# 产品规格承认书

## **SPECIFICATIONS**

客户:

|             | CUSTOM                   | ER: _   |                  |                 |     |                 |            |   |           |
|-------------|--------------------------|---------|------------------|-----------------|-----|-----------------|------------|---|-----------|
|             | 产品名                      | 称:      |                  |                 |     |                 |            |   |           |
|             | DESCRI                   | PTION   | :                |                 |     | 蓝牙天线            |            |   |           |
|             | 客户型                      | 号:      |                  |                 |     |                 |            |   |           |
|             | CUSTOM                   | ER PA   | RT No:           |                 |     |                 |            |   |           |
|             | 产品型·                     |         |                  |                 |     |                 |            |   |           |
|             | OUR MOI                  | DEL N   | 0:               |                 | P   | <b>BX3216N</b>  | IP01       |   |           |
|             | 日期:                      |         |                  |                 |     |                 |            |   |           |
|             | DATE:                    |         |                  |                 | 20  | 020/12/22       |            |   |           |
|             |                          |         |                  |                 |     |                 |            |   |           |
| 矿           | 角认签字,                    | 盖章      | 后请返回             | 承认书-            | 一份  | }               |            |   |           |
|             | PLEASE                   | RETU    | RN TO US         | ONE CO          | PY  | OF "SPEC        | IFICATIO   | ON FOR APPROVA                                  | ΔL"       |
|             |                          |         |                  |                 |     | _               |            |   |           |
|             | WITH YO                  | OUR A   | PPROVED :        | SIGNATU         | RES | S               |            |   |           |
|             |                          |         |                  |                 |     |                 |            |   |           |
|             |                          |         |                  |                 |     |                 |            |   |           |
|             |                          |         |                  |                 |     |                 |            |   |           |
|             | 核准                       |         |                  | 审核              |     | 刘飞              | 制作         | 刘小美   |           |
|             | ТАТЕ                     |         |                  | 7 12            |     | >13 <b>d</b>    | 11 641     | 744.70  |           |
| '           |                          |         |                  |                 |     |                 |            |   | _<br>     |
|             |                          | 客户      | ₽承认签₽            | [D              |     |                 |            |   |           |
|             |                          |         | 日期               |                 |     |                 |            |   |           |
| _           | _                        | _       | ED TOLERA        | NCES ON         | :   | pb              | ~~~        | 田坐火小纸井  | 個心事       |
| X=±<br>ANGL | X.X =                    | _       | X.XX=<br>HOLEDIA | $\lambda = \pm$ |     | PENGBANXING     | ᄻᄊᆘᆡ       | 朋伴兴业科技有   | ᄓᄊᄭᄆ      |
| SCALE:      |                          |         | UNIT: mm         | V. VD           |     |                 |            | ICATIONS ARE THE PROPI<br>ALL NOT BE REPRODUCED |           |
|             | BY : Sera<br>ED BY: Sera |         | APPROVED         |                 |     |                 | THE MANUFA | ACTURE OR SALE OF AF                            |           |
| TITLE:      | CHIP2450-                | 3216 Sp | ecification      |                 |     | DOCUMENT<br>NO. |            | 3216  | SPEC REV. |
|             |                          |         |                  |                 |     |                 |            |   | l LI      |

## **PBX3216MP01 Specification**

Operating Temp. : -40 ℃~+85 ℃

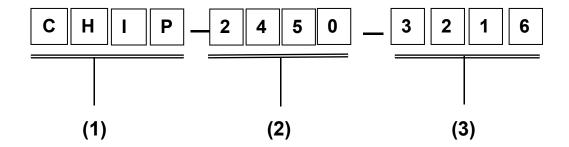
#### 1. FEATURES:

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

#### 2. APPLICATIONS:

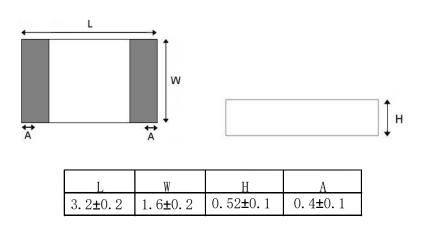
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

