

Antenna data sheet

DESCRIPTION: Chip antenna

OUR MODEL NO: 3216MA01

Manufacturer : Shenzhen Lingkun Technology Co., Ltd

Add : Room 1863, Dongfang Science and Technology Building,
No. 16, Keyuan Road, Science and Technology Park Community,
Yuehai Sub-district, Nanshan District, Shenzhen City

UNLESS OTHER SPECIFIED TOLERANCES ON: $X=\pm$ $X.X=\pm$ $X.XX=\pm$ ANGLES = \pm HOLE DIA = \pm		Shenzhen Lingkun Technology Co., Ltd		
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DESIGNED BY: Sera	APPROVED BY: XD			
TITLE: CHIP2450-3216 Specification		DOCUMENT NO.	3216	SPEC REV. P1

PBX3216MA01 Specification

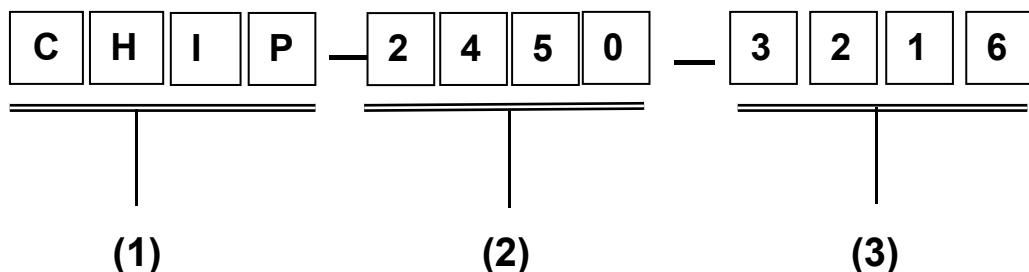
Operating Temp. : -40°C~+85°C

1. FEATURES:

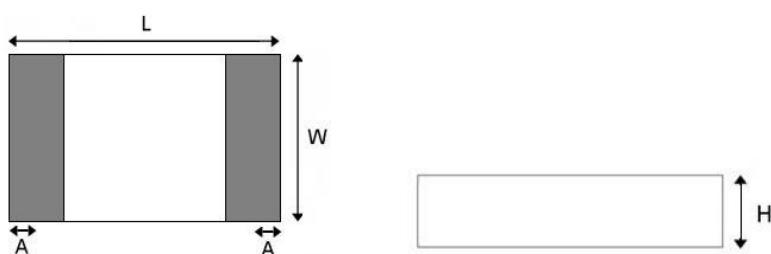
- Light weight, compact
- Wide bandwidth, low cost
- Built-in antenna with high gain

2. APPLICATIONS:

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

3. PRODUCT IDENTIFICATION

- (1) Product type: 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±0.2	1.6±0.2	0.52±0.1	0.4±0.1

