

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
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UNLESS OTHER SPECIFIED TOLERANCES ON:

$X=\pm$ $X.X=\pm$ $X.XX=$
ANGLES = $\pm$ **HOLEDIA** = $\pm$



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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

DOCUMENT
NO.

1608

SPEC REV.

P1

PBX1608MA06 Specification

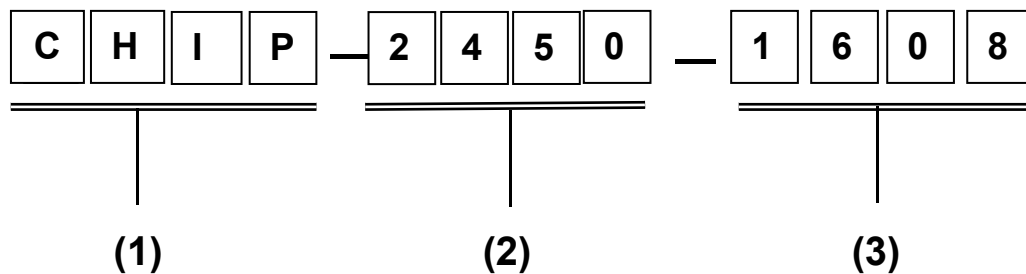
Operating Temp. : -40℃~+85℃

1. FEATURES:

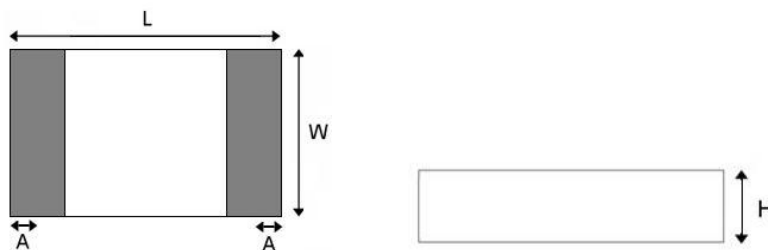
- Light weight, compact
- Wide bandwidth, low cost
- Built-in antenna with high gain

2. APPLICATIONS:

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

3. PRODUCT IDENTIFICATION

- (1) Product type: 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

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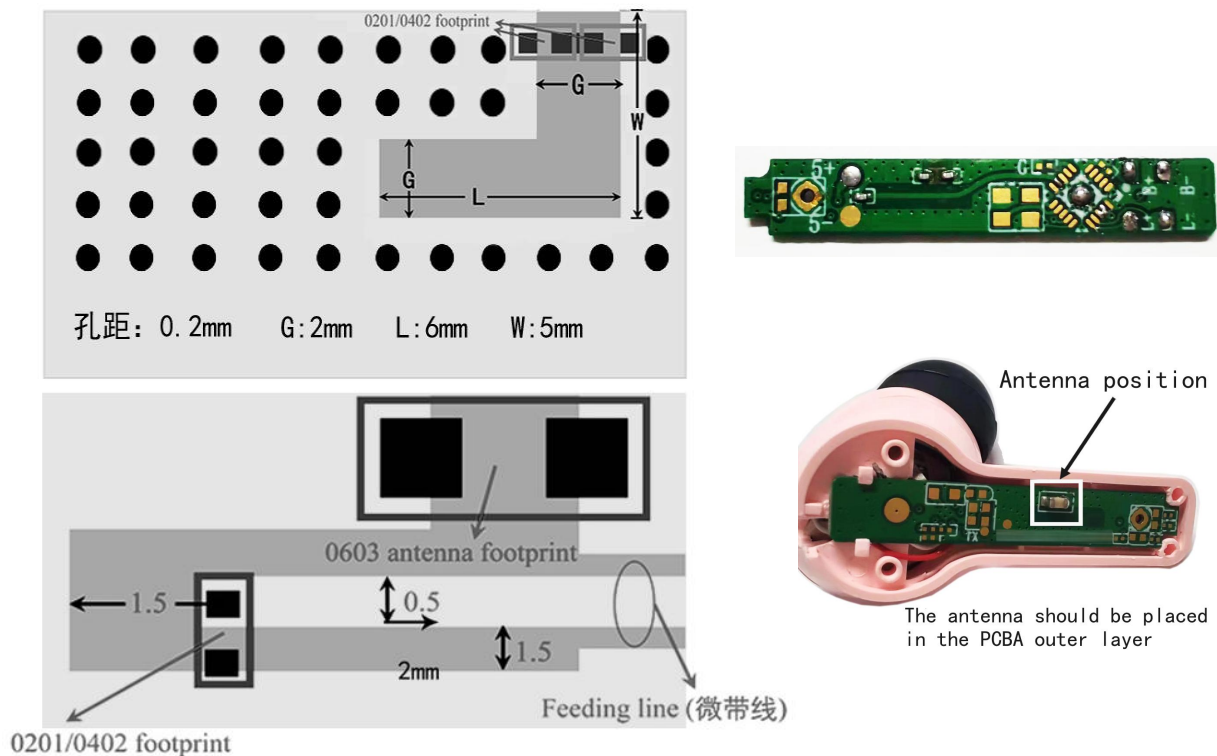
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●Antenna is located in the PCB board or the middle position (long-bar headphones): (units: mm)