#### 3. PRODUCT IDENTIFICATION



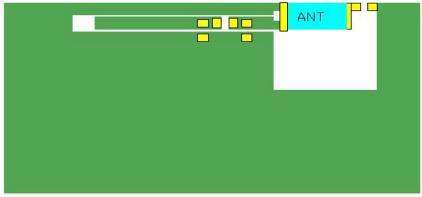
- (1) Product type: Multilayer chip Antenna
- (2) Center Frequency: 2450MHz
- (3) External Dimensions (L×W) (mm): 3.2\*1.6

## 4. SHAPE AND DIMENSIONS:

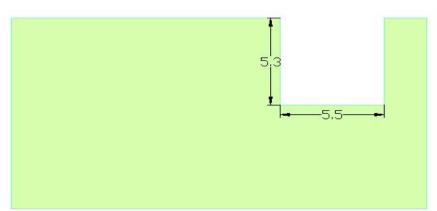


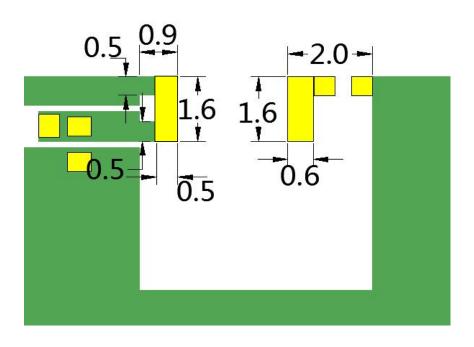
| UNLESS OTHER SPECIFICATION X=± X.X=± ANGLES = ± | ED TOLERANCES ON: X.XX= HOLEDIA = ± | PENGBANXING    | 深圳市朋伴兴业科技有  | 限公司       |
|---|-------------------------------------|----------------|---|-----------|
| SCALE: N/A                                      | UNIT: mm                            |                | S AND SPECIFICATIONS ARE THE PROPER                                 |           |
| DRAWN BY : Sera                                 | CHECKED BY: XD                      |                | mited and shall not be reproduced<br>The manufacture or sale of app |           |
| DESIGNED BY: Sera                               | APPROVED BY: XD                     | DEVICES WITHOU | JT PERMISSION   |           |
| TITLE: CHIP2450-3216 Sp                         | necification                        | DOCUMENT       | 3216  | SPEC REV. |
| 111 LE: 01111 2430-3210 3                       |                                     | NO.            | 3210  | P1        |

## 测试板参考尺寸: 单位**: mm**



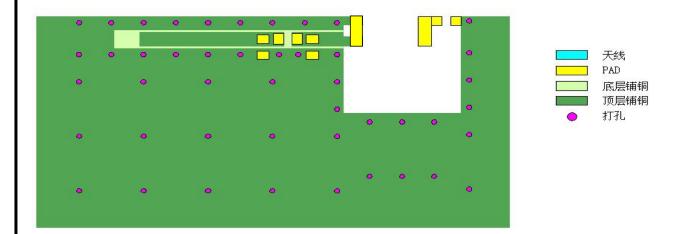




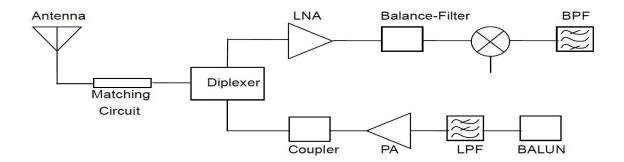


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| DESIGNED BY: Sera                              | APPROVED BY: XD                    | DEVICES WITHOU | JT PERMISSION  |           |
| TITLE: CHIP2450-3216 S                         | necification                       | DOCUMENT       | 3216   | SPEC REV. |
| 11122: 01111 2400-0210 0                       | pecification                       | NO.            | 3210   | P1        |

