

# 产品规格承认书

## SPECIFICATIONS

客户:

CUSTOMER: \_\_\_\_\_

产品名称:

DESCRIPTION: \_\_\_\_\_ 双极天线陶瓷天线 \_\_\_\_\_

客户型号:

CUSTOMER PART No: \_\_\_\_\_

产品型号:

OUR MODEL NO: \_\_\_\_\_ LTC-3216MLT \_\_\_\_\_

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	麦文才	审核	康中主	制作	黄瑞乐
----	-----	----	-----	----	-----

客户承认签印	
日期	

UNLESS OTHER SPECIFIED TOLERANCES ON: X=± X.X=± X.XX=± ANGLES = ± HOLEDIA = ±	深圳市力同创科技有限公司		
SCALE: N/A	UNIT: mm		
DRAWN BY: Sera	CHECKED BY: XD		
DESIGNED BY: Sera	APPROVED BY: XD		
TITLE: LTC2-2405-3216 Specification	DOCUMENT NO.	3216	SPEC REV.
			P1

## LTC-3216MLT Specification

Operating Temp. : -40°C~+85°C



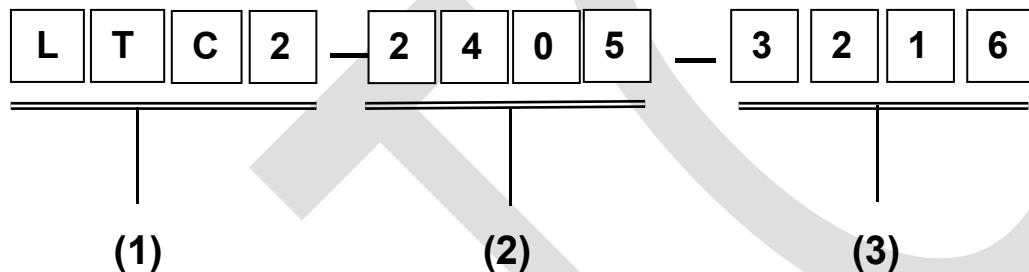
### 1. FEATURES:

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

### 2. APPLICATIONS:

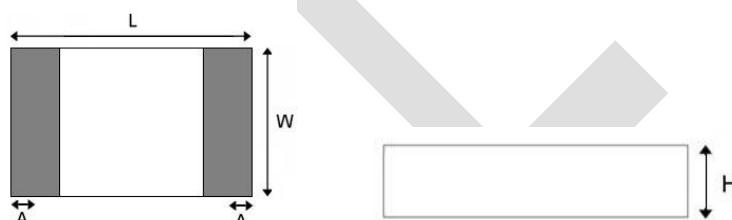
- Bluetooth, Wireless LAN, Mobile TV
- Home RF System, etc

### 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±0.2	1.6±0.2	0.52±0.1	0.4±0.1

UNLESS OTHER SPECIFIED TOLERANCES ON:  
 $X=\pm$     $X.X=\pm$     $X.XX=\pm$   
**ANGLES** =  $\pm$    **HOLE DIA** =  $\pm$

**SCALE:** N/A

**DRAWN BY:** Sera

**DESIGNED BY:** Sera

**TITLE:** LTC2-2405-3216 Specification

深圳市力同创科技有限公司

These drawings and specifications are the property of Litongchuang Technology Limited and shall not be reproduced or used as a basis for the manufacture or sale of instruments or equipment without permission

