

## 2JS30

### 2.4 GHz ISM Surface Mount

#### Key Features

##### 2.4 GHz ISM

- 2410-2490 MHz

Surface Mount

Easy to Integrate

Compact Size

Ceramic Material

Ground Plane Dependent

Dimensions 13x 13 x 4 mm



## 1. Antenna and electrical specifications

Parameters	2.4 GHz ISM Antenna
<b>Standards</b>	WiFi, BT, ZigBee, ISM,
<b>Band (MHz)</b>	2400
<b>Frequency (MHz)</b>	2410-2490
<b>Return Loss (dB)</b>	~-10.1
<b>VSWR</b>	~2.5:1
<b>Efficiency (%)</b>	~60.3
<b>Peak Gain (dBi)</b>	~4.2
<b>Average Gain (dB)</b>	~-2.1
<b>Impedance (Ohm)</b>	50
<b>Polarisation</b>	Linear
<b>Radiation Pattern</b>	Hemispherical

### Antenna Measurement Conditions:

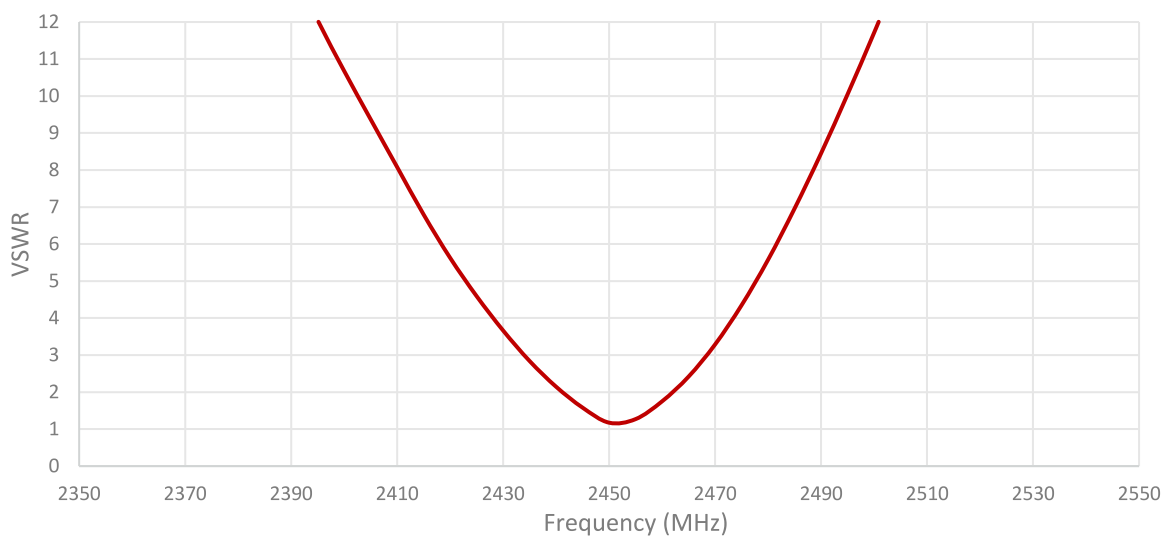
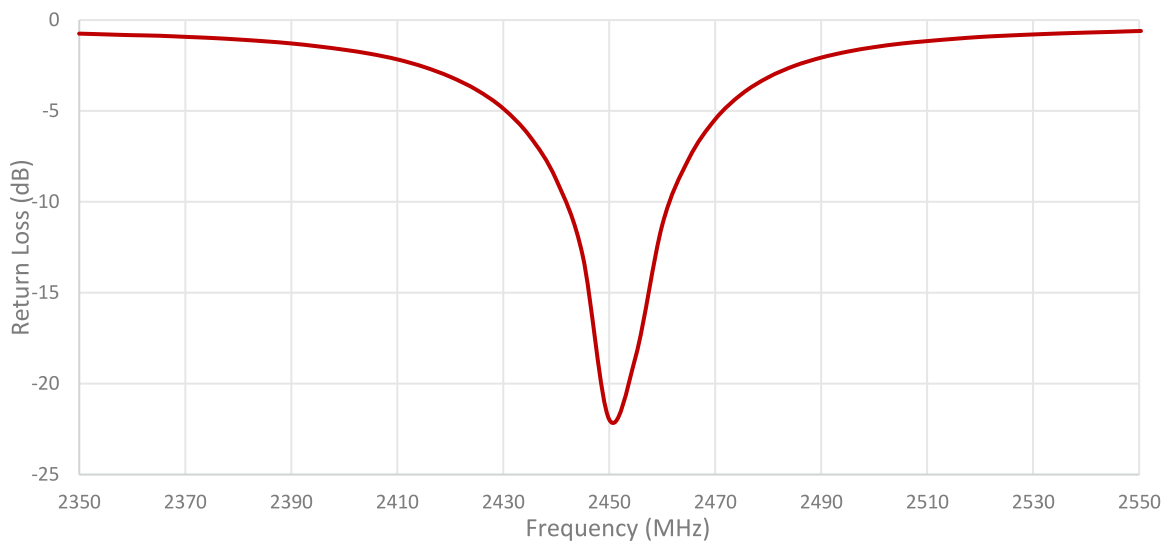
Mounted on ground plane of 70 x 70 mm

