

# 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: \_\_\_\_\_ **PBX1608MA01** \_\_\_\_\_

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     |  |

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| DESIGNED BY: Sera  | APPROVED BY: XD |   |
| TITLE: CHIP2450-1608 Specification                                 | DOCUMENT NO.    | 1608  |
|  |                 | SPEC REV.<br><b>P1</b>  |

### PBX1608MA01 Specification

Operating Temp. : -40°C~+85°C

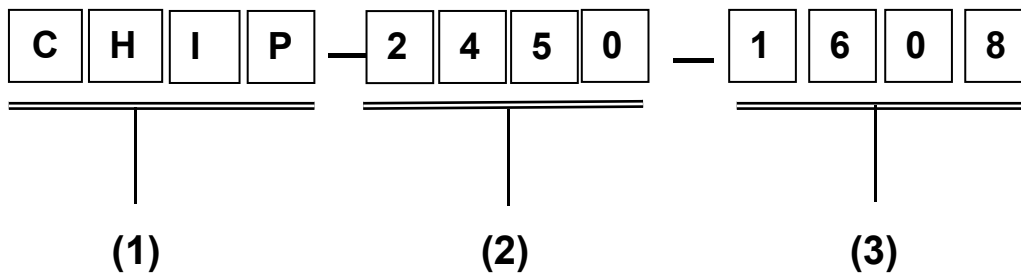
#### 1. FEATURES:

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

#### 2. APPLICATIONS:

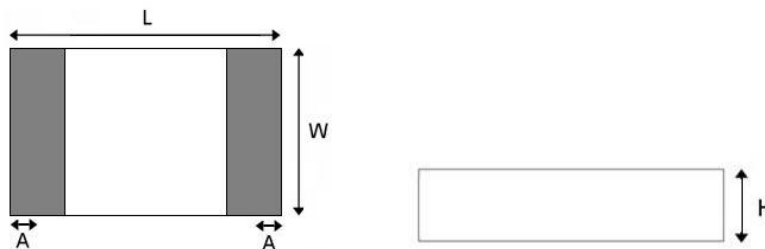
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

#### 3. PRODUCT IDENTIFICATION




- (1) Product type: Multilayer chip Antenna
- (2) Center Frequency: 2450MHz
- (3) External Dimensions (L×W) (mm): 1.6\*0.8

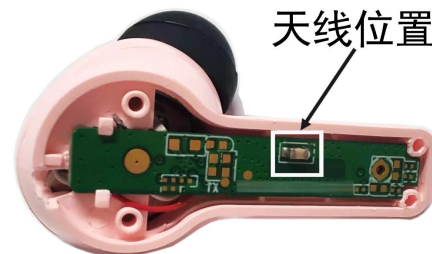
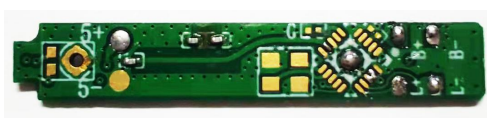
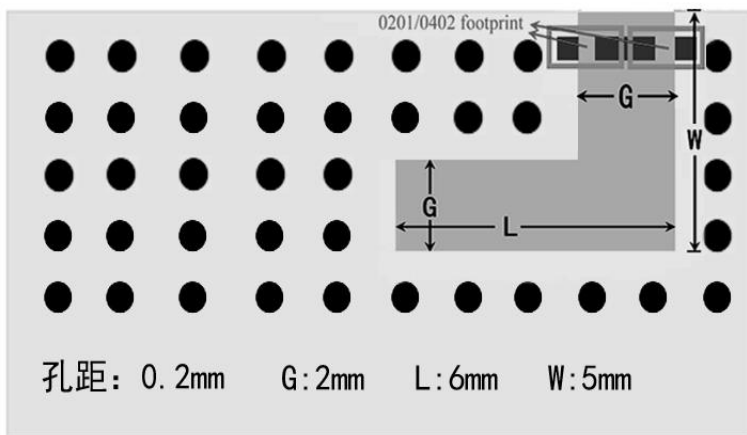
#### 4. SHAPE AND DIMENSIONS:



