

# P/N: HLX321605A6

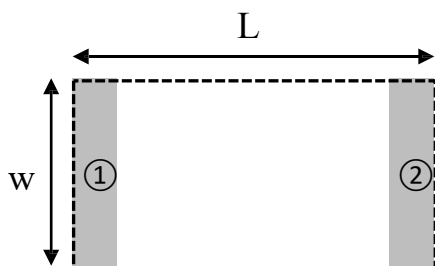
## Features

- 1.Surface Mounted Devices with a small dimension of 2 x 1.2 x 0.1 mm<sup>3</sup> meet future miniaturization trend.
- 2.Embedded and LTCC (Low Temperature Co-fired Ceramic) technology is able to future integrate with system design as well as beautifying the housing of final product.
- 3.High Stability in Temperature / Humidity Change

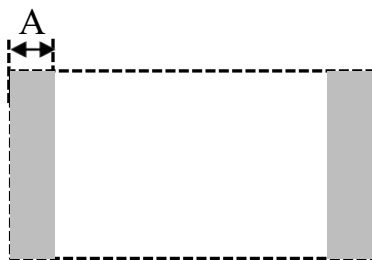
## Applications

1. Bluetooth
2. Wireless LAN
3. ISM band 2.4GHz wireless applications

## Dimensions (Unit: mm)



( Top View )



( Bottom View )

| Number | Terminal Name |
|--------|---------------|
| ①      | INPUT         |
| ②      | NC            |



( Side View )

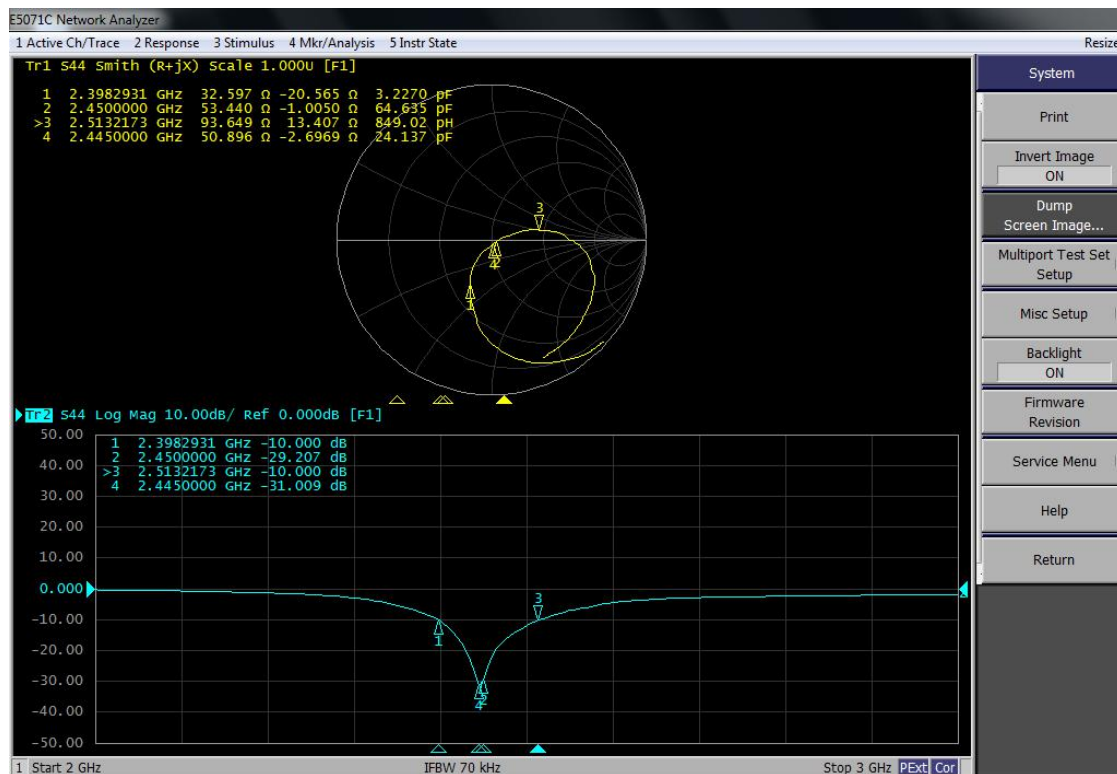
| Symbols    | L       | W         | T         | A         |
|------------|---------|-----------|-----------|-----------|
| Dimensions | 2+/-0.2 | 1.2+/-0.2 | 0.1+/-0.1 | 0.2+/-0.1 |

