

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 cture	

signature	
date	

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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;">SCALE : N/A</td> <td style="width: 50%; padding: 2px;">UNIT : mm</td> </tr> <tr> <td style="padding: 2px;">DRAWN BY : Sera</td> <td style="padding: 2px;">CHECKED BY: XD</td> </tr> <tr> <td style="padding: 2px;">DESIGNED BY: Sera</td> <td style="padding: 2px;">APPROVED BY: XD</td> </tr> </table>	SCALE : N/A	UNIT : mm	DRAWN BY : Sera	CHECKED BY: XD	DESIGNED BY: Sera	APPROVED BY: XD	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF PBXY TECHNOLOGY Limited AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION
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TITLE : CHIP2450-21 Specification	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 2px;">DOCUMENT NO.</td> <td style="width: 40%; padding: 2px; text-align: center; font-size: 1.2em;">3216</td> <td style="width: 30%; padding: 2px;">SPEC REV.</td> </tr> <tr> <td></td> <td></td> <td style="text-align: center; padding: 2px;">P1</td> </tr> </table>	DOCUMENT NO.	3216	SPEC REV.			P1
DOCUMENT NO.	3216	SPEC REV.					
		P1					

PBX3216DA01 Specification

Operating Temp. : -40°C~+85°C

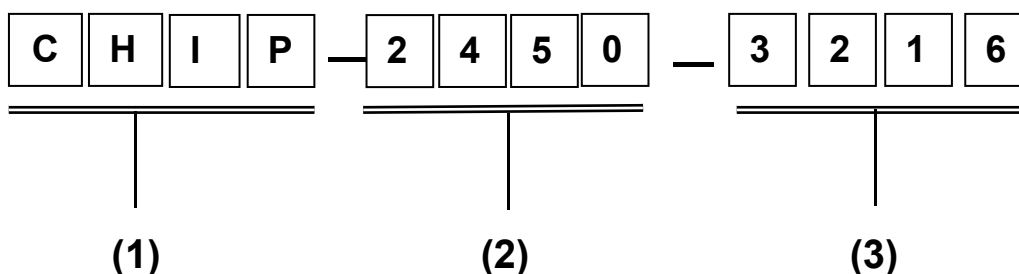
1. FEATURES:

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

2. APPLICATIONS:

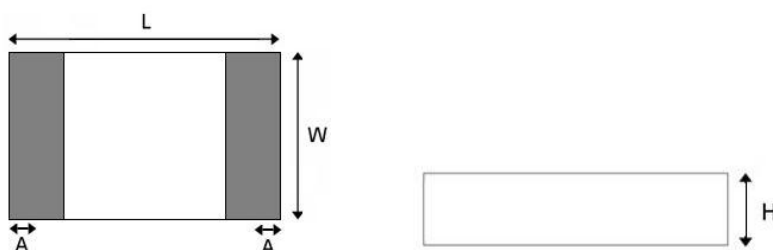
- Bluetooth, Wireless LAN, Mobile TV
- Home RF system, etc

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:

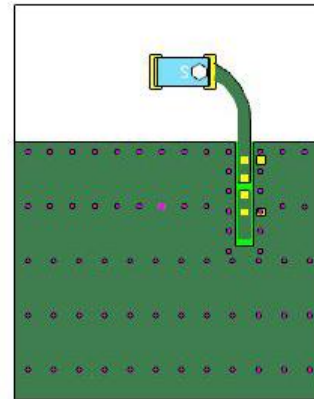
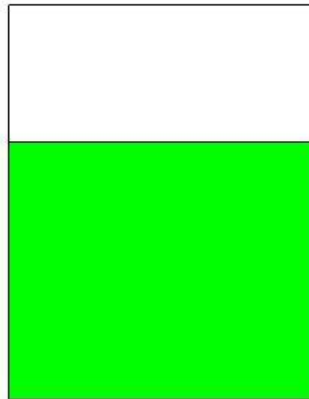
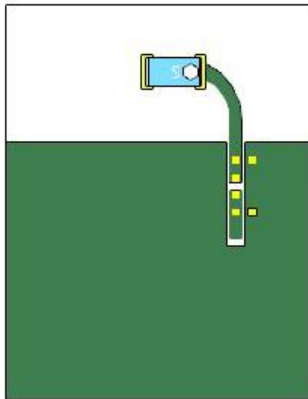







