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: _____

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

客户承认签印	
日期	

PBX1608MA02 Specification

Operating Temp. : -40℃~+85℃

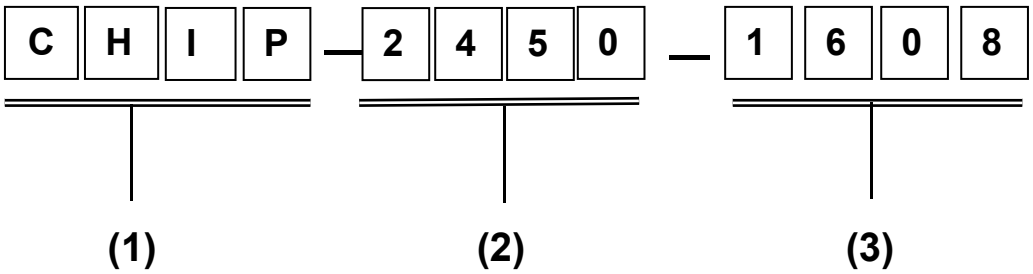
1. FEATURES:

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

2. APPLICATIONS:

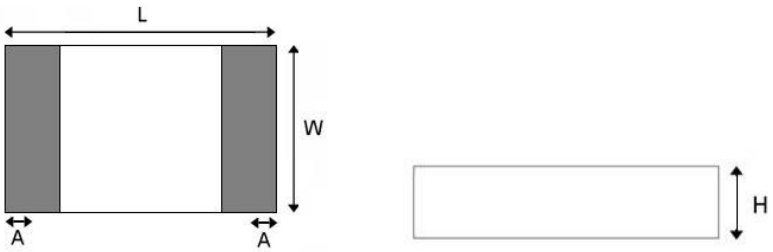
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

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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DESIGNED BY: Sera	APPROVED BY: XD		
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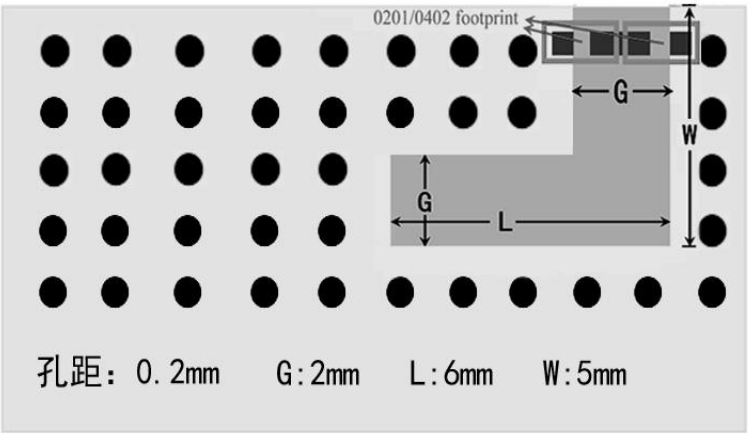
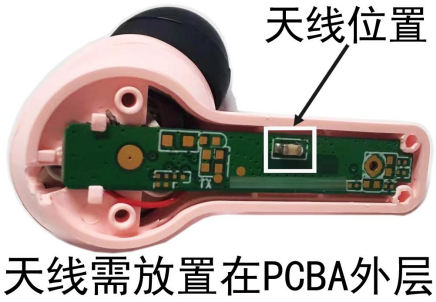
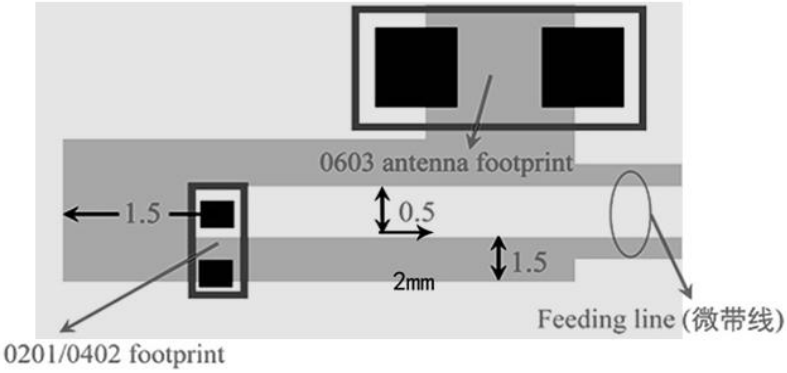
●天线位于 PCB 板内部或中间位置时（长条式耳机）：（单位：mm）