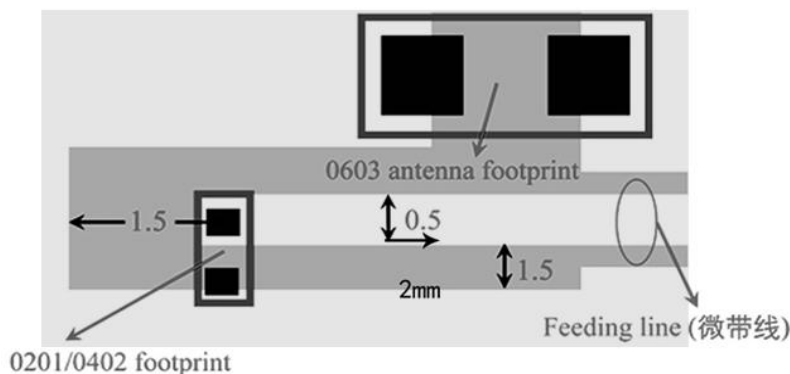
| L       | W       | H       | A       |
|---------|---------|---------|---------|
| 1.6±0.2 | 0.8±0.2 | 0.8±0.2 | 0.3±0.1 |

|  |                 |   |                 |
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●天线位于 PCB 板内部或中间位置时（长条式耳机）：（单位：mm）

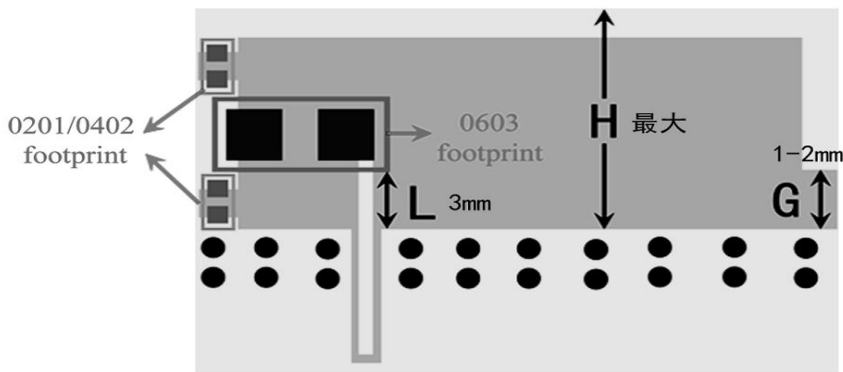


天线需放置在PCBA外层



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：

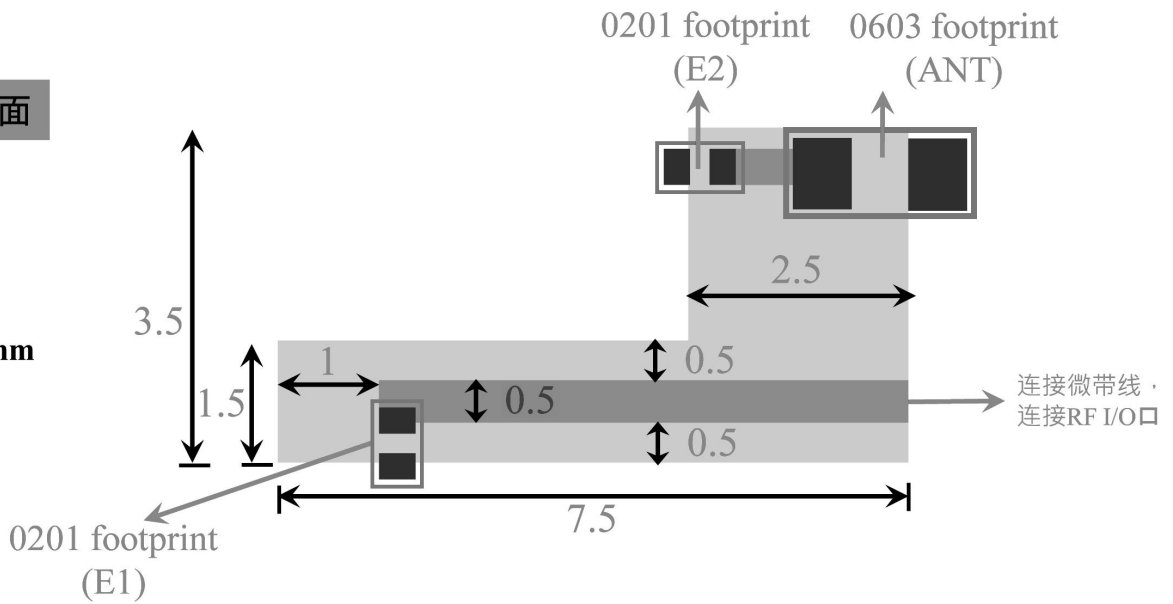
1. 图中的尺寸仅作为参考；实际尺寸会根据不同版型进行优化。
2. 净空区周围最优需要至少一排过孔，孔径 0.3mm，与 PCBA 上的其它回路或物料进行隔离。

|  |                 |   |                 |
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天线封装方案一 (3.5mm×7.5mm)

