

# Confirmation of product specifications

## SPECIFICATIONS

**CUSTOMER:**

**customer:** \_\_\_\_\_

**Product name:**

**DESCRIPTION:** **Bluetooth antenna**

**Customer model:** \_\_\_\_\_

**CUSTOMER PART No:**

**Product model:** \_\_\_\_\_

**OUR MODEL NO:** PBX3216MP01


**Date:** \_\_\_\_\_

**DATE:** 2020/12/22

**Please confirm your signature and seal, and return a copy of the acknowledgement.  
PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR  
APPROVAL" WITH YOUR APPROVED SIGNATURES**

check and ratify		check	Liu Fei	make	Liu Xiaomei
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Customer acknowledges signing.	
date	

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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

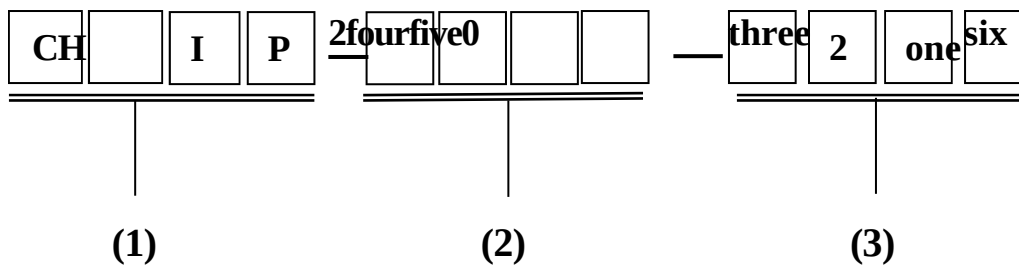
## 1. FEATURES:

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

## 2. APPLICATIONS:

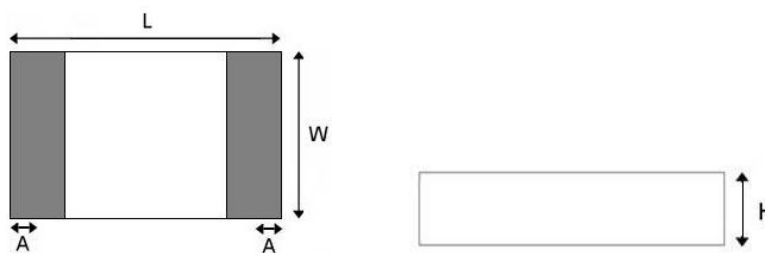
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

