

# 产品规格承认书

## SPECIFICATIONS

客户:

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

产品名称:

DESCRIPTION: \_\_\_\_\_ 双极天线

客户型号:

CUSTOMER PART NO: \_\_\_\_\_

产品型号:

OUR MODEL NO: \_\_\_\_\_ PBX3216MC02

日期:

DATE: \_\_\_\_\_ 2020/12/22

# PBX3216MC02 Specification

Operating Temp. : -40℃~+85℃

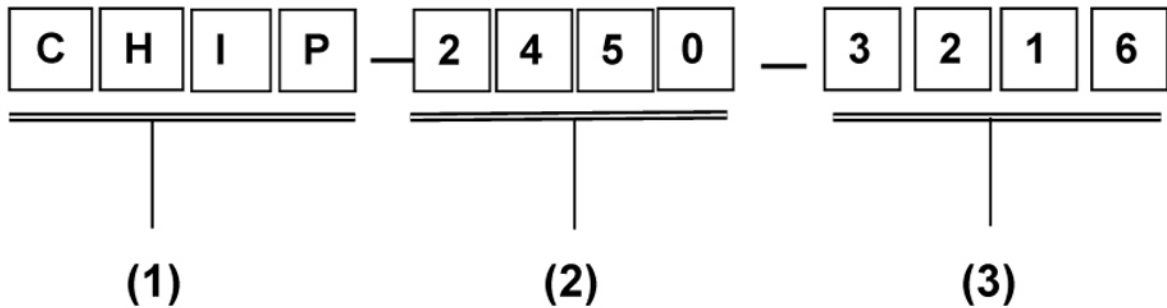
## 1. FEATURES:

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

## 2. APPLICATIONS:

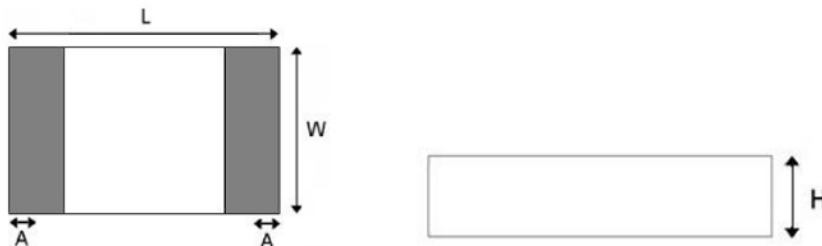
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