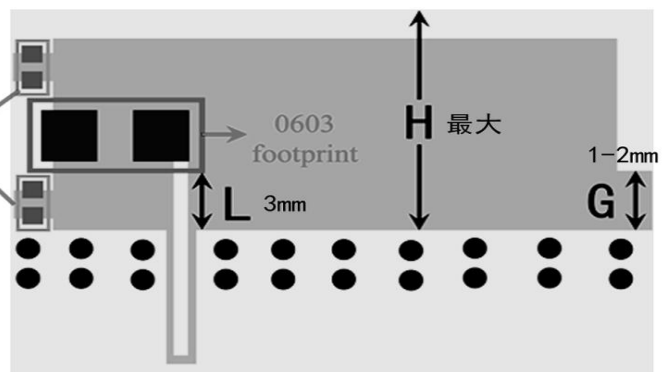


The antenna is optimally placed in the middle area, and at least one row of through holes around the clearance area is optimally required.

● 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.

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HOLES DIA $= \pm$

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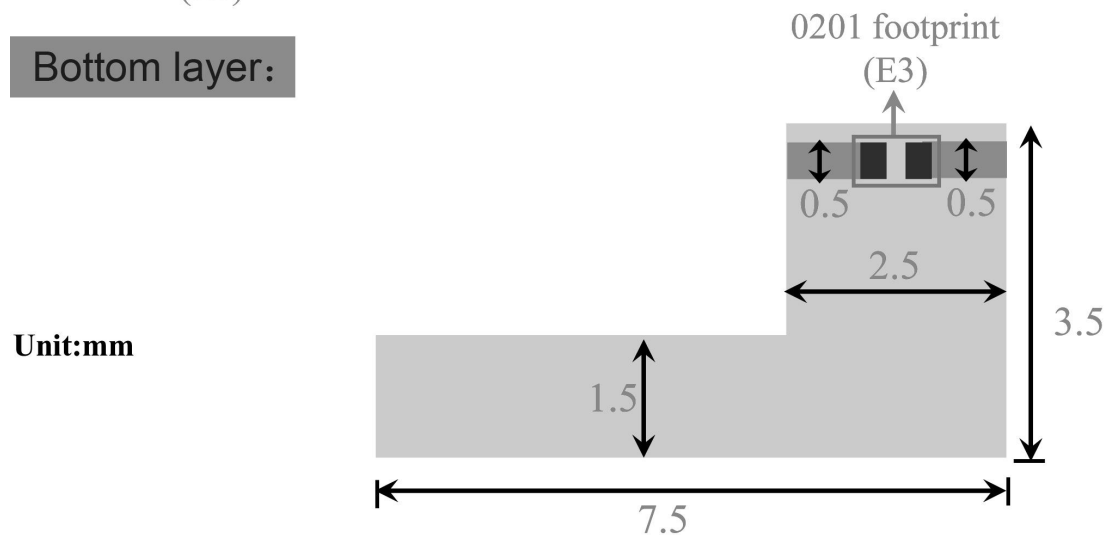
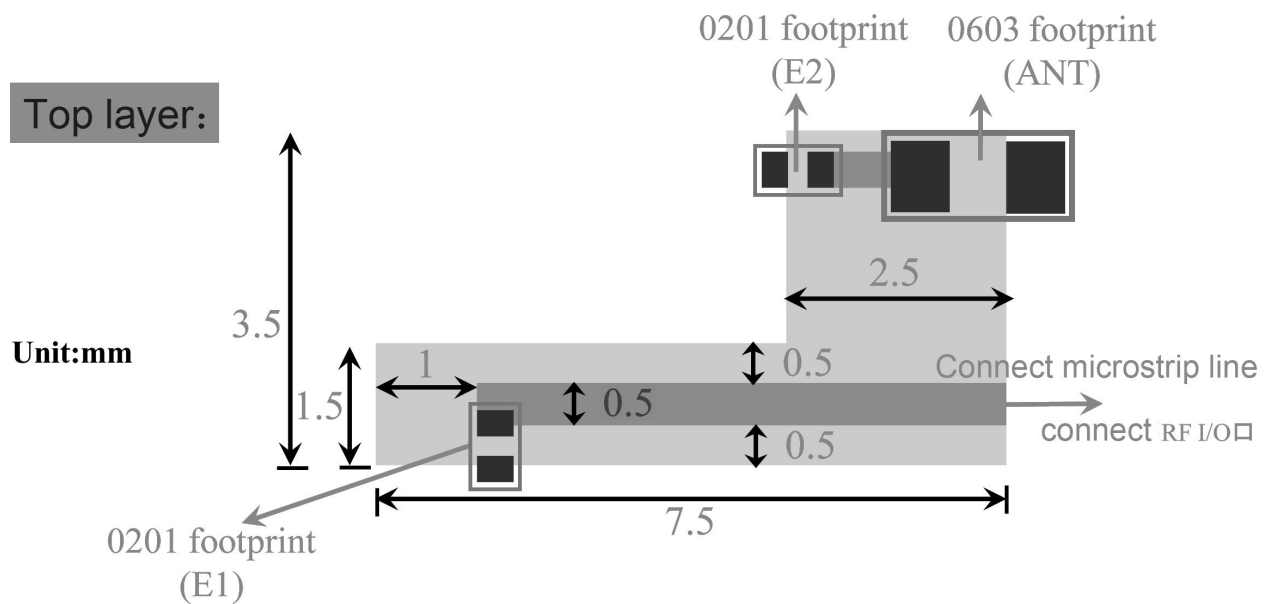
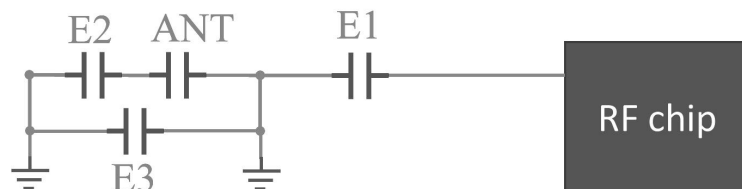
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Antenna Package Scheme 1 (3.5mm×7.5mm)**Schematic diagram**

