

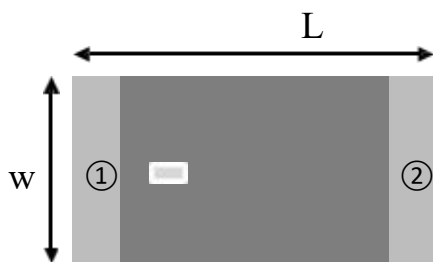
## Features

1. Surface Mounted Devices with a small dimension of  $2.0 \times 1.25 \times 0.6 \text{ mm}^3$  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

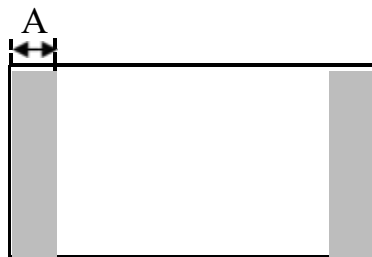
1. Bluetooth
2. Wireless LAN
3. ISMband 2.4GHz wireless applications

## Dimensions ( Unit: mm )



( Top View )

|   |       |
|---|-------|
| ① | INPUT |
| ② | GND   |



( Bottom View )



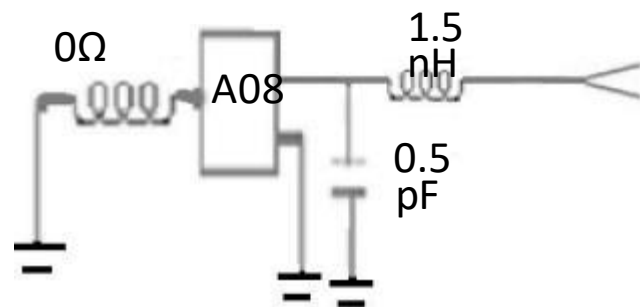
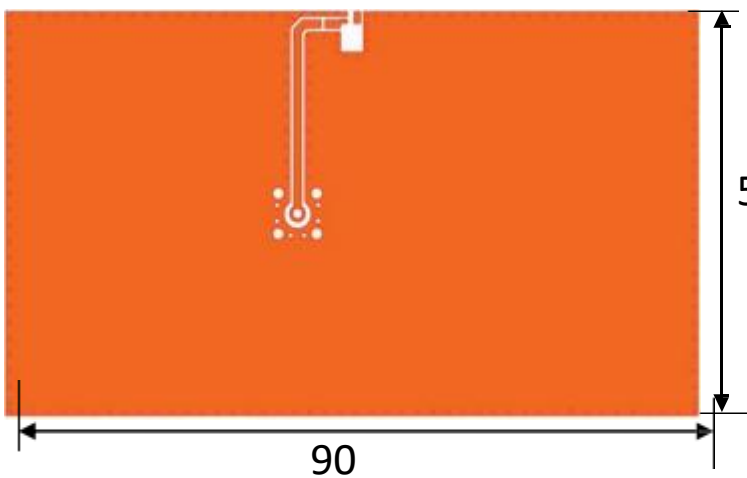
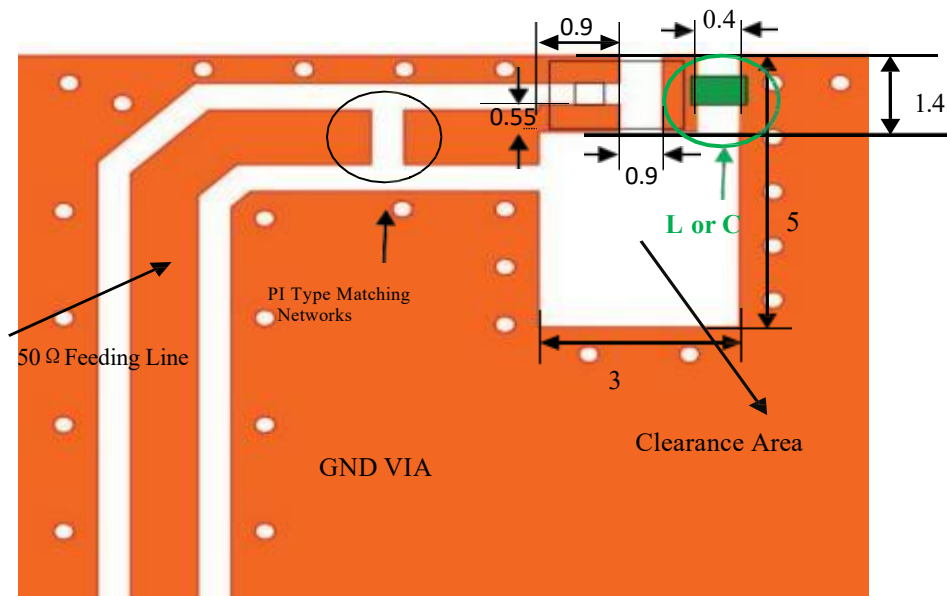
( Side View )

| Symbols    | L             | W              | T             | A             |
|------------|---------------|----------------|---------------|---------------|
| Dimensions | $2.0 \pm 0.2$ | $1.25 \pm 0.2$ | $0.6 \pm 0.1$ | $0.6 \pm 0.1$ |