## 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:

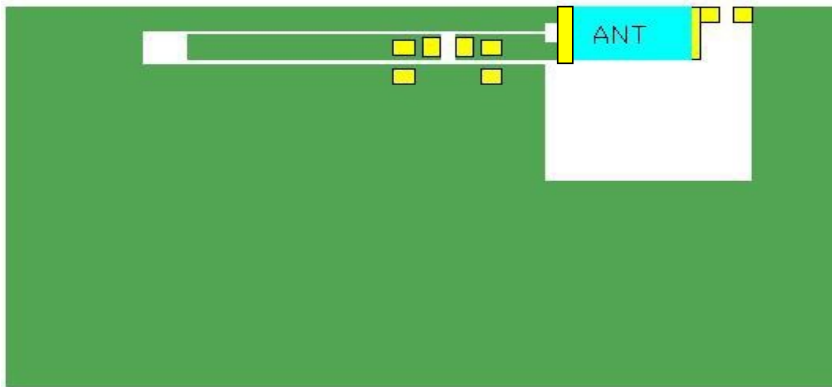


L	W	H	A
3.2±0.2	1.6±0.2	0.52±0.1	0.4±0.1

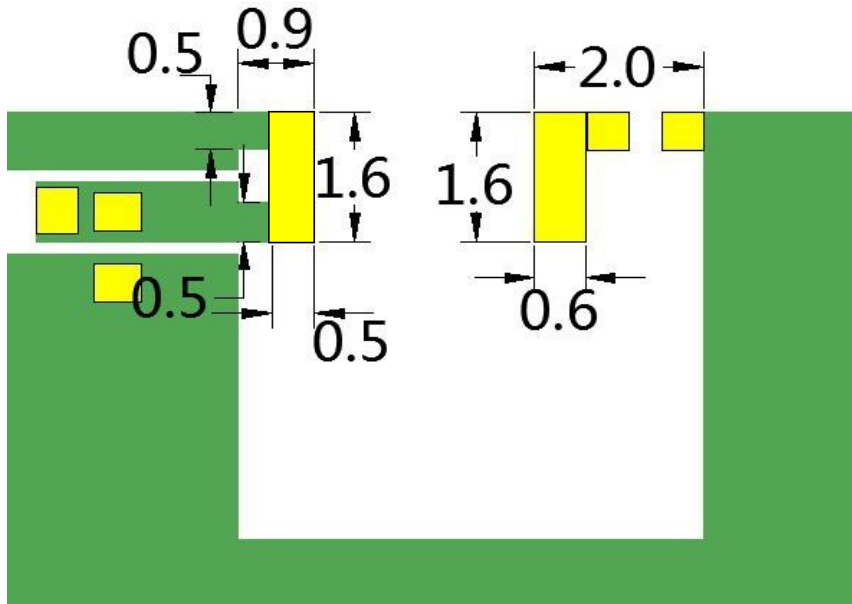
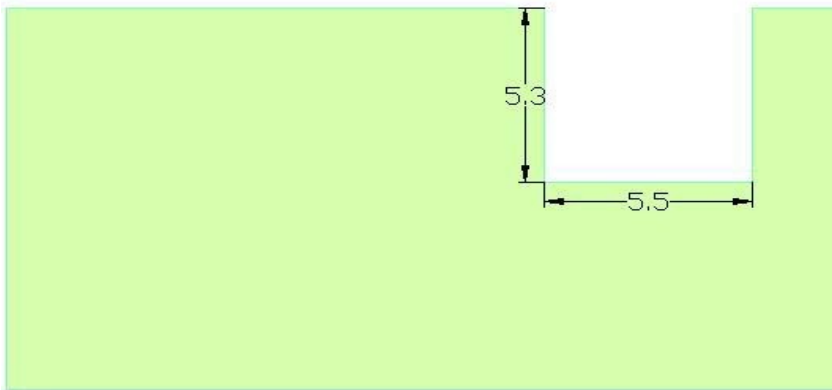
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Reference size of test board:

Unit: mm

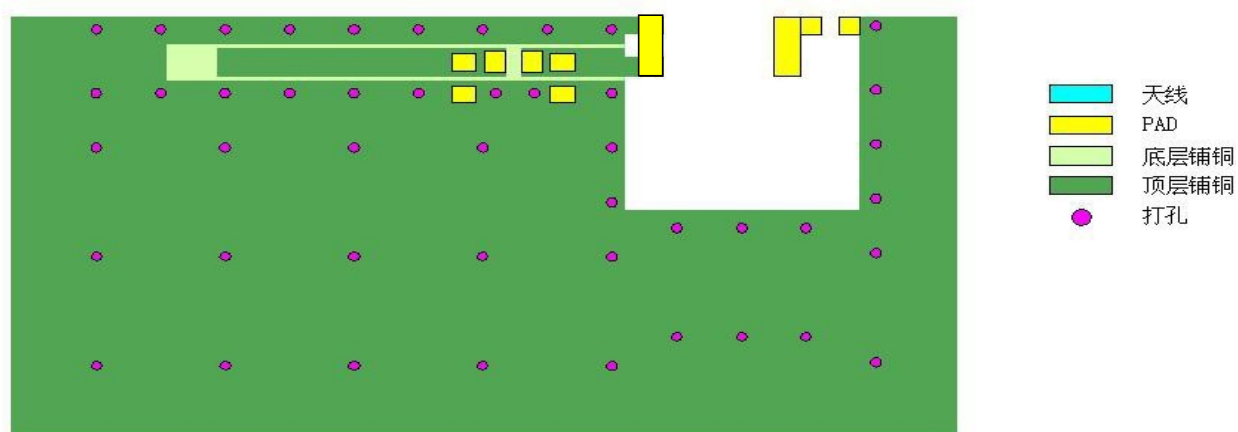


- 天线
- PAD
- 底层铺铜
- 顶层铺铜

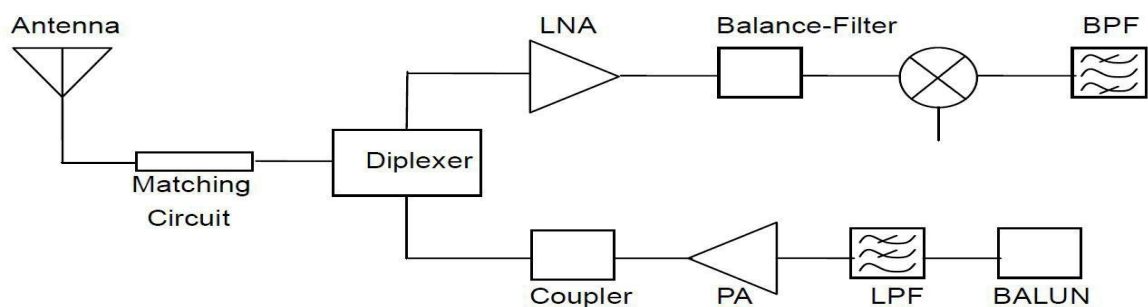


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## Punching reference diagram



## 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

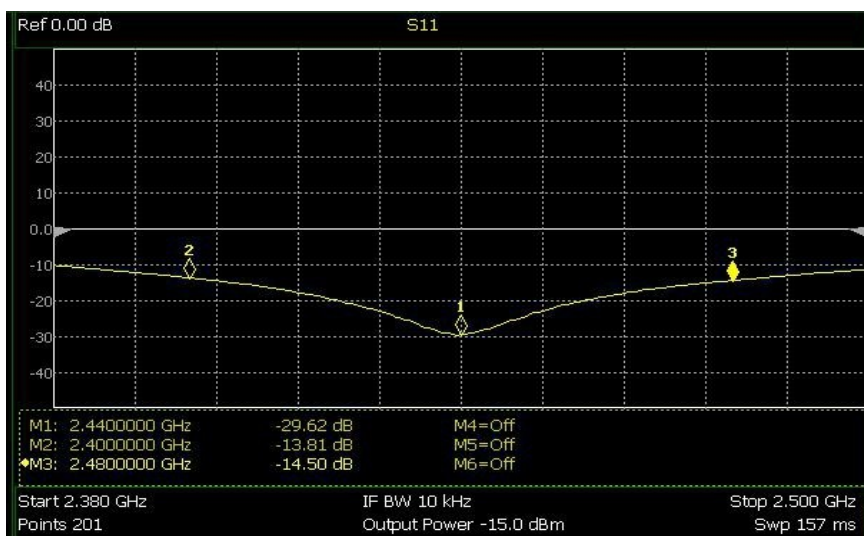
\* Test condition: Test board size 90\*40 mm

Matching circuit: Pi matching circuit will be required

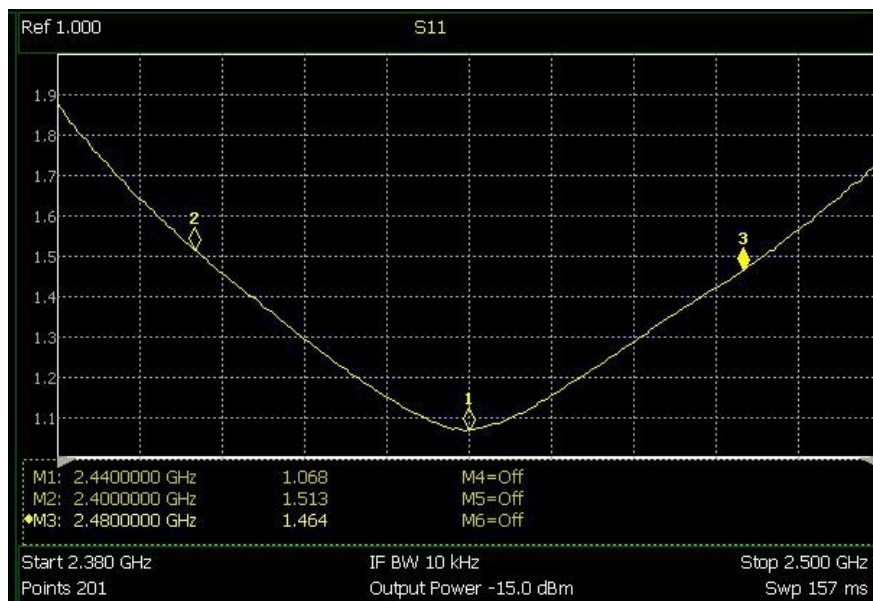
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## 6. Electrical Characteristics :