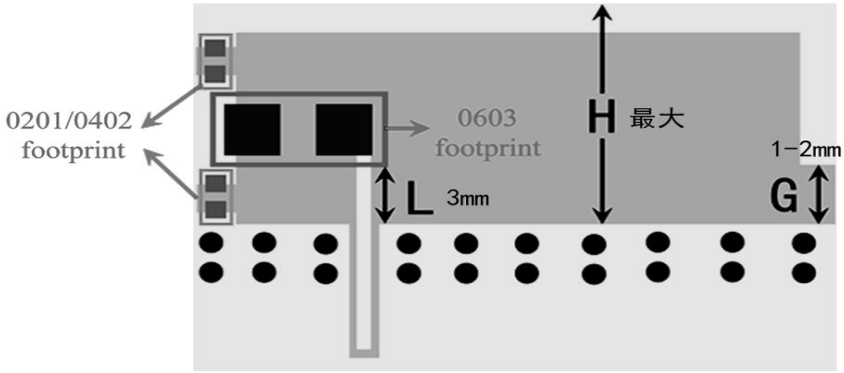






天线最优放置于中间区域，净空区周围最优需要至少一排过孔。

●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。

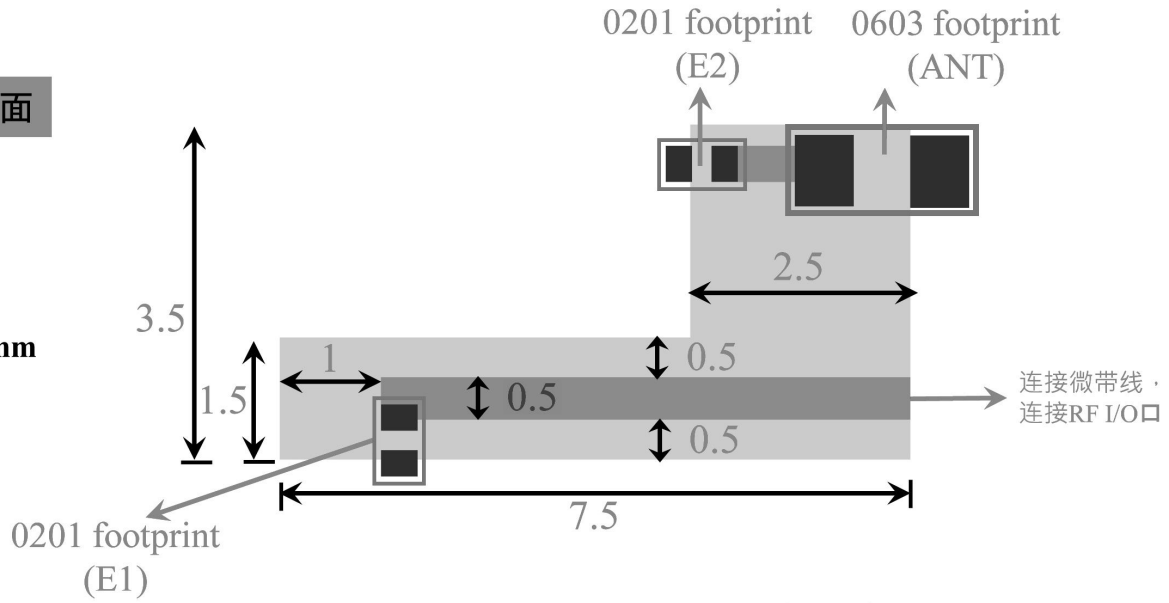
设计标准：

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。

天线封装方案一（3.5mm×7.5mm）

