

产品规格承认书

SPECIFICATIONS

产品名称:

DESCRIPTION: 地磁天线

产品型号:

MODEL NO: PBX1608MA02

Producer : Shenzhen Pengbian Industrial Technology Co., LTD

Address : No. 2013, Central District, Huaneng Building, 2068 Shennan Middle Road,
Futian District, Shenzhen,
China

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TITLE: CHIP2450-1608 Specification		DOCUMENT NO.	SPEC REV.
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PBX1608MA02 Specification

Operating Temp. : -40℃~+85℃

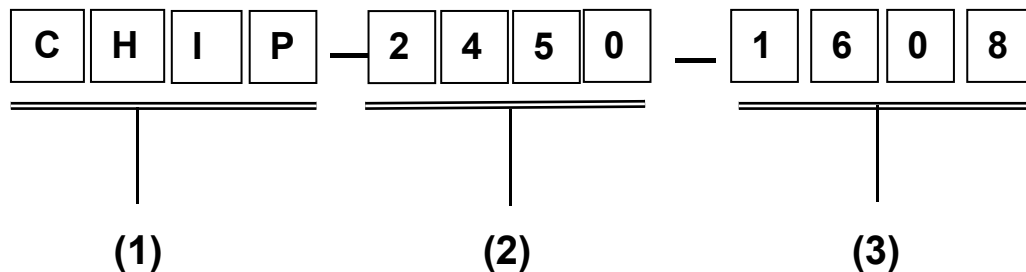
1. FEATURES:

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

2. APPLICATIONS:

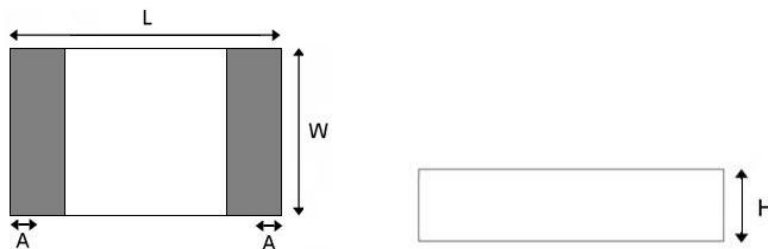
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

3. PRODUCT IDENTIFICATION



- (1) Product type: 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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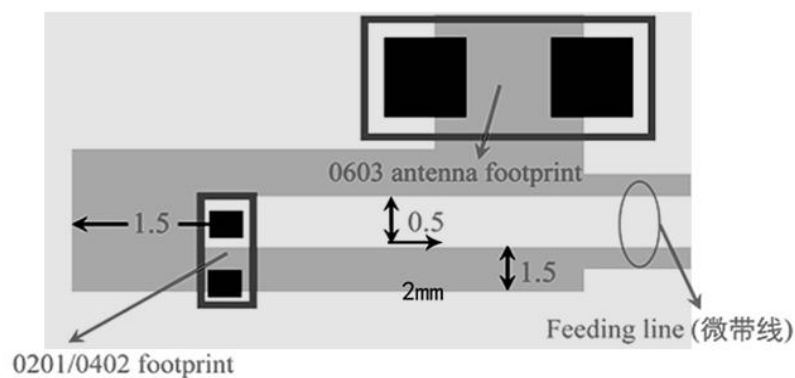
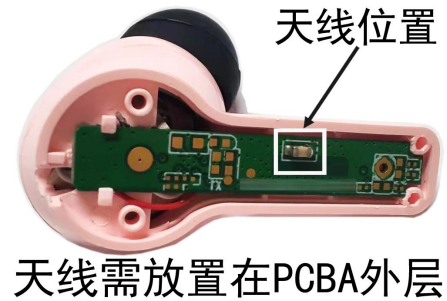
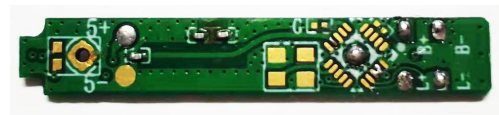
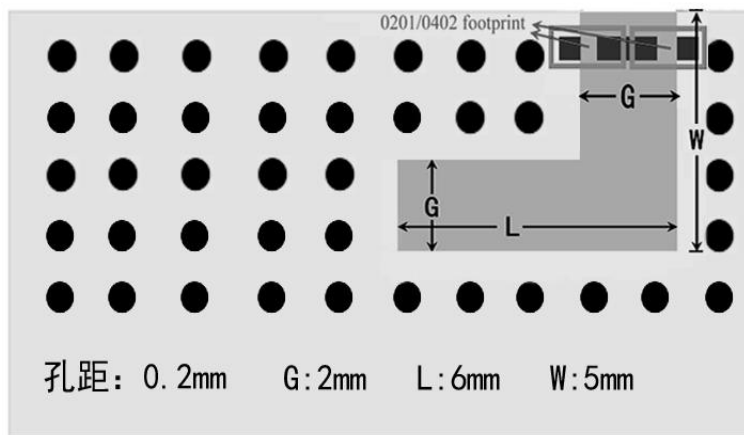
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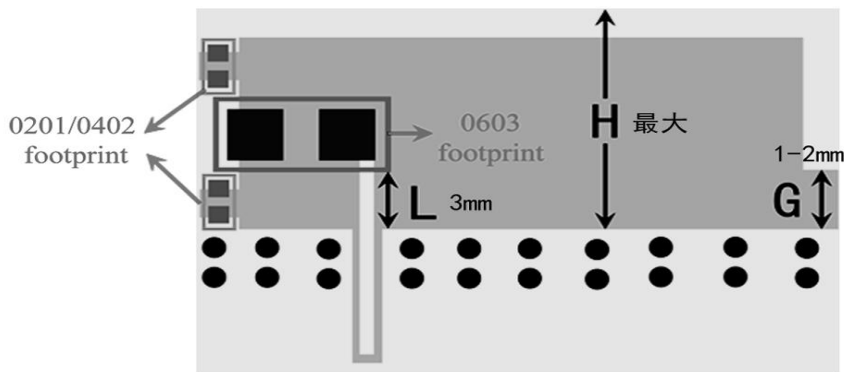
P1

