

## Tri Band Antenna for Wi-Fi 6E

### 1. Features

- LAN 2.4 – 2.5 GHz / 5.15 - 5.85 GHz / 5.925 - 7.125 GHz 2.4 – 2.5 GHz / 5.15 - 5.85 GHz / 5.925 – 7.125 GHz Antenna for WLAN
- Compact size
- High efficiency
- Surface mount device
- Embossed reel package

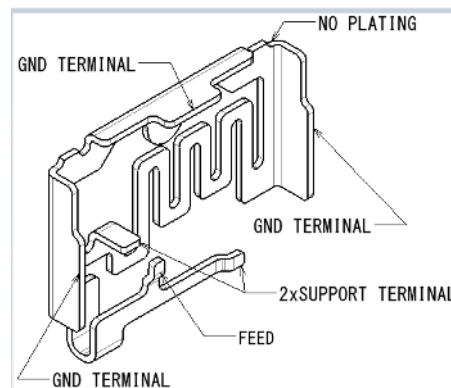
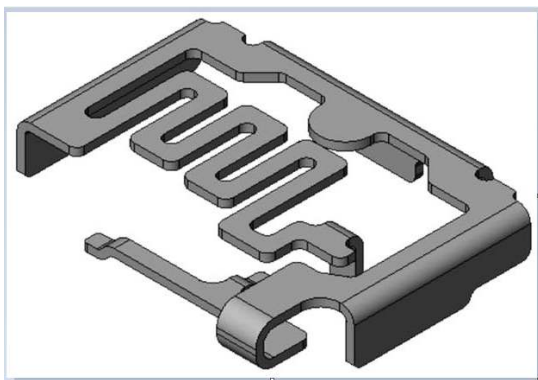
### 2. Part Number

RAC002456-R

2400 (2400-pieces/reel)

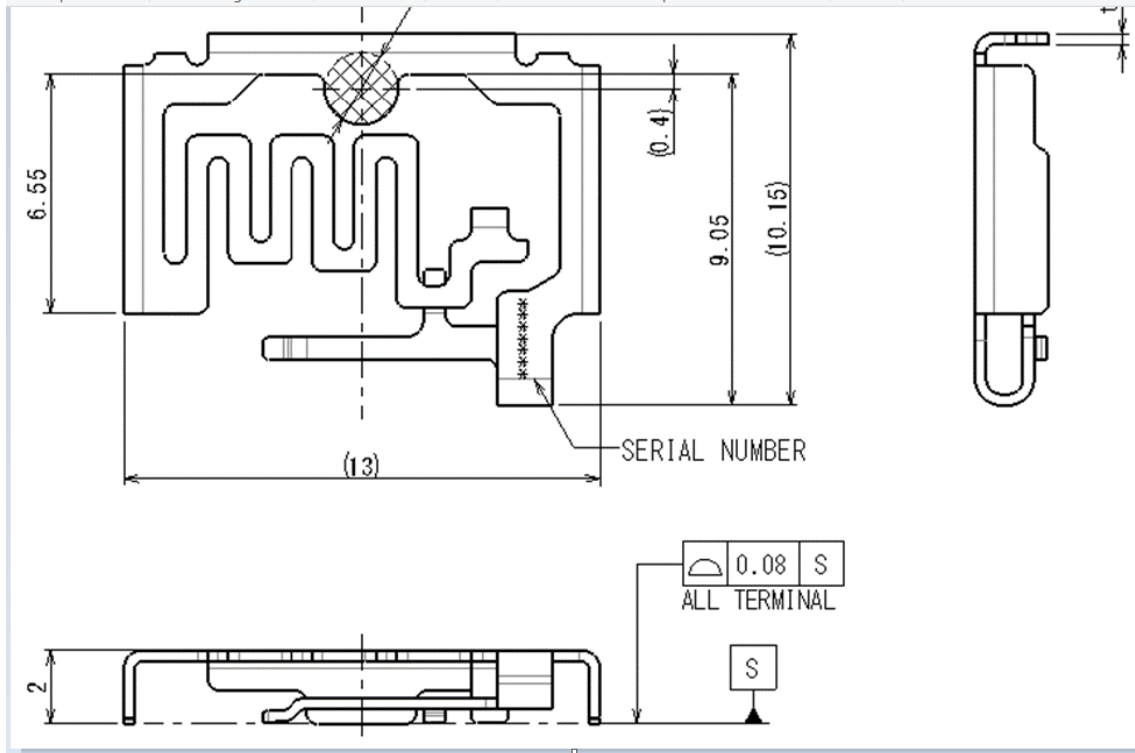
### 3. Shape dimensions and height

#### 3.1. Shape



**3.2. Dimensions**

13.0 (width) x 10.5 (depth) x 2 (height) mm



**3.3. Weight**

0.25 g (typical)

