

# 产品规格承认书

## SPECIFICATIONS

客户:

CUSTOMER: \_\_\_\_\_

产品名称:

DESCRIPTION: \_\_\_\_\_ Bipolar antenna

客户型号:

CUSTOMER PART No: \_\_\_\_\_

产品型号:

OUR MODEL NO: \_\_\_\_\_ PBX3216HC01

日期:

DATE: \_\_\_\_\_

UNLESS OTHER SPECIFIED TOLERANCES ON:

$X=\pm$        $X.X=\pm$        $X.XX=\pm$   
**ANGLES** =  $\pm$       **HOLE DIA** =  $\pm$

SCALE: N/A

UNIT: mm

DRAWN BY : Sera

CHECKED BY: XD

DESIGNED BY: Sera

APPROVED BY: XD



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TITLE: CHIP2450-3216 Specification

DOCUMENT  
NO.

3216

SPEC REV.

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**PBX3216HC01 Specification**

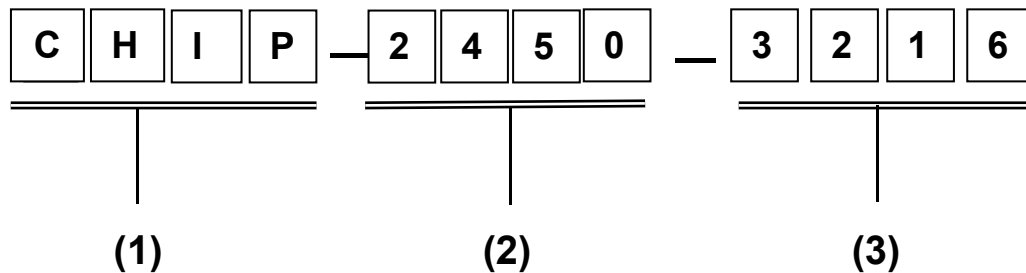
Operating Temp. : -40℃~+85℃

**1. FEATURES:**

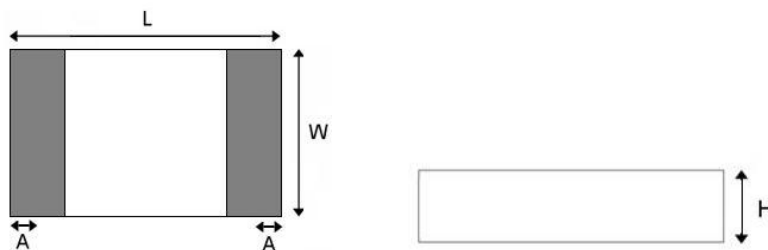
- Light weight, compact
- Wide bandwidth, low cost
- Built-in antenna with high gain

**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:**

| L       | W       | H        | A       |
|---------|---------|----------|---------|
| 3.2±0.2 | 1.6±0.2 | 0.52±0.1 | 0.4±0.1 |

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A N G L E S = ±      H O L E D I A = ±

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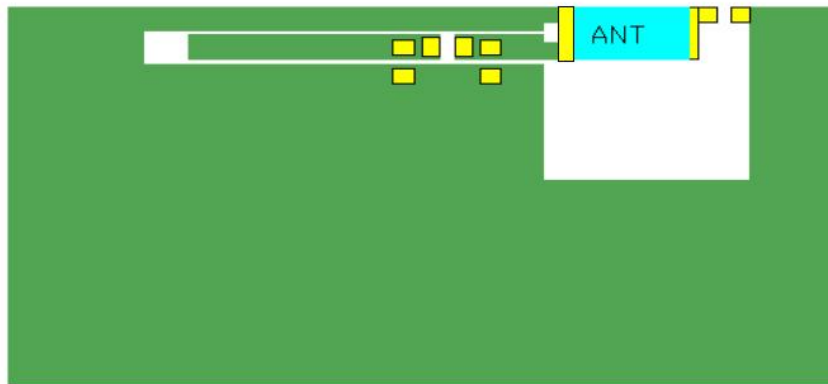
3216