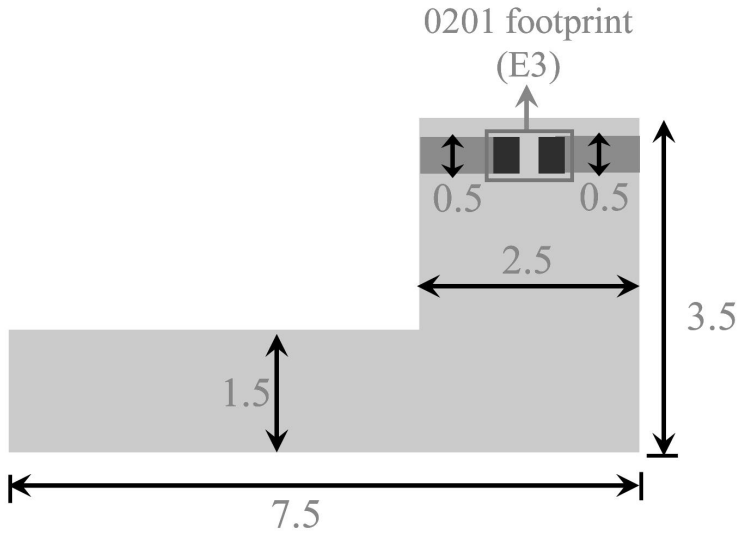
TOP面

Unit:mm

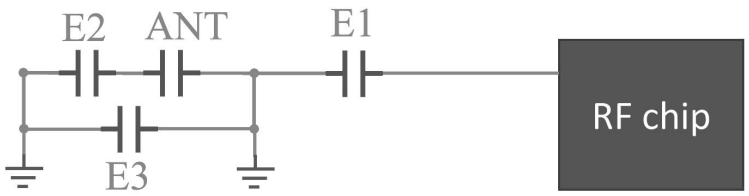


BOTTOM面

Unit:mm



原理图



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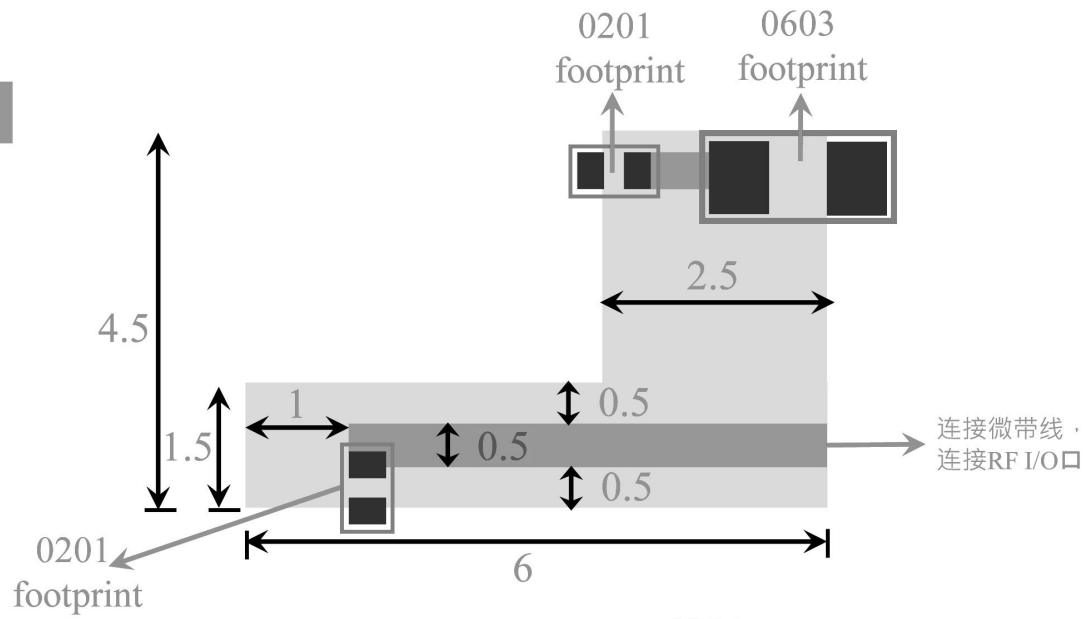
天线封装方案二（**4.5mm×6mm**）

