

2JL02

433 MHz ISM Surface Mount

Key Features

433 MHz ISM

- 433-435 MHz

Surface Mount

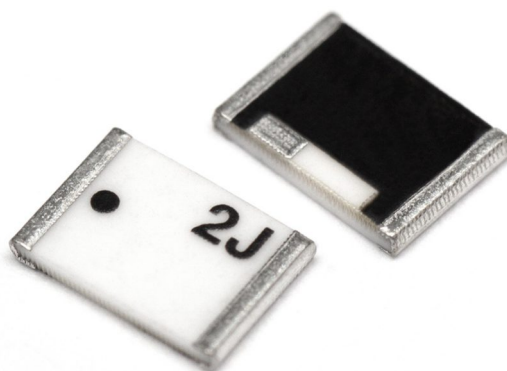
Easy to Integrate

Compact Size

Ceramic Material

Ground Plane Dependent

Dimensions 5.2 x 3.7 x 0.7 mm



1. Antenna and electrical specifications

Parameters	433 MHz ISM Antenna
Standards	ISM, LoRa
Band (MHz)	433
Frequency (MHz)	433-435
Return Loss (dB)	~-13.5
VSWR	~1.6:1
Peak Gain (dBi)	~-6.4
Average Gain (dB)	~-9.6
Impedance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Omni-Directional

Antenna Measurement Conditions:

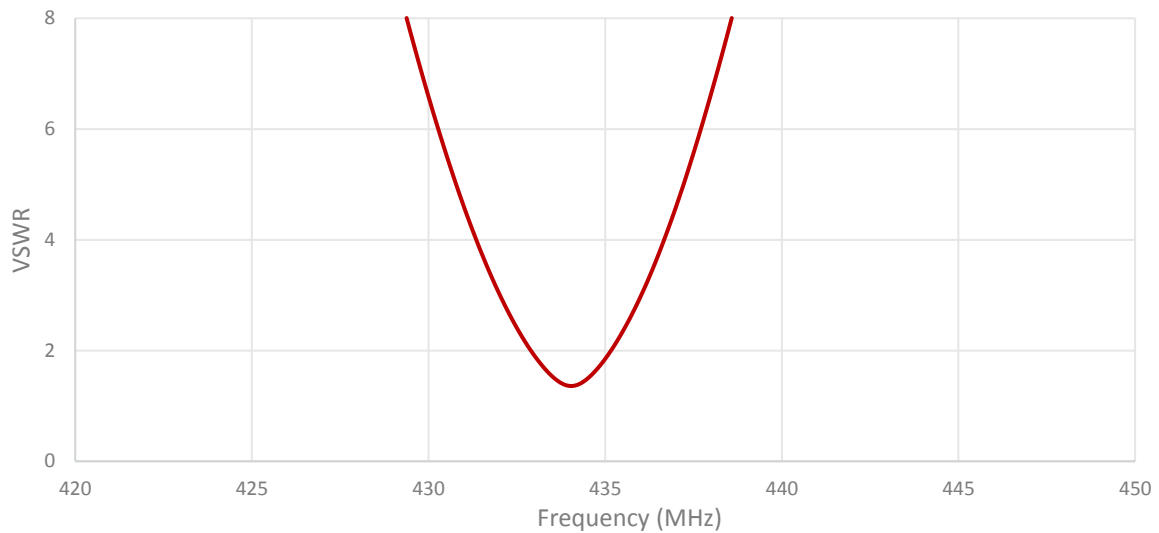
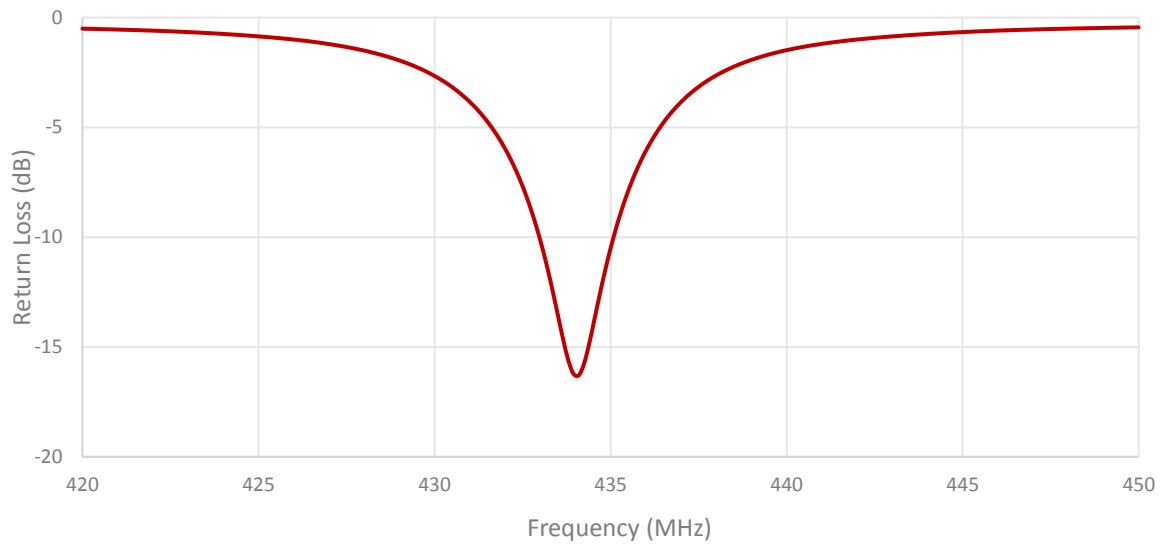
Mounted on ground plane of 80 x 40 mm

