

# 产品规格承认书

## SPECIFICATIONS

客户:

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

产品名称:

DESCRIPTION: SMD ANT

客户型号:

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

产品型号:

OUR MODEL NO: **JM13**

日期:

DATE: 2021/09/01

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
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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.
		P1

## PBX1608MA02 Specification

Operating Temp. : -40°C~+85°C

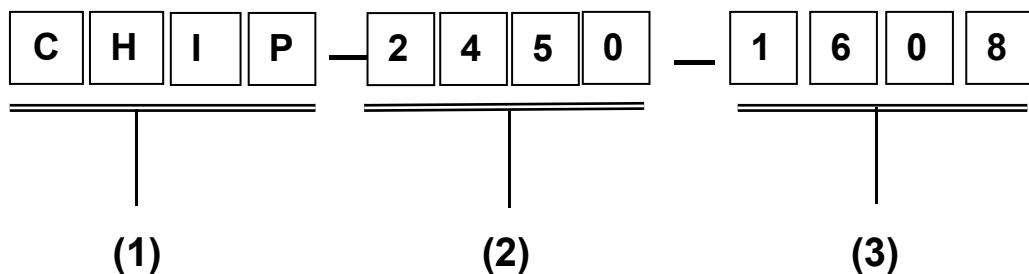
### 1. FEATURES:

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

### 2. APPLICATIONS:

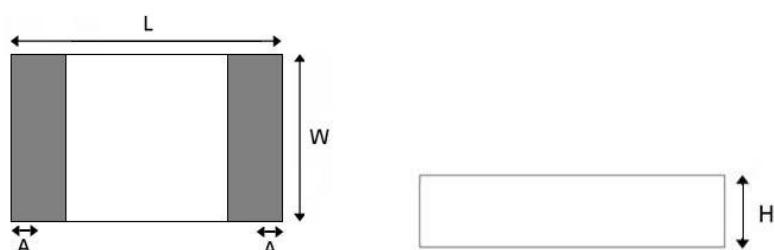
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

### 3. PRODUCT IDENTIFICATION



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

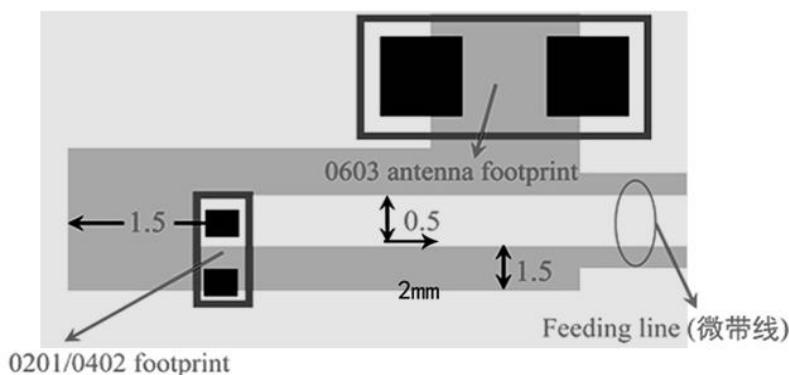
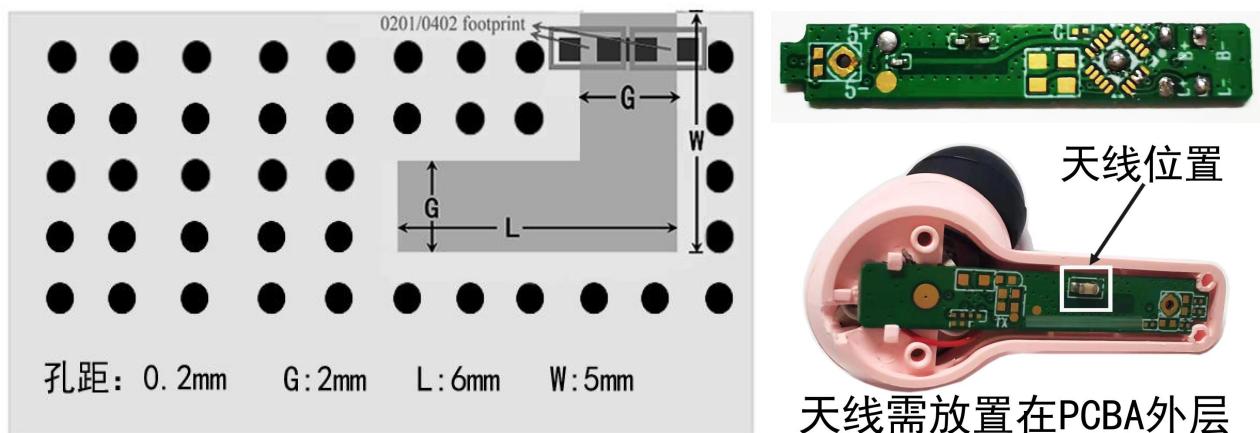
### 4. SHAPE AND DIMENSIONS:



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

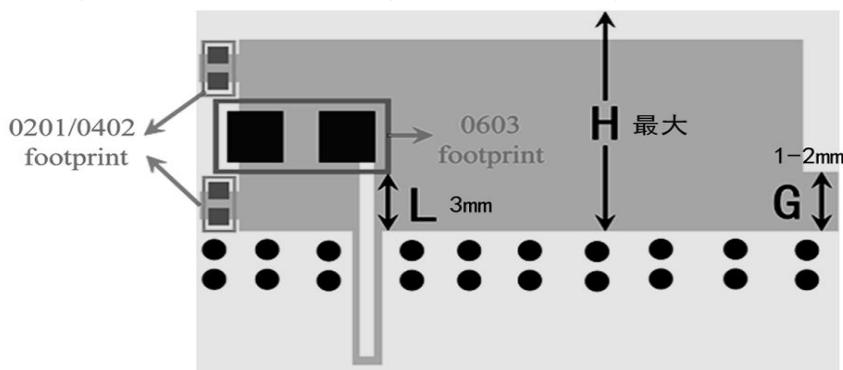
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- 天线位于 PCB 板内部或中间位置时（长条式耳机）：（单位：mm）



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）：



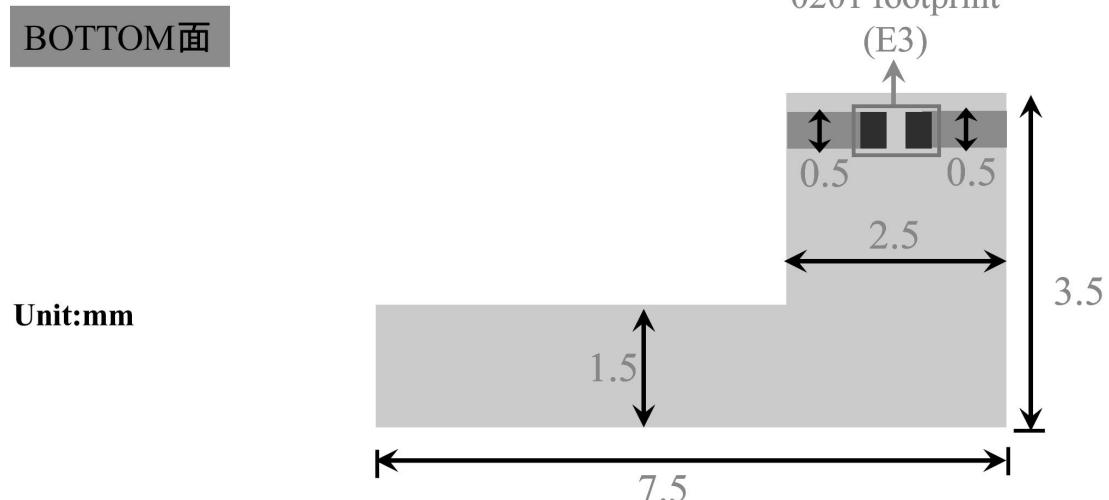
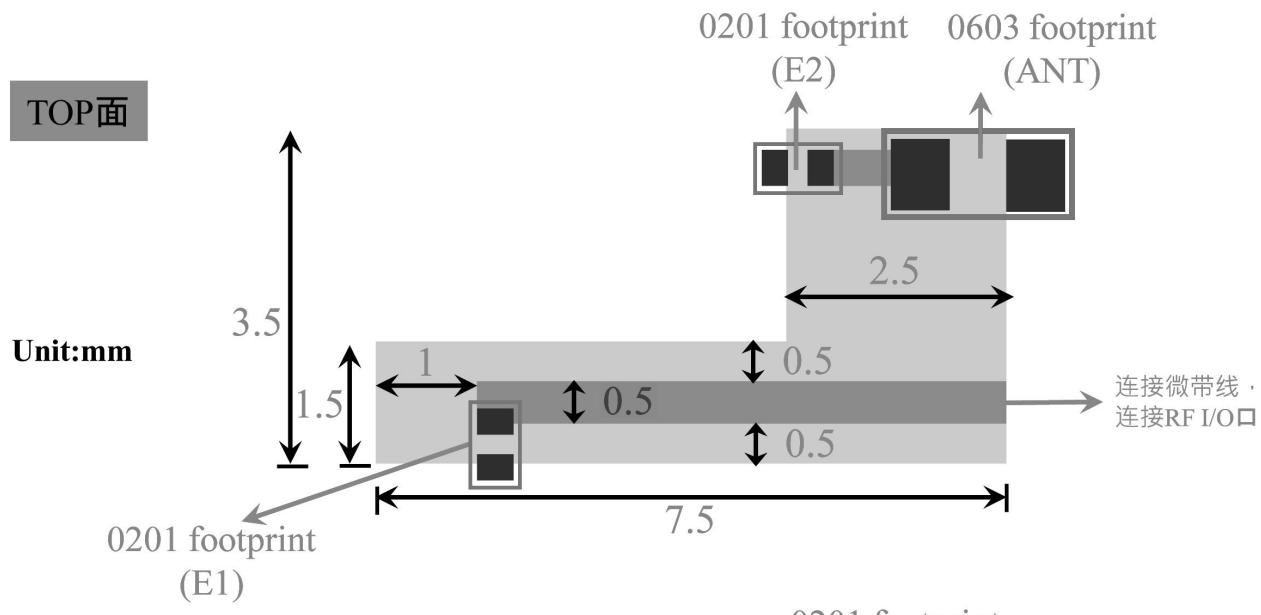
天线最优放置于 PCBA 的边缘；天线及其走线设置在单层。