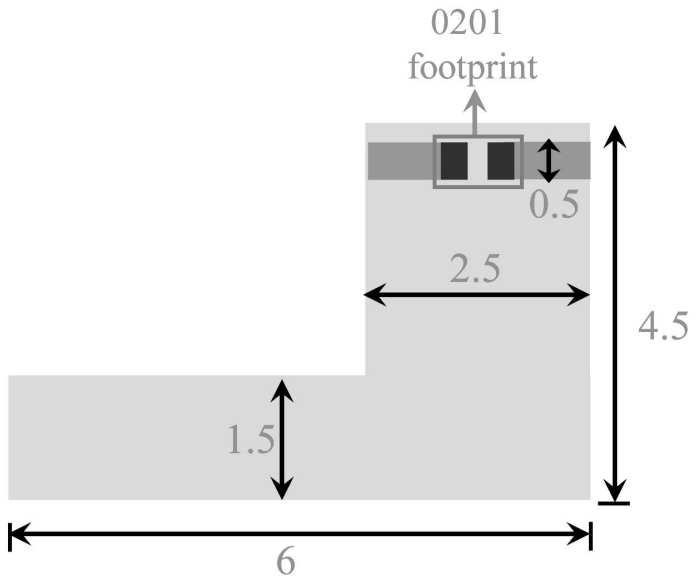
TOP面

Unit:mm



BOTTOM面

Unit:mm



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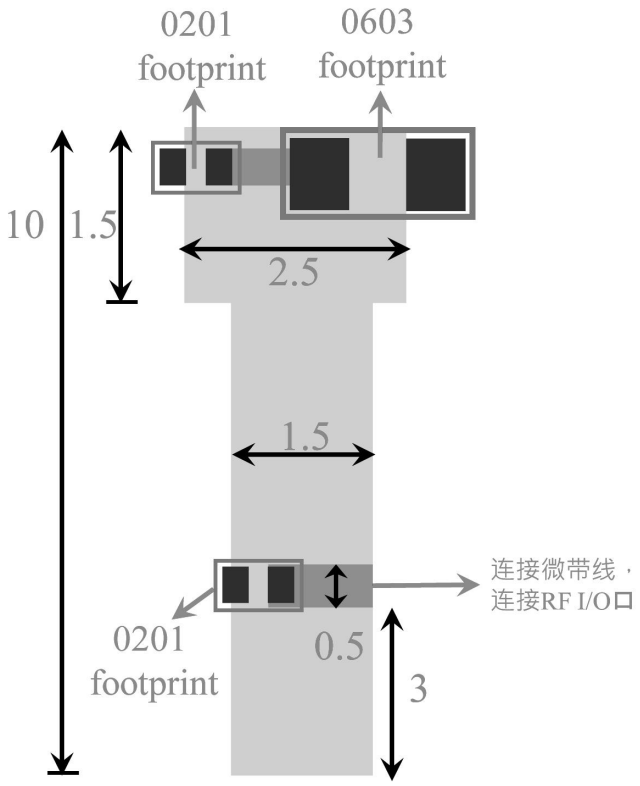
天线封装方案三（1.5mm×10mm）