**DOCUMENT NO.**

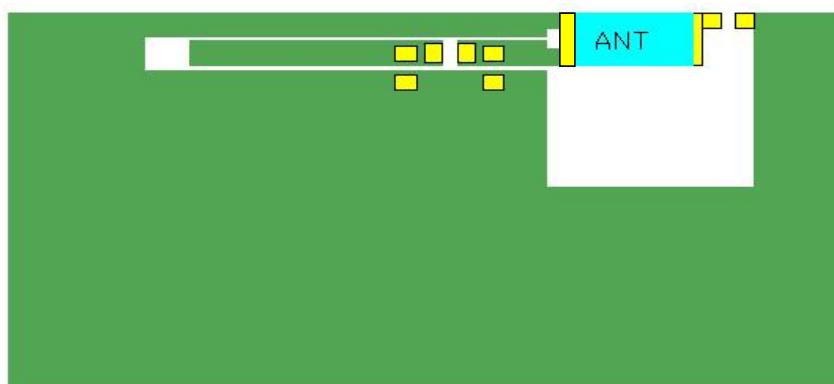
3216

**SPEC REV.**

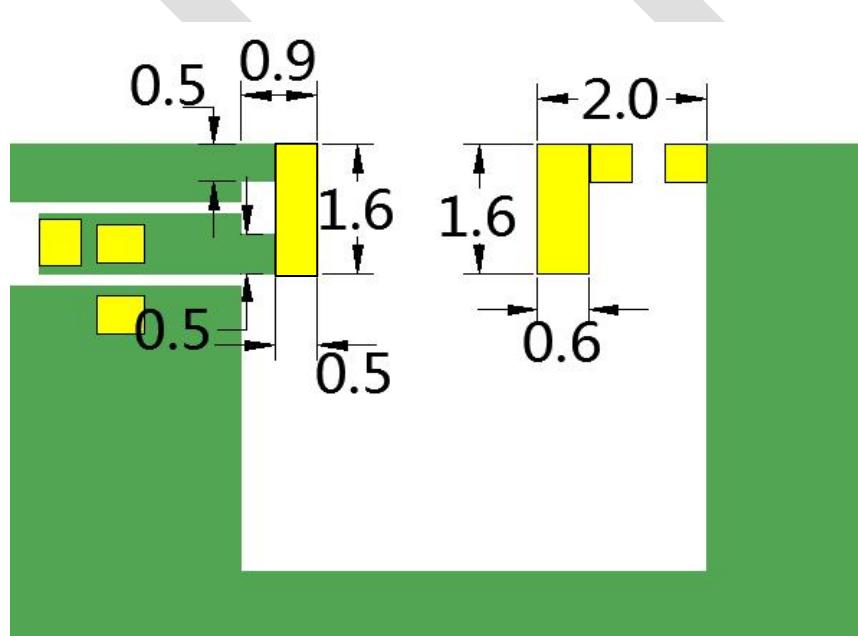
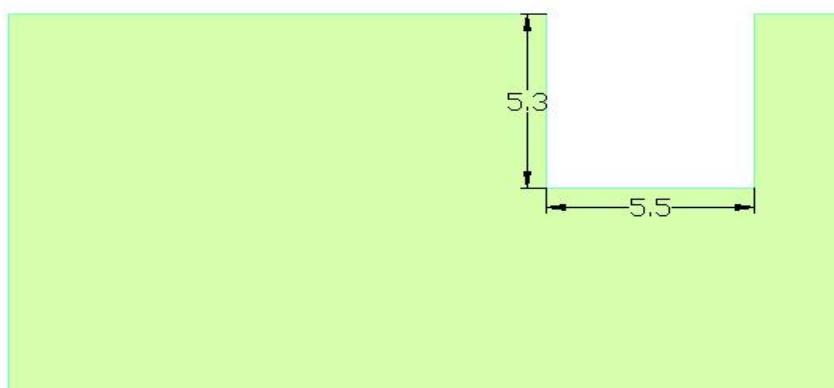
P1

测试板参考尺寸:

单位: mm



天线  
PAD  
底层铺铜  
顶层铺铜



UNLESS OTHER SPECIFIED TOLERANCES ON:  
 $X = \pm$     $X.X = \pm$     $X.XX = \pm$   
 $\text{ANGLES} = \pm$     $\text{HOLEDIA} = \pm$