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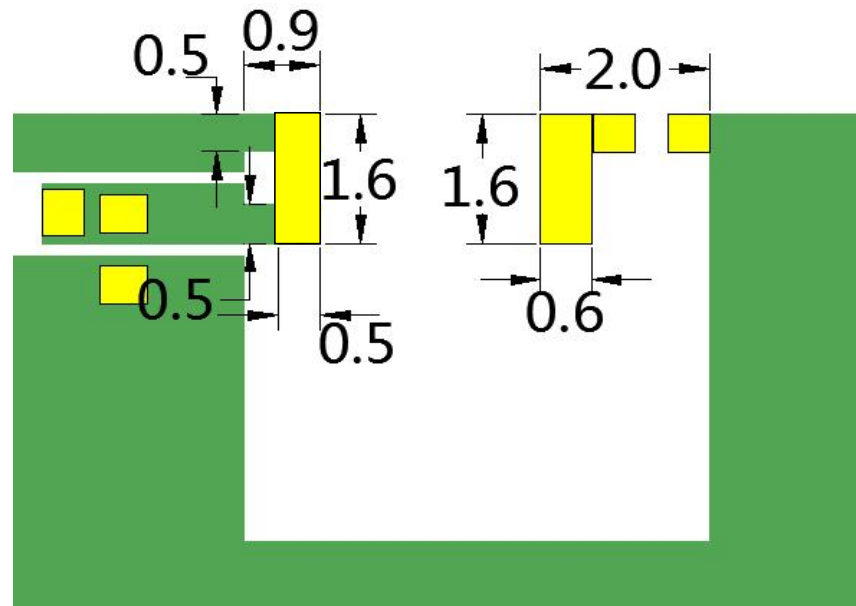
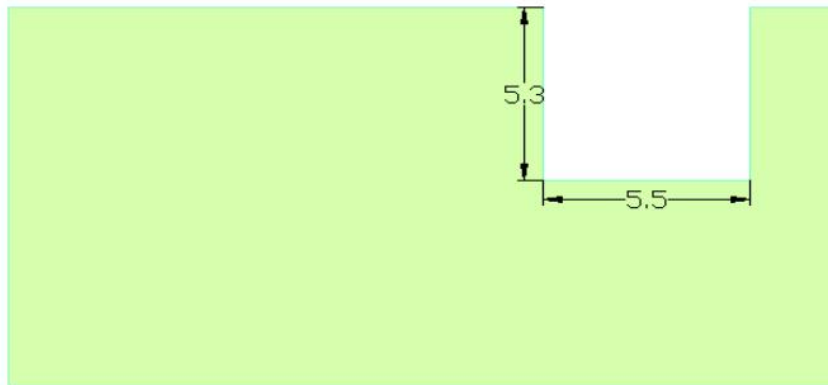
P1

Test plate reference size:

Company: mm



- Antenna
- PAD
- Copper laying on the bottom layer
- Top layer copper laying



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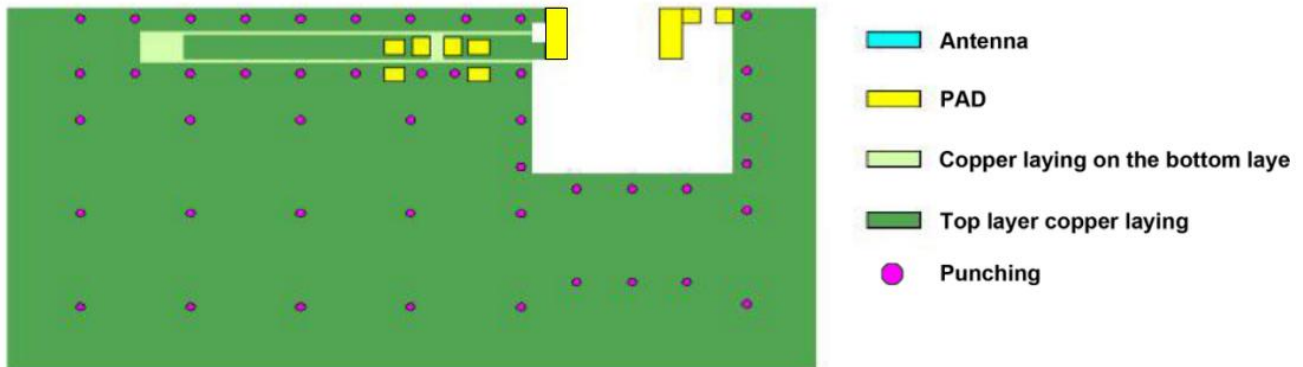
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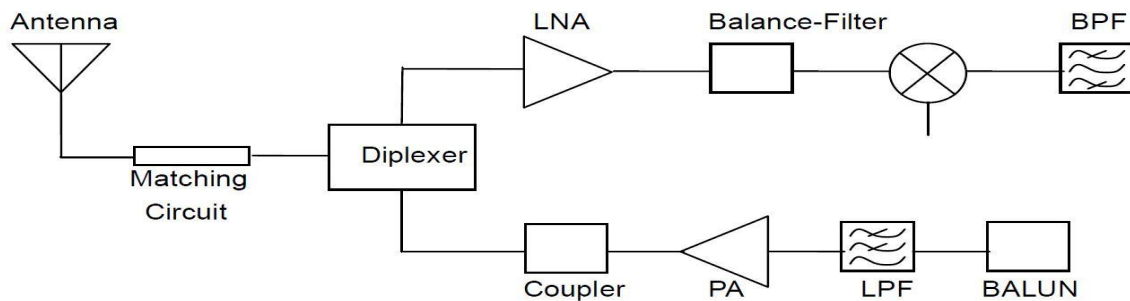
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P1

## Hole punching reference diagram



## APPLICATION GUIDE



## 5. SPECIFICATIONS:

| Test Item         | Specifications      |
|-------------------|---------------------|
| Bandwidth         | 2400-2483MHz        |
| Polarization mode | Linear polarization |
| * Maximum gain    | 2.67dBi             |
| * Efficiency      | 72.3%               |
| Input Impedance   | 50Ω                 |

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

Matching circuit: Pi matching circuit will be required

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ANGLES = ±

HOLEDIA = ±



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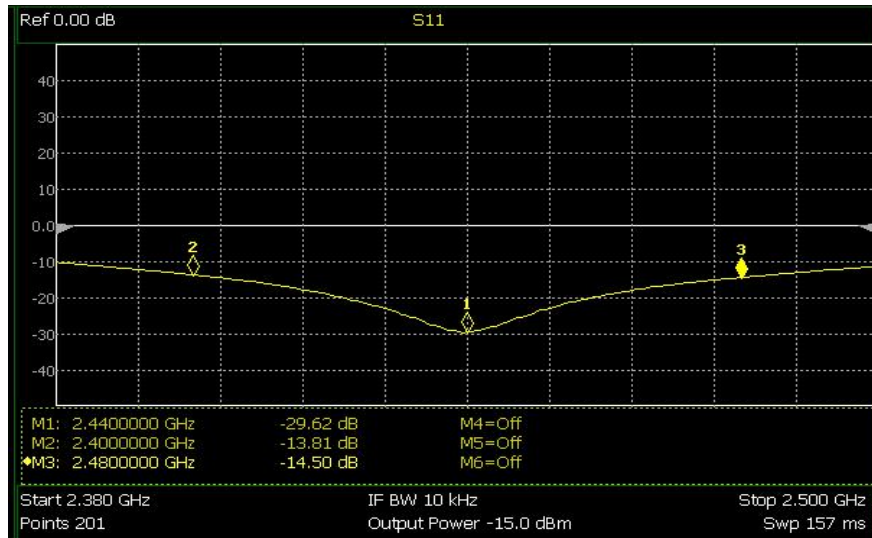
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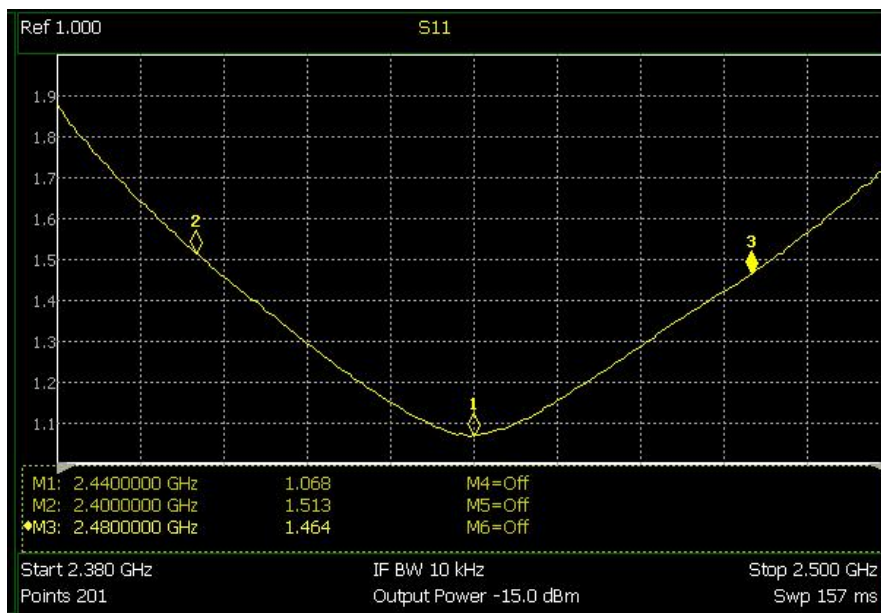
P1

