

Product Specification Approval Form

SPECIFICATIONS

client:

CUSTOMER: _____

Product Name:

DESCRIPTION: BT-ANT

Customer Model:

CUSTOMER PART No: _____

Product Model:

OUR MODEL NO: 3216MA01

date:

DATE: 2019/07/23

Please return one copy of the confirmation form after signing and stamping.

PLEASE RETURN TO US ONE COPY OF "SPECIFICATION FOR APPROVAL"

WITH YOUR APPROVED SIGNATURES

Approval	Gao Yang	Review	Jiang Biaoqiang	Production	Ke Jiafeng

Manufacturer : Shenzhen Chuangkehua Technology Co., Ltd.
Address : Room 401, Building 1, Youchuang Space, No. 1 Qunhui Road, Xingdong Community, Xin'an Street,
Bao'an District, Shenzhen

Customer acknowledges signature	
date	

UNLESS OTHER SPECIFIED TOLERANCES ON: X=± XX=± X.XX=			
ANGLES=±	HOLEDIA=±		
SCALE:N/A	UNIT:mm		
DRAWN BY: Sera	CHECKED BY: XD		
DESIGNED BY: Sera	APPROVED BY: XD		
TITLE:CHIP2450-21 Specification		DOCUMENT NO.	SPEC REV.
		3216	P1

3216MA01 Specification

Operating Temp.: -40°C~+85°C

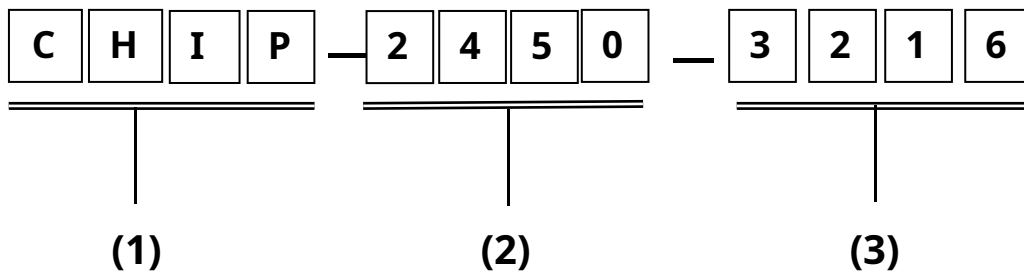
1. Features:

- Lightweight, 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

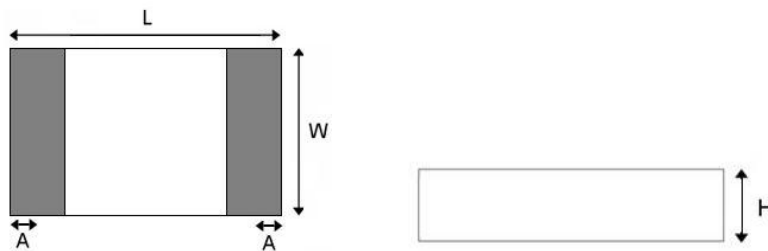


(1) Product type: Multilayer chip Antenna

(2) Center Frequency: 2450MHz

(3) External Dimensions (L×W) (mm): 3.2*1.6

4. SHAPE AND DIMENSIONS:

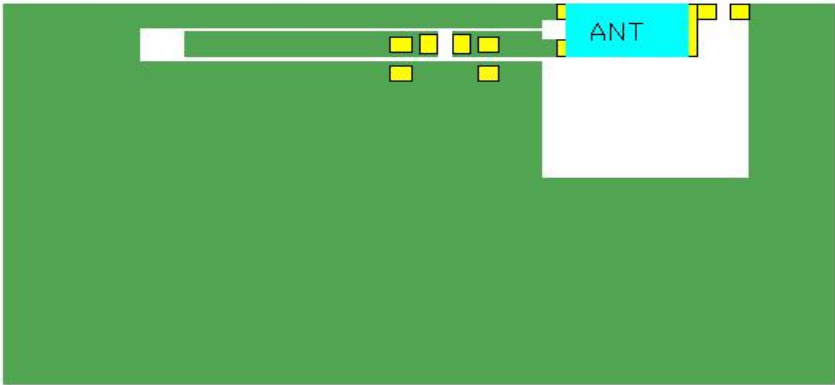


	W	H	A
	3.2±0.3	1.6±0.3	0.52±0.2
	0.4±0.25		

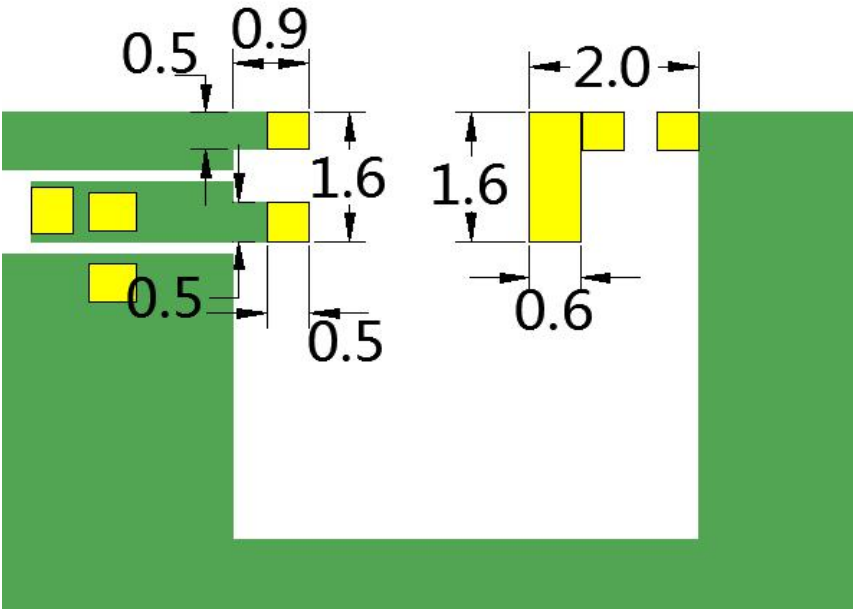
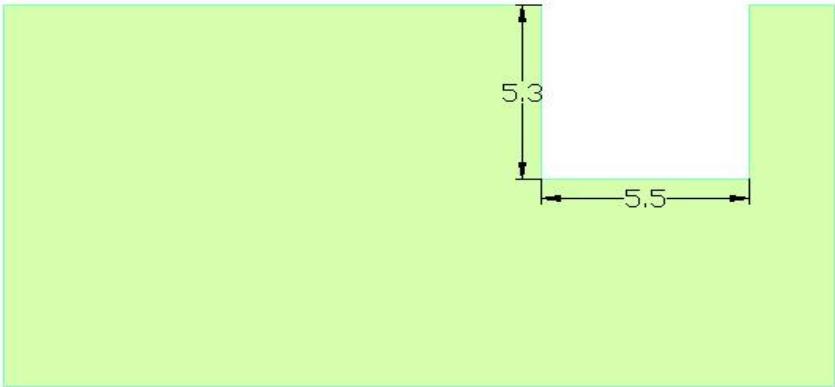
UNLESS OTHER SPECIFIED TOLERANCES ON: X=±			
XX=±	X.XX=		
ANGLES=±	HOLEDIA=±		
SCALE:N/A	UNIT:mm		
DRAWN BY: Sera	CHECKED BY: XD		
DESIGNED BY: Sera	APPROVED BY: XD		
TITLE:CHIP2450-21 Specification		DOCUMENT NO.	SPEC REV.
		3216	P1

Test board reference dimensions:

unit:mm

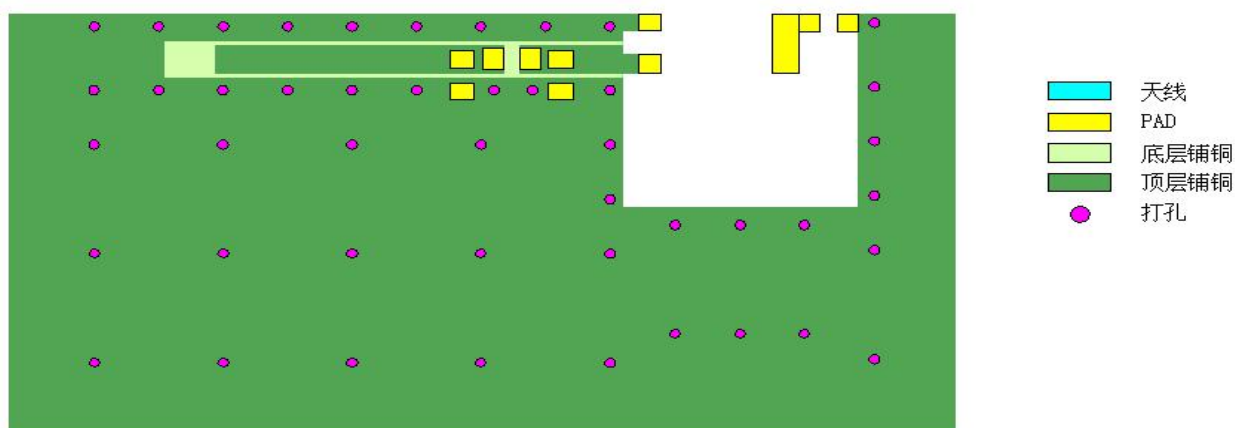


- 天线
- PAD
- 底层铺铜
- 顶层铺铜

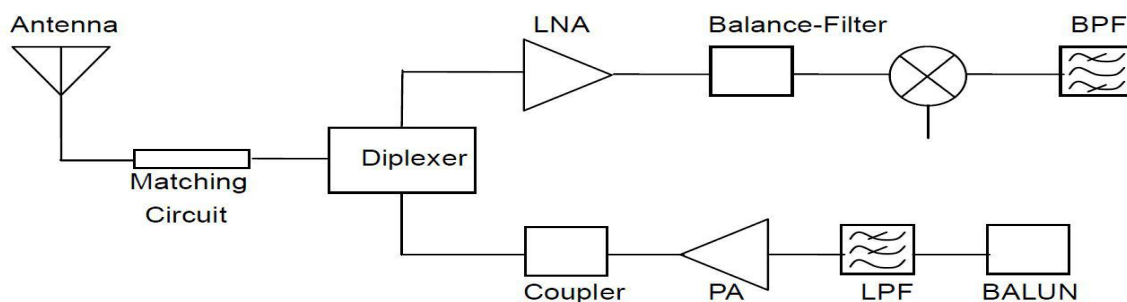


UNLESS OTHER SPECIFIED TOLERANCES ON: X=±			
XX=±		X.XX=	
ANGLES=±		HOLEDIA=±	
SCALE:N/A	UNIT:mm		
DRAWN BY: Sera	CHECKED BY: XD		
DESIGNED BY: Sera	APPROVED BY: XD		
TITLE:CHIP2450-21 Specification		DOCUMENT NO.	SPEC REV.
		3216	P1

Drilling reference diagram



APPLICATION GUIDE



5. SPECIFICATIONS:

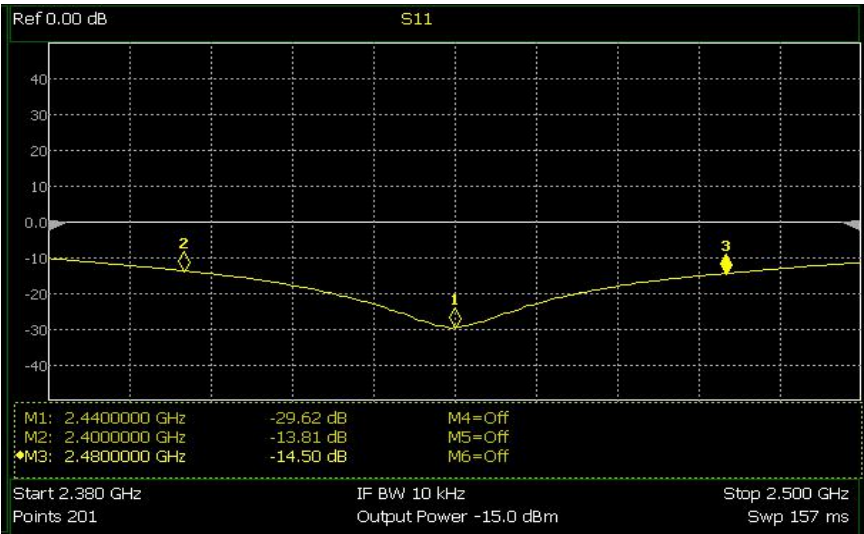
Test item	Specification
Bandwidth	2400~2483MHz
Polarization	Linear polarization
*Maximum Gain	2.67dBi
*Efficiency	72.30%
Input Impedance	50Ω

