

# 产品规格承认书

## SPECIFICATIONS

客户:

CUSTOMER:

产品名称:

DESCRIPTION: 蓝牙天线Bluetooth antenna

客户型号:

CUSTOMER PART No:

产品型号:

OUR MODEL NO: PBX3216MP01

日期:

DATE: 2020/12/22

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

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DESIGNED BY: Sera	APPROVED BY: XD		
TITLE: CHIP2450-3216 Specification		DOCUMENT NO.	3216
		SPEC REV.	P1

# PBX3216MP01 Specification

Operating Temp. : -40°C~+85°C

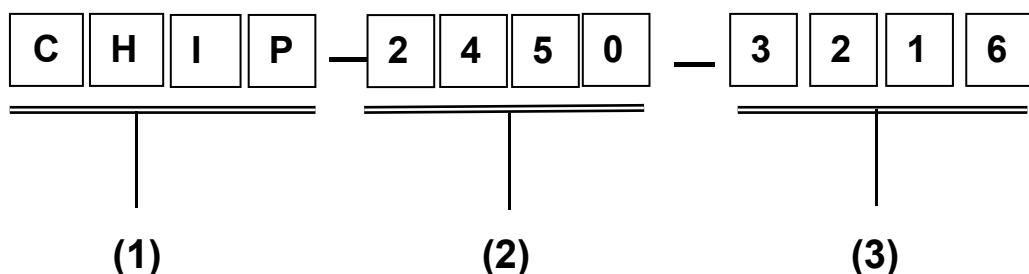
## 1. FEATURES:

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

## 2. APPLICATIONS:

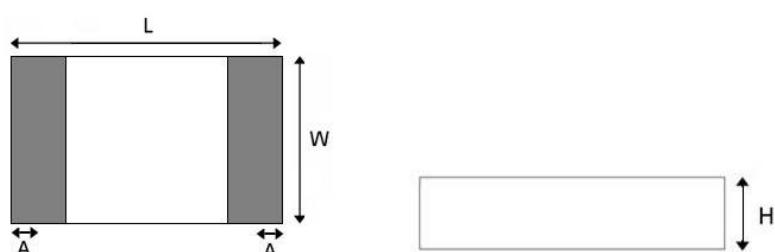
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

