

# 产品规格承认书

## SPECIFICATIONS

产品名称:

DESCRIPTION: Chip antenna


产品型号:

OUR MODEL NO: PBX3216MC02

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

UNLESS OTHER SPECIFIED TOLERANCES ON: X=±      X.X=±      X.XX=± A N G L E S = ±      H O L E D I A = ±		 深圳市朋伴兴业科技有限公司 PengBanXingYe ShenZhen Technology Co. , Ltd	
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DESIGNED BY: Sera	APPROVED BY: XD		
TITLE: CHIP2450-3216 Specification		DOCUMENT NO.	SPEC REV.
		3216	P1

**PBX3216MC02 Specification**

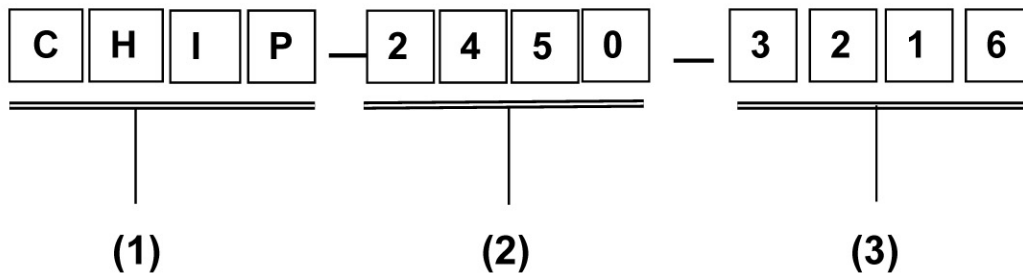
Operating Temp. : -40℃~+85℃

**1. FEATURES:**

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

**2. APPLICATIONS:**

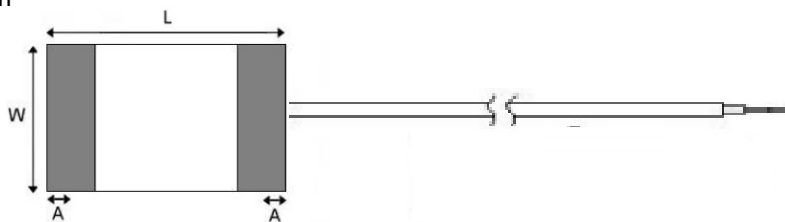
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

**3. PRODUCT IDENTIFICATION**

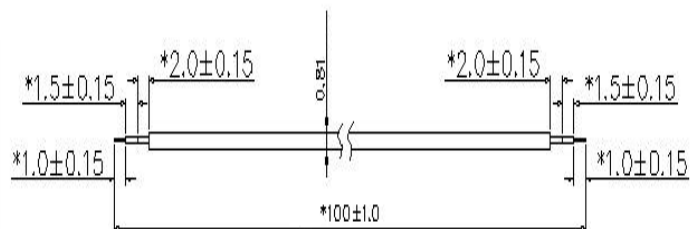
- (1) Product type: Multilayer chip Antenna  
 (2) Center Frequency: 2450MHz  
 (3) External Dimensions (L×W) (mm): 3.2\*1.6