### return loss



### standing-wave ratio

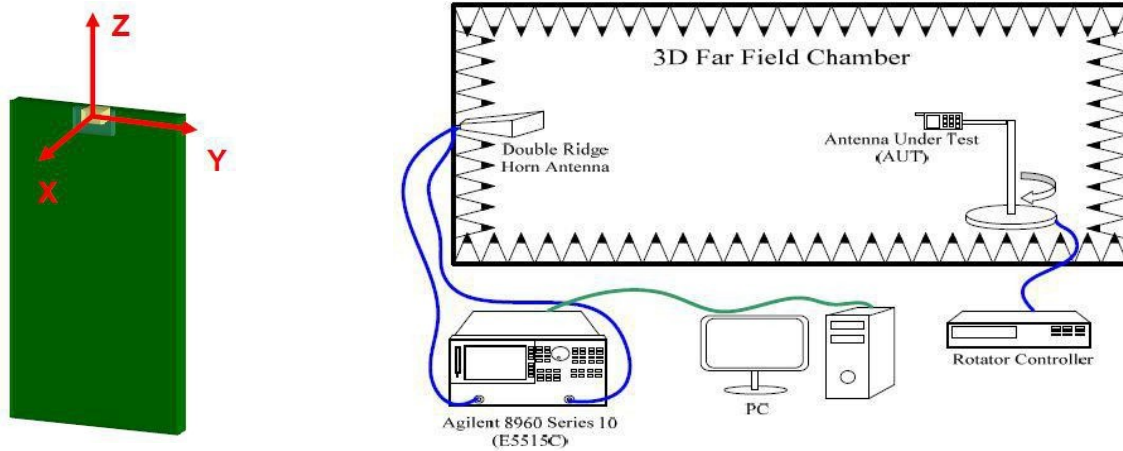


Mark	Frequency	VSWR
one	2400 MHz	1.513
2	2440 MHz	1.068
three	2480 MHz	1.464

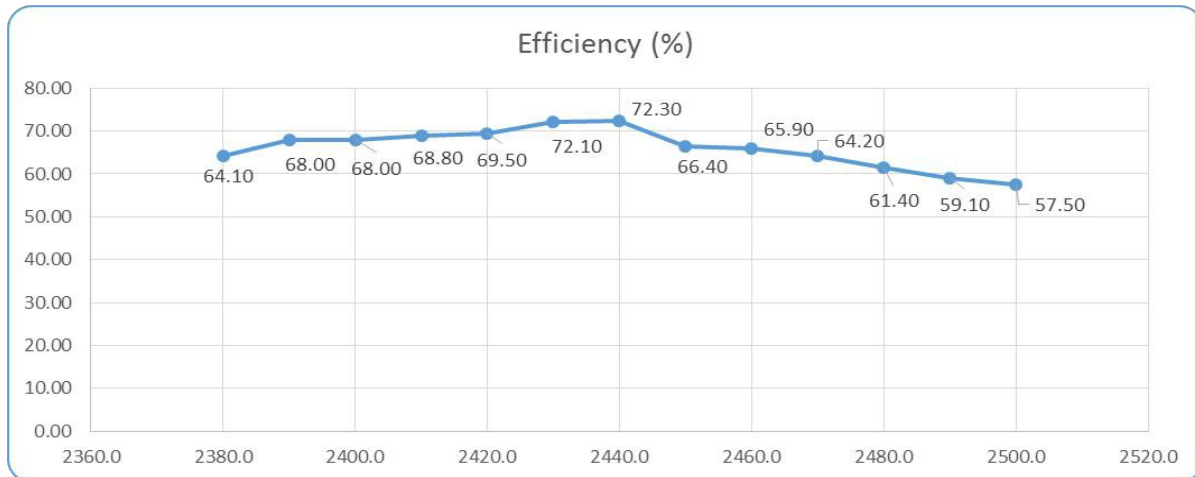
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## Radiation Pattern

