

# SPECIFICATIONS

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

DESCRIPTION: Geomagnetic Antenna

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

OUR MODEL NO: **PBX1608MA06**

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

PLEASE RETURN TO US ONE COPY OF “SPECIFICATION FOR APPROVAL”

WITH YOUR APPROVED SIGNATURES

|          |        |       |        |        |            |
|----------|--------|-------|--------|--------|------------|
| Approved | LiuFei | Audit | LiuFei | Making | LiuXiaoMei |
|----------|--------|-------|--------|--------|------------|

|                                 |                 |
|---------------------------------|-----------------|
| Customer Acknowledges Signature | <i>Jin Hong</i> |
| Date                            | 2026.06.05      |

|                                                                                                                   |                 |                                                                                                                                                                                                       |           |
|-------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| UNLESS OTHER SPECIFIED TOLERANCES ON:<br>$X=\pm$ $X.X=\pm$ $X.XX=$<br><b>ANGLES</b> $=\pm$ <b>HOLE DIA</b> $=\pm$ |                 | <br>PENG BAN XING Ye<br>PengBanXingYeShenZhen Technology Co. , Ltd                                                 |           |
| SCALE: N/A                                                                                                        | UNIT: mm        | THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF PBXY TECHNOLOGY Limited AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION |           |
| DRAWN BY : Sera                                                                                                   | CHECKED BY: XD  |                                                                                                                                                                                                       |           |
| DESIGNED BY: Sera                                                                                                 | APPROVED BY: XD |                                                                                                                                                                                                       |           |
| TITLE: CHIP2450-1608 Specification                                                                                |                 | DOCUMENT NO.                                                                                                                                                                                          | SPEC REV. |
|                                                                                                                   |                 | 1608                                                                                                                                                                                                  | P1        |

**PBX1608MA06 Specification**

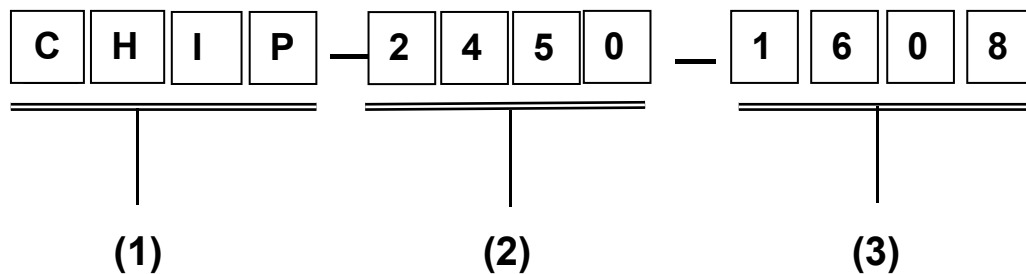
Operating Temp. : -40℃~+85℃

**1. FEATURES:**

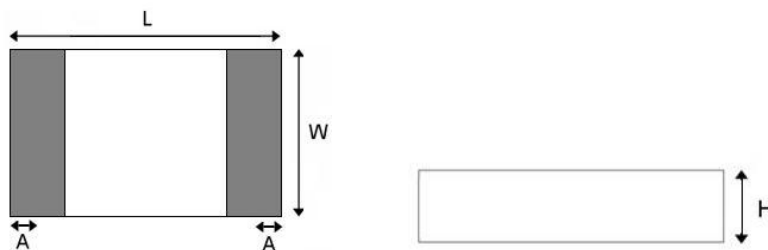
- Light weight, compact
- Wide bandwidth, low cost
- Built-in antenna with high gain

**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): 1.6\*0.8

**4. SHAPE AND DIMENSIONS:**

| L         | W         | H         | A         |
|-----------|-----------|-----------|-----------|
| 1.60±0.20 | 0.80±0.20 | 0.80±0.20 | 0.30±0.10 |

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±      X.X=±      X.XX=

ANGLES = ±      HOLEDIA = ±



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SCALE: N/A

UNIT: mm

DRAWN BY : Sera

CHECKED BY: XD

DESIGNED BY: Sera

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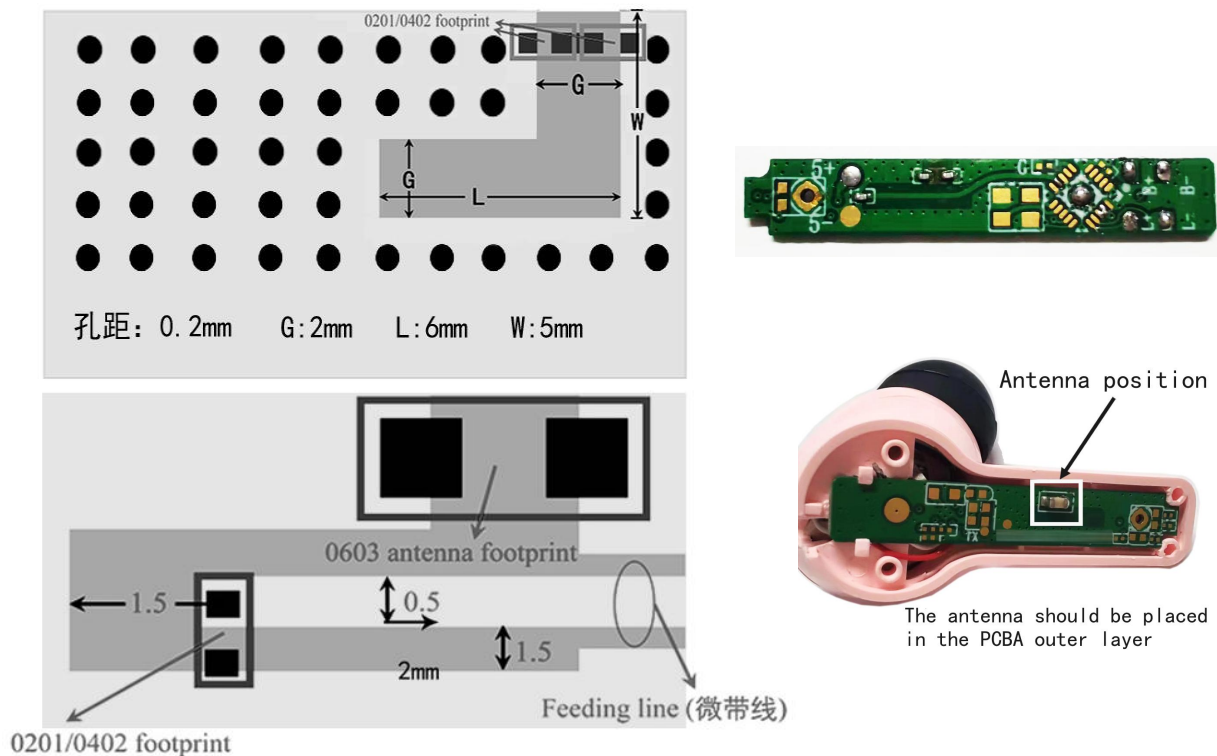
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●Antenna is located in the PCB board or the middle position (long-bar headphones): (units: mm)

