

SPECIFICATIONS

CUSTOMER: _____

DESCRIPTION: Geomagnetic Antenna

CUSTOMER PART NO: _____

OUR MODEL NO: **PBX1608MA02**

DATE: 2021/09/01

PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR APPROVAL"

WITH YOUR APPROVED SIGNATURES

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

PBX1608MA01 Specification

Operating Temp. : -40°C~+85°C

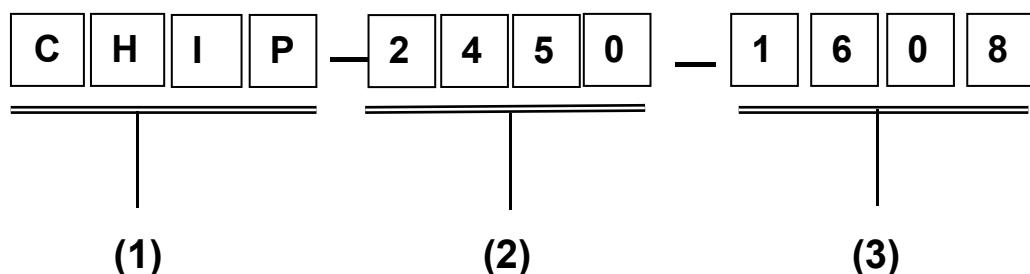
1. FEATURES:

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

2. APPLICATIONS:

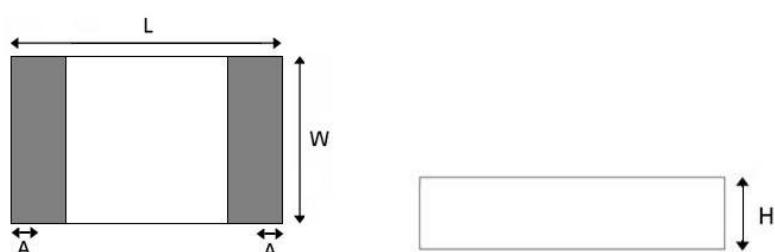
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

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:

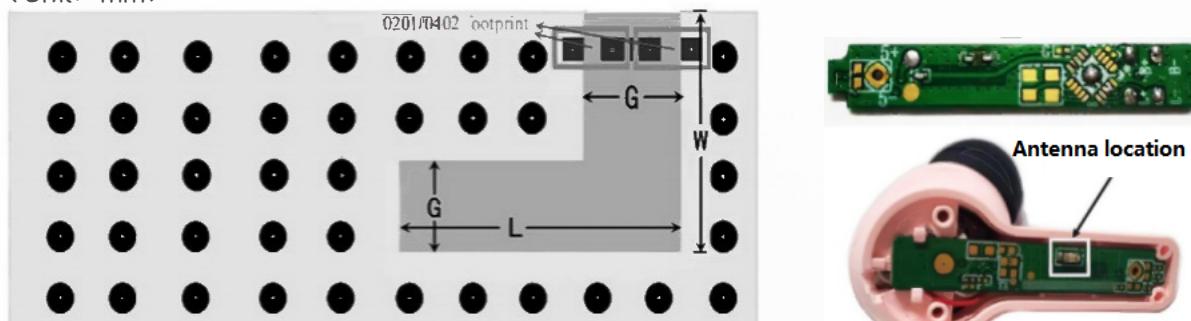


L	W	H	A
1.6±0.2	0.8±0.2	0.8±0.2	0.3±0.1

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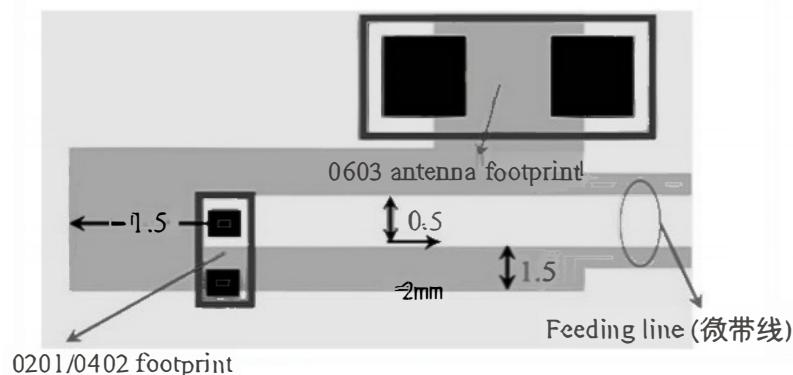
- When the antenna is located inside or in the middle layer of the PCB (Strip-style earphones) :