## 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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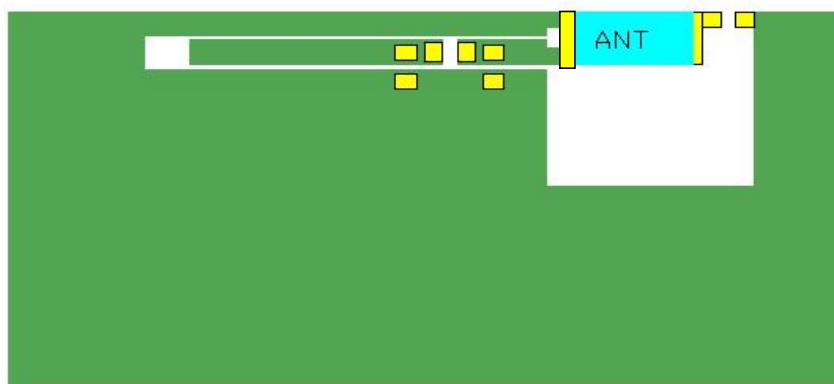
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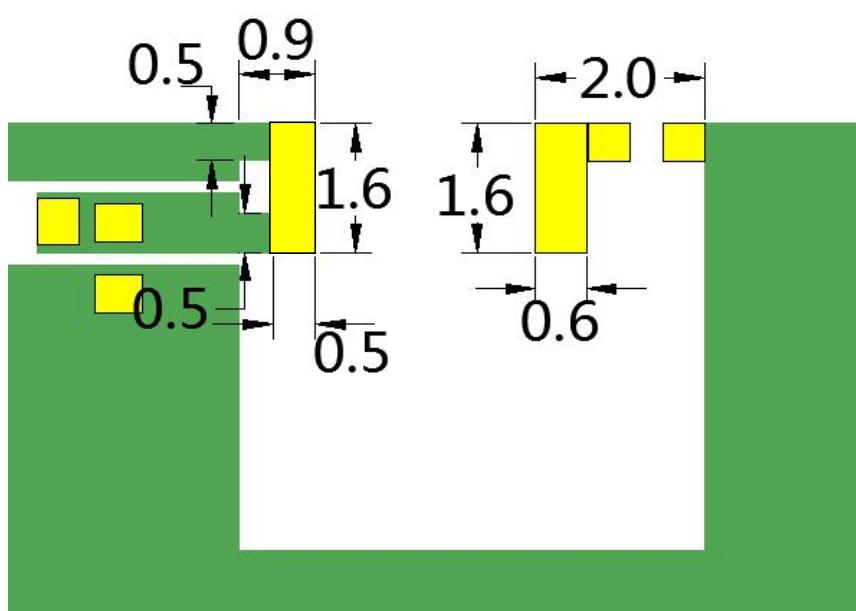
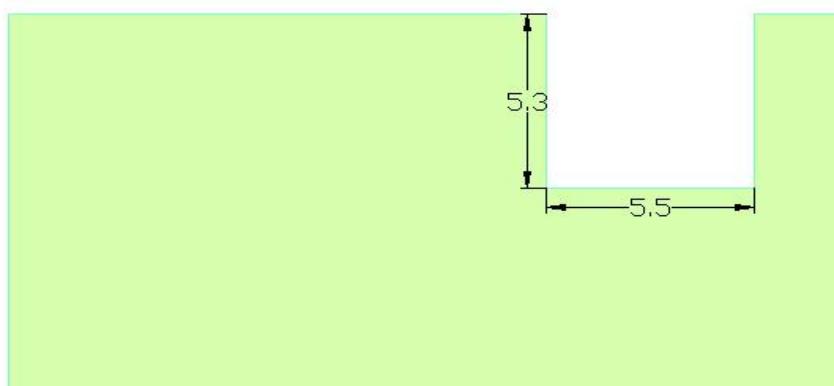
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测试板参考尺寸：  
Test version reference size

Size: mm



天线 antenna  
PAD  
底层铺铜 Bottom layer covered with copper  
顶层铺铜 Top layer copper laying



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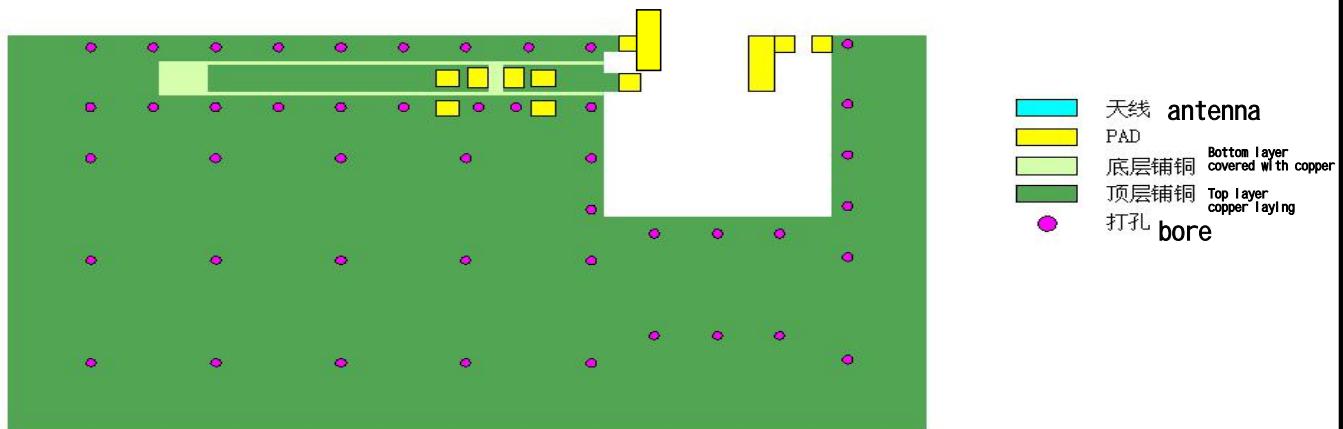
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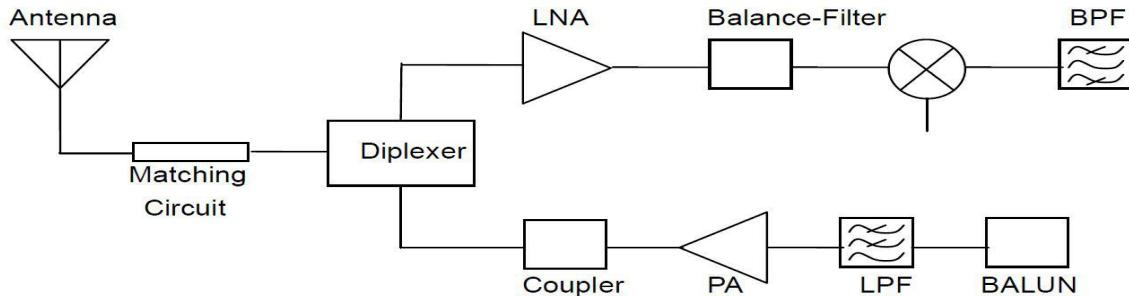
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打孔参考示意图  
Punching reference diagram



