

2JL01

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 x 3 x 0.5 mm



1. Antenna and electrical specifications

Parameters	433 MHz ISM Antenna
Standards	ISM, LoRa
Band (MHz)	433
Frequency (MHz)	433-435
Return Loss (dB)	~-15.6
VSWR	~1.5:1
Peak Gain (dBi)	~-4.7
Average Gain (dB)	~-8.6
Impedance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Omni-Directional
Max. Input Power (W)	25

Antenna Measurement Conditions:

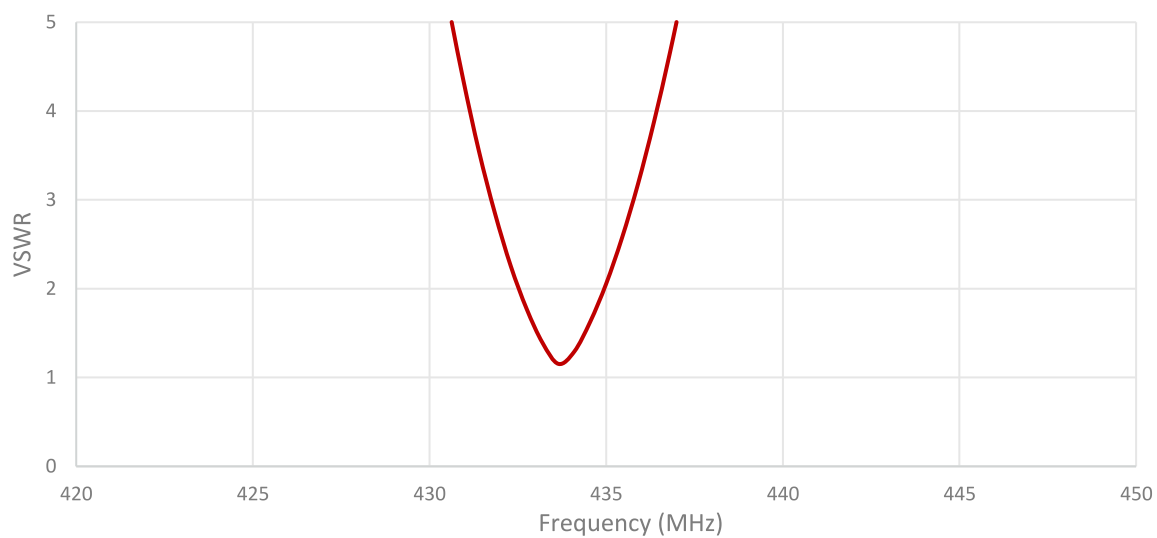
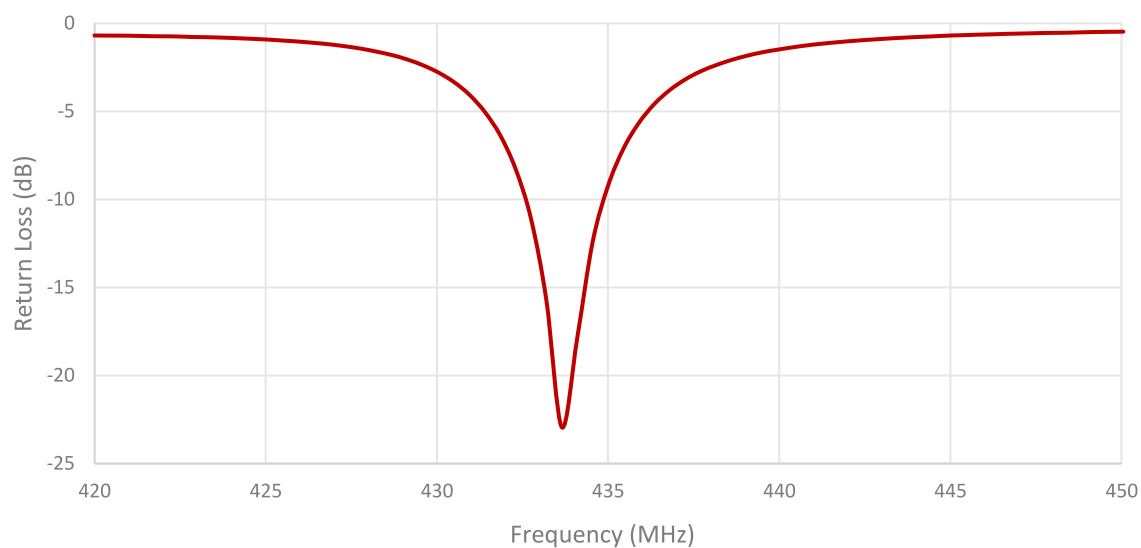
Mounted on ground plane of 80 x 40 mm

