

# 产品规格承认书

## SPECIFICATIONS

客户：

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

产品名称：

DESCRIPTION: \_\_\_\_\_ Chip Antenna \_\_\_\_\_

客户型号：

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

产品型号：

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

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

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DRAWN BY: Sera	CHECKED BY: XD			
DESIGNED BY: Sera	APPROVED BY: XD			
TITLE: CHIP2450-1608 Specification		DOCUMENT NO.	1608	SPEC REV. P1

# PBX1608MA02 Specification

Operating Temp. : -40°C~+85°C

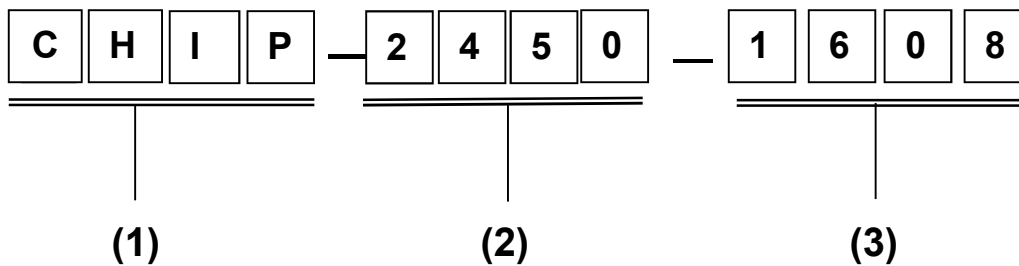
## 1. FEATURES:

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

## 2. APPLICATIONS:

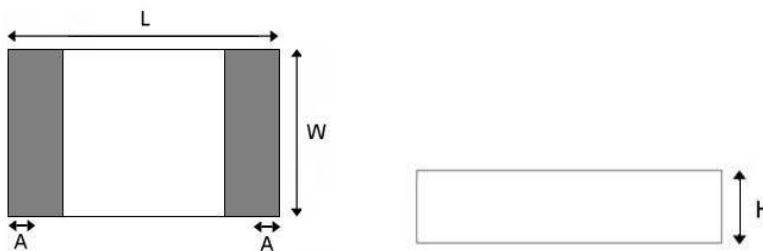
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