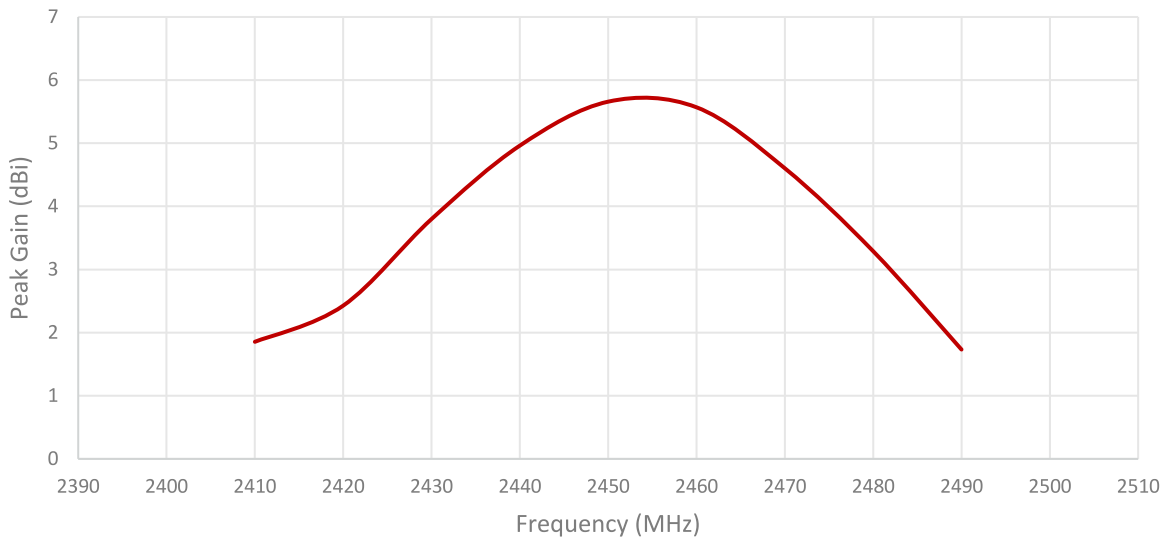
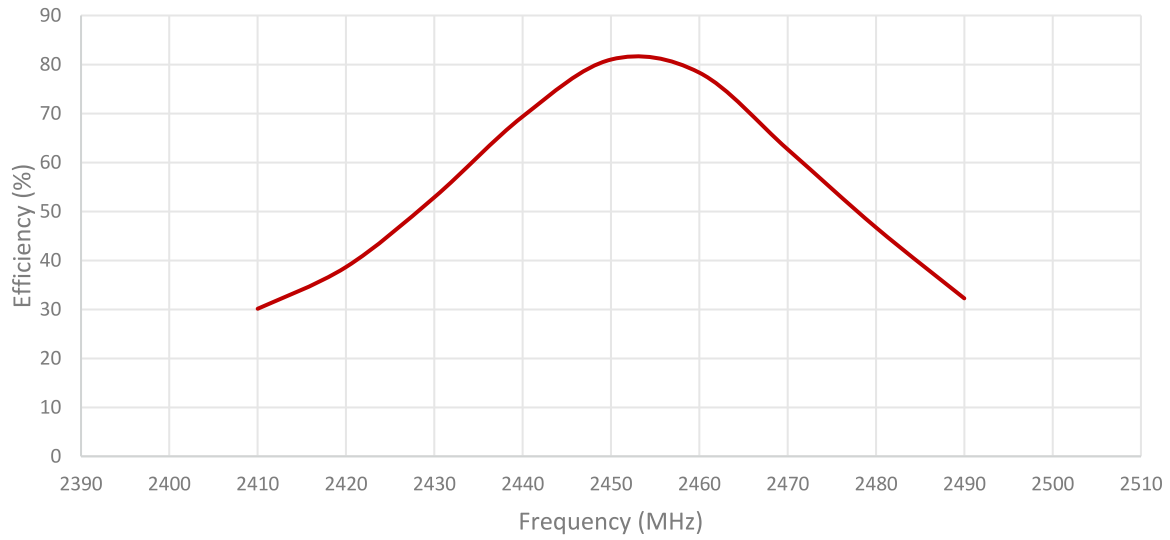
Measured in Certified CTIA 3D Anechoic Chamber

