# 产品规格承认书

# **SPECIFICATIONSA**

客户:

| CUSTOMER:  产品名称:  DESCRIPTION:  変力型号: CUSTOMER PART No: 产品型号: OUR MODEL NO: PBX3216MCO2 日期: DATE:  确认签字, 盖章后请返回承认书一份 PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR APPROVAL" WITH YOUR APPROVED SIGNATURES  核准 王海 审核 対飞 制作 対小美  客戸承认签印 Customer recognition 日期 Date  JNILESS OTHER SPECIFIED TOLLERANCES ON: (モュ XX=ュ XXX= 中核 対下 中枢 対下 中枢 対下 中枢 対下 の に対する を表しましましましましましましましましましましましましましましましましましましま   |                |           |                    |                                |                |               |                       |            |
|---|----------------|-----------|--------------------|--------------------------------|----------------|---------------|-----------------------|------------|
| DESCRIPTION: 双极天线 Bipolar antenna 客户型号: CUSTOMER PART No:   |                | CUSTOM    | ER:                |                                |                |               |                       |            |
| 客户型号: CUSTOMER PART No:  产品型号: OUR MODEL NO: PBX3216MCO2 日期: DATE:  确认签字, 盖章后请返回承认书一份 PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR APPROVAL" WITH YOUR APPROVED SIGNATURES  核准 王海 审核 対飞 制作 対小美    本本  |                | 产品名       | 称:                 |                                |                |               |                       |            |
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| PBX3216MC02 日期: DATE:  Mi   |                | 客户型       | 号:                 |                                |                |               |                       |            |
| OUR MODEL NO:   |                |           |                    |                                |                |               |                       |            |
| 日期: DATE:  确认签字,盖章后请返回承认书一份 PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR APPROVAL" WITH YOUR APPROVED SIGNATURES  核准 王海 审核 刘飞 制作 刘小美    本本  |                |           | -                  | P                              | BX3216MC       | :02           |                       |            |
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| WITH YOUR APPROVED SIGNATURES    核准 王海   审核   刘飞   制作   刘小美   | 矿              | 自认签字      | ,盖章后请返回            | 承认书-                           | 一份             |               |                       |            |
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| SPEC REV.  |                | WITH Y    | OUR APPROVED       | SIGNATU                        | RES            |               |                       |            |
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| CALE: N/A  RAWN BY : Sera  CHECKED BY: XD  ESIGNED BY: Sera  APPROVED BY: XD  THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF PBXY TECHNOLOGY Limited AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION  DOCUMENT  3216  SPEC REV.  | <b>&lt;</b> =± | X.X=      | $=\pm$ X.XX=       |                                | ၉၆             |               |                       |            |
| ESIGNED BY: Sera APPROVED BY: XD  DEVICES WITHOUT PERMISSION  DOCUMENT  3216  SPEC REV.   | CALE:          | N/A       | UNIT: mm           |                                | TECHNOLOGY Li  | mited AND SHA | ALL NOT BE REPRODUCED | OR USED AS |
| IILE: CHIP2450-3216 Specification I No I 3/16 ————  |                |           |                    | State Commission of Commission | DEVICES WITHOU |               |                       |            |
|   | ITLE:          | CHIP2450- | 3216 Specification |                                |                |               | 3216                  |            |

#### **PBX3216MC02 Specification**

Operating Temp. : -40 ℃~+85 ℃

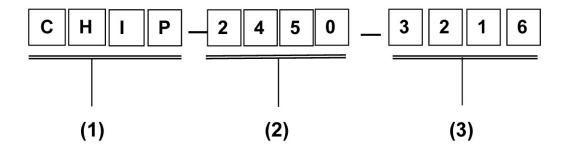
#### 1. FEATURES:

- Light weight, compact
- Wide bandwidth, low cost
- Built-in antenna with high gain

#### 2. APPLICATIONS:

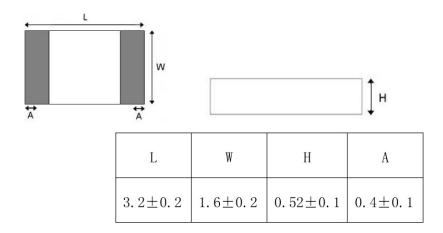
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