## 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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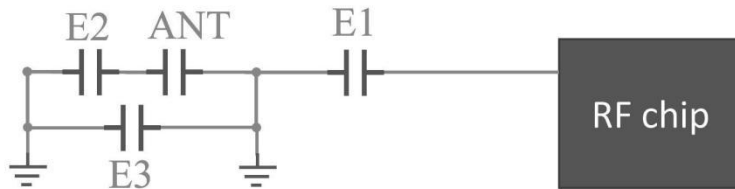
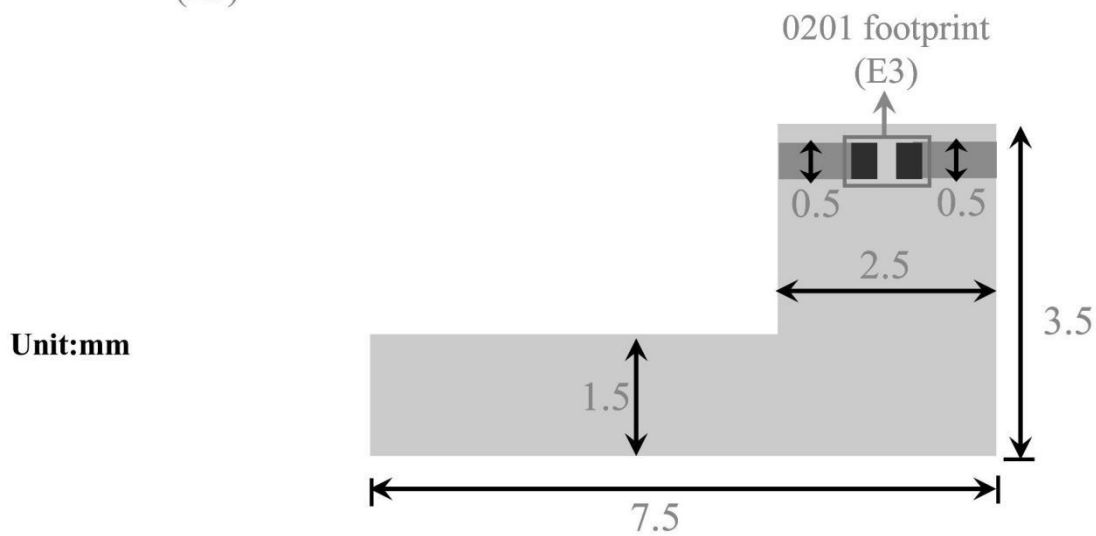
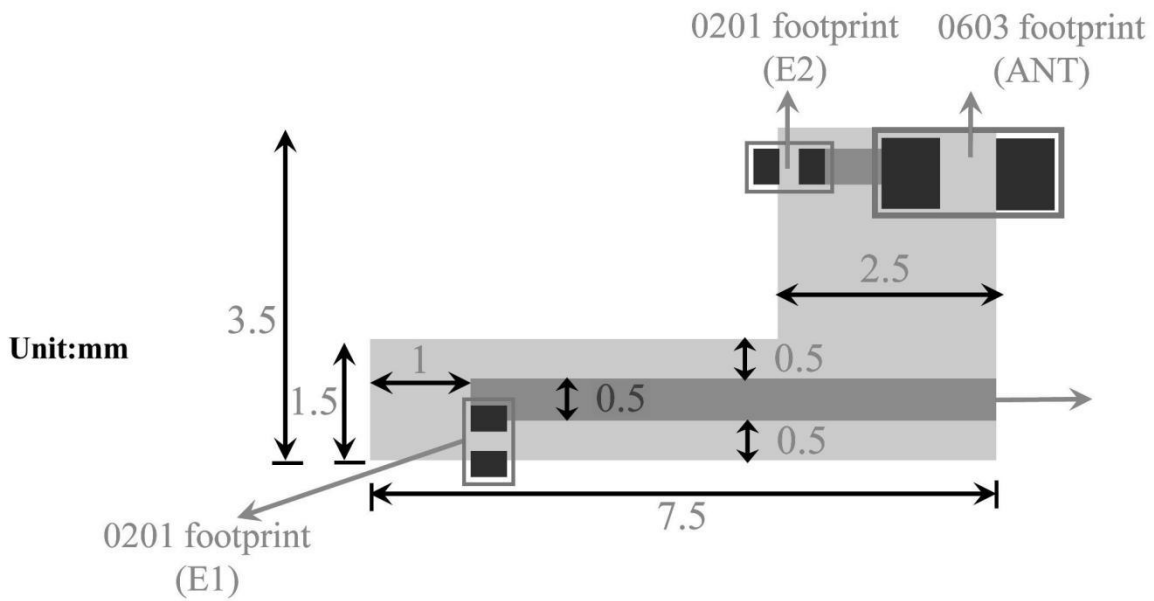
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(3.5mm×7.5mm)