(Unit: mm)



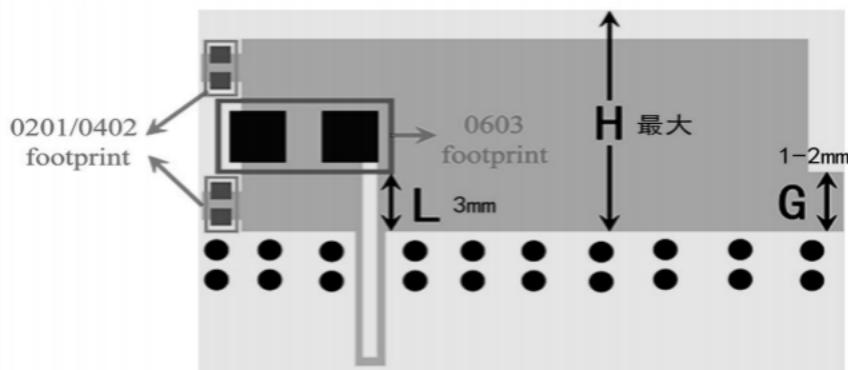
孔距: 0.2mm G:2mm L:6mm W:5mm

Antenna is placed out layer of PCBA



The antenna is optimally placed in the central area, with atleast one row of vias required around the clearance zone.

- When the antenna is located at the edge of the PCB (in-ear earphones and some strip-style earphones):

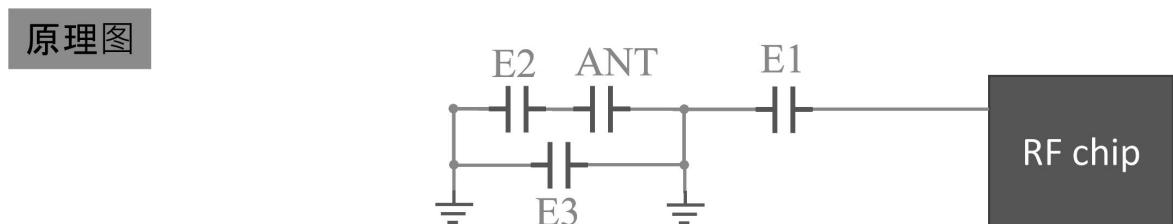
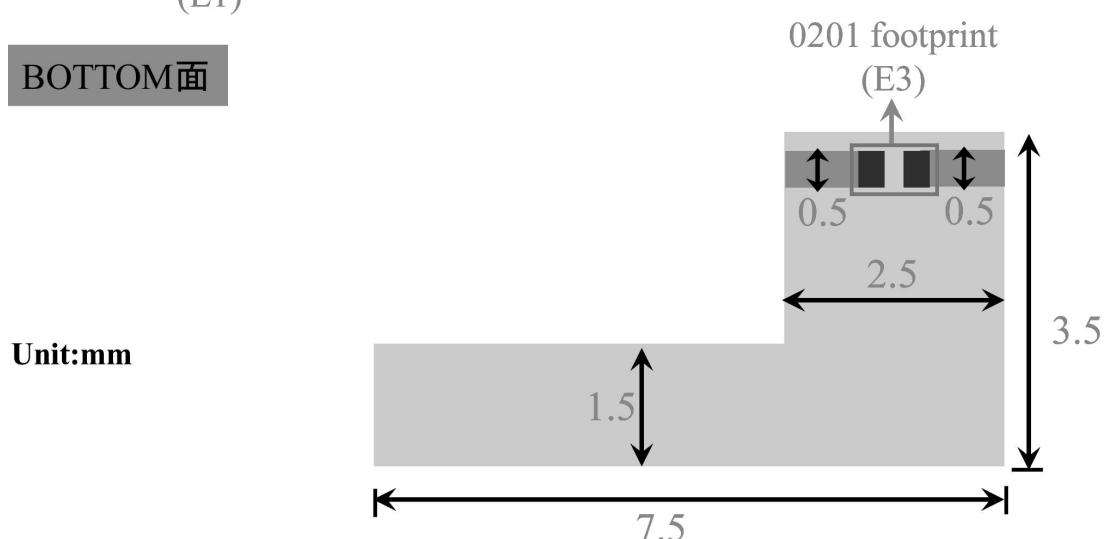
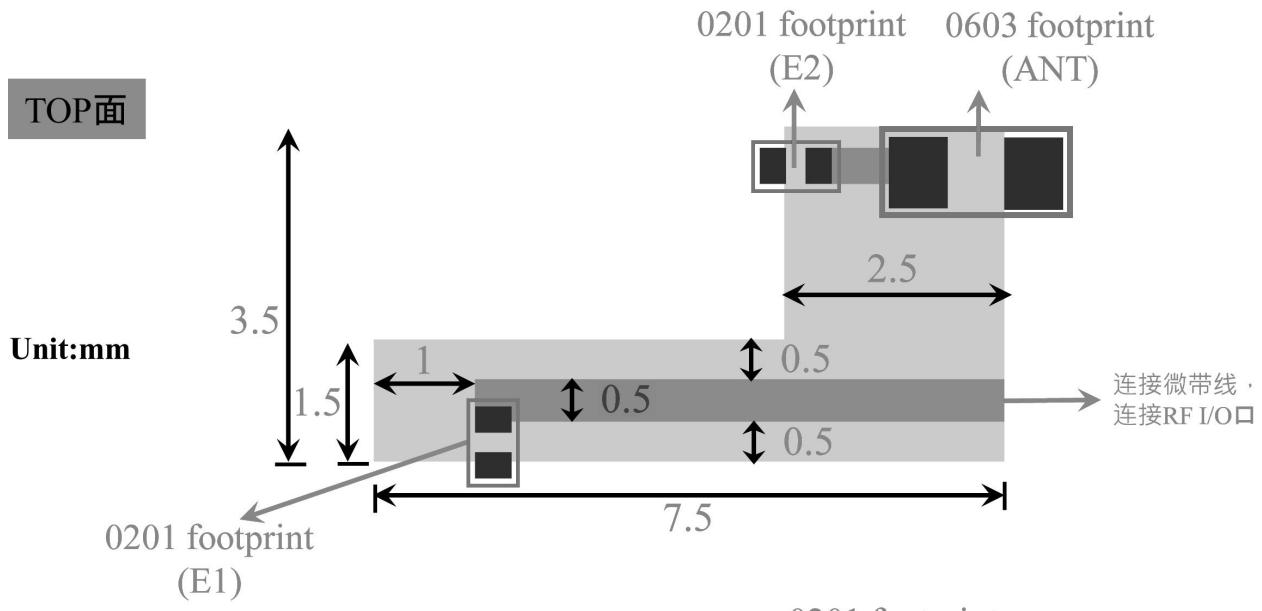