## 6. Electrical Characteristics :

### Return loss



### 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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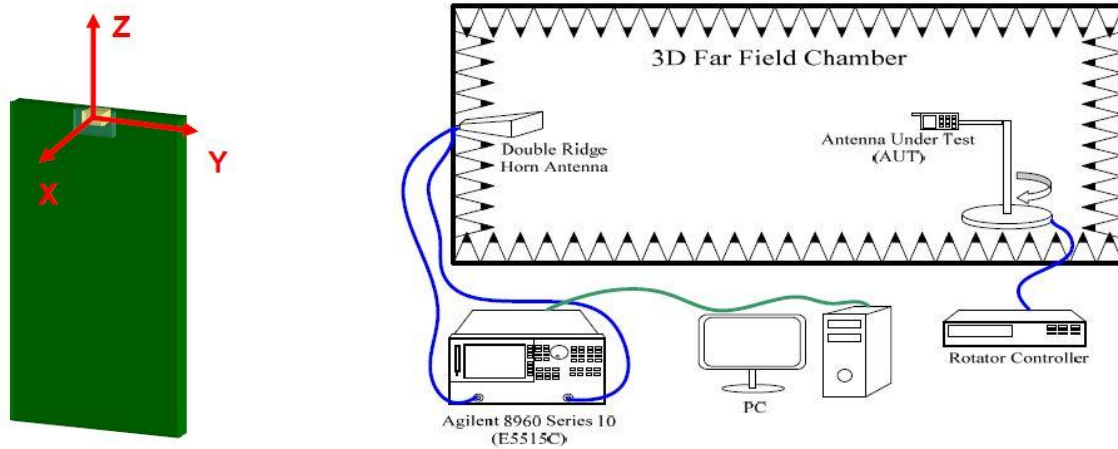
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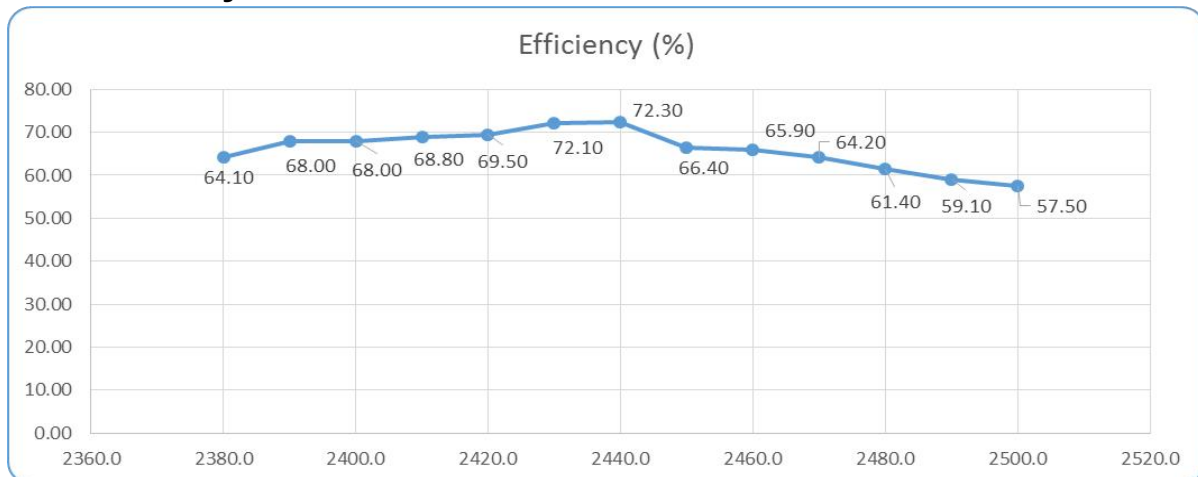
P1