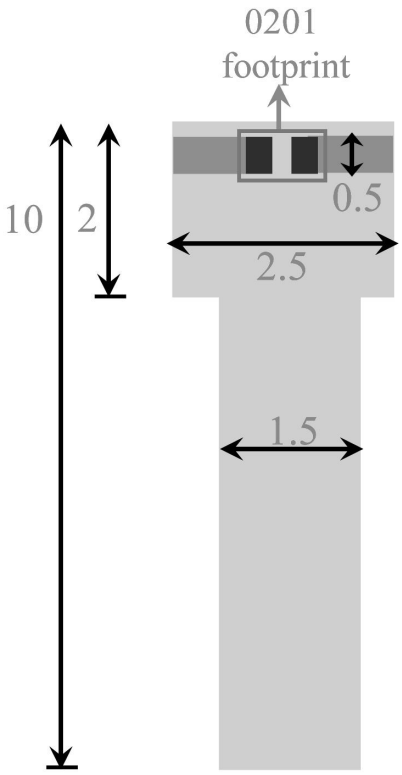
TOP面

Unit:mm



BOTTOM面

Unit:mm



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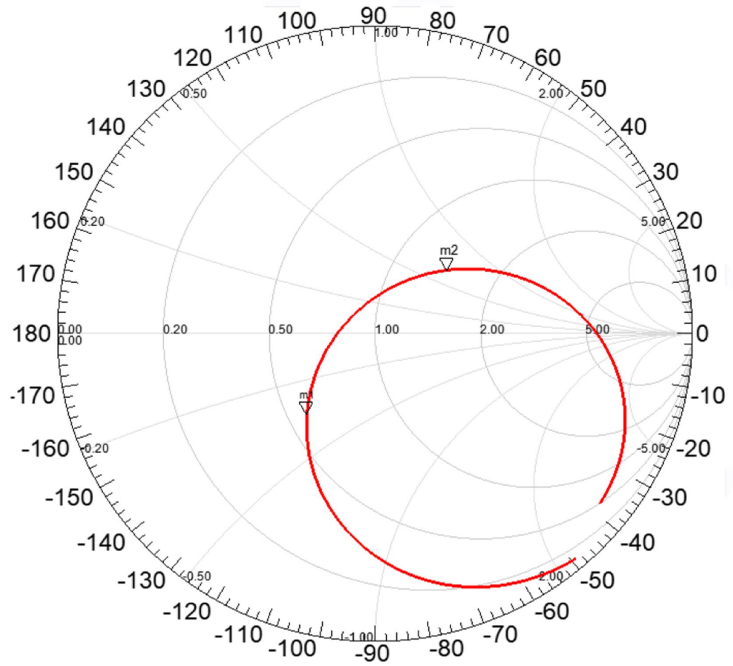
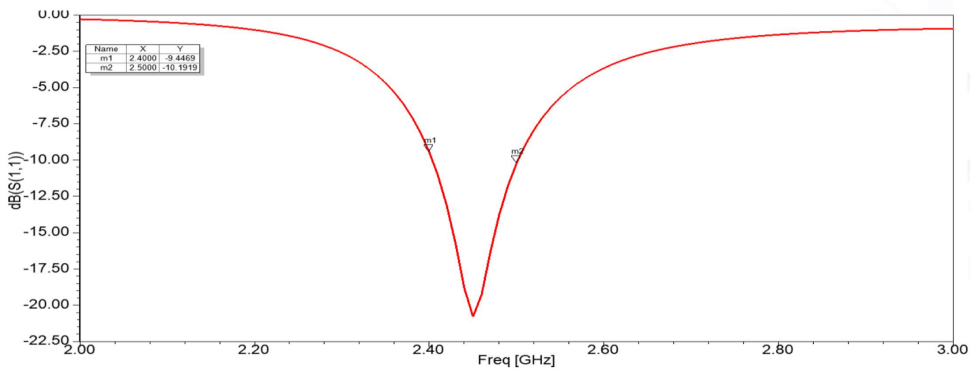
Electrical Characteristics