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X=± X.X=± X.XX=

ANGLES = ±

HOLE DIA = ±



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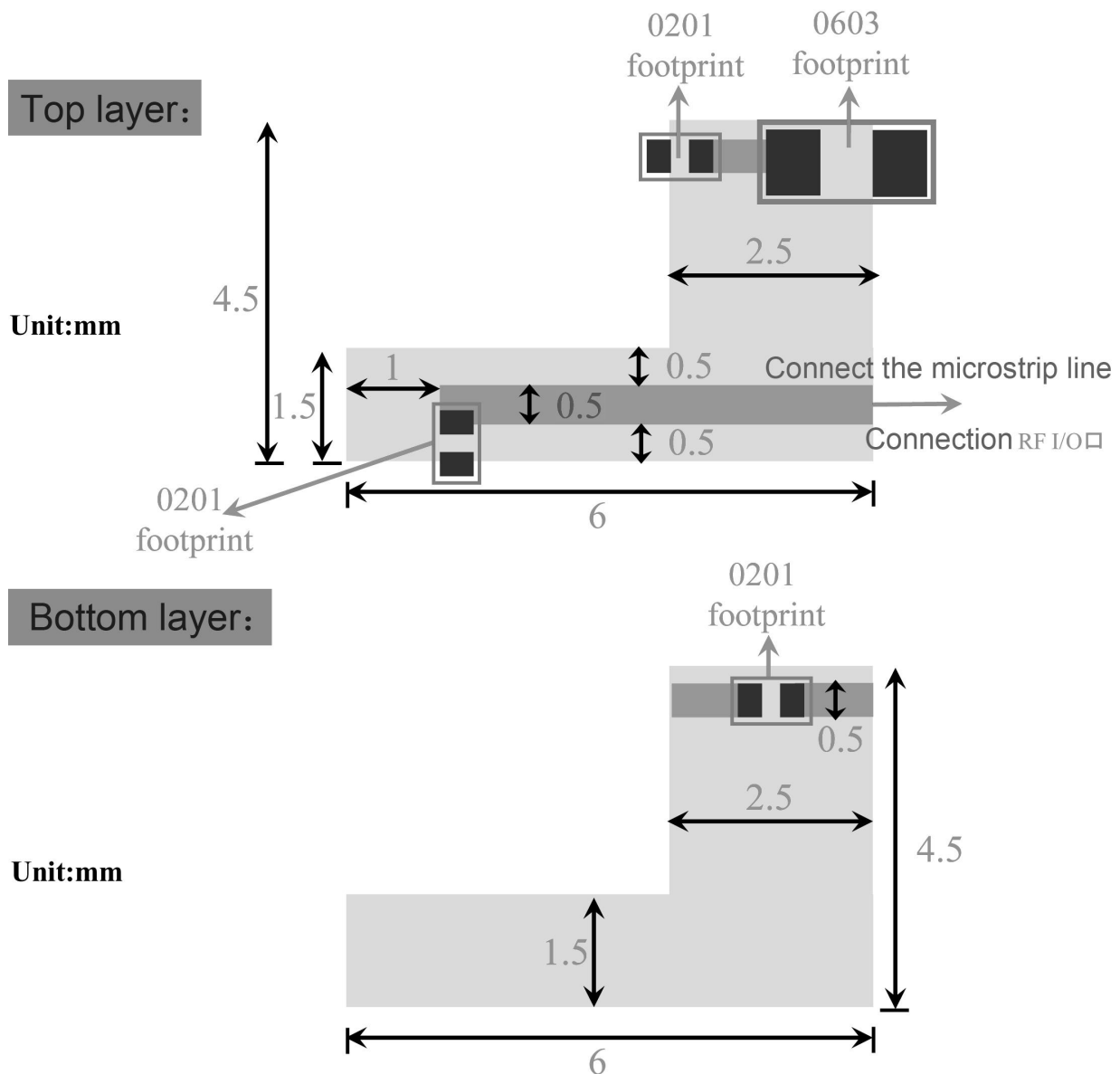
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Antenna Package Scheme II (4.5mm×6mm)