**3.4. Plating**

None

**3.5. Type**

Split ring

**3.6. Material**

Copper Alloy

## 4. RF Characteristics

### 4.1. Frequency Range

2.4 - 2.5 GHz / 5.15 - 5.85 GHz / 5.925 – 7.125 GHz

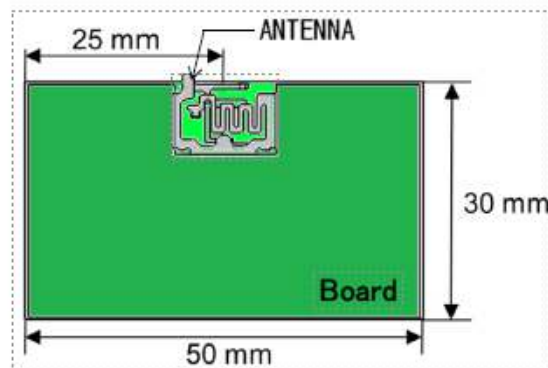
### 4.2. Impedance

50

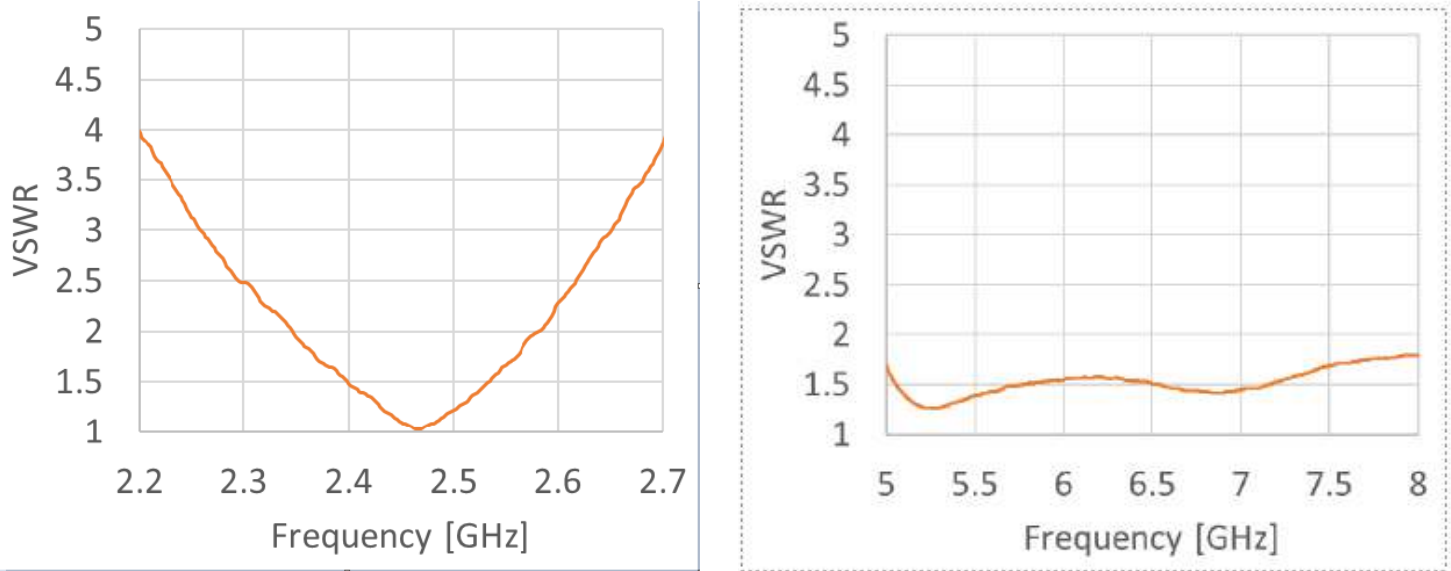
### 4.3. Voltage standing wave ratio (VSWR)

