

SPECIFICATIONS

CUSTOMER: _____

DESCRIPTION: Single-stage Bluetooth antenna

CUSTOMER PART No: _____

OUR MODEL NO: **PBX3216DA01**

DATE: 2020/10/10

PLEASE RETURN TO US ONE COPY OF “SPECIFICATION FOR APPROVAL”

WITH YOUR APPROVED SIGNATURES

approve		examine		manuf ature	

signature	
date	

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DESIGNED BY: Sera	APPROVED BY: XD		
TITLE : CHIP2450-21 Specification		DOCUMENT NO.	3216
			SPEC REV. P1

PBX3216DA01 Specification

Operating Temp. : -40°C~+85°C

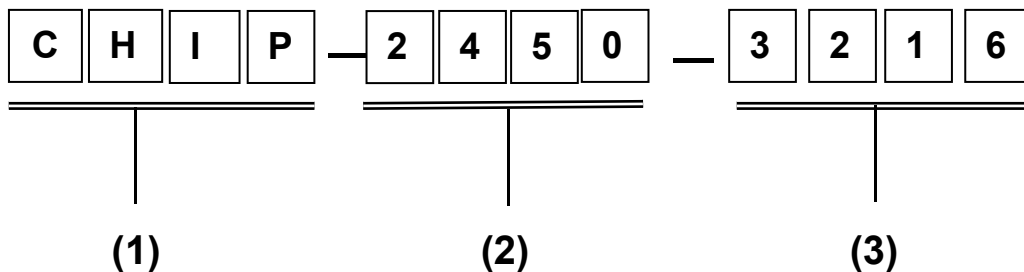
1. FEATURES:

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

2. APPLICATIONS:

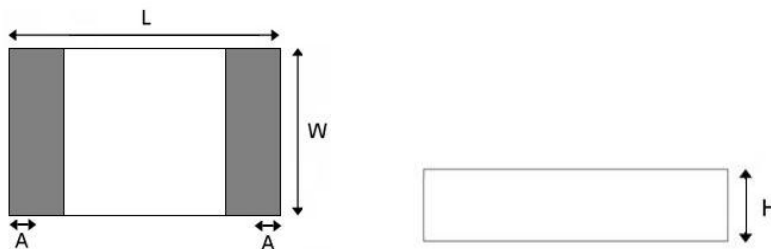
- Bluetooth, Wireless LAN, Mobile TV
- Home RF system, etc

3. PRODUCT IDENTIFICATION



- (1) Product type: Multilayer chip Antenna
(2) Center Frequency: 2450MHz
(3) External Dimensions (L×W) (mm): 3.2*1.6