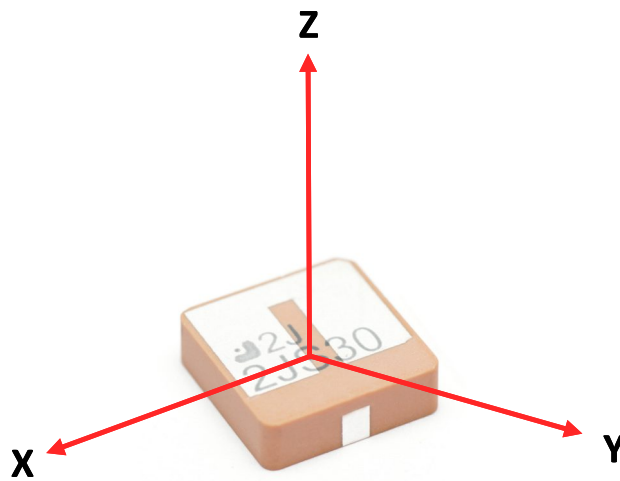
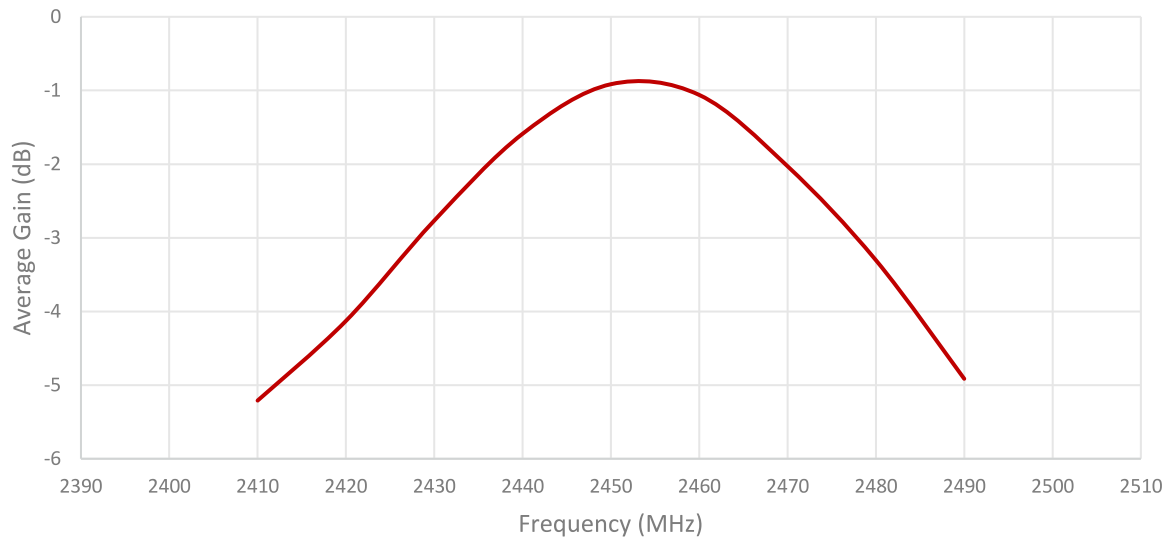
## 2. Mechanical and environmental specifications

Specifications	2JS30
<b>Mounting Type</b>	Surface Mount
<b>Dimensions (mm)</b>	13 x 13 x 4
<b>Material</b>	Ceramic
<b>Operating Temperature (C)</b>	-40 to +85
<b>Storage Temperature (C)</b>	-40 to +85
<b>Substance Compliance</b>	RoHS
<b>Typical Shear Force Test</b>	50Kgf according to IEC62137-1-2:2007