* Test condition: Test board size 90*40 mm Matching
circuit: Pi matching circuit will be required

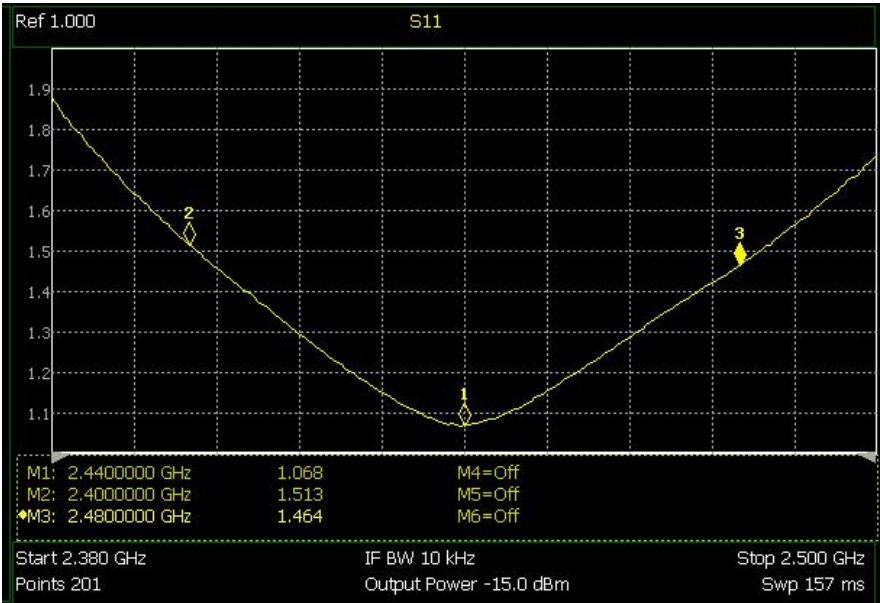
UNLESS OTHER SPECIFIED TOLERANCES ON: X=±			
XX=±		X.XX=	
ANGLES=±		HOLEDIA=±	
SCALE:N/A	UNIT:mm		
DRAWN BY: Sera	CHECKED BY: XD		
DESIGNED BY: Sera	APPROVED BY: XD		
TITLE:CHIP2450-21 Specification		DOCUMENT NO.	SPEC REV.
		3216	P1