**4. SHAPE AND DIMENSIONS:**

Unit: mm



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



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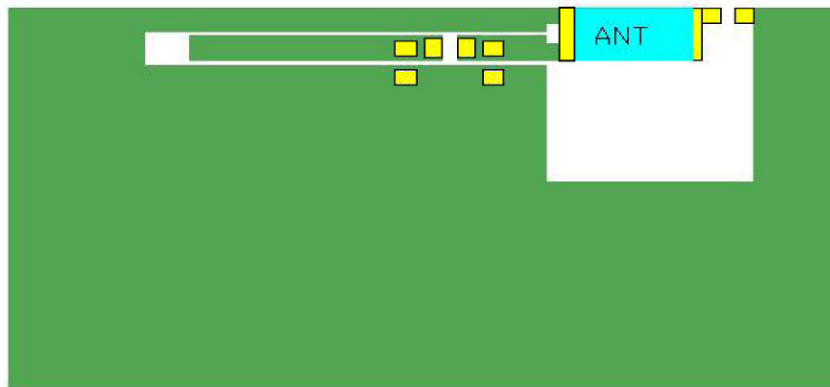
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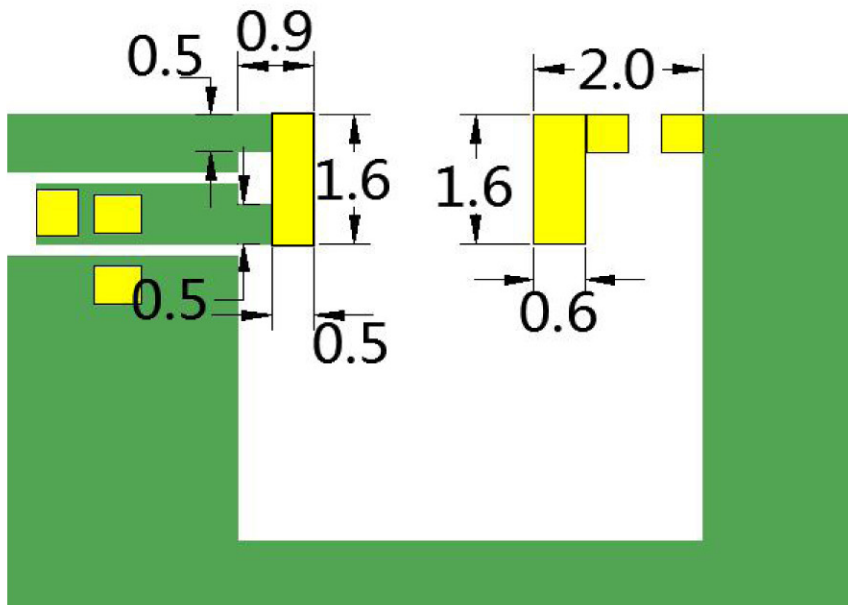
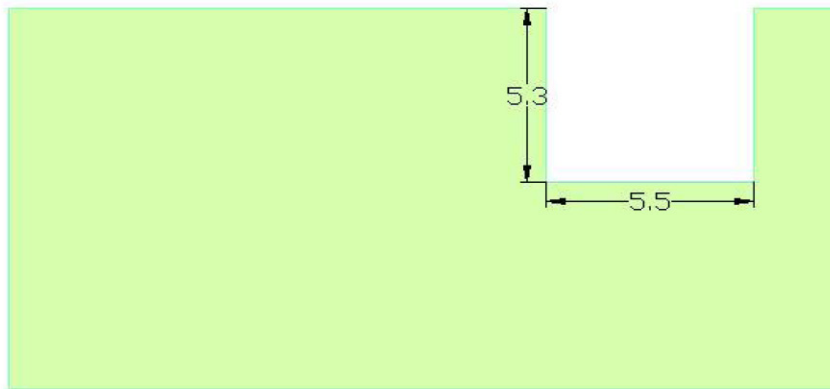
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测试板参考尺寸 Size reference :

单位unit: mm



- 天线 Antenna
- PAD
- 底层铺铜 Bottom copper coating
- 顶层铺铜 Top copper coating



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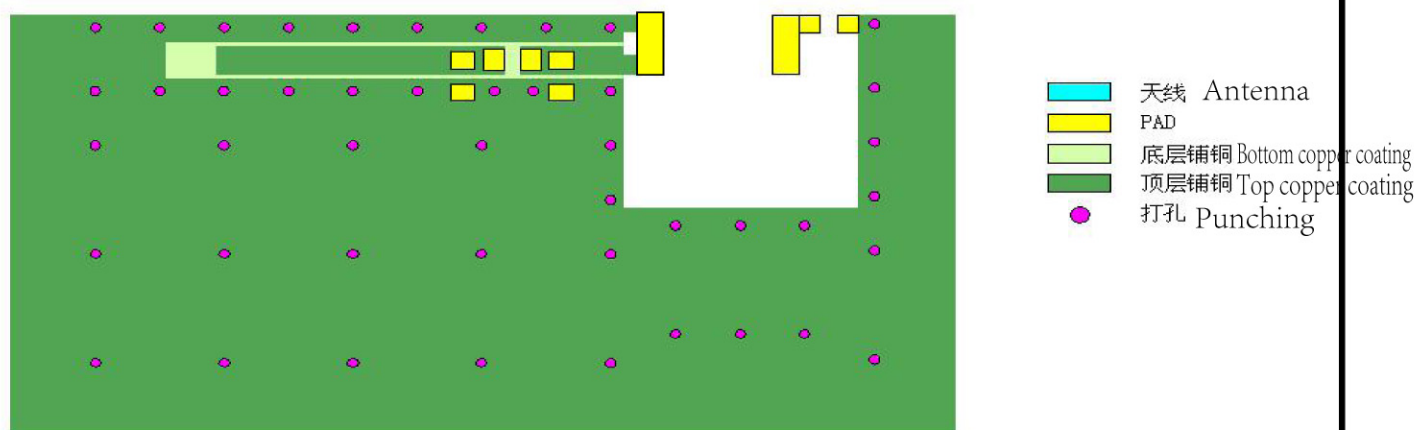
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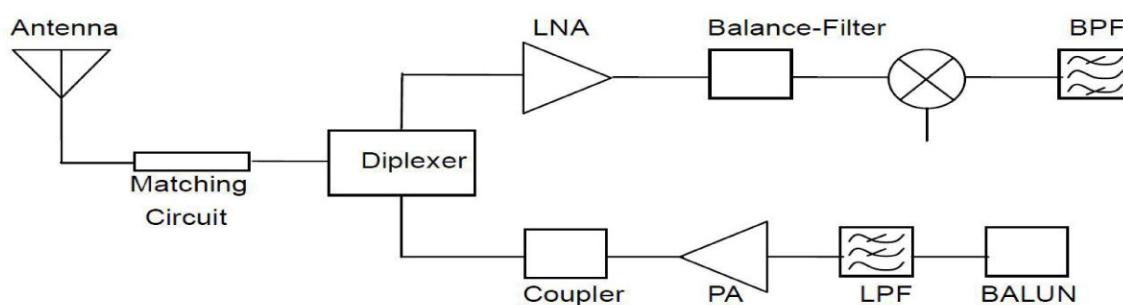
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打孔参考示意图 Punching diagram