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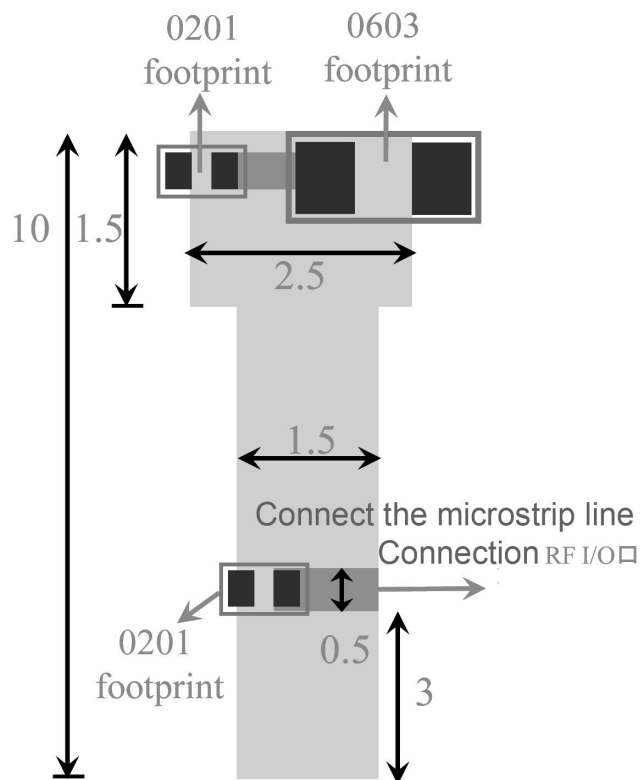
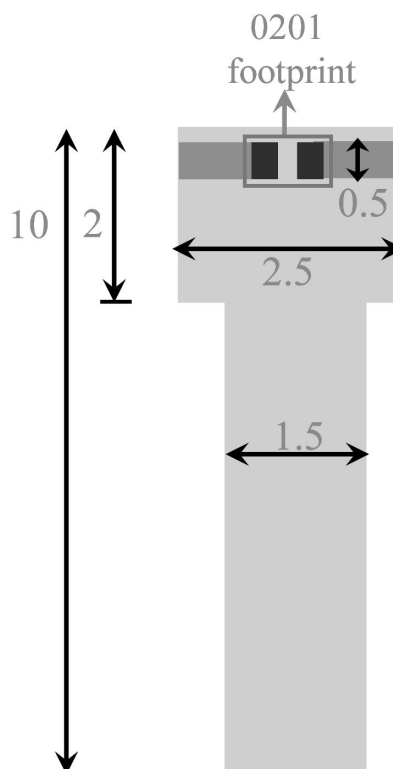
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Antenna Package Scheme III (1.5mm×10mm)**Top layer:****Unit:mm****Bottom layer:****Unit:mm**