设计标准：

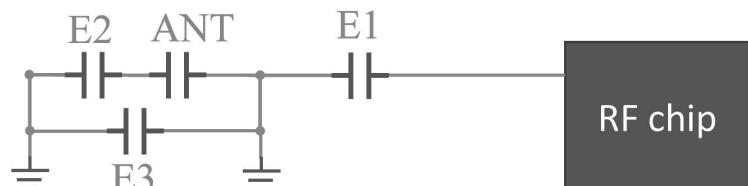
1. 图中的尺寸仅作为参考；实际尺寸会根据不同版型进行优化。
2. 净空区周围最优需要至少一排过孔，孔径 0.3mm，与 PCBA 上的其它回路或物料进行隔离。

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## 天线封装方案一 (3.5mm×7.5mm)



## 原理图



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 $X = \pm$     $X.X = \pm$     $X.XX = \pm$   
**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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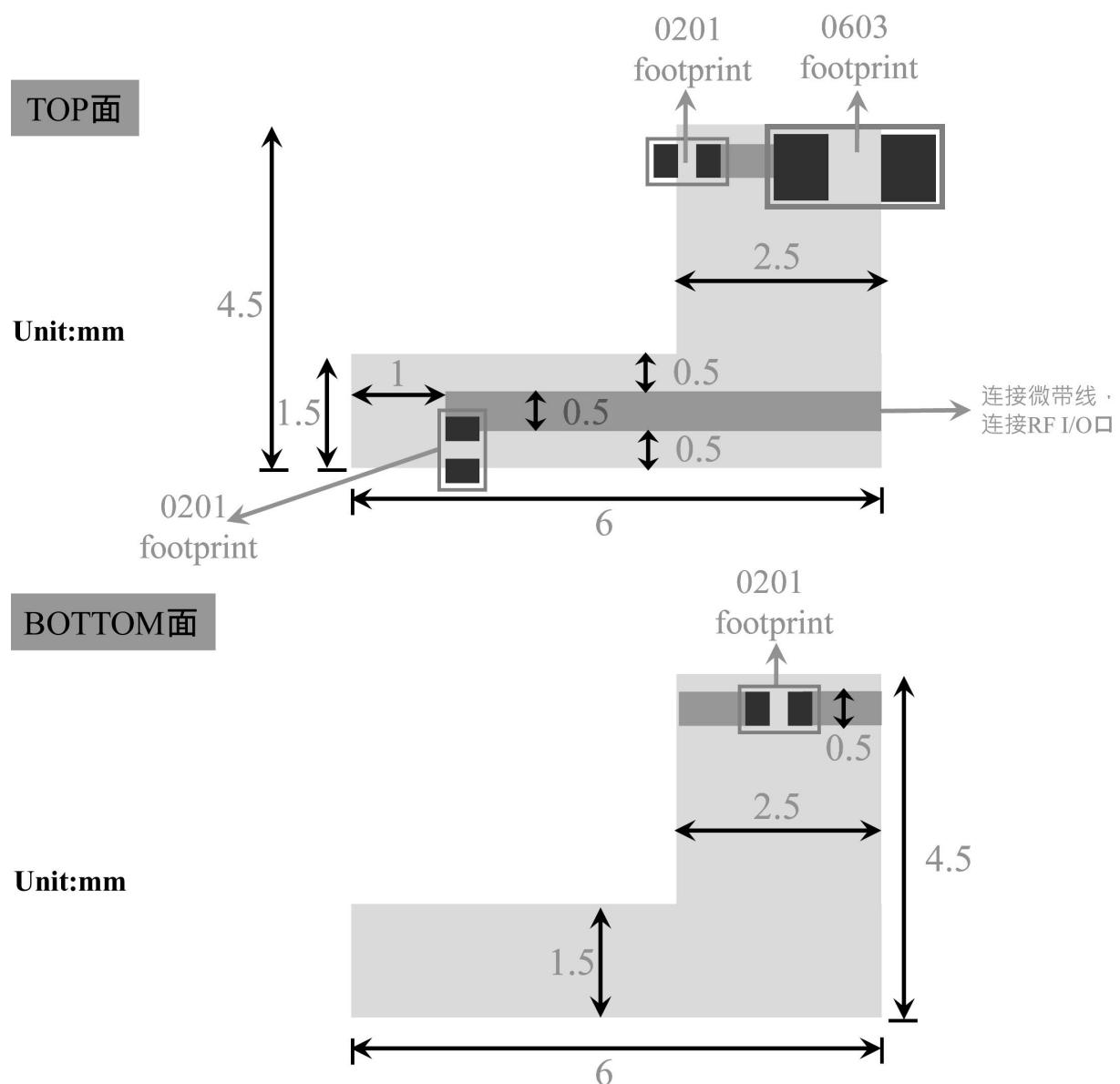
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## 天线封装方案二 (4.5mm×6mm)