SCALE: N/A

DRAWN BY: Sera

DESIGNED BY: Sera

UNIT: mm

CHECKED BY: XD

APPROVED BY: XD

TITLE: LTC2-2405-3216 Specification

深圳市力同创科技有限公司

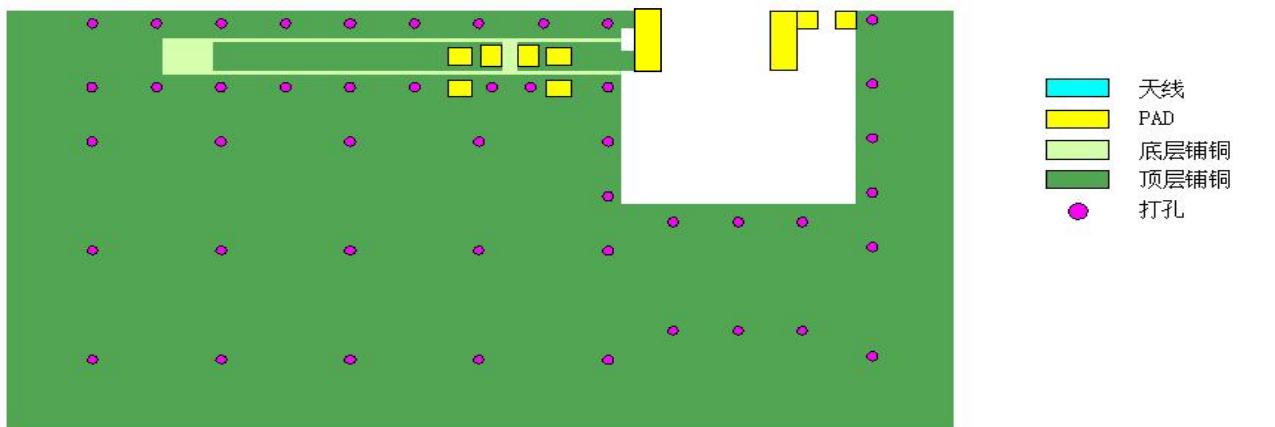
These drawings and specifications are the property of Litongchuang Technology Limited and shall not be reproduced or used as a basis for the manufacture or sale of instruments or equipment without permission

DOCUMENT  
NO.

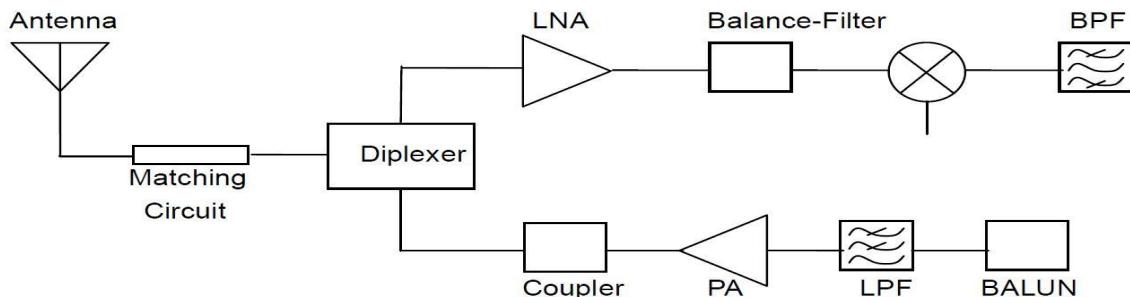
3216

SPEC REV.  
P1

## 打孔参考示意图



## APPLICATION GUIDE



## 5. SPECIFICATIONS:

测试项	规格
带宽	2400~2483MHz
极化方式	线极化
*最大增益	2.67dBi
*效率	72.30%
输入阻抗	50 Ω

\* Test condition: Test board size 90\*40 mm

Matching circuit: Pi matching circuit will be required

UNLESS OTHER SPECIFIED TOLERANCES ON:  
 $X = \pm$     $X.X = \pm$     $X.XX = \pm$   
**ANGLES** =  $\pm$    **HOLE DIA** =  $\pm$

