

# 产品规格承认书

## SPECIFICATIONS

客户:

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

产品名称:

DESCRIPTION: \_\_\_\_\_ 地磁天线

客户型号:

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

产品型号:

OUR MODEL NO: \_\_\_\_\_ **PBX1608MA02**

日期:

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

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

|    |  |    |    |    |     |
|----|--|----|----|----|-----|
| 核准 |  | 审核 | 刘飞 | 制作 | 刘小美 |
|----|--|----|----|----|-----|

|        |  |
|--------|--|
| 客户承认签印 |  |
| 日期     |  |

|                                                                                                |                 |                                                                                                                                                                                                       |      |                                                              |                 |
|------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------|-----------------|
| UNLESS OTHER SPECIFIED TOLERANCES ON:<br>X=±                    X.X=±                    X.XX= |                 | <br>PENG BANXING                                                                                                   |      | 深圳市朋伴兴业科技有限公司<br>Shenzhen Pengban Xingye Technology Co., LTD |                 |
| ANGLES = ±                    HOLEDIA = ±                                                      |                 |                                                                                                                                                                                                       |      |                                                              |                 |
| 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.                                                                                                                                                                                          | 1608 |                                                              | SPEC REV.<br>P1 |

## PBX1608MA02 Specification

Operating Temp. : -40℃~+85℃

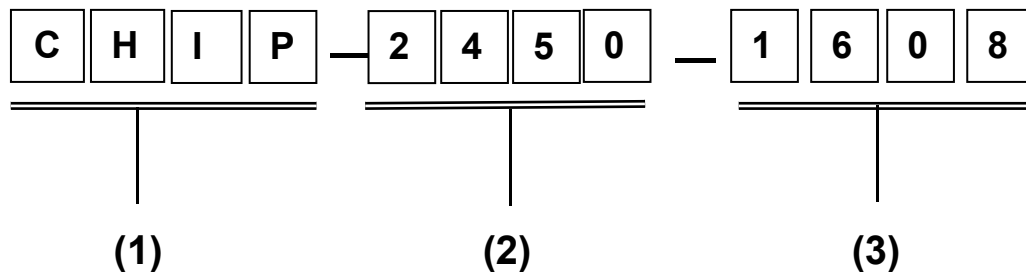
### 1. FEATURES:

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

### 2. APPLICATIONS:

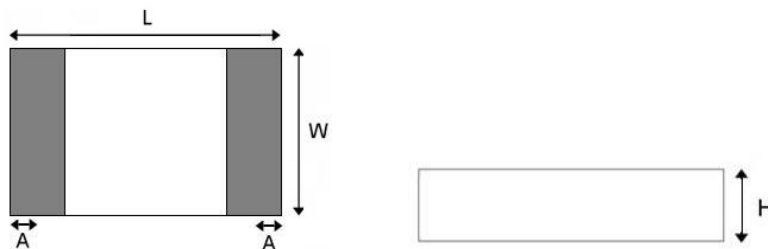
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

### 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       |
|---------|---------|---------|---------|
| 1.6±0.2 | 0.8±0.2 | 0.8±0.2 | 0.3±0.1 |

UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=

ANGLES = ± HOLEDIA = ±



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SCALE: N/A

UNIT: mm

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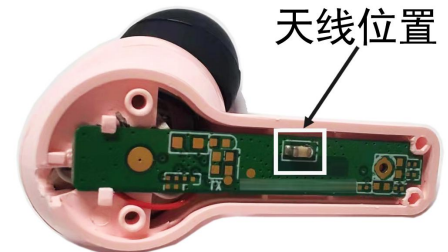
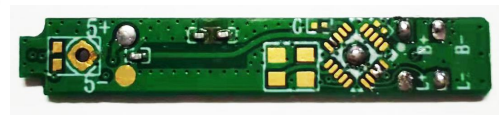
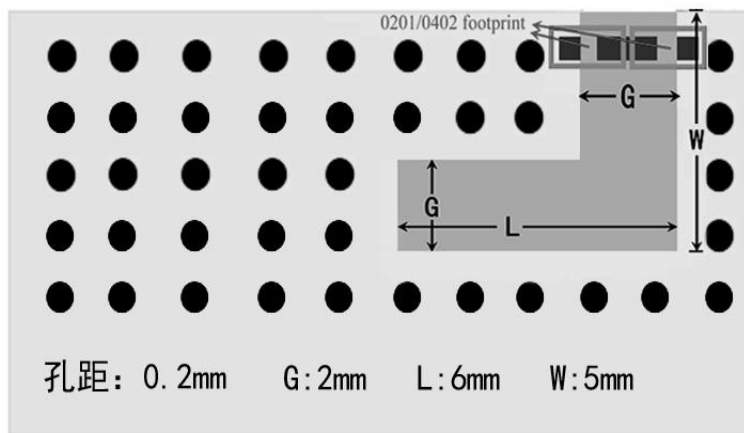
DOCUMENT NO.