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## Electrical Characteristics

| No. | Item               | Specifications   |
|-----|--------------------|------------------|
| 1   | Central Frequency  | 2445MHz          |
| 2   | Band Width         | 100 MHz typ.     |
| 3   | Peak Gain          | 2.53 dBi         |
| 4   | Return Loss        | $\leq 2.0$       |
| 5   | Polarization       | Linear           |
| 6   | Azimuth Beam width | Omni-directional |
| 7   | Impedance          | 50 $\Omega$      |

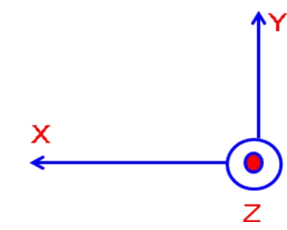
## Characteristic curve



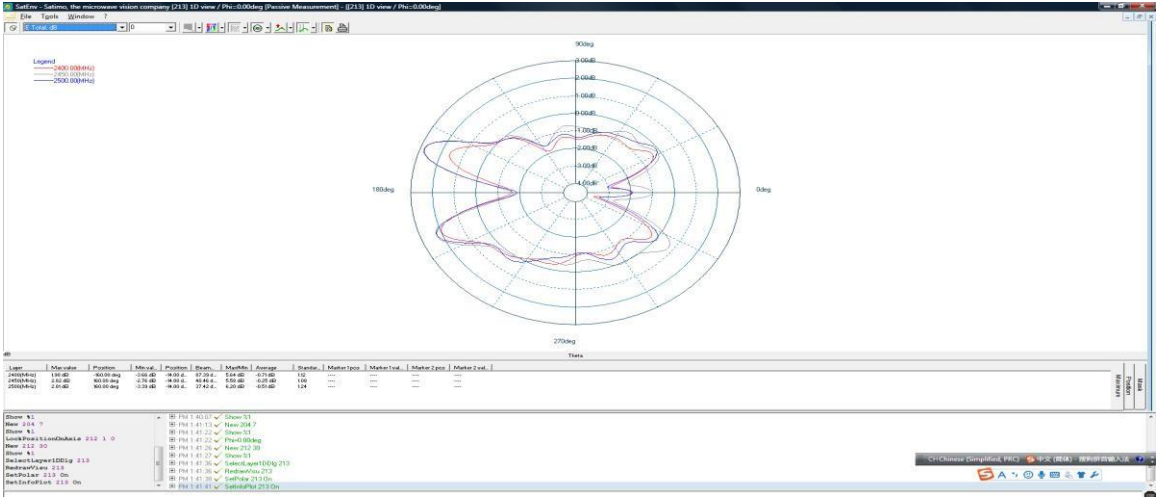
# P/N: HLX321605A6

## Radiation Pattern

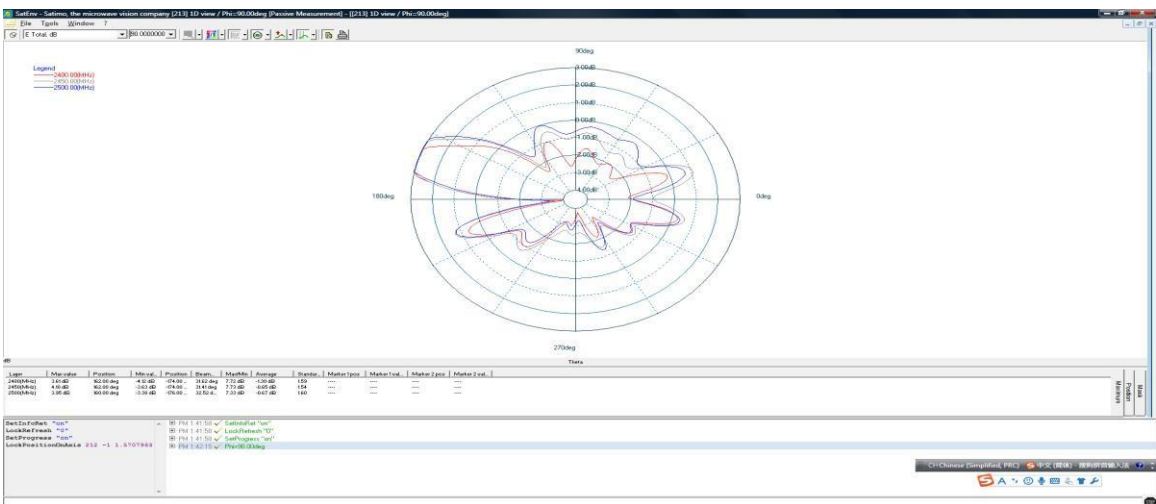
coordinates:



## X-Z Plane

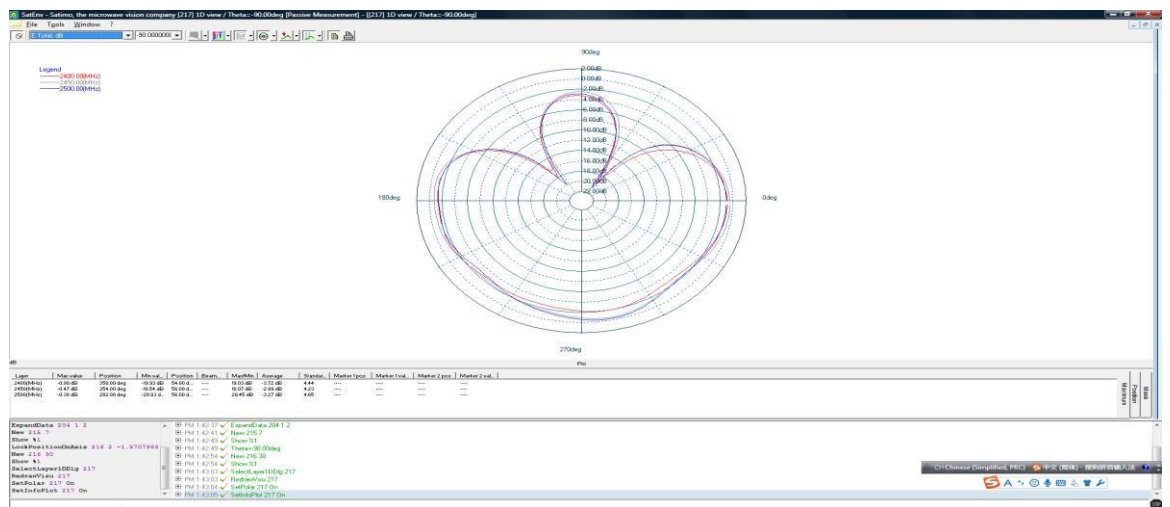


## X-Y Plane

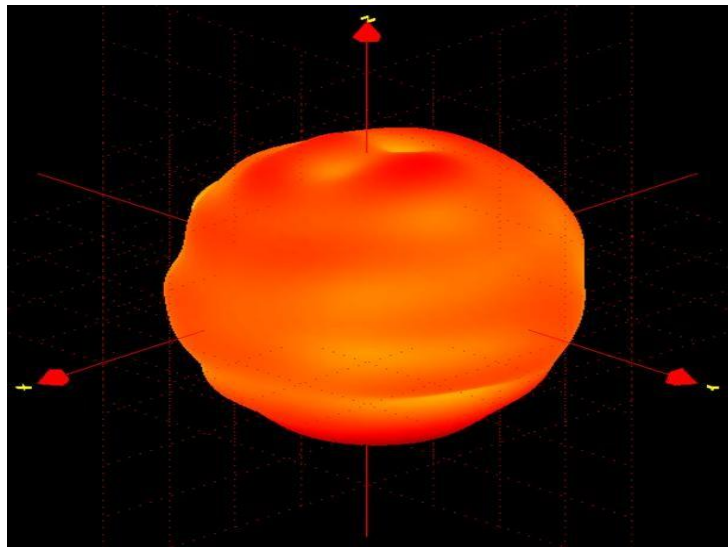


**P/N: HLX321605A6**

Y-Z Plane



### 3D Radiation Pattern



|                        |             |             |             |
|------------------------|-------------|-------------|-------------|
| <b>Frequency (MHz)</b> | <b>2400</b> | <b>2450</b> | <b>2500</b> |
| <b>Avg. Gain (dBi)</b> | -1.91       | -1.30       | -1.48       |
| <b>Peck Gain (dBi)</b> | 1.76        | 2.08        | 2.53        |
| <b>Efficiency (%)</b>  | 72.1        | 78.2        | 71.8        |

# P/N: HLX321605A6

## Dependability Test

|                             |             |
|-----------------------------|-------------|
| Temperature range           | 25±5°C      |
| Relative Humidity range     | 55~75%RH    |
| Operating Temperature range | -40°C~+85°C |
| Storage Temperature range   | -40°C~+85°C |

## Vibration Resist

The device should fulfill the electrical specification after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X , Y and Z directions.

## Drop Shock

The device should have no mechanical damage after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

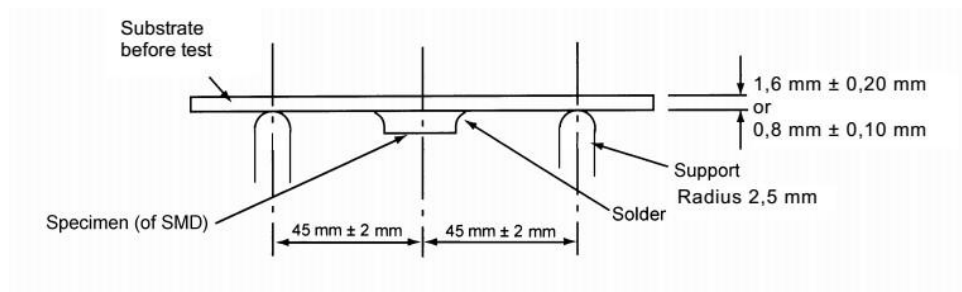
## Solder Heat Proof

The device should be satisfied after preheating at 120°C~150°C for 120 seconds and dipping in soldering Sn at 255°C+10°C for 5±0.5 seconds, or electric iron 300°C-10°C for 3±0.5 seconds, without damage.