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## Evaluation Board and Matching Circuits



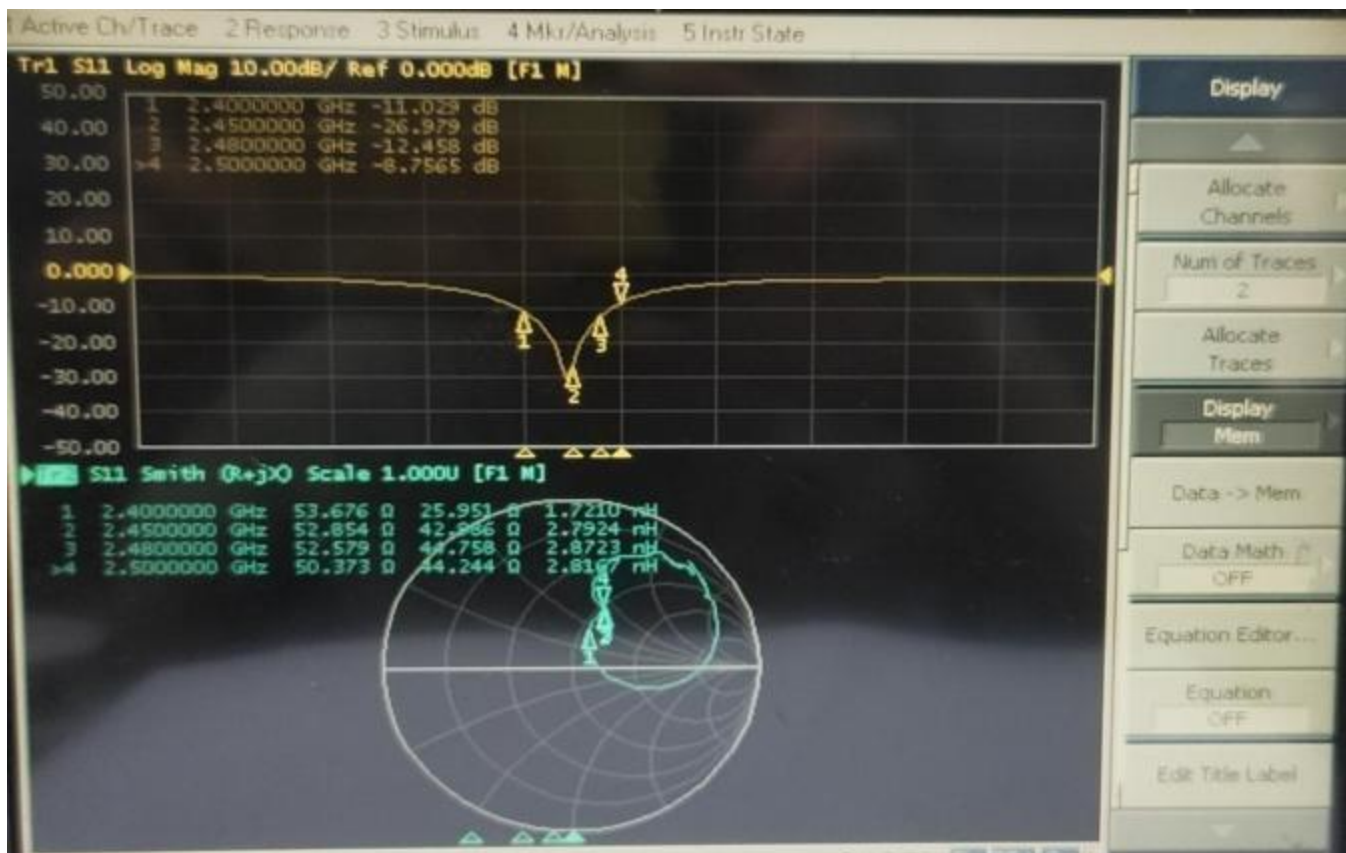
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### Electrical Characteristics

| No. | Item               | Specifications   |
|-----|--------------------|------------------|
| 1   | Central Frequency  | 2545MHz          |
| 2   | BandWidth          | 100MHz typ.      |
| 3   | Peak Gain          | 2.7 dBi          |
| 4   | Return Loss        | $\leq 2.0$       |
| 5   | Polarization       | Linear           |
| 6   | Azimuth Beam width | Omni-directional |
| 7   | Impedance          | 50 $\Omega$      |