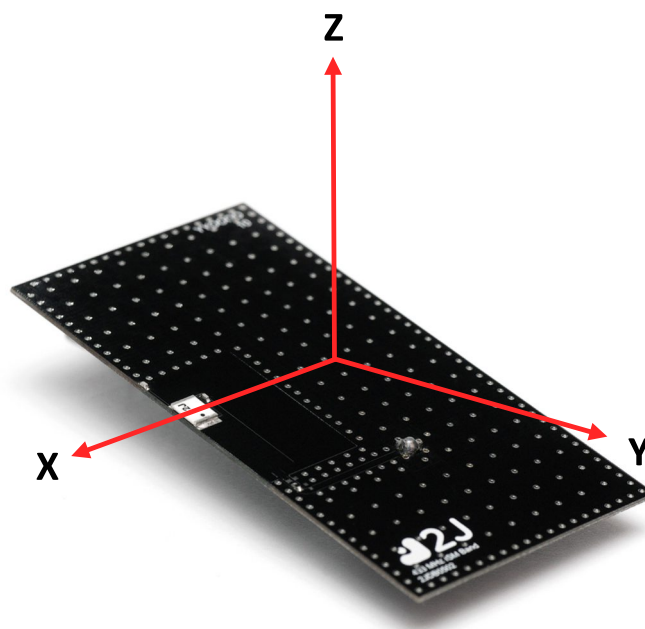
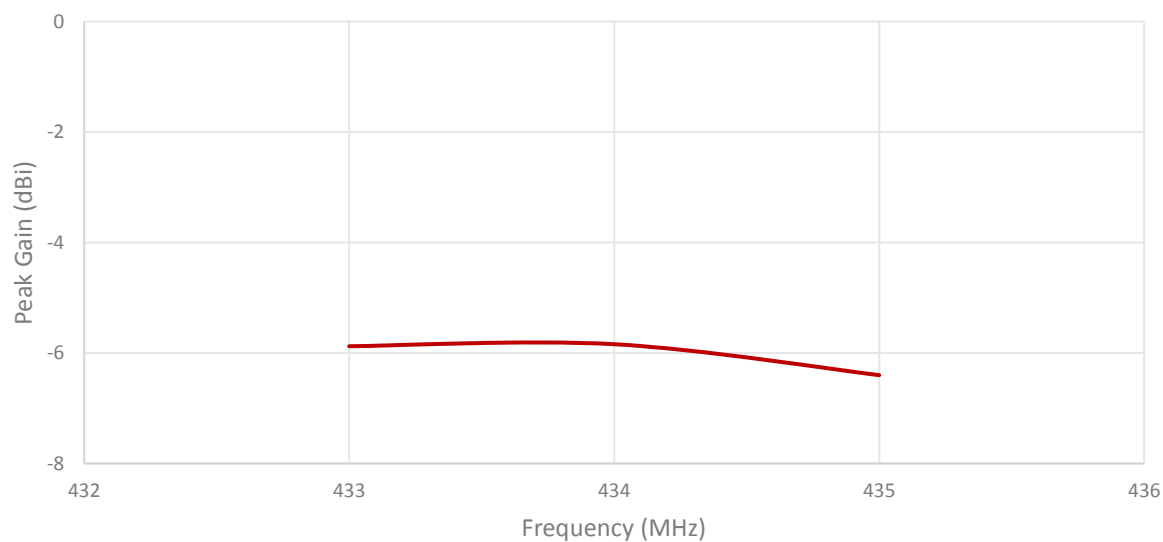
Measured in Certified CTIA 3D Anechoic Chamber