50 x 30 mm VSWR

VSWR characteristics of the antenna on a 50 x 30-mm reference board



VSWR < 2.0 (Frequency range: 2.4 -2.5 GHz / 5.15 - 5.85 GHz / 5.925 – 7.125 GHz)



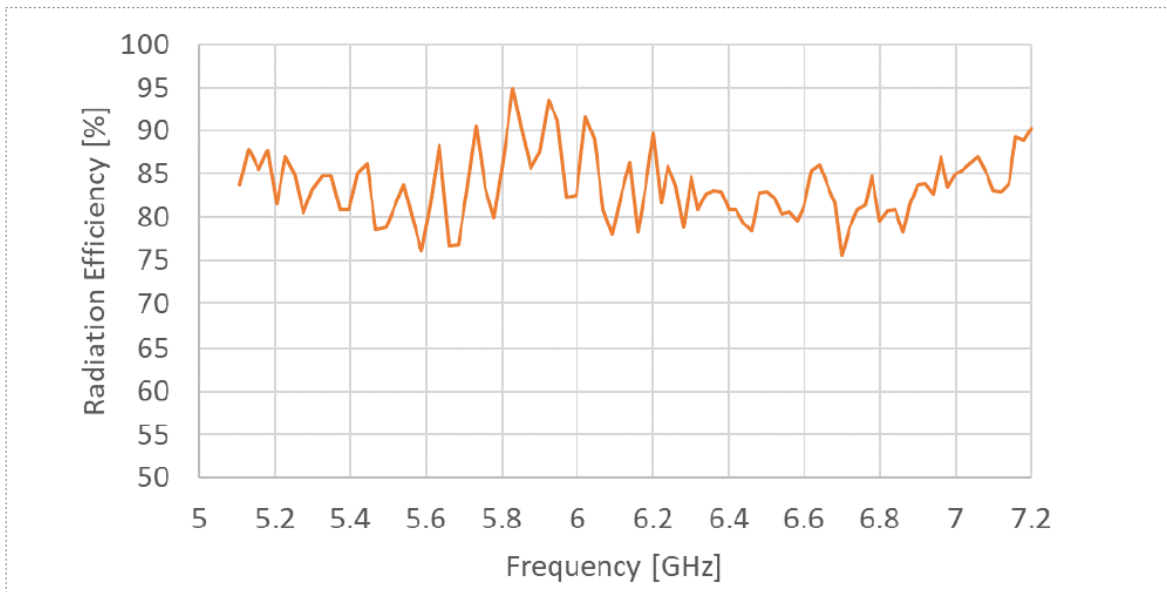
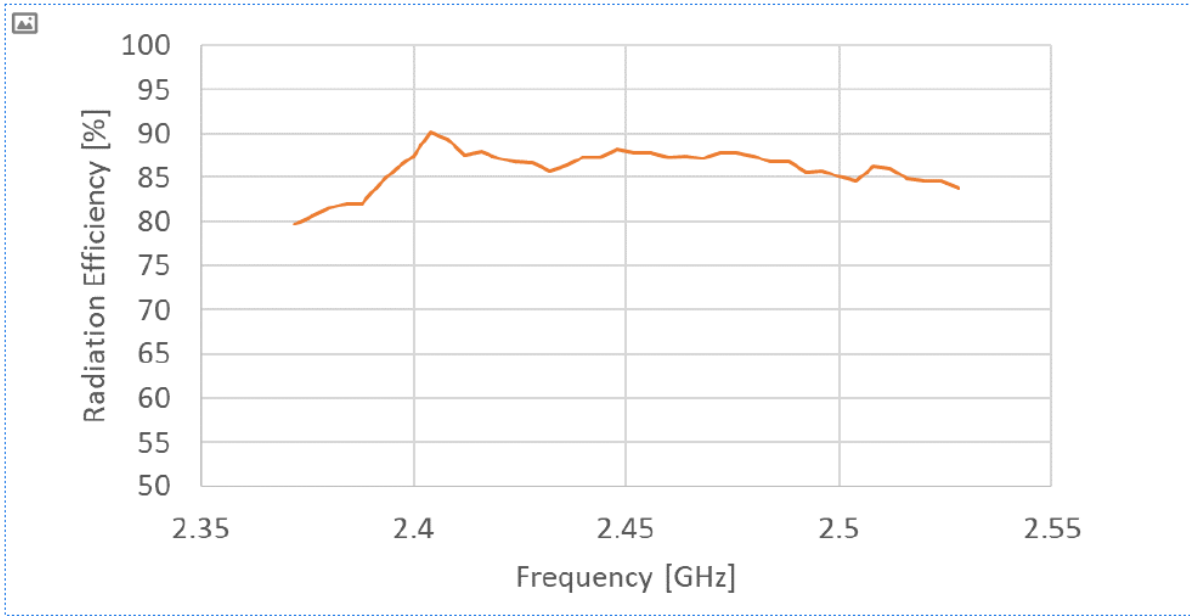
#### 4.4. Radiation efficiency:

50 x 30 mm

Radiation efficiency of the antenna mounted on a 50 x 30-mm reference board (excluding cable and feeder-line loss)

Radiation efficiency > 85 % (Frequency range: 2.4 – 2.5 GHz),

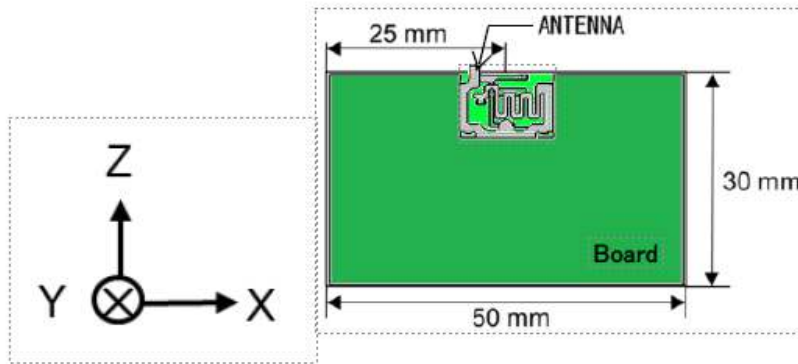
> 70 % (Frequency range: 5.15 - 5.85 GHz /  
5.915 – 7.125 GHz)



### 4.5. Radiation Pattern

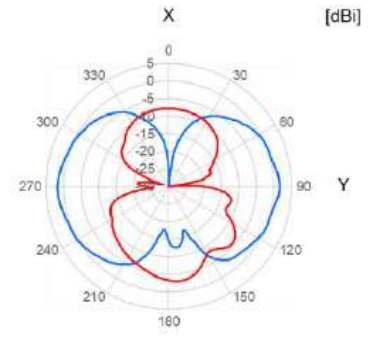
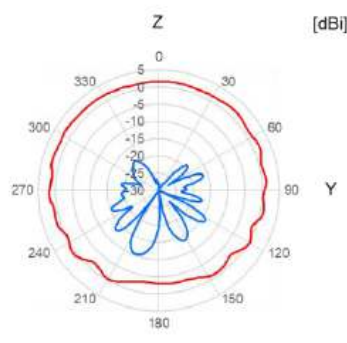
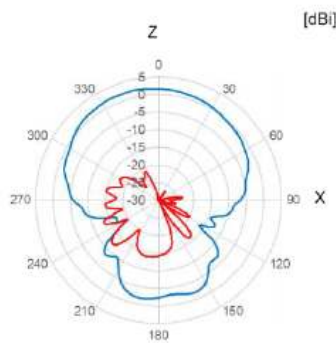
50 x 30 mm