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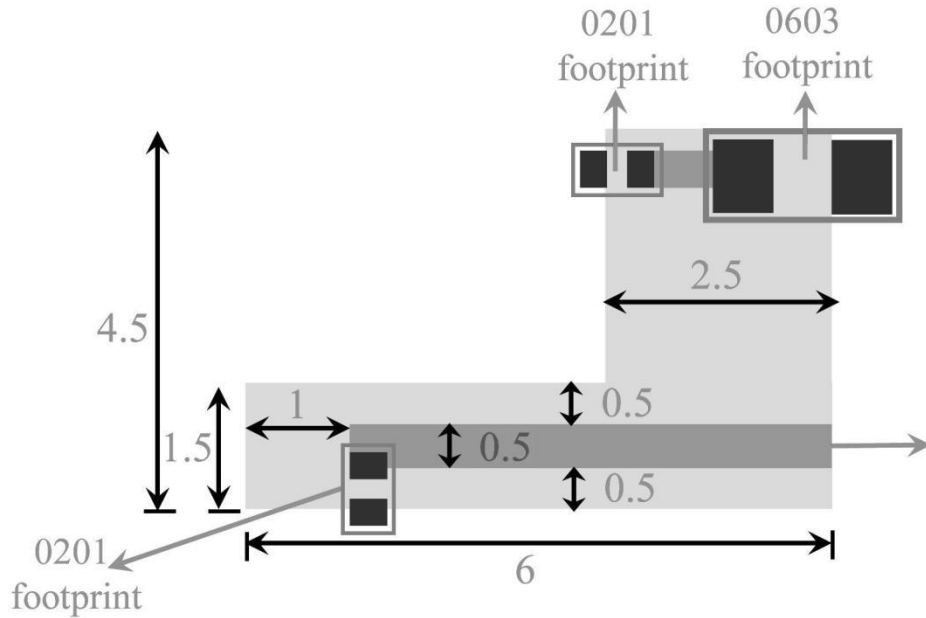
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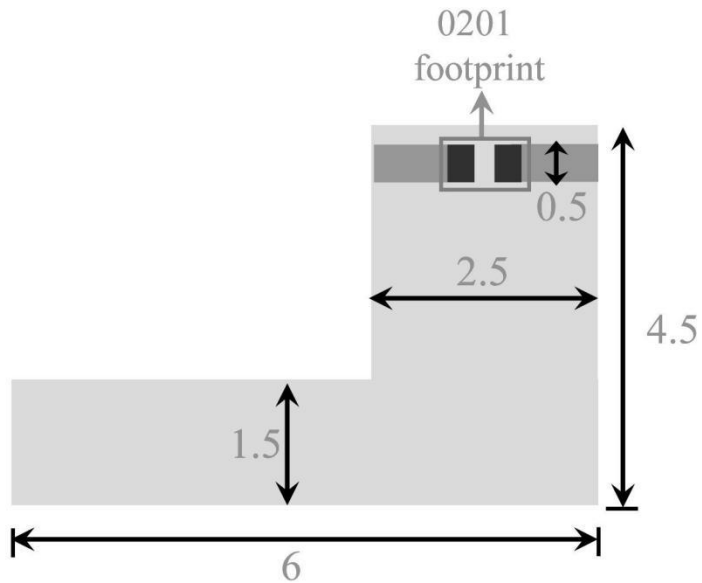
P1

(4.5mm × 6mm)

Unit:mm



Unit:mm



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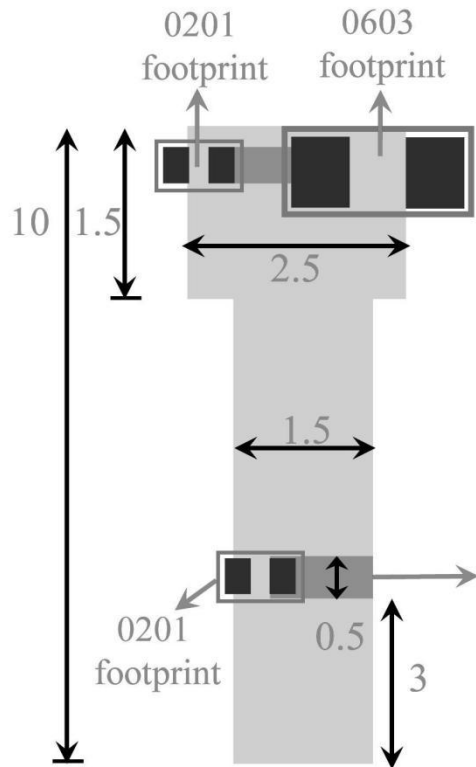
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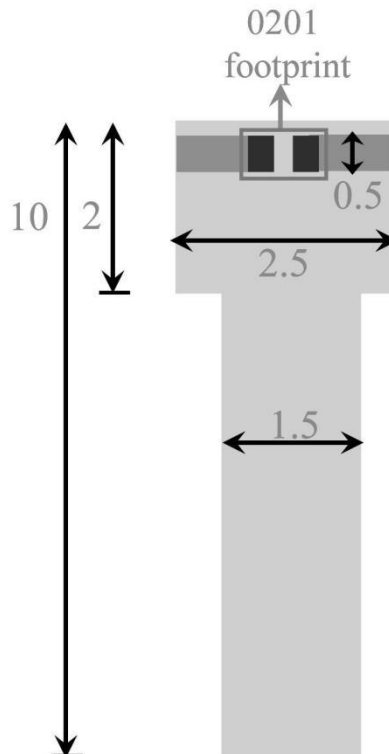
P1