2. Mechanical and environmental specifications

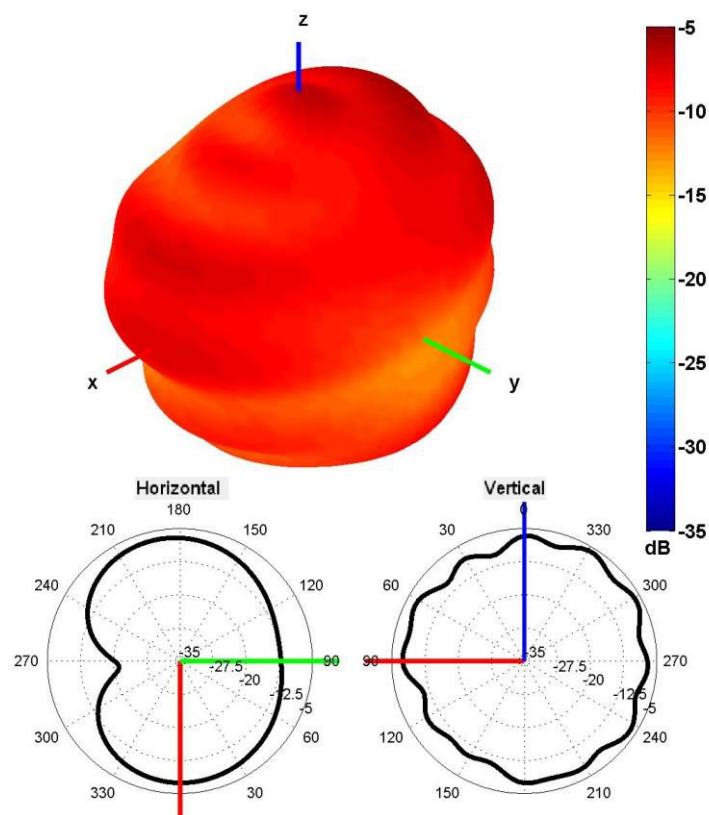
Specifications	2JL02
Mounting Type	Surface Mount
Dimensions (mm)	5.2 x 3.7 x 0.7
Material	Ceramic
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS

3. Antenna parameters





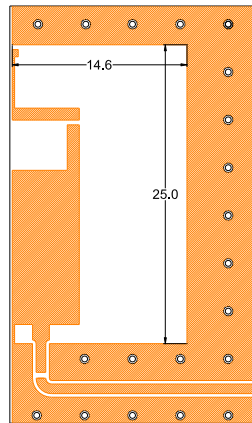
Radiation pattern reference



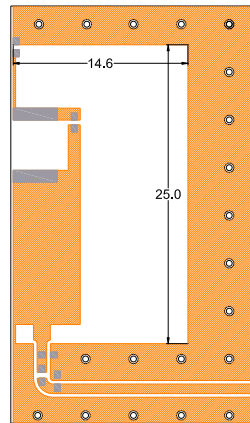
433 MHz Radiation pattern

4. PCB Layout

Top

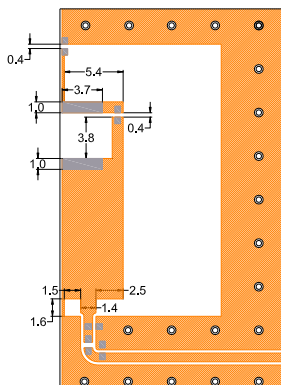


Top

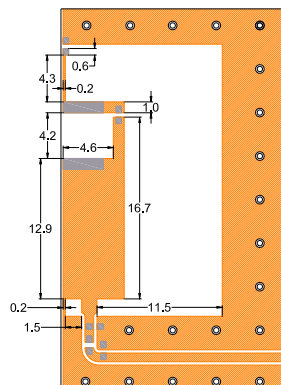


-  Solder Region
-  Top Copper Region
-  Copper-Free Region

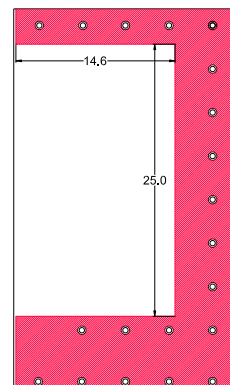
Top



Top



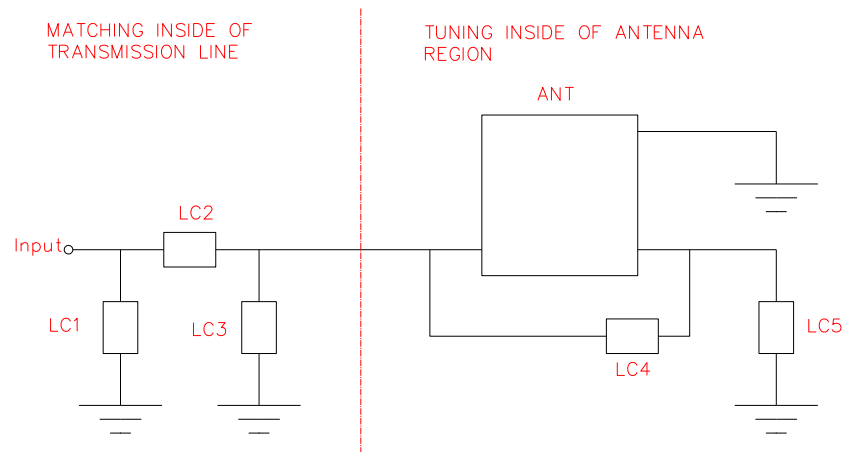
Bottom



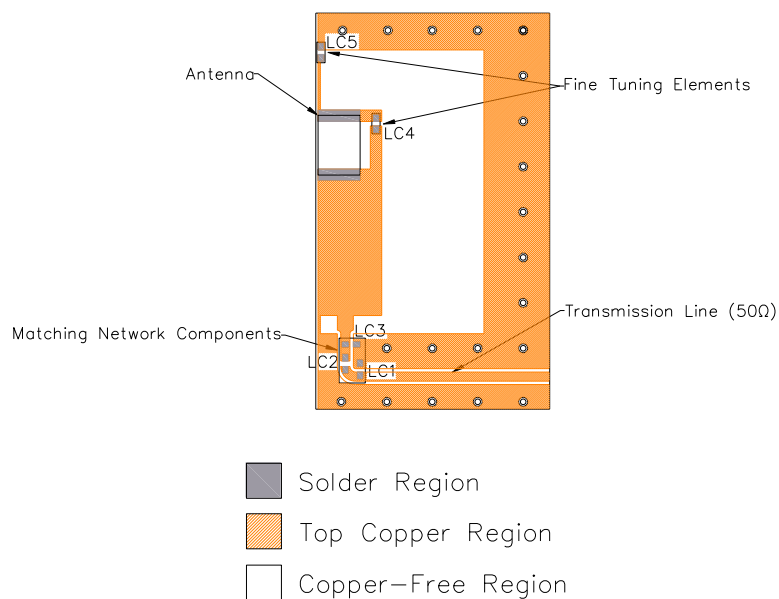
-  Solder Region
-  Top Copper Region
-  Bottom Copper Region
-  Copper-Free Region