#### 3. PRODUCT IDENTIFICATION



- (1) Product type: Multilayer chip Antenna
- (2) Center Frequency: 2450MHz
- (3) External Dimensions (L×W) (mm): 3.2\*1.6

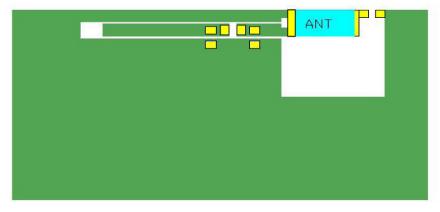
#### 4. SHAPE AND DIMENSIONS:

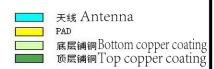


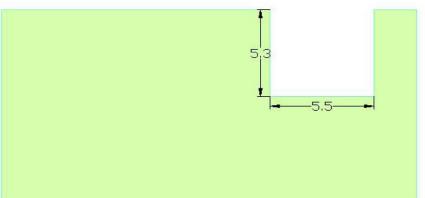
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| DESIGNED BY: Sera                             | APPROVED BY: XD                       | DEVICES WITHOU  | JT PERMISSION                                | 365-965-965-96-969 (3-6)-26-08 |
| TITLE: CHIP2450-3216 Specification            |                                       | DOCUMENT  | 3216   | SPEC REV.                      |
| 1111EE: OTHI 2430-3210                        | Specification                         | NO.   | 3210   | P1                             |

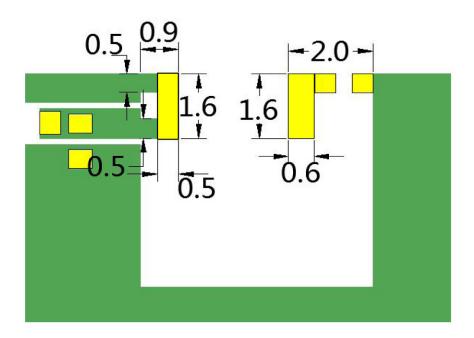


单位unit: mm



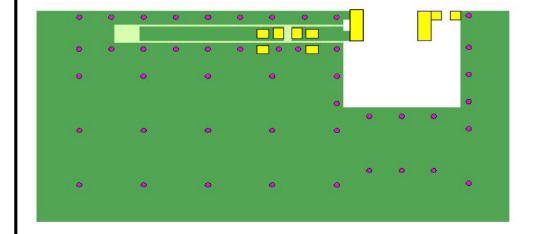






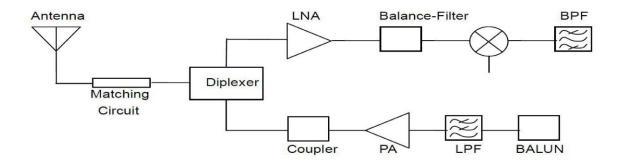
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| DESIGNED BY: Sera APPROVED BY: XD                    | DEVICES WITHO | DEVICES WITHOUT PERMISSION  |              |  |
| TITLE: CHIP2450-3216 Specification                   | DOCUMENT      | 3216  | SPEC REV.    |  |
| TITLE: Offit 2400-0210 Specification                 | NO.           | ] 3210  | P1           |  |

#### 打孔参考示意图 Punching diagram





#### **APPLICATION GUIDE**



#### 5. SPECIFICATIONS:

| 测试项 Test item          | 规格 Specification       |
|------------------------|------------------------|
| 带宽 Bandwidth           | 2400~2483MHz           |
| 极化方式 Polarization mode | 线极化Linear polarization |
| *最大增益Maximum gain      | 2.67dBi                |
| *效率 Efficiency         | 72. 30%                |
| 输入阻抗 Input impedance   | 50 Ω                   |

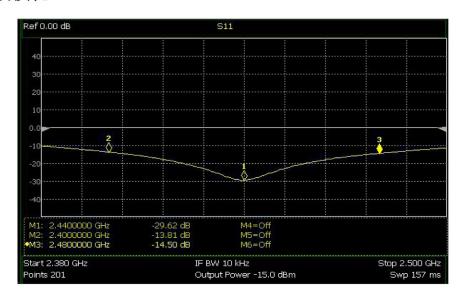
\* Test condition: Test board size 90\*40 mm