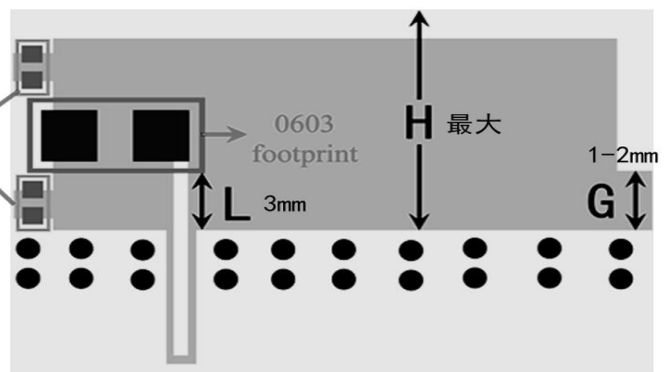


The antenna is optimally placed in the middle area, and at least one row of through holes around the clearance area is optimally required.

● When the antenna is located at the edge of the PCB board (in-ear headphones and some long-bar headphones) :

The antenna is optimally placed on the edge of the PCBA; the antenna and its alignment are set on a single layer.

Design criteria::



1. The dimensions in the diagram are for reference only; the actual dimensions are optimized for different versions.
2. The optimum clearance area around the need for at least a row of holes, aperture 0.3 mm, and other PCBA circuit or material isolation.

UNLESS OTHER SPECIFIED TOLERANCES ON:

$X = \pm$        $X.X = \pm$        $X.XX =$

ANGLES =  $\pm$       HOLES DIA =  $\pm$

SCALE: N/A

UNIT: mm

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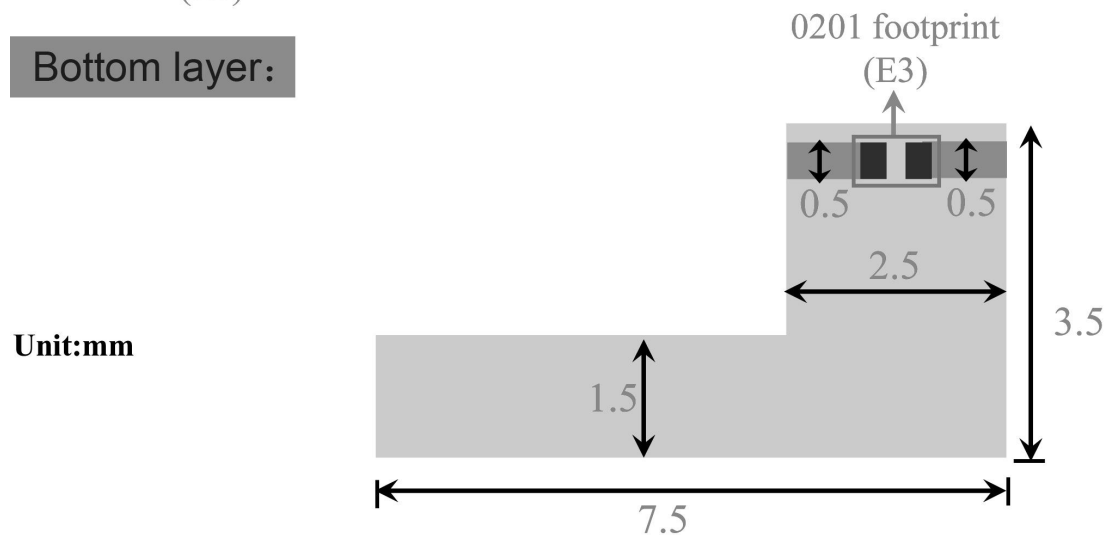
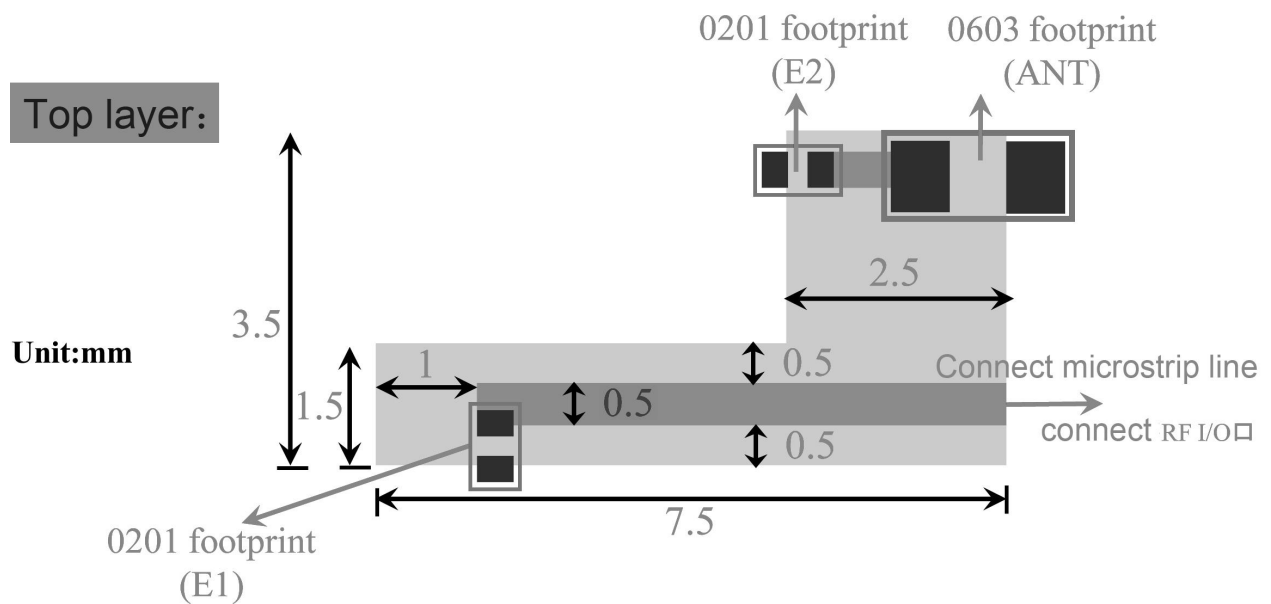
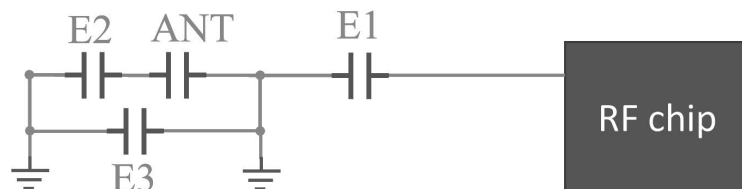
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**Antenna Package Scheme 1 (3.5mm×7.5mm)****Schematic diagram**