深圳市力同创科技有限公司

SCALE: N/A      UNIT: mm

DRAWN BY: Sera      CHECKED BY: XD

DESIGNED BY: Sera      APPROVED BY: XD

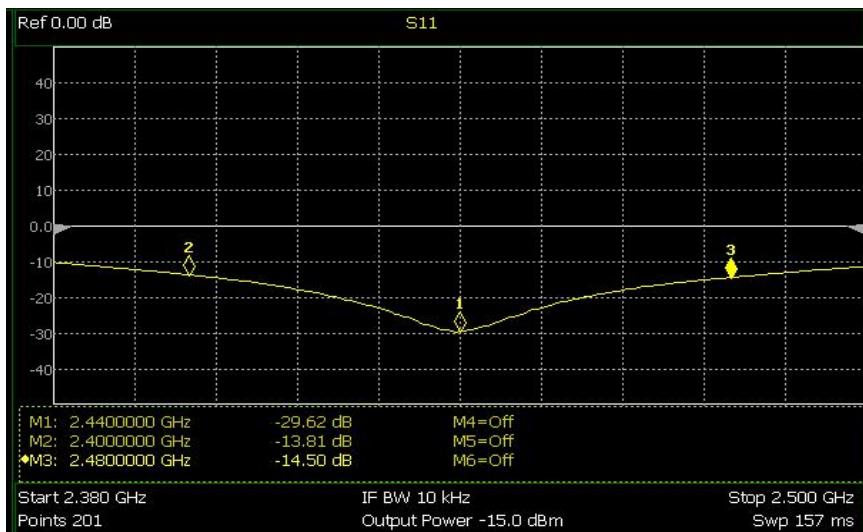
These drawings and specifications are the property of Litongchuang Technology Limited and shall not be reproduced or used as a basis for the manufacture or sale of instruments or equipment without permission

TITLE: LTC2-2405-3216 Specification

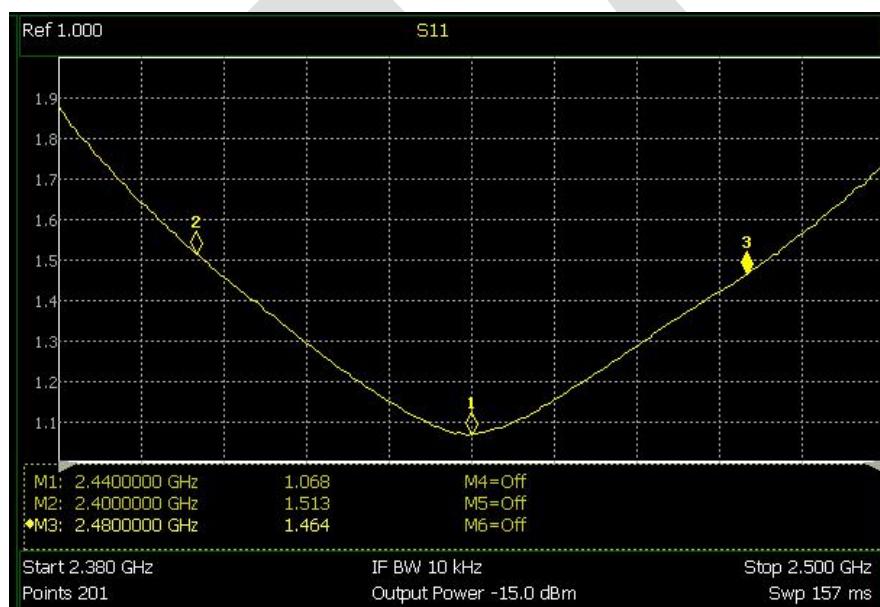
DOCUMENT NO.	3216	SPEC REV.
		P1

## 6. Electrical Characteristics :

### 回波损耗



### 驻波比



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

UNLESS OTHER SPECIFIED TOLERANCES ON:  
X=± X.X=± X.XX=±  
**ANGLES** = ± **HOLEDIA** = ±

**SCALE:** N/A

**DRAWN BY:** Sera

**DESIGNED BY:** Sera

**TITLE:** LTC2-2405-3216 Specification

深圳市力同创科技有限公司

These drawings and specifications are the property of Litongchuang Technology Limited and shall not be reproduced or used as a basis for the manufacture or sale of instruments or equipment without permission