## APPLICATION GUIDE



## 5. SPECIFICATIONS:

Item of test	Specifications
Bandwidth	2400-2483 MHz
Mode of polarization	Linear polarization
*Maximum gain	1.5dBi
* Efficiency	72.30%
Input impedance	50Ω

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

Matching circuit: Pi matching circuit will be required

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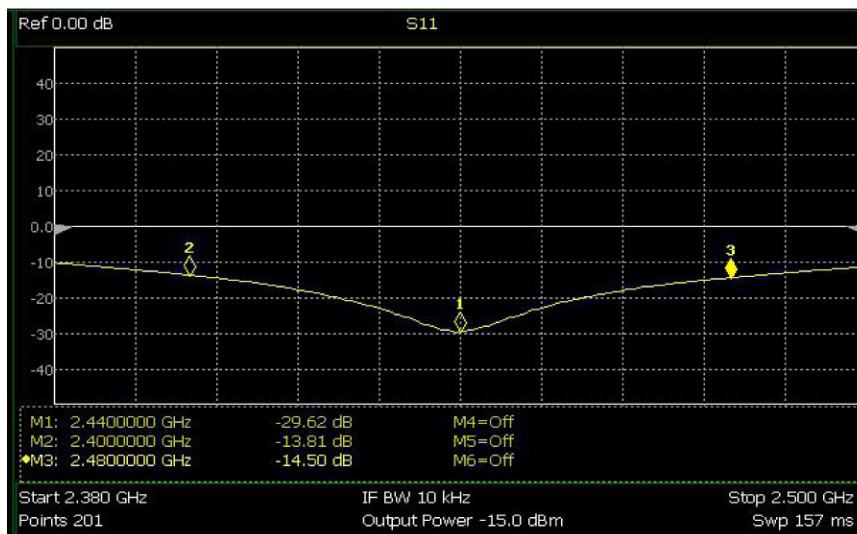
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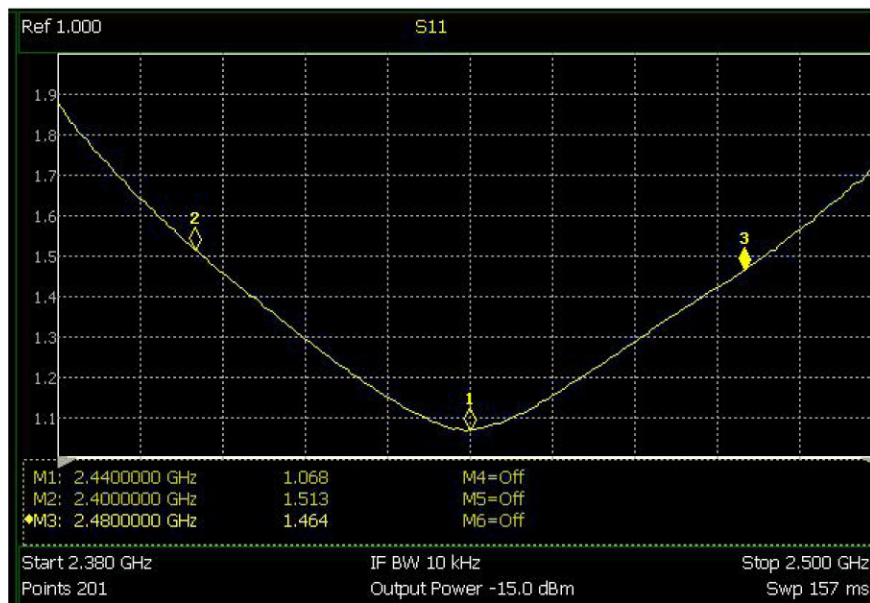
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## 6. Electrical Characteristics :

