mmmm WiFi / BT FPC Antenna (4006-08)**

## 1.Explanation of Product Number

Diagram illustrating a Huffman tree structure. The root node is 'S'. The tree structure is as follows:

- S
  - 2
  - B
    - 4
    - P
      - E
        - F
          - P
          - 0
        - 1
          - 0
          - 8

The nodes are labeled with their binary codes: (1) B, (2) 2, (3) E, (4) F, (5) 1, (6) 0.



Product Code:

(1) Product Categories:

#### B4: FPC Antenna

(2) Application:

P: WiFi / BT antenna

(3) Dimensions:

E6: 40x6x0.12mm/ L=0.81\*130mm+IPEX II

(4)Material:


F: FPC

### (5) Working Frequencies

1P: 2400~2500 / 5150~5850 MHz

(6) Antenna Series:

08: serial number

|  |                     |  |                 |           |
|--|---------------------|--|-----------------|-----------|
| Tolerances (Unless otherwise specified)<br>X : ± 1                  X.X : ± 0.1                  X.XX : ± 0.01<br>Angle : ±                      Hole Dia. : ± |                     |  <b>Unictron Technologies Corporation</b><br>Website: <a href="http://www.unictron.com">www.unictron.com</a> |                 |           |
| Scale :  | Unit: mm            | THIS SPECIFICATION IS THE PROPERTY OF UNICTRON TECHNOLOGIES CORPORATION AND SHALL NOT BE REPRODUCED OR USED IN ALL CIRCUMSTANCES WITHOUT WRITTEN PERMISSION                                      |                 |           |
| Prepared By :shelley   | Checked By :Joy     |  |                 |           |
|  | Approved By : Frank |  |                 |           |
| TITLE: 40x6x0.12mmWiFi / BT FPC Antenna (4006-08)  |                     | PART NO.   | S2B4PE6F1P08000 | REV.<br>A |

## 2.Features

- \*Stable and reliable in performances
- \*Compact size
- \*RoHS compliance

## 3.Applications

- \* IEEE802.11 (b/g/n).
- \* Hand-held devices when WiFi / BT (802.11 b/g/n) functions are needed.

## 4.Description

Unictron's FPC antenna series are specially designed for WiFi (802.11 b/g/n) applications. Based on Unictron's proprietary design and processes, this FPC antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

## 5.Electrical Specifications

### 5-1. Electrical Table (2400~2500MHz Band)

| Characteristics    | Specifications          |          |         | Unit     |
|--------------------|-------------------------|----------|---------|----------|
| Outline Dimensions | 40x6x0.12               |          |         | mm       |
| Frequency          | 2450                    |          |         | MHz      |
| Impedance          | 50                      |          |         | $\Omega$ |
| Polarization       | Linear Polarization     |          |         |          |
| Return Loss Table  | Return Loss             |          |         |          |
| Freq.Band          | 2.4G Hz                 | 2.45G Hz | 2.5G Hz |          |
| dB                 | -16.92                  | -16.06   | -11.63  |          |
| VSWR Table         | VSWR                    |          |         |          |
| Freq.Band          | 2.4G Hz                 | 2.45G Hz | 2.5G Hz |          |
|                    | 1.37                    | 1.39     | 1.71    |          |
| GAIN Table         | Total Gain =Xpol + Ppol |          |         |          |
| Freq.Band          | 2400MHz                 | 2450MHz  | 2480MHz | 2500MHz  |
| Peak Gain(dBi)     | 2.73                    | 2.53     | 2.42    | 2.66     |

Tolerances (Unless otherwise specified)

X:  $\pm 1$       X.X:  $\pm 0.1$       X.XX:  $\pm 0.01$

Angle:  $\pm$       Hole Dia.:  $\pm$

Scale:

Unit: mm

Prepared By :shelley

Checked By :Joy

Approved By : Frank



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Technologies Corp.