## Adhesive Strength of Termination

The device have no remarkable damage or removal of the termination after horizontal force of 5N( $\leq 0603$ ); 10N(>0603)with 10±1 seconds.

## Bending Resist Test



Weld the product to the center part of the PCB with the thickness 1.6±0.2mm or 0.8±0.1mm as the illustration shows, and keep exerting force arrow-ward on it at speed of 1mm/S, and hold for 5±1s at the position of 1.5mm bending distance, so far, any peeling off of the product metal coating should not be detected.

# P/N: HLX321605A6

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## Moisture Proof

The device should fulfill the electrical specification after exposed to the temperature  $60\pm 2^{\circ}\text{C}$  and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

## High Temperature Endurance

The device should fulfill the electrical specification after exposed to temperature  $85\pm 5^{\circ}\text{C}$  for  $96\pm 2$  hours and 1~2 hours recovery time under normal temperature.

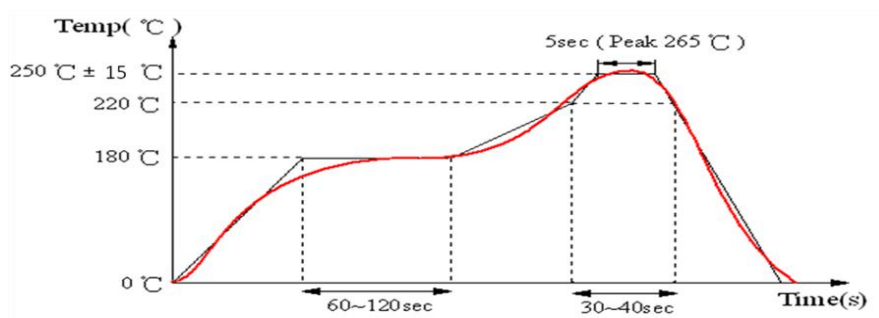
## Low Temperature Endurance

The device should fulfill the electrical specification after exposed to the temperature  $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$  for  $96\pm 2$  hours and to 2 hours recovery time under normal temperature.