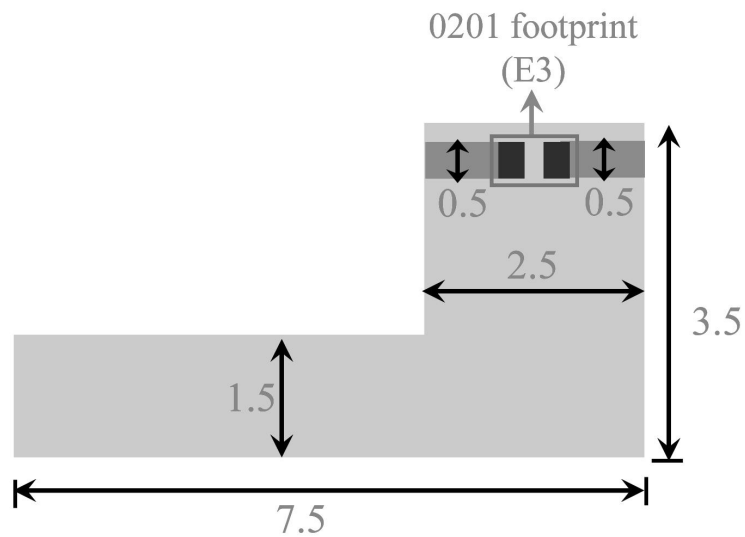
TOP面

Unit:mm

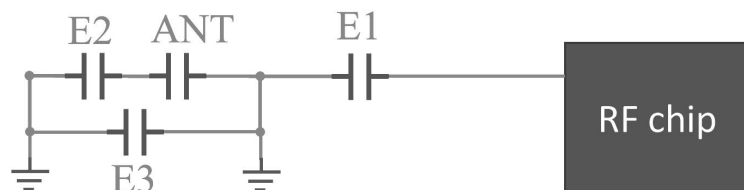


BOTTOM面

Unit:mm



原理图



UNLESS OTHER SPECIFIED TOLERANCES ON:

X=±      X.X=±      X.XX=±  
 ANGLES = ±      HOLEDIA = ±

SCALE: N/A

UNIT: mm

DRAWN BY : Sera

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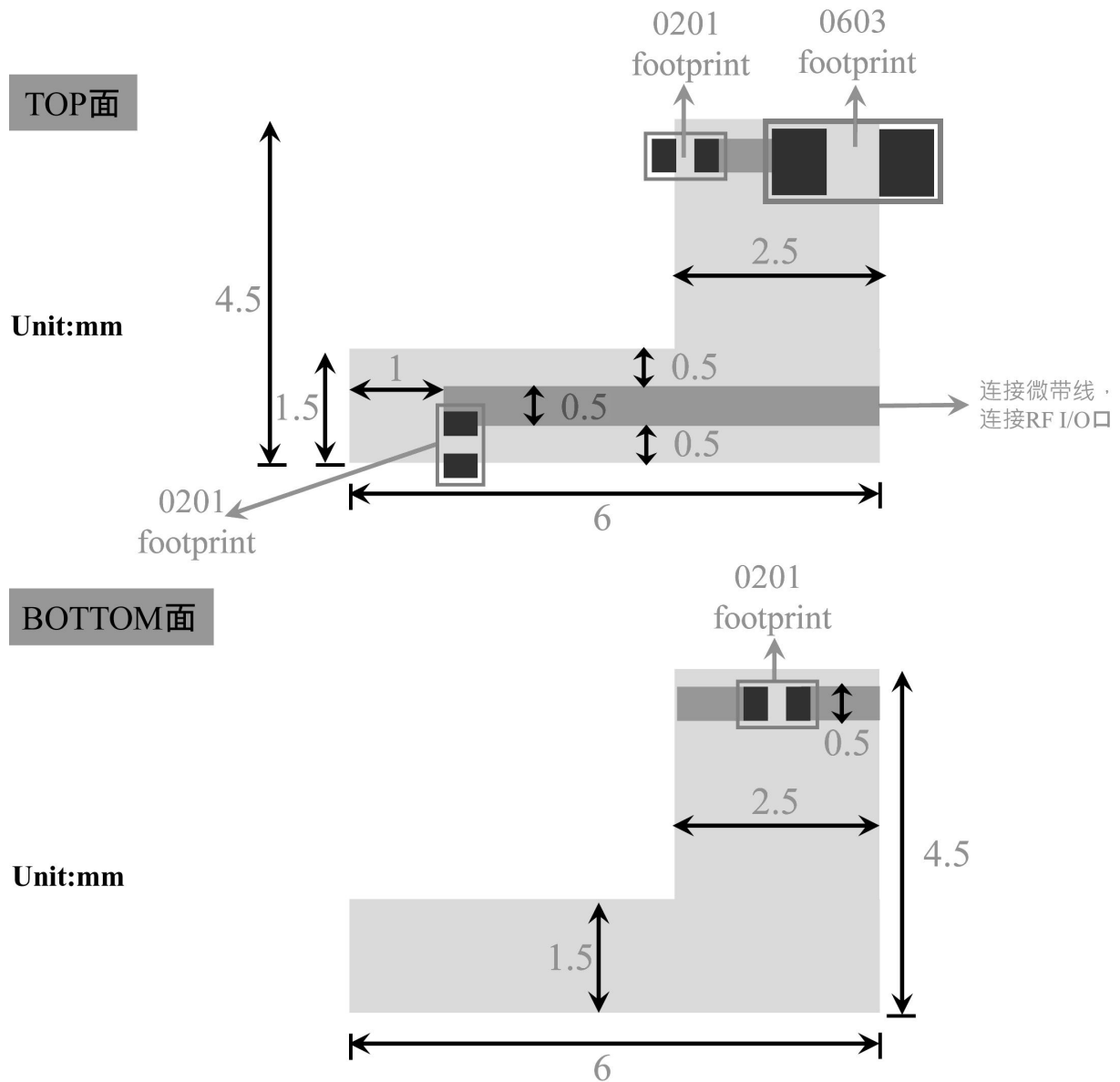
DOCUMENT NO.


1608

SPEC REV.

P1

天线封装方案二 (4.5mm×6mm)

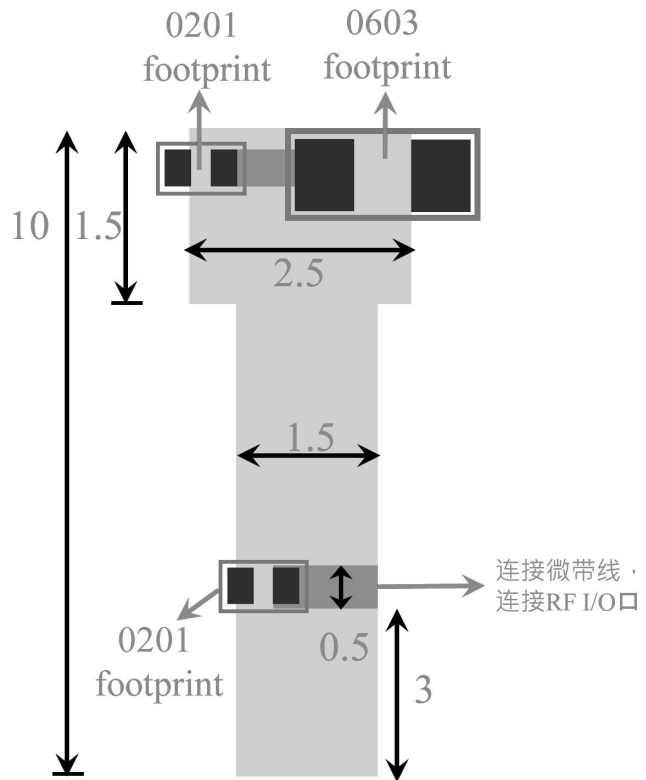


|  |                 |   |                 |
|--|-----------------|---|-----------------|
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天线封装方案三 (1.5mm×10mm)