APPLICATION GUIDE



5. SPECIFICATIONS:

Test item	Specification
bandwidth	2400~2483MHz
Polarization method	Line polarization
Maximum gain	2.64 dBi
efficiency	72. 30%
Input impedance	50 Ω

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

Matching circuit: Pi matching circuit will be required

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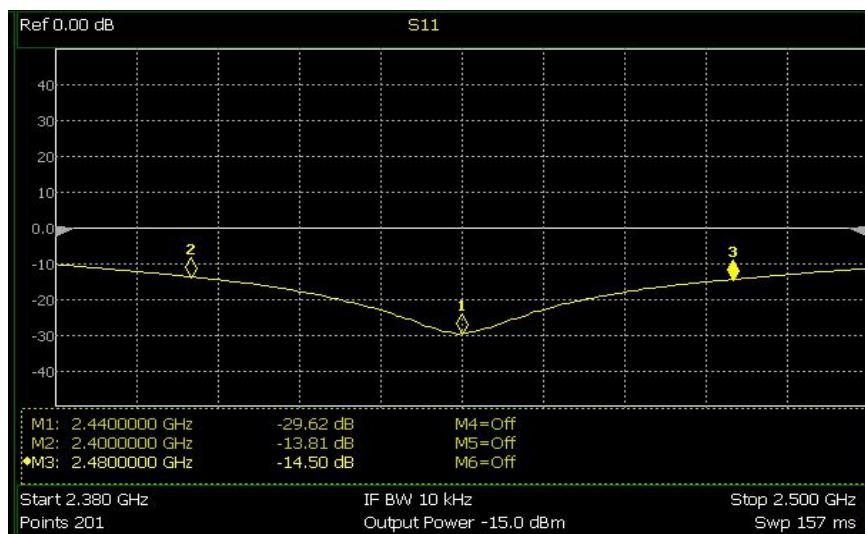
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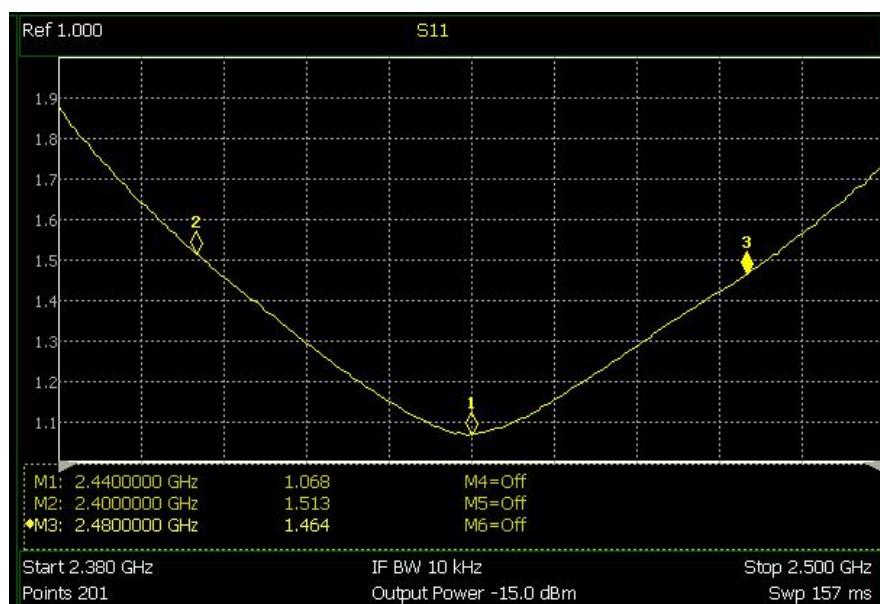
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## 6. Electrical Characteristics :