	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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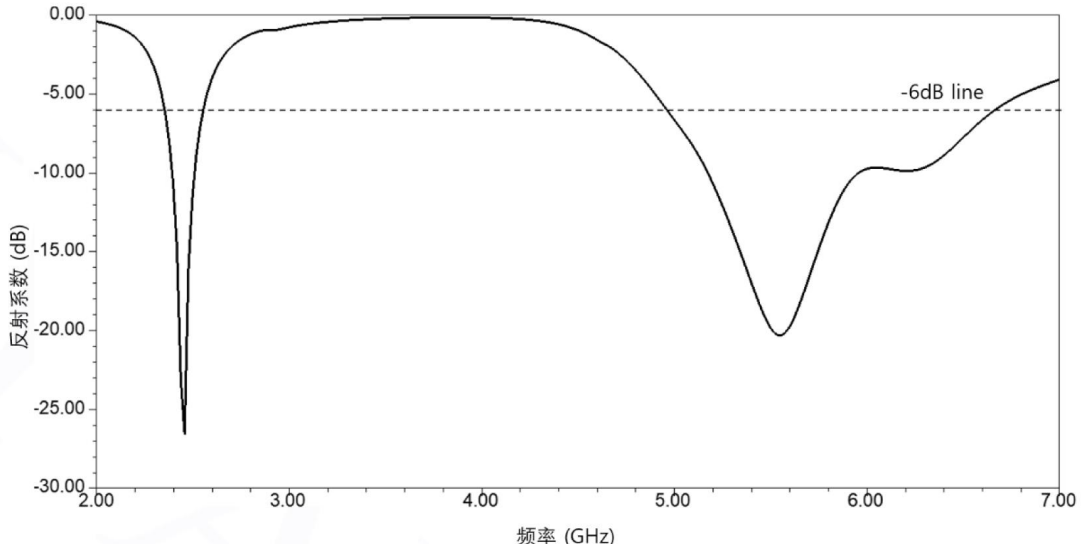
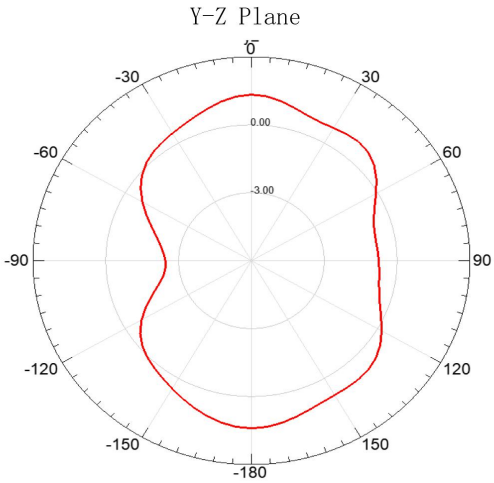
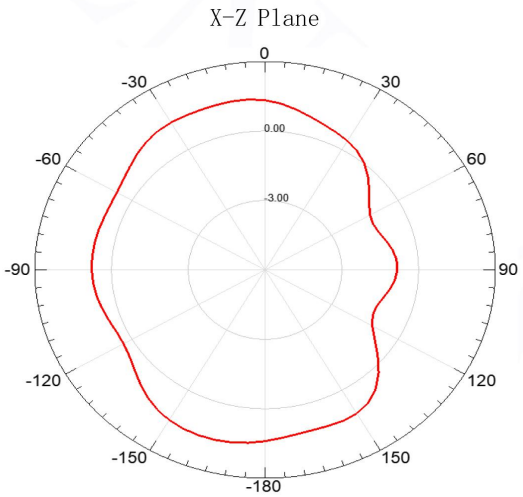