●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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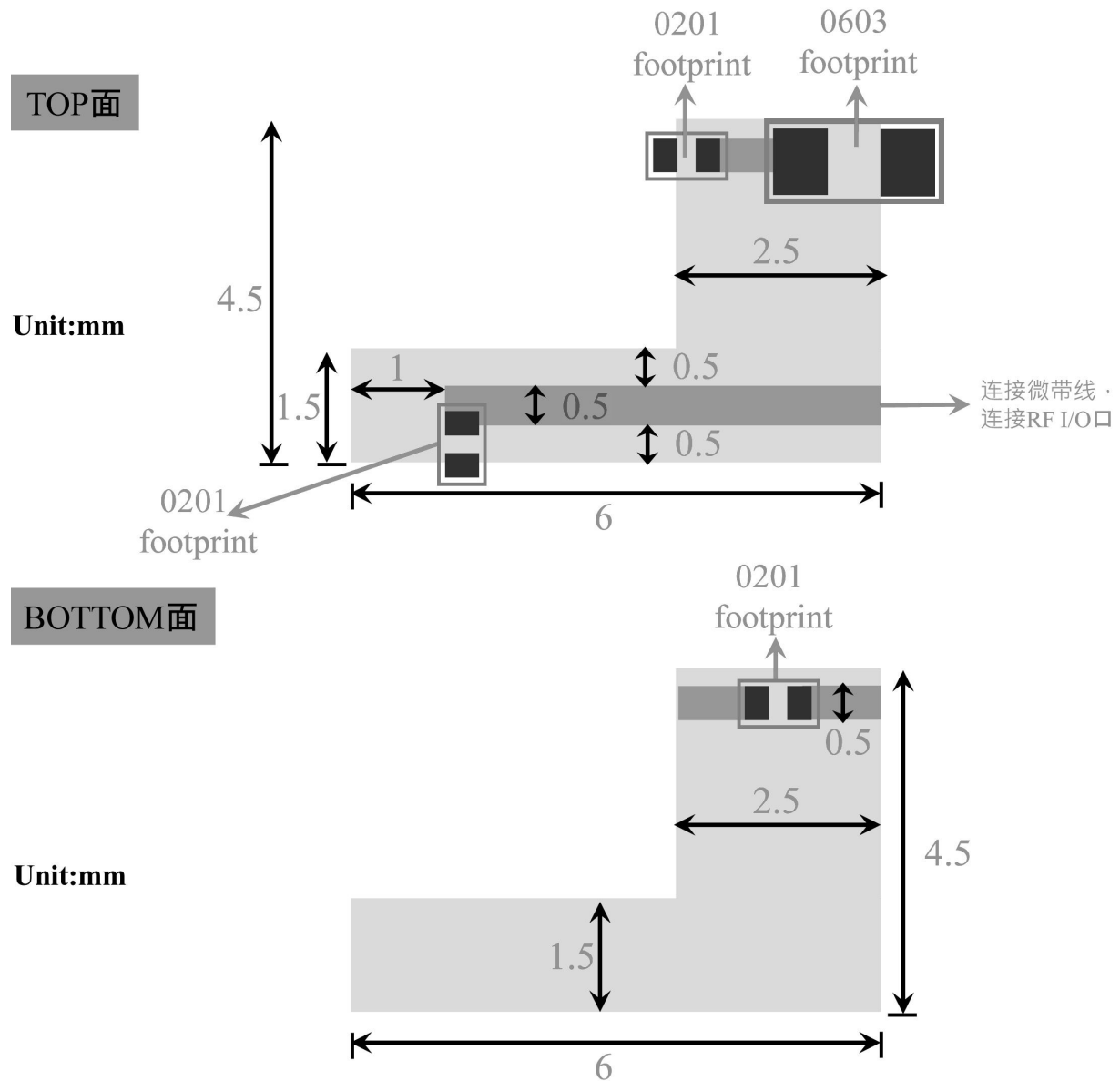
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天线封装方案二 (4.5mm×6mm)