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### 5-2-2. Electrical Table (5150~5850 MHz Band)

| Characteristics    | Specifications          |         |         | Unit    |
|--------------------|-------------------------|---------|---------|---------|
| Outline Dimensions | 40x6x0.12               |         |         | mm      |
| Frequency          | 5150~5850               |         |         | MHz     |
| Impedance          | 50                      |         |         | Ω       |
| Polarization       | Linear Polarization     |         |         |         |
| Return Loss Table  | Return Loss             |         |         |         |
| Freq.Band          | 5.15GHz                 | 5.55GHz | 5.85GHz |         |
| dB                 | -19.53                  | -12.11  | -13.54  |         |
| VSWR Table         | VSWR                    |         |         |         |
| Freq.Band          | 5.15GHz                 | 5.55GHz | 5.85GHz |         |
|                    | 1.25                    | 1.67    | 1.50    |         |
| GAIN Table         | Total Gain =Xpol + Ppol |         |         |         |
| Freq.Band          | 5150MHZ                 | 5350MHZ | 5550MHZ | 5850MHZ |
| Peak Gain(dBi)     | 3.08                    | 2.79    | 2.01    | 3.45    |

\*The data was measured by A Test Lab Techno Corp.(CTIA Authorized Test Lab).

Tolerances (Unless otherwise specified)

X :  $\pm 1$       X.X :  $\pm 0.1$       X.XX :  $\pm 0.01$

Angle :  $\pm$       Hole Dia. :  $\pm$

Scale :

Unit: mm

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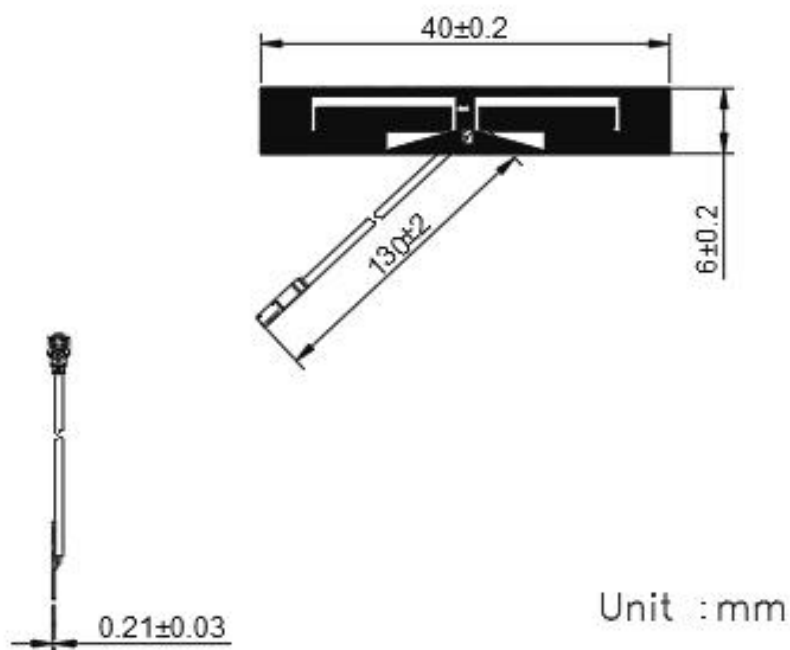
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## 6. Antenna Dimensions (unit: mm) .



| 2    | P-0103-01(40x6x0.12mm)mm                        | 1    |
|------|---|------|
| 1    | Cable( $\phi 0.81$ mm ),L=130 $\pm$ 2mm +IPEXII | 1    |
| ITEM | Description                                     | Q'ty |
|      | Material  |      |

Tolerances (Unless otherwise specified)