### Characteristic curve

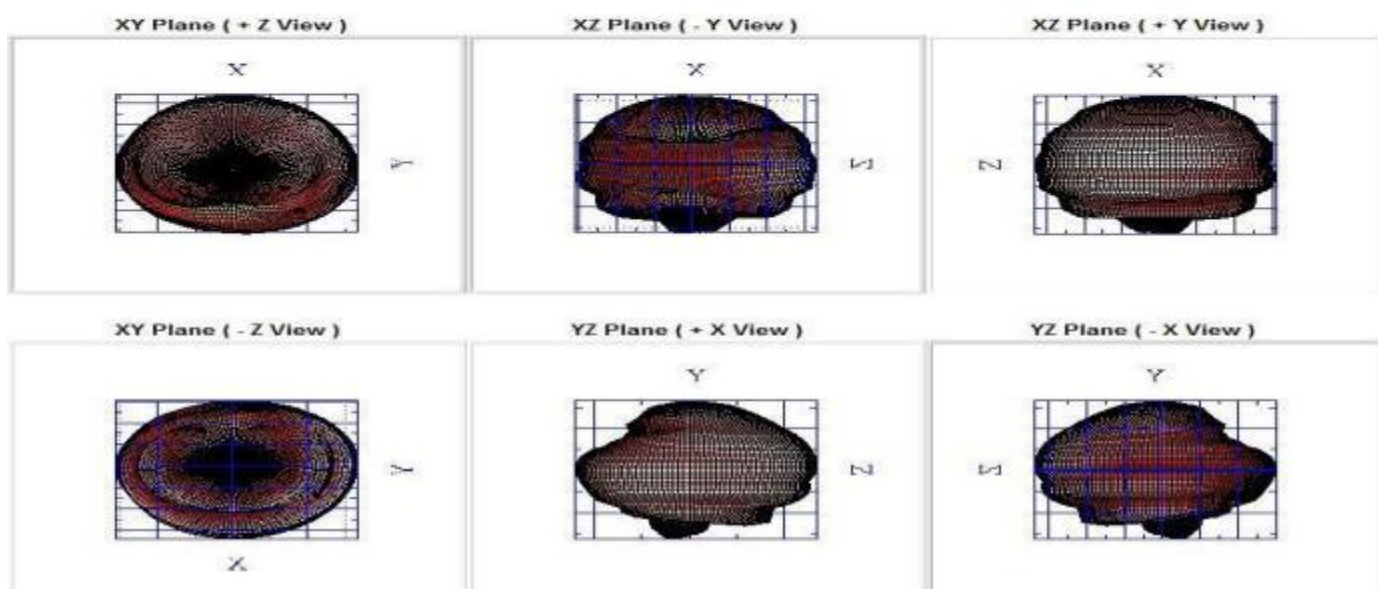
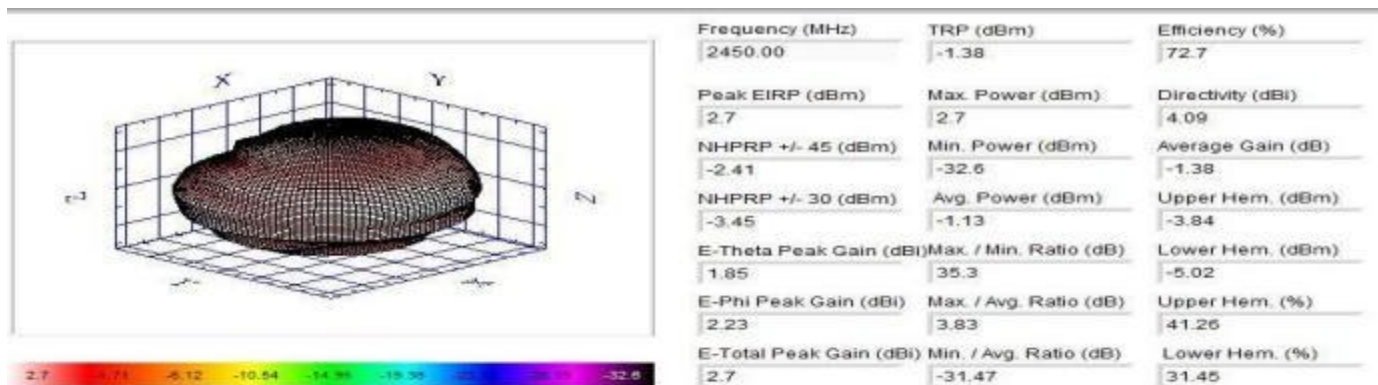
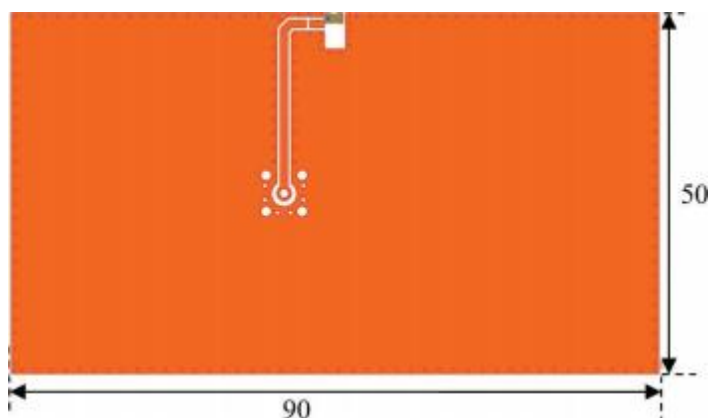
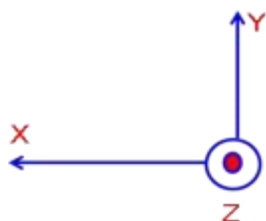