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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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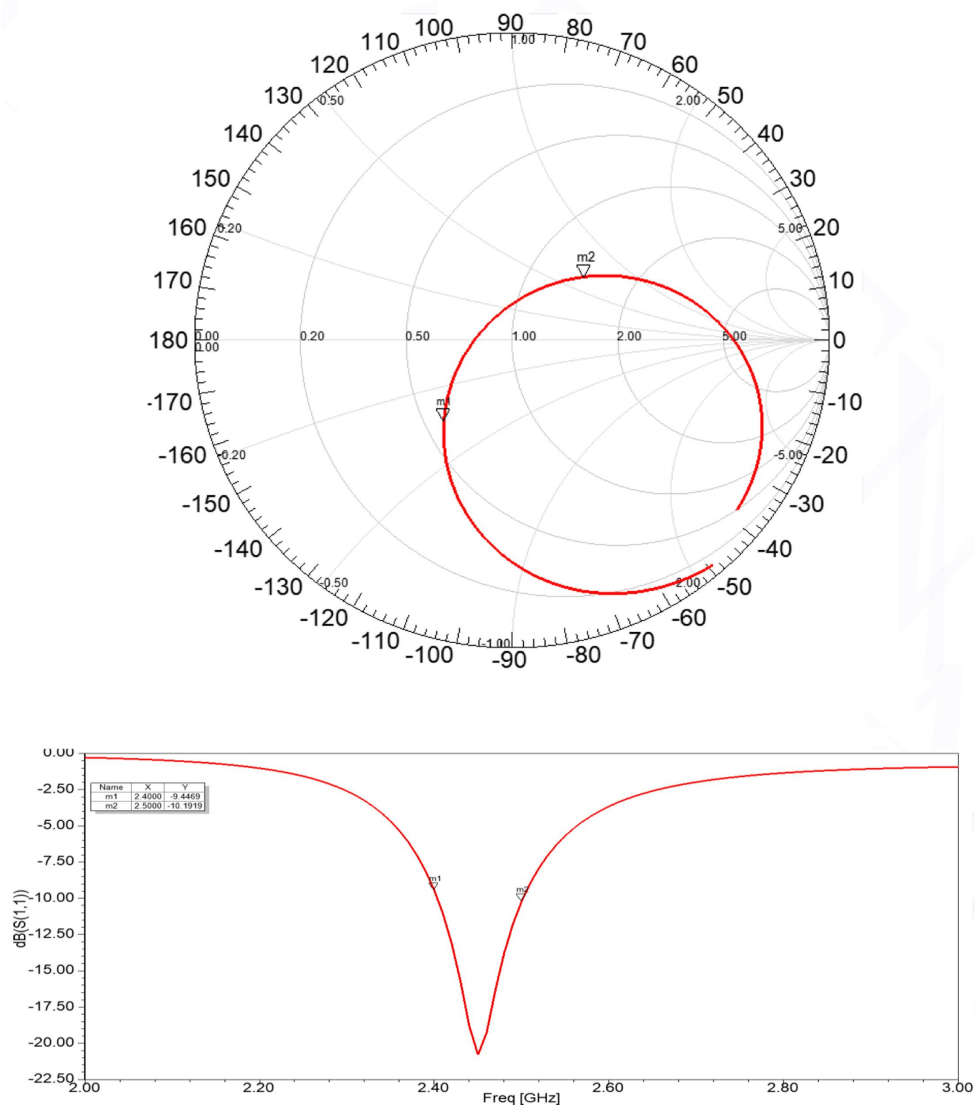
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Electrical Characteristics

	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



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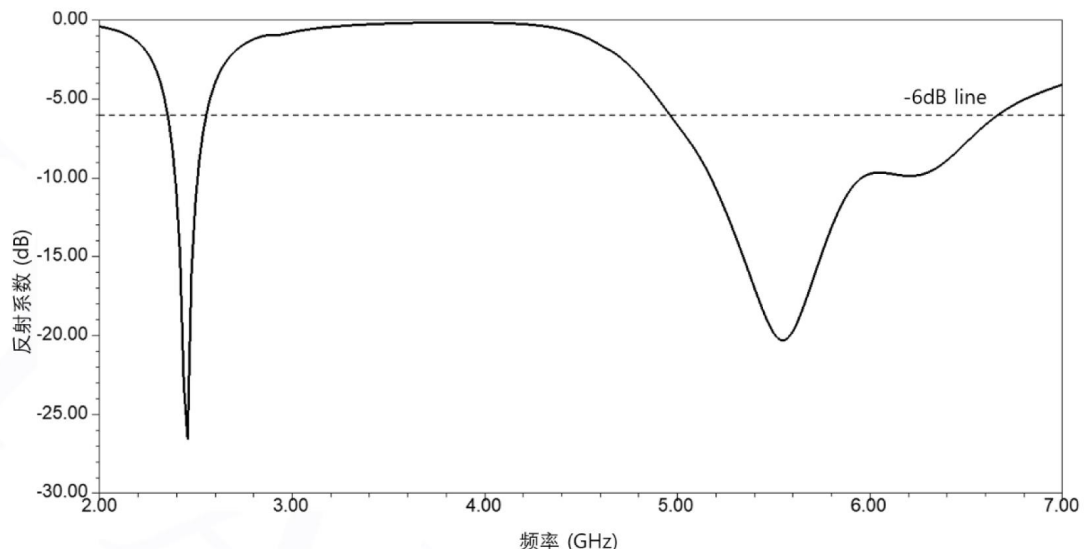
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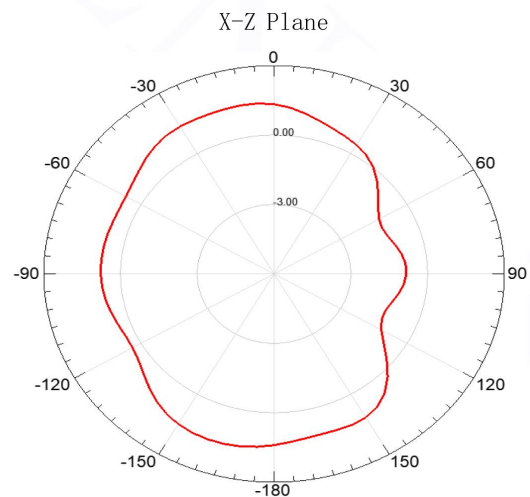
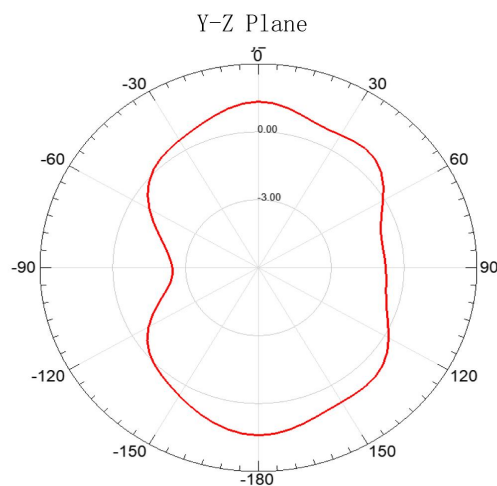
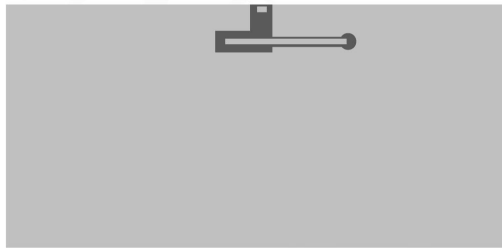
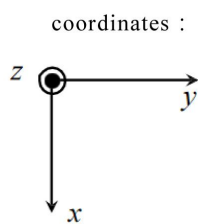
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Radiation Pattern