X :  $\pm 1$       X.X :  $\pm 0.1$       X.XX :  $\pm 0.01$

Angle :  $\pm$       Hole Dia. :  $\pm$

Scale :      Unit: mm

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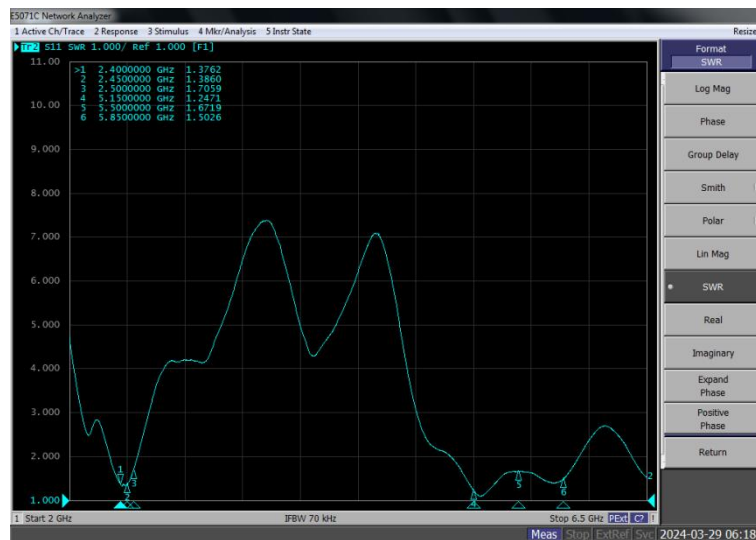
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## 7.Return Loss & VSWR

### Return Loss ( $S_{11}$ ) & VSWR ( $S_{11}$ )



Tolerances (Unless otherwise specified)

X :  $\pm 1$       X.X :  $\pm 0.1$       X.XX :  $\pm 0.01$

Angle :  $\pm$       Hole Dia. :  $\pm$

Scale :

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| Freq(MHz) | Gain(dBi) | Efficiency(dB) | Efficiency(%) |
|-----------|-----------|----------------|---------------|
| 2400      | 2.73      | -2.50          | 56.22         |
| 2410      | 2.71      | -2.55          | 55.63         |
| 2420      | 2.66      | -2.60          | 54.95         |
| 2430      | 2.52      | -2.74          | 53.22         |
| 2440      | 2.54      | -2.75          | 53.06         |
| 2450      | 2.53      | -2.83          | 52.14         |
| 2460      | 2.47      | -2.92          | 50.99         |
| 2470      | 2.45      | -2.94          | 50.85         |
| 2480      | 2.42      | -2.98          | 50.33         |
| 2490      | 2.56      | -2.99          | 50.21         |
| 2500      | 2.66      | -2.99          | 50.18         |
| 5150      | 3.08      | -3.39          | 45.77         |
| 5200      | 3.31      | -3.12          | 48.74         |
| 5250      | 3.34      | -3.07          | 49.37         |
| 5300      | 3.17      | -3.28          | 47.02         |
| 5350      | 2.79      | -3.26          | 47.25         |
| 5400      | 2.08      | -2.96          | 50.63         |
| 5450      | 1.83      | -3.09          | 49.14         |
| 5500      | 1.83      | -3.26          | 47.22         |
| 5550      | 2.01      | -3.04          | 49.60         |
| 5600      | 2.69      | -2.76          | 53.02         |
| 5650      | 2.62      | -2.85          | 51.84         |
| 5700      | 2.69      | -2.97          | 50.48         |
| 5750      | 3.26      | -2.73          | 53.30         |
| 5800      | 3.47      | -2.68          | 54.01         |
| 5850      | 3.45      | -2.84          | 51.99         |

Tolerances (Unless otherwise specified)

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Angle :  $\pm$       Hole Dia. :  $\pm$

Scale :