## Temperature Cycle Test

The device should fulfill the electrical specification after exposed to the low temperature  $-40^{\circ}\text{C}$  and high temperature  $+85^{\circ}\text{C}$  for  $30\pm 2$  min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

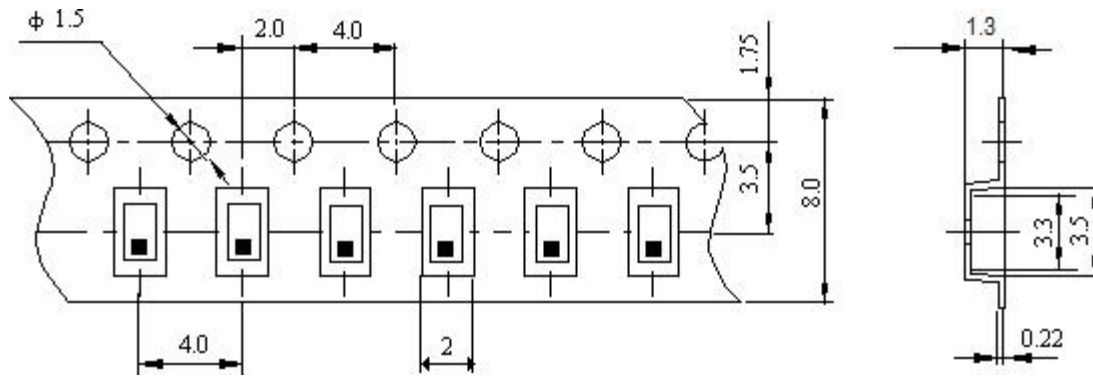
## Reflow Soldering Standard Condition



# P/N: HLX321605A6

## Packaging and Dimensions (3216)

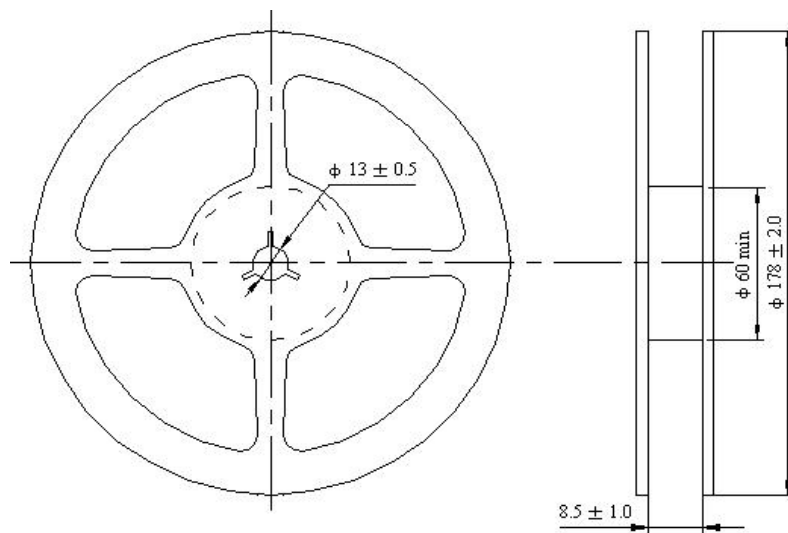
### Plastic Tape



### Remarks for Package

Reserve a length of 150~200mm for the trailer of the carrier and 250~300 mm for the leader of the carrier and further 250mm of cover tape at the leading part of the carrier.

### Reel (3000 pcs/Reel)



### Storage Period

Product should be used within six months of receipt.

MSL 1 / Storage Temperature Range : <30 degree C, Humidity : <85%RH