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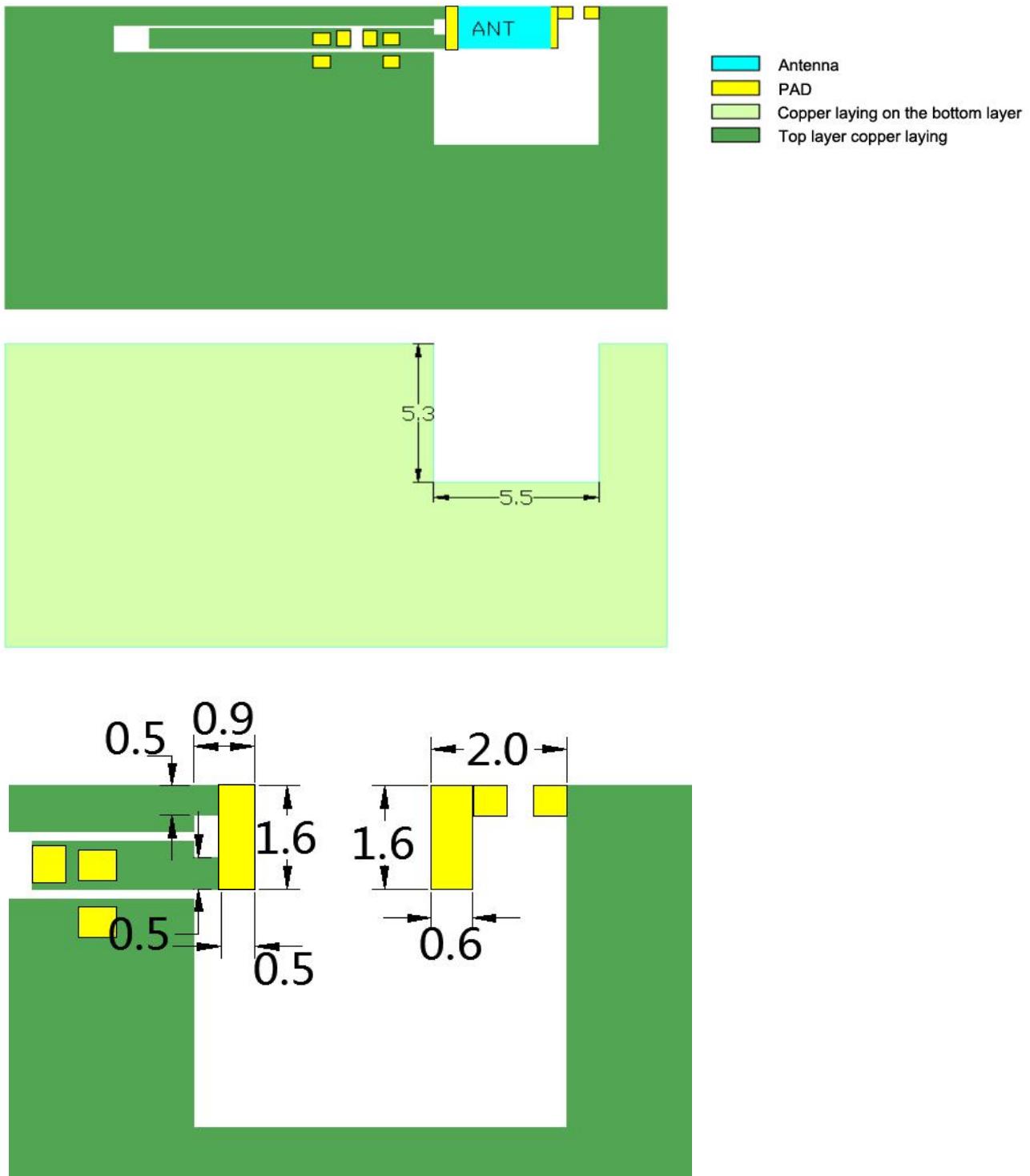
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Test plate reference size:

Company: mm



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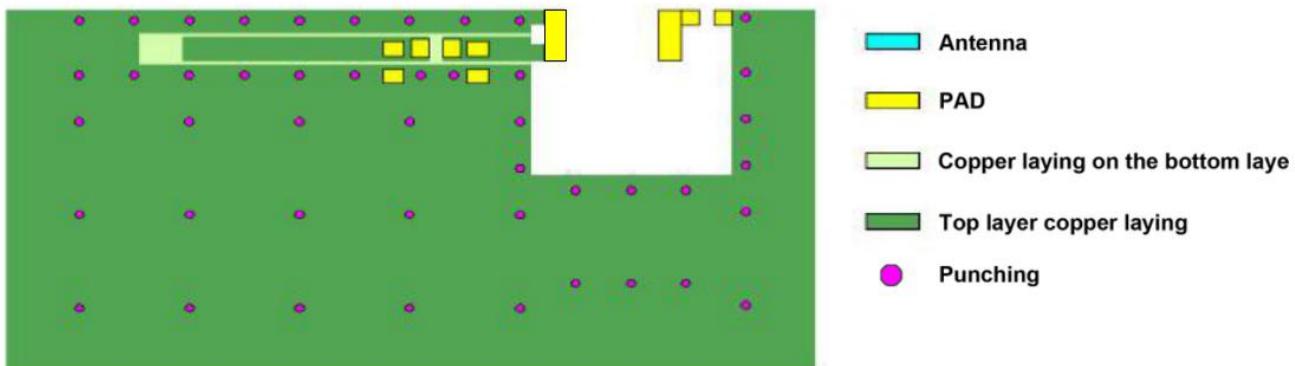
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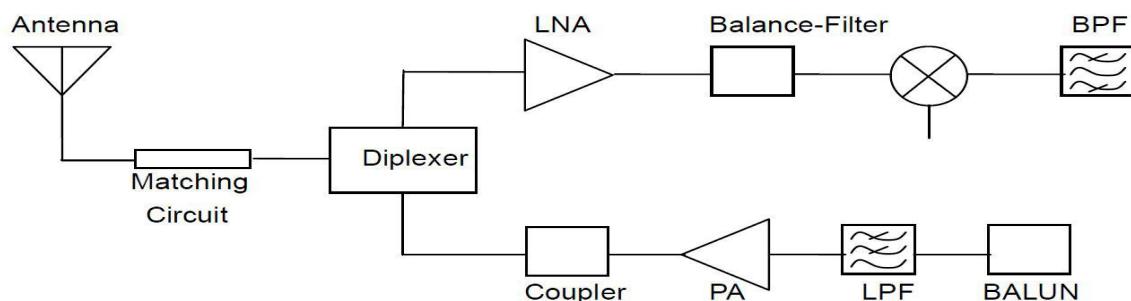
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Hole punching reference diagram



APPLICATION GUIDE



5. SPECIFICATIONS:

Test Item	Specifications
Bandwidth	2400-2483MHz
Polarization mode	Linear polarization
* Maximum gain	2.67dBi
* Efficiency	72.3%
Input Impedance	50Ω

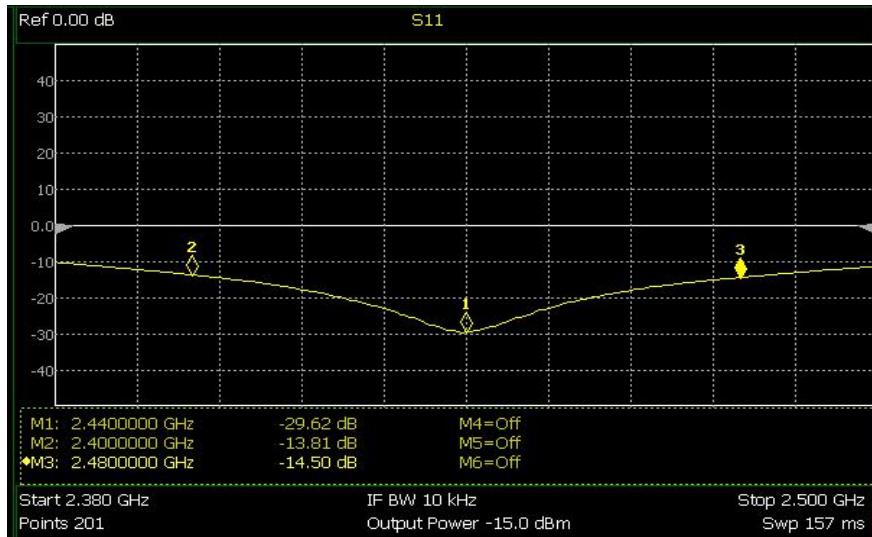
* Test condition: Test board size 90*40 mm