Matching circuit: Pi matching circuit will be required

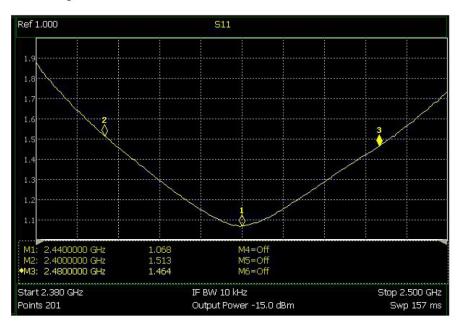
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| 111 LL: 5111 2430-3210                   | Opecinication                            | NO.  | 3210  | P1        |

#### 6. Electrical Characteristics:

#### 回波损耗 Return loss



# 驻波比 Standing-wave ratio

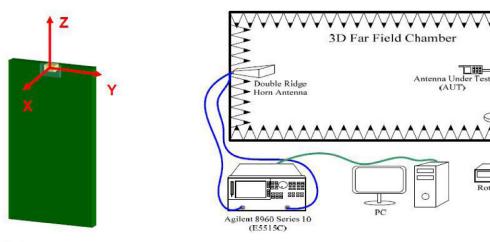


| Mark | Frequency | VSWR  |
|------|-----------|-------|
| 1    | 2400 MHz  | 1.513 |
| 2    | 2440 MHz  | 1.068 |
| 3    | 2480 MHz  | 1.464 |

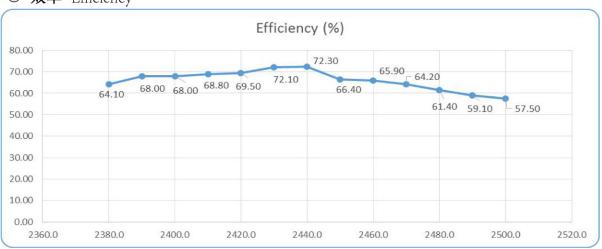
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| $ANGLES = \pm HOLEDIA = \pm$          |  | Pe   | engBanXingYe ShenZhen Technolo     | gy Co. , Ltd |
| SCALE: N/A UNIT: mm                   |  |  | S AND SPECIFICATIONS ARE THE PROPE |              |
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| DESIGNED BY: Sera APPROVED BY: XD     |  | DEVICES WITHOU   | JT PERMISSION                      |              |
| TITLE: CHIP2450-3216 Specification    |  | DOCUMENT   | 3216                               | SPEC REV.    |
| TITLE: Offin 2400-3210 Specification  |  | NO.  | 3210                               | P1           |

#### **Radiation Pattern**

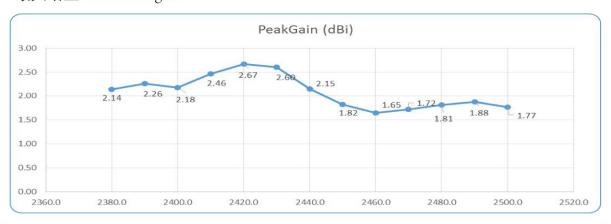
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator,a standard horn antenna and Vector Network Analyzer is used to collect data.



#### ◎ 效率 Efficiency

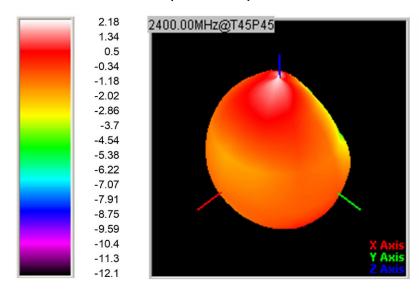


#### 最大增益 Maximum gain

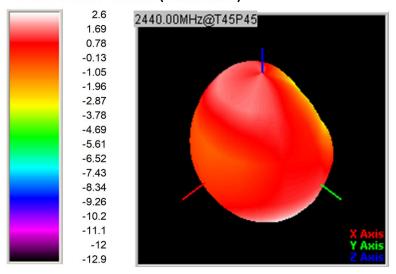


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| DESIGNED BY: Sera                        | APPROVED BY: XD                      | DEVICES WITHOU | JT PERMISSION   |           |
| TITLE: CHIP2450-3216 S                   | necification                         | DOCUMENT       | 3216  | SPEC REV. |
| 111EE: OHH 2430-3210 8                   | pecification                         | NO.            | 3210  | P1        |

