

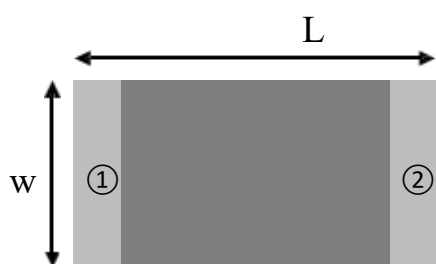
## Features

- 1.Surface Mounted Devices with a small dimension of  $2.0 \times 1.25 \times 0.42 \text{ mm}^3$  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   |



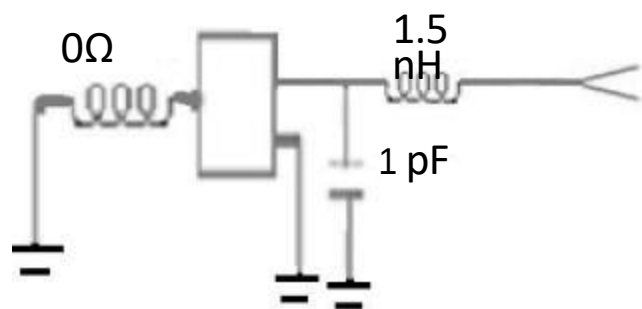
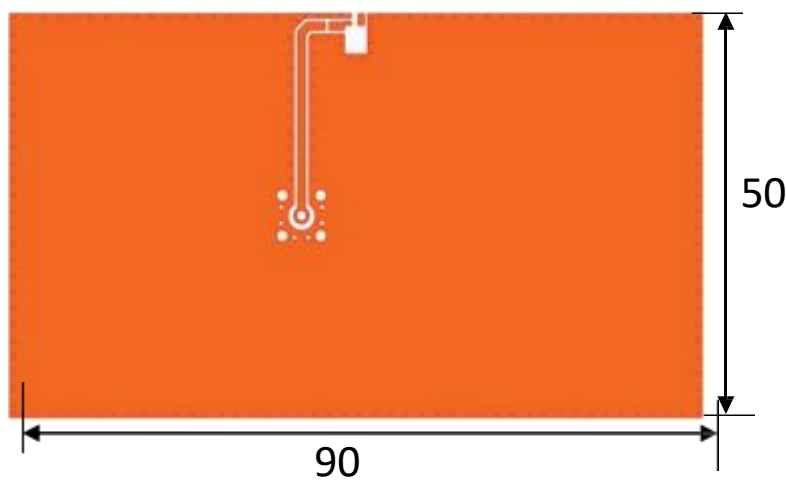
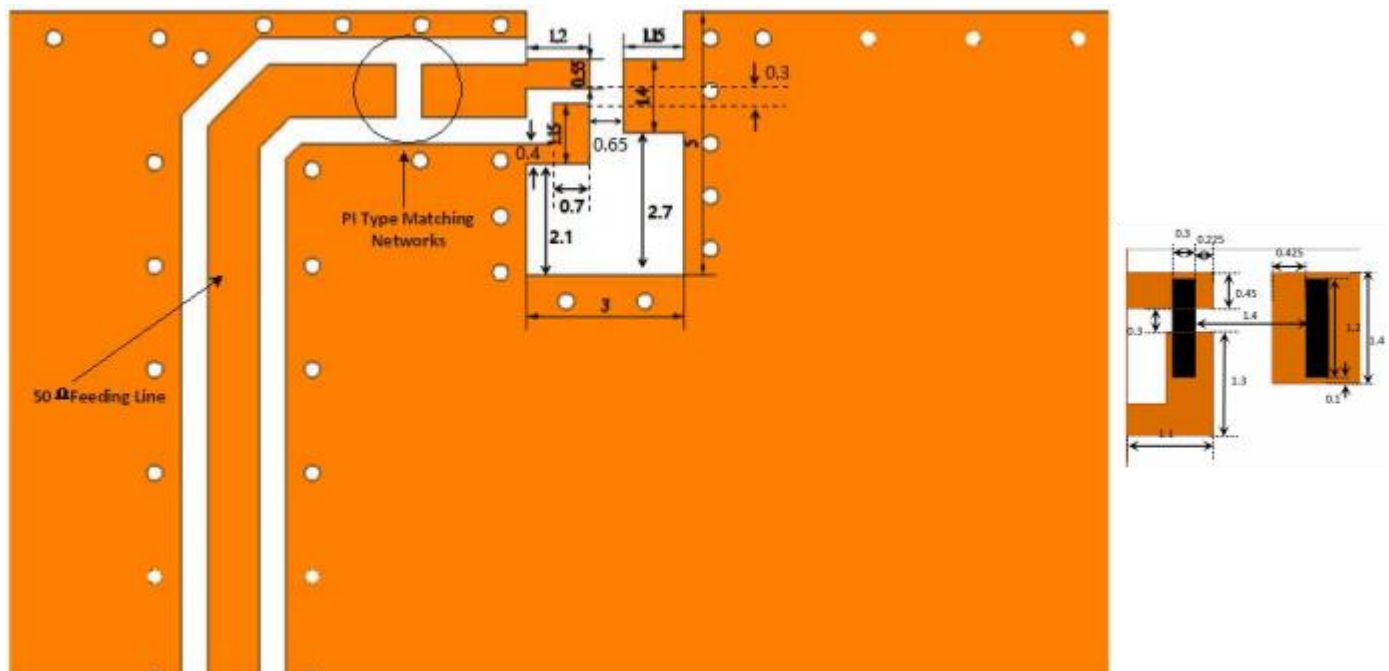
( Bottom View)