Matching circuit: Pi matching circuit will be required

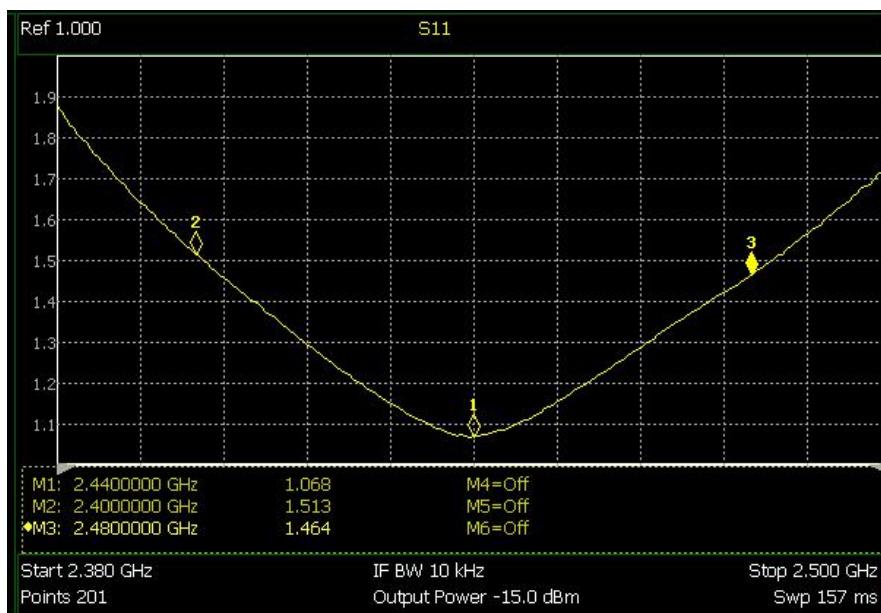
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6. Electrical Characteristics :

Return loss



Standing wave ratio



Mark	Frequency	VSWR
1	2400 MHz	1.513
2	2440 MHz	1.068
3	2480 MHz	1.464

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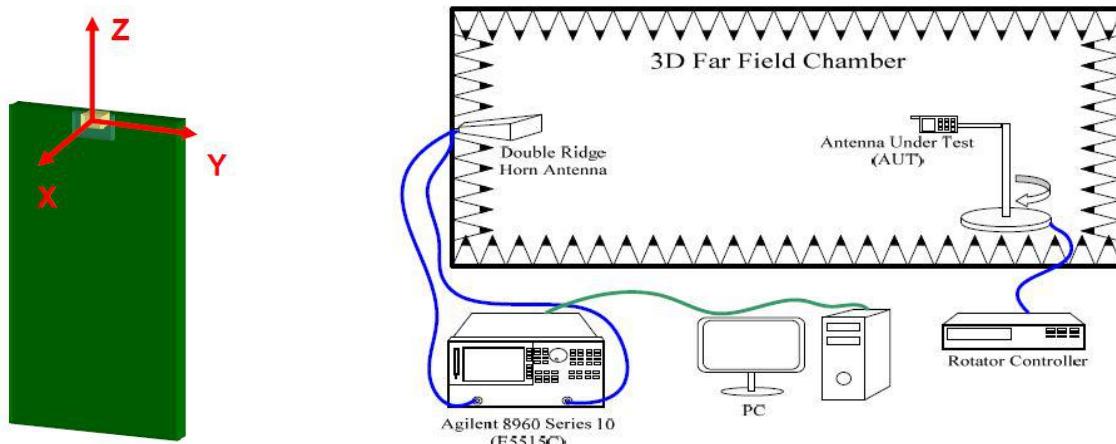
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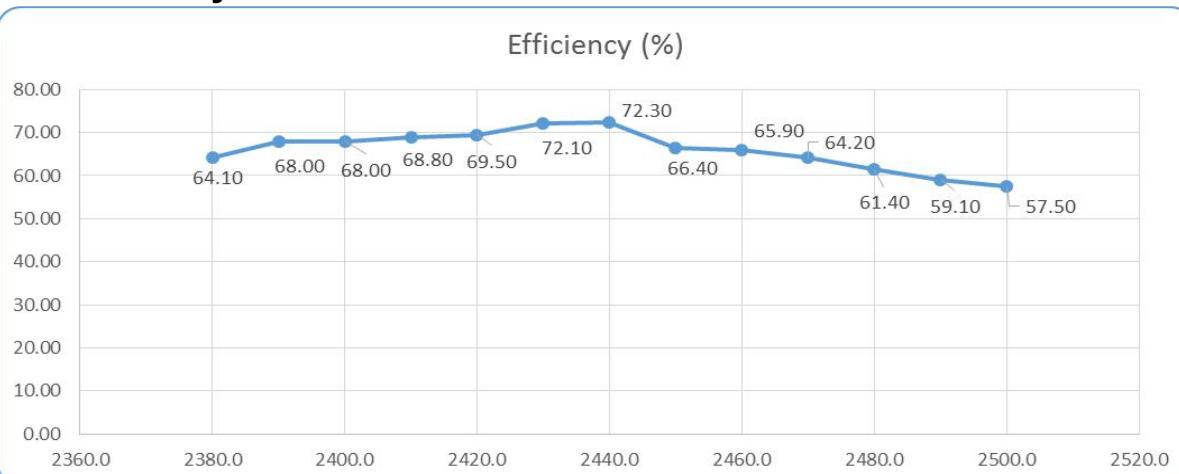
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Radiation Pattern