### 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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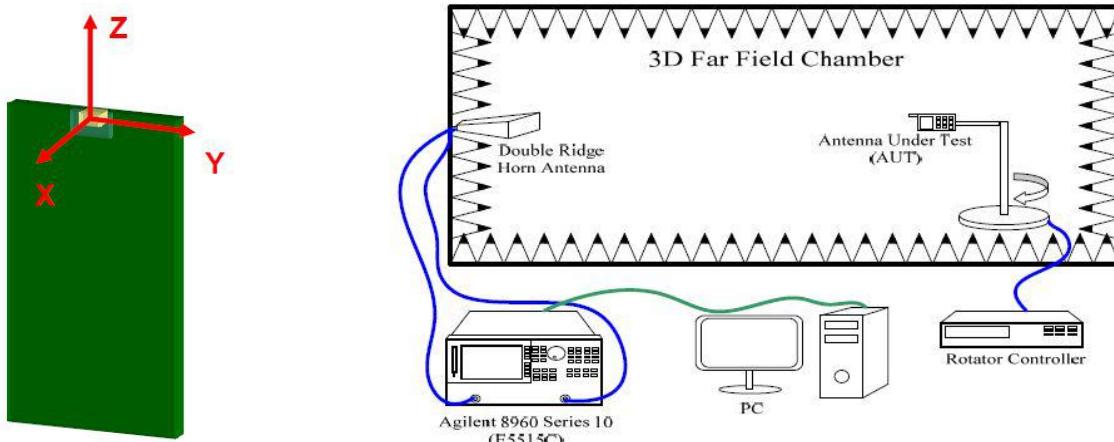
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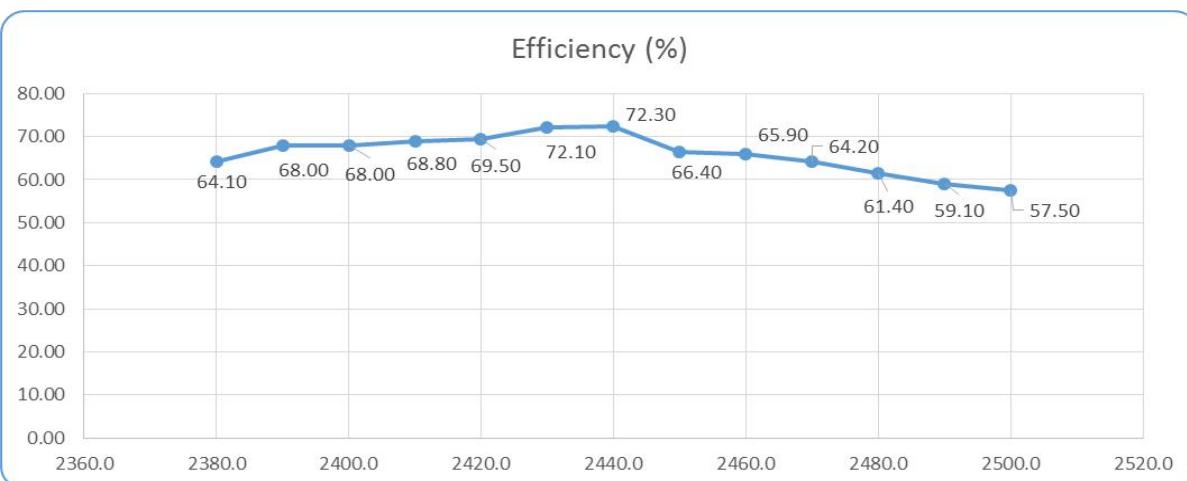
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## Radiation Pattern