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### Radiation Pattern

coordinates:



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## Post Dependability Tolerance

### Dependability Test

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

| Item              | Post Dependability Tolerance |
|-------------------|------------------------------|
| Central Frequency | ±5 MHz                       |
| Band Width        | ±5 MHz                       |
| Gain              | ±0.1 dBi                     |
| V.S.W.R (in BW)   | ±0.1                         |

## Vibration Resist

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 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 satisfy the electrical characteristics specified in paragraph 8.1~8.4 after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

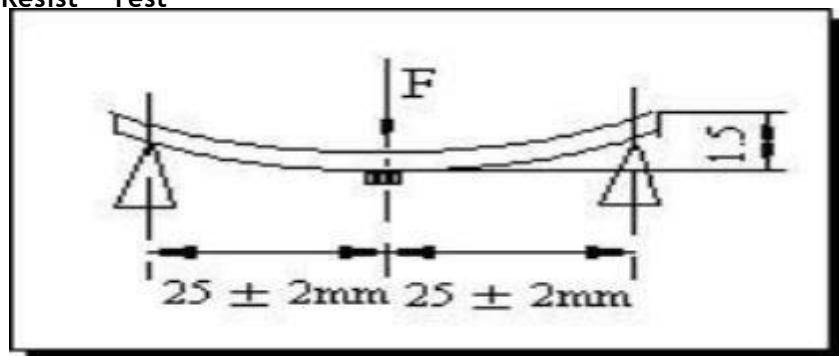
## Solder Heat Proof

The device should be satisfied after preheating at 120℃~150℃ for 120 seconds and dipping in soldering Sn at 255℃+10℃ for 5±0.5 seconds , or electric iron 300℃-10℃ 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(≤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 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 .

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**Moisture Proof**

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 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**

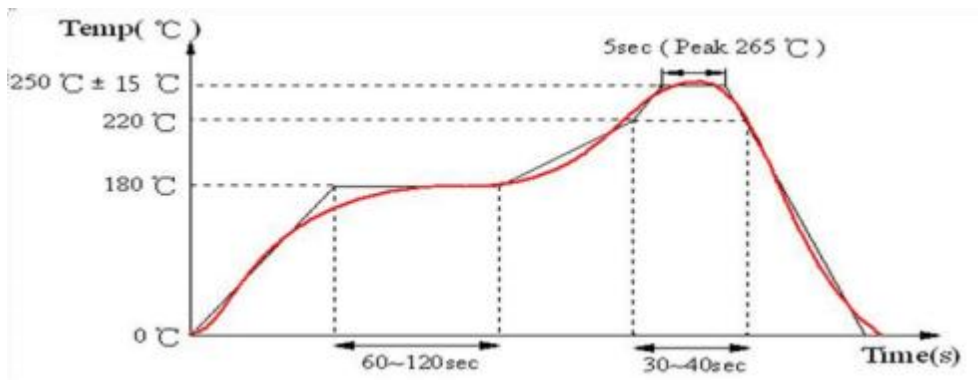
The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to temperature  $85\pm 5^{\circ}\text{C}$  for  $96\pm 2$  hours and 1~2 hours recovery time under normal temperature.