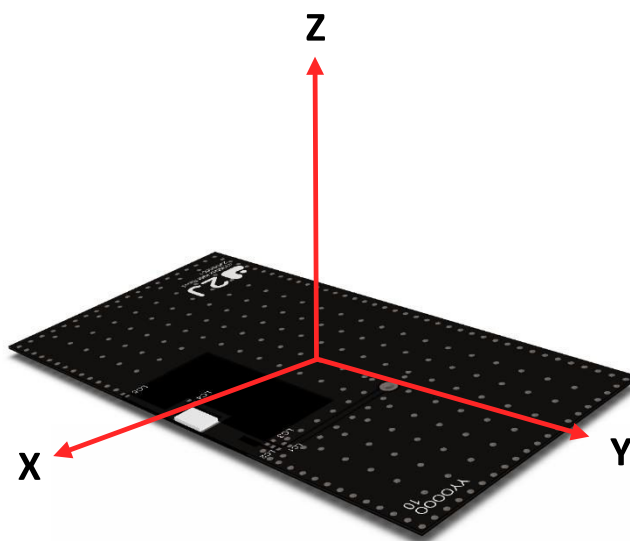
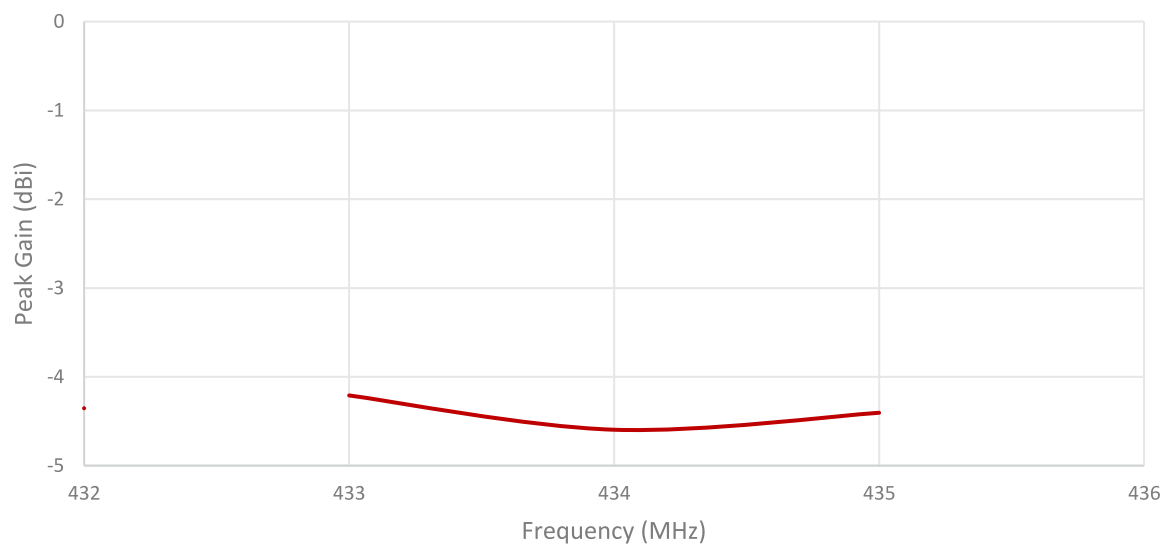
Measured in Certified CTIA 3D Anechoic Chamber