( Side View)

| Symbols    | L             | W              | T              | a             | b             |
|------------|---------------|----------------|----------------|---------------|---------------|
| Dimensions | $2.0 \pm 0.1$ | $1.25 \pm 0.1$ | $0.42 \pm 0.1$ | $0.3 \pm 0.1$ | $0.3 \pm 0.1$ |

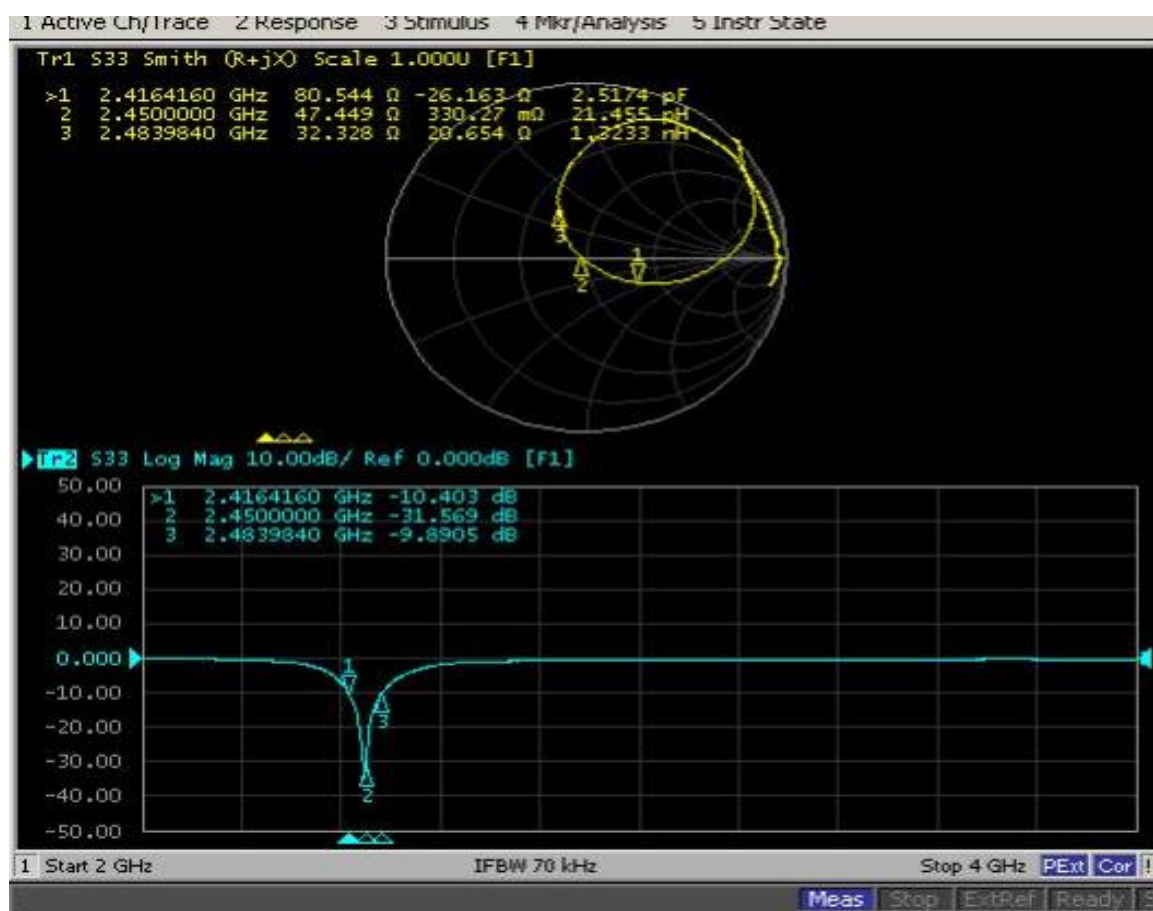
## Evaluation Board and Matching Circuits