## Radiation Pattern

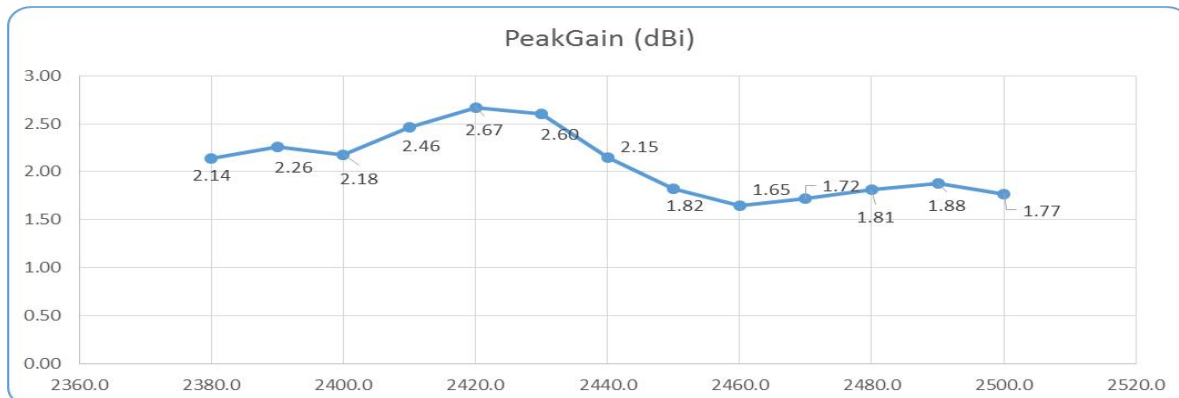
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator,a standard horn antenna and Vector Network Analyzer is used to collect data.



## Efficiency



## Maximum gain



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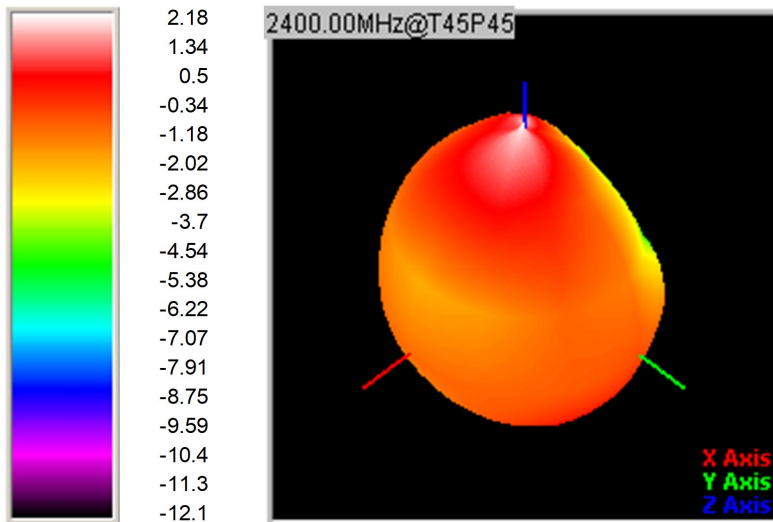
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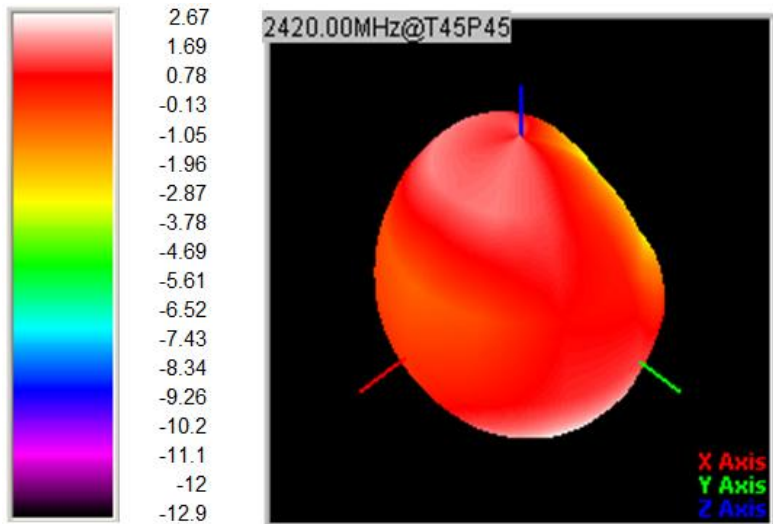
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P1