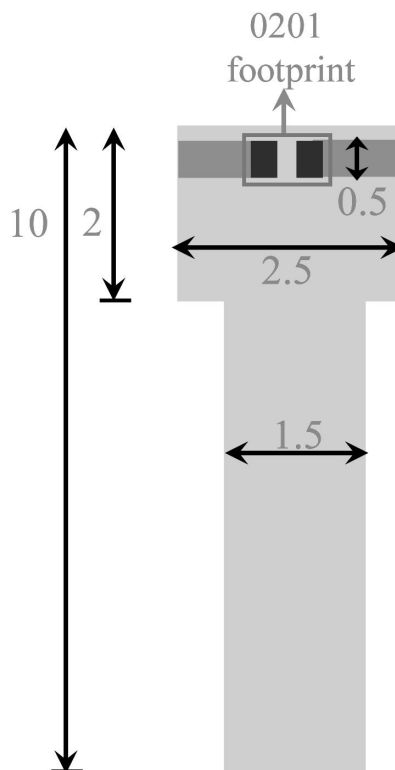
TOP面

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

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DESIGNED BY: Sera

APPROVED BY: XD

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1608

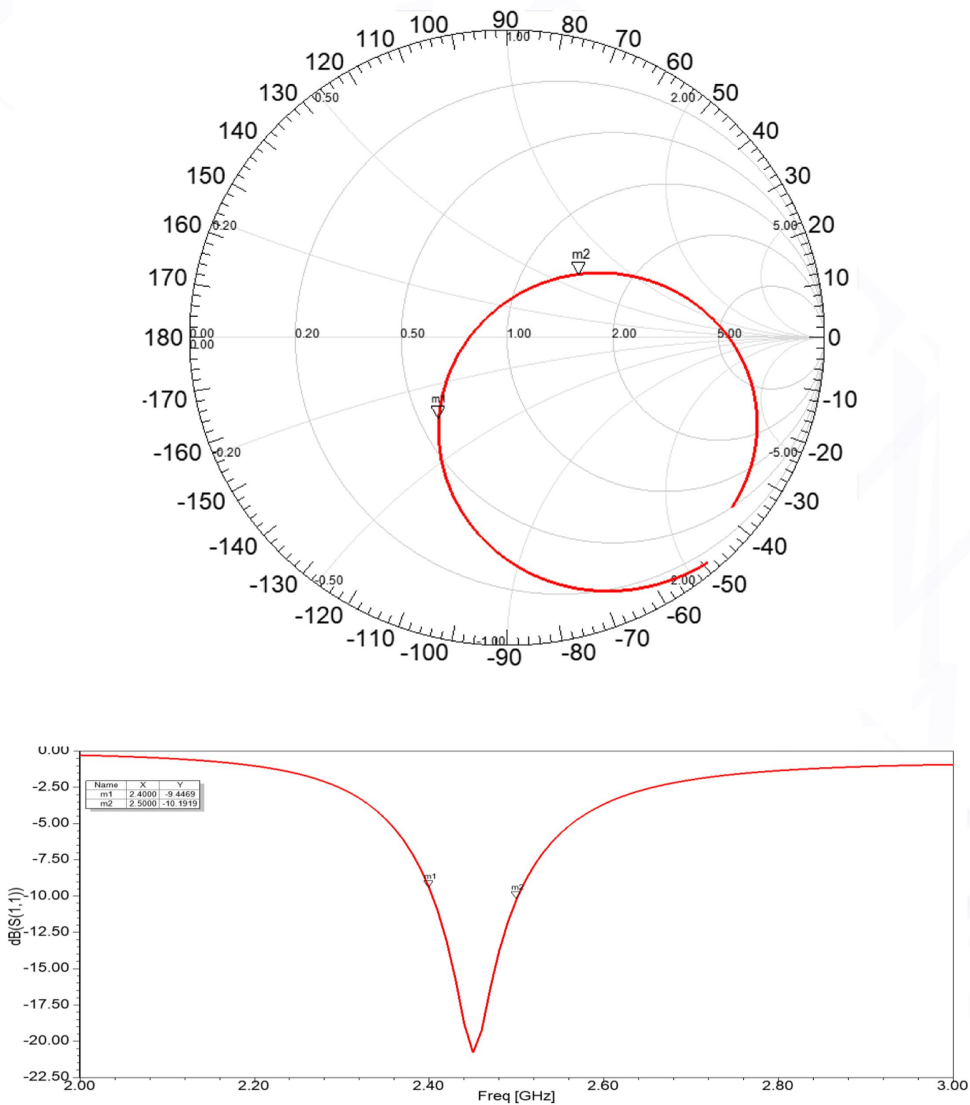
SPEC REV.