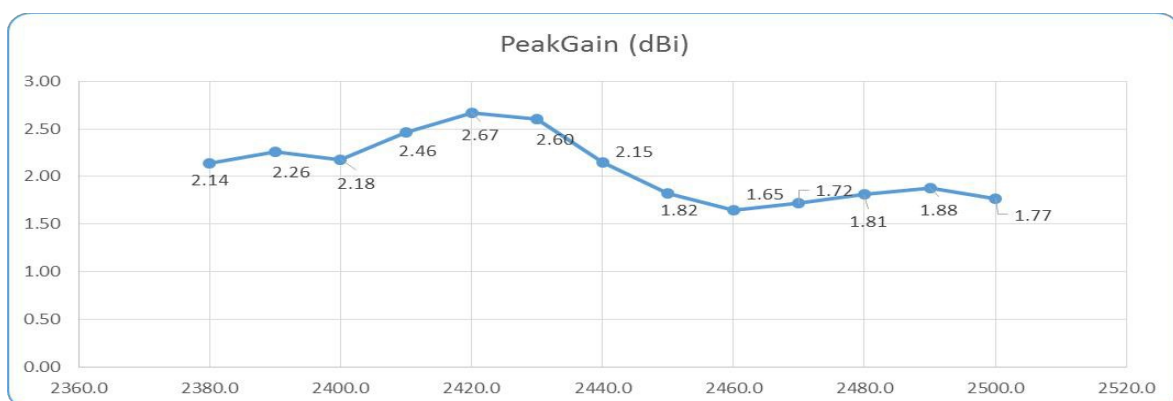
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.