## 3. PRODUCT IDENTIFICATION



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

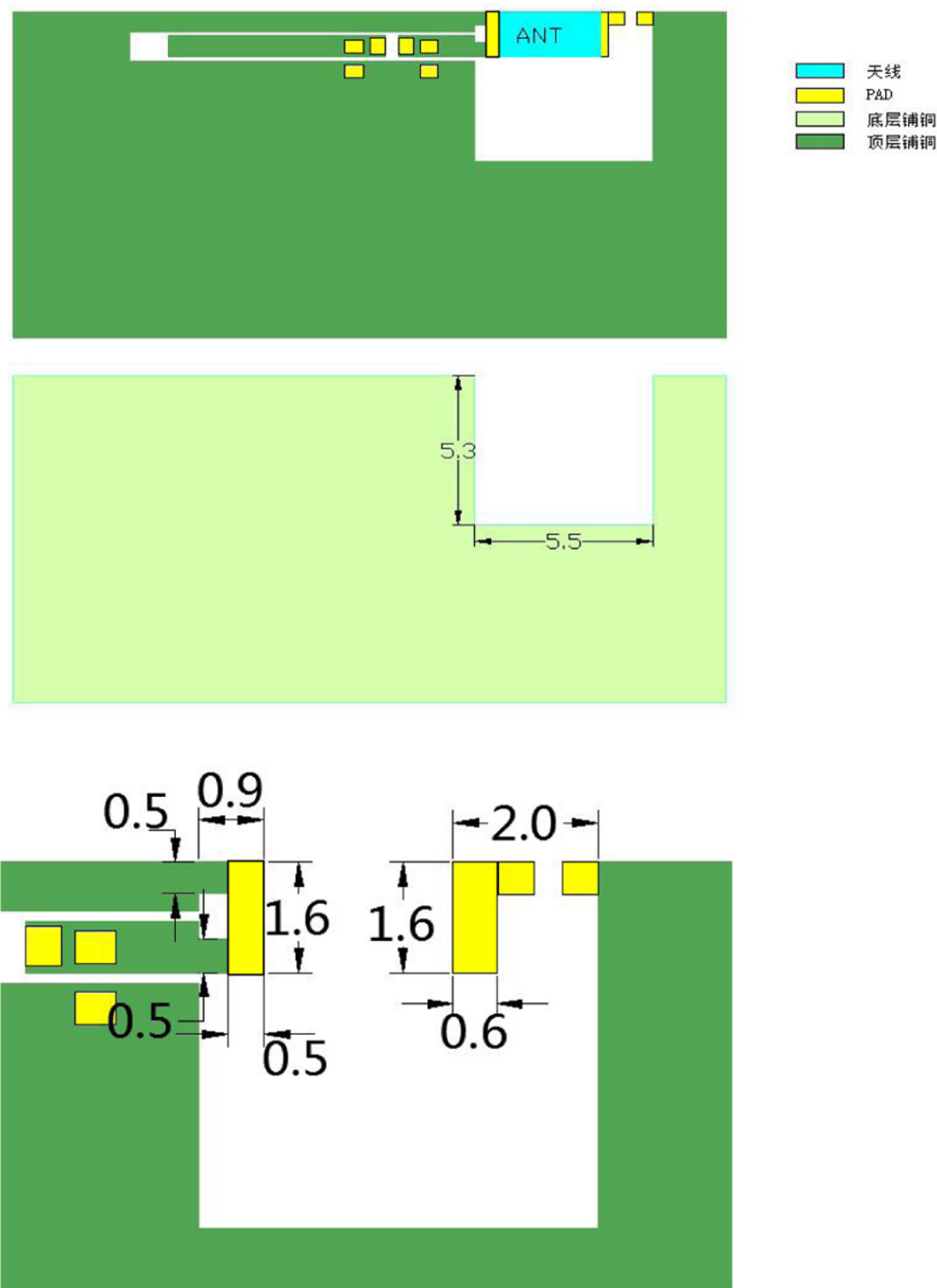
## 4. SHAPE AND DIMENSIONS:



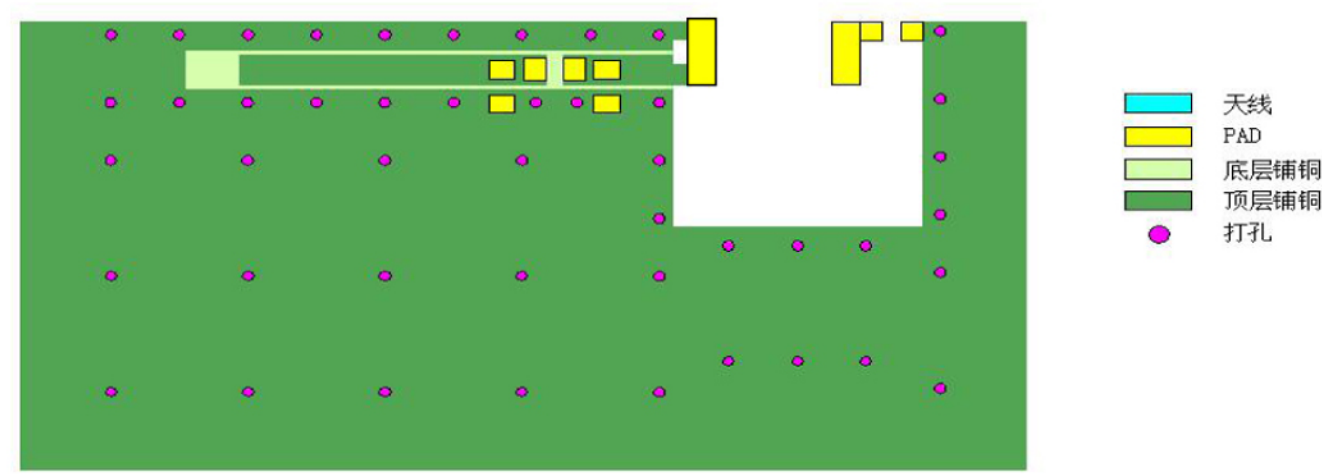
| L       | W       | H        | A       |
|---------|---------|----------|---------|
| 3.2±0.2 | 1.6±0.2 | 0.52±0.1 | 0.4±0.1 |