The antenna should preferably be placed at the edge of th e PCBA, with both the antenna and its routing arranged on a single layer

- The dimensions in the diagram are for reference only; actual dimensions will be optimized ac cording to different board layouts .
- At least one row of vias (0.3mm diameter) is optimally required around the clearance zone t o provide isolat ion from other circuits or components on the PCBA.

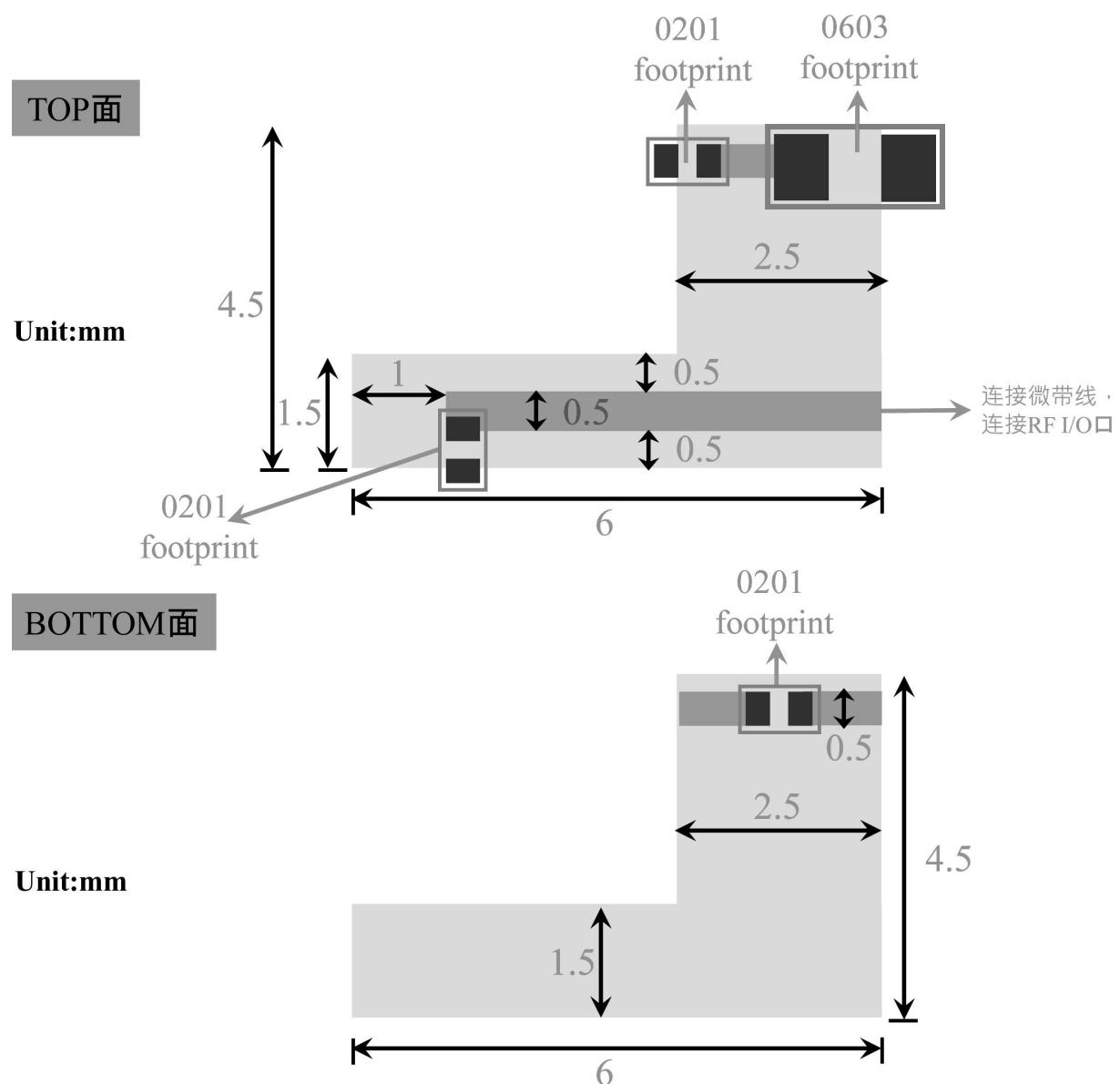