2. Mechanical and environmental specifications

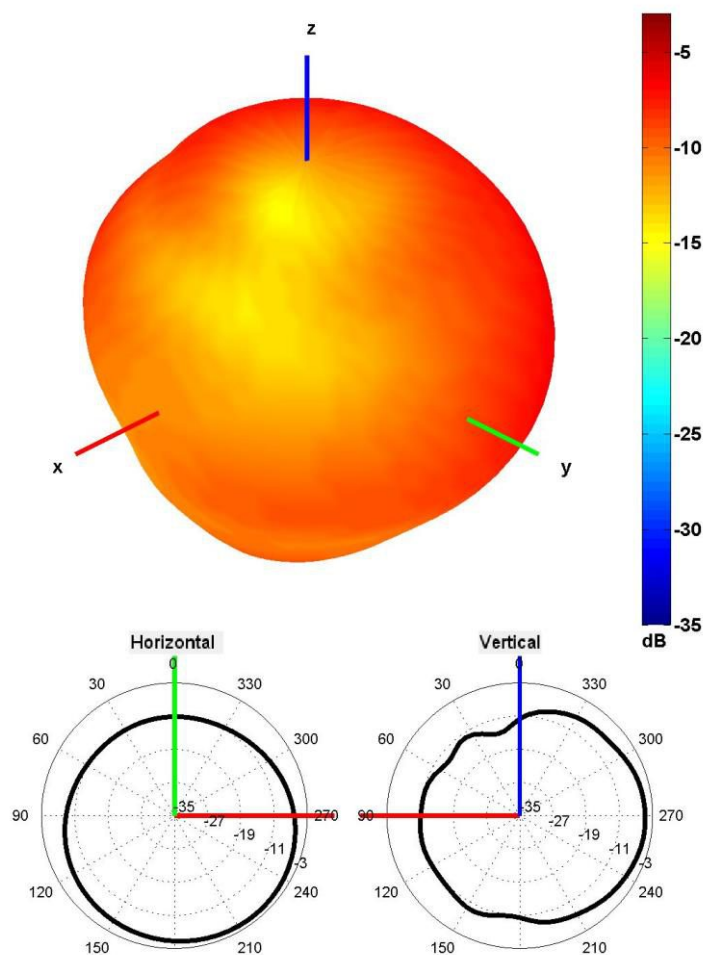
Specifications	2JL01
Mounting Type	Surface Mount
Dimensions (mm)	5 x 3 x 0.5
Material	Ceramic
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS

3. Antenna parameters



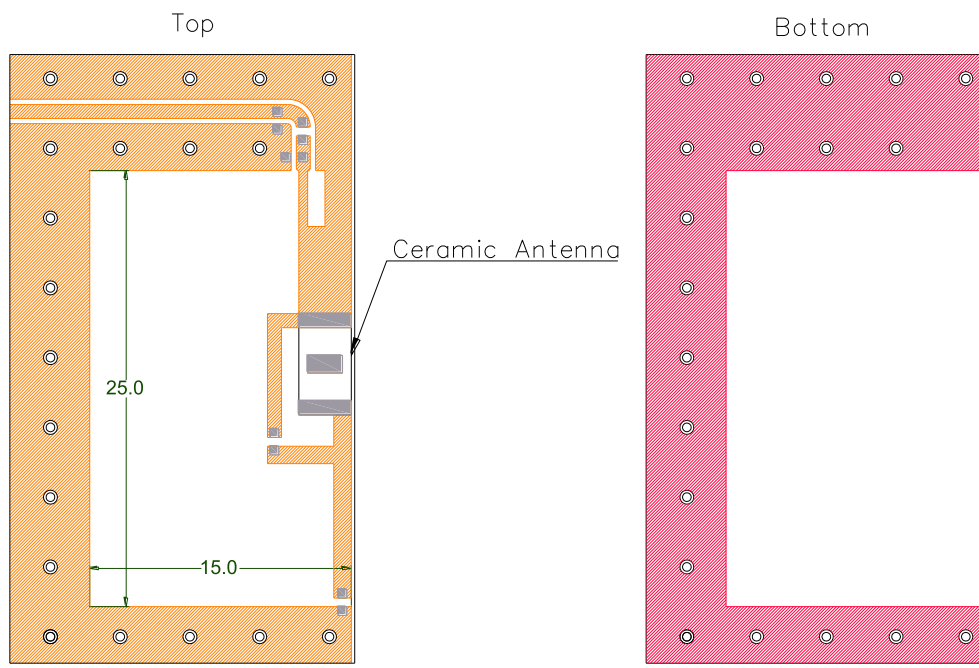


Radiation pattern reference



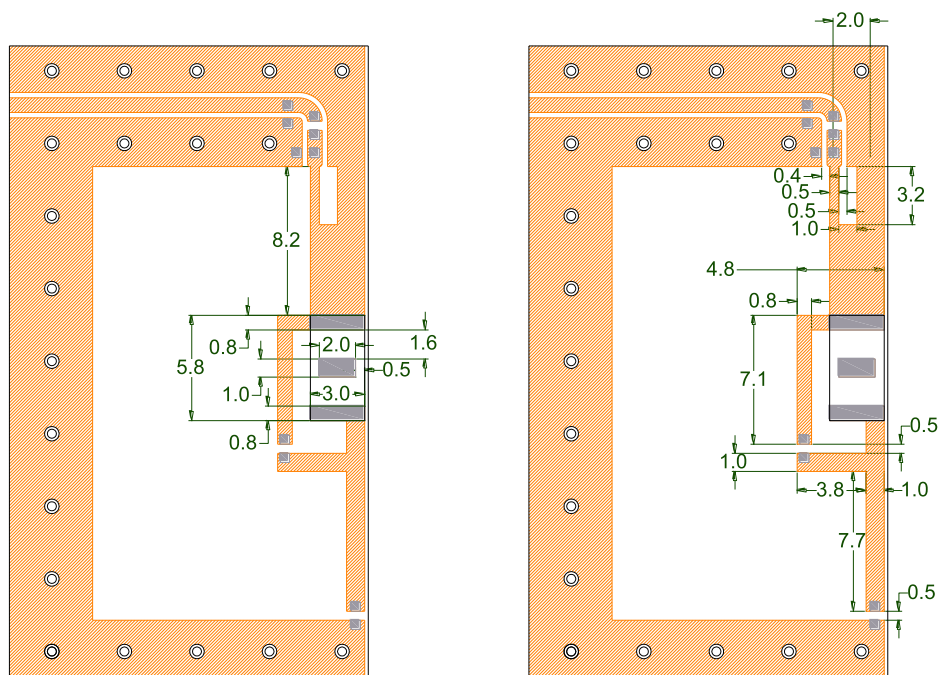
433 MHz Radiation pattern

4. PCB Layout



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

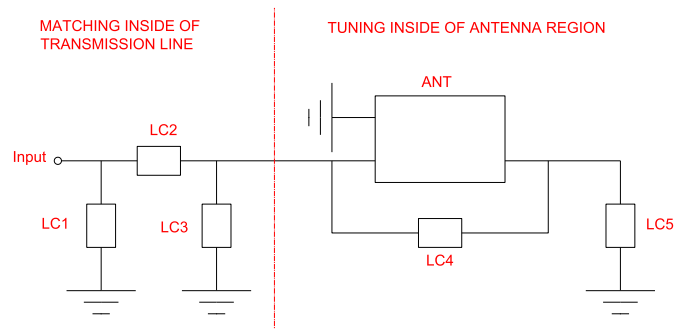
Minimum area required for antenna integration (25mm × 15mm)