**Low Temperature Endurance**

The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 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.

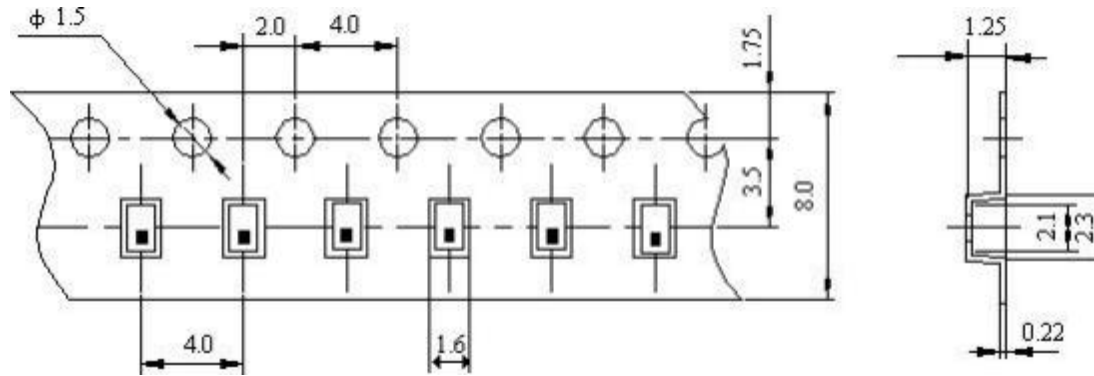
**Temperature Cycle Test**

The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 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**

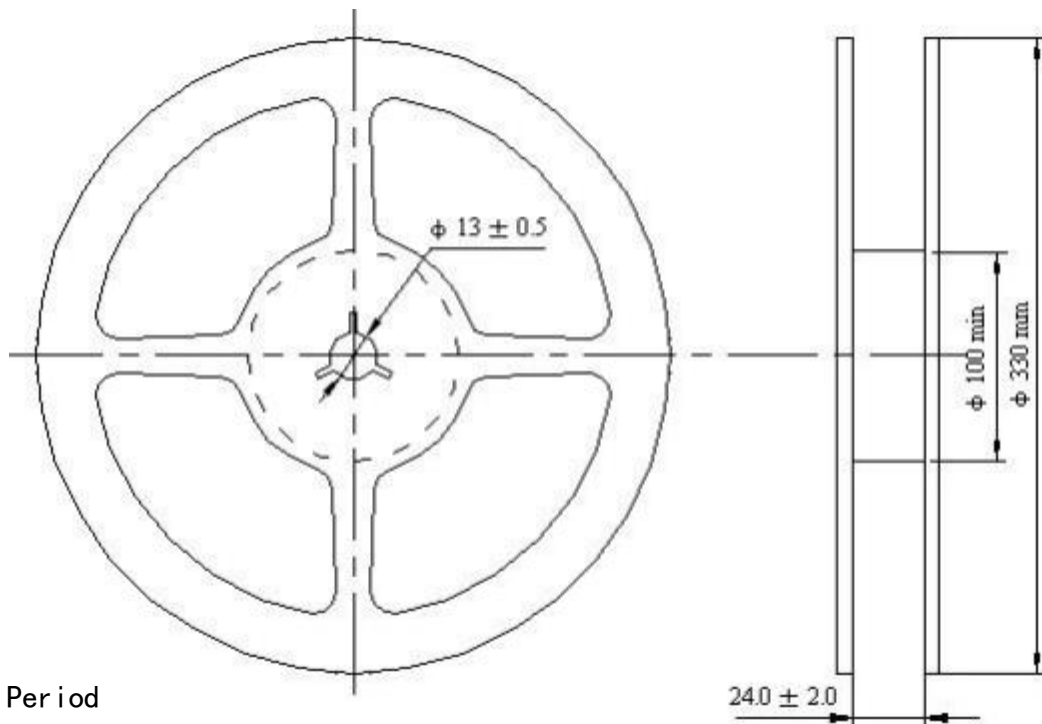
## Packaging and Dimensions (2012)

### 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 (4000 pcs/Reel)



### Storage Period

Product should be used within twelve months of receipt.

MSL 1 / Storage Temperature Range : -40~85 degree C, Humidity : <60%RH

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