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Antenna packaging Option 1 (3.5mm×7.5mm)



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Antenna packaging Option 2 (4.5mm×6mm)



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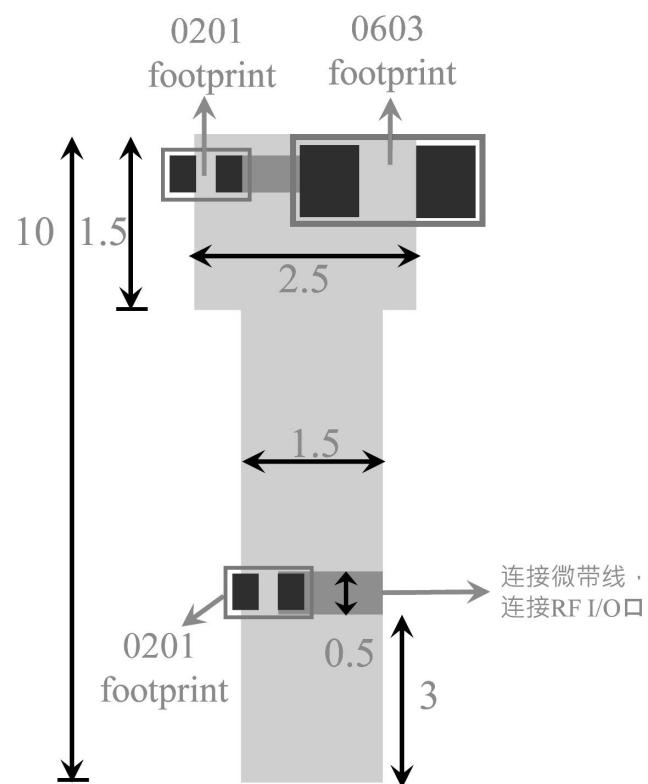
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Antenna packaging Option 3 (1.5mm×10mm)

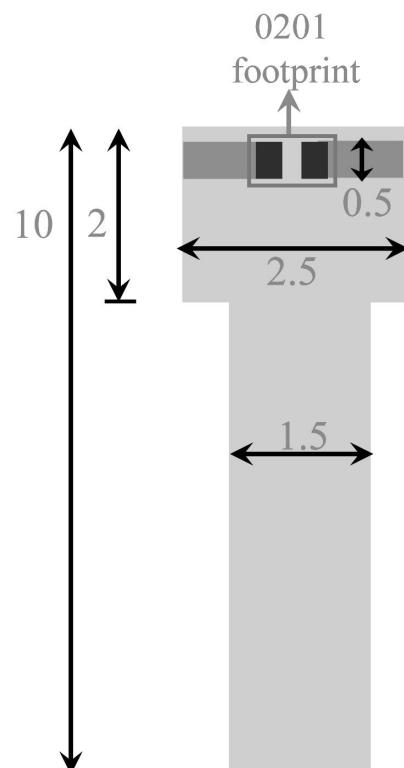
TOP面

Unit:mm



BOTTOM面

Unit:mm



UNLESS OTHER SPECIFIED TOLERANCES ON:

X=± X.X=± X.XX=

ANGLES = ± HOLEDIA = ±

SCALE: N/A

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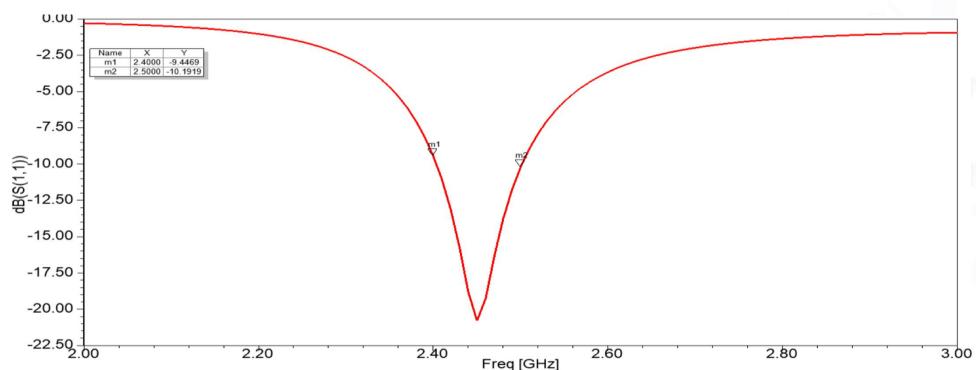
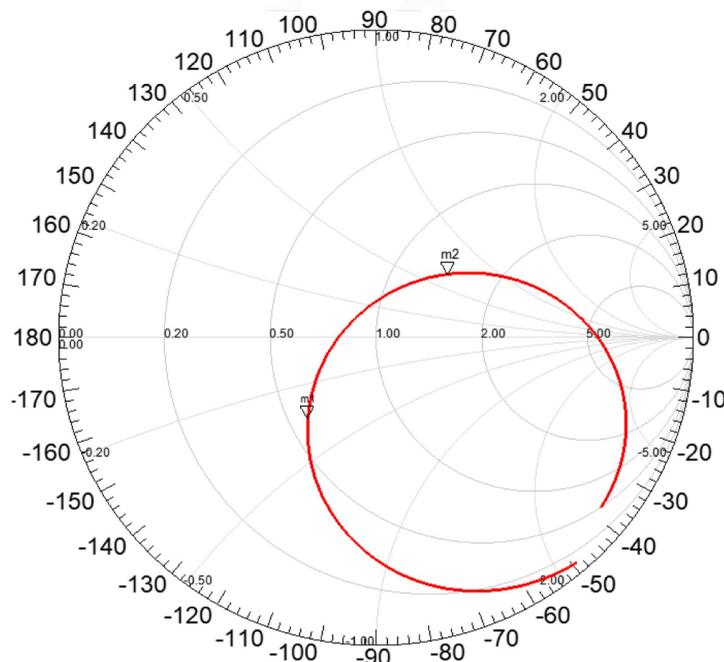
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Electrical Characteristics

	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 Ω

Characteristic Curves



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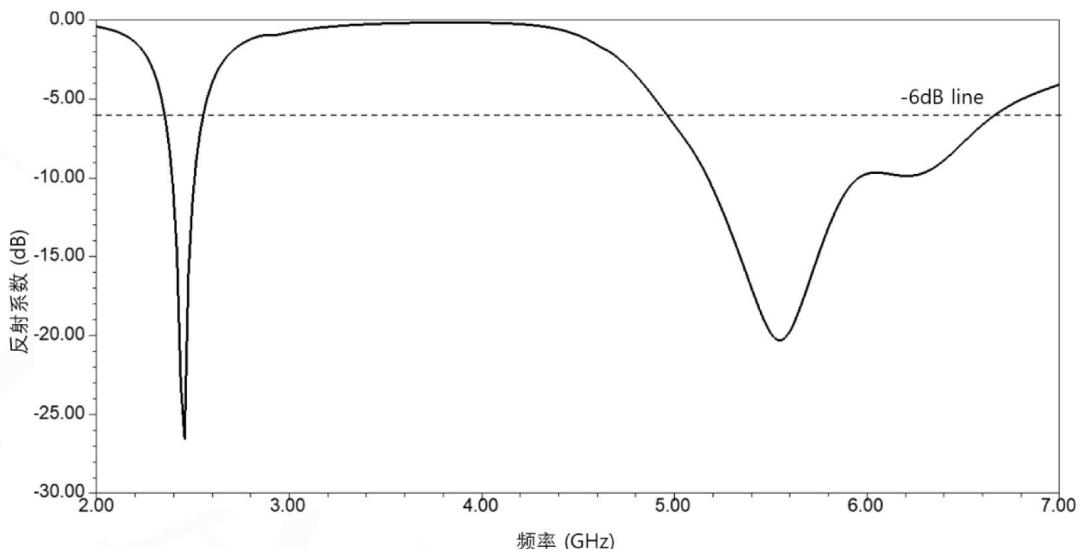