Radiation pattern of the antenna mounted on a 50 x 30-mm reference board

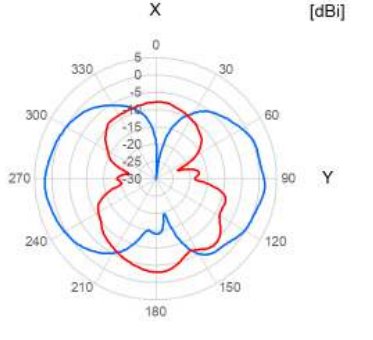
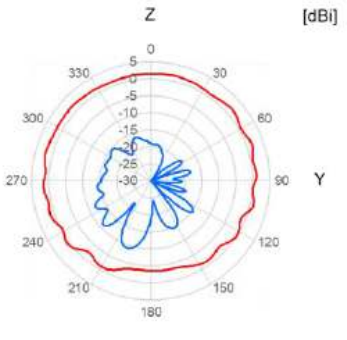
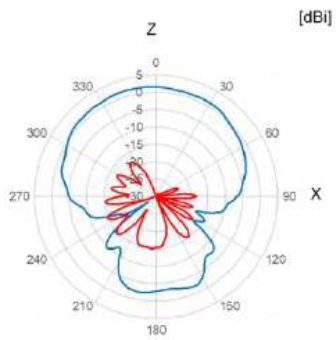


### Radiation pattern

2.4 GHz

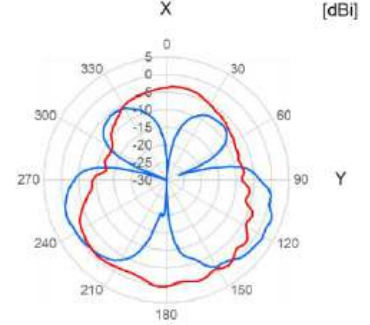
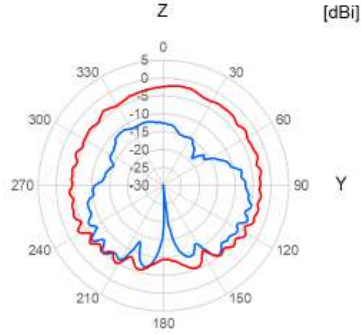
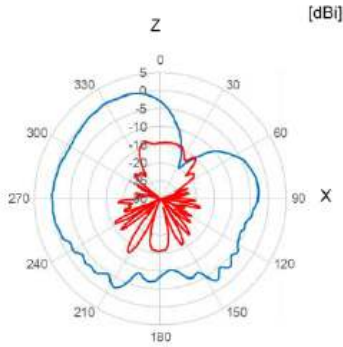


2.5 GHz

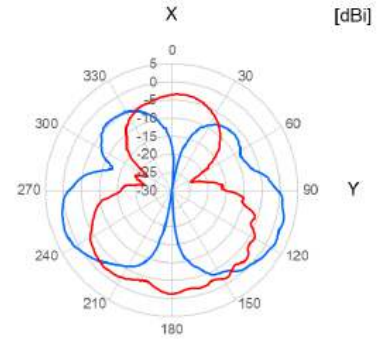
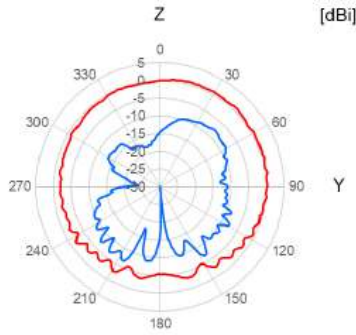
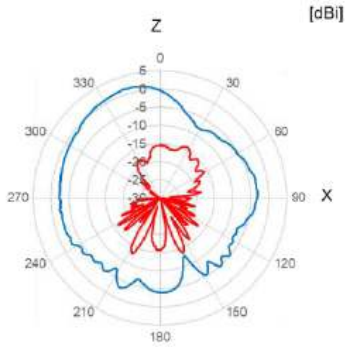