测试板参考尺寸:

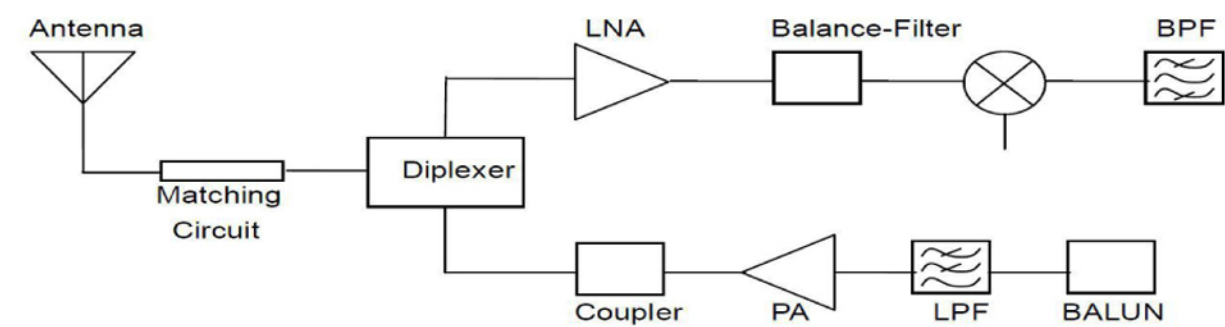
单位: mm



打孔参考示意图



APPLICATION GUIDE



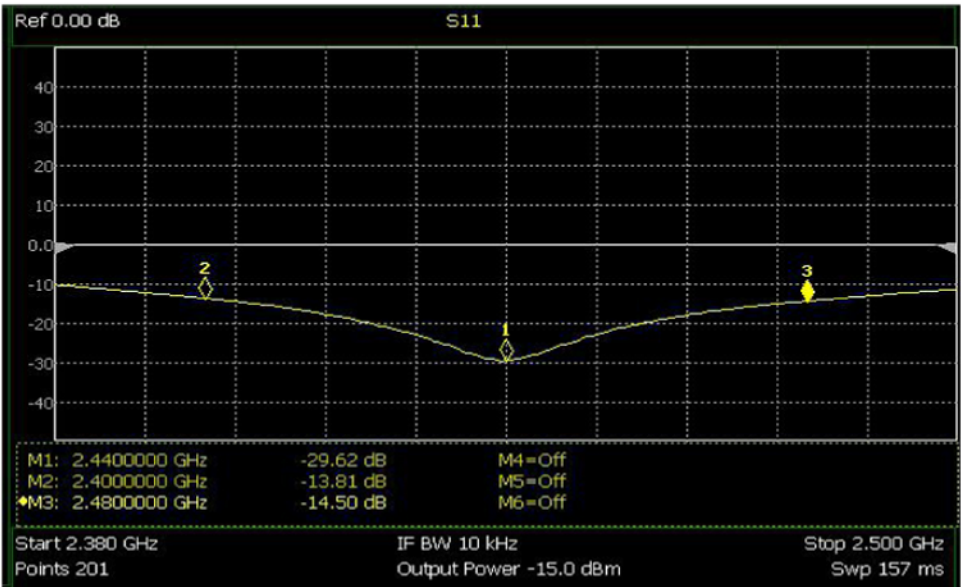
5. SPECIFICATIONS:

| 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  | 50Ω          |

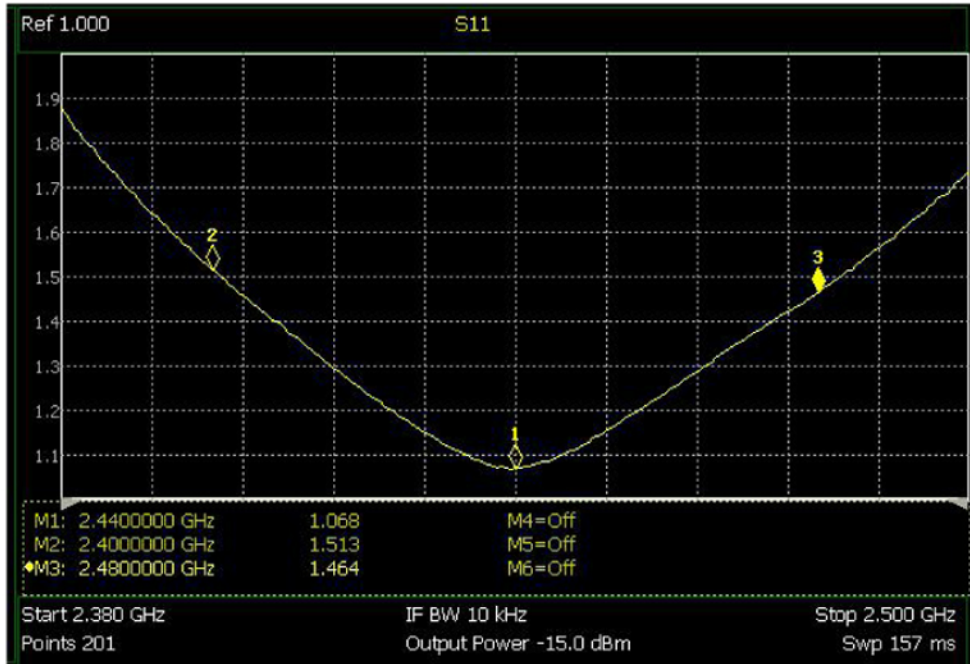
\* Test condition: Test board size 90\*40 mm  
Matching circuit: Pi matching circuit will be required