6. Electrical Characteristics:

Return loss



Standing Bobby

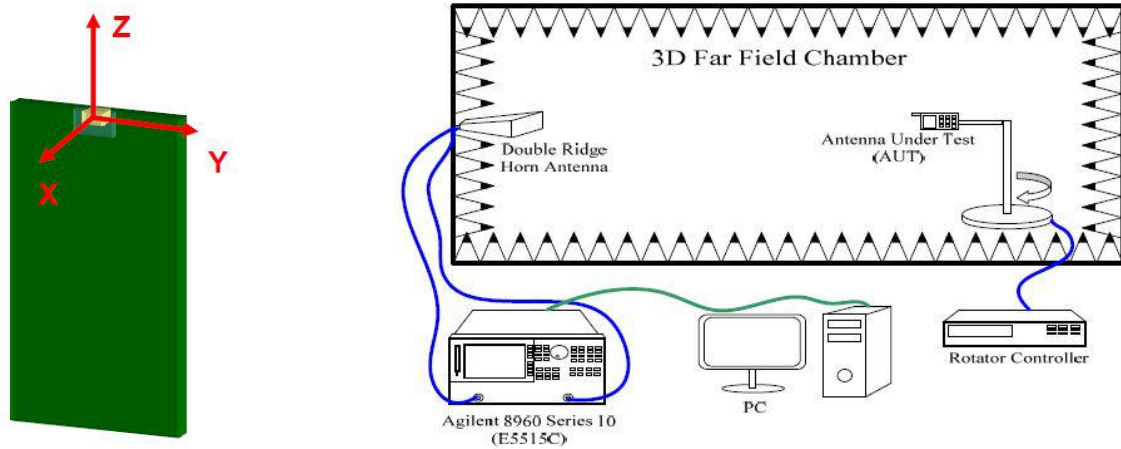


Mark	Frequency	VSWR
1	2400 MHz	1.513
2	2440 MHz	1.068
3	2480 MHz	1.464

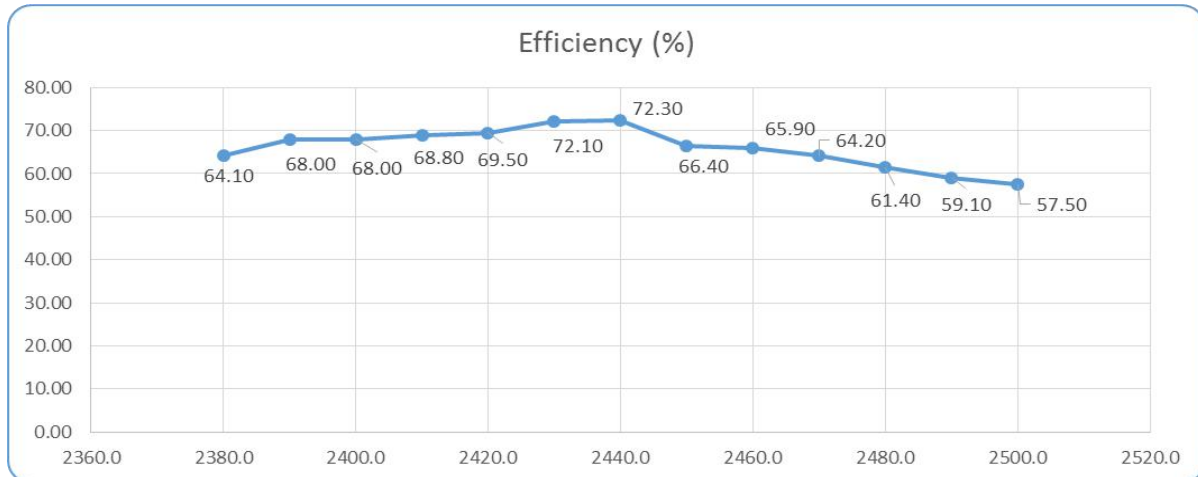
UNLESS OTHER SPECIFIED TOLERANCES ON: X=±			
XX=±		X.XX=	
ANGLES=±		HOLEDIA=±	
SCALE:N/A	UNIT:mm		
DRAWN BY: Sera	CHECKED BY: XD		
DESIGNED BY: Sera	APPROVED BY: XD		
TITLE:CHIP2450-21 Specification		DOCUMENT NO.	SPEC REV.
		3216	P1

Radiation Pattern

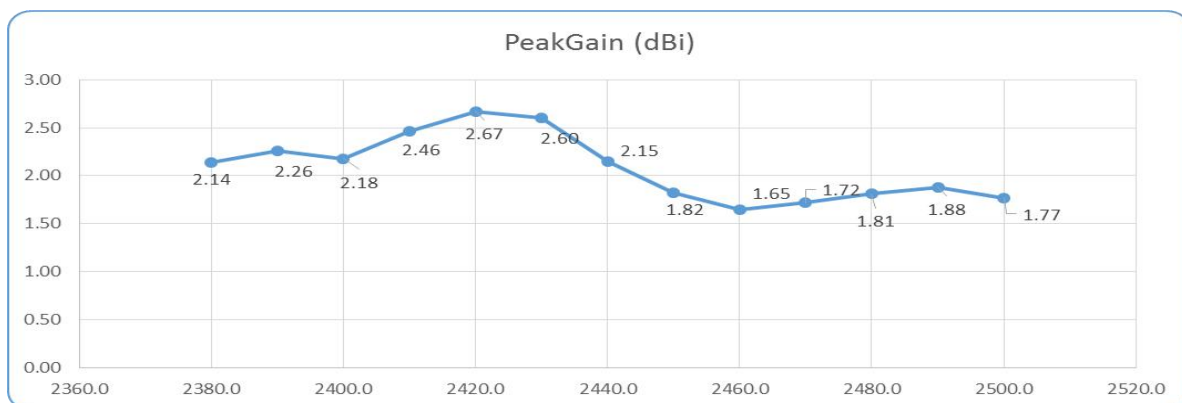
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