**DOCUMENT NO.**

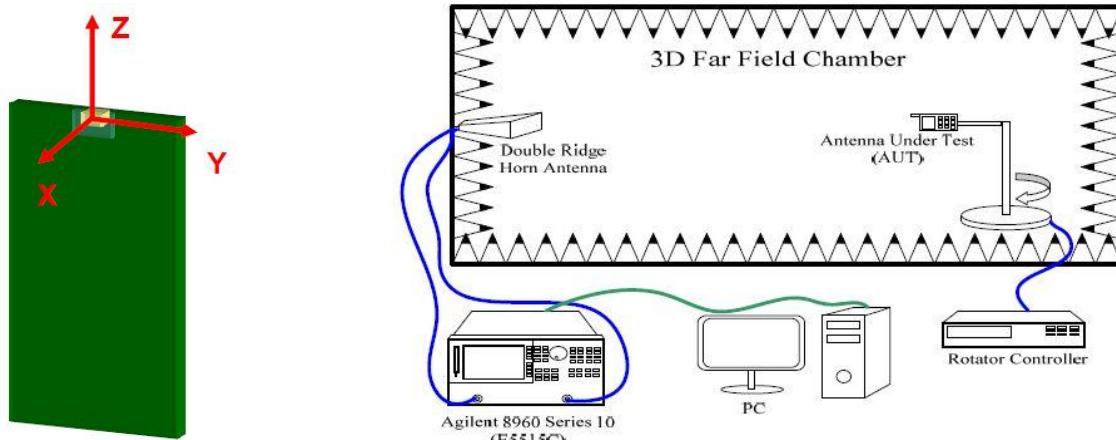
3216

**SPEC REV.**

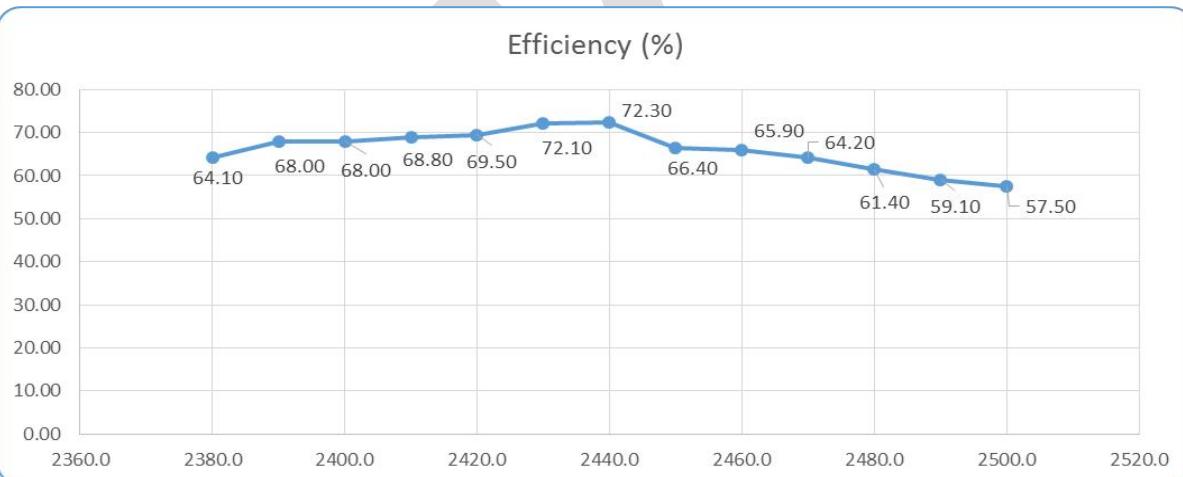
P1

## 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.



### ◎ 效率



### 最大增益



UNLESS OTHER SPECIFIED TOLERANCES ON:  
 $X = \pm$     $X.X = \pm$     $X.XX = \pm$   
**ANGLES** =  $\pm$    **HOLE DIA** =  $\pm$

**SCALE:** N/A

**DRAWN BY:** Sera

**DESIGNED BY:** Sera

**TITLE:** LTC2-2405-3216 Specification

深圳市力同创科技有限公司

These drawings and specifications are the property of Litongchuang Technology Limited and shall not be reproduced or used as a basis for the manufacture or sale of instruments or equipment without permission