L	W	H	A
3.2±0.3	1.6±0.3	0.52±0.2	0.4±0.25

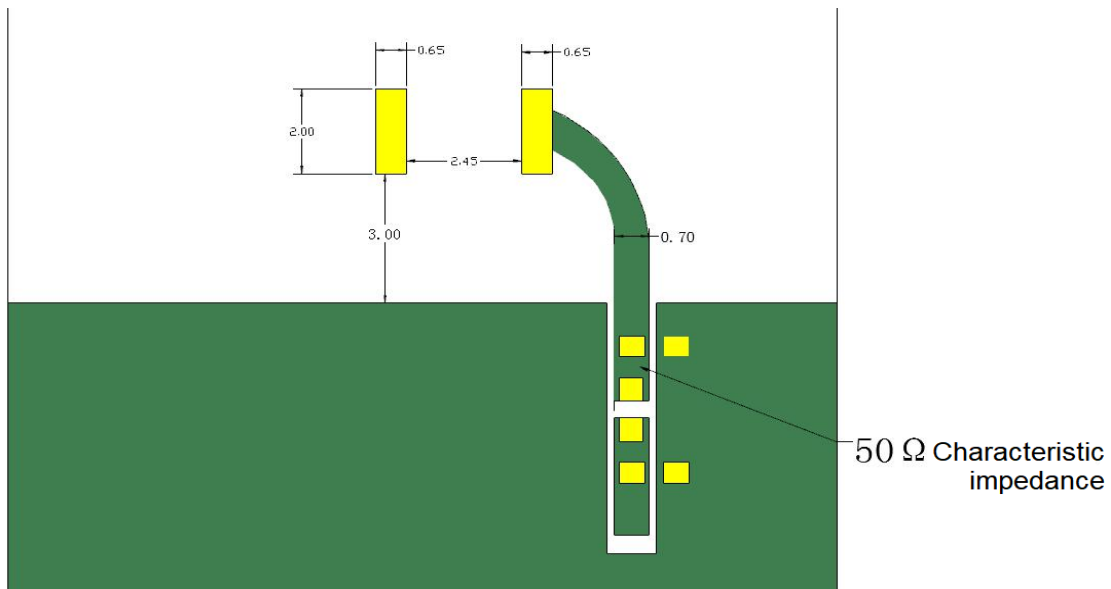
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Test board reference size:

Unit: mm



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



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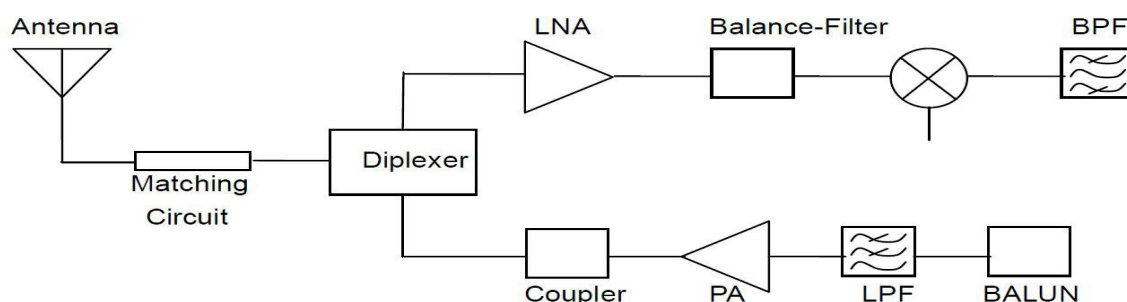
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SPEC REV.

P1

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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DOCUMENT NO.

3216

SPEC REV.