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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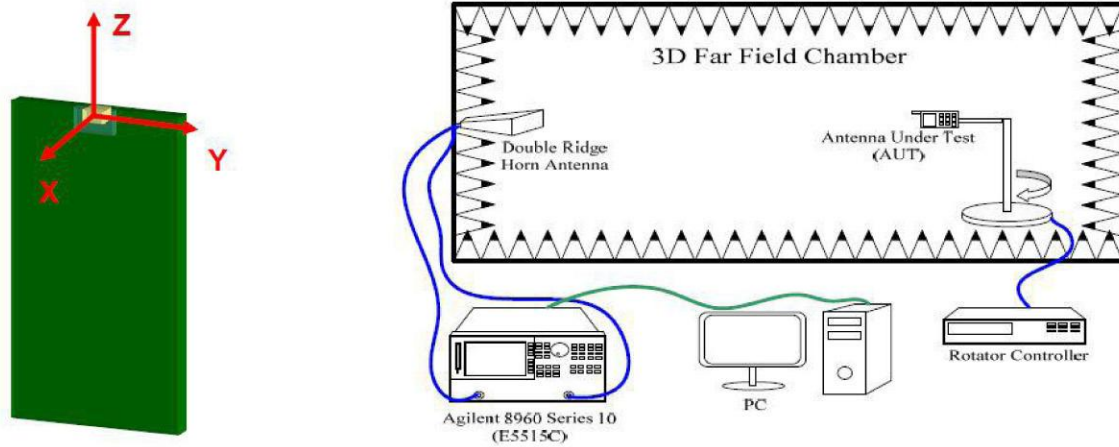
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## Radiation Pattern

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.



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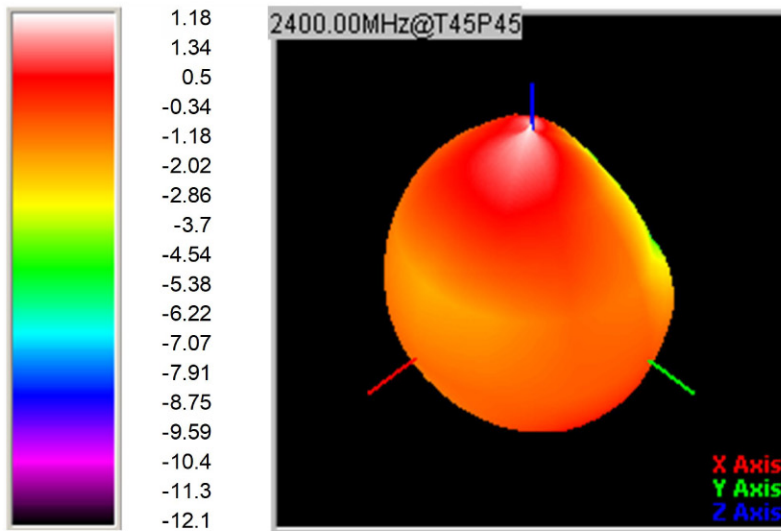
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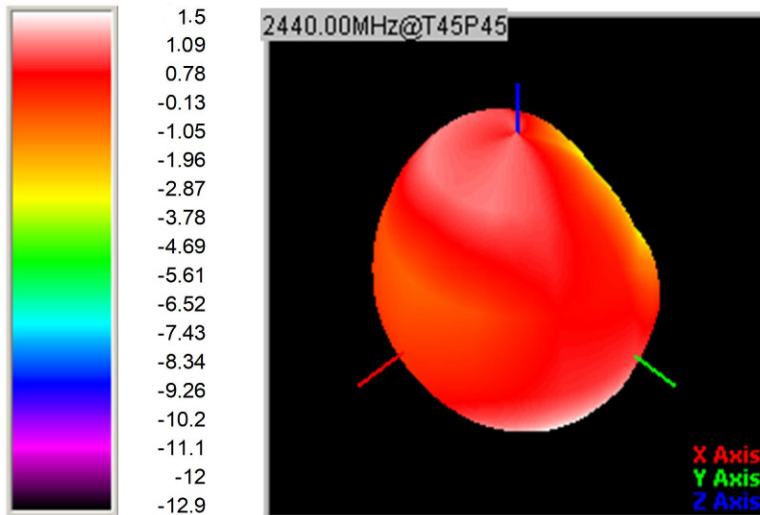
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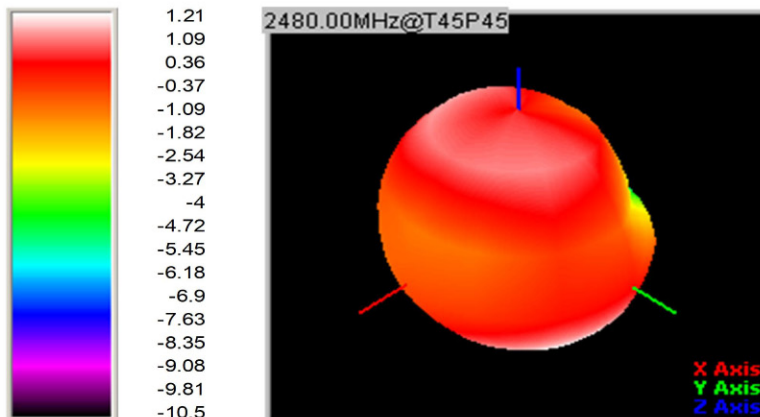
## © 3D Gain Pattern (2400 MHz)