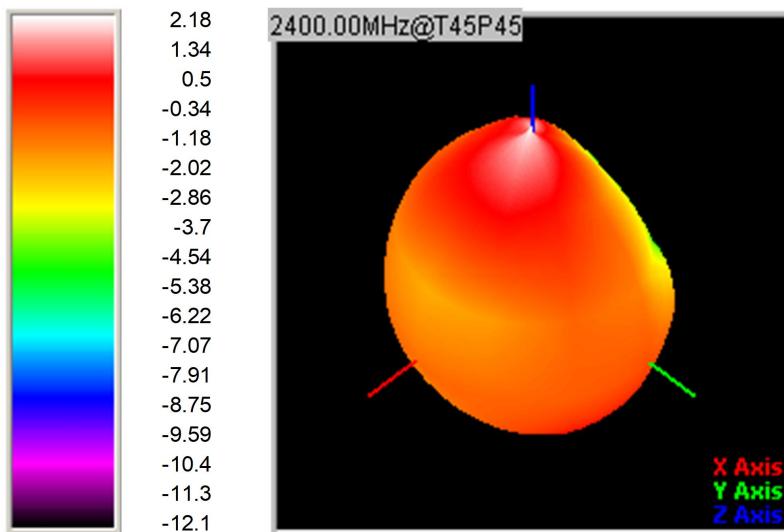
**DOCUMENT NO.**

3216

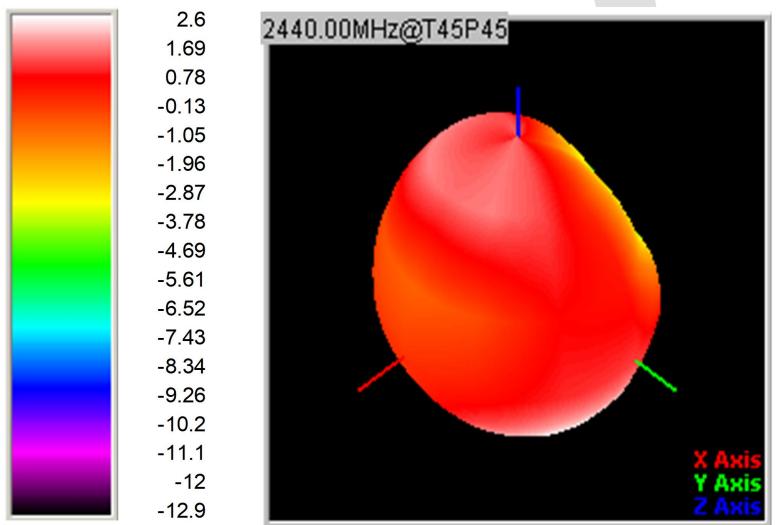
**SPEC REV.**

P1

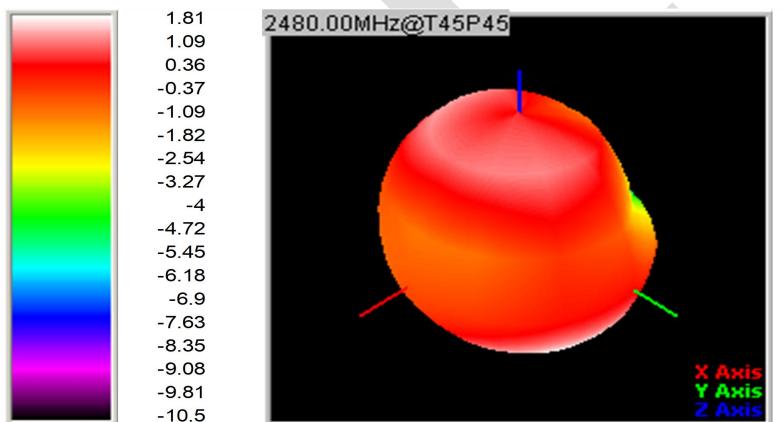
◎ 3D Gain Pattern (2400 MHz)



◎ 3D Gain Pattern (2440 MHz)



◎ 3D Gain Pattern (2480 MHz)



UNLESS OTHER SPECIFIED TOLERANCES ON:  
 $X = \pm$     $X.X = \pm$     $X.XX =$   
**ANGLES** =  $\pm$    **HOLE DIA** =  $\pm$

**SCALE:** N/A

**DRAWN BY:** Sera

**DESIGNED BY:** Sera

**TITLE:** LTC2-2405-3216 Specification

深圳市力同创科技有限公司

These drawings and specifications are the property of Litongchuang Technology Limited and shall not be reproduced or used as a basis for the manufacture or sale of instruments or equipment without permission