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=

ANGLES = ±

HOLE DIA = ±



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SCALE: N/A

UNIT: mm

DRAWN BY : Sera

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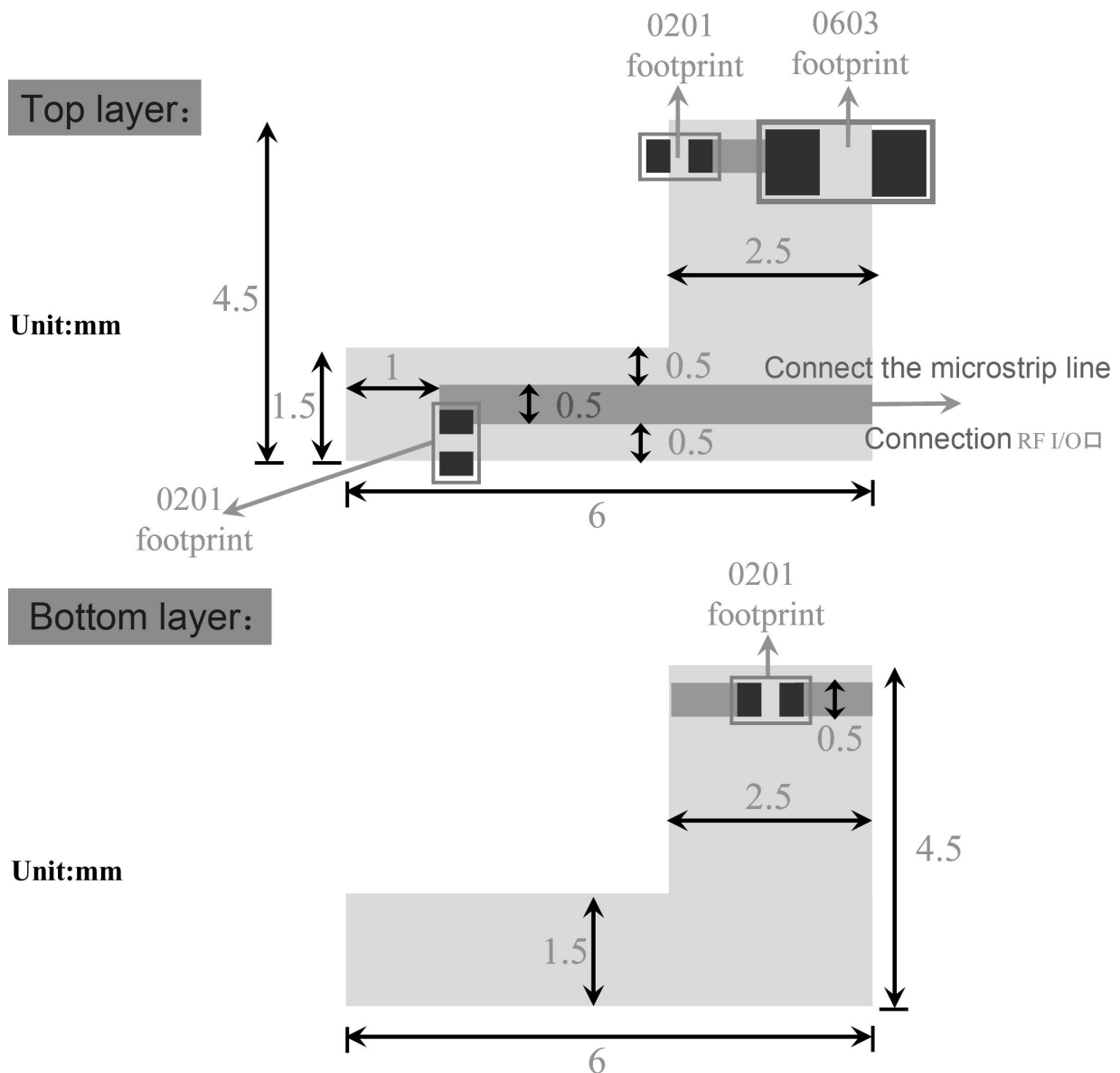
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**Antenna Package Scheme II (4.5mm×6mm)**