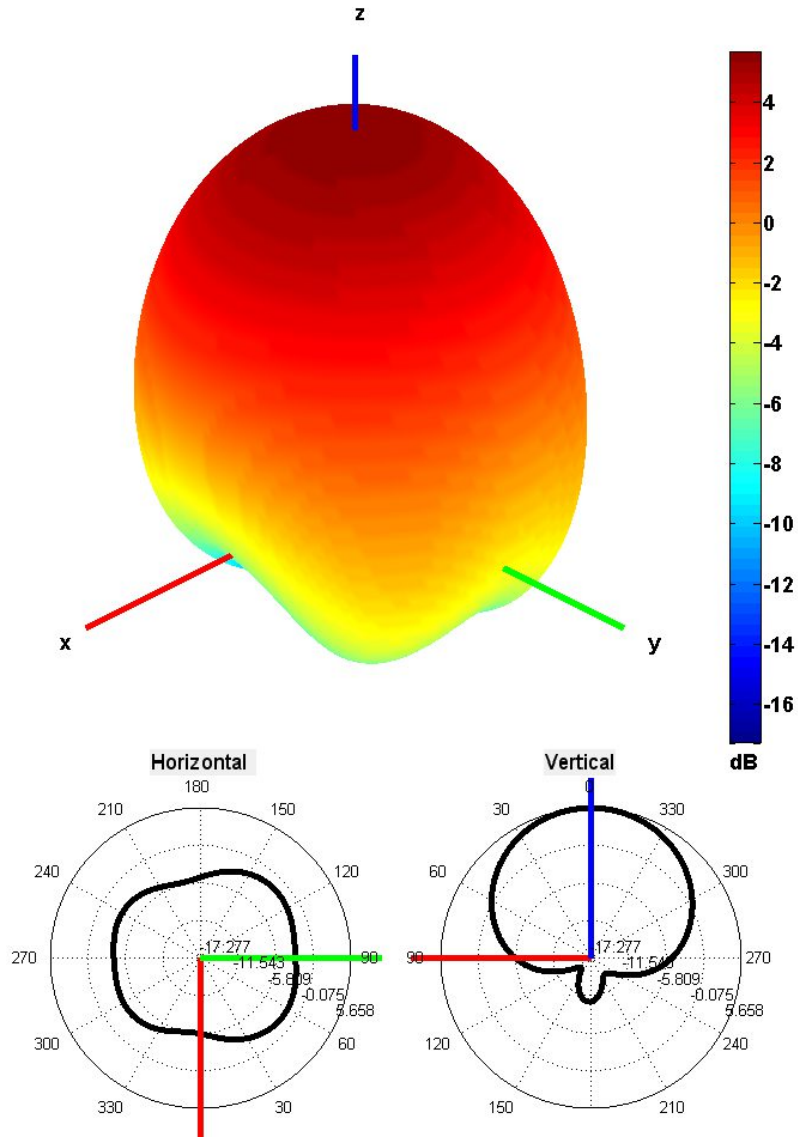
### 3. Antenna parameters





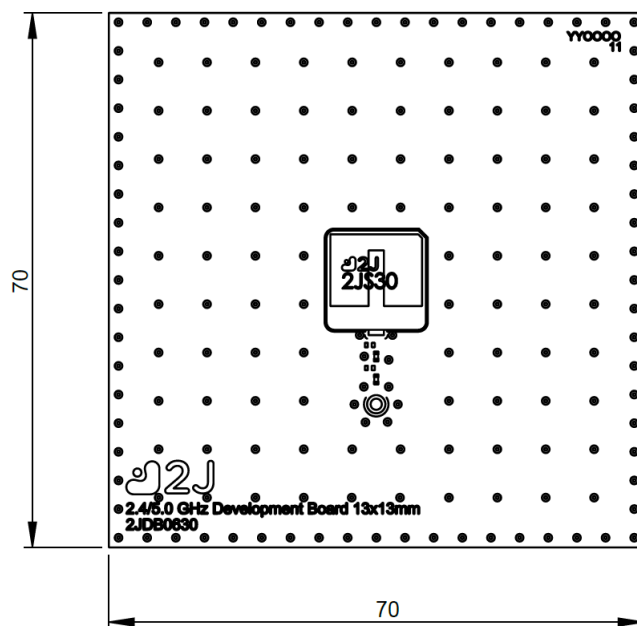


Radiation pattern reference

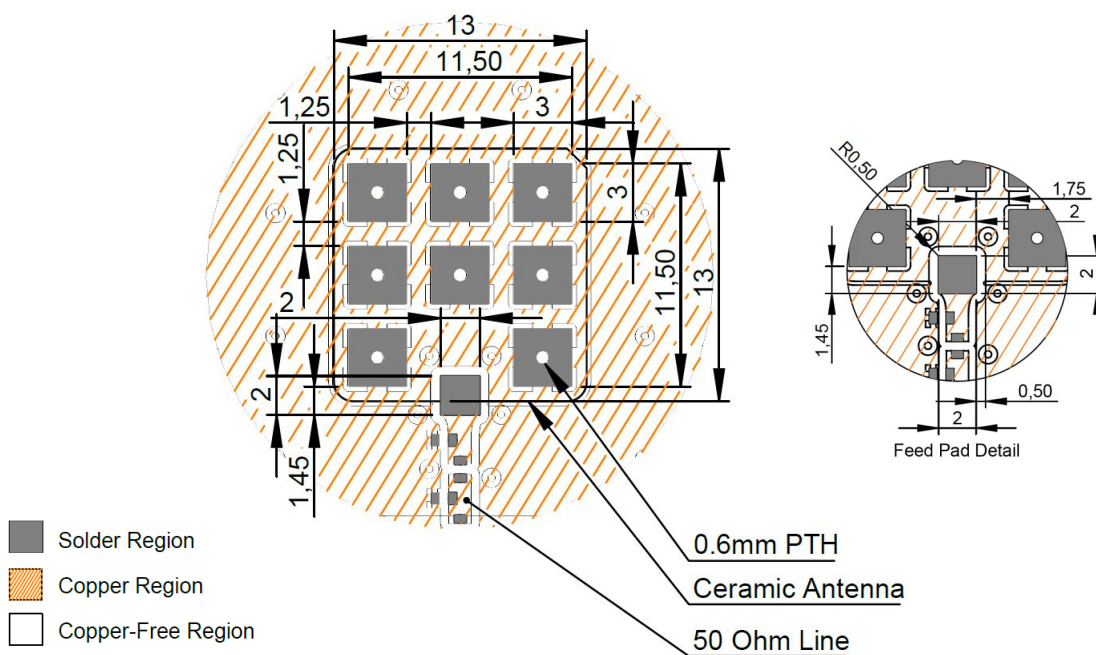


2450 MHz Radiation pattern

## 4. PCB Layout

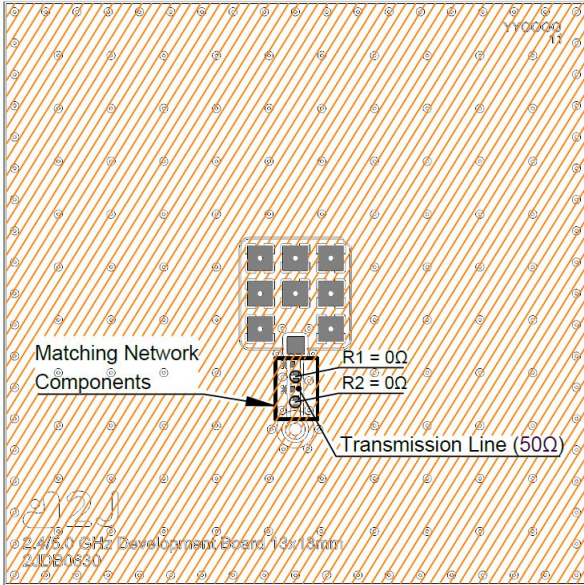


Recommended PCB Dimensions



Layout dimensions for antenna integration (mm)