**DOCUMENT NO.**

3216

**SPEC REV.**

P1

## 7. Environmental Characteristics

### (1) Reliability Test

Item	Condition	Specification
Thermal shock	1. $30 \pm 3$ minutes at $-40^\circ C \pm 5^\circ C$ , 2. Convert to $+105^\circ C$ (5 minutes) 3. $30 \pm 3$ 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: $10 \pm 1$ 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 $3 \pm 1$ 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:

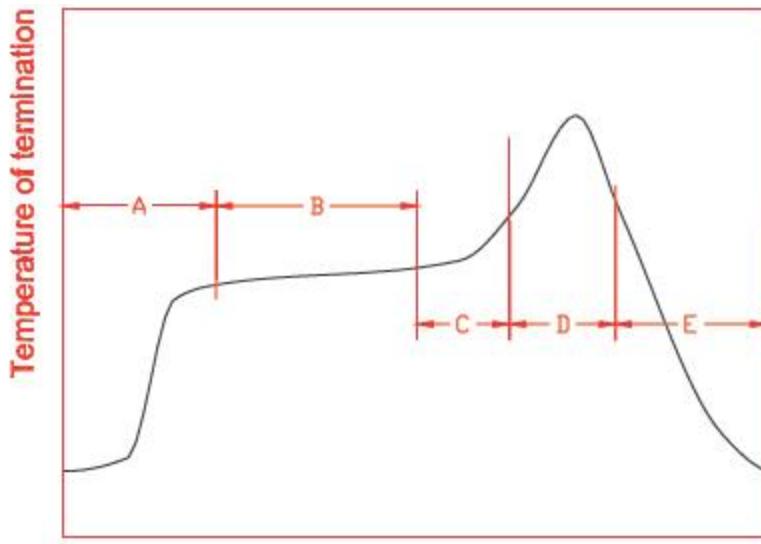
The temperature should be within  $-40 \sim 85^\circ C$  and humidity should be less than 85% RH.

### (3) Operating Temperature Range

Operating temperature range :  $-40^\circ C$  to  $+105^\circ C$ .

UNLESS OTHER SPECIFIED TOLERANCES ON: $X = \pm$ $X.X = \pm$ $X.XX = \pm$ <b>ANGLES</b> = $\pm$ <b>HOLE DIA</b> = $\pm$		深圳市力同创科技有限公司		
SCALE: N/A	UNIT: mm	These drawings and specifications are the property of Litongchuang Technology Limited and shall not be reproduced or used as a basis for the manufacture or sale of instruments or equipment without permission		
DRAWN BY : Sera	CHECKED BY: XD			
DESIGNED BY: Sera	APPROVED BY: XD			
TITLE: LTC2-2405-3216 Specification		DOCUMENT NO.	3216	SPEC REV. P1

## 8. Recommended Reflow Soldering



A	1 <sup>st</sup> rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 <sup>nd</sup> 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

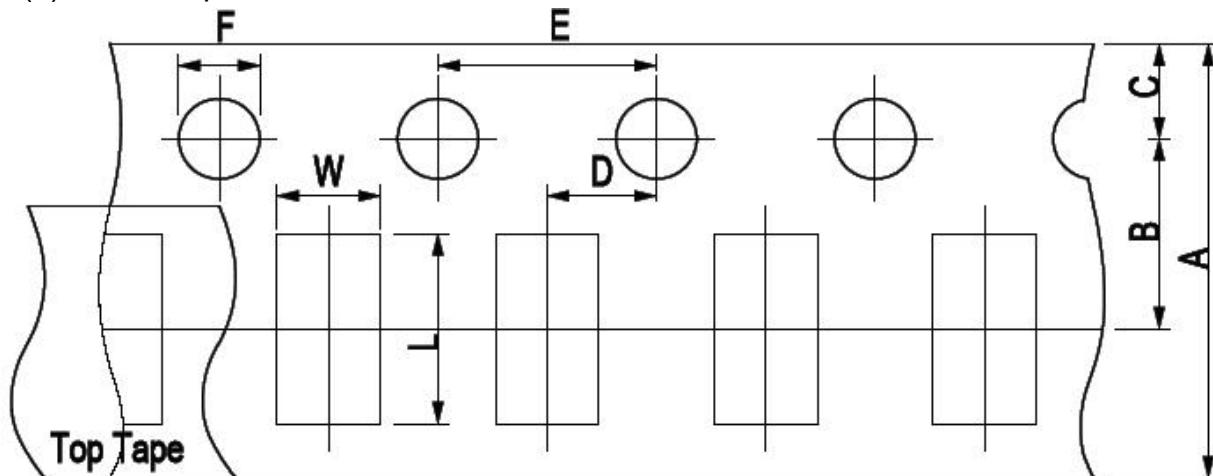
Note that excess of soldering volume will easily get crack the body of this product.