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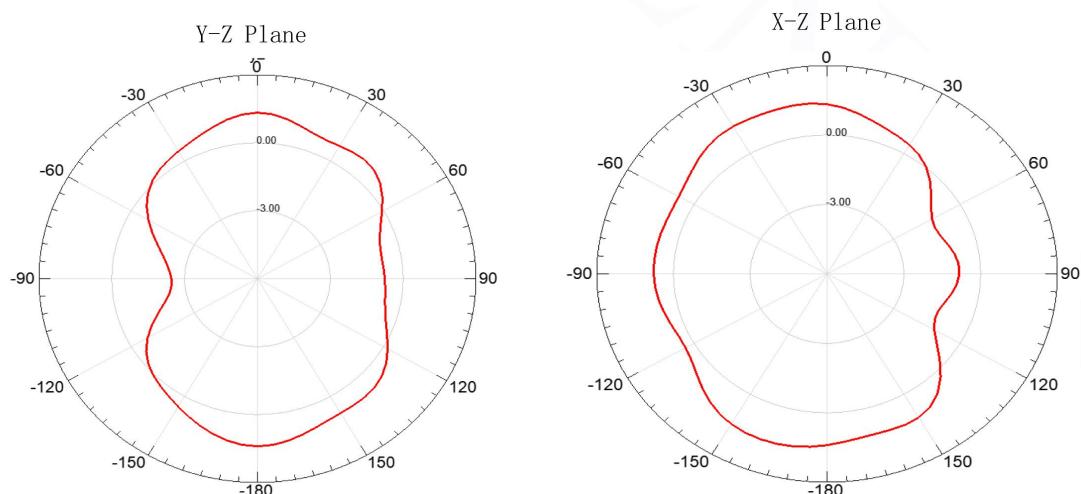
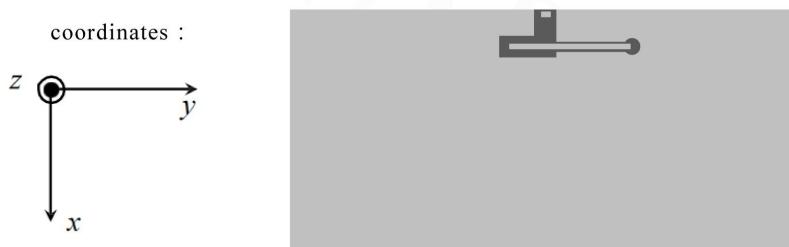
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Radiation Pattern



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ANGLES = \pm **HOLEDIA** = \pm