## 打孔参考示意图



## **APPLICATION GUIDE**



## 5. SPECIFICATIONS:

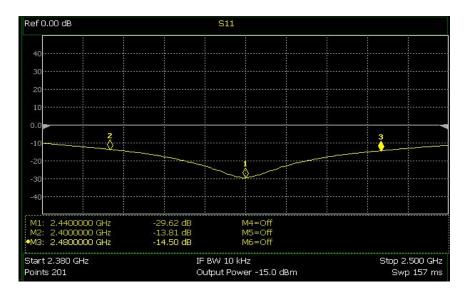
| 测试项   | 规格           |
|-------|--------------|
| 带宽    | 2400~2483MHz |
| 极化方式  | 线极化          |
| *最大增益 | 2.67dBi      |
| *效率   | 72. 30%      |
| 输入阻抗  | 50 Ω         |

\* Test condition: Test board size 90\*40 mm Matching circuit: Pi matching circuit will be required

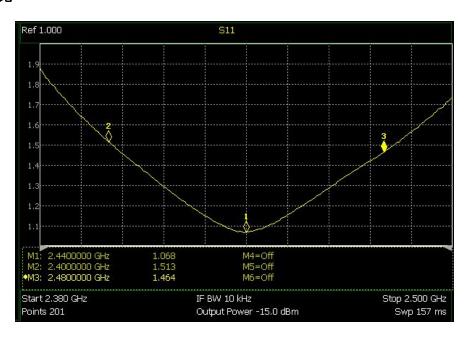
| UNLESS OTHER SPEC<br>X=± X.X=±<br>ANGLES = ± | CIFIED TOLERANCES ON:  X.XX=  HOLEDIA = ± | PENGBANXING    | 深圳市朋伴兴业科技有  | 限公司       |
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| DESIGNED BY: Sera                            | APPROVED BY: XD                           | DEVICES WITHOU | JT PERMISSION   |           |
| TITLE: CHIP2450-3216                         | Specification                             | DOCUMENT       | 3216  | SPEC REV. |
|  | Specification                             | NO.            | 3210  | P1        |

## 6. Electrical Characteristics:

## 回波损耗



## 驻波比

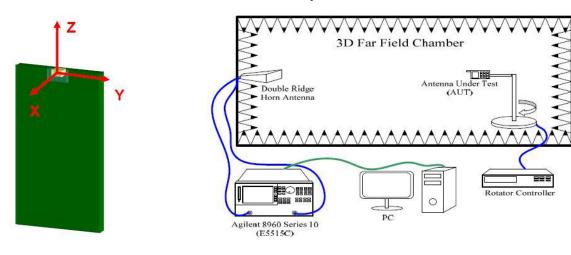


| Mark | Frequency | VSWR   |
|------|-----------|--------|
| 1    | 2400 MHz  | 1.513  |
| 2    | 2440 MHz  | 1.068  |
| 3    | 2480 MHz  | 1. 464 |

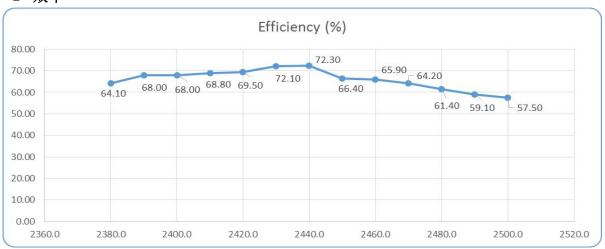
| UNLESS OTHER SPECIF X=± X.X=± ANGLES = ± | IED TOLERANCES ON:  X.XX= HOLEDIA = ± | PENGBANXING    | 深圳市朋伴兴业科技有  | 限公司       |
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| DESIGNED BY: Sera                        | APPROVED BY: XD                       | DEVICES WITHOU | JT PERMISSION   |           |
| TITLE: CHIP2450-3216 Si                  | pecification                          | DOCUMENT       | 3216  | SPEC REV. |
| 111 EE: 31111 2430-3210 3                | 3ccilication                          | NO.            | 3210  | P1        |

#### **Radiation Pattern**

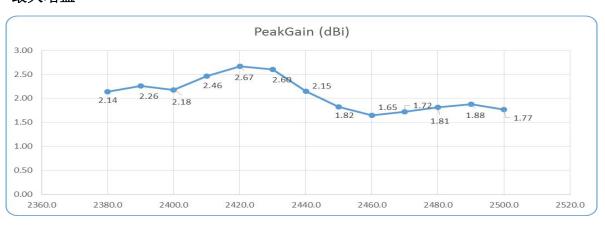
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator,a standard horn antenna and Vector Network Analyzer is used to collect data.