4. SHAPE AND DIMENSIONS:

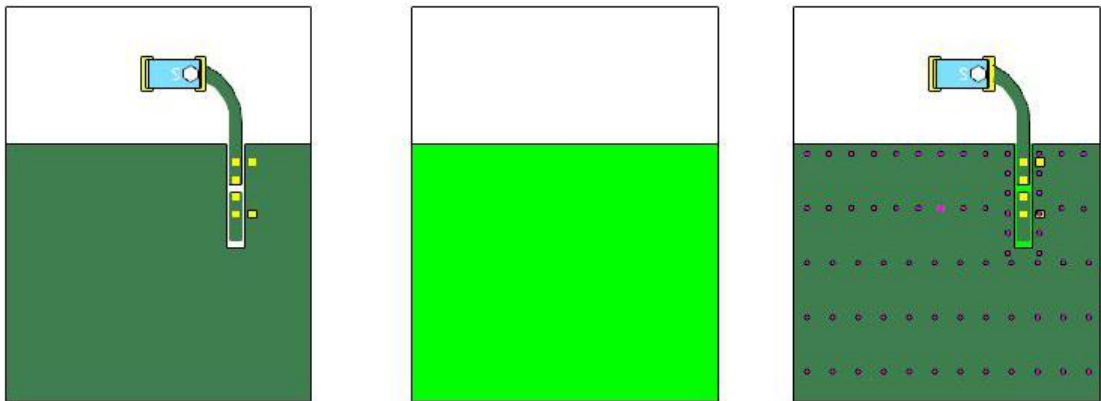


L	W	H	A
3.2±0.3	1.6±0.3	0.52±0.2	0.4±0.25

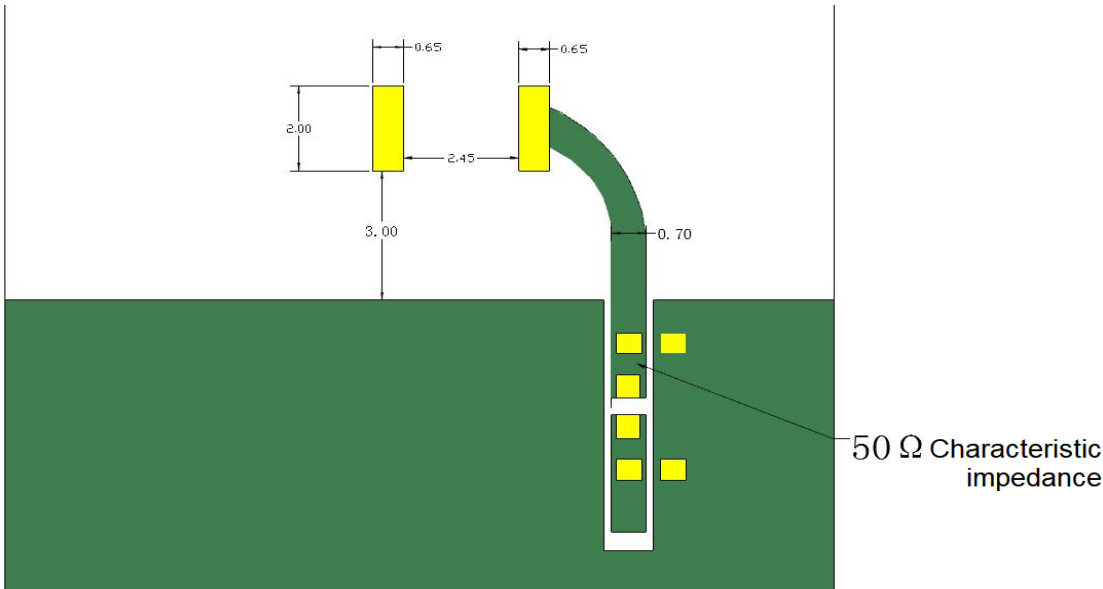
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Test board reference size:

Unit: mm



-  CHIP2450-3216-SRF07
-  Top copper
-  Bonding pad
-  Bottom copper
-  Punching



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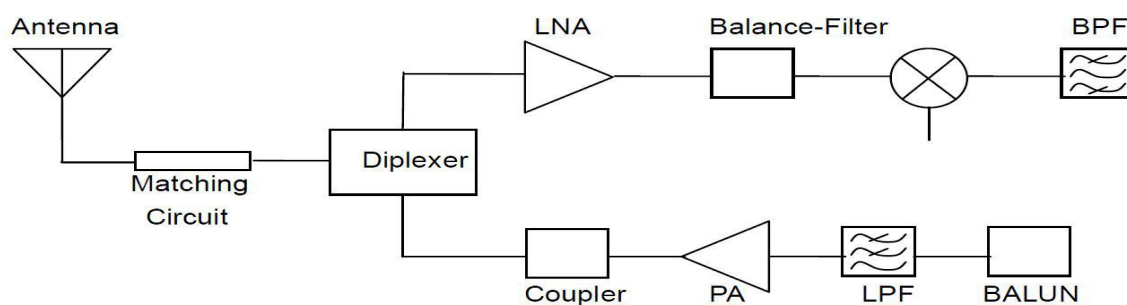
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APPLICATION GUIDE



5. SPECIFICATIONS:

No.	Product number	PBX3216DA01	
1	Central Frequency	2440	MHz
2	Bandwidth	100 (Min.)	MHz
3	Return Loss	-11.96 (Max.)	dB
4	Peak Gain	2.70	dBi
5	Impedance	50	Ω
6	Operating Temperature	-40~+85	$^{\circ}\text{C}$
7	Maximum Power	5	W
8	Resistance to soldering heat	10 (@260 $^{\circ}\text{C}$)	Sec.
9	Polarization	Linear	
10	Azimuth Beam width	Omni-directional	
11	Termination	Sn (leadless)	

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6. Electrical Characteristics :



Frequency (MHz)	2400	2450	2500
Avg. Gain (dBi)	-1.83	-1.86	-2.97
Peck Gain (dBi)	2.7	2.58	1.34
Efficiency (%)	65.5	65.22	50.45