1608

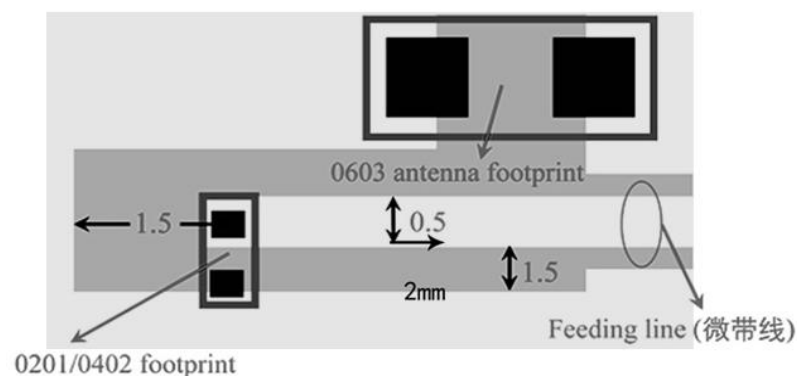
SPEC REV.

P1

●天线位于 PCB 板内部或中间位置时（长条式耳机）：（单位：mm）

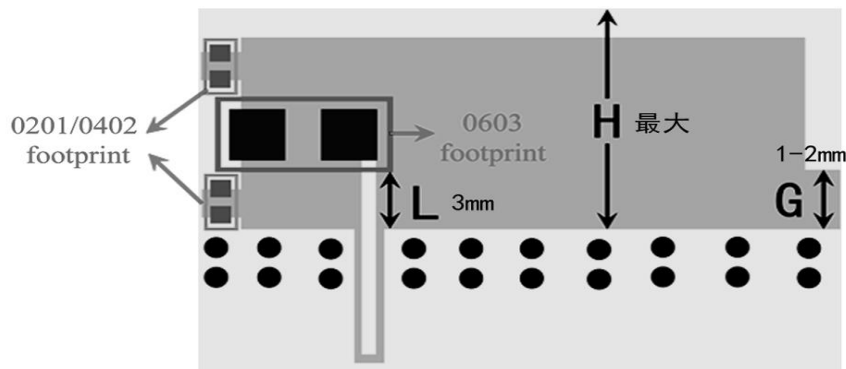


天线需放置在PCBA外层



天线最优放置于中间区域，净空区周围最优需要至少一排过孔。

●天线位于 PCB 板边缘位置时（入耳式耳机和部分长条式耳机）：



天线最优放置于 PCBA 的边缘；天线及其走线设置在单层。

设计标准：

1. 图中的尺寸仅作为参考；实际尺寸会根据不同版型进行优化。
2. 净空区周围最优需要至少一排过孔，孔径 0.3mm，与 PCBA 上的其它回路或物料进行隔离。

UNLESS OTHER SPECIFIED TOLERANCES ON:

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ANGLES = ±      HOLES DIA = ±