UNLESS OTHER SPECIFIED TOLERANCES ON:  
 $X = \pm$     $X.X = \pm$     $X.XX = \pm$   
**ANGLES** =  $\pm$    **HOLE DIA** =  $\pm$

SCALE: N/A

DRAWN BY : Sera

DESIGNED BY: Sera

TITLE: CHIP2450-1608 Specification



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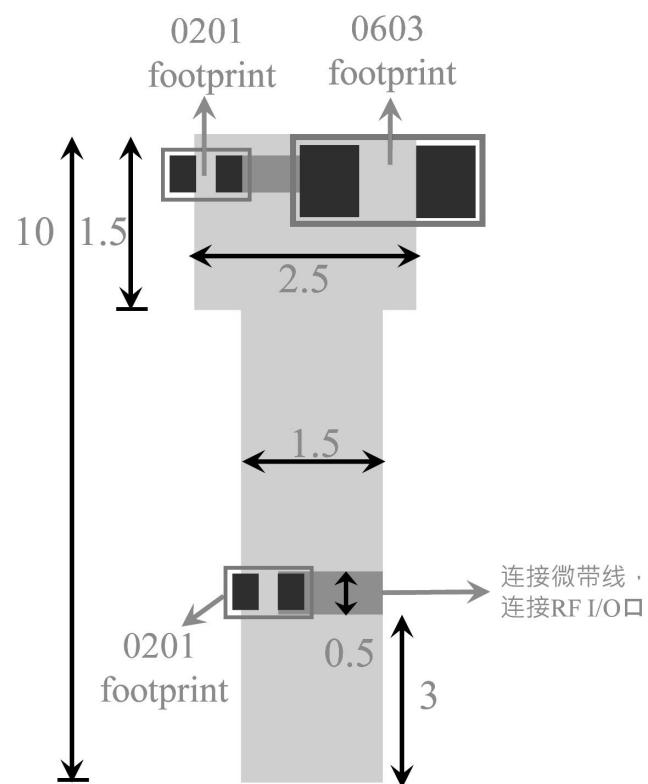
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## 天线封装方案三 (1.5mm×10mm)

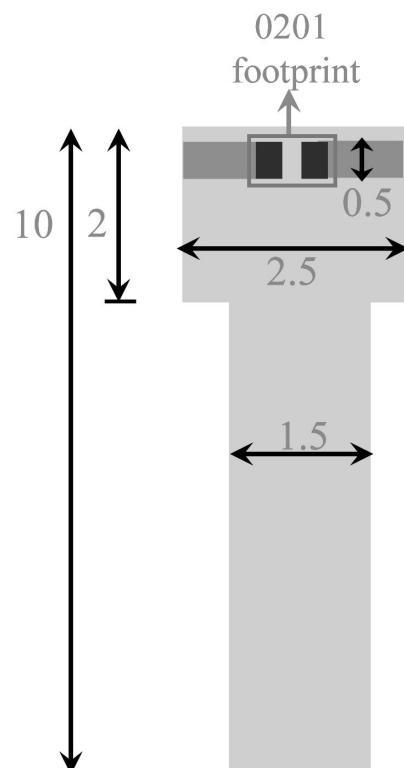
TOP面

Unit:mm



BOTTOM面

Unit:mm



UNLESS OTHER SPECIFIED TOLERANCES ON:  
 $X = \pm$     $X.X = \pm$     $X.XX = \pm$   
**ANGLES** =  $\pm$    **HOLE DIA** =  $\pm$