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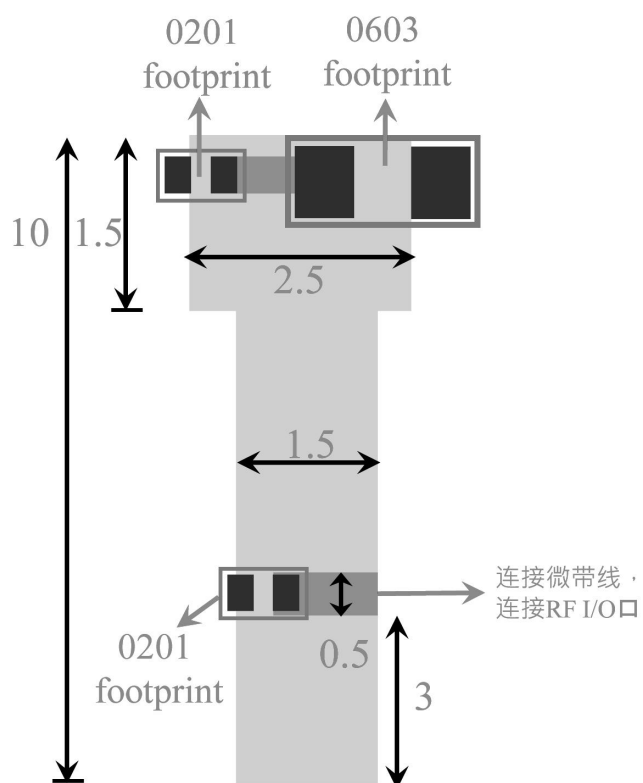
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天线封装方案三 (1.5mm×10mm)