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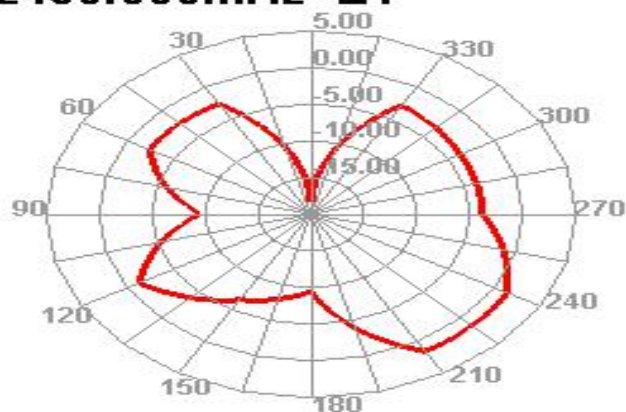
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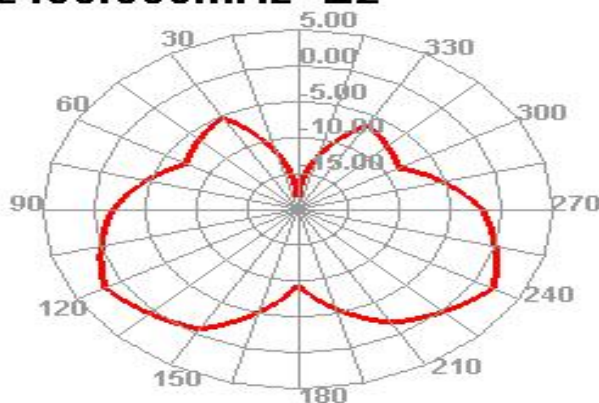
X-Y Plane

2450.000MHz E1



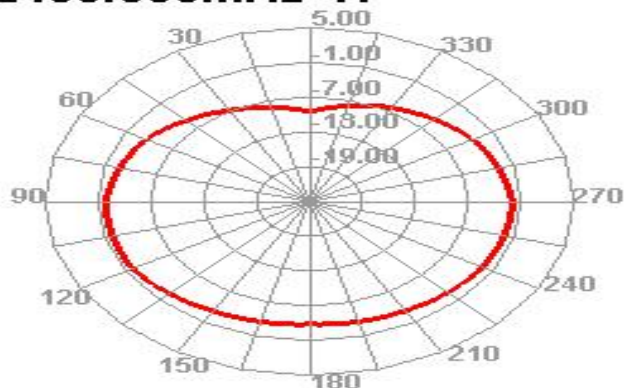
X-Y Plane

2450.000MHz E2



X-Y Plane

2450.000MHz H



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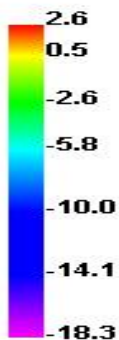
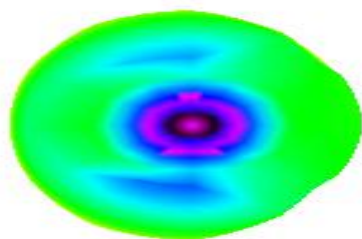
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3D Radiation Pattern

2450.000MHz



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7. Environmental Characteristics

(1) Reliability Test

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

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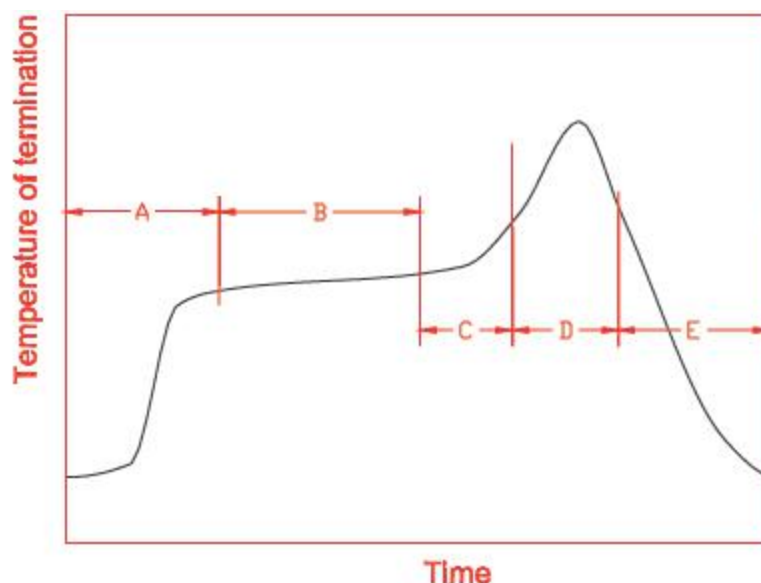
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8. Recommended Reflow Soldering



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.