SCALE: N/A

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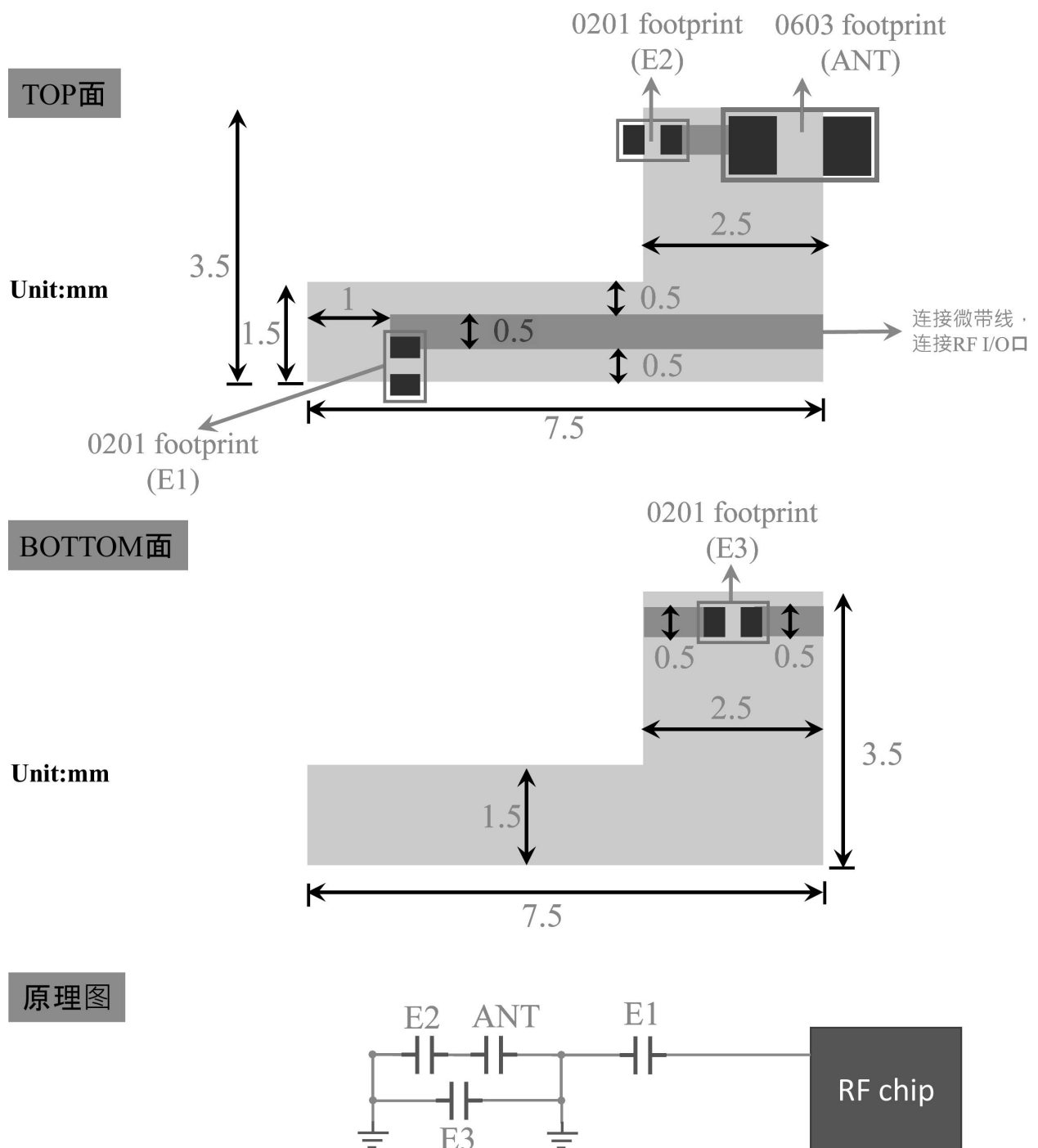
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P1

## 天线封装方案一 (3.5mm×7.5mm)



UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=

ANGLES = ± HOLEDIA = ±

SCALE: N/A

UNIT: mm

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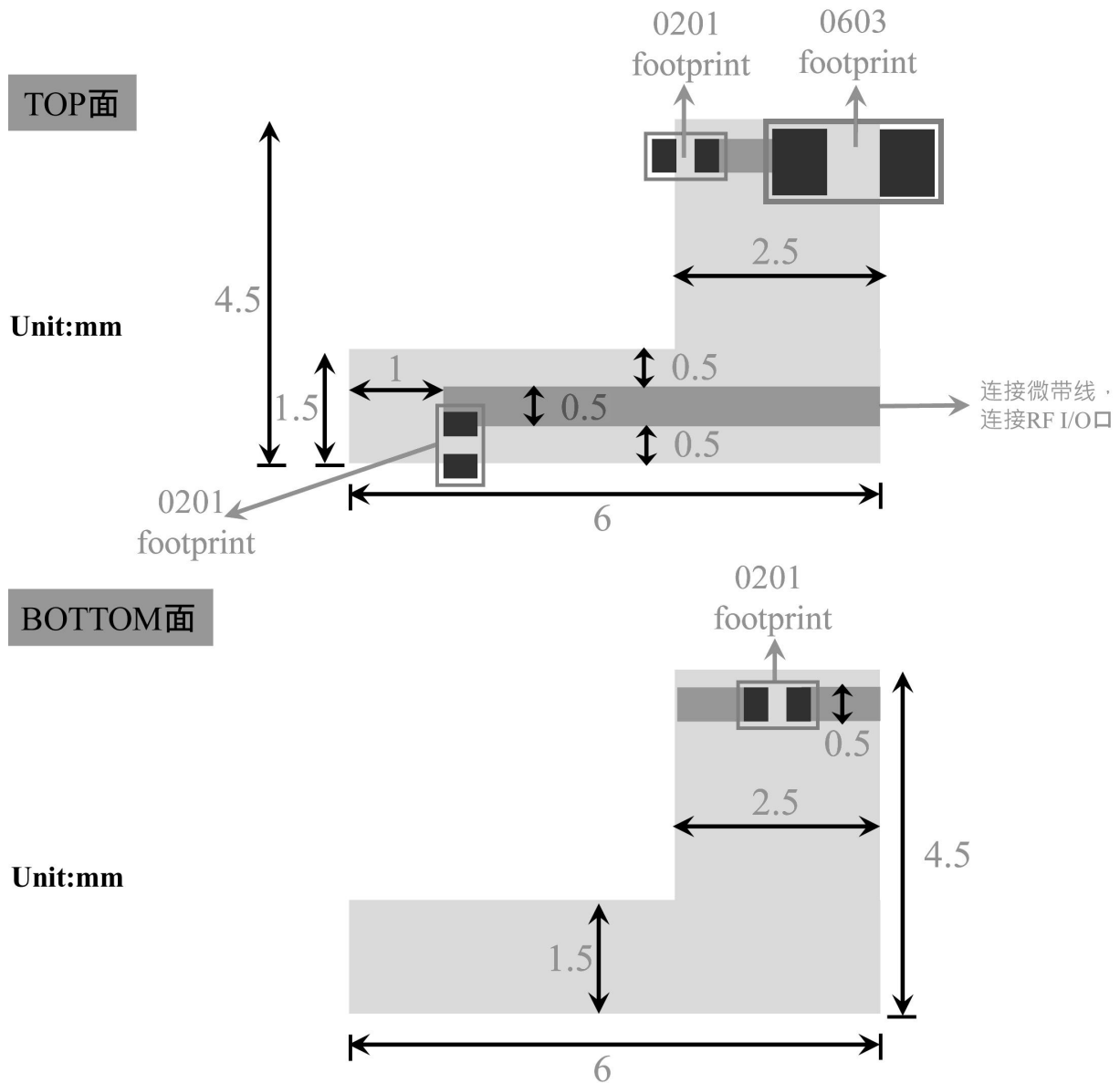
DOCUMENT  
NO.