Efficiency



Maximum gain



UNLESS OTHER SPECIFIED TOLERANCES ON: $X=\pm$

$XX=\pm$

$X.XX=$

ANGLES= $\pm$

HOLEDIA= $\pm$

SCALE:N/A

UNIT:mm

DRAWN BY: Sera

CHECKED BY: XD

DESIGNED BY: Sera

APPROVED BY: XD

TITLE:CHIP2450-21 Specification

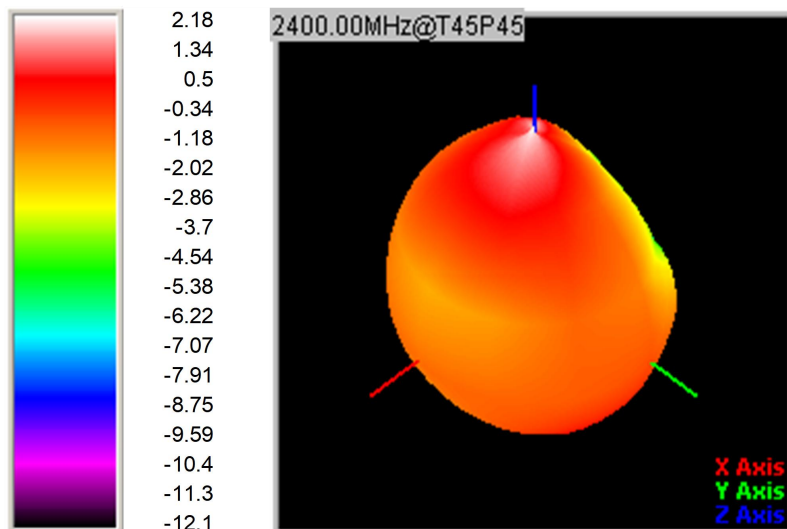
DOCUMENT
NO.

3216

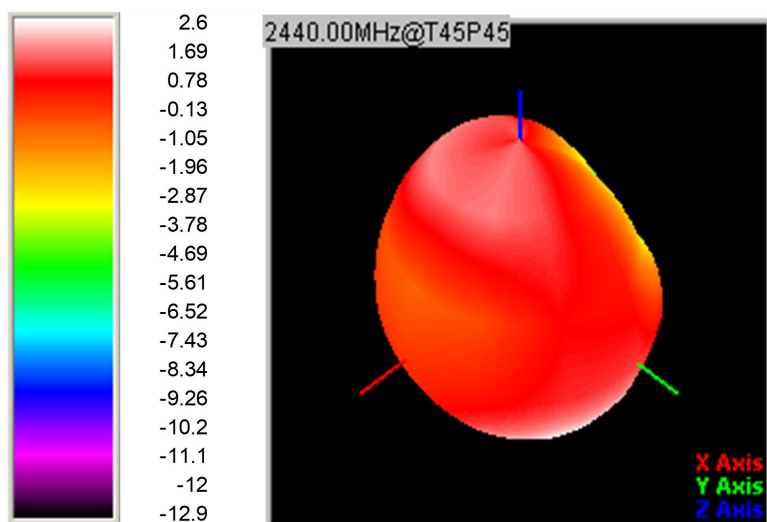
SPEC RE V.

P1

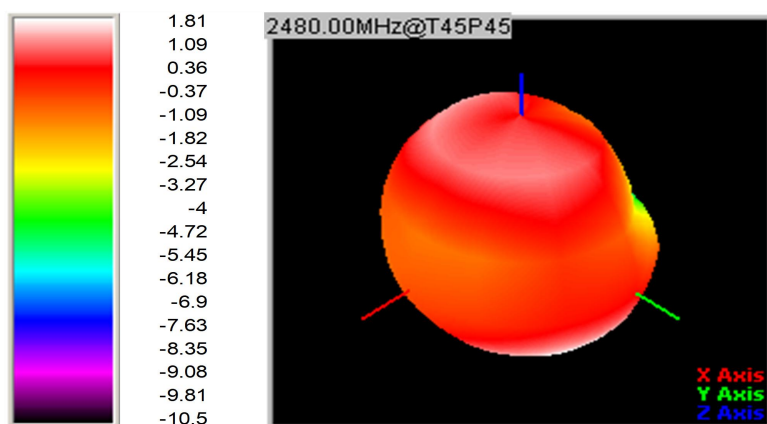
©3D Gain Pattern (2400 MHz)