SCALE: N/A

DRAWN BY: Sera

DESIGNED BY: Sera

UNIT: mm

CHECKED BY: XD

APPROVED BY: XD



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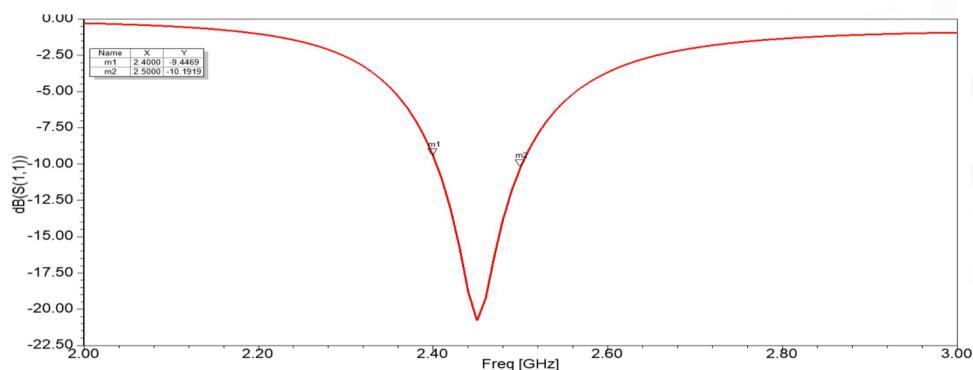
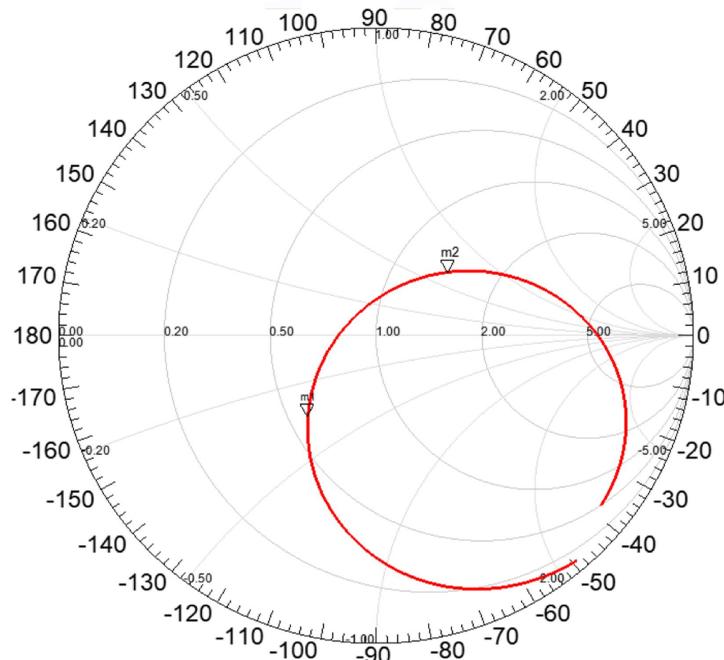
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P1

## Electrical Characteristics

	Feature	Specification
1	Central frequency	2.45GHz&5.5GHz
2	Bandwidth	>100MHz
3	Peak gain	3dBi
4	VSWR	<2
5	Polarization	Linear
6	Azimuth beamwidth	Omnidirectional
7	Impedance	50 Ω