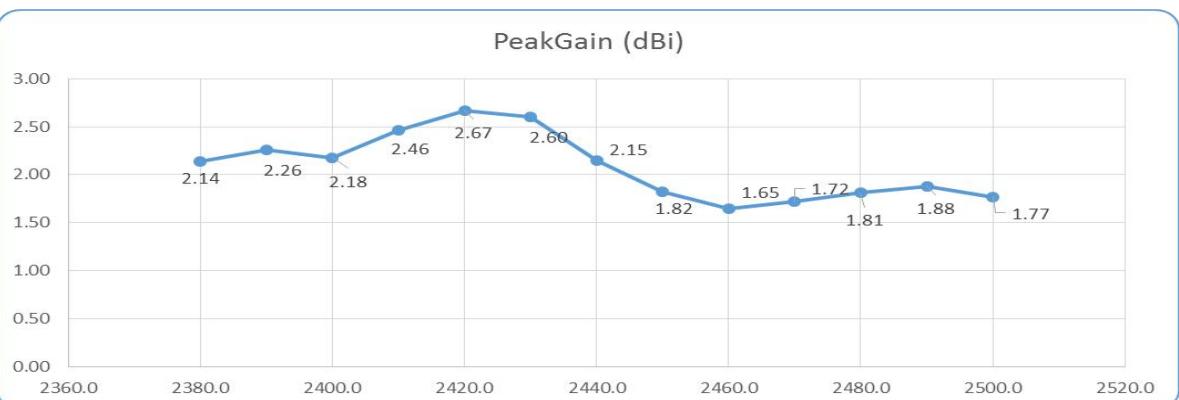
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