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=

ANGLES = ±

HOLE DIA = ±



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SCALE: N/A

UNIT: mm

DRAWN BY : Sera

CHECKED BY: XD

DESIGNED BY: Sera

APPROVED BY: XD

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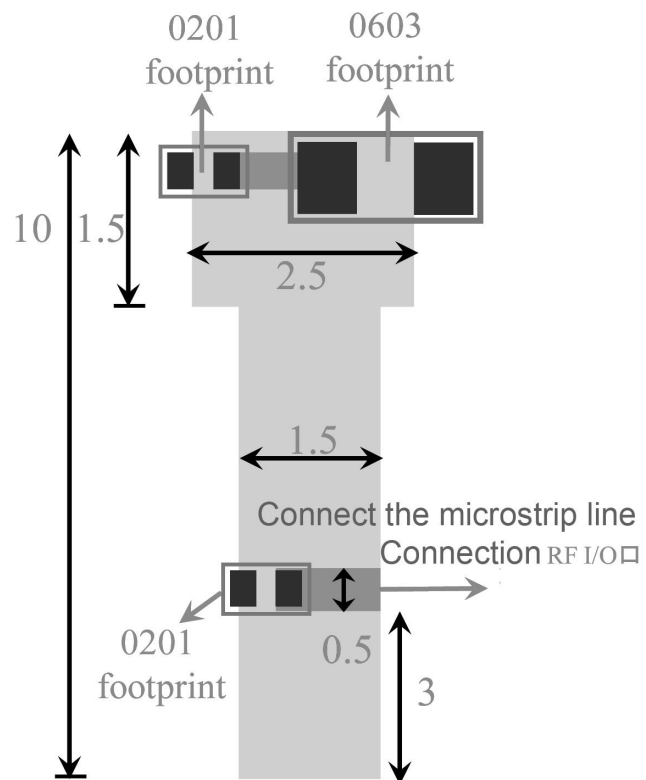
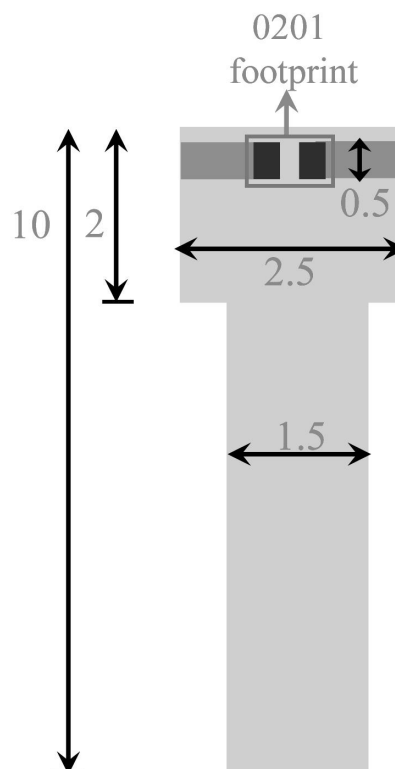
TITLE: CHIP2450-1608 Specification

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**Antenna Package Scheme III (1.5mm×10mm)****Top layer:****Unit:mm****Bottom layer:****Unit:mm**

UNLESS OTHER SPECIFIED TOLERANCES ON:

$X=\pm$        $X.X=\pm$        $X.XX=$   
**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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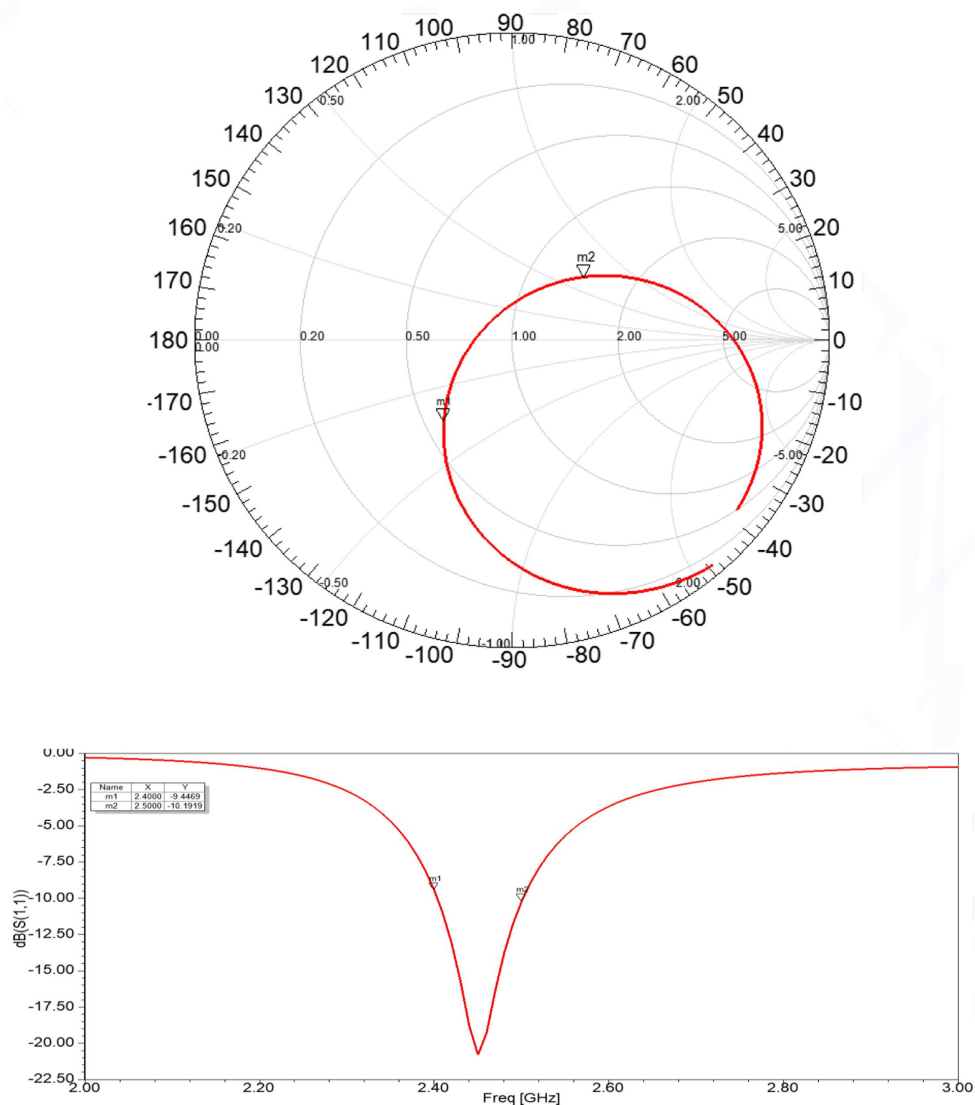
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**TITLE:** CHIP2450-1608 Specification**DOCUMENT NO.****1608****SPEC REV.****P1**

## Electrical Characteristics

|   | Feature           | Specification   |
|---|-------------------|-----------------|
| 1 | Central frequency | 2.45GHz         |
| 2 | Bandwidth         | >150MHz         |
| 3 | Peak gain         | 2.78 dBi        |
| 4 | VSWR              | <2              |
| 5 | Polarization      | Linear          |
| 6 | Azimuth beamwidth | Omnidirectional |
| 7 | Impedance         | 50 $\Omega$     |

## Characteristic Curves



UNLESS OTHER SPECIFIED TOLERANCES ON:

$X = \pm$        $X.X = \pm$        $X.XX =$

ANGLES =  $\pm$       HOLEDIA =  $\pm$

SCALE: N/A

UNIT: mm

DRAWN BY: Sera

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APPROVED BY: XD



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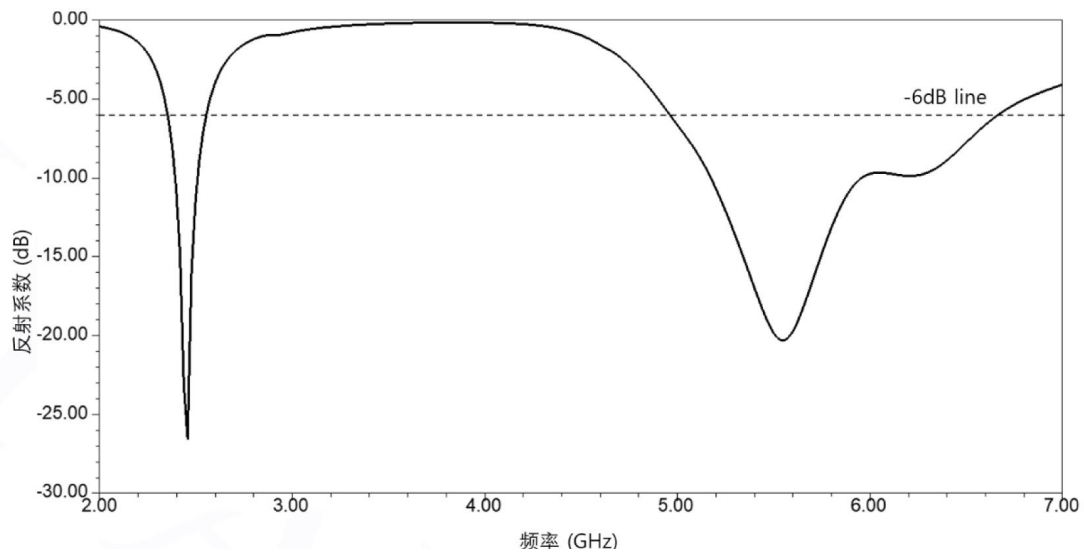
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DOCUMENT  
NO.