## Efficiency

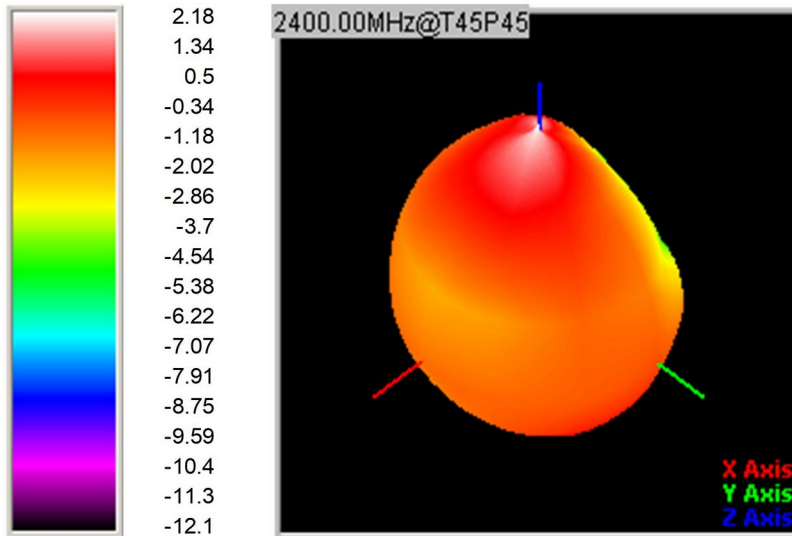


## Maximum gain

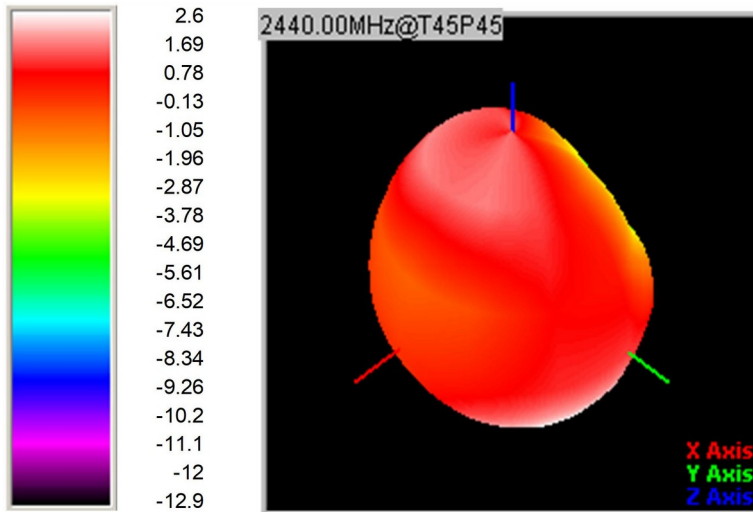


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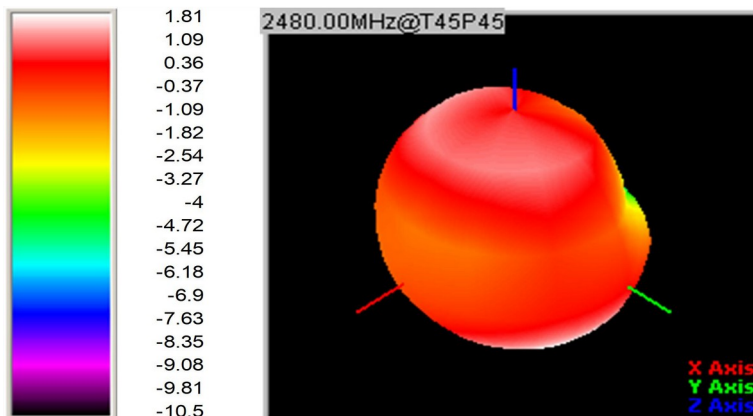
© 3D Gain Pattern (2400 MHz)




© 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.

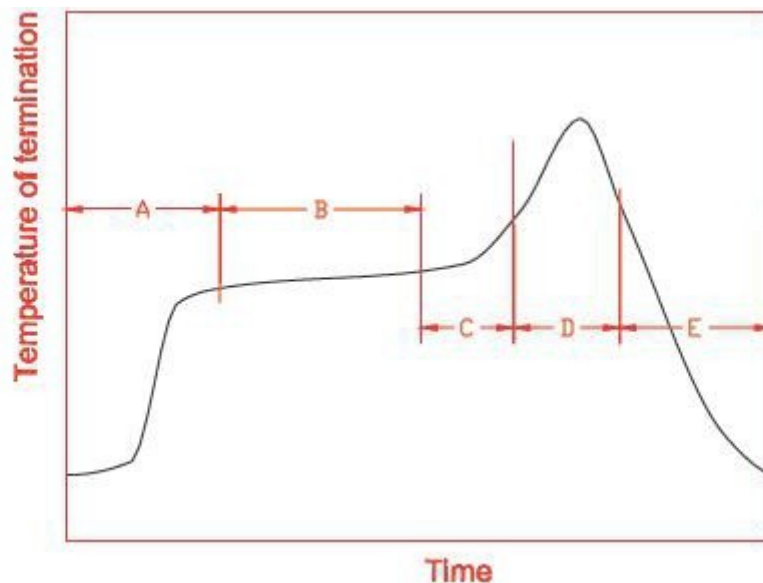
### (3) Operating Temperature Range

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

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## 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