P1

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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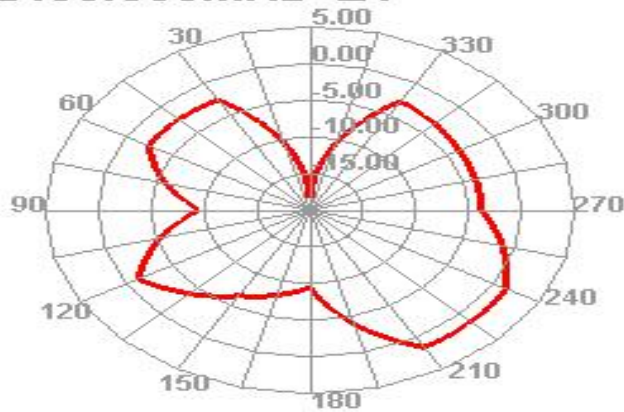
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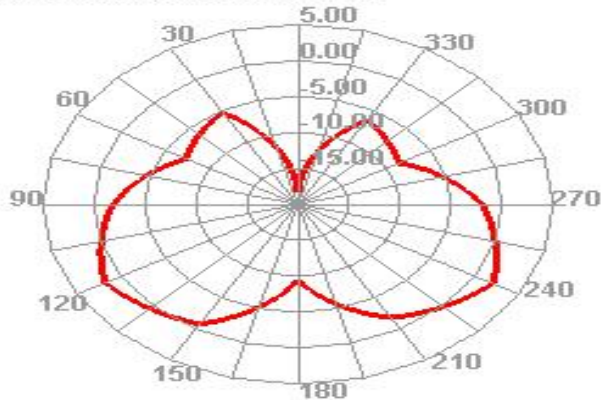
X-Y Plane

2450.000MHz E1



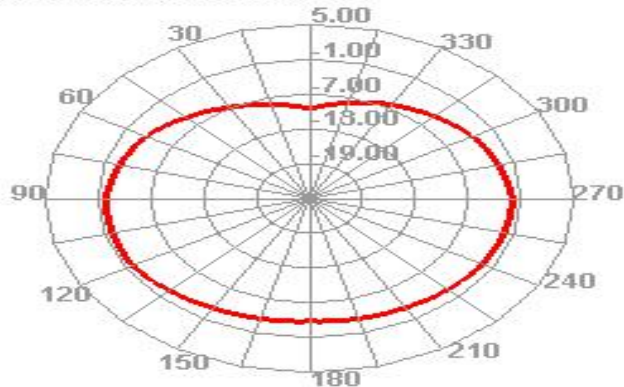
X-Y Plane


2450.000MHz E2



X-Y Plane

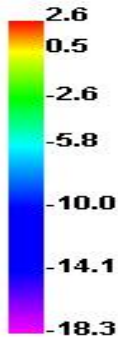
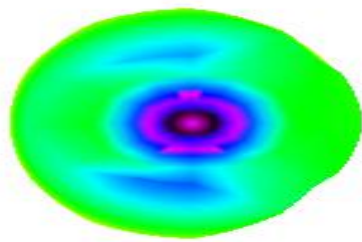
2450.000MHz H



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3D Radiation Pattern

2450.000MHz



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SPEC REV.

P1

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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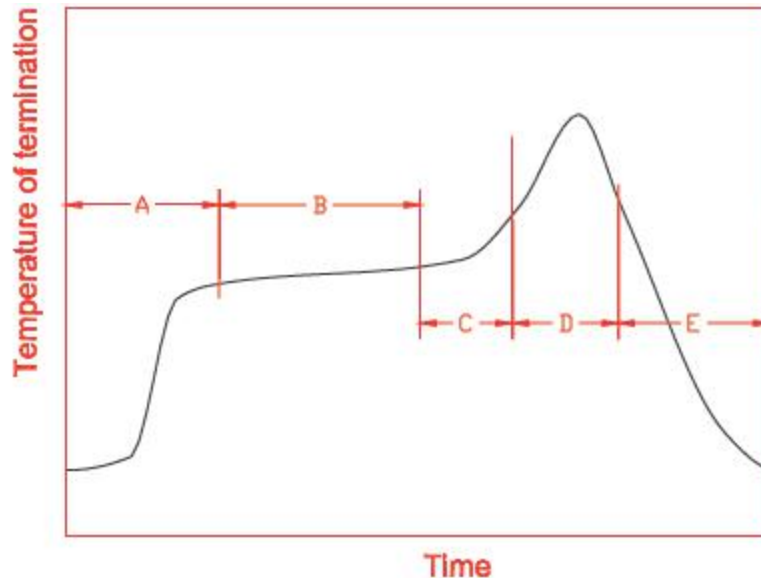
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SPEC REV.