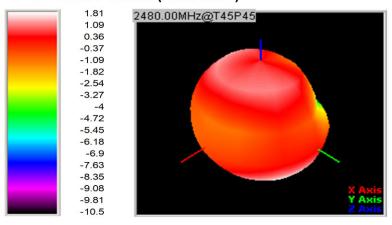
#### ○ 3D Gain Pattern (2400 MHz)



#### 3D Gain Pattern (2440 MHz)



#### 3D Gain Pattern (2480 MHz)



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| $ANGLES = \pm$           | $HOLEDIA = \pm$     | Pe             | engBanXingYe ShenZhen Technolo                                      | gy Co. , Ltd |
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| 111EE: OIIII 2430-3210 C | pecification        | NO.            | 3210  | P1           |

#### 7. Environmental Characteristics

#### (1) Reliability Test

| Item                              | Condition   | Specification   |
|-----------------------------------|---|---|
| Thermal shock                     | <ol> <li>30±3 minutes at -40° C±5° C,</li> <li>Convert to +105° C (5 minutes)</li> <li>30±3 minutes at +105° C±5° C,</li> <li>Convert to -40° C (5 minutes)</li> <li>Total 100 continuous cycles</li> </ol> | No apparent damage<br>Fulfill the electrical<br>spec. after test. |
| Humidity<br>resistance            | 1. Humidity: 85% R.H.   2. Temperature: $85\pm5^{\circ}$ C   3. Time: 1000 hours.   | No apparent damage<br>Fulfill the electrical<br>spec. after test. |
| High<br>temperature<br>resistance | 1. Temperature: 150° C±5° C<br>2. Time: 1000 hours.   | No apparent damage<br>Fulfill the electrical<br>spec. after test. |
| Low temperature resistance        | 1. Temperature: -40° C±5° C<br>2. Time: 1000 hours.   | No apparent damage Fulfill the electrical spec. after test.       |
| Soldering heat resistance         | 1. Solder bath temperature : $260\pm5^{\circ}$ C 2. Bathing time: $10\pm1$ seconds  | No apparent damage  |
| Solderability                     | The dipped surface of the terminal shall be at least 95% covered with solder after dipped in solder bath of $245\pm5^\circ\!$         | No apparent damage  |

#### (2) Storage Condition

#### (a) At warehouse:

The temperature should be within  $0 \sim 30^{\circ}\text{C}$  and humidity should be less than 60% RH.

The product should be used within 1 year from the time of delivery.

#### (b) On board:

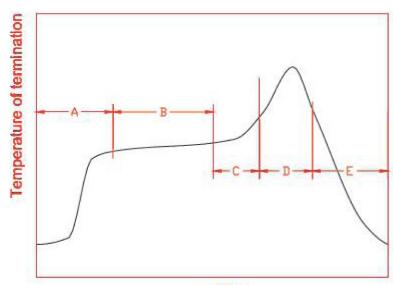
The temperature should be within -40~85°C and humidity should be less than 85% RH.

#### (3) Operating Temperature Range

Operating temperature range :  $-40^{\circ}$ C to  $+105^{\circ}$ C.

| UNLESS OTHER SPECI                 | FIED TOLERANCES ON: | рb             | 深圳丰明沙沙沙科技车   | 四八三          |
|------------------------------------|---------------------|----------------|--|--------------|
| $X=\pm$ $X.X=\pm$                  | X.XX =              | PENGBANXING    | 深圳市朋伴兴业科技有   | 限公司          |
| $ANGLES = \pm$                     | $HOLEDIA = \pm$     | Pe             | ngBanXingYe ShenZhen Technolog                                   | gy Co. , Ltd |
| SCALE: N/A                         | UNIT: mm            |                | S AND SPECIFICATIONS ARE THE PROPER                              |              |
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| 111 LE: 01111 2430-3210 0          | pecification        | NO.            | 3210   | P1           |