## 5. Matching Components



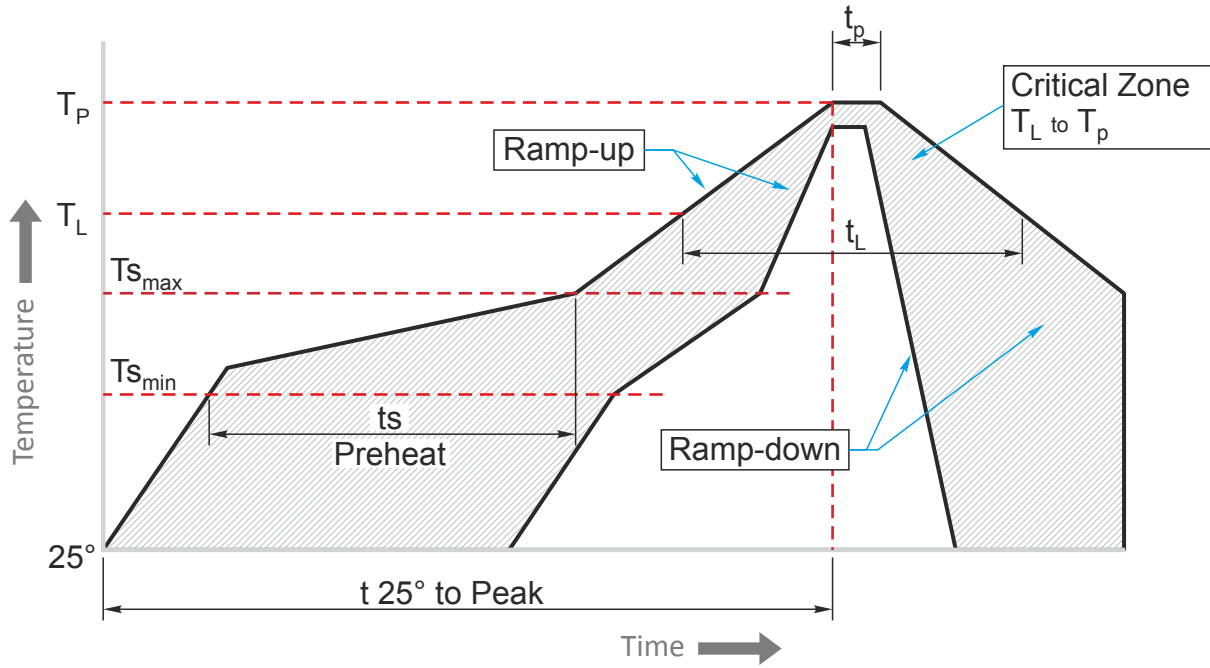
Matching Network Drawing



3D View of matching components and recommended values

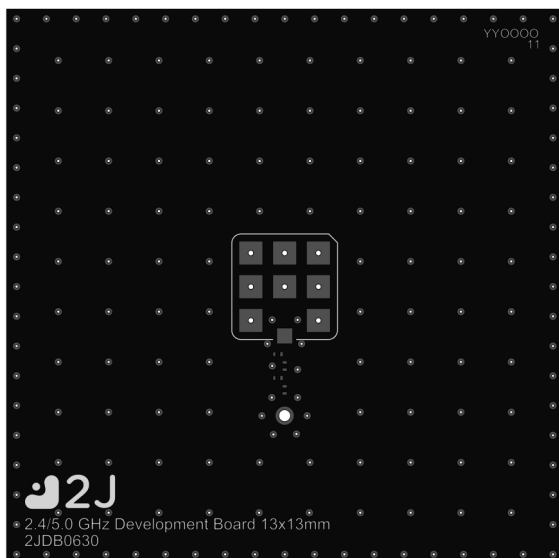


**REFLOW TEMPERATURE PROFILE**

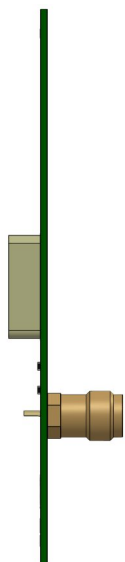


Phase	Profile features	Pb-Free Assembly (SnAgCu)
<b>RAMP-UP</b>	Avg. Ramp-up Rate ( $T_{s_{max}}$ to $T_p$ )	3°C / second (max)
<b>PREHEAT</b>	-Temperature Min Rate ( $T_{s_{min}}$ ) -Temperature Max Rate ( $T_{s_{min}}$ ) -Time ( $t_{s_{min}}$ to $t_{s_{max}}$ )	150°C 200°C 60-120 seconds
<b>REFLOW</b>	-Temperature ( $T_L$ ) -Total Time above $T_L$ ( $t_L$ )	217°C 30-100 seconds
<b>PEAK</b>	-Temperature ( $T_p$ ) -Time ( $t_p$ )	245°C 2-5 seconds
<b>RAMP-DOWN</b>	Rate	3°C / second max.
<b>Time from 25°C to Peak Temperature</b>		8 minutes max.