### Radiation pattern

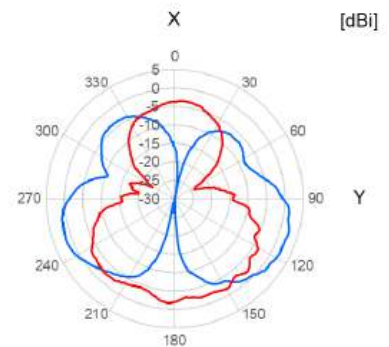
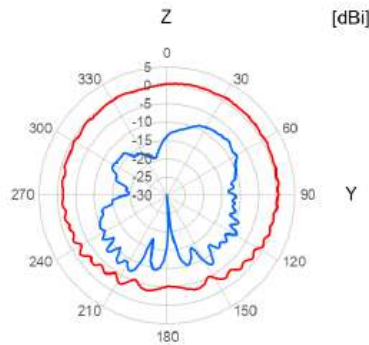
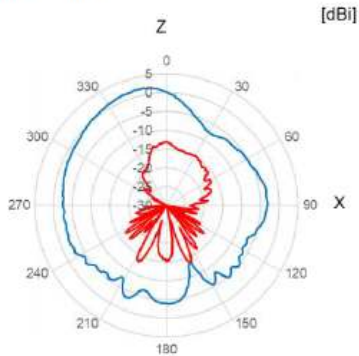
5.15 GHz



5.85 GHz

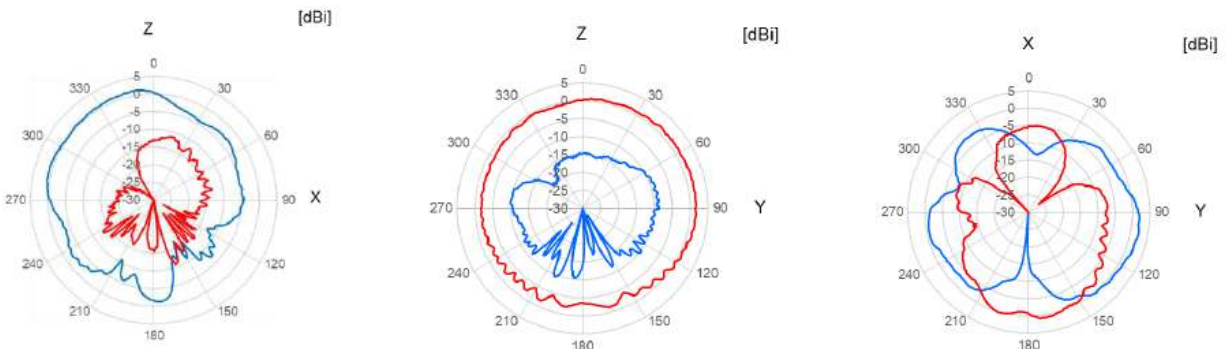


5.925 GHz



## Radiation pattern

7.125 GHz



Blue line: Horizontal polarization  
Red line: Vertical polarization

Peak gain of the main polarization component in the ZX, ZY, and XY planes

| Frequency [GHz] | Peak gain [dBi] |
|-----------------|-----------------|
| 2.4             | 1.96            |
| 2.5             | 2.14            |
| 5.15            | 1.97            |
| 5.85            | 2.23            |
| 5.925           | 2.38            |
| 7.125           | 2.35            |