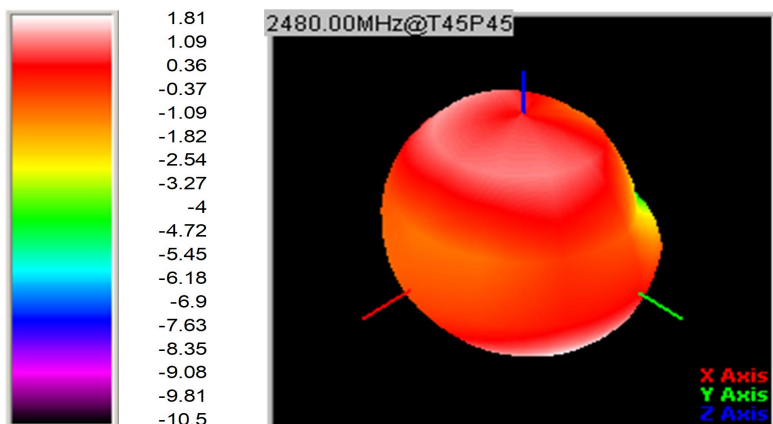
## ◎ 3D Gain Pattern (2400 MHz)



## ◎ 3D Gain Pattern (2420 MHz)



## ◎ 3D Gain Pattern (2480 MHz)



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ANGLES = ±      HOLEDIA = ±

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## 7. Environmental Characteristics

### (1) Reliability Test

| Item                        | Condition                                                                                                                                                                                                                                                                              | Specification                                                  |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Thermal shock               | 1. $30\pm 3$ minutes at $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ ,<br>2. Convert to $+105^{\circ}\text{C}$ (5 minutes)<br>3. $30\pm 3$ minutes at $+105^{\circ}\text{C}\pm 5^{\circ}\text{C}$ ,<br>4. Convert to $-40^{\circ}\text{C}$ (5 minutes)<br>5. Total 100 continuous cycles | No apparent damage<br>Fulfill the electrical spec. after test. |
| Humidity resistance         | 1. Humidity: 85% R.H.<br>2. Temperature: $85\pm 5^{\circ}\text{C}$<br>3. Time: 1000 hours.                                                                                                                                                                                             | No apparent damage<br>Fulfill the electrical spec. after test. |
| High temperature resistance | 1. Temperature: $150^{\circ}\text{C}\pm 5^{\circ}\text{C}$<br>2. Time: 1000 hours.                                                                                                                                                                                                     | No apparent damage<br>Fulfill the electrical spec. after test. |
| Low temperature resistance  | 1. Temperature: $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$<br>2. Time: 1000 hours.                                                                                                                                                                                                     | No apparent damage<br>Fulfill the electrical spec. after test. |
| Soldering heat resistance   | 1. Solder bath temperature : $260\pm 5^{\circ}\text{C}$<br>2. Bathing time: $10\pm 1$ 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 $245\pm 5^{\circ}\text{C}$ for $3\pm 1$ seconds.                                                                                                                           | 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  $-40\sim 85^{\circ}\text{C}$  and humidity should be less than 85% RH.