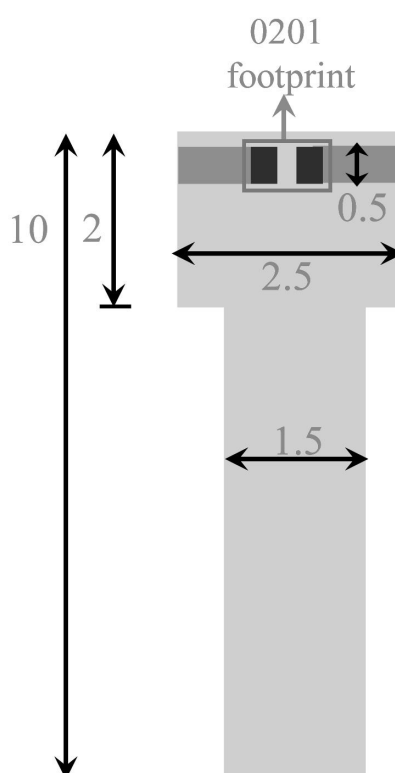
TOP面

Unit:mm



BOTTOM面

Unit:mm



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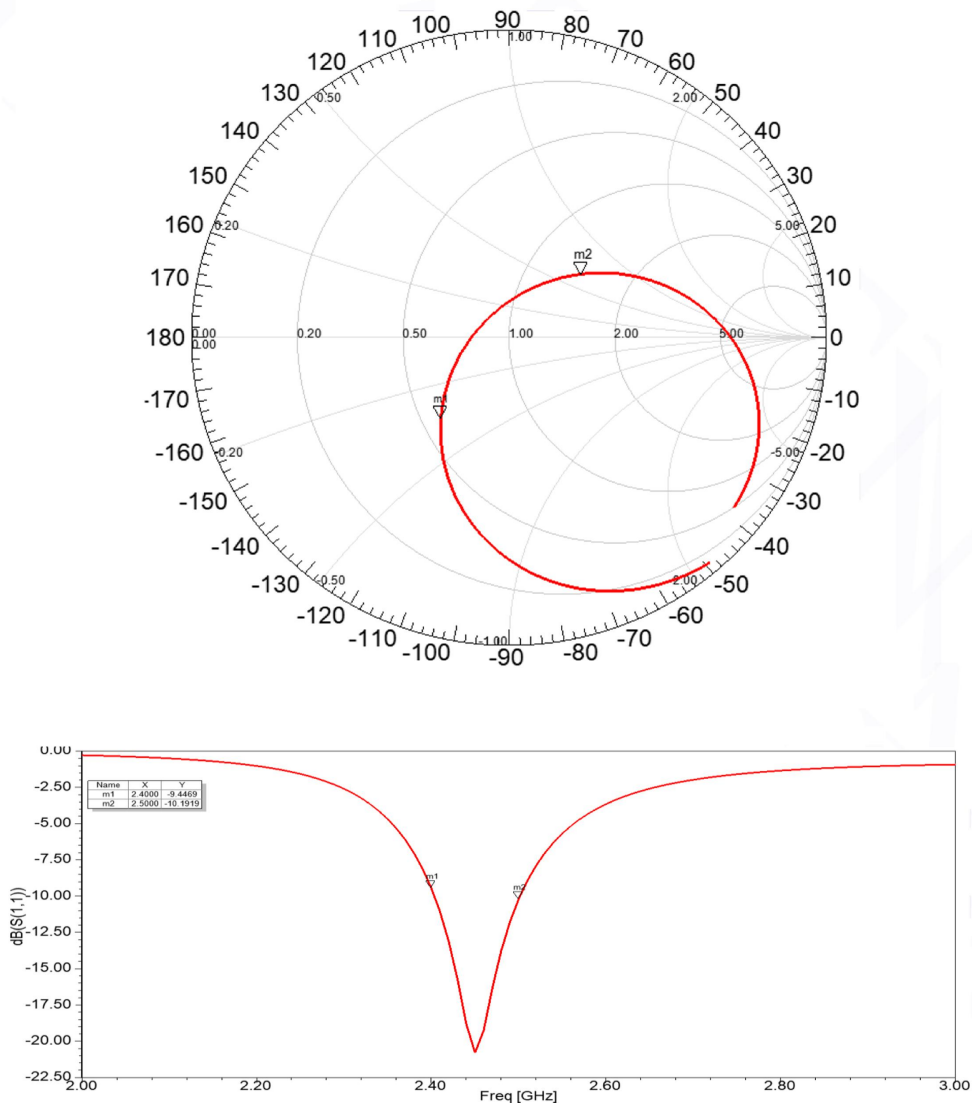
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Electrical Characteristics