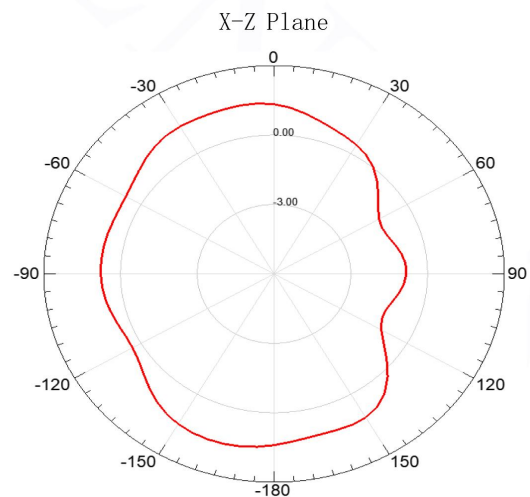
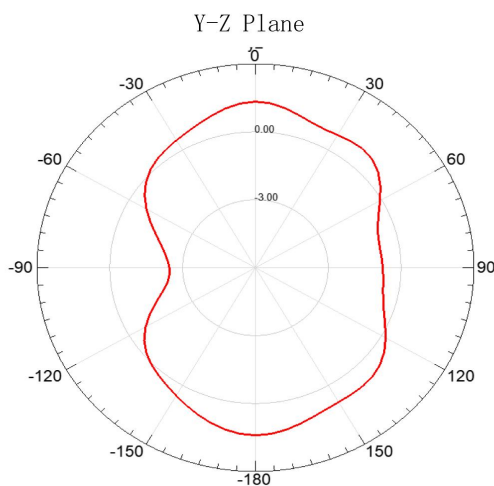
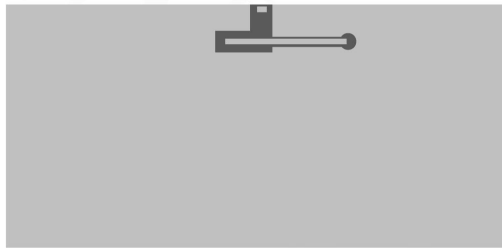
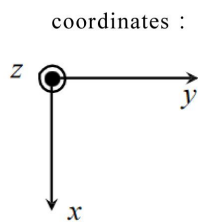
1608

SPEC REV.

P1



## Radiation Pattern



UNLESS OTHER SPECIFIED TOLERANCES ON:

$X=\pm$        $X.X=\pm$        $X.XX=$

ANGLES =  $\pm$       HOLEDIA =  $\pm$

SCALE: N/A

UNIT: mm

DRAWN BY : Sera

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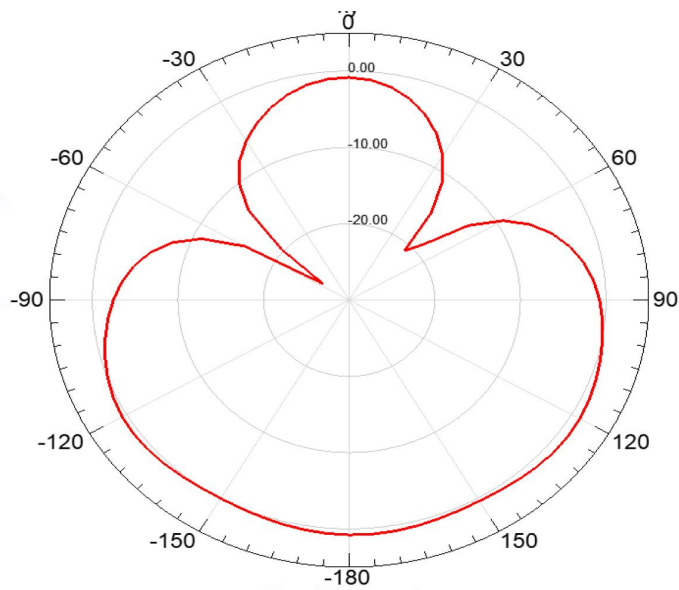
TITLE: CHIP2450-1608 Specification

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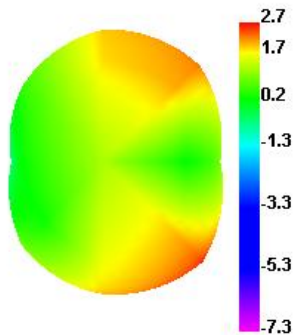
SPEC REV.

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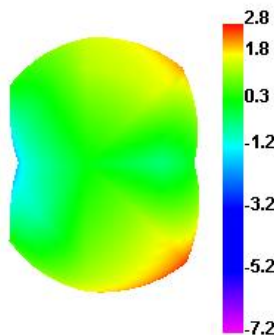