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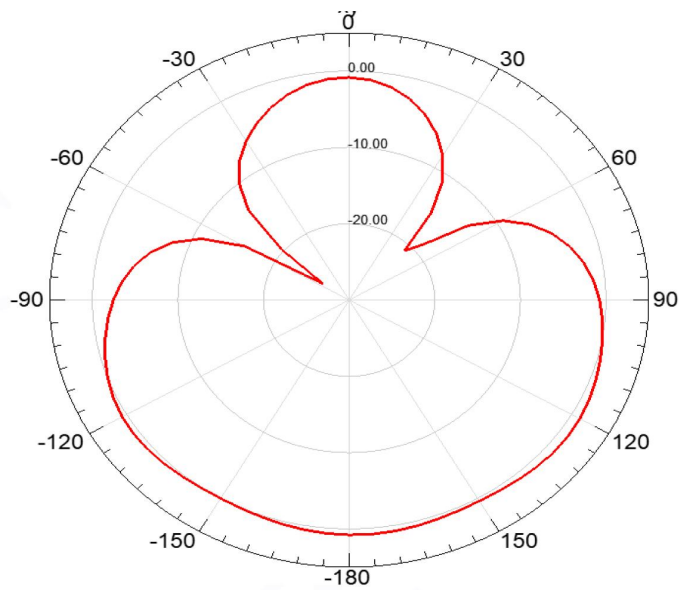
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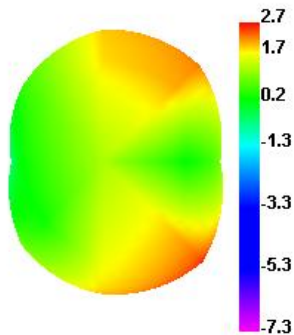
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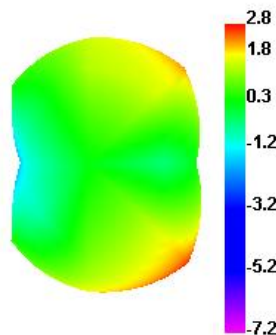


3D Radiation Pattern

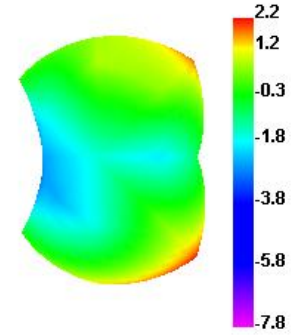
2400.000MHz



2450.000MHz

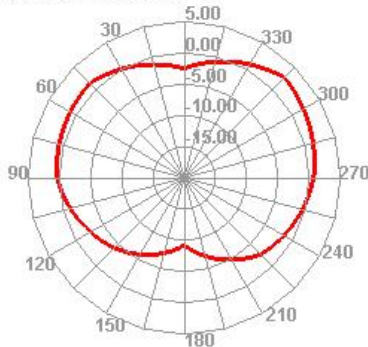


2500.000MHz

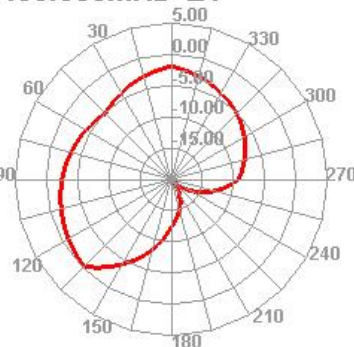


2D Gain Pattern (2400 MHz-2500MHz)