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SPEC REV.

P1

## 天线封装方案二 (4.5mm×6mm)



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

TITLE: CHIP2450-1608 Specification



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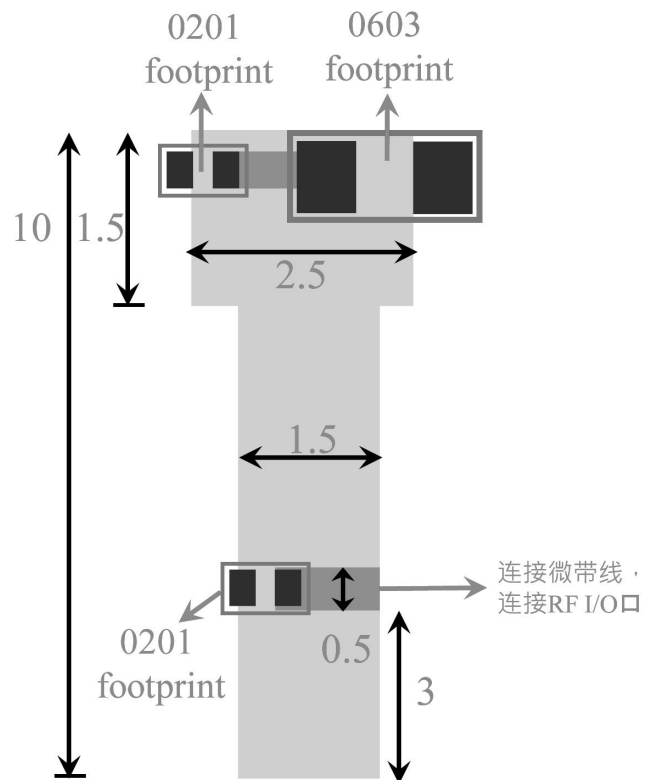
SPEC REV.

P1

## 天线封装方案三 (1.5mm×10mm)

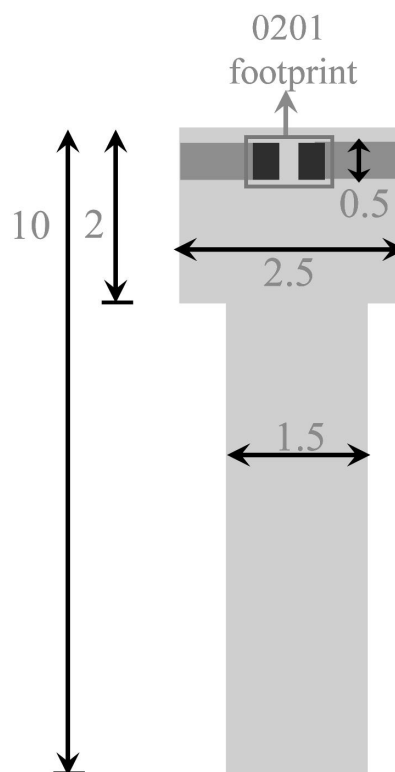
TOP面

Unit:mm



BOTTOM面

Unit:mm



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

TITLE: CHIP2450-1608 Specification



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DOCUMENT  
NO.