## Characteristic Curves



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



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SCALE: N/A

UNIT: mm

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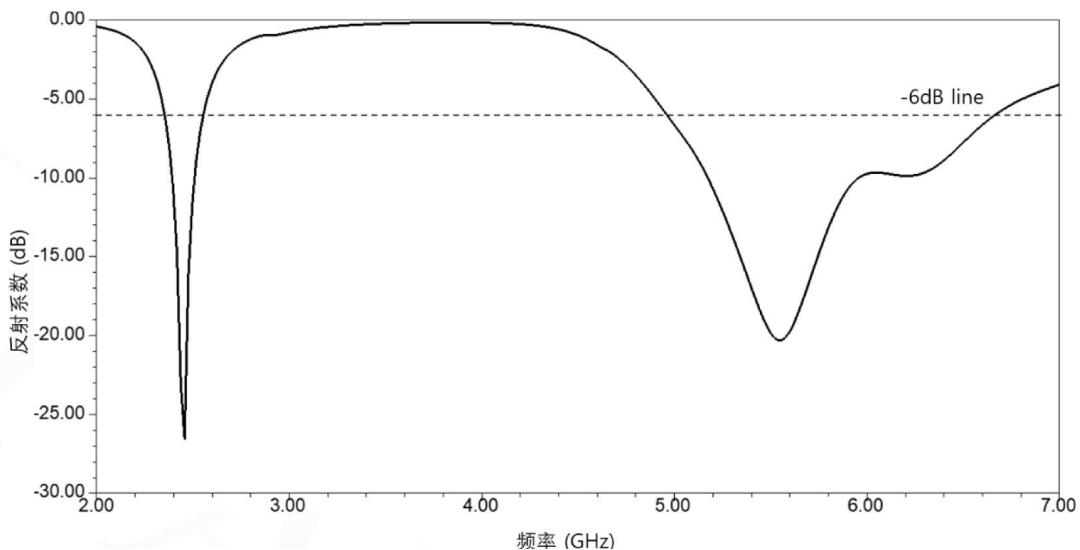
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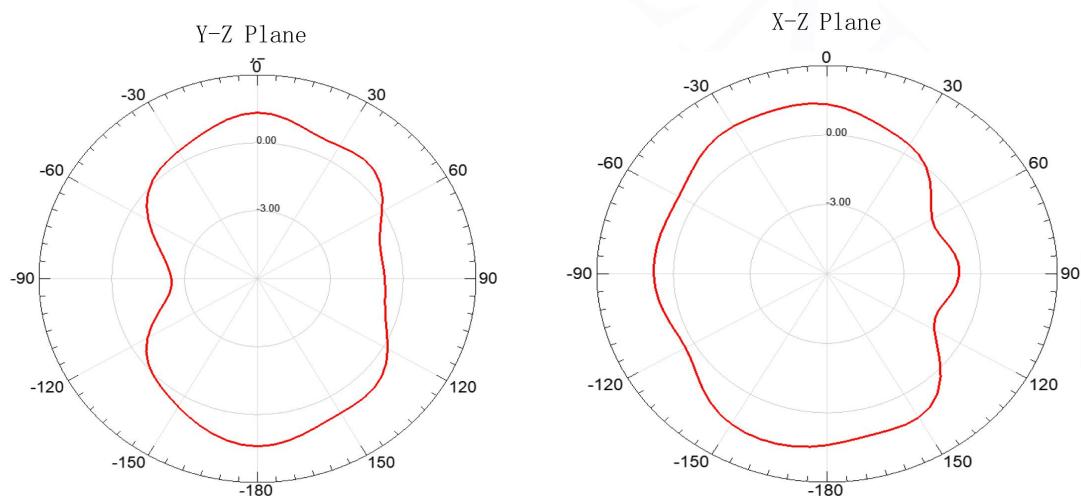
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## Radiation Pattern



UNLESS OTHER SPECIFIED TOLERANCES ON:  
 $X = \pm$     $X.X = \pm$     $X.XX = \pm$   
**ANGLES** =  $\pm$    **HOLE DIA** =  $\pm$

**SCALE:** N/A

**DRAWN BY:** Sera

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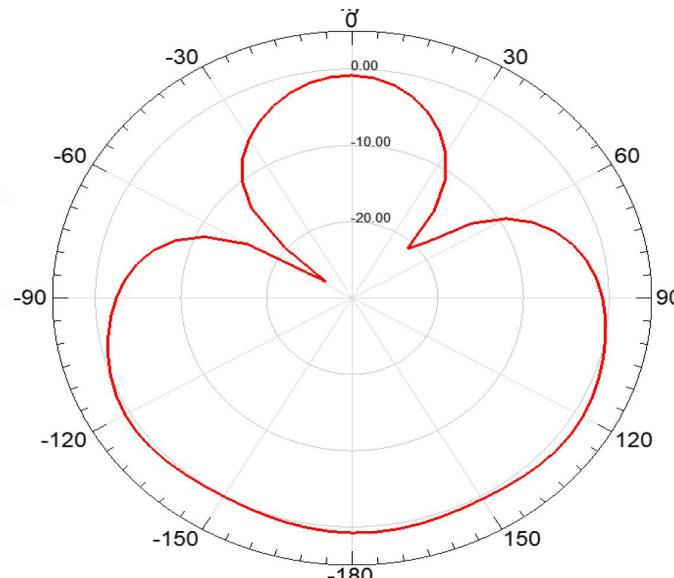
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DOCUMENT NO.