(1.5mm×10mm)

Unit:mm



Unit:mm



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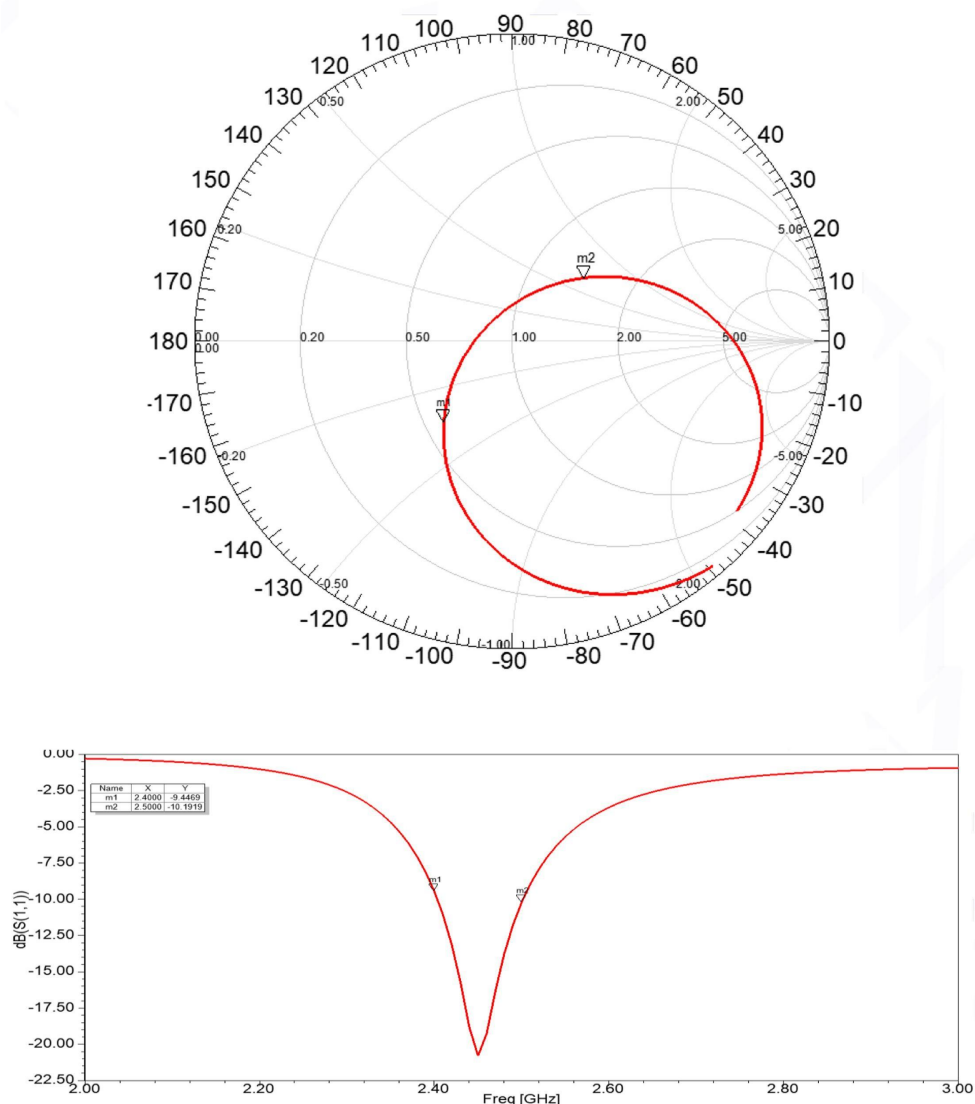
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## Electrical Characteristics