1608

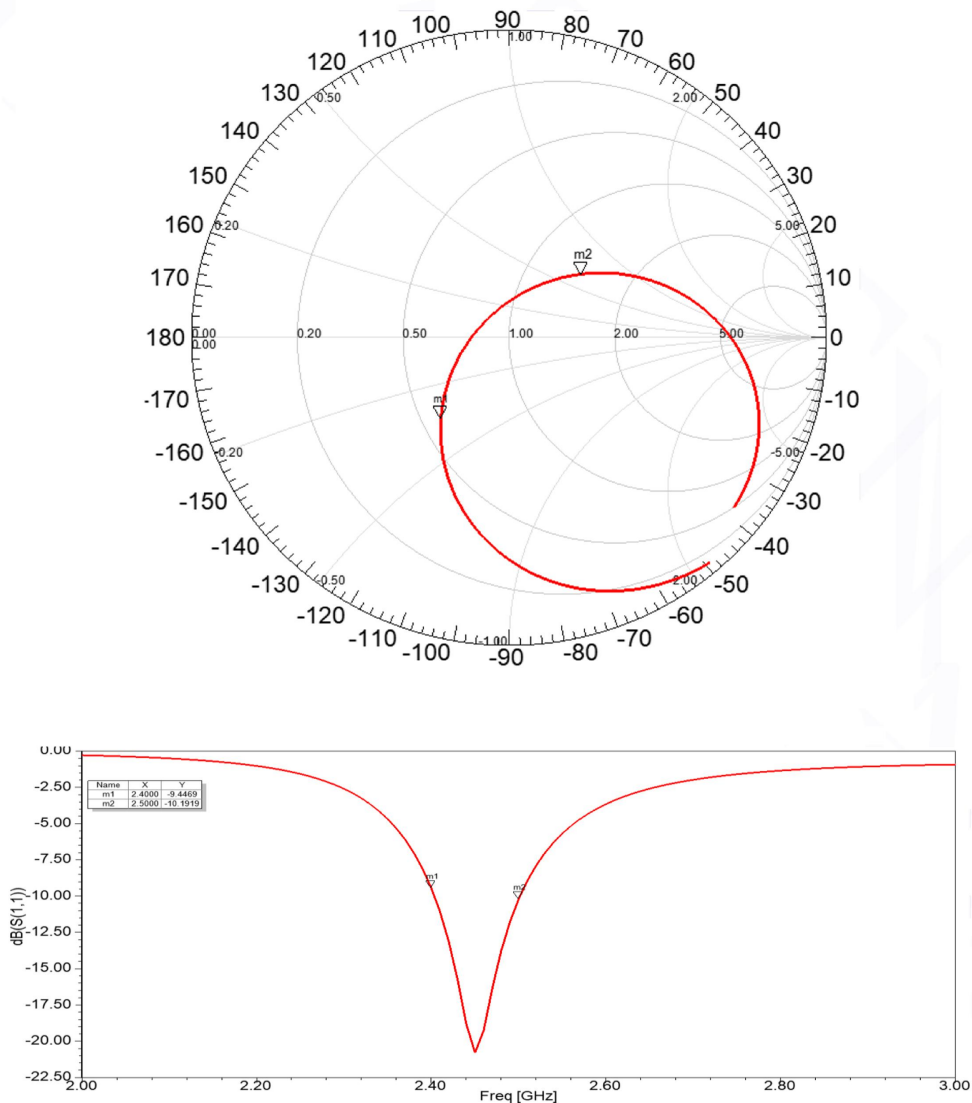
SPEC REV.