### 3D Radiation Pattern

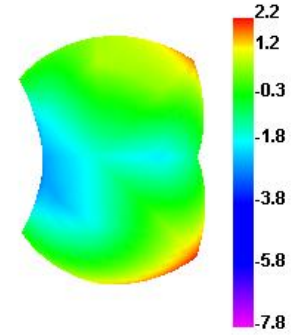
2400.000MHz



2450.000MHz

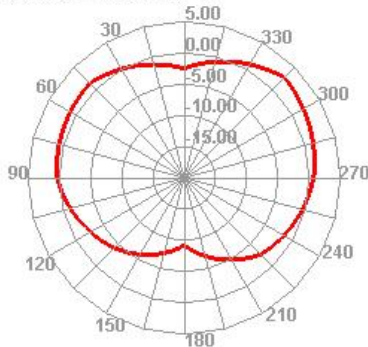


2500.000MHz

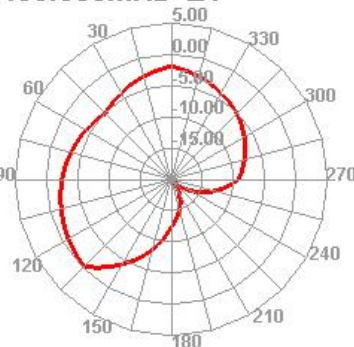


### 2D Gain Pattern (2400 MHz-2500MHz)

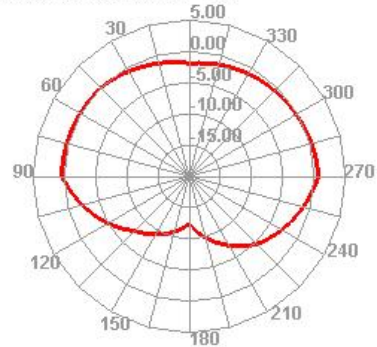
2400.000MHz H



2400.000MHz E1



2400.000MHz E2



UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=

ANGLES = ± HOLEDIA = ±

SCALE: N/A

UNIT: mm

DRAWN BY : Sera

CHECKED BY: XD

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APPROVED BY: XD



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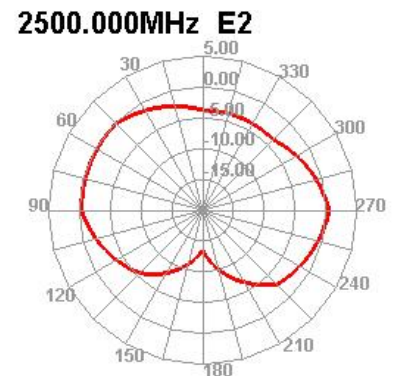
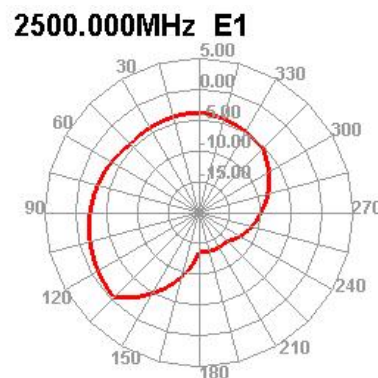
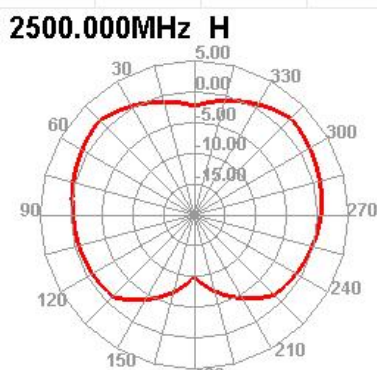
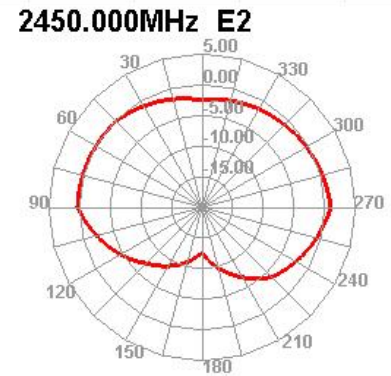
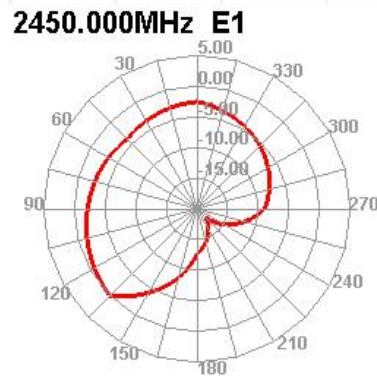
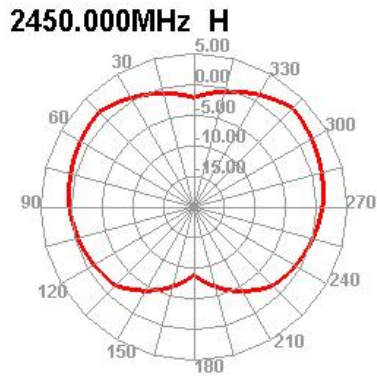
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DOCUMENT NO.

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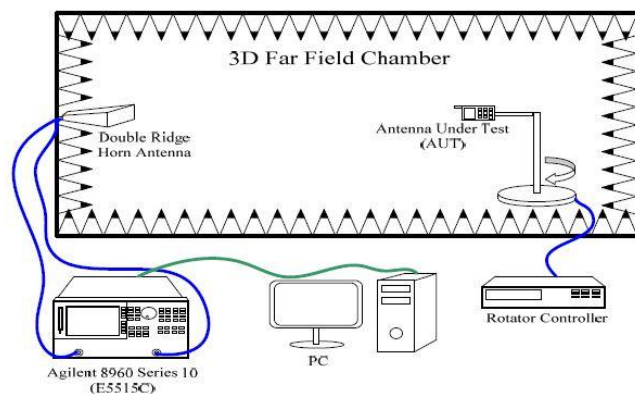
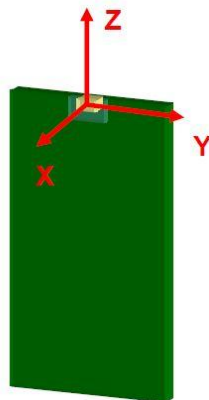
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P1



### 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.



UNLESS OTHER SPECIFIED TOLERANCES ON:

**X=±**      **X.X=±**      **X.XX=**

**ANGLES = ±**      **HOLEDIA = ±**

**SCALE: N/A**

**UNIT: mm**

**DRAWN BY : Sera**

**CHECKED BY: XD**

**DESIGNED BY: Sera**

**APPROVED BY: XD**



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**DOCUMENT NO.**

**1608**

**SPEC REV.**

**P1**

## Environmental Characteristics

### (1) Reliability Test

| Item                        | Condition                                                                                                                                                                                                                                                                          | Specification                                                  |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Thermal shock               | 1. $30\pm3$ minutes at $-40^{\circ}\text{C}\pm5^{\circ}\text{C}$ ,<br>2. Convert to $+105^{\circ}\text{C}$ (5 minutes)<br>3. $30\pm3$ minutes at $+105^{\circ}\text{C}\pm5^{\circ}\text{C}$ ,<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: $85\pm5^{\circ}\text{C}$<br>3. Time: 1000 hours.                                                                                                                                                                                          | No apparent damage<br>Fulfill the electrical spec. after test. |
| High temperature resistance | 1. Temperature: $150^{\circ}\text{C}\pm5^{\circ}\text{C}$<br>2. Time: 1000 hours.                                                                                                                                                                                                  | No apparent damage<br>Fulfill the electrical spec. after test. |
| Low temperature resistance  | 1. Temperature: $-40^{\circ}\text{C}\pm5^{\circ}\text{C}$<br>2. Time: 1000 hours.                                                                                                                                                                                                  | No apparent damage<br>Fulfill the electrical spec. after test. |
| Soldering heat resistance   | 1. Solder bath temperature : $260\pm5^{\circ}\text{C}$<br>2. Bathing time: $10\pm1$ 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 $245\pm5^{\circ}\text{C}$ for $3\pm1$ seconds.                                                                                                                         | No apparent damage                                             |

### (2) Storage Condition

#### (a) At warehouse:

The temperature should be within  $0\sim30^{\circ}\text{C}$  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  $-40\sim85^{\circ}\text{C}$  and humidity should be less than 85% RH.