	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 $\Omega$

## Characteristic Curves



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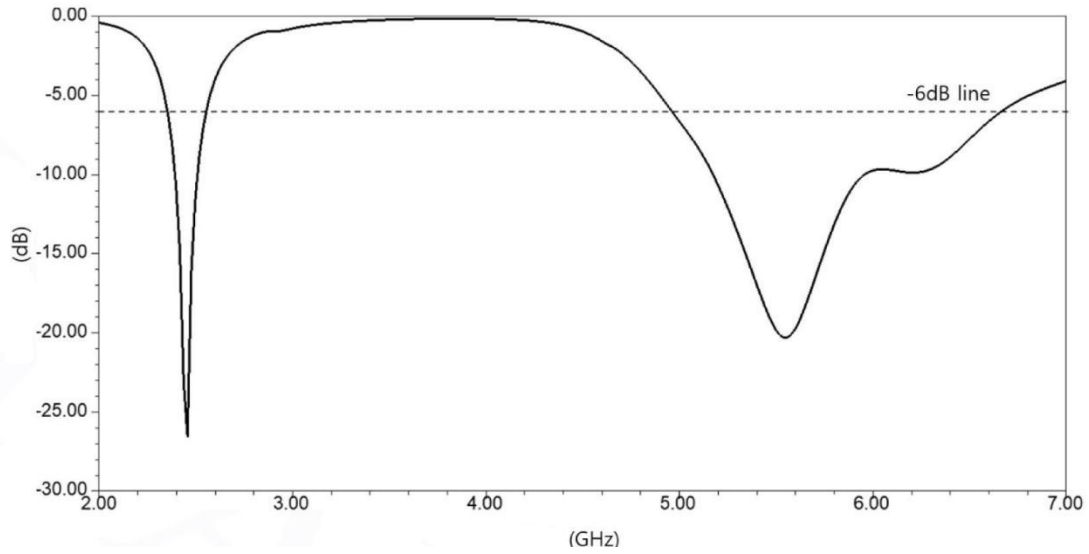
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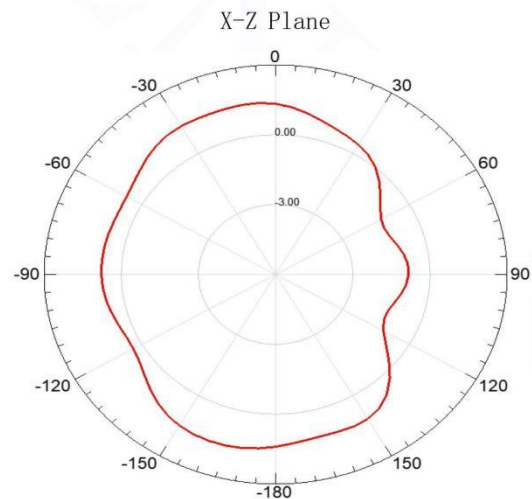
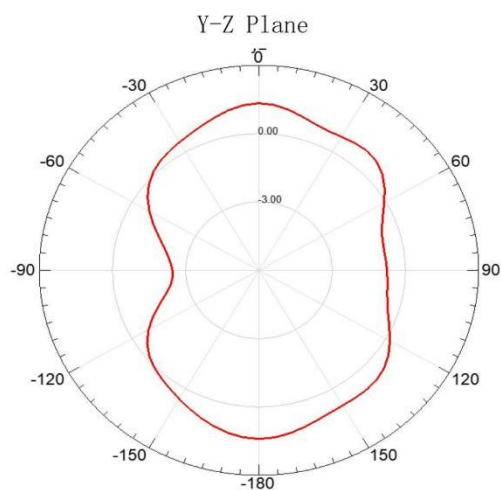
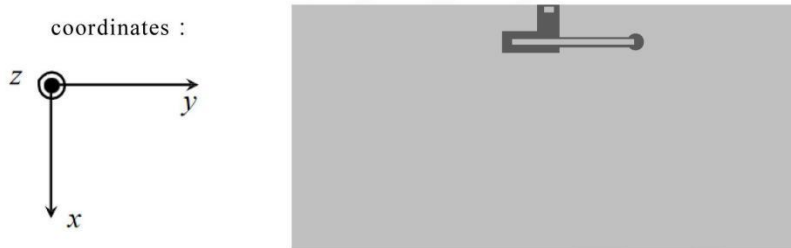
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### Radiation Pattern