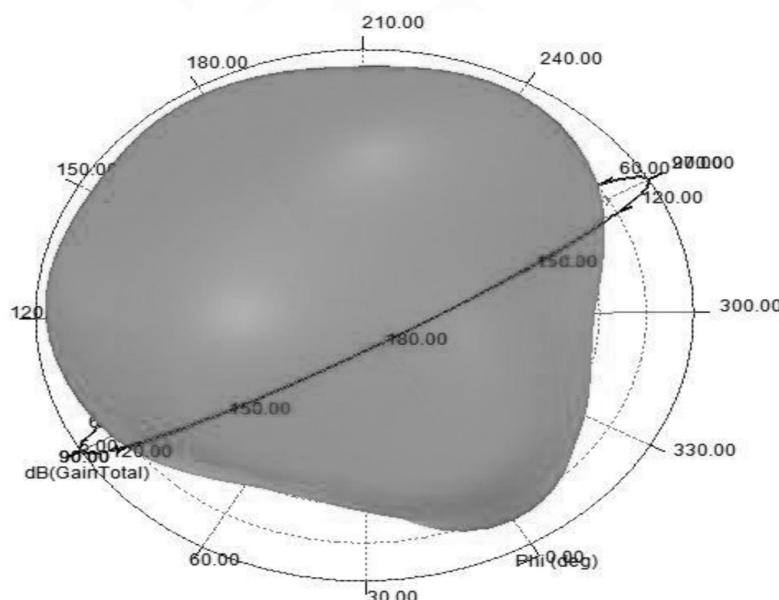
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### 3D Radiation Pattern

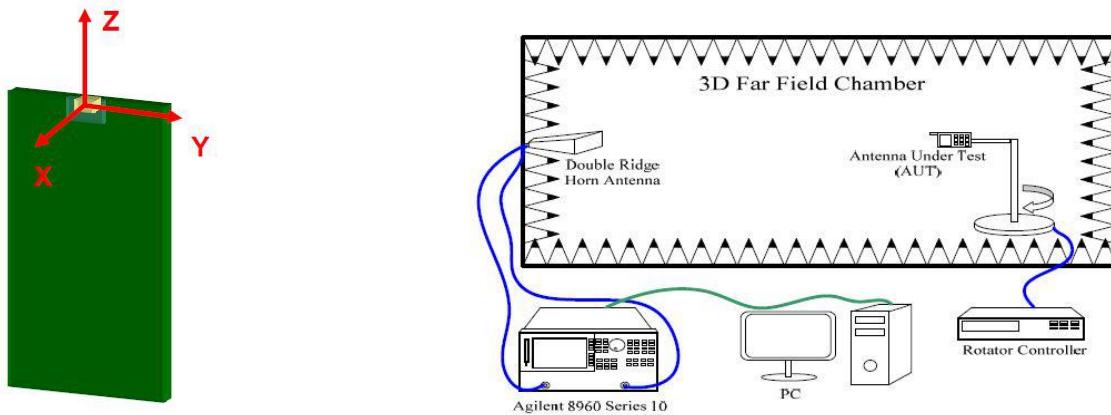


Frequency	2450MHz	5500MHz
Avg. gain	-0.85	-1.30
Peak gain	3.0	3.5
Efficiency	82%	78%

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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.



## Environmental Characteristics

### (1) Reliability Test

Item	Condition	Specification
Thermal shock	1. $30 \pm 3$ minutes at $-40^\circ C \pm 5^\circ C$ , 2. Convert to $+105^\circ C$ (5 minutes) 3. $30 \pm 3$ minutes at $+105^\circ C \pm 5^\circ C$ , 4. Convert to $-40^\circ C$ (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: $85 \pm 5^\circ C$ 3. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	1. Temperature: $150^\circ C \pm 5^\circ C$ 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Low temperature resistance	1. Temperature: $-40^\circ C \pm 5^\circ C$ 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	1. Solder bath temperature : $260 \pm 5^\circ C$ 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 $245 \pm 5^\circ C$ for $3 \pm 1$ seconds.	No apparent damage

### (2) Storage Condition

#### (a) At warehouse:

The temperature should be within  $0 \sim 30^\circ C$  and humidity should be less than 60% RH.

The product should be used within 1 year from the time of delivery.