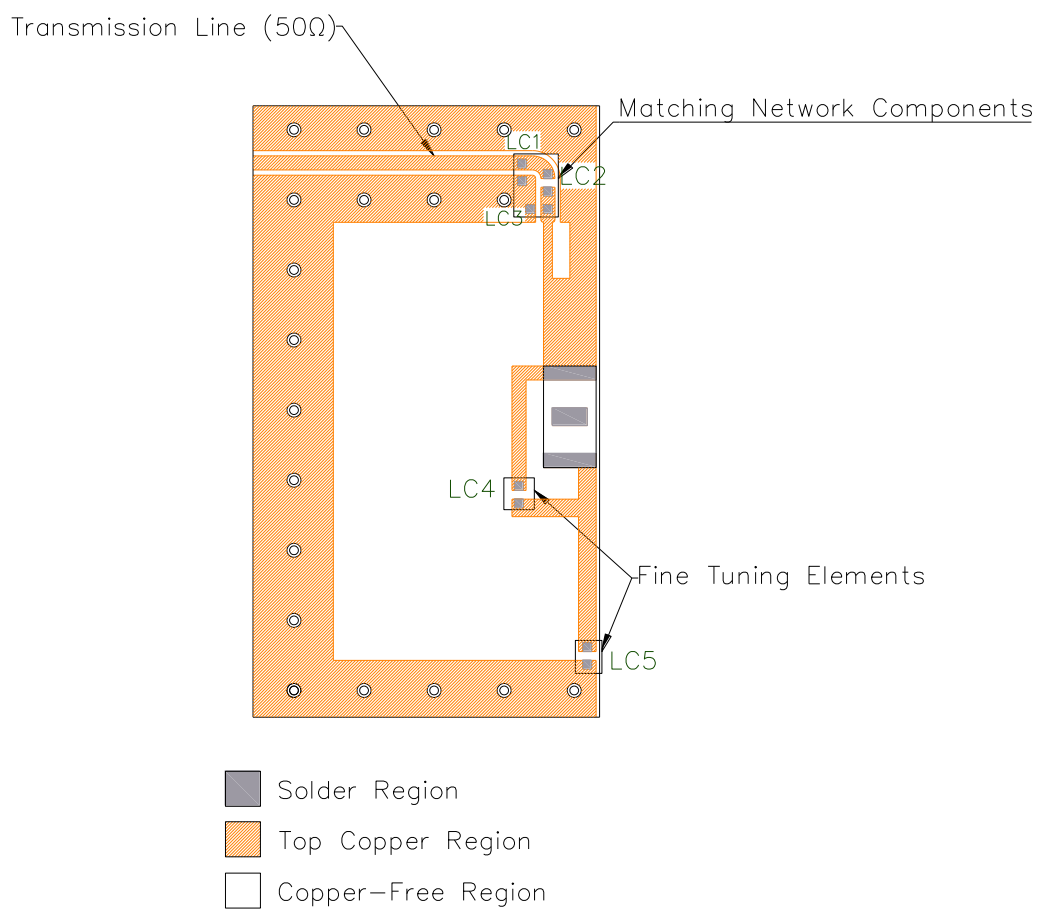
- Solder Region
- Top Copper Region
- Copper-Free Region

Layout dimensions for antenna integration (mm)

5. Matching Components



Matching Network Schematic

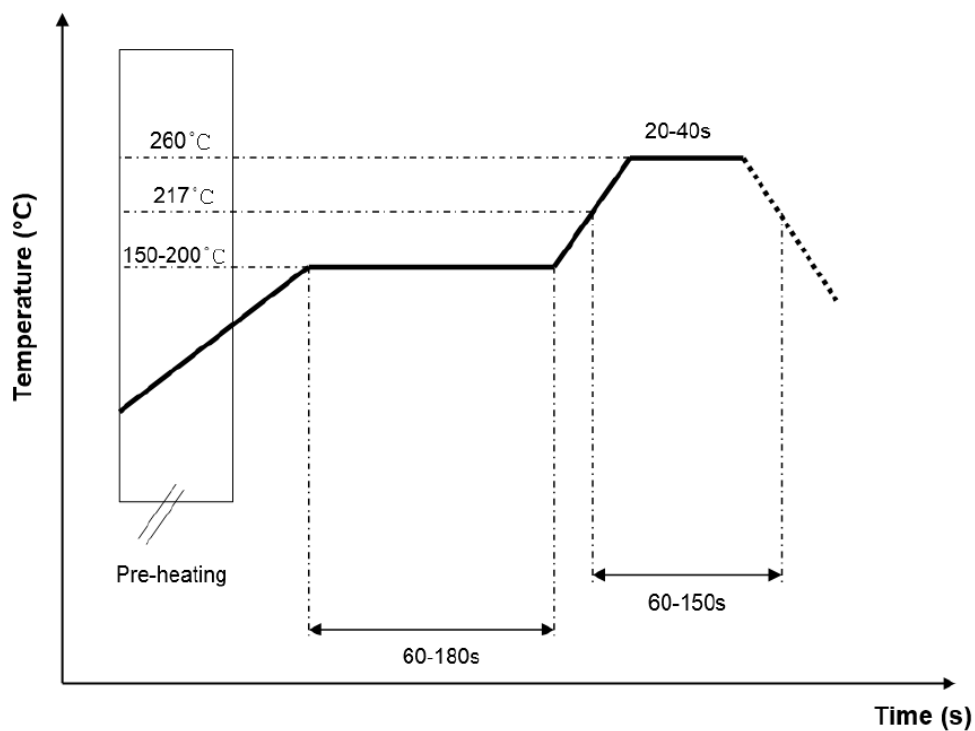


Matching network drawing (LC1=OPEN, LC2=0 Ohm, LC3=3.3pF, LC4=6.8pF±0.05pF, LC5=5.6pF±0.05pF)