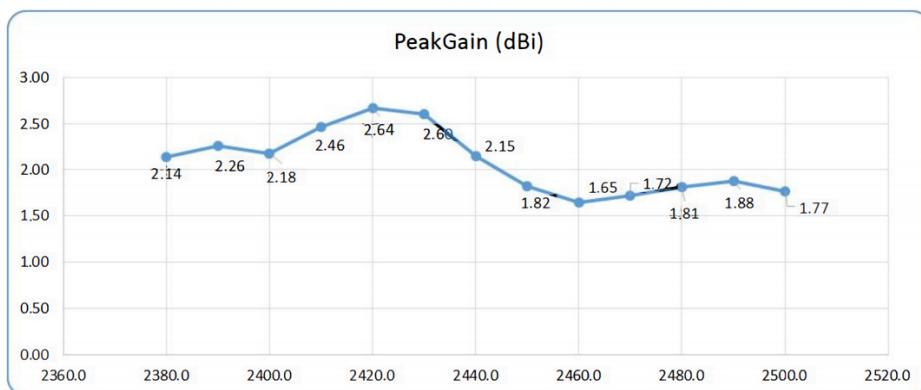
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



◎ 效率  
efficiency



最大增益  
Maximum gain



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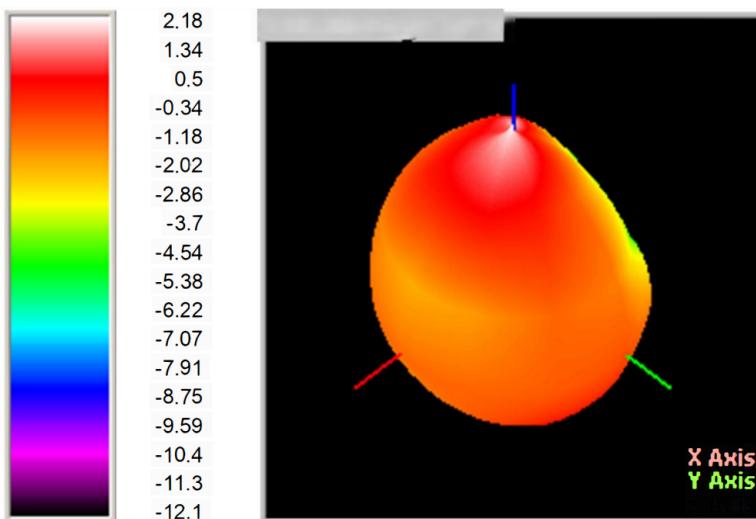
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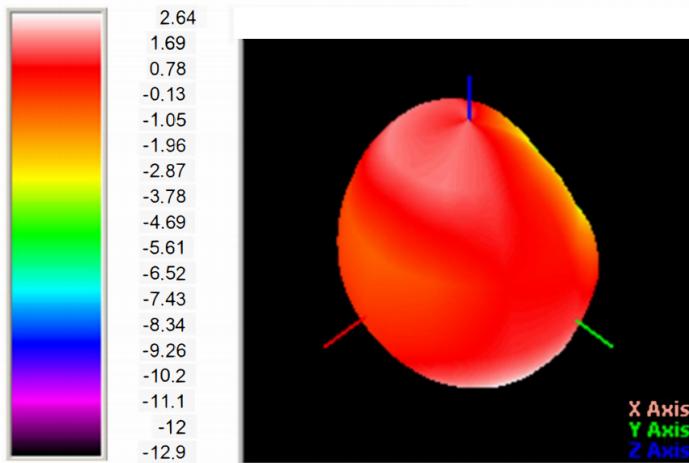
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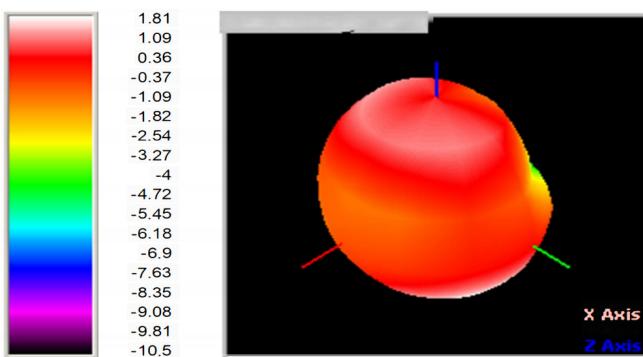
◎ 3D Gain Pattern (2400 MHz)