#### ◎ 效率

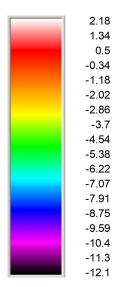


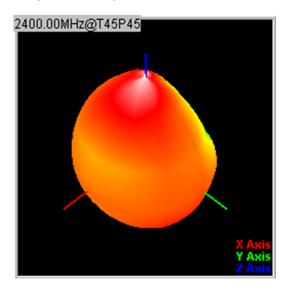
#### 最大增益



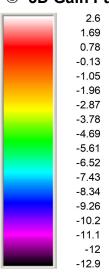
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|-------------------------|--------------------|----------------|---|-----------|
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| $ANGLES = \pm$          | $HOLEDIA = \pm$    | PERGUARANG     |   |           |
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| DESIGNED BY: Sera       | APPROVED BY: XD    | DEVICES WITHOU | JT PERMISSION   |           |
| TITLE: CHIP2450-3216 S  | necification       | DOCUMENT       | 3216  | SPEC REV. |
| 111LL: OHIF 2430-3210 3 | pecification       | NO.            | 3210  | P1        |

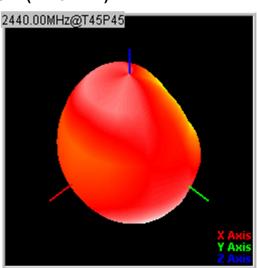
#### O 3D Gain Pattern (2400 MHz)



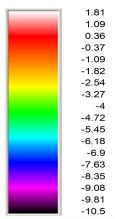


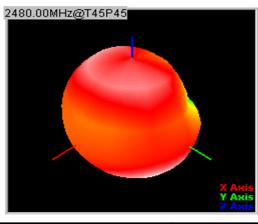
## 





## O 3D Gain Pattern (2480 MHz)





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| DESIGNED BY: Sera                        | APPROVED BY: XD                        | DEVICES WITHOU | JT PERMISSION  |           |
| TITLE: CHIP2450-3216 S                   | necification                           | DOCUMENT       | 3216   | SPEC REV. |
| Title: 0111F2430-3210 3                  | pecification                           | NO.            | 3210   | P1        |

P1

## 7. Environmental Characteristics

## (1) Reliability Test

| Item                              | Condition   | Specification   |
|-----------------------------------|---|---|
| Thermal shock                     | 1. 30±3 minutes at -40° C±5° C, 2. Convert to +105° C (5 minutes) 3. 30±3 minutes at +105° C±5° C, 4. Convert to -40° C (5 minutes) 5. Total 100 continuous cycles                                  | 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: $-40^{\circ}$ C $\pm 5^{\circ}$ C<br>2. Time: 1000 hours.   | No apparent damage<br>Fulfill the electrical<br>spec. after test. |
| Soldering heat resistance         | 1. Solder bath temperature : $260\pm5$ °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  $0 \sim 30^{\circ}$ 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:

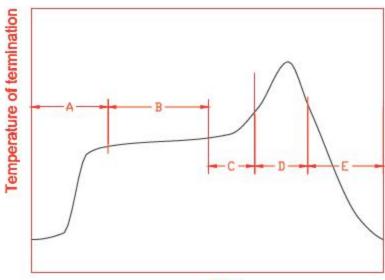
The temperature should be within -40~85°C and humidity should be less than 85% RH.

### (3) Operating Temperature Range

Operating temperature range : -40° $\mathbb{C}$  to +105° $\mathbb{C}$ .