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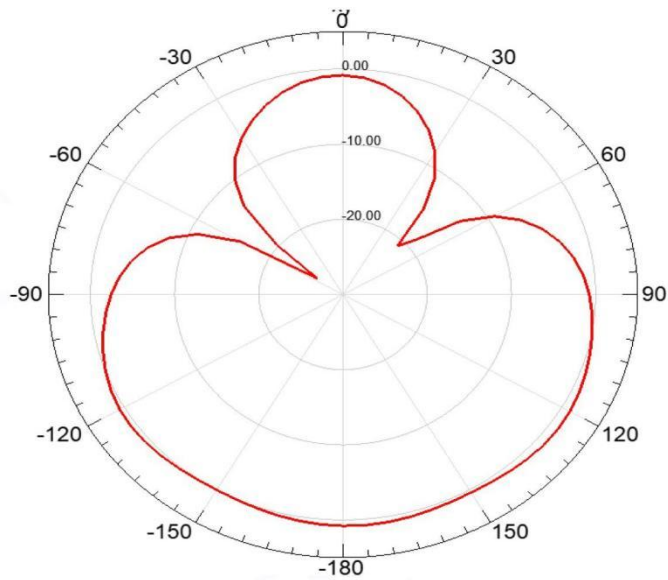
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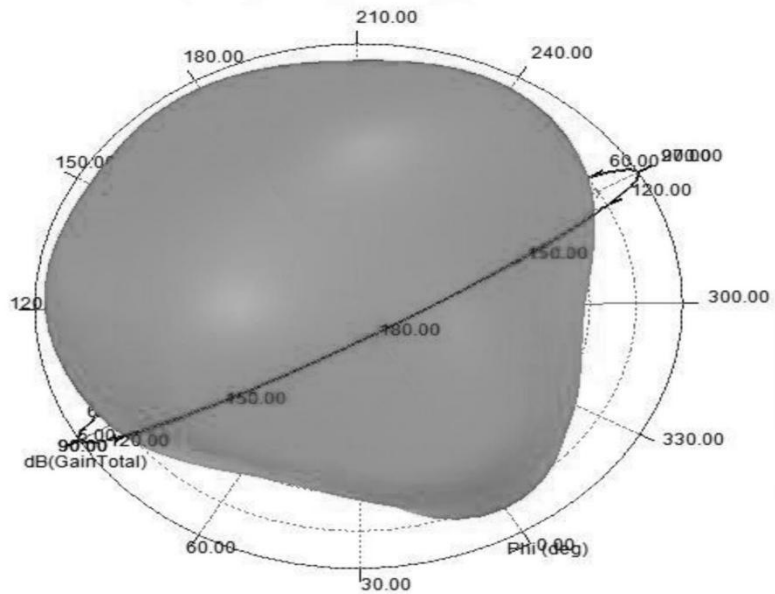
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### 3D Radiation Pattern