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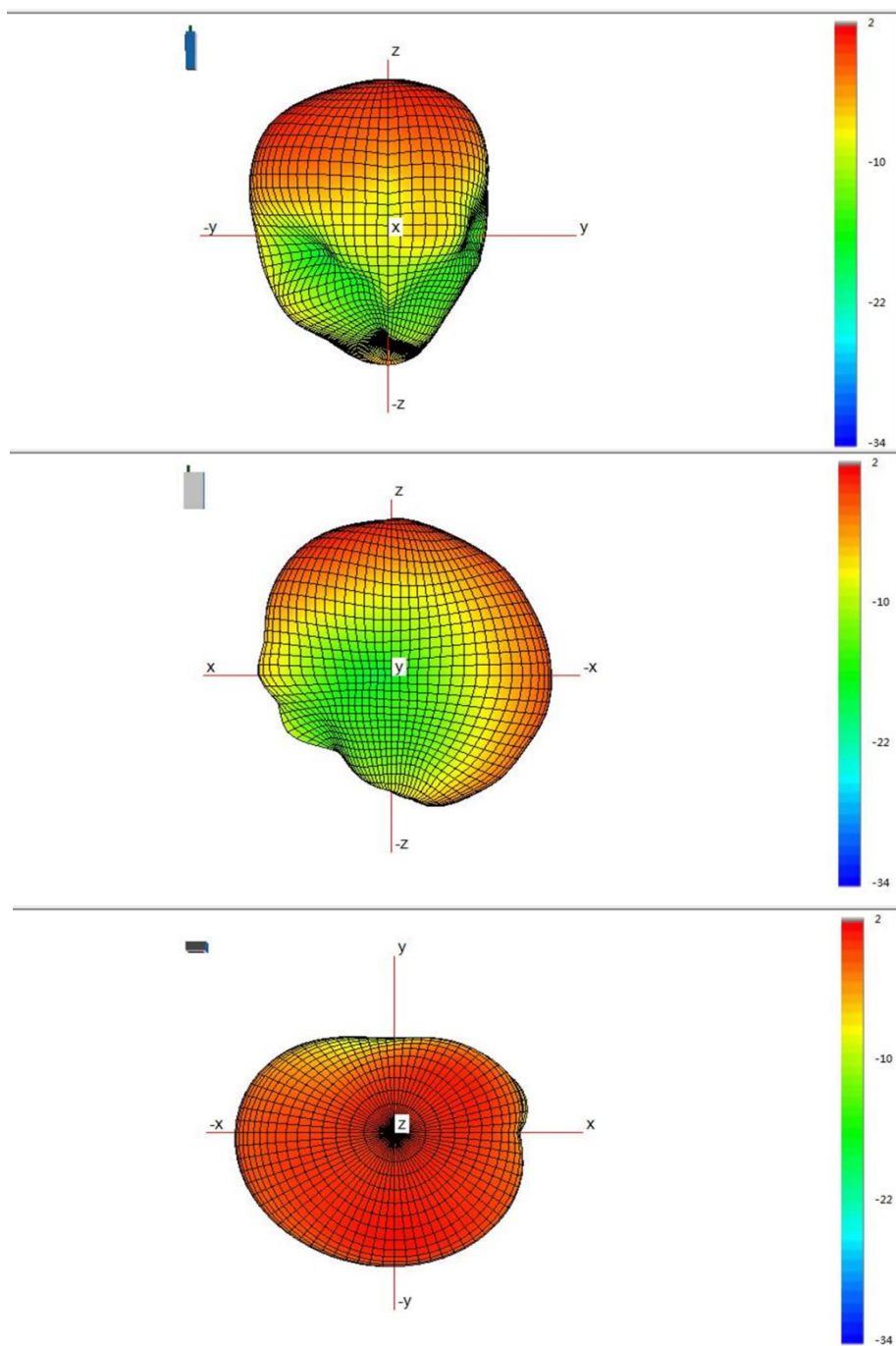
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## 8.Radiation Pattern

### 8-1.3D Gain Pattern @ 2450MHz (unit: dBi)



Tolerances (Unless otherwise specified)

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Angle :  $\pm$       Hole Dia. :  $\pm$

Scale :

Unit: mm

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## 9. Revision Control:

| Revision | Date        | Content     | Remark |
|----------|-------------|-------------|--------|
| A        | Mar.27.2024 | New Issued. | N/A    |

|   |                     |  |                 |
|---|---------------------|--|-----------------|
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