### (3) Operating Temperature Range

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

UNLESS OTHER SPECIFIED TOLERANCES ON:

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**ANGLES** =  $\pm$       **HOLE DIA** =  $\pm$



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SCALE: N/A

UNIT: mm

DRAWN BY : Sera

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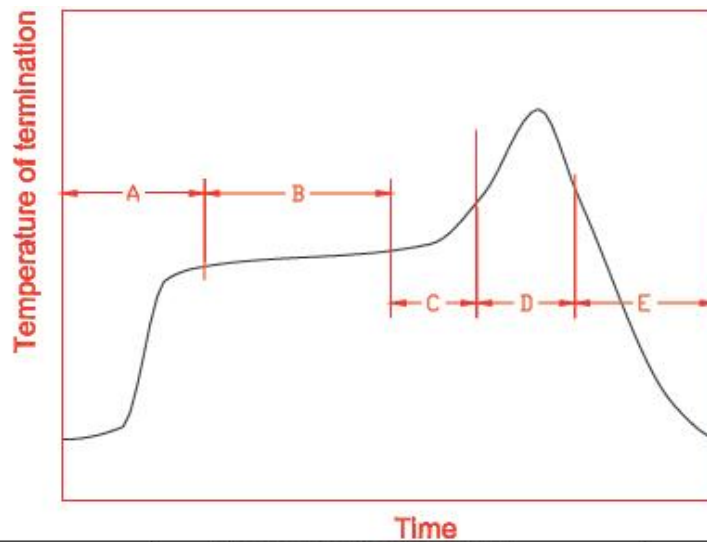
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NO.

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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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ANGLES =  $\pm$       HOLEDIA =  $\pm$

SCALE: N/A

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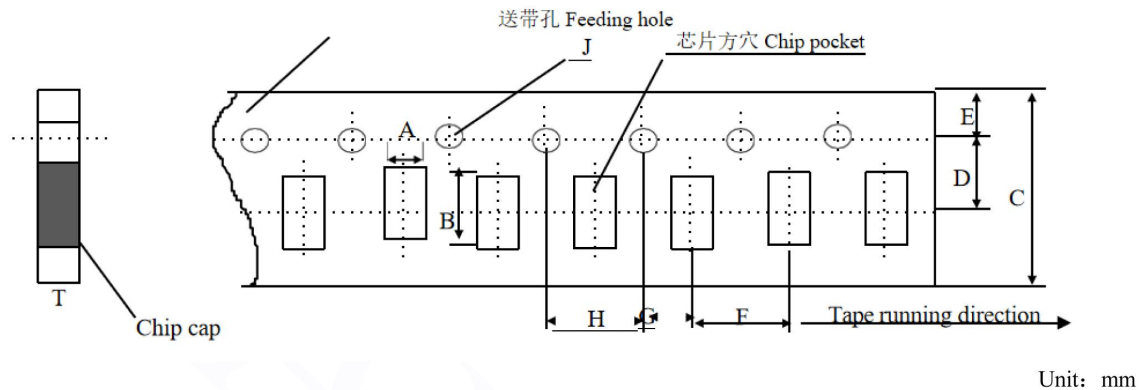
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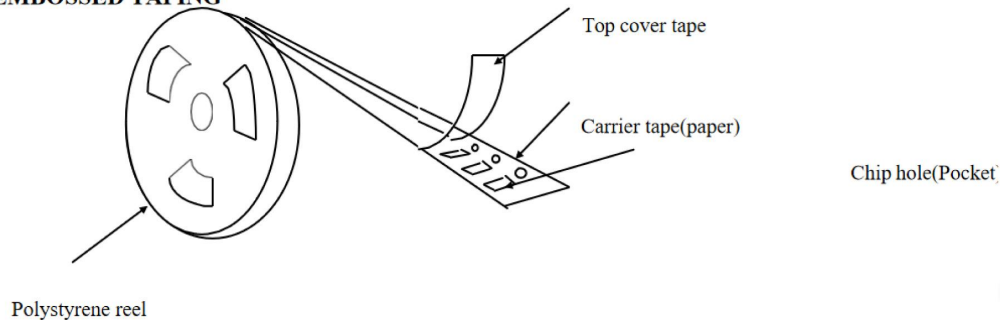
## Dimensions of paper taping:



| 代号Code<br>纸带规格<br>papersize | A             | B             | C             | D*            | E             | F             | G*            | H             | J                | T           |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------|-------------|
| 尺寸                          | 1.10<br>±0.10 | 1.90<br>±0.10 | 8.00<br>±0.10 | 3.50<br>±0.05 | 1.75<br>±0.10 | 4.00<br>±0.10 | 2.00<br>±0.10 | 4.00<br>±0.10 | 1.50<br>-0/+0.10 | 1.10<br>Max |

Reel (4000 pcs/Reel)

### EMBOSED TAPING



## Storage Period

The guaranteed period for solderability is 6 months (Under deliver package condition).  
Temperature:5~40°C /Relative Humidity:20~70%

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X=± X.X=± X.XX=

ANGLES = ± HOLEDIA = ±

SCALE: N/A

UNIT: mm

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