UNLESS OTHER SPECIFIED TOLERANCES ON: X=± X.X=± X.XX=± ANGLES = ± HOLEDIA = ±		深圳市力同创科技有限公司		
SCALE: N/A	UNIT: mm	These drawings and specifications are the property of Litongchuang Technology Limited and shall not be reproduced or used as a basis for the manufacture or sale of instruments or equipment without permission		
DRAWN BY : Sera	CHECKED BY: XD			
DESIGNED BY: Sera	APPROVED BY: XD			
TITLE: LTC2-2405-3216 Specification		DOCUMENT NO.	3216	SPEC REV.
				P1

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

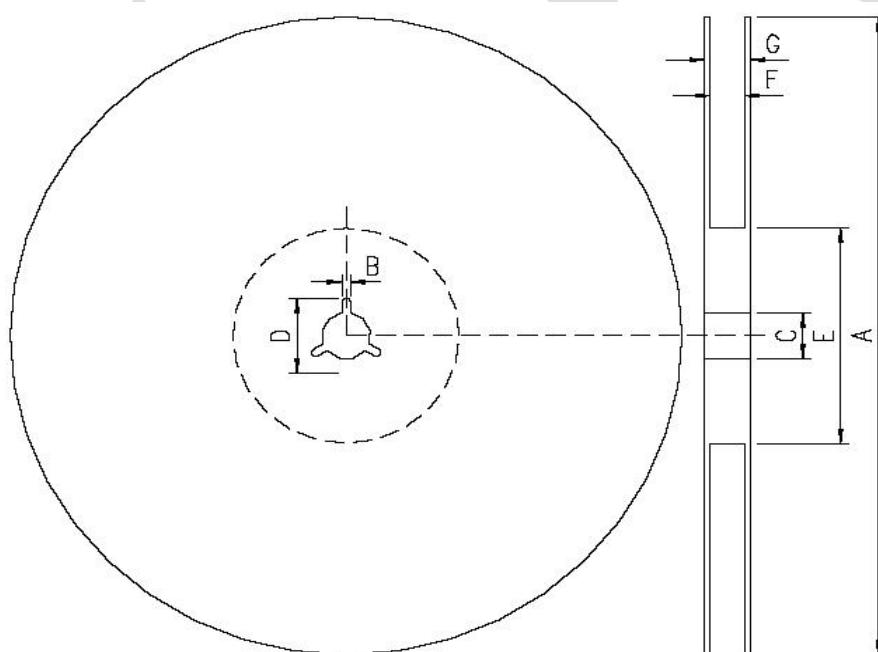
(1) Quantity/Reel: 5000pcs/Reel

(2) Carrier tape dimensions



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

(3) Taping reel dimensions



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

UNLESS OTHER SPECIFIED TOLERANCES ON:

$X = \pm$        $X.X = \pm$        $X.XX = \pm$

**ANGLES** =  $\pm$       **HOLE DIA** =  $\pm$

**SCALE:** N/A

**DRAWN BY:** Sera

**DESIGNED BY:** Sera

**TITLE:** LTC2-2405-3216 Specification

深圳市力同创科技有限公司

These drawings and specifications are the property of Litongchuang Technology Limited and shall not be reproduced or used as a basis for the manufacture or sale of instruments or equipment without permission

DOCUMENT NO.

3216

SPEC REV.

P1