Efficiency



Maximum gain



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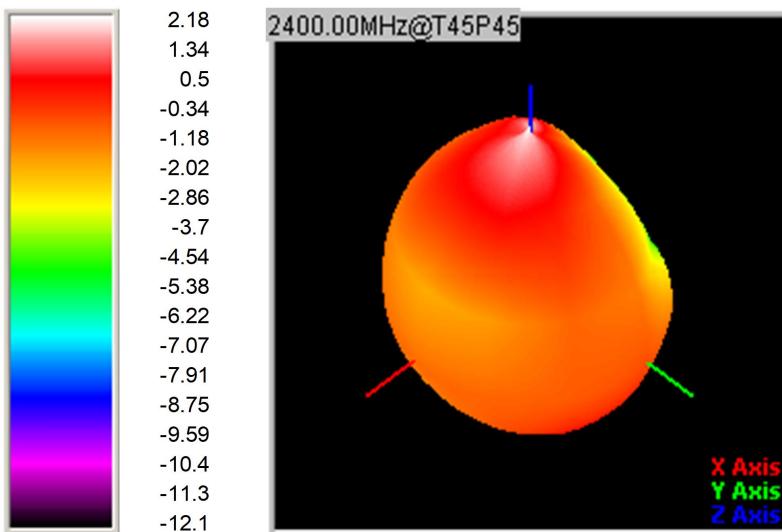
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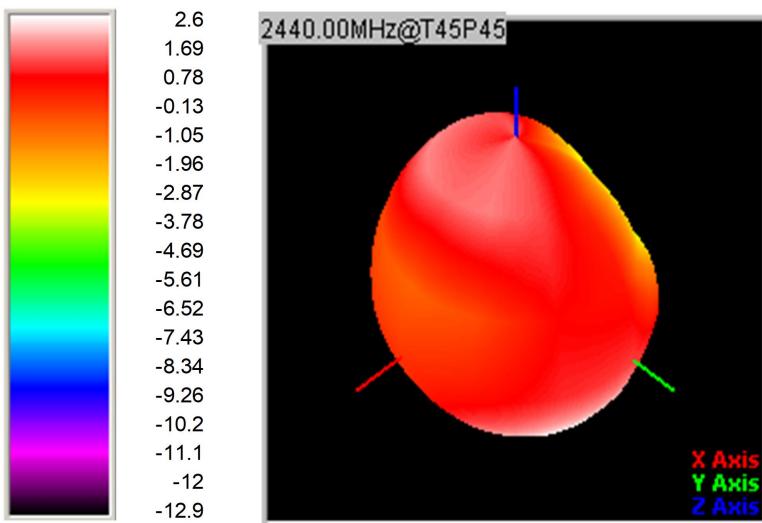
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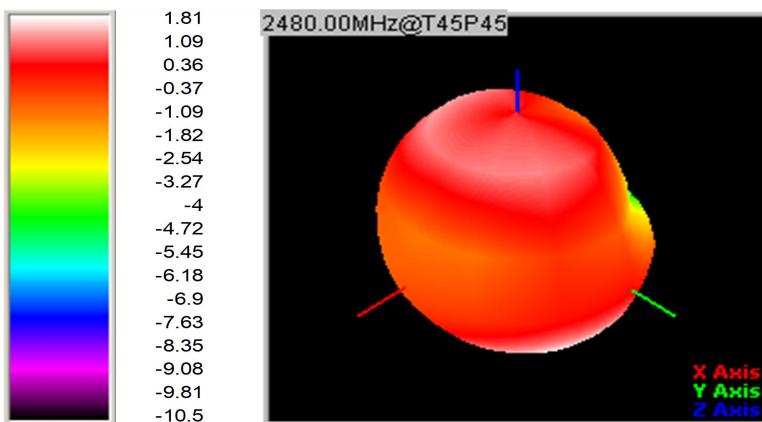
◎ 3D Gain Pattern (2400 MHz)



◎ 3D Gain Pattern (2440 MHz)



◎ 3D Gain Pattern (2480 MHz)



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7. 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:

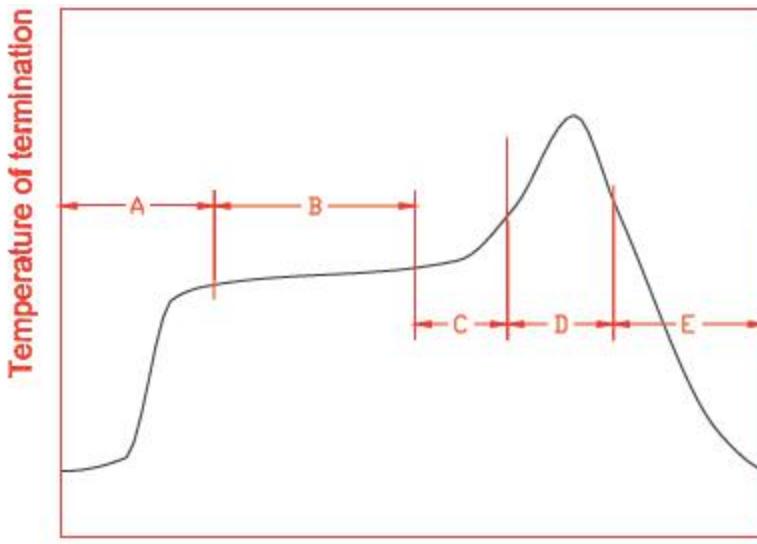
The temperature should be within $-40 \sim 85^\circ C$ and humidity should be less than 85% RH.