Radiation Pattern





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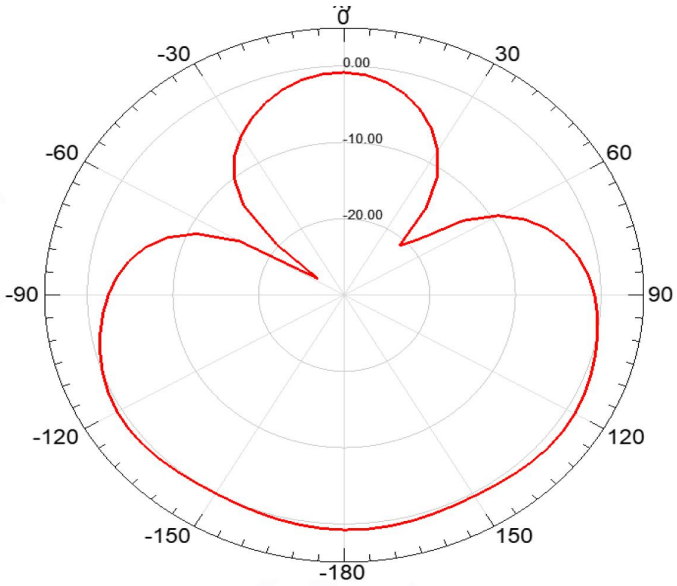
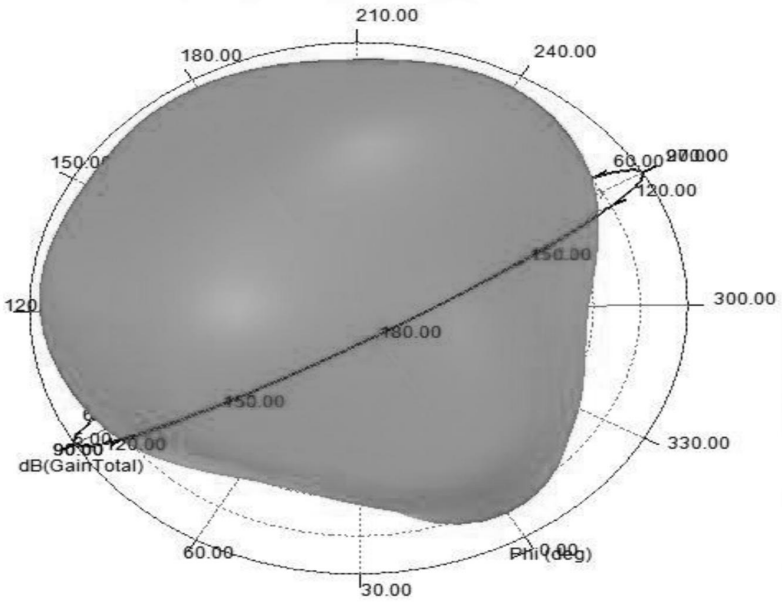


3D Radiation Pattern



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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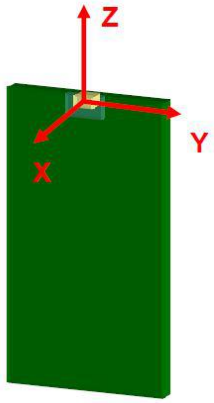
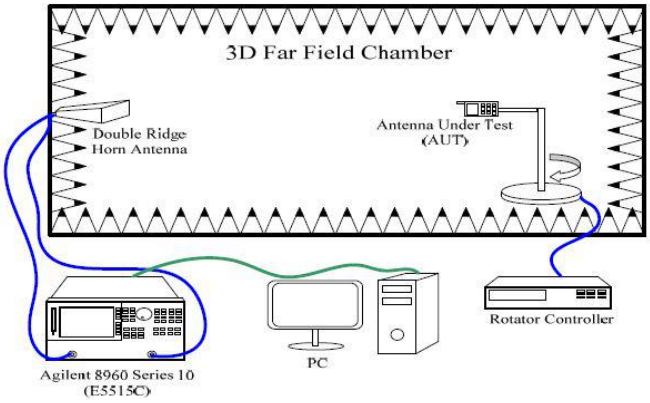
Radiation Pattern

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℃ 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℃ for 3±1 seconds.	No apparent damage

(2) Storage Condition

(a) At warehouse:

The temperature should be within 0 ~ 30℃ and humidity should be less than 60% RH.