6. Electrical Characteristics :

回波损耗



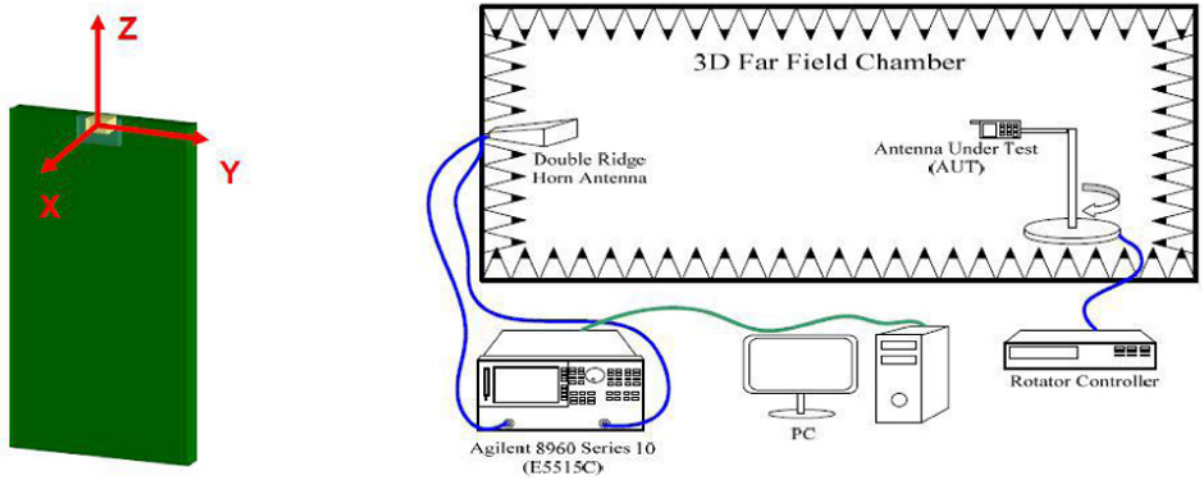
驻波比



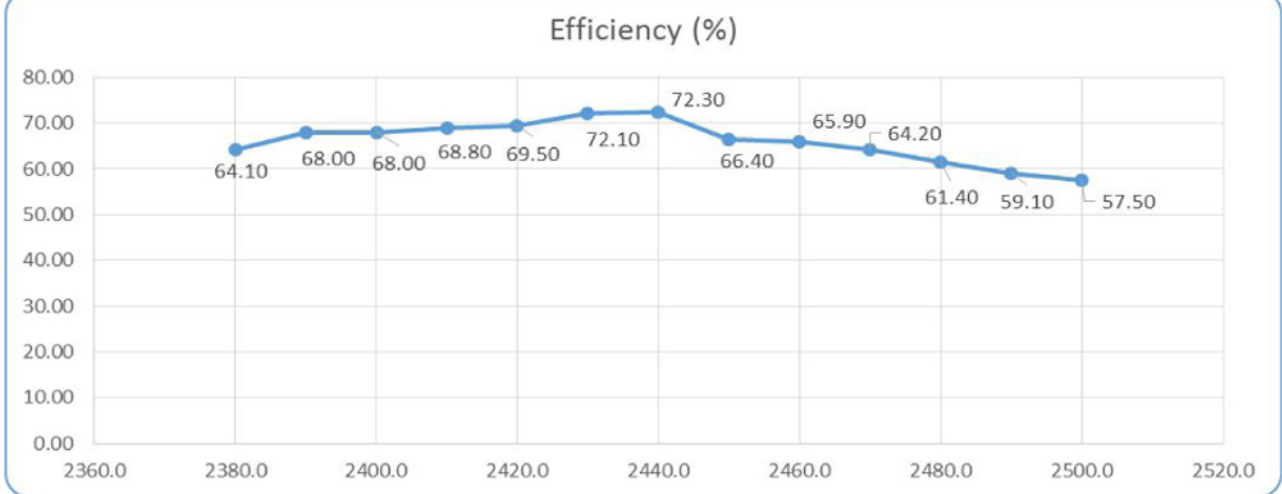
| Mark | Frequency | VSWR  |
|------|-----------|-------|
| 1    | 2400 MHz  | 1.513 |
| 2    | 2440 MHz  | 1.068 |
| 3    | 2480 MHz  | 1.464 |

## Radiation Pattern

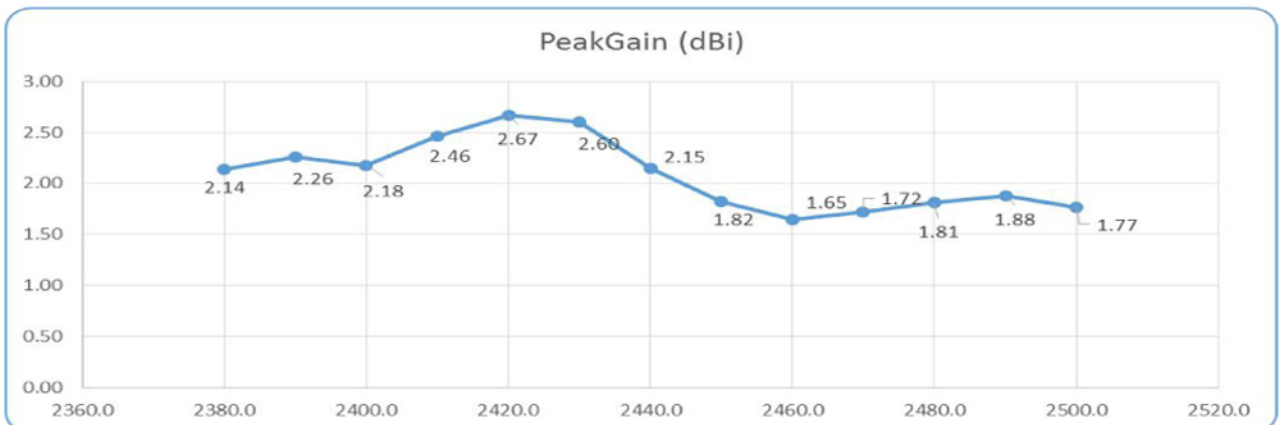
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