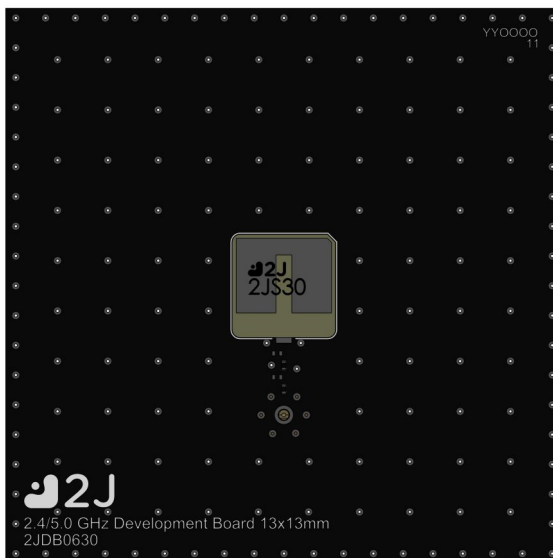
## 6. Evaluation Board



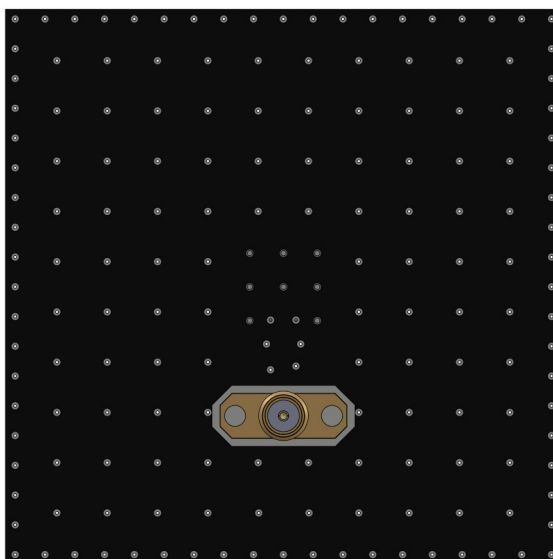
Front View without Antenna



Side View

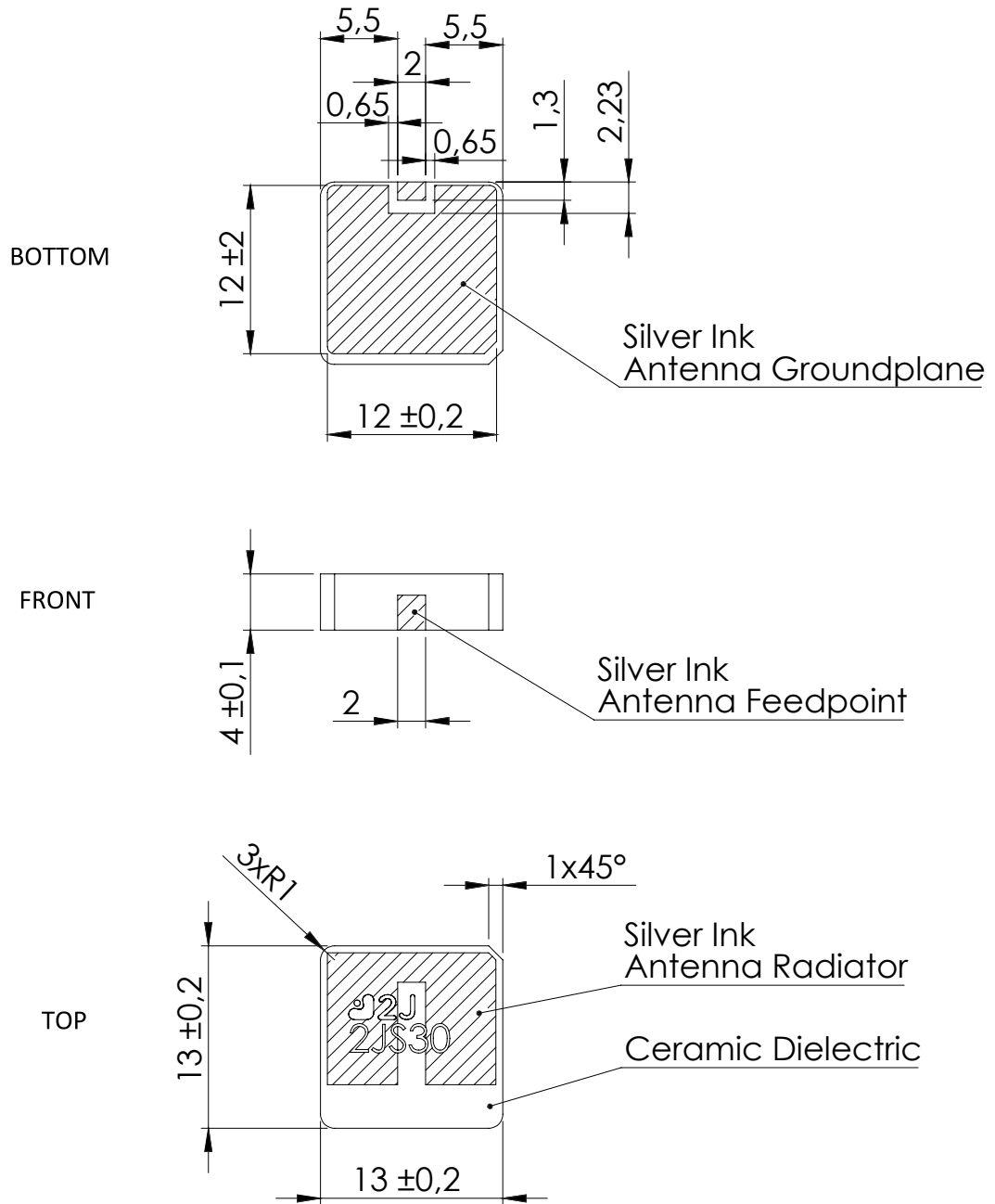


Front View with Antenna



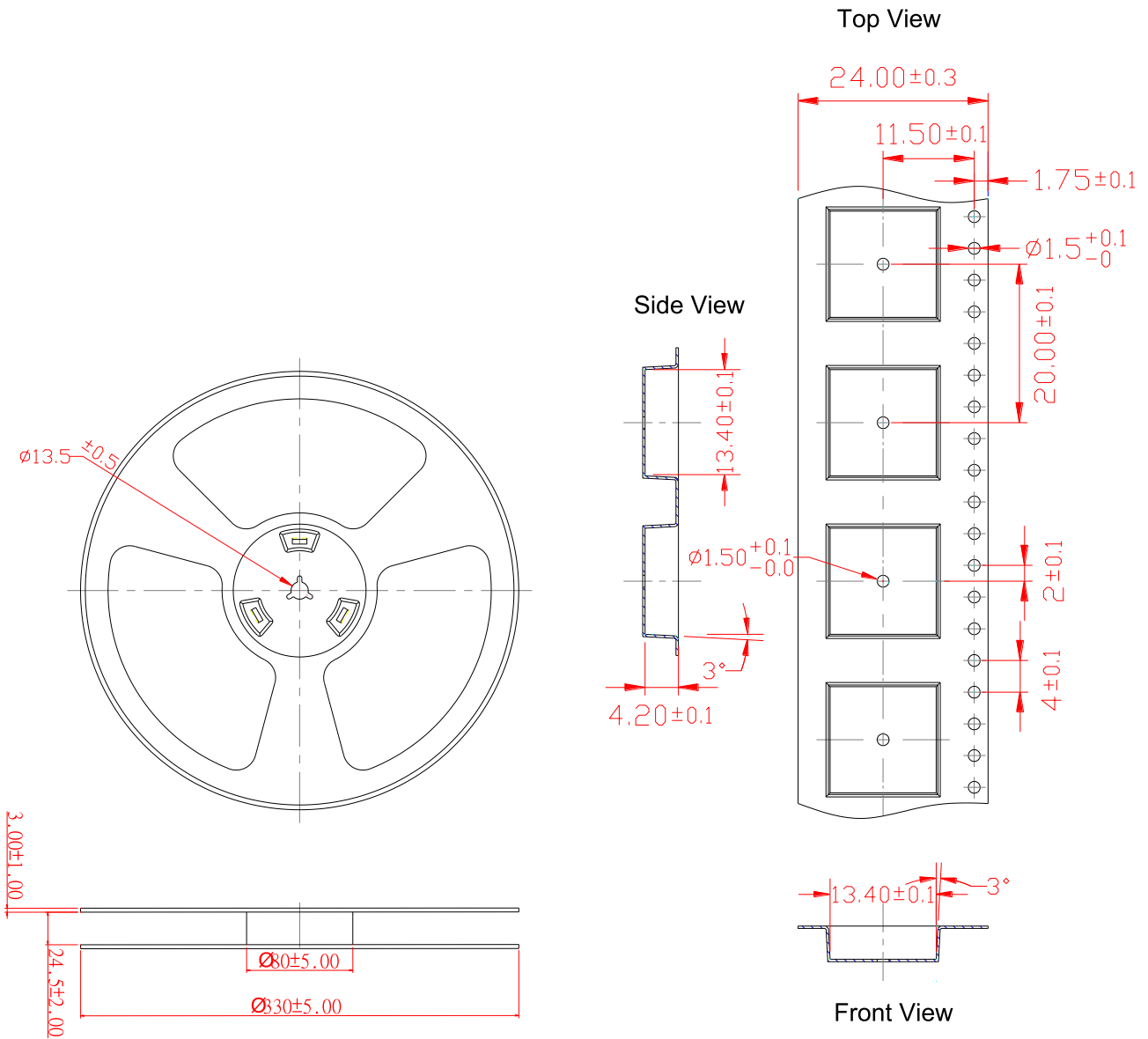
Back View

## 7. Antenna drawings



Dimensions for ceramic antenna 13 x 13 x 4 mm

## 8. Tape and Reel Information



Tape and Reel Specifications

## 9. Packaging

### PACKAGING SPECIFICATION

<b>Antenna</b>	2JS30
<b>REEL</b>	
<b>Max Quantity per Reel</b>	700
<b>REEL BOX</b>	
<b>Reels per Box</b>	1
<b>Max Quantity per Box</b>	700
<b>Reel Box Dimensions (cm)</b>	34 x 34 x 4
<b>Reel Box Weight (Kg)</b>	2.75
<b>CARTON</b>	
<b>Reels per Carton</b>	5
<b>Max Quantity per Carton</b>	3500
<b>Reel Carton Dimensions (cm)</b>	36 x 36 x 23
<b>Reel Carton Weight (Kg)</b>	13.75

### Storage Conditions:

- Storage Temperature Range: -40 °C to +85 °C
- Oxidizable material. Store for 12 months in vacuum sealed bag.
- Repack material after use by re-sealing package.

## 10. Antenna Images