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

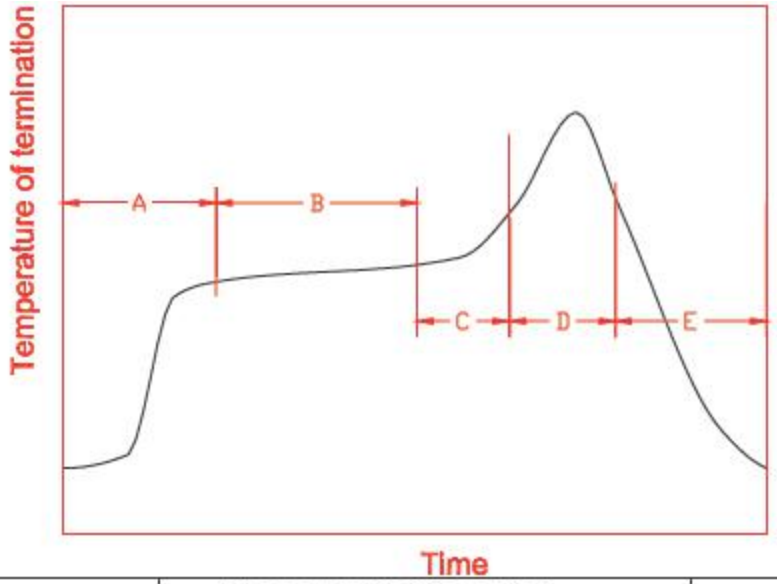
(b) On board:

The temperature should be within -40~85℃ and humidity should be less than 85% RH.

(3) Operating Temperature Range

Operating temperature range : -40℃ to +105℃.

8. Recommended Reflow Soldering



A	1st rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140℃ to 160℃	60s to 120s
C	2nd rising temperature	Preheating to 200℃	20s to 40s
D	Main heating	if 220℃	50s～60s
		if 230℃	40s～50s
		if 240℃	30s～40s
		if 250℃	20s～40s
		if 260℃	20s～40s
E	Regular cooling	200℃ to 100℃	1℃/s ～ 4℃/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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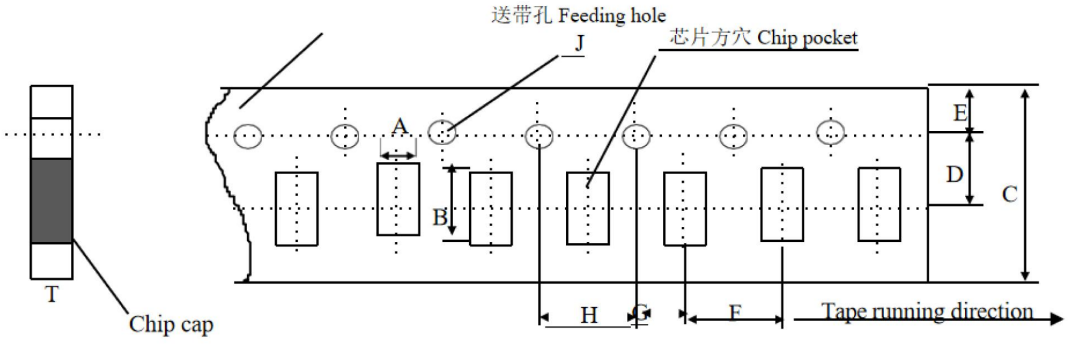
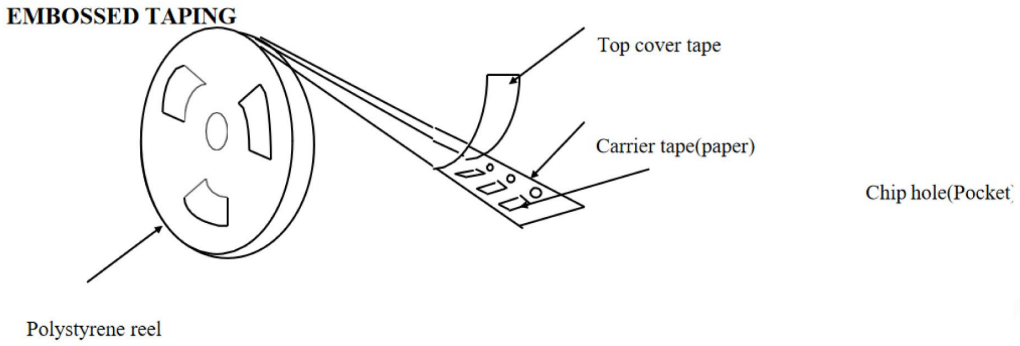
Dimensions of paper taping:



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）



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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