◎ 3D Gain Pattern (2420 MHz)



◎ 3D Gain Pattern (2480 MHz)



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## 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 Fulfill the electrical spec. after test.
Humidity resistance	1. Humidity: 85% R.H. 2. Temperature: 85±5° C 3. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	1. Temperature: 150° C±5° C 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Low temperature resistance	1. Temperature: -40° C±5° C 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	1. Solder bath temperature : 260±5°C 2. Bathing time: 10±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±5°C for 3±1 seconds.	No apparent damage

### (2) Storage Condition

#### (a) At warehouse:

The temperature should be within 0 ~ 30°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:

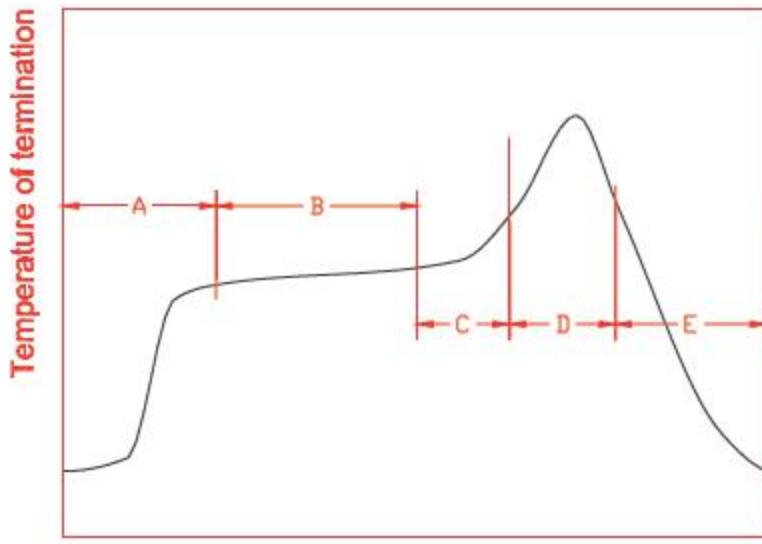
The temperature should be within -40~85°C and humidity should be less than 85% RH.

### (3) Operating Temperature Range

Operating temperature range : -40°C to +105°C.

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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.