## 5. Environmental conditions and reliability

5.1. Operating temperature range  
-40 °C to +125 °C

5.2. Storage conditions

IEC 61760-2

Stock temperature range

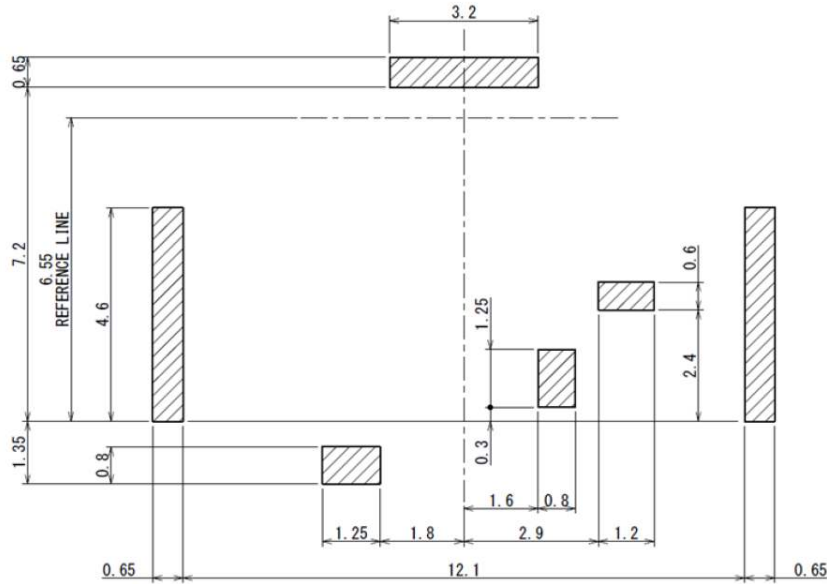
+5 °C to +40 °C

Relative humidity

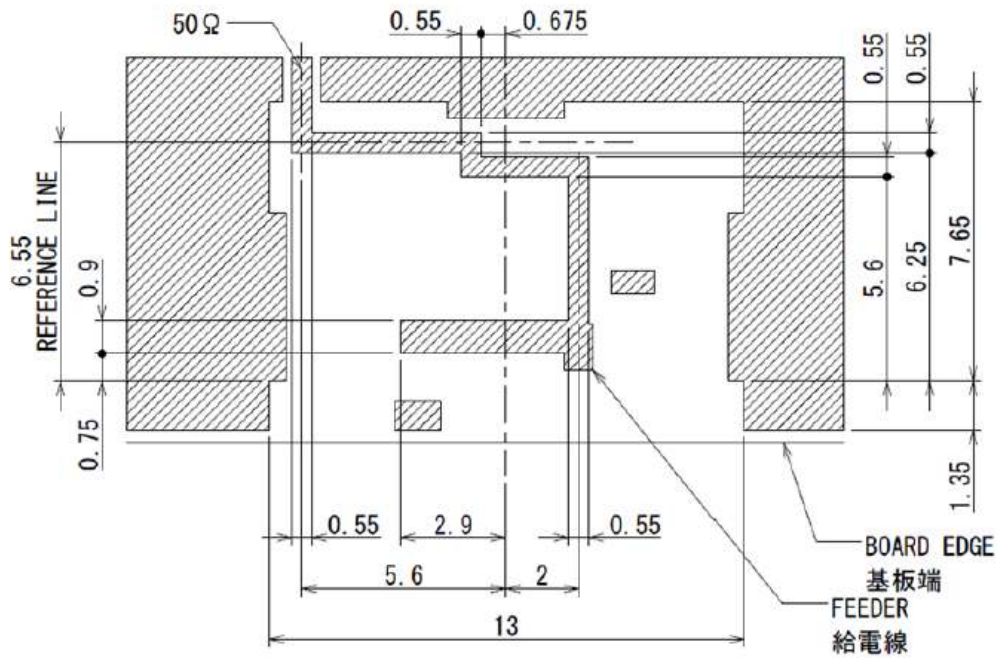
10 % to 75 %



## 6. Recommended land pattern and reference board pattern



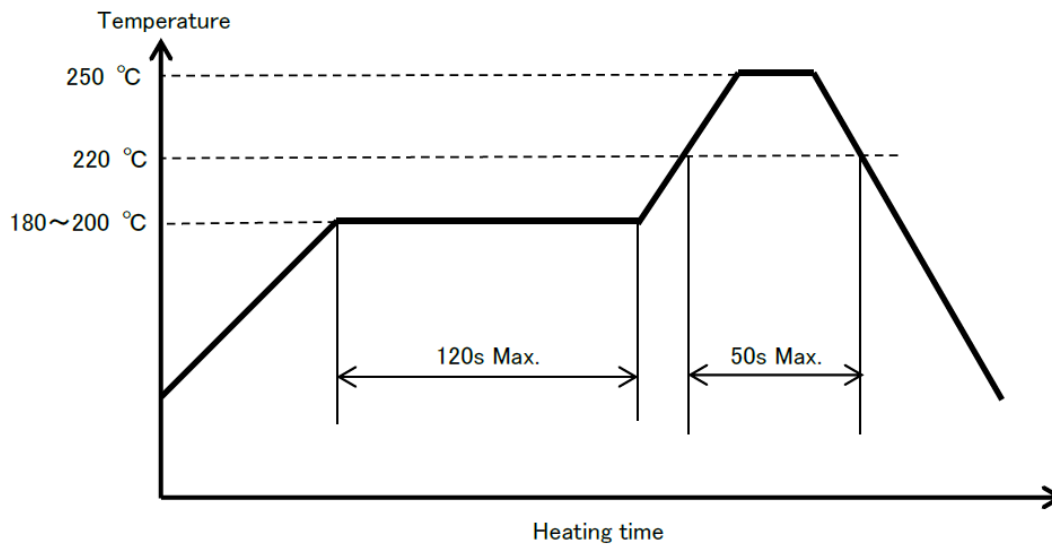
Recommended land pattern



Reference board pattern (board thickness: 1.6 mm)