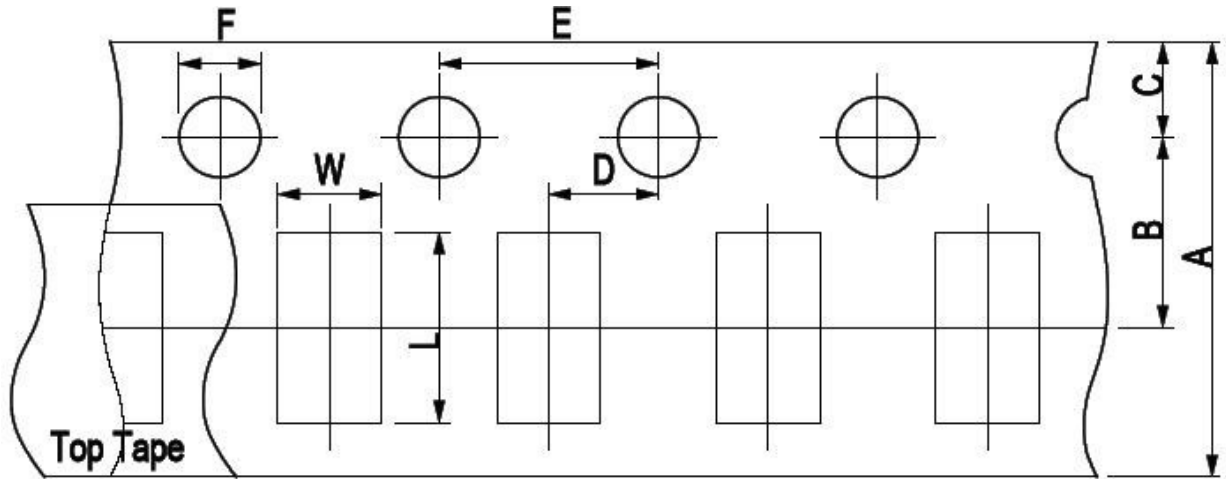
Note that excess of soldering volume will easily get crack the body of this product.

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

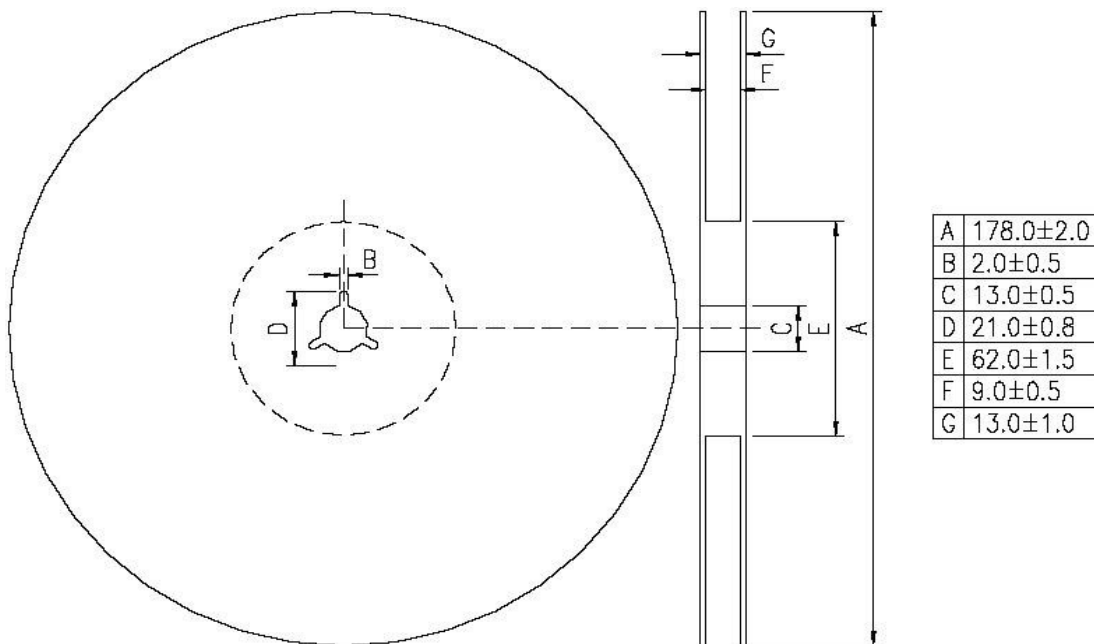
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions




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

(3) Taping reel dimensions



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

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