- 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

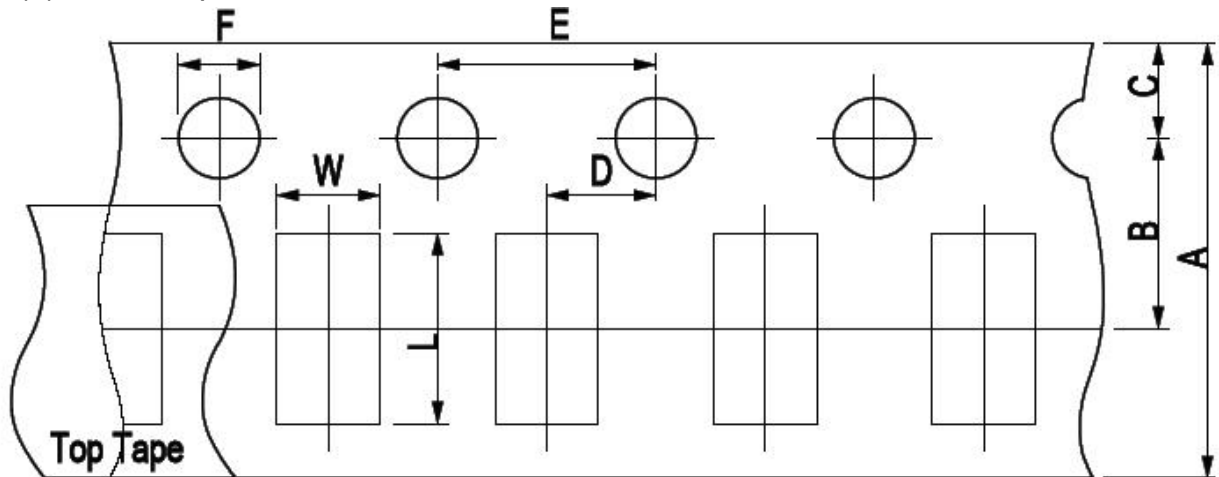
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Note that excess of soldering volume will easily get crack the body of this product.

9. Taping Package and Label Marking: (unit: mm)

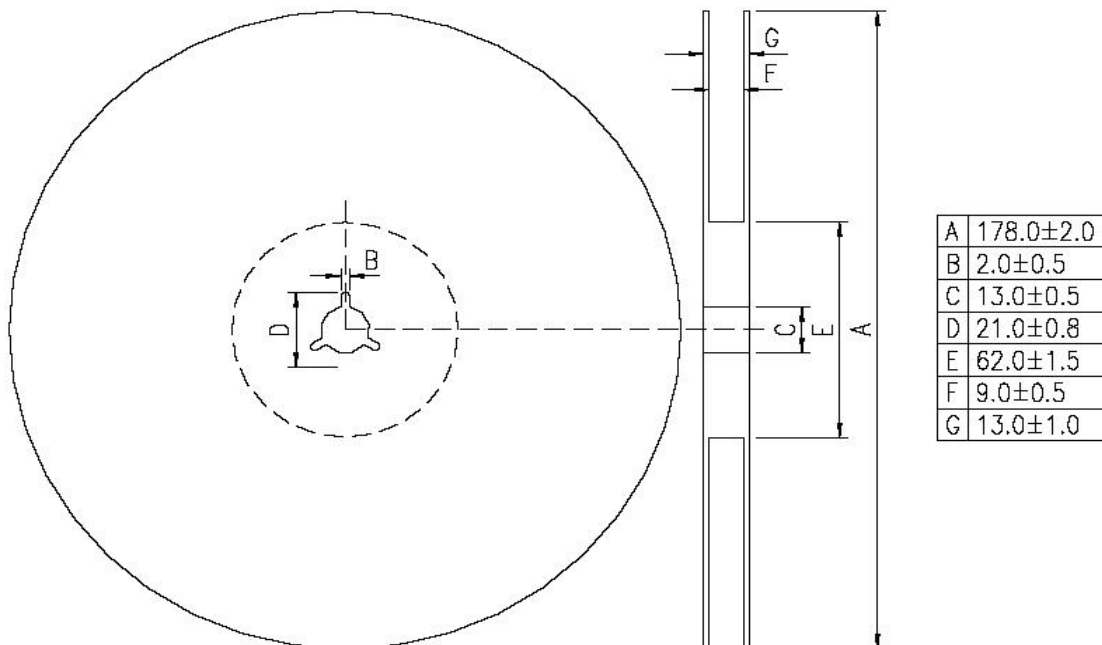
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions



Type	A	B	C	D	E	F	L	W
2450-21	8.00 ± 0.3	3.50 ± 0.05	1.75 ± 0.1	2.00 ± 0.05	4.00 ± 0.1	1.50 ± 0.1	2.30 ± 0.1	1.55 ± 0.1

(3) Taping reel dimensions



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