P1

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

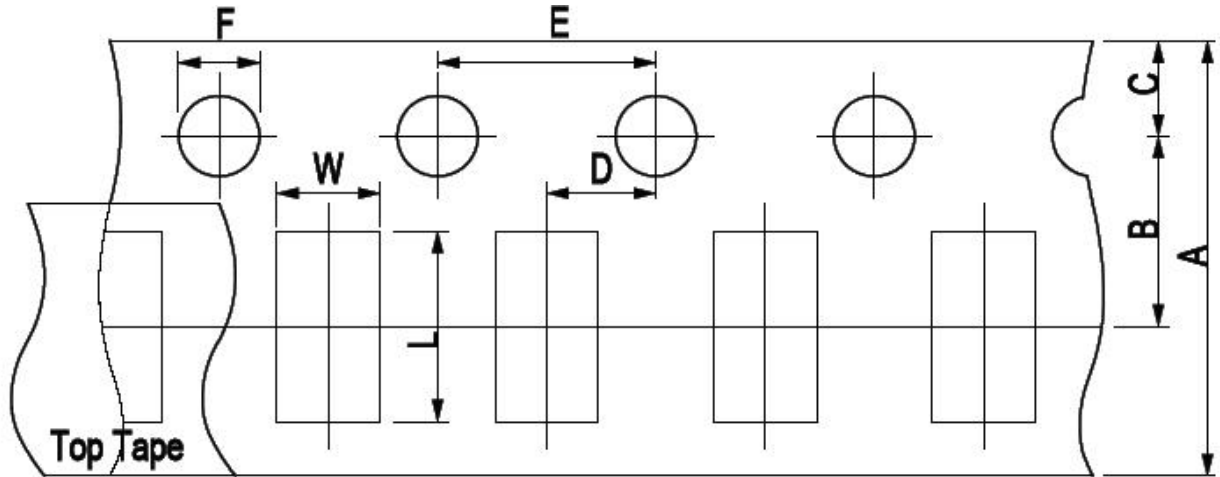
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Note that excess of soldering volume will easily get crack the body of this product.

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

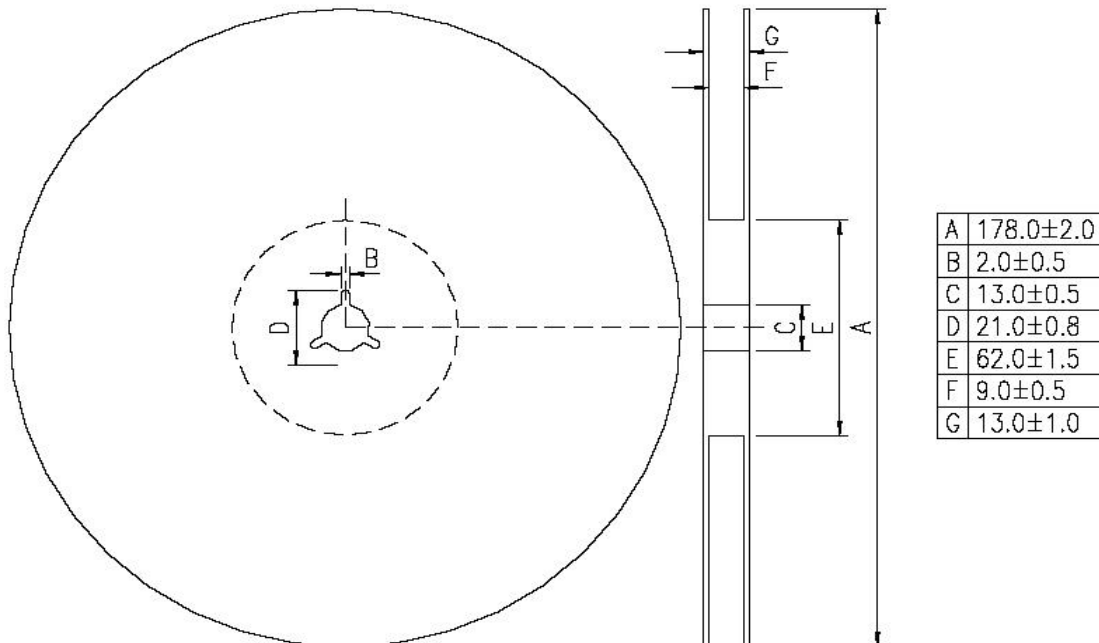
(1) Quantity/Reel: 5000pcs/Reel

(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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