## 7. Recommended reflow temperature profile

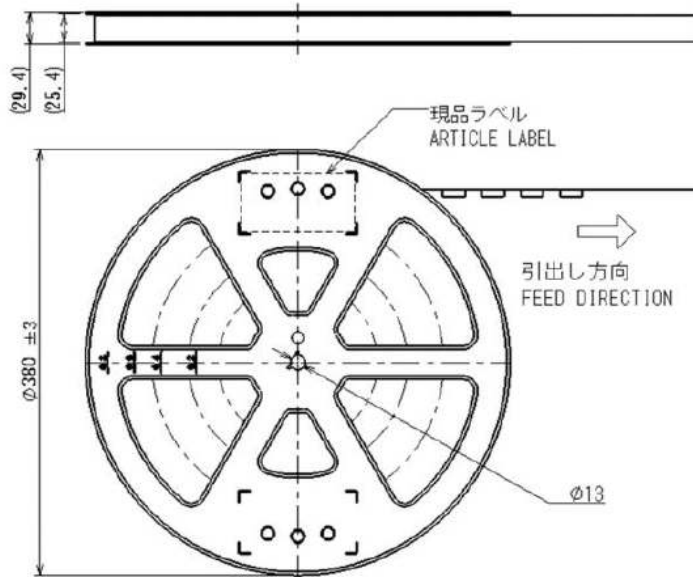
|                          | Temperature   | Heating time |
|--------------------------|---------------|--------------|
| Preheating temperature   | 180 to 200 °C | 120 s (max.) |
| Main heating temperature | Above 220 °C  | 50 s (max.)  |
| Peak temperature         | 250 °C (max.) | -            |



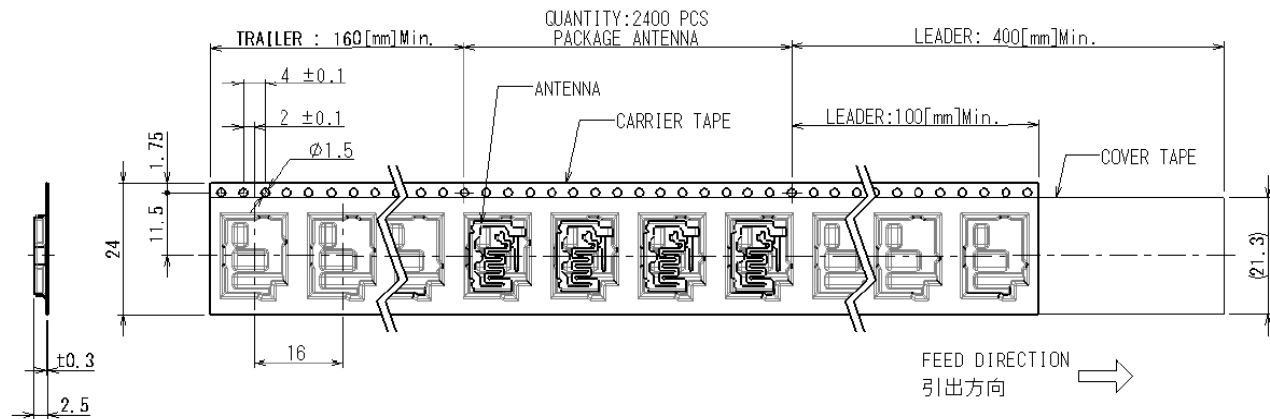
## 8. Packaging

8.1. Package quantity: 2,400 (pieces / reel)

8.2. Embossed reel dimensions



## 8.3. Tape dimensions



## REVISION HISTORY

| Version                                 | Change to current version | Page(s) |
|---|---------------------------|---------|
| RAC002456 Issue A<br>September 30, 2022 | Initial datasheet         | N/A     |
|   |                           |         |
|   |                           |         |

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