Layout dimensions for antenna integration (mm)

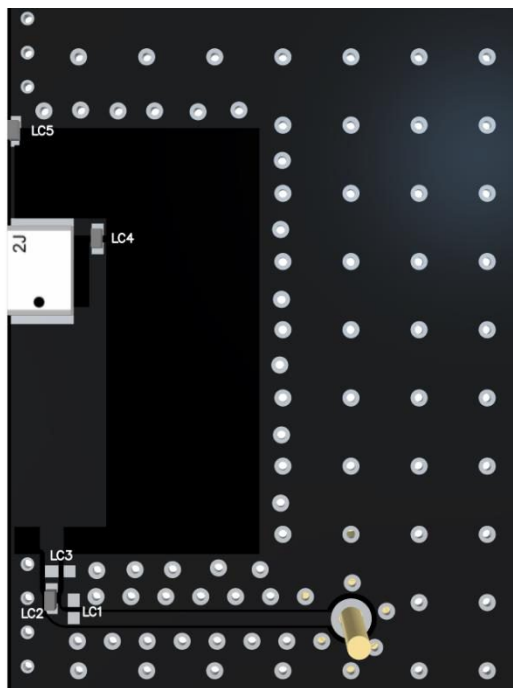
5. Matching Components



Matching Network Schematic



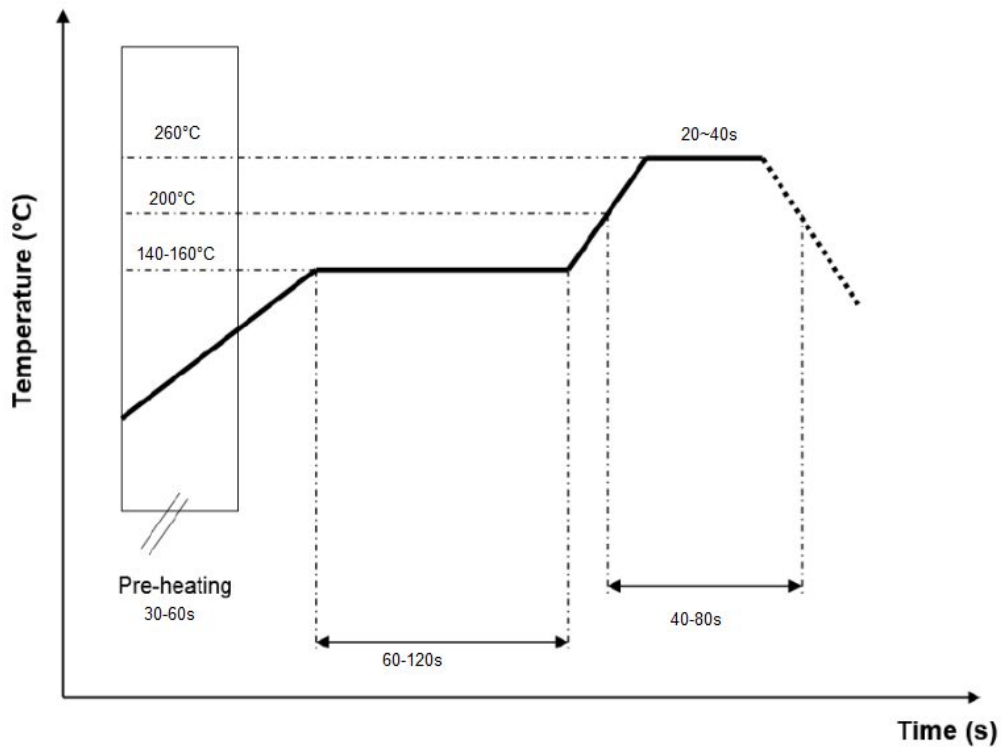
Matching network drawing ($LC1 = \text{OPEN}$, $LC2 = 0\Omega$, $LC3 = \text{OPEN}$, $LC4 = 6.8 \text{ pF} \pm 0.25 \text{ pF}$, $LC5 = 6.8 \text{ pF} \pm 0.25 \text{ pF}$)