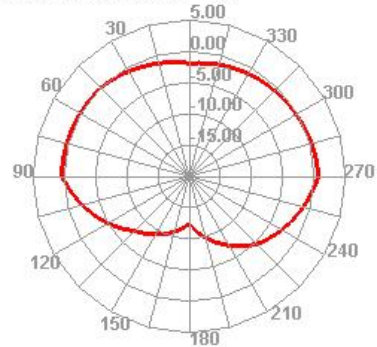
2400.000MHz H



2400.000MHz E1



2400.000MHz E2



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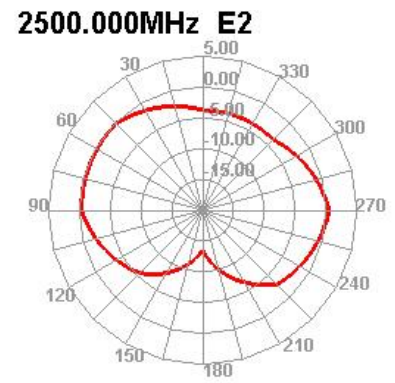
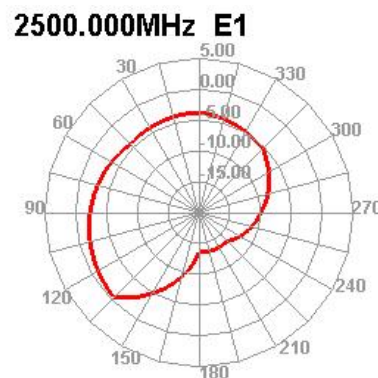
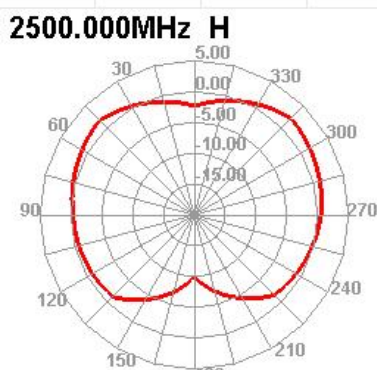
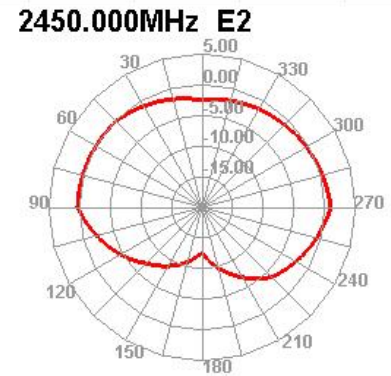
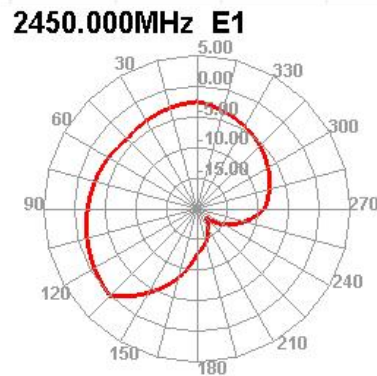
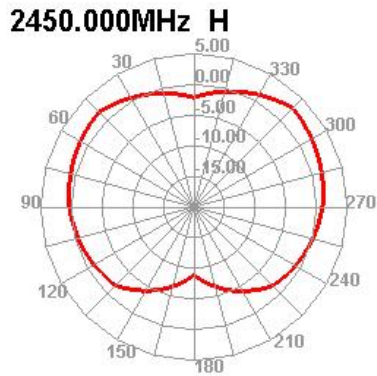
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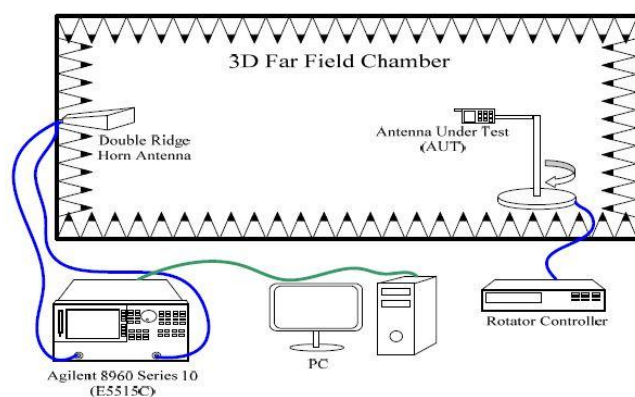
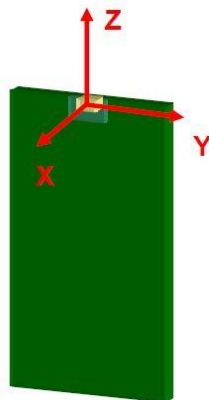
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Radiation Pattern

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.