## Electrical Characteristics

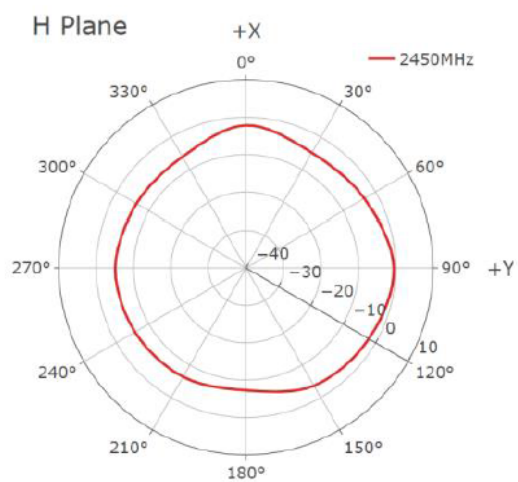
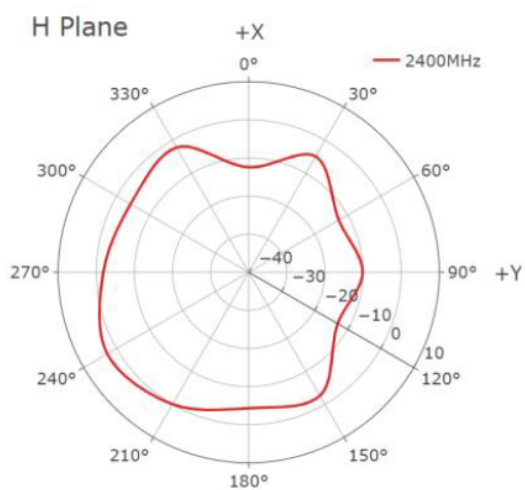
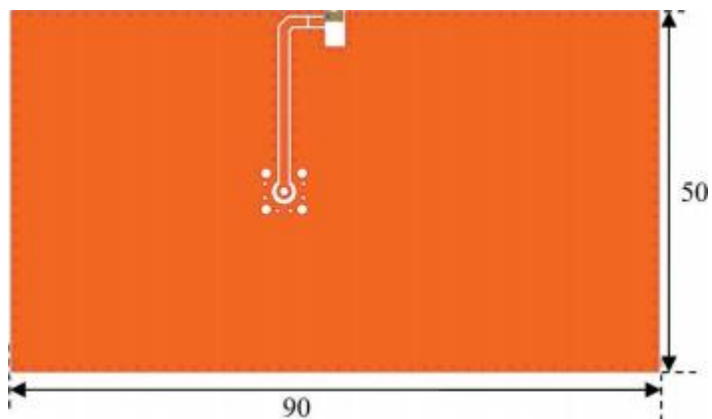
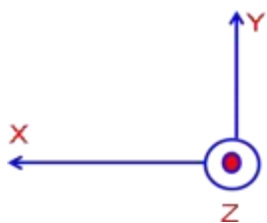
| No. | Item                 | Specifications   |
|-----|----------------------|------------------|
| 1   | Central Frequency    | 2400MHz          |
| 2   | Antenna installation | Chip Antenna     |
| 3   | Peak Gain            | 1.40 dBi         |
| 4   | Return Loss          | $\leq 2.0$       |
| 5   | Polarization         | Linear           |
| 6   | Azimuth Beam width   | Omni-directional |
| 7   | Impedance            | 50 $\Omega$      |