(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

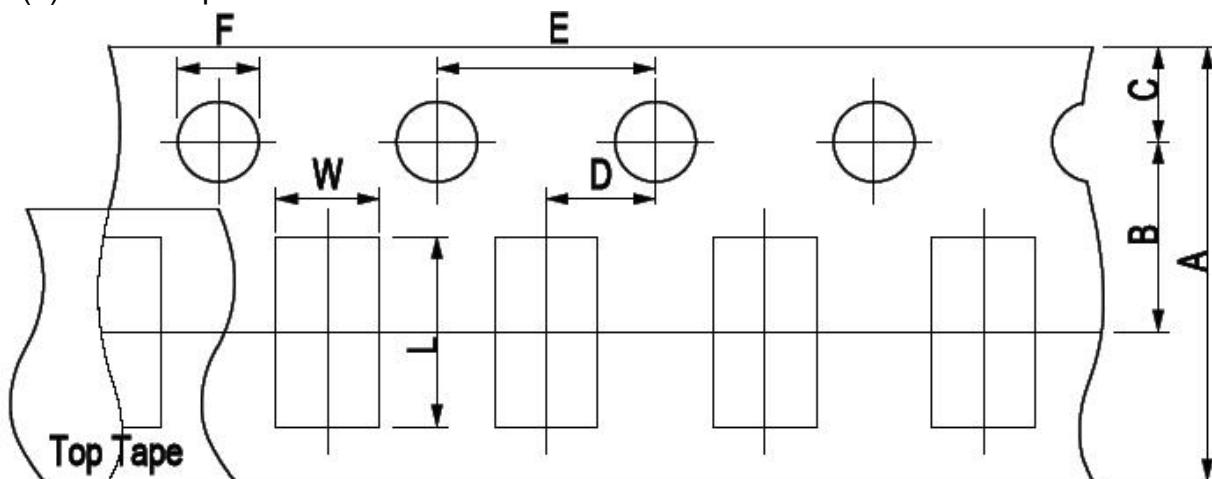
Note that excess of soldering volume will easily get crack the body of this product.

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

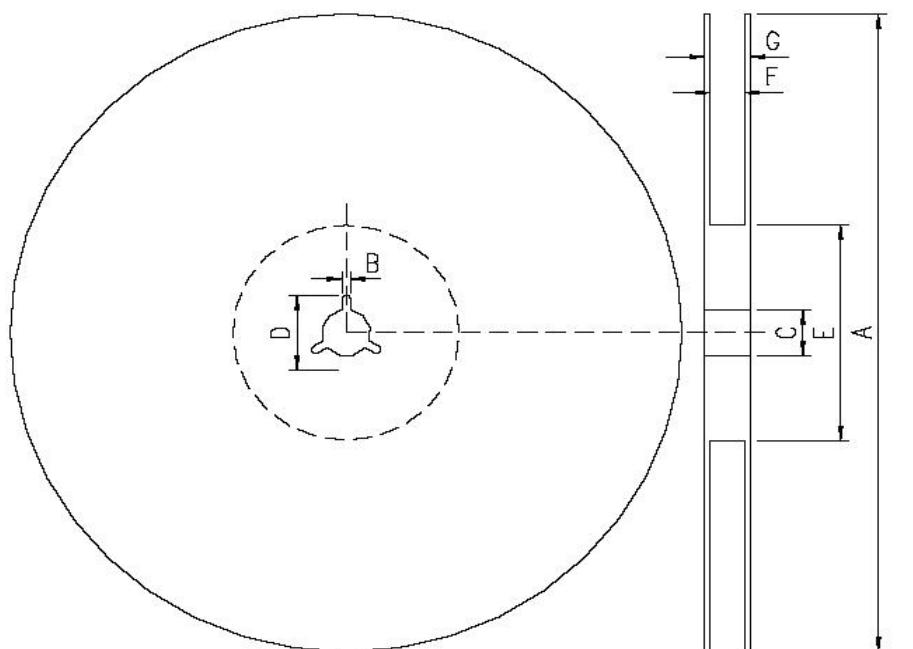
(1) Quantity/Reel: 5000pcs/Reel

(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



A	178.0 ± 2.0
B	2.0 ± 0.5
C	13.0 ± 0.5
D	21.0 ± 0.8
E	62.0 ± 1.5
F	9.0 ± 0.5
G	13.0 ± 1.0

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