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=± X.X=± X.XX=

ANGLES = ± HOLEDIA = ±

SCALE: N/A

UNIT: mm

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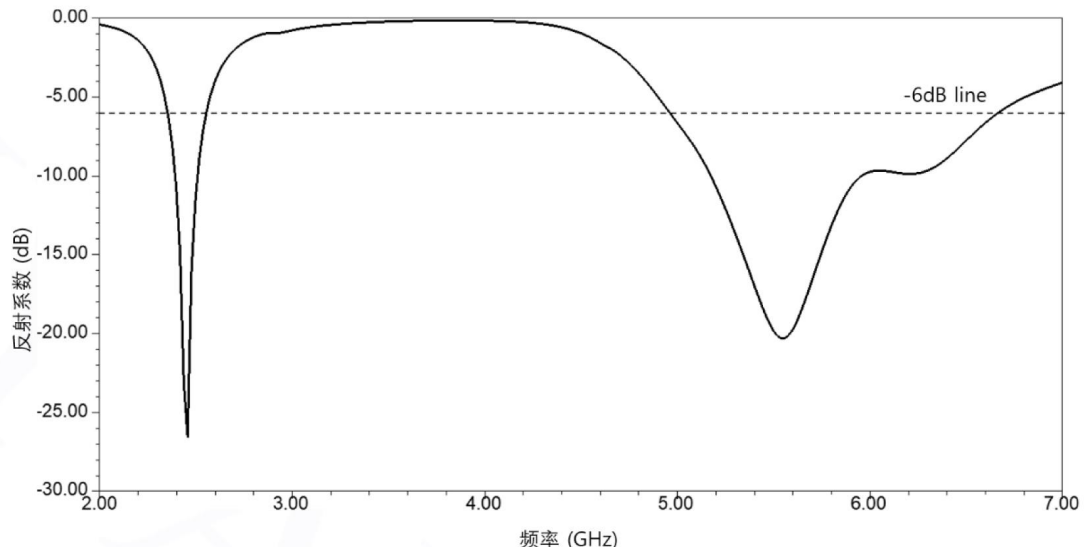
TITLE: CHIP2450-1608 Specification

DOCUMENT NO.

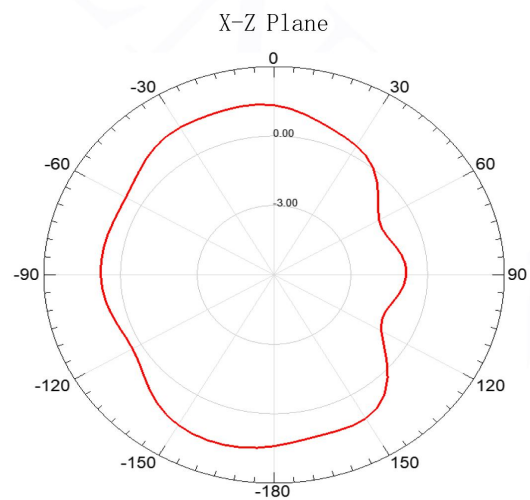
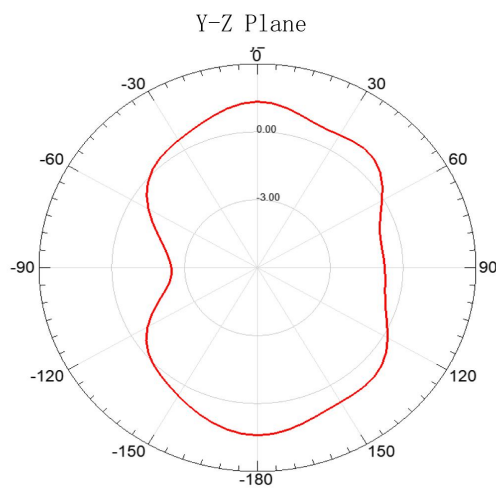
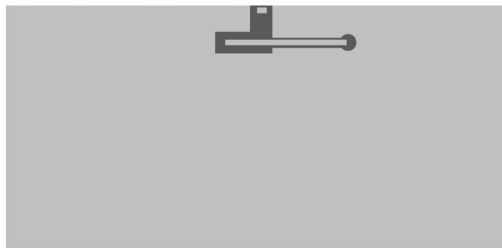
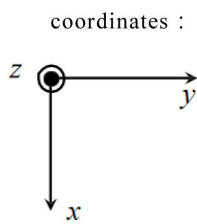
1608

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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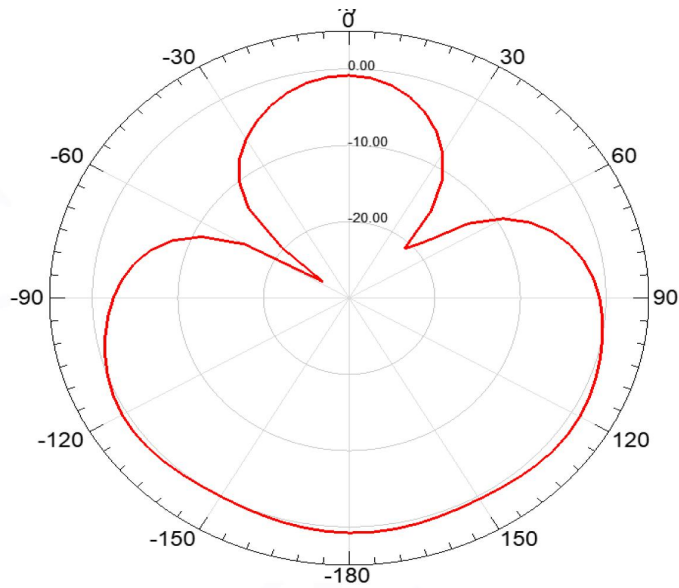
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DOCUMENT  
NO.