#### (b) On board:

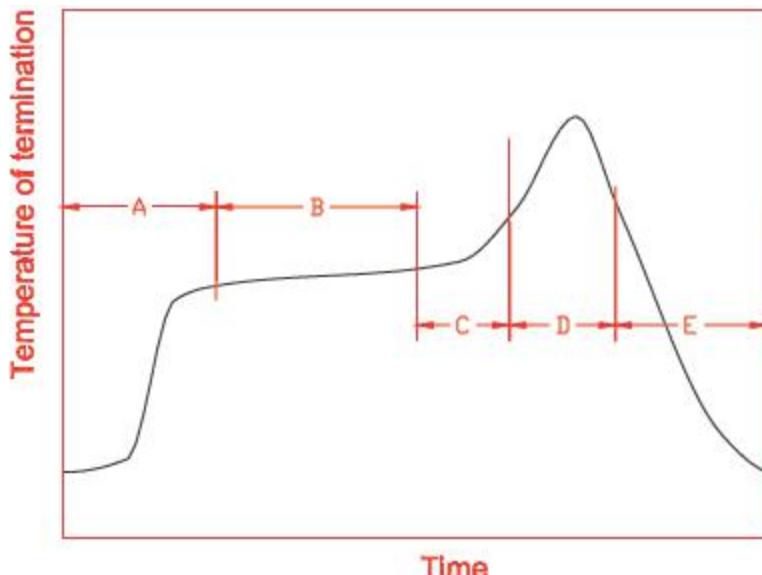
The temperature should be within  $-40 \sim 85^\circ C$  and humidity should be less than 85% RH.

### (3) Operating Temperature Range

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

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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.

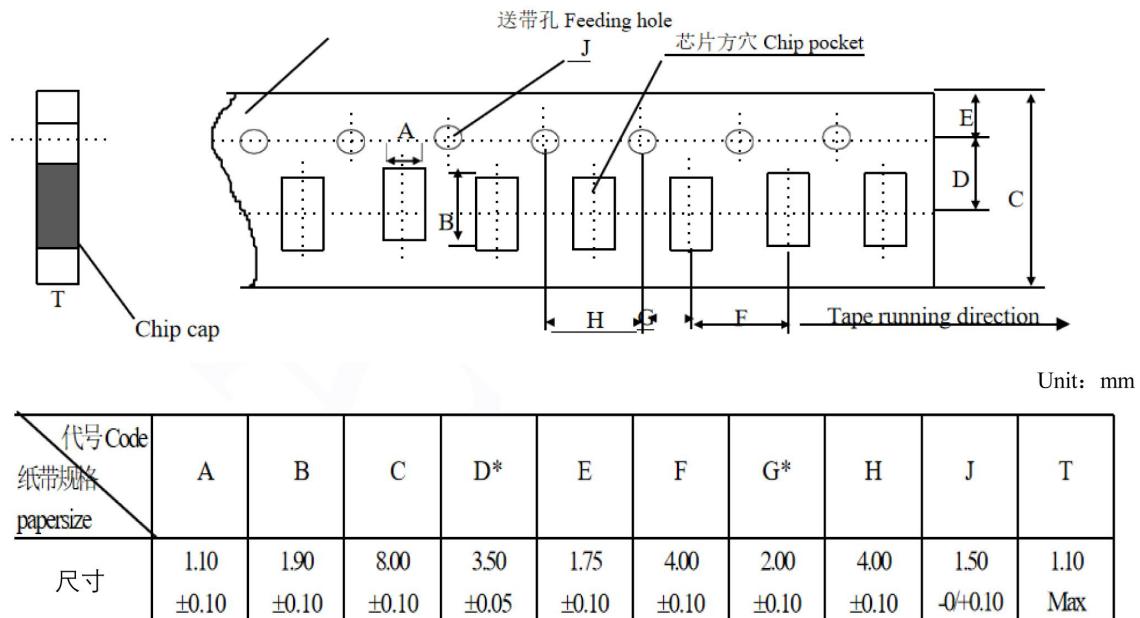
- (a) The tip temperature must be less than 350° C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

### (2) Soldering Volume

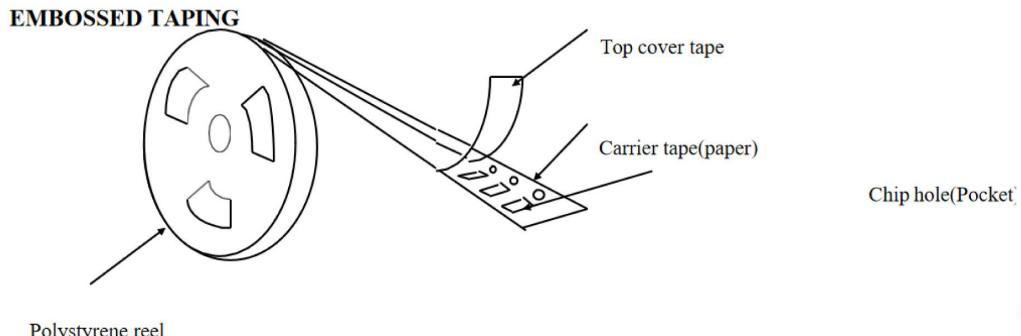
Note that excess of soldering volume will easily get crack the body of this product.

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## Dimensions of paper taping:



Reel (4000 pcs/Reel)



## 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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