	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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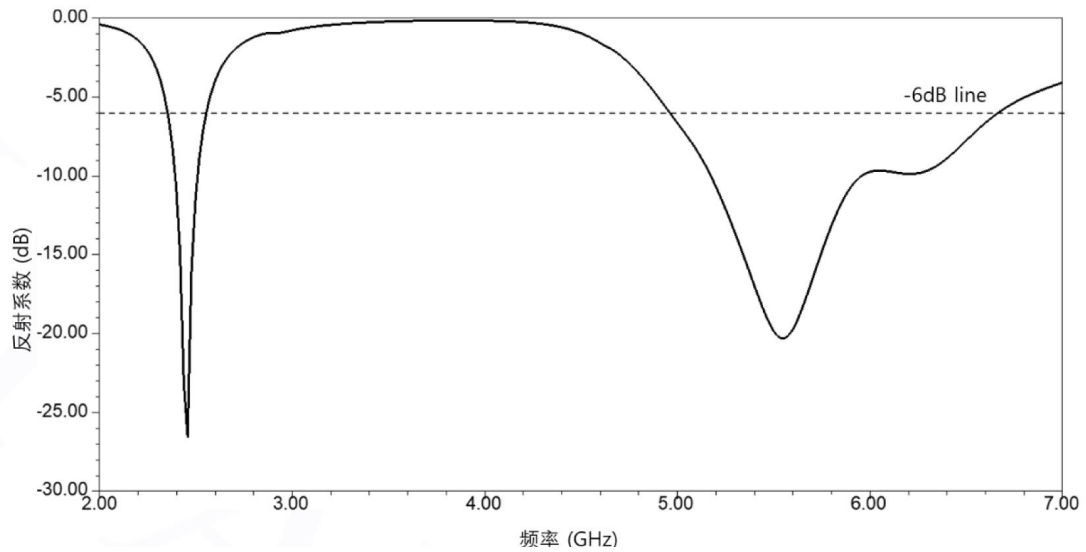
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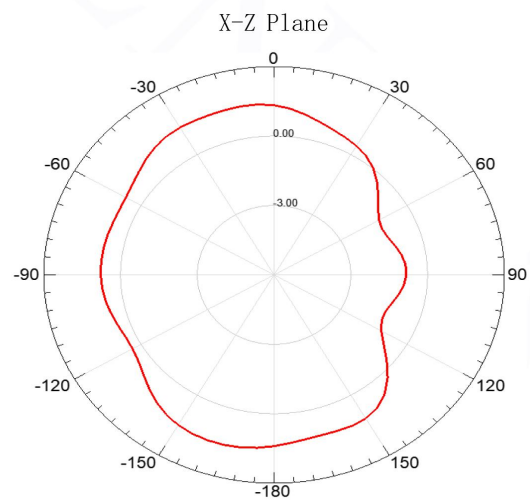
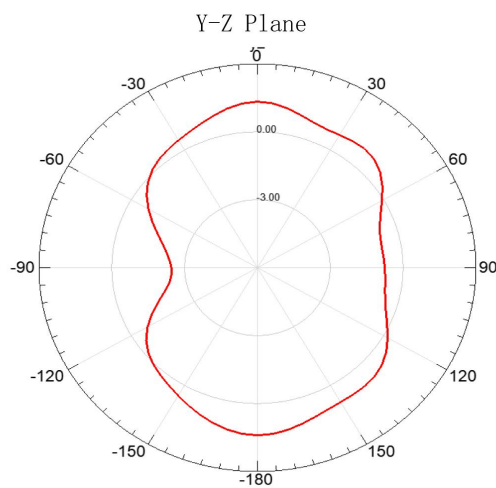
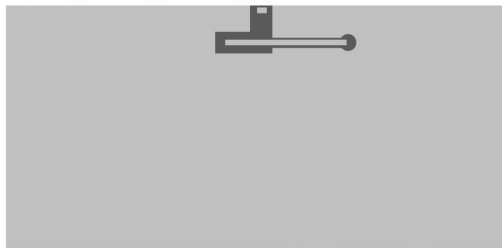
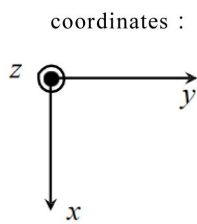
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Radiation Pattern