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| $ANGLES = \pm$                | $HOLEDIA = \pm$ | The second secon |   |           |
| SCALE: N/A                    | UNIT: mm        |  | S AND SPECIFICATIONS ARE THE PROPER                               |           |
| DRAWN BY : Sera               | CHECKED BY: XD  |  | mited AND SHALL NOT BE REPRODUCED  THE MANUFACTURE OR SALE OF APP |           |
| DESIGNED BY: Sera             | APPROVED BY: XD | DEVICES WITHOU   | JT PERMISSION   |           |
| TITLE: CHIP2450-3216 S        | pecification    | DOCUMENT   | 3216  | SPEC REV. |
| 111 EE: 31111 2430-3210 3     | 3ccilication    | NO.  | 3210  | P1        |

## 8. Recommended Reflow Soldering



#### Time

| 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 Main hea |                                    | if 220°C                             | 50s~60s       |
|            |                                    | if 230°C                             | 40s∼50s       |
|            | Main heating                       | if 240°C                             | 30s~40s       |
|            |                                    | if 250°C                             | 20s~40s       |
|            |                                    | if 260°C                             | 20s~40s       |
| E          | Regular cooling                    | 200°C to 100°C                       | 1°C/s ~ 4°C/s |

<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

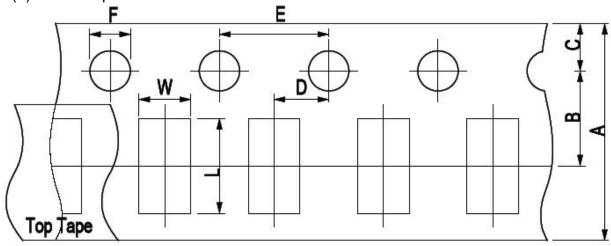
Note that excess of soldering volume will easily get crack the body of this product.

| UNLESS OTHER SPECIFIED TOLERANCES ON: |                 | ဥပ   | 深圳市朋伴兴业科技有                          | 阳八三       |
|---------------------------------------|-----------------|--|-------------------------------------|-----------|
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| $ANGLES = \pm$                        | HOLEDIA = ±     | Section and Park Andrews and Art Conference and Art |                                     |           |
| SCALE: N/A                            | UNIT: mm        |  | S AND SPECIFICATIONS ARE THE PROPER | -         |
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| DESIGNED BY: Sera                     | APPROVED BY: XD | DEVICES WITHOUT PERMISSION   |                                     |           |
| TITLE: CHIP2450-3216 Specification    |                 | DOCUMENT   | 3216                                | SPEC REV. |
| TITLE: Offin 2430-3210 Opecification  |                 | NO. 3210   |                                     | P1        |

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

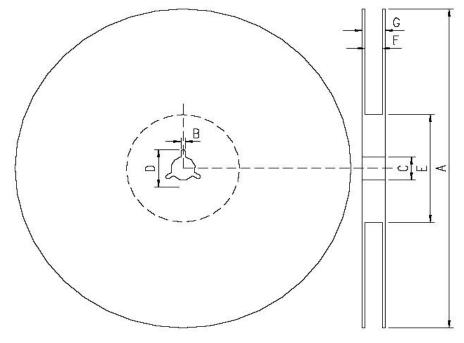
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions



| Type    | A            | В             | С        | D             | Е            | F            | L            | W              |
|---------|--------------|---------------|----------|---------------|--------------|--------------|--------------|----------------|
| 2450-21 | $8.00\pm0.3$ | $3.50\pm0.05$ | 1.75±0.1 | $2.00\pm0.05$ | $4.00\pm0.1$ | $1.50\pm0.1$ | $2.30\pm0.1$ | 1.55 $\pm$ 0.1 |

## (3) Taping reel dimensions



| Α | 178.0±2.0 |
|---|-----------|
| В | 2.0±0.5   |
| 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  |

| UNLESS OTHER SPECIFIED TOLERANCES ON: |     |                 |  |  |
|---------------------------------------|-----|-----------------|--|--|
| $X=\pm$ $X.X=\pm$                     |     | X.XX =          |  |  |
| ANGLES                                | = ± | $HOLEDIA = \pm$ |  |  |
| SCALE: N/A                            |     | UNIT: mm        |  |  |
| DRAWN BY : Sera                       |     | CHECKED BY: XD  |  |  |
| DESIGNED BY: Sera                     |     | APPROVED BY: XD |  |  |

TITLE: CHIP2450-3216 Specification

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