©3D Gain Pattern (2440 MHz)



©3D Gain Pattern (2480 MHz)



UNLESS OTHER SPECIFIED TOLERANCES ON: X=±

XX=±

X.XX=

ANGLES=±

HOLEDIA=±

SCALE:N/A

UNIT:mm

DRAWN BY: Sera

CHECKED BY: XD

DESIGNED BY: Sera

APPROVED BY: XD

TITLE:CHIP2450-21 Specification

DOCUMENT
NO.

3216

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:

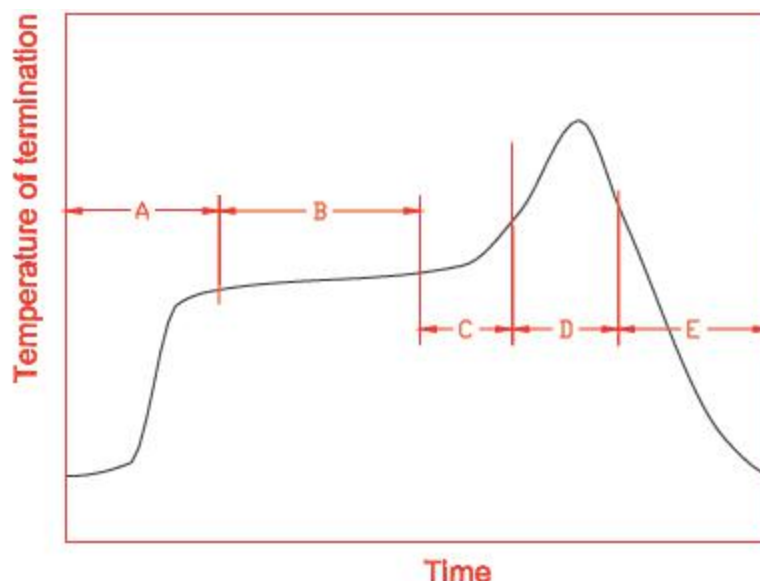
The temperature should be within $-40 \sim 85^{\circ} \text{C}$ and humidity should be less than 85% RH.

(3) Operating Temperature Range

Operating temperature range: -40°C to $+105^{\circ} \text{C}$.

UNLESS OTHER SPECIFIED TOLERANCES ON: $X = \pm$			
$XX = \pm$	$X.XX =$		
ANGLES = $\pm$	HOLES = $\pm$		
SCALE: N/A	UNIT: mm		
DRAWN BY: Sera	CHECKED BY: XD		
DESIGNED BY: Sera	APPROVED BY: XD		
TITLE: CHIP2450-21 Specification		DOCUMENT NO.	SPEC REV.
		3216	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.

- 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

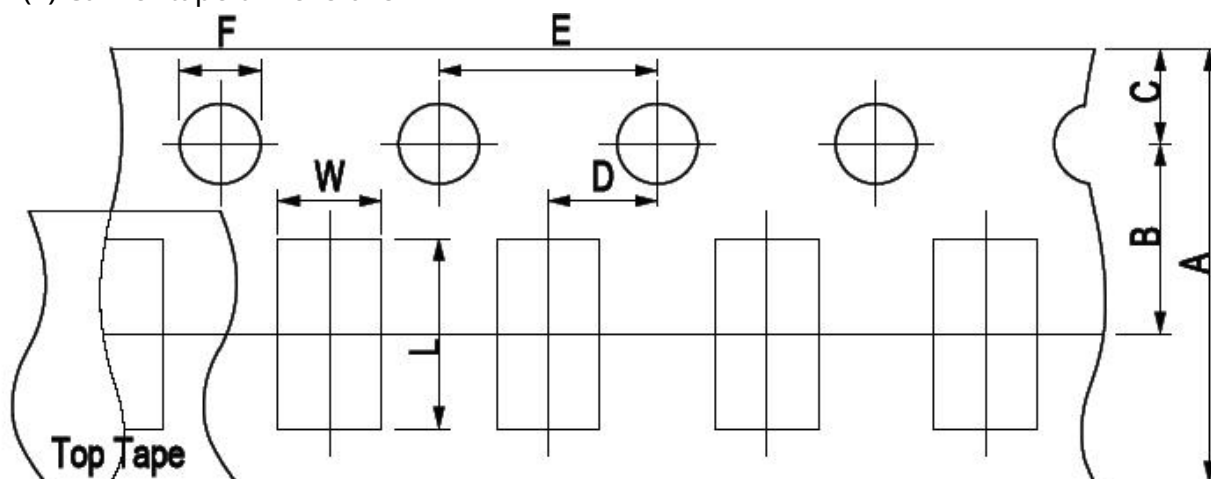
Note that excess of soldering volume will easily get crack the body of this product.