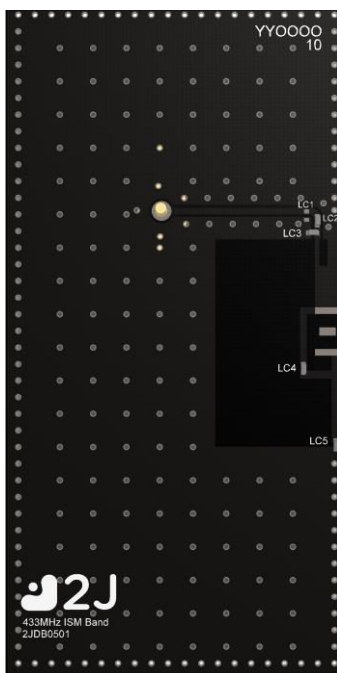
Matching network drawing (LC1=OPEN, LC2=0 Ohm, LC3=3.3pF, LC4=6.8pF±0.05pF, LC5=5.6pF±0.05pF)

REFLOW TEMPERATURE PROFILE



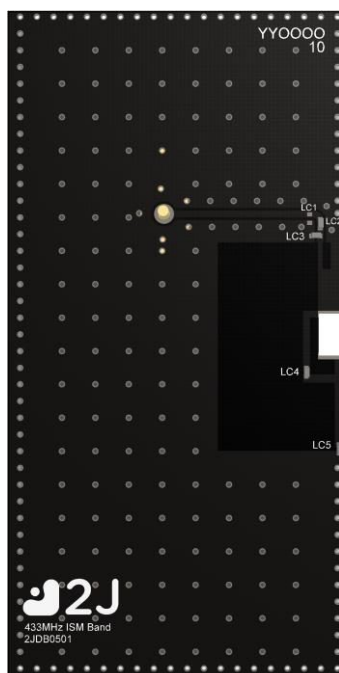
6. Evaluation Board

80mm x 40mm



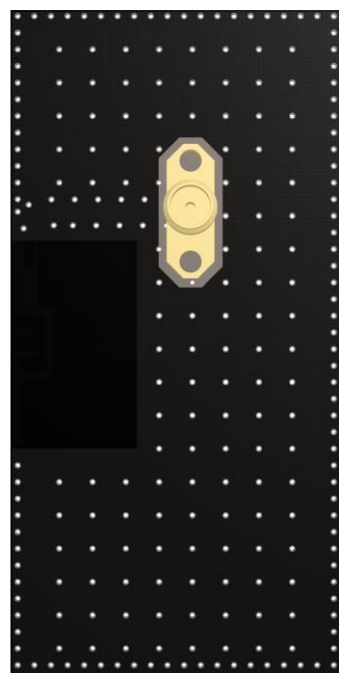
Front View without Antenna

80mm x 40mm



Front View with Antenna

80mm x 40mm



Back View

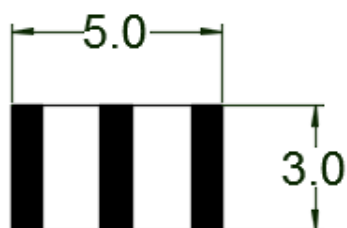
80mm x 10.8mm
(PCB: 0.8mm, Antenna: 0.5mm,
Connector: 9.5mm)