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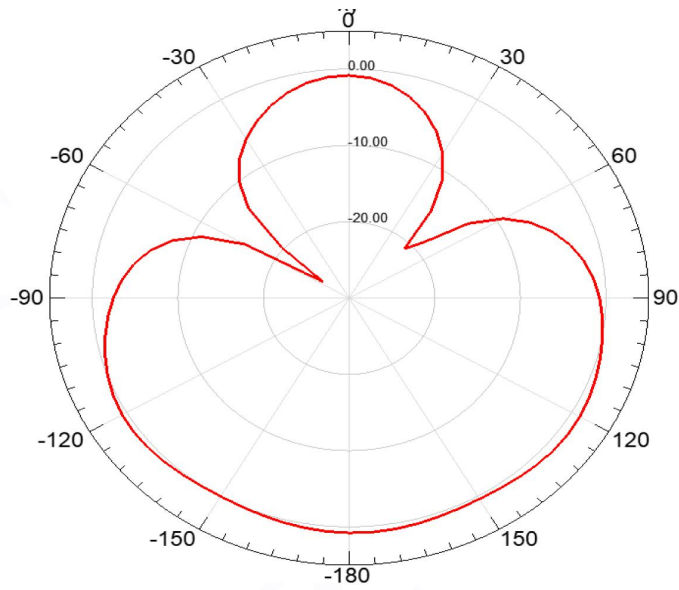
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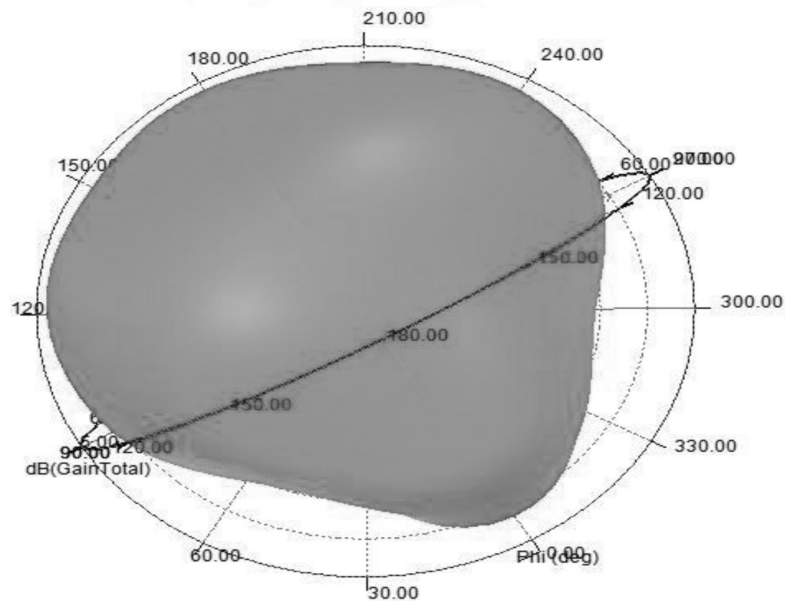
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3D Radiation Pattern



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

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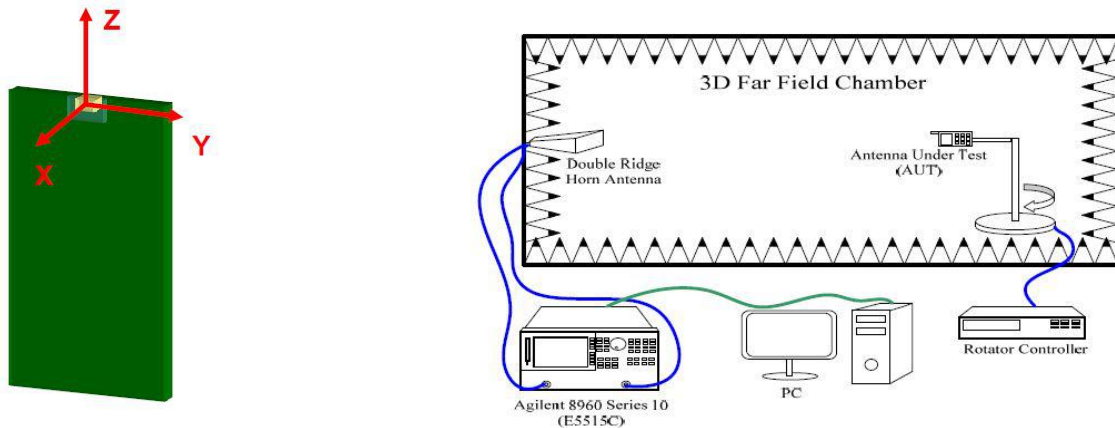
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Radiation Pattern