UNLESS OTHER SPECIFIED TOLERANCES ON: X=±			
XX=±		X.XX=	
ANGLES=±		HOLEDIA=±	
SCALE:N/A	UNIT:mm		
DRAWN BY: Sera	CHECKED BY: XD		
DESIGNED BY: Sera	APPROVED BY: XD		
TITLE:CHIP2450-21 Specification		DOCUMENT NO.	SPEC REV.
		3216	P1

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

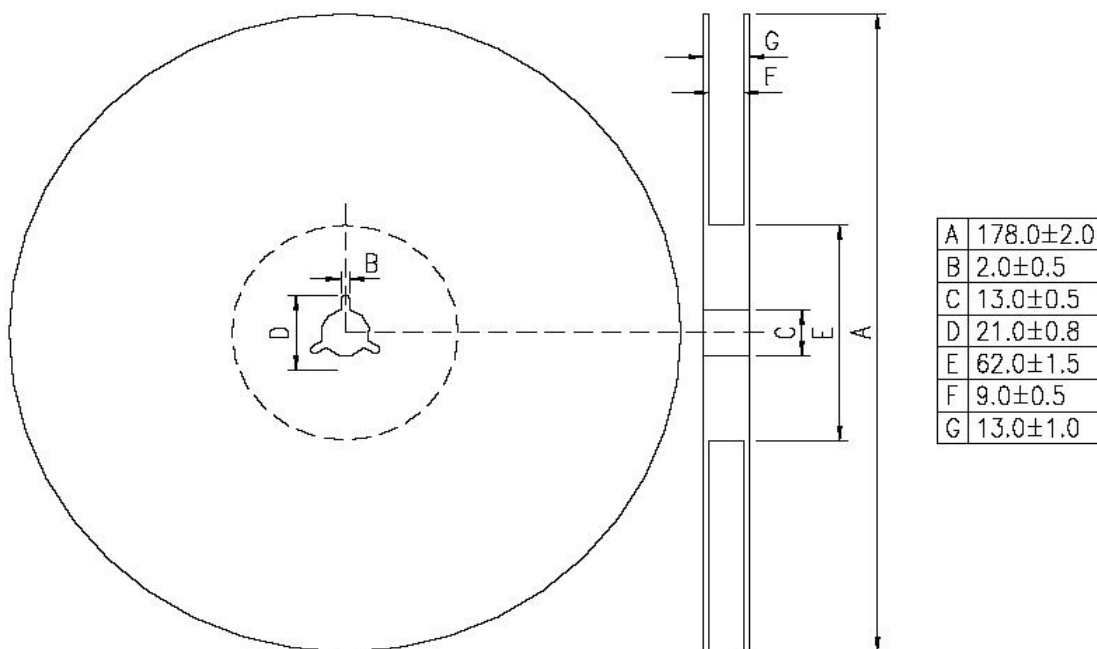
(1) Quantity/Reel: 5000pcs/Reel

(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



UNLESS OTHER SPECIFIED TOLERANCES ON: $X = \pm$

$XX = \pm$

$X.XX =$

ANGLES = $\pm$

HOLEDIA = $\pm$

SCALE: N/A

UNIT: mm

DRAWN BY: Sera

CHECKED BY: XD

DESIGNED BY: Sera

APPROVED BY: XD

TITLE: CHIP2450-21 Specification

DOCUMENT
NO.

3216

SPEC REV.

P1