### (3) Operating Temperature Range

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

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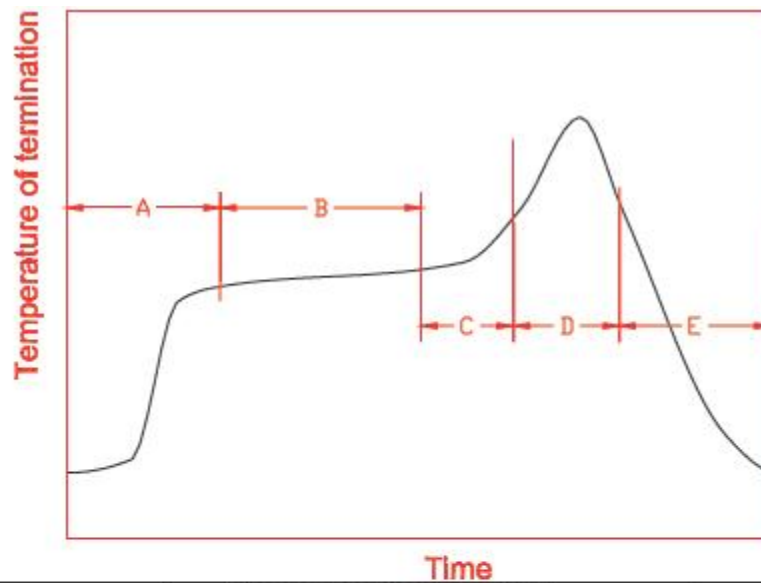
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## 8. Recommended Reflow Soldering



|   |                                    |                                      |               |
|---|------------------------------------|--------------------------------------|---------------|
| A | 1 <sup>st</sup> rising temperature | The normal to Preheating temperature | 30s to 60s    |
| B | Preheating                         | 140°C to 160°C                       | 60s to 120s   |
| C | 2 <sup>nd</sup> rising temperature | Preheating to 200°C                  | 20s to 40s    |
| D | Main heating                       | if 220°C                             | 50s~60s       |
|   |                                    | if 230°C                             | 40s~50s       |
|   |                                    | 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 |

\*reference: J-STD-020C

### (1) Soldering Gun Procedure

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

- The tip temperature must be less than 350° C for the period within 3 seconds by using soldering gun under 30 W.
- The soldering gun tip shall not touch this product directly.

### (2) Soldering Volume

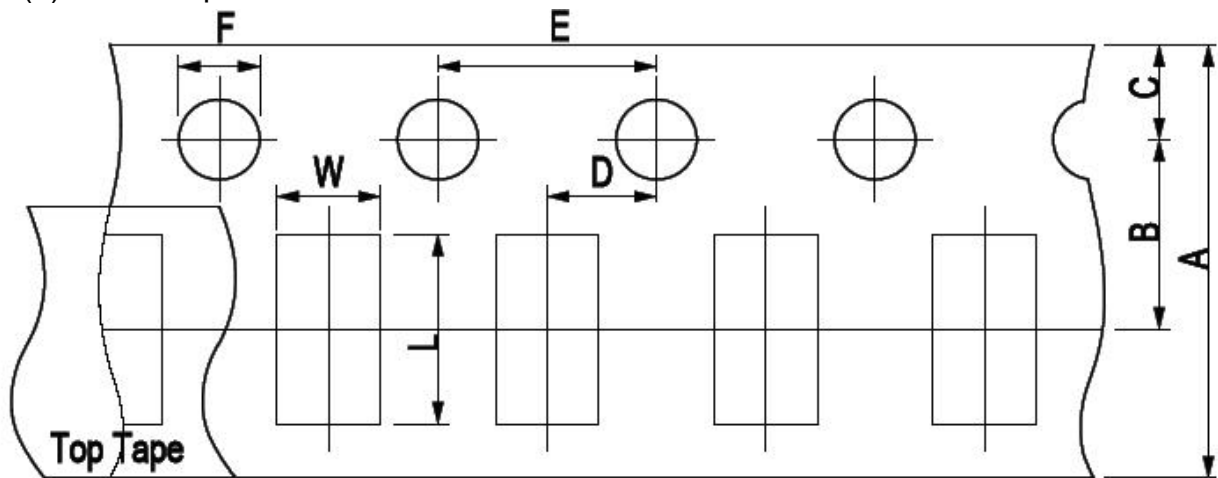
Note that excess of soldering volume will easily get crack the body of this product.