## Characteristic curve

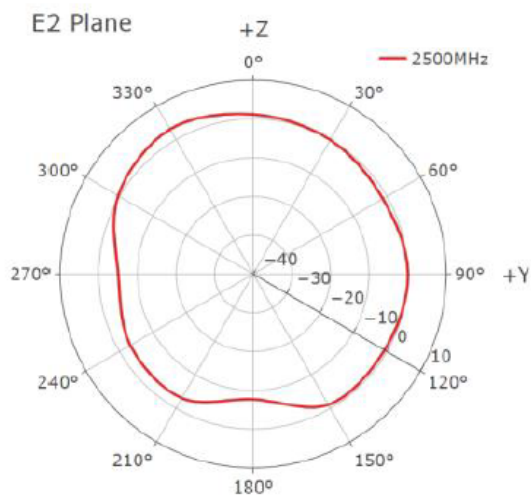


## Radiation Pattern

coordinates:



## HYX2012125H16



| Frequency (MHz) | 2400  | 2450  | 2500  |
|-----------------|-------|-------|-------|
| Avg. Gain (dBi) | -1.54 | -1.29 | -2.29 |
| Peck Gain (dBi) | 1.40  | 0.00  | 1.35  |
| Efficiency (%)  | 47    | 76    | 60    |

## 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℃ |

### 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.

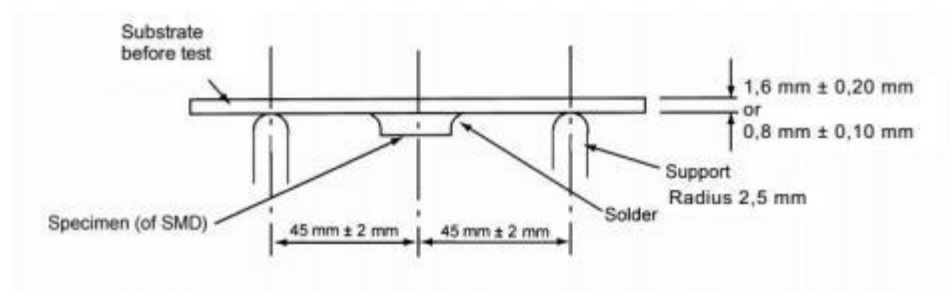
### Solder Heat Proof

The device should be satisfied after preheating at 120℃~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  $1.6 \pm 0.2 \text{ mm}$  or  $0.8 \pm 0.1 \text{ mm}$  as the illustration shows, and keep exerting force arrow-ward on it at speed of :1mm/S, and hold for  $5 \pm 1 \text{ S}$  at the position of 1.5mm bending distance, so far, any peeling off of the product metal coating should not be