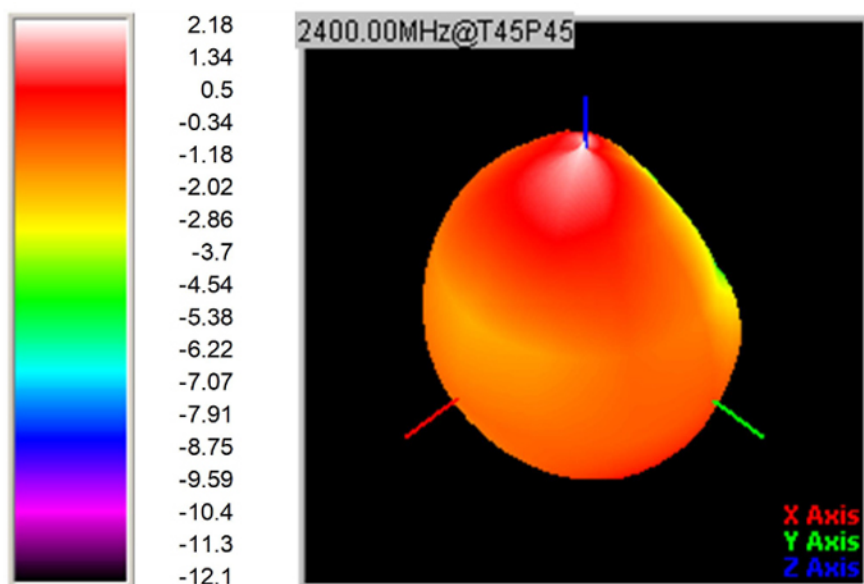
### ◎ 效率



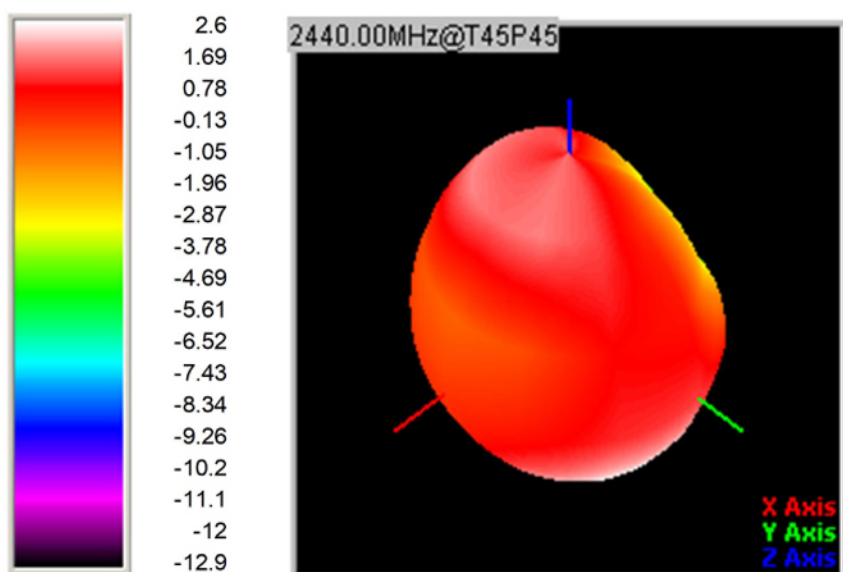
### 最大增益



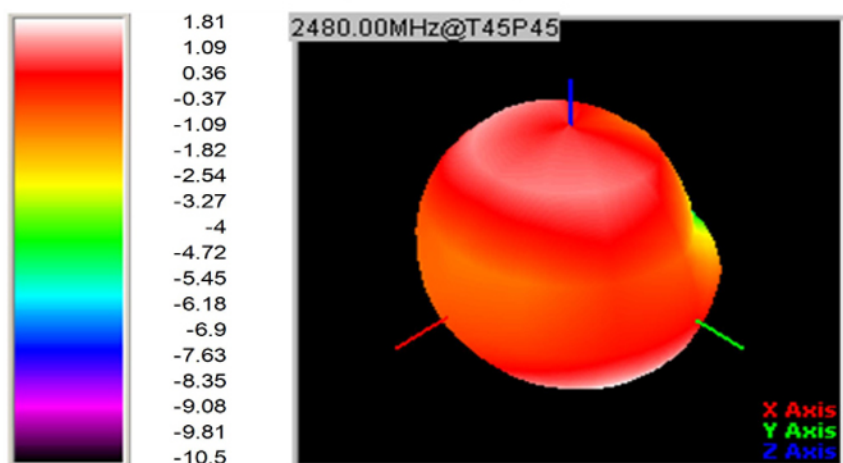
© 3D Gain Pattern (2400 MHz)