3D View of matching components and recommended values

Matching network drawing (LC1 = OPEN, LC2=0 Ω , LC3=OPEN, LC4=6.8 pF $\pm$ 0.25pF, LC5=6.8 pF $\pm$ 0.25pF)

REFLOW TEMPERATURE PROFILE



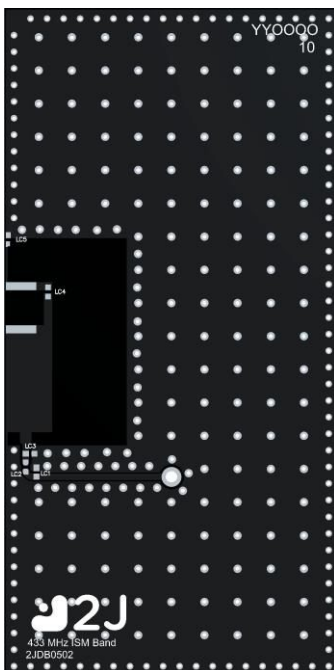
6. Evaluation Board

80mm x 40mm

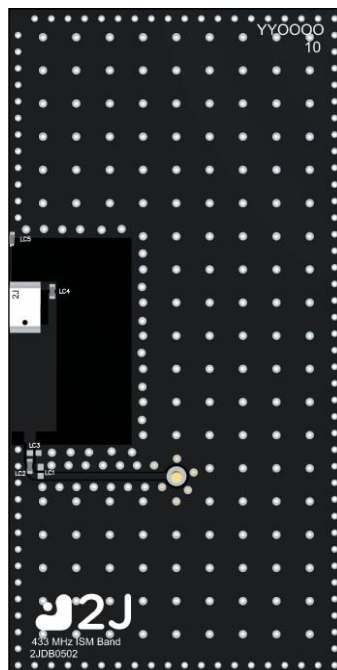
80mm x 40mm

80mm x 40mm

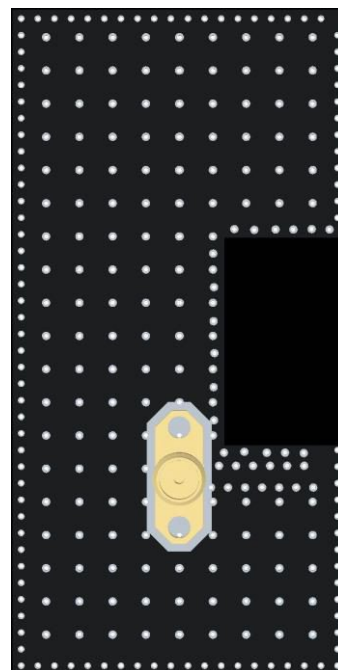
80mm x 11mm
(PCB: 0.8mm, Antenna: 0.7mm,
Connector: 9.5mm)