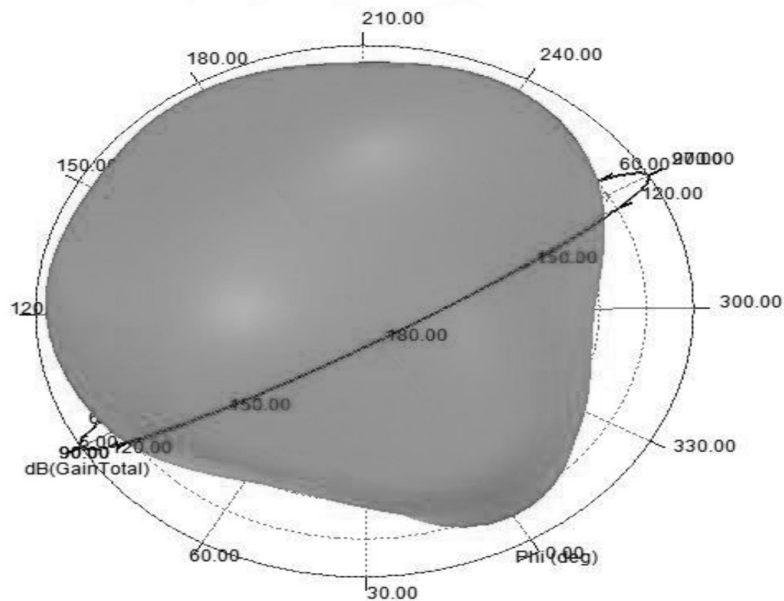
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SPEC REV.

P1



### 3D Radiation Pattern



| Frequency  | 2400MHz | 2450MHz | 2500MHz |
|------------|---------|---------|---------|
| Avg. gain  | -1.92   | -1.35   | -1.56   |
| Peak gain  | 1.79    | 2.78    | 2.66    |
| Efficiency | 74.55   | 80.25   | 76.98   |

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



PENGBANXING

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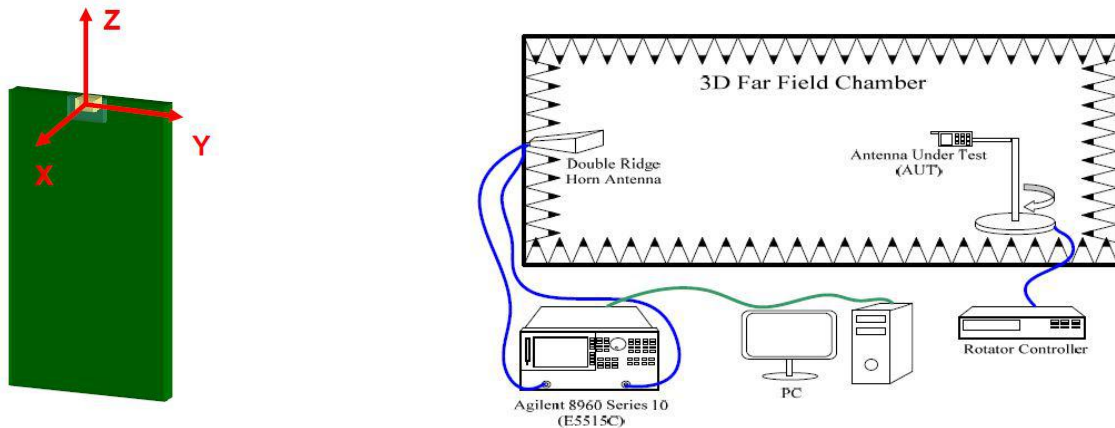
1608

SPEC REV.

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.



## Environmental Characteristics

### (1) Reliability Test

| Item                        | Condition                                                                                                                                                                      | Specification                                                  |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Thermal shock               | 1. 30±3 minutes at -40° C±5° C,<br>2. Convert to +105° C (5 minutes)<br>3. 30±3 minutes at +105° C±5° C,<br>4. Convert to -40° 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±5° C<br>3. Time: 1000 hours.                                                                                                       | No apparent damage<br>Fulfill the electrical spec. after test. |
| High temperature resistance | 1. Temperature: 150° C±5° C<br>2. Time: 1000 hours.                                                                                                                            | No apparent damage<br>Fulfill the electrical spec. after test. |
| Low temperature resistance  | 1. Temperature: -40° C±5° C<br>2. Time: 1000 hours.                                                                                                                            | No apparent damage<br>Fulfill the electrical spec. after test. |
| Soldering heat resistance   | 1. Solder bath temperature : 260±5°C<br>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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ANGLES = ± HOLEDIA = ±