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	1. 30±3 minutes at -40° C±5° C, 2. Convert to +105° C (5 minutes) 3. 30±3 minutes at +105° C±5° 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±5° C 3. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	1. Temperature: 150° C±5° C 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Low temperature resistance	1. Temperature: -40° C±5° C 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	1. Solder bath temperature : 260±5°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±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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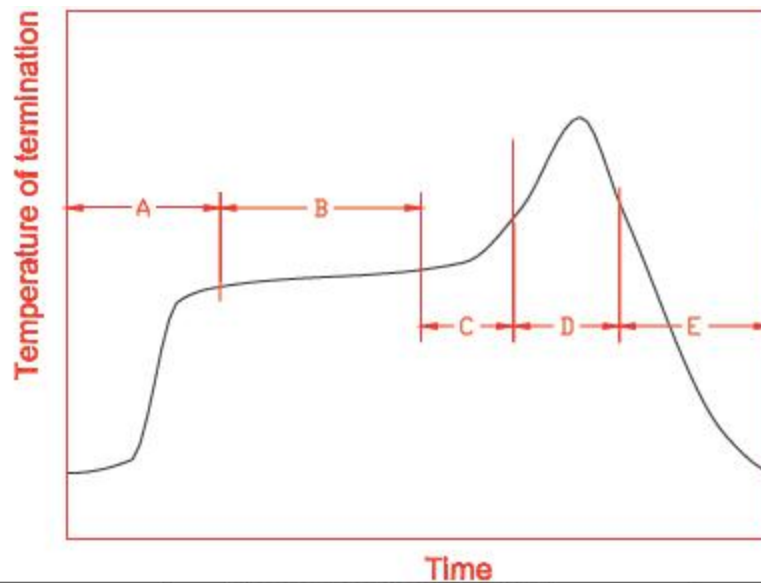
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8. Recommended Reflow Soldering



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.

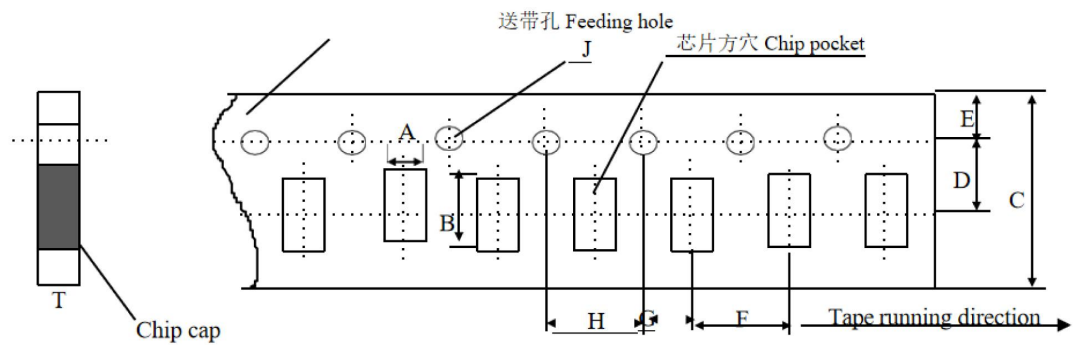
- (a) The tip temperature must be less than 350° C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

(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:

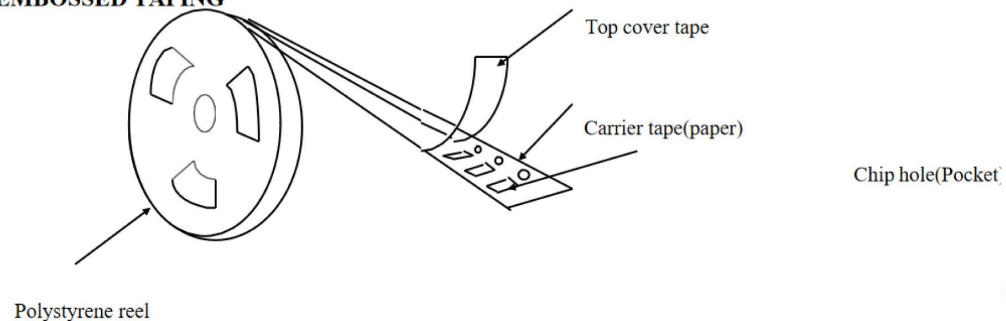


Unit: mm

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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