## © 3D Gain Pattern (2440 MHz)



## © 3D Gain Pattern (2480 MHz)



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## 7. Environmental Characteristics

### (1) Reliability Test

Item	Condition	Specification
Thermal shock	1. $30\pm 3$ minutes at $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ , 2. Convert to $+105^{\circ}\text{C}$ (5 minutes) 3. $30\pm 3$ minutes at $+105^{\circ}\text{C}\pm 5^{\circ}\text{C}$ , 4. Convert to $-40^{\circ}\text{C}$ (5 minutes) 5. Total 100 continuous cycles	No apparent damage Fulfill the electrical spec. after test.
Humidity resistance	1. Humidity: 85% R.H. 2. Temperature: $85\pm 5^{\circ}\text{C}$ 3. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	1. Temperature: $150^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Low temperature resistance	1. Temperature: $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	1. Solder bath temperature : $260\pm 5^{\circ}\text{C}$ 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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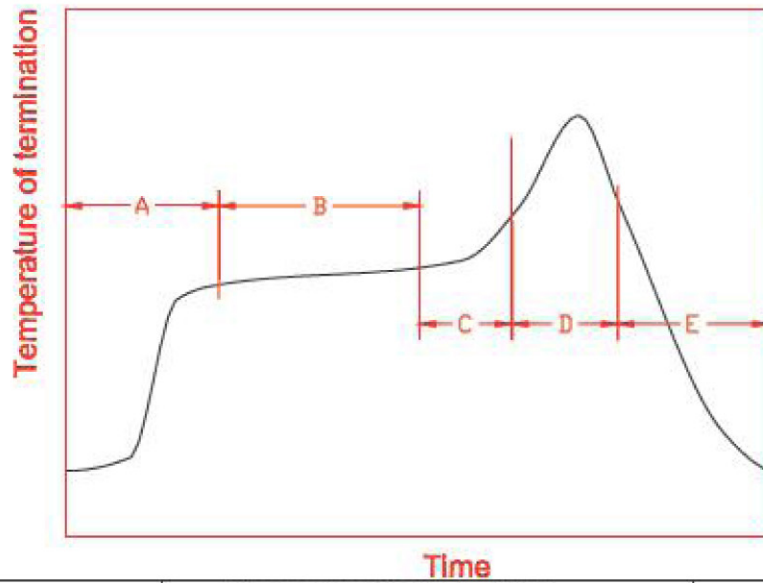
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## 8. Recommended Reflow Soldering