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 Ω            |

### Characteristic Curves



UNLESS OTHER SPECIFIED TOLERANCES ON:

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 ANGLES = ±      HOLEDIA = ±

SCALE: N/A      UNIT: mm

DRAWN BY : Sera      CHECKED BY: XD

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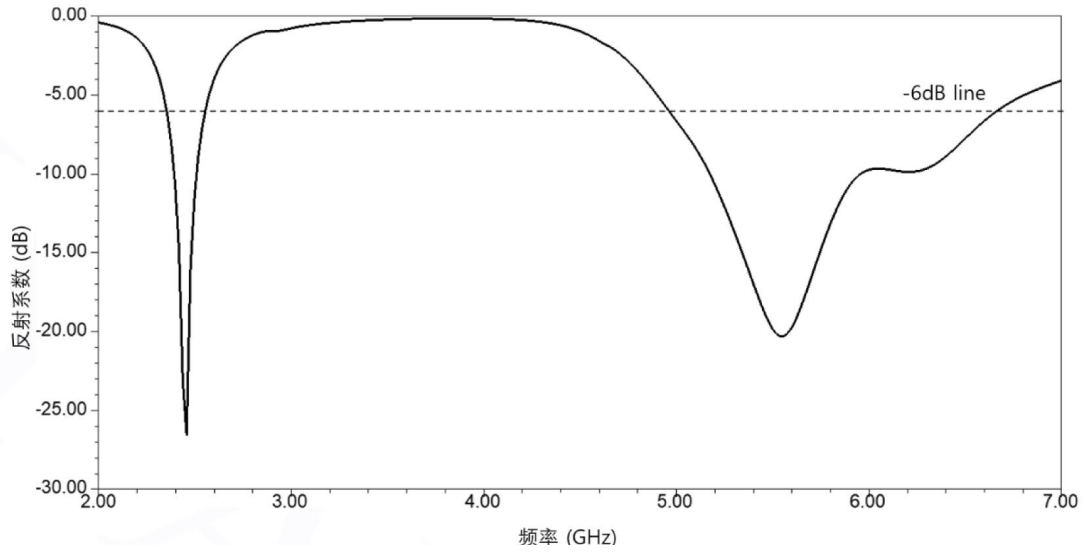
TITLE: CHIP2450-1608 Specification



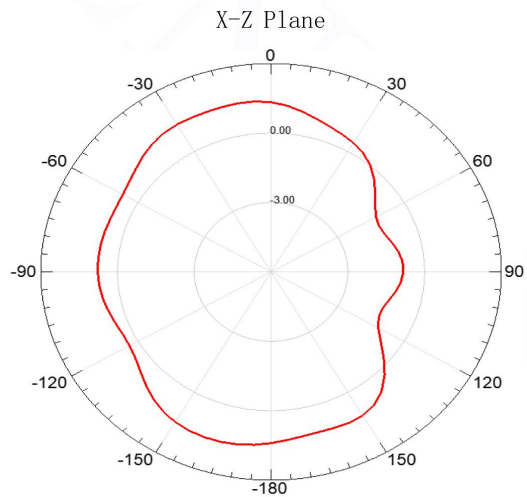
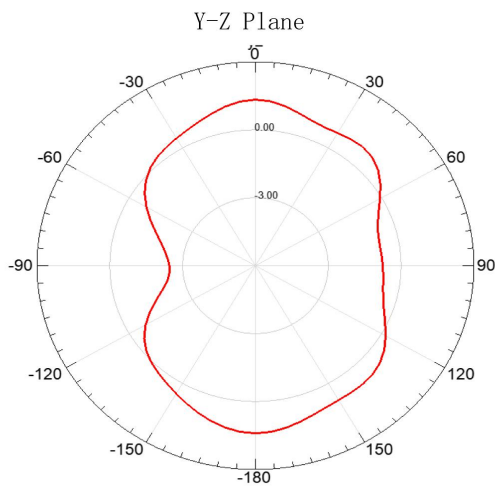
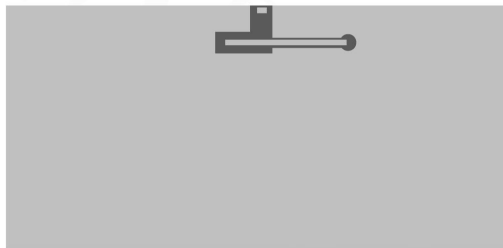
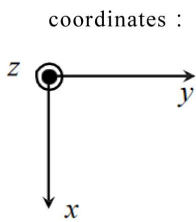
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|              |      | P1        |