Side View

7. Antenna drawings

Bottom



Top

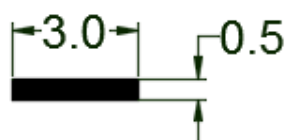


Feed Point

Front

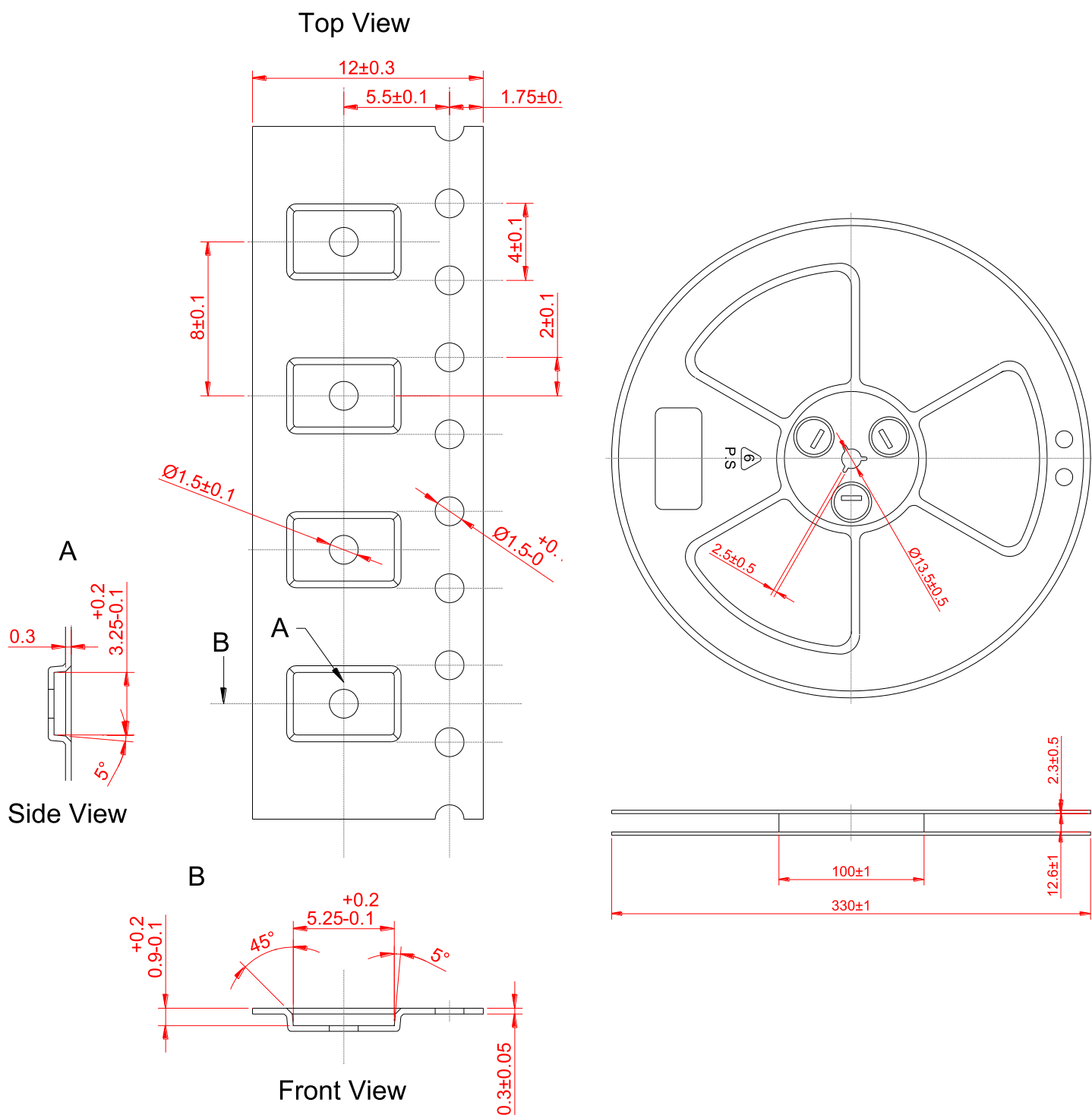


Right



Dimensions for ceramic antenna 5 x 3 x 0.5 mm

8. Tape and Reel Information



Tape and Reel Specifications

9. Packaging

PACKAGING SPECIFICATION

Antenna	2JL01
REEL	
Max Quantity per Reel	6000
REEL BOX	
Reels per Box	2
Max Quantity per Box	12000
Reel Box Dimensions (cm)	18 x 18 x 3.6
Reel Box Weight (Kg)	0.7
CARTON	
Reels per Carton	2
Max Quantity per Carton	120,000
Reel Carton Dimensions (cm)	40.5 x 24.7 x 22.5
Reel Carton Weight (Kg)	7

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