SCALE: N/A

UNIT: mm

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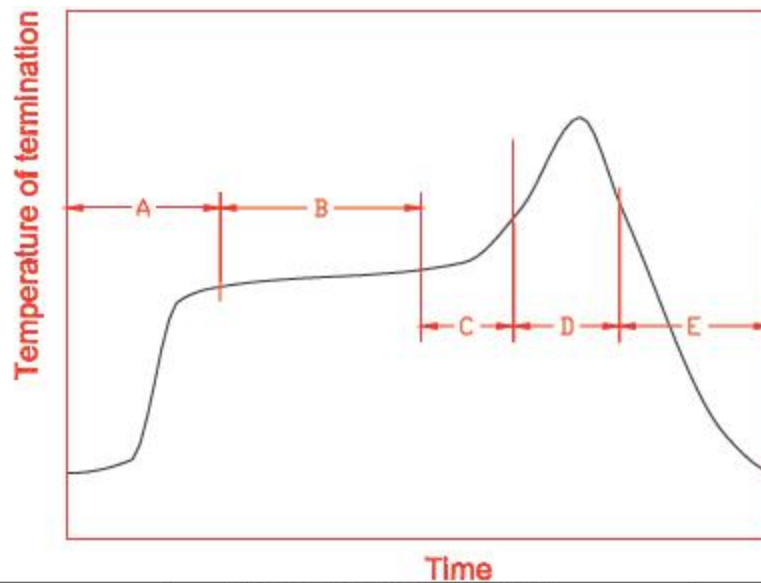
DOCUMENT NO.

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P1

## 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.

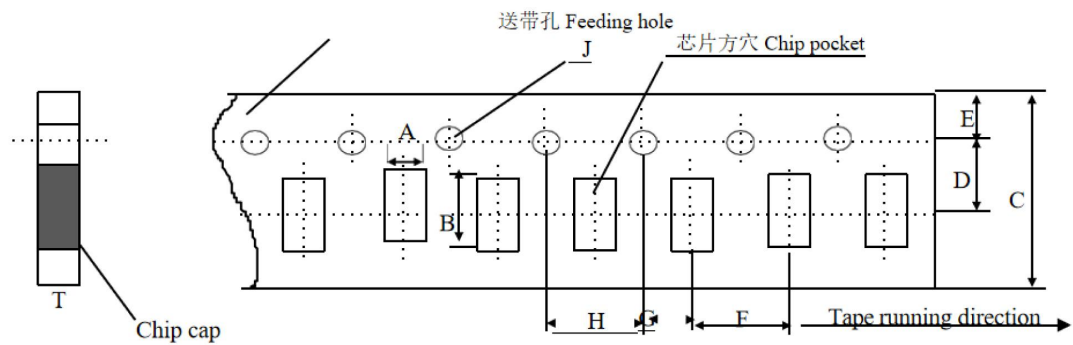
- (a) The tip temperature must be less than 350° C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

### (2) Soldering Volume

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

|                                                                                                    |                 |                                                                                                                                                                                                       |              |
|----------------------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
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| DESIGNED BY: Sera                                                                                  | APPROVED BY: XD |                                                                                                                                                                                                       |              |
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|                                                                                                    |                 |                                                                                                                                                                                                       | SPEC REV. P1 |

## Dimensions of paper taping:

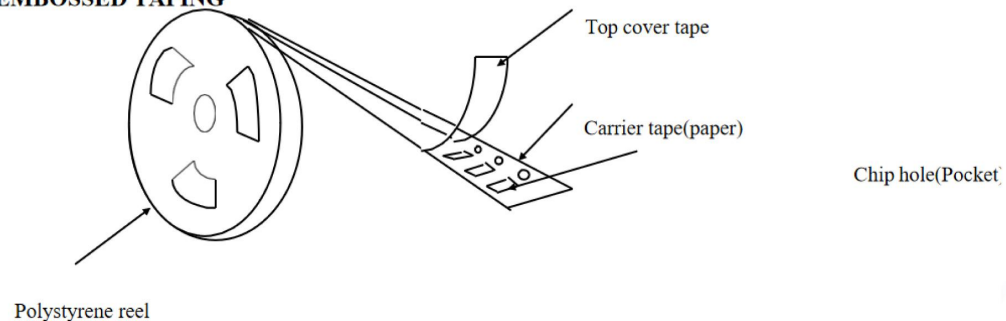


Unit: mm

| 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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