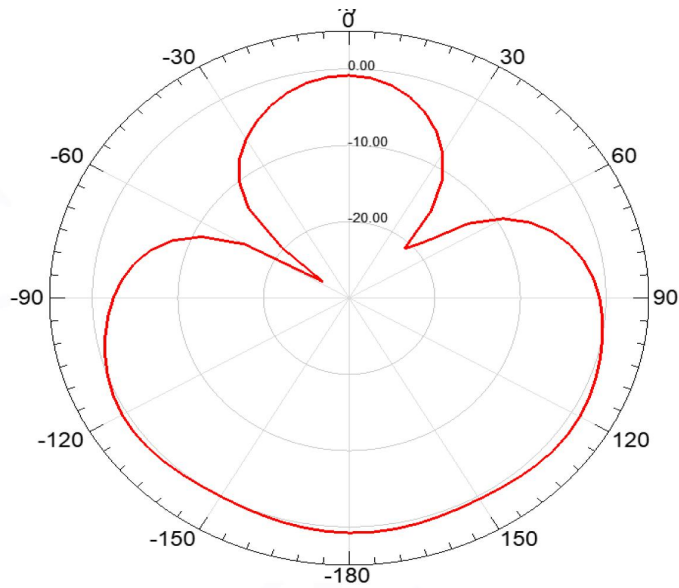


### Radiation Pattern

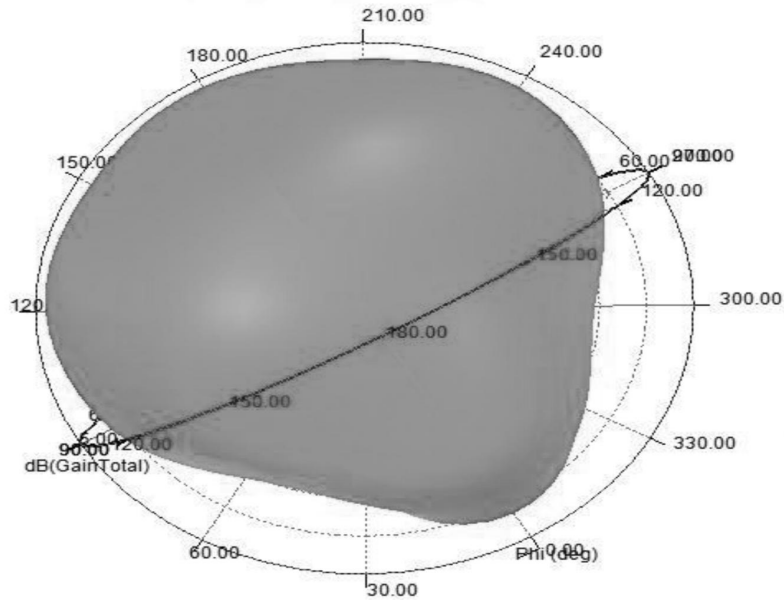


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|  |                 | SPEC REV. <b>P1</b>   |





**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

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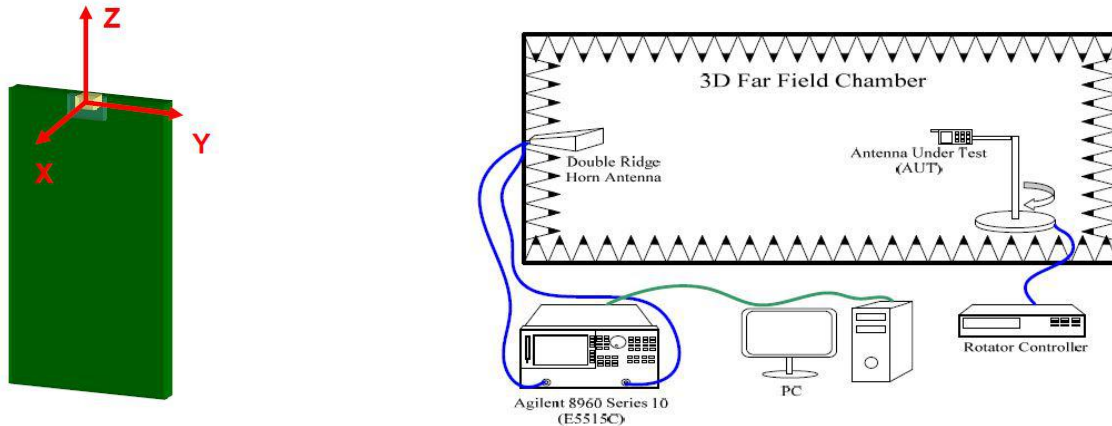
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|--------------|------|-----------|
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|              |      | P1        |