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Environmental Characteristics

(1) Reliability Test

Item	Condition	Specification
Thermal shock	1. 30 ± 3 minutes at $-40^{\circ}\text{C}\pm5^{\circ}\text{C}$, 2. Convert to $+105^{\circ}\text{C}$ (5 minutes) 3. 30 ± 3 minutes at $+105^{\circ}\text{C}\pm5^{\circ}\text{C}$, 4. Convert to -40°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: $85\pm5^{\circ}\text{C}$ 3. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	1. Temperature: $150^{\circ}\text{C}\pm5^{\circ}\text{C}$ 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Low temperature resistance	1. Temperature: $-40^{\circ}\text{C}\pm5^{\circ}\text{C}$ 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	1. Solder bath temperature : $260\pm5^{\circ}\text{C}$ 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 $245\pm5^{\circ}\text{C}$ for 3 ± 1 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°C to $+105^{\circ}\text{C}$.

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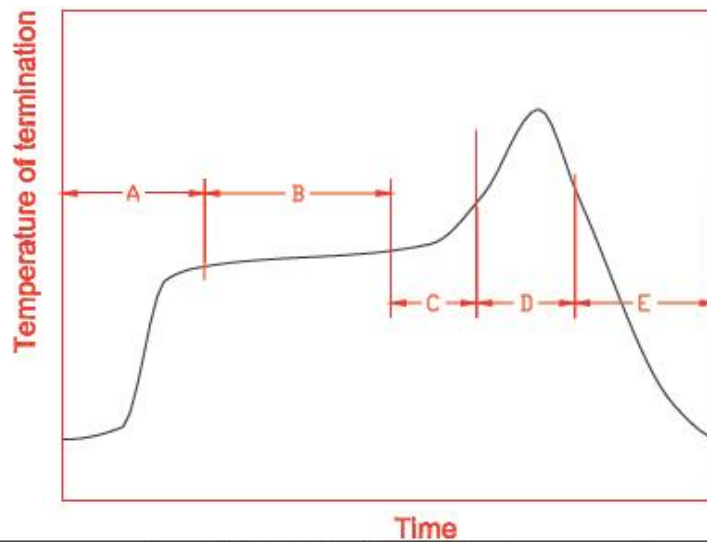
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8. Recommended Reflow Soldering



A	1 st rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 nd 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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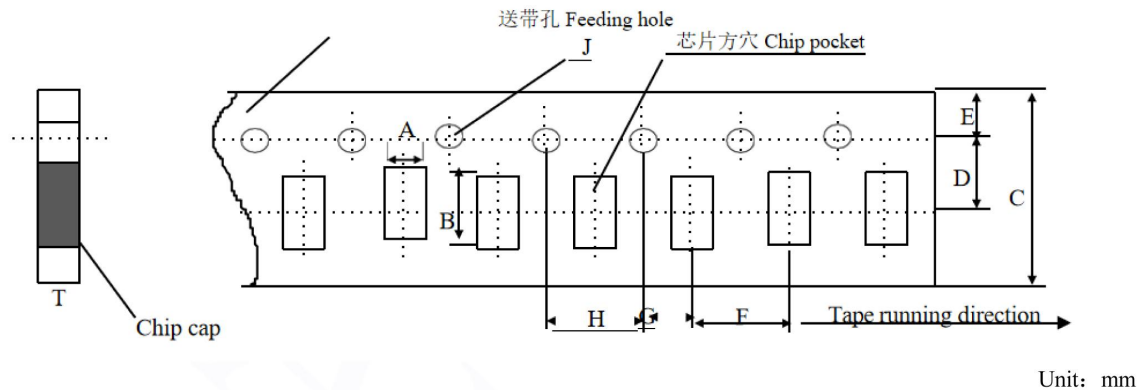
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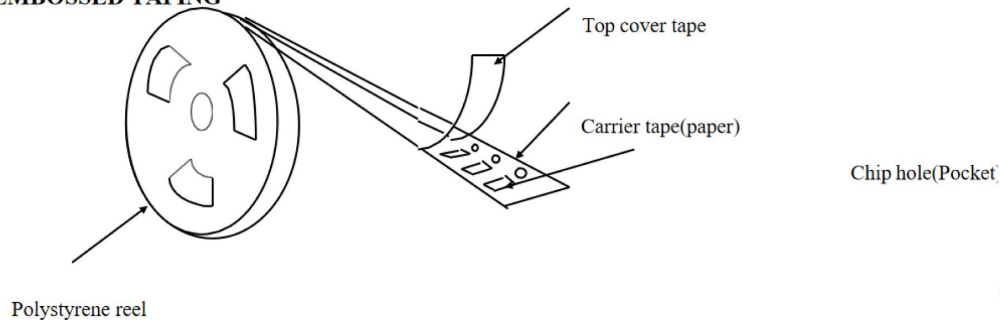
Dimensions of paper taping:



代号Code 纸带规格 papersize	A	B	C	D*	E	F	G*	H	J	T
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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