- (a) The tip temperature must be less than 350° 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

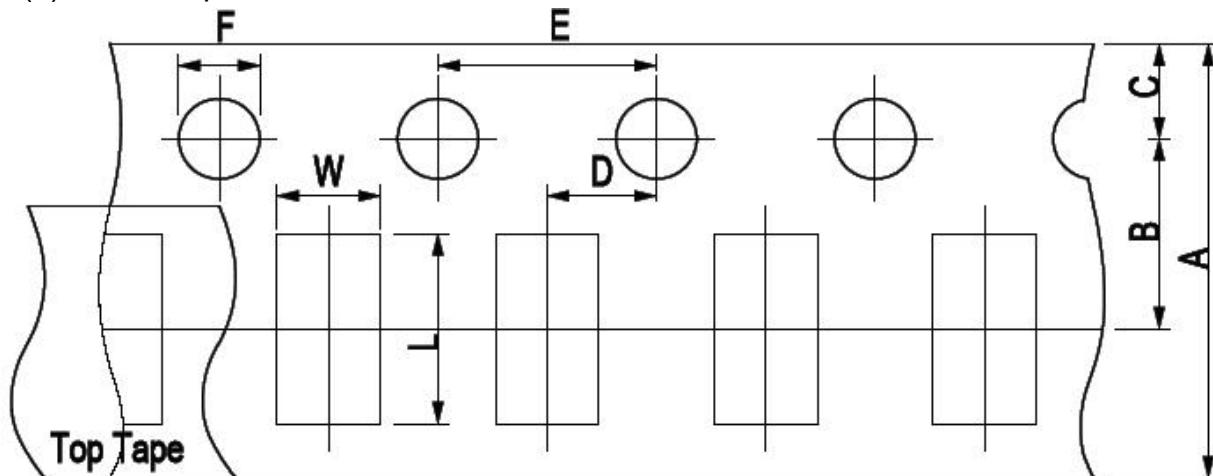
Note that excess of soldering volume will easily get crack the body of this product.

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

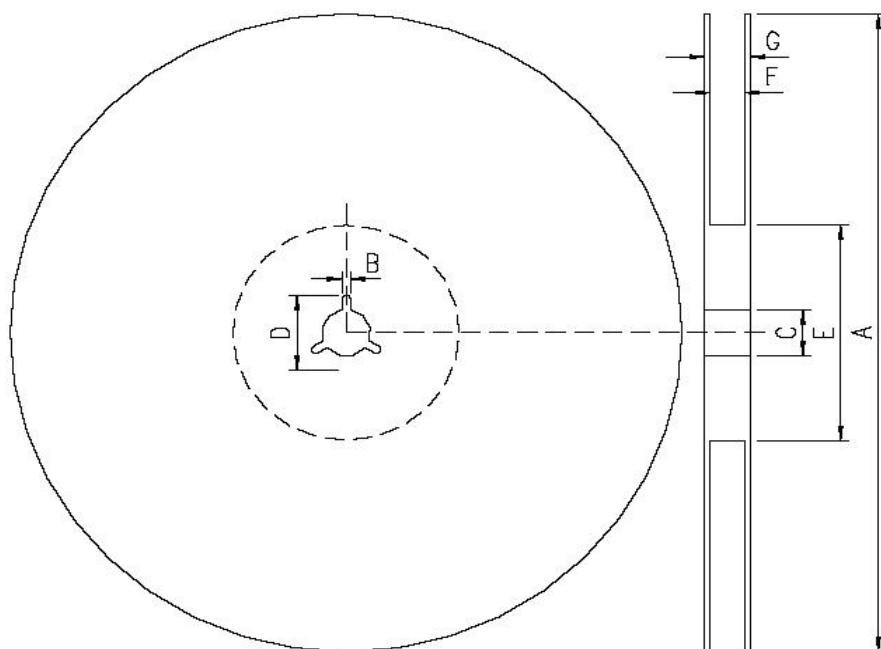
(1) Quantity/Reel: 5000pcs/Reel

(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



A	$178.0 \pm 2.0$
B	$2.0 \pm 0.5$
C	$13.0 \pm 0.5$
D	$21.0 \pm 0.8$
E	$62.0 \pm 1.5$
F	$9.0 \pm 0.5$
G	$13.0 \pm 1.0$

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