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

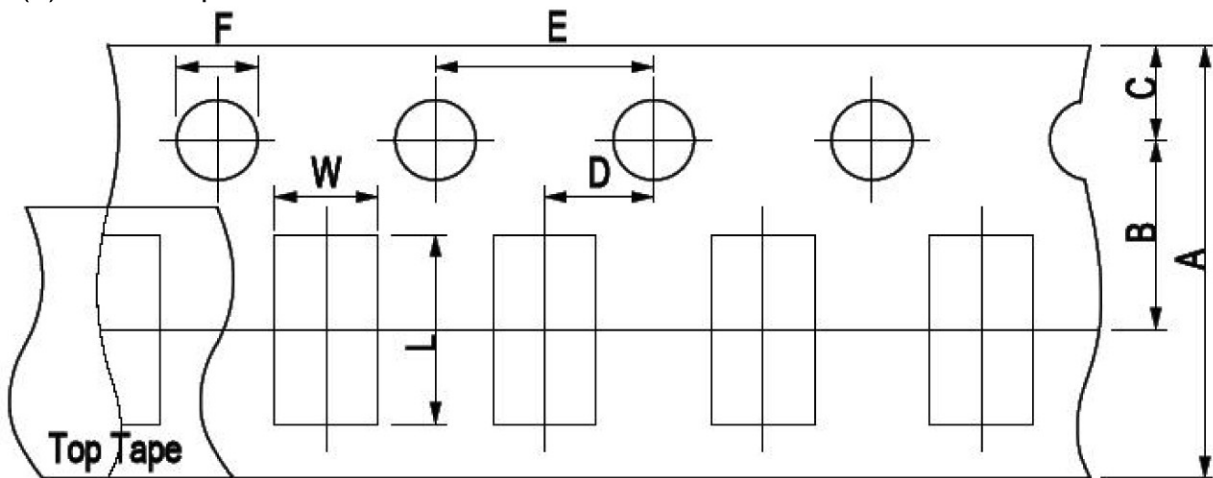
Note that excess of soldering volume will easily get crack the body of this product.

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

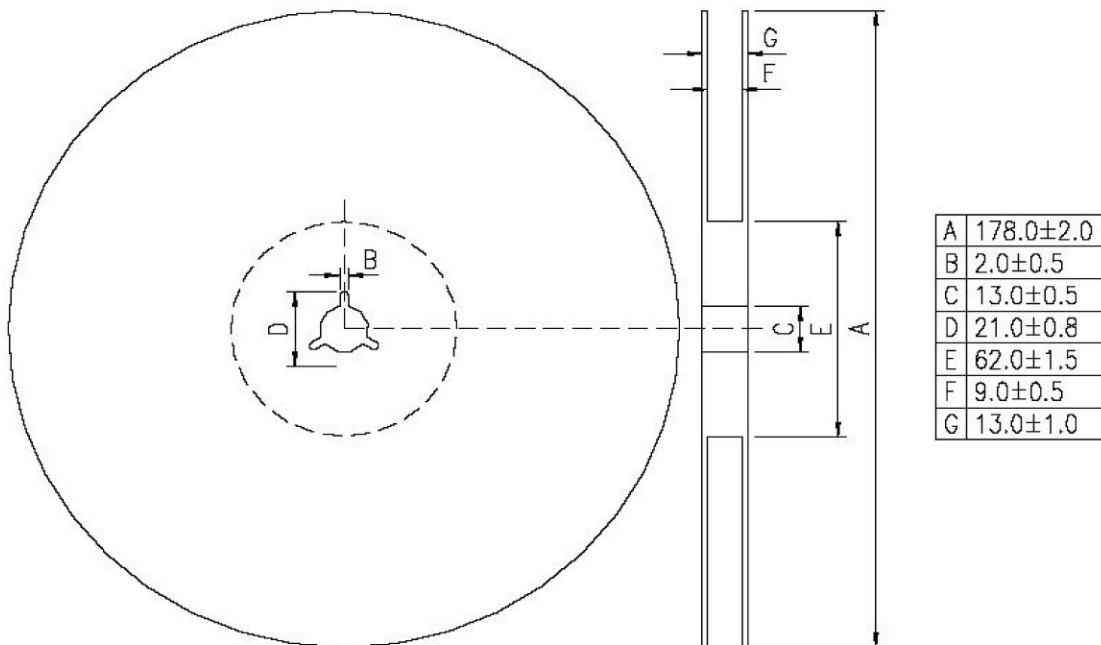
(1) Quantity/Reel: 5000pcs/Reel

(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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