© 3D Gain Pattern (2440 MHz)



© 3D Gain Pattern (2480 MHz)



## 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:

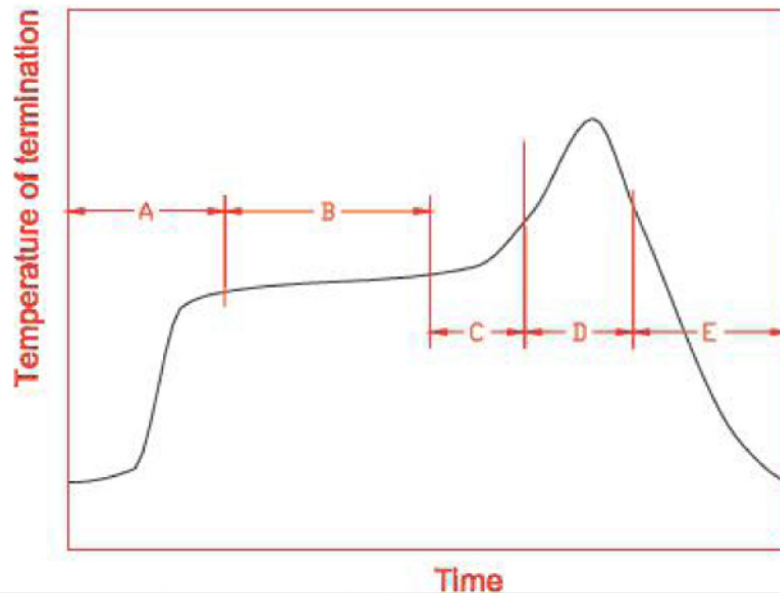
The temperature should be within  $-40 \sim 85^{\circ} \text{C}$  and humidity should be less than 85% RH.

### (3) Operating Temperature Range

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



## 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.

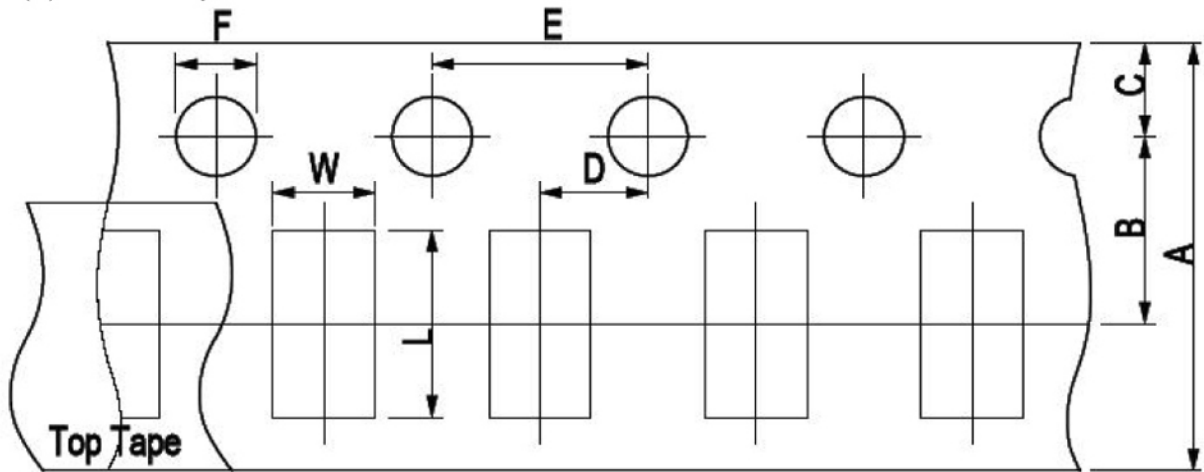
### (2) Soldering Volume

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

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