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

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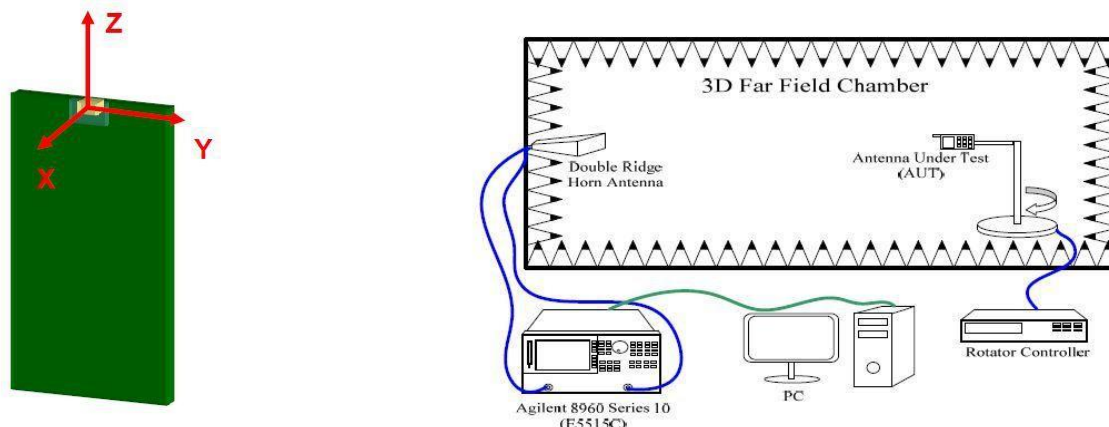
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## Radiation Pattern

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	<ol style="list-style-type: none"> <li>1. <math>30 \pm 3</math> minutes at <math>-40^\circ \text{C} \pm 5^\circ \text{C}</math>,</li> <li>2. Convert to <math>+105^\circ \text{C}</math> (5 minutes)</li> <li>3. <math>30 \pm 3</math> minutes at <math>+105^\circ \text{C} \pm 5^\circ \text{C}</math>,</li> <li>4. Convert to <math>-40^\circ \text{C}</math> (5 minutes)</li> <li>5. Total 100 continuous cycles</li> </ol>	No apparent damage Fulfill the electrical spec. after test.
Humidity resistance	<ol style="list-style-type: none"> <li>1. Humidity: 85% R.H.</li> <li>2. Temperature: <math>85 \pm 5^\circ \text{C}</math></li> <li>3. Time: 1000 hours.</li> </ol>	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	<ol style="list-style-type: none"> <li>1. Temperature: <math>150^\circ \text{C} \pm 5^\circ \text{C}</math></li> <li>2. Time: 1000 hours.</li> </ol>	No apparent damage Fulfill the electrical spec. after test.
Low temperature resistance	<ol style="list-style-type: none"> <li>1. Temperature: <math>-40^\circ \text{C} \pm 5^\circ \text{C}</math></li> <li>2. Time: 1000 hours.</li> </ol>	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	<ol style="list-style-type: none"> <li>1. Solder bath temperature : <math>260 \pm 5^\circ \text{C}</math></li> <li>2. Bathing time: <math>10 \pm 1</math> seconds</li> </ol>	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:

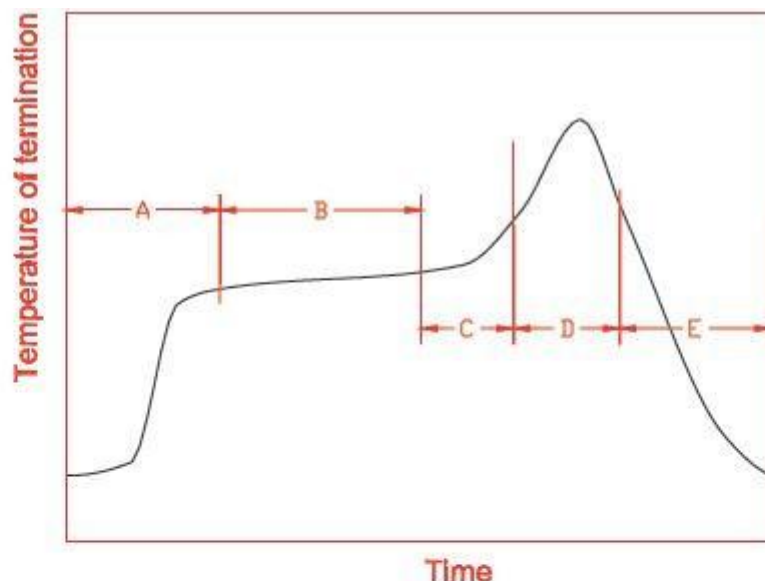
The temperature should be within  $-40 \sim 85^\circ \text{C}$  and humidity should be less than 85% RH.

### (3) Operating Temperature Range

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

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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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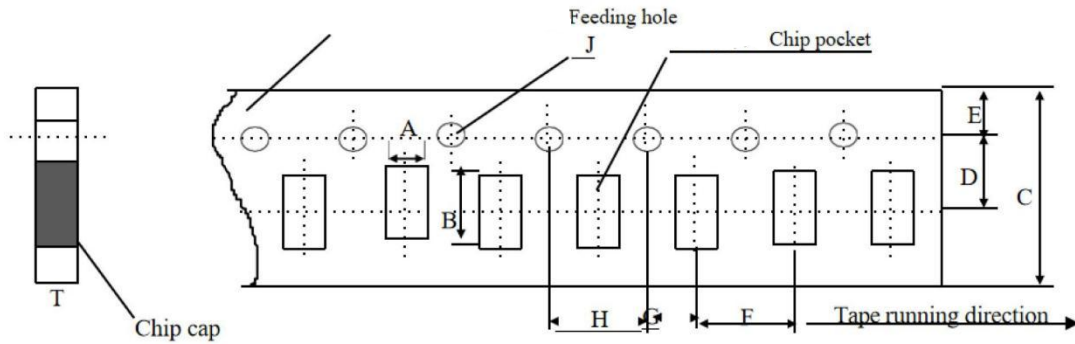
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## Dimensions of paper taping:

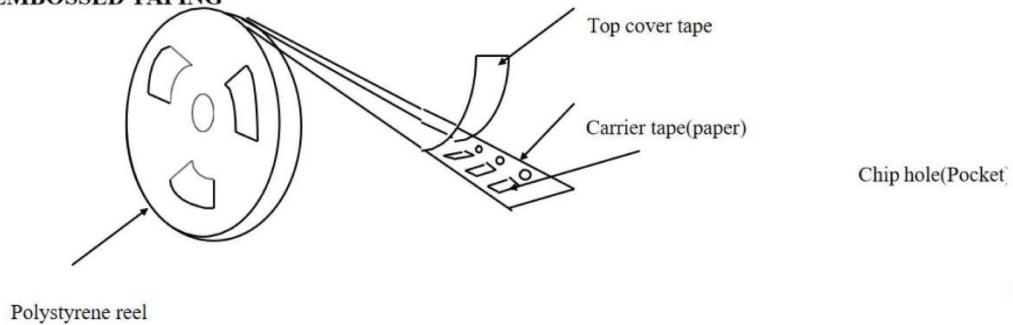


Unit: mm

Code	A	B	C	D*	E	F	G*	H	J	T
papersize										
尺寸	1.10 ±0.10	1.90 ±0.10	8.00 ±0.10	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.10	1.50 -0/+0.10	1.10 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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