### **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.

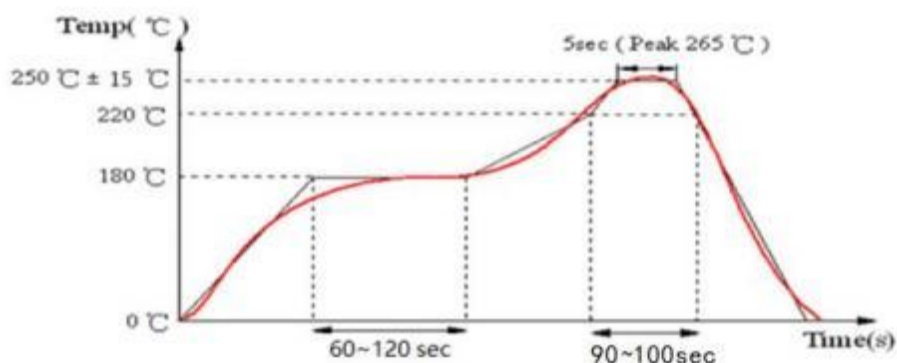
### **Low Temperature Endurance**

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.

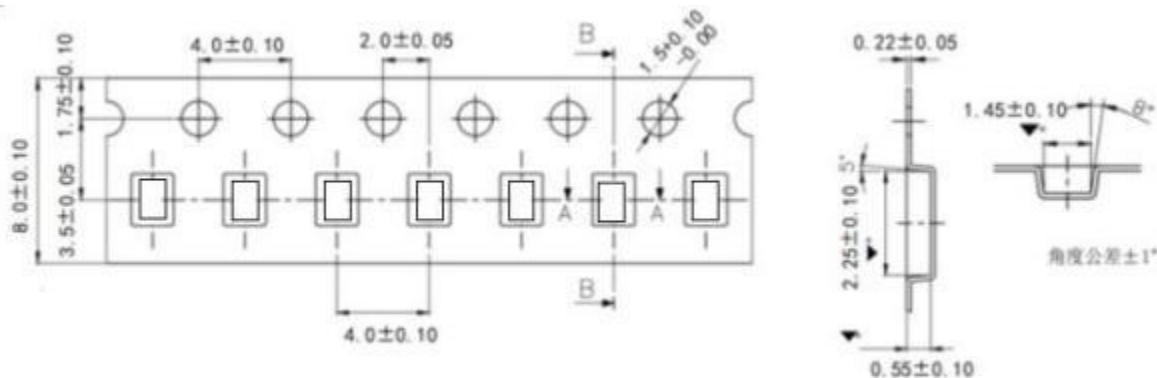
### **Reflow Soldering Standard Condition**



## HYX2012125H16

### Packaging and Dimensions (2012)

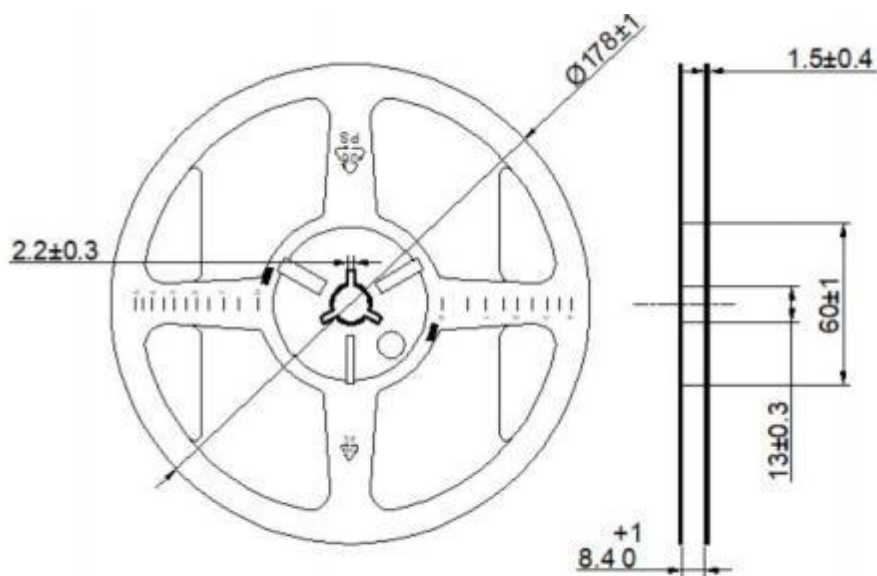
#### Plastic Tape



#### 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

Product should be used within twelve months of receipt.

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