### 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.



### 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:

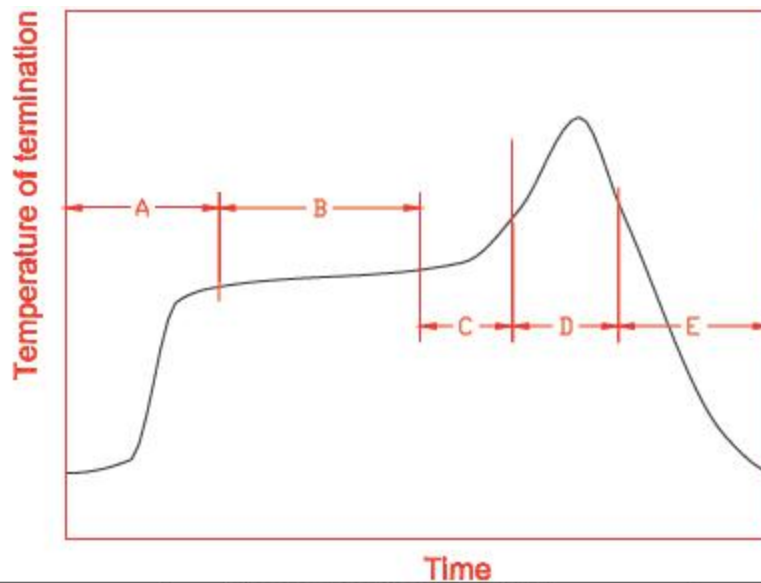
The temperature should be within -40~85°C and humidity should be less than 85% RH.

#### (3) Operating Temperature Range

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

|  |                 |   |                 |
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### 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.

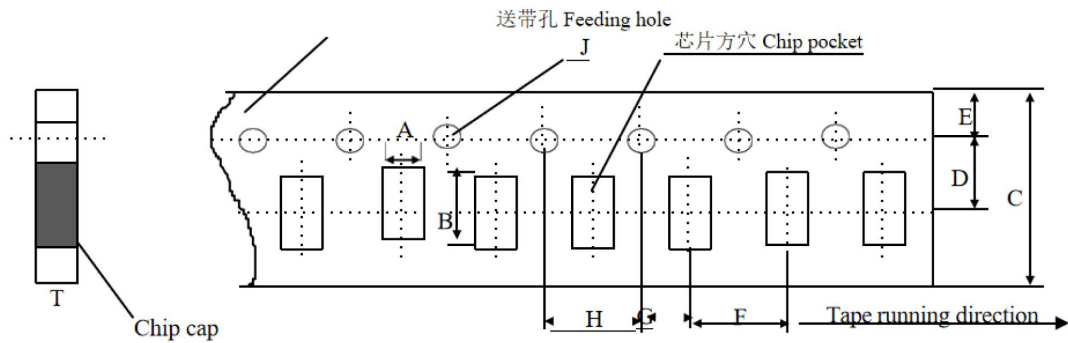
- (a) The tip temperature must be less than 350° C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

#### (2) Soldering Volume

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

|  |                 |   |
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|  |                 | SPEC REV. <b>P1</b>   |

### Dimensions of paper taping:

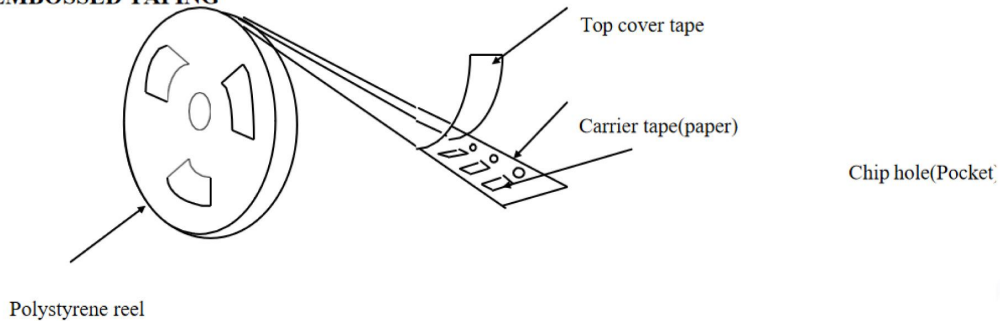


Unit: mm

| 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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