### 8. Recommended Reflow Soldering



Time

|   |  | ime                                     |               |
|---|--|---|---------------|
| Α | 1 <sup>st</sup> rising temperature         | The normal to Preheating temperature    | 30s to 60s    |
| В | Preheating                                 | 140°C to 160°C                          | 60s to 120s   |
| С | 2 <sup>nd</sup> rising temperature         | Preheating to 200°C                     | 20s to 40s    |
| D |  | if 220°C                                | 50s∼60s       |
|   |  | if 230°C                                | 40s∼50s       |
|   | Main heating                               | if 240°C                                | 30s~40s       |
|   | Service Control But a promotion was stated | if 250°C                                | 20s~40s       |
|   |  | if 260°C                                | 20s~40s       |
| E | Regular cooling                            | 200°C to 100°C                          | 1°C/s ~ 4°C/s |
|   | 5000 00                                    | ATT |               |

<sup>\*</sup>reference: J-STD-020C

#### (1) Soldering Gun Procedure

Note the follows, in case of using solder gun for replacement.

- (a) The tip temperature must be less than  $350^{\circ}\,$  C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

#### (2) Soldering Volume

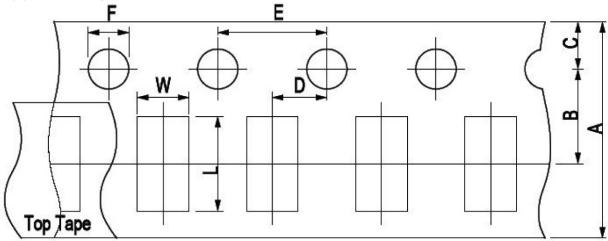
Note that excess of soldering volume will easily get crack the body of this product.

| UNLESS OTHER SPECI<br>X=± X.X=±    | FIED TOLERANCES ON:<br>X.XX= | <b>Pb</b> 深圳市朋伴兴业科技有限公司  |                                |             |  |
|------------------------------------|------------------------------|--|--------------------------------|-------------|--|
| ANGLES = $\pm$                     | $HOLEDIA = \pm$              | Pengbanxing  | ngBanXingYe ShenZhen Technolog | y Co. , Ltd |  |
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| DESIGNED BY: Sera                  | APPROVED BY: XD              | DEVICES WITHOUT PERMISSION   |                                |             |  |
| TITLE: CHIP2450-3216 Specification |                              | DOCUMENT<br>NO.  | 3216                           | SPEC REV.   |  |
|                                    |                              |  | 3210                           | P1          |  |

#### 9. Taping Package and Label Marking: (unit: mm)

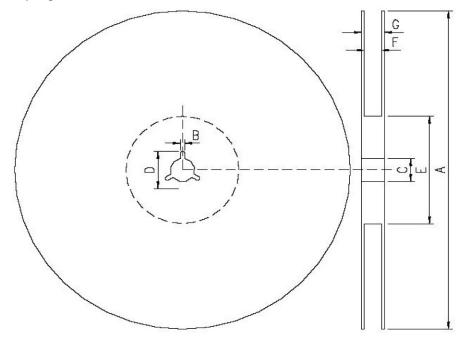
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions



| Туре    | A            | В             | С              | D             | Е            | F              | L            | W               |
|---------|--------------|---------------|----------------|---------------|--------------|----------------|--------------|-----------------|
| 2450-21 | $8.00\pm0.3$ | $3.50\pm0.05$ | 1.75 $\pm$ 0.1 | $2.00\pm0.05$ | $4.00\pm0.1$ | 1.50 $\pm$ 0.1 | $2.30\pm0.1$ | 1. $55 \pm 0.1$ |

#### (3) Taping reel dimensions



| Α | 178.0±2.0   |
|---|-------------|
| В | $2.0\pm0.5$ |
| C | 13.0±0.5    |
| D | 21.0±0.8    |
| Ε | 62.0±1.5    |
| F | 9.0±0.5     |
| G | 13.0+1.0    |

 X=±
 X.X=±

 A N G L E S = ±
 H O L E D I A = ±

 SCALE: N/A
 UNIT: mm

 DRAWN BY : Sera
 CHECKED BY: XD

 DESIGNED BY: Sera
 APPROVED BY: XD



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