Front View without Antenna



Front View with Antenna

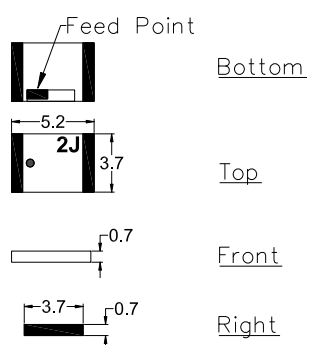


Back View



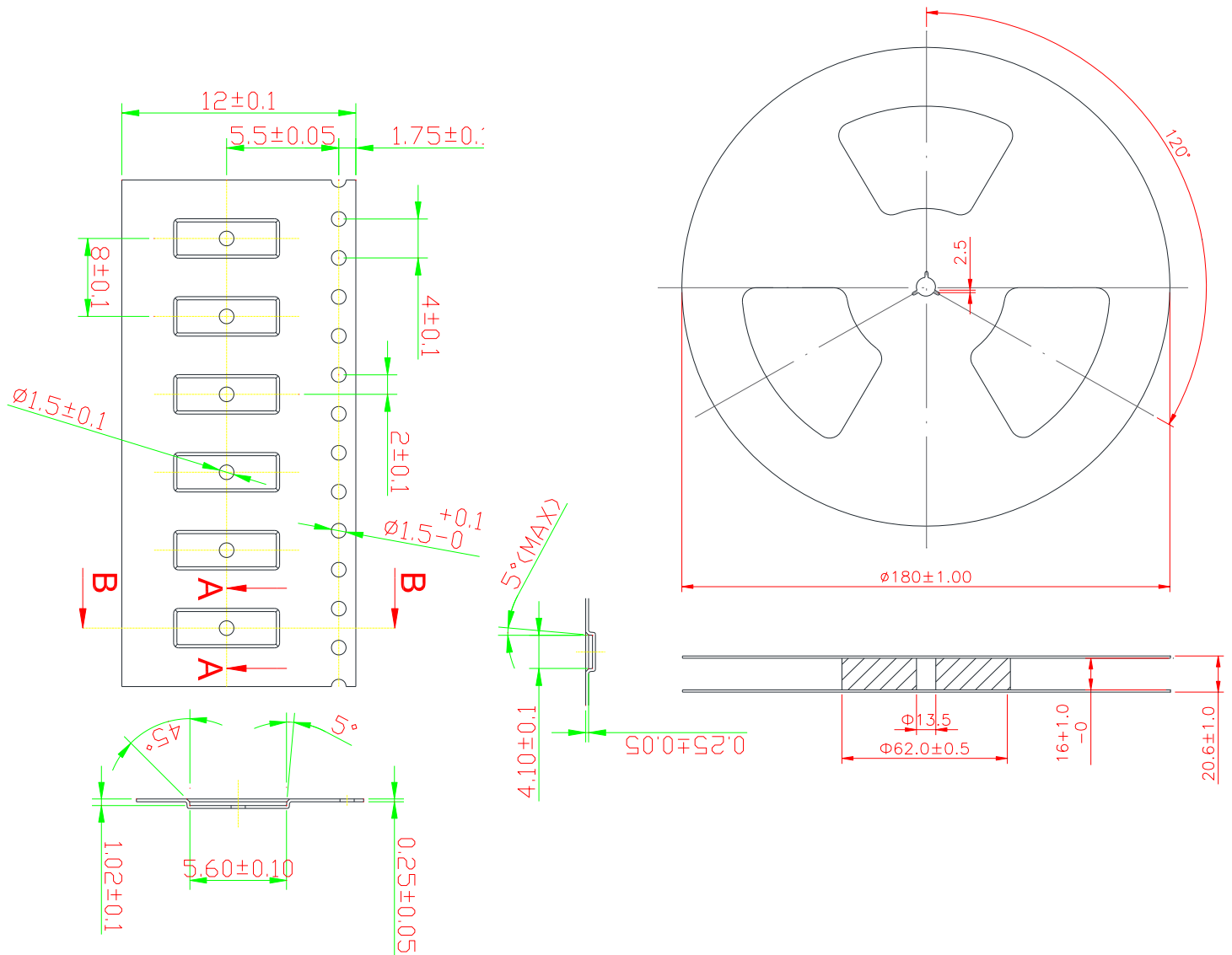
Side View

7. Antenna drawings



Dimensions for ceramic antenna 5.2 x 3.7 x 0.7 mm

8. Tape and Reel Information



Tape and Reel Specifications

9. Packaging

PACKAGING SPECIFICATION

Antenna	2JL02
REEL	
Max Quantity per Reel	2000
REEL BOX	
Reels per Box	1
Max Quantity per Box	2000
Reel Box Dimensions (cm)	35.5 x 33.5 x 4
Reel Box Weight (Kg)	0.68
CARTON	
Reels per Carton	4
Max Quantity per Carton	8,000
Reel Carton Dimensions (cm)	38.5 x 36.5 x 21
Reel Carton Weight (Kg)	2.72

Storage Conditions:

(a) At warehouse:

The temperature should be within 0 ~ 30°C and humidity should be less than 60% RH.

The product should be used within 1 year from the time of delivery.

(b) On board:

The temperature should be within -40 ~ 85°C and humidity should be less than 85% RH

10. Antenna Images