SCALE: N/A

DRAWN BY: Sera

DESIGNED BY: Sera

UNIT: mm

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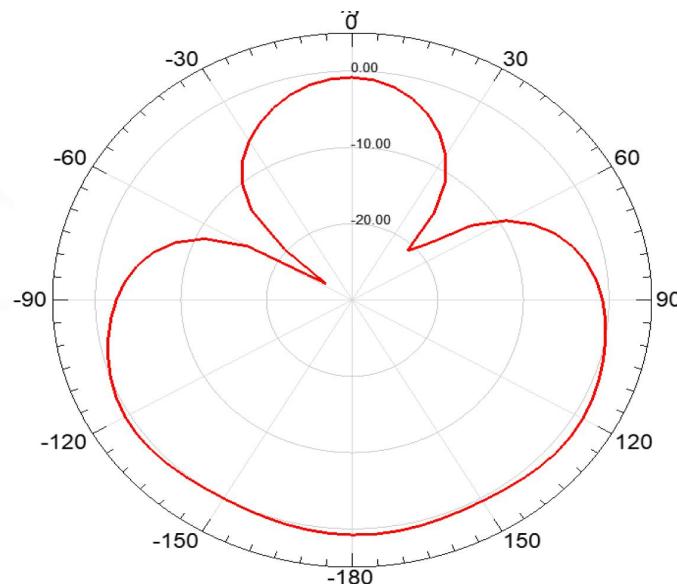
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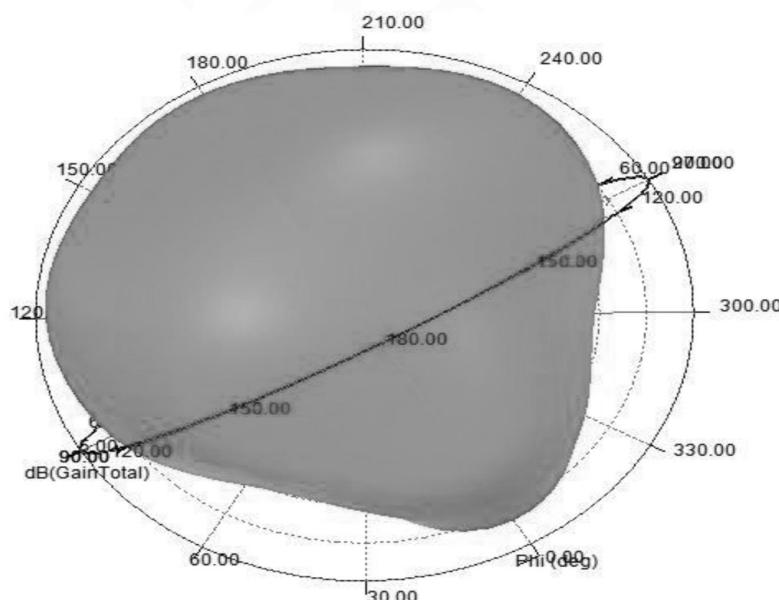
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P1



3D Radiation Pattern

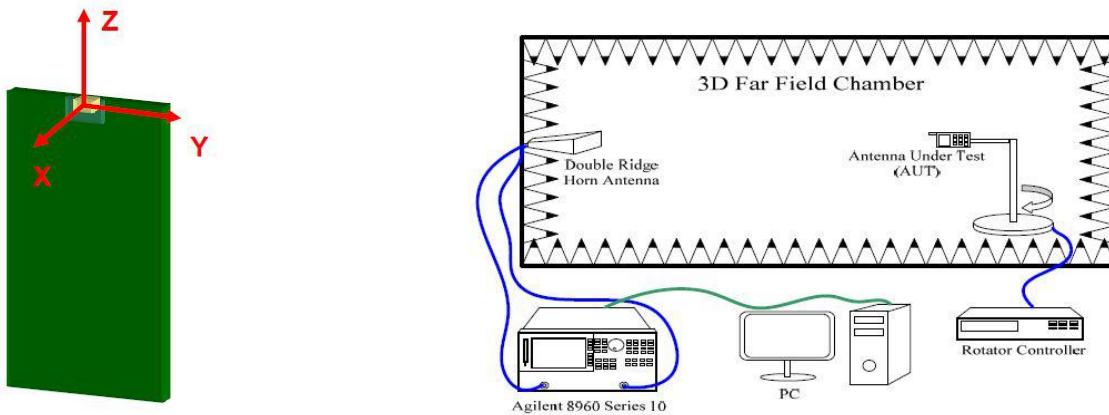


Frequency	2450MHz	5500MHz
Avg. gain	-0.85	-1.30
Peak gain	3.0	3.5
Efficiency	82%	78%

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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 ± 3 minutes at $-40^\circ C \pm 5^\circ C$, 2. Convert to $+105^\circ C$ (5 minutes) 3. 30 ± 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 ± 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 ± 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:

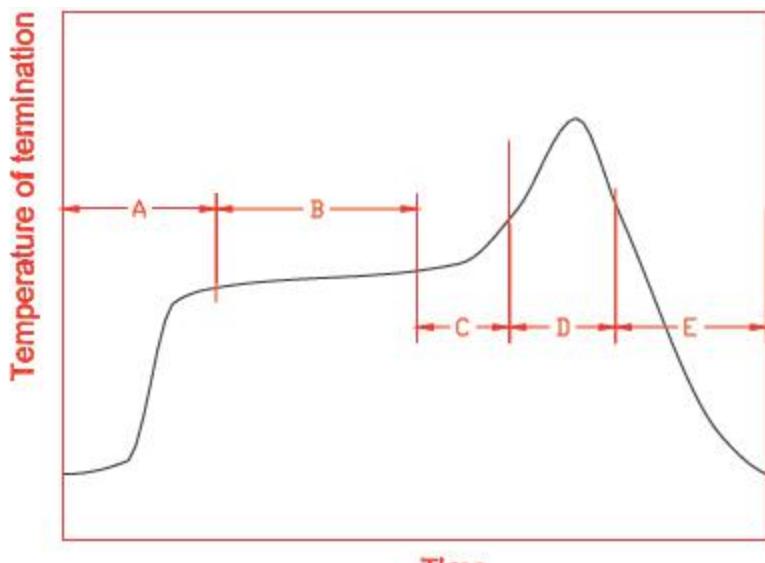
The temperature should be within $-40 \sim 85^\circ C$ and humidity should be less than 85% RH.

(3) Operating Temperature Range

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

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8. Recommended Reflow Soldering



		Time	
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.

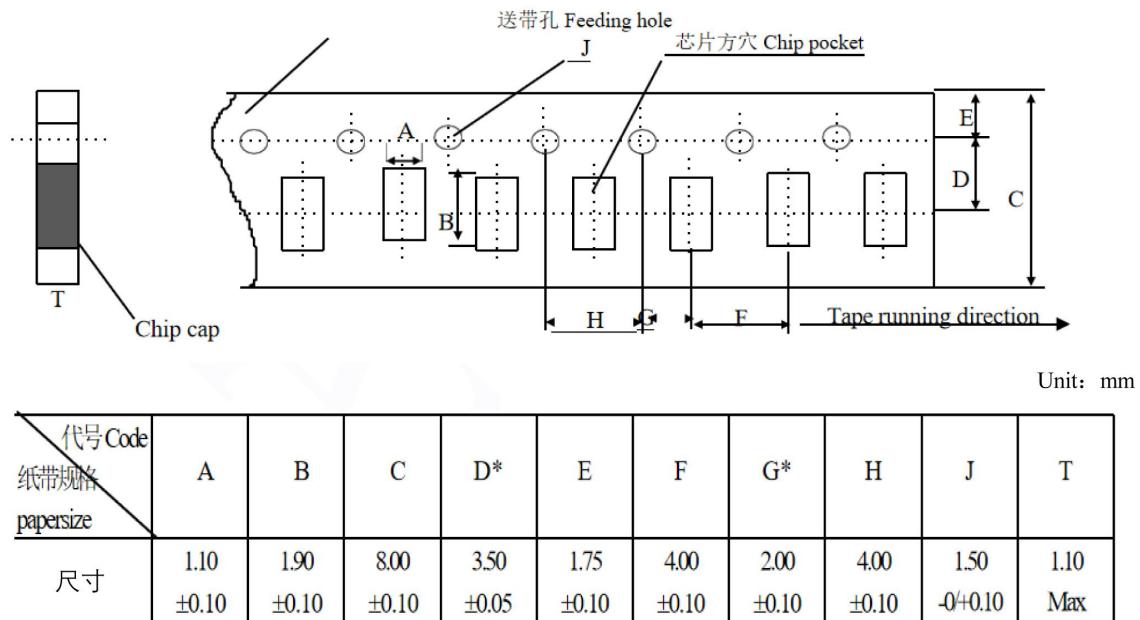
- (a) The tip temperature must be less than 350° C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

(2) Soldering Volume

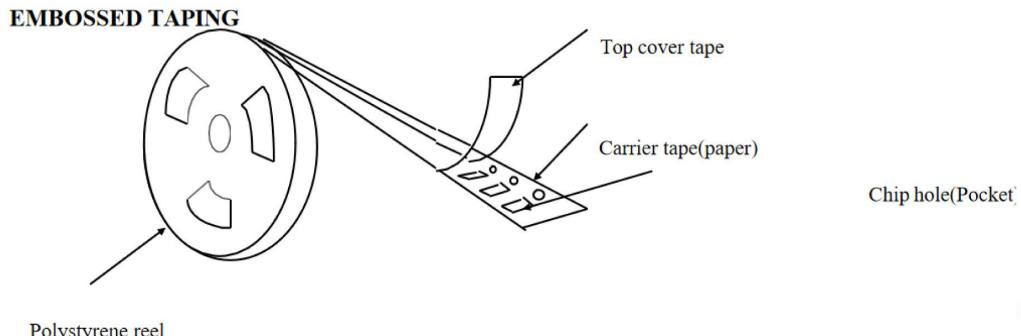
Note that excess of soldering volume will easily get crack the body of this product.

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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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