|                                                                                                    |                 |                                                                                                                                                                                                       |              |
|----------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| UNLESS OTHER SPECIFIED TOLERANCES ON:<br>X=±      X.X=±      X.XX=±<br>ANGLES = ±      HOLEDIA = ± |                 |  PengBanXingYe ShenZhen Technology Co. , Ltd                                                                       |              |
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| DESIGNED BY: Sera                                                                                  | APPROVED BY: XD |                                                                                                                                                                                                       |              |
| TITLE: CHIP2450-3216 Specification                                                                 |                 | DOCUMENT NO.                                                                                                                                                                                          | 3216         |
|                                                                                                    |                 |                                                                                                                                                                                                       | SPEC REV. P1 |

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

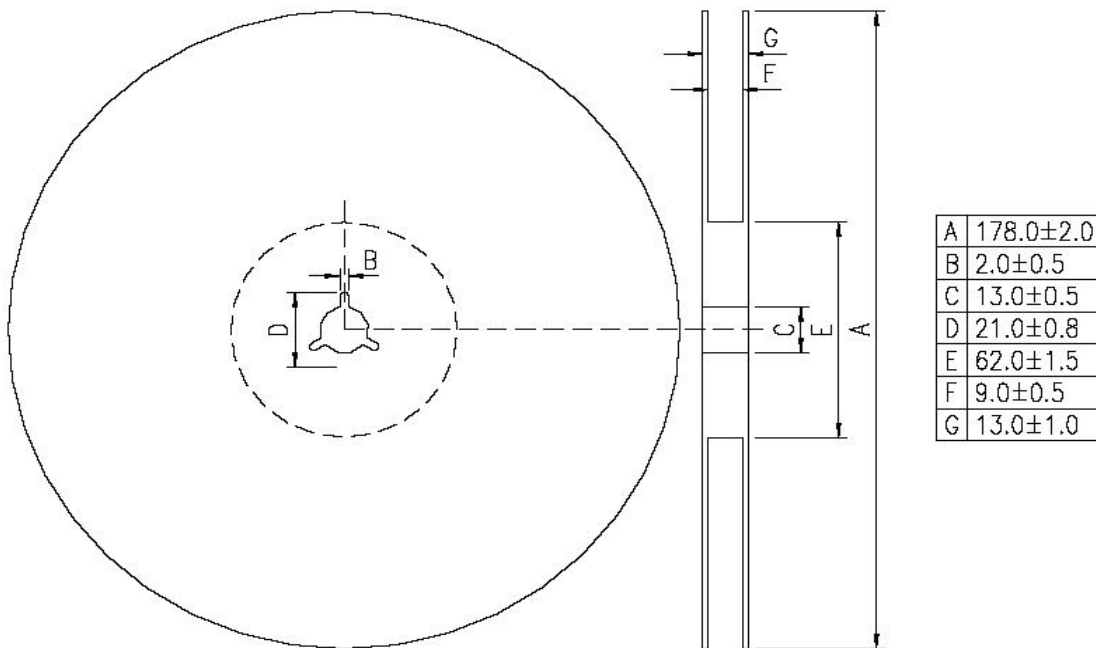
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions



| Type    | A              | B               | C              | D               | E              | F              | L              | W              |
|---------|----------------|-----------------|----------------|-----------------|----------------|----------------|----------------|----------------|
| 2450-21 | $8.00 \pm 0.3$ | $3.50 \pm 0.05$ | $1.75 \pm 0.1$ | $2.00 \pm 0.05$ | $4.00 \pm 0.1$ | $1.50 \pm 0.1$ | $2.30 \pm 0.1$ | $1.55 \pm 0.1$ |

(3) Taping reel dimensions



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