antenna conceptor

Product Datasheet

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
Impendance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Omni-Directional
Max. Input Power (W)	25

Antenna Measurement Conditions:

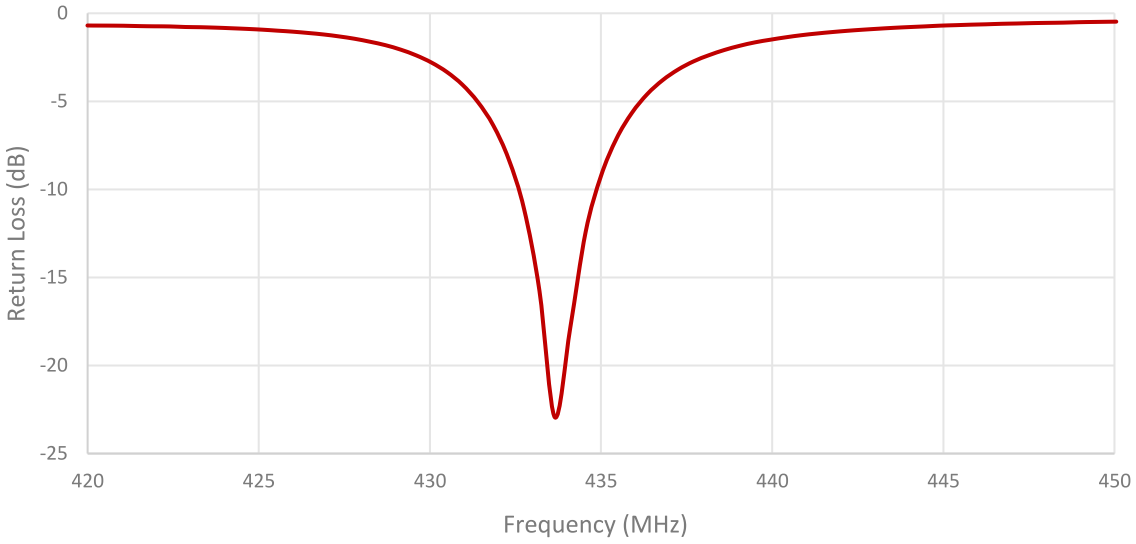
Mounted on ground plane of 80 x 40 mm

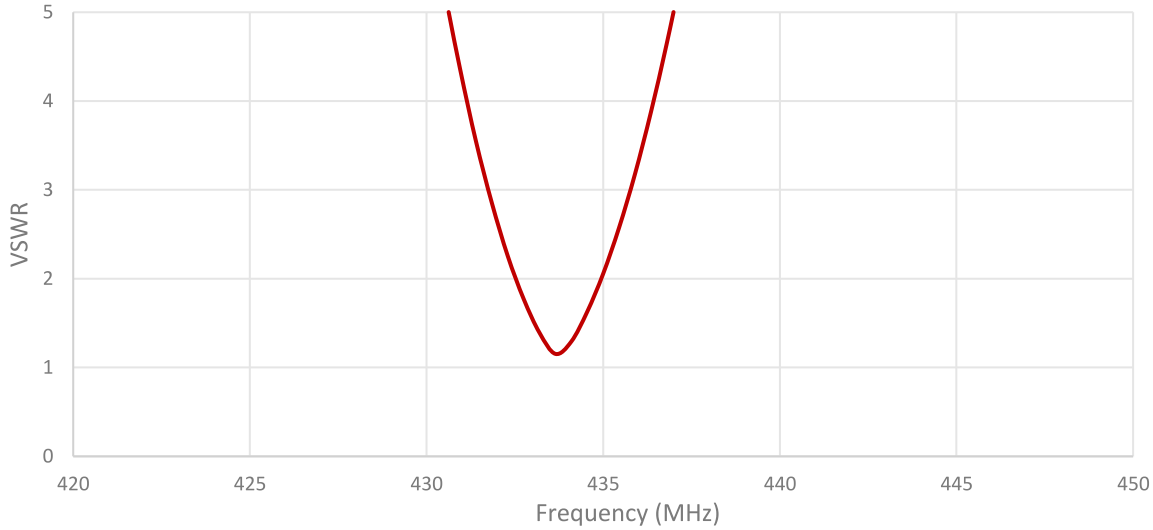
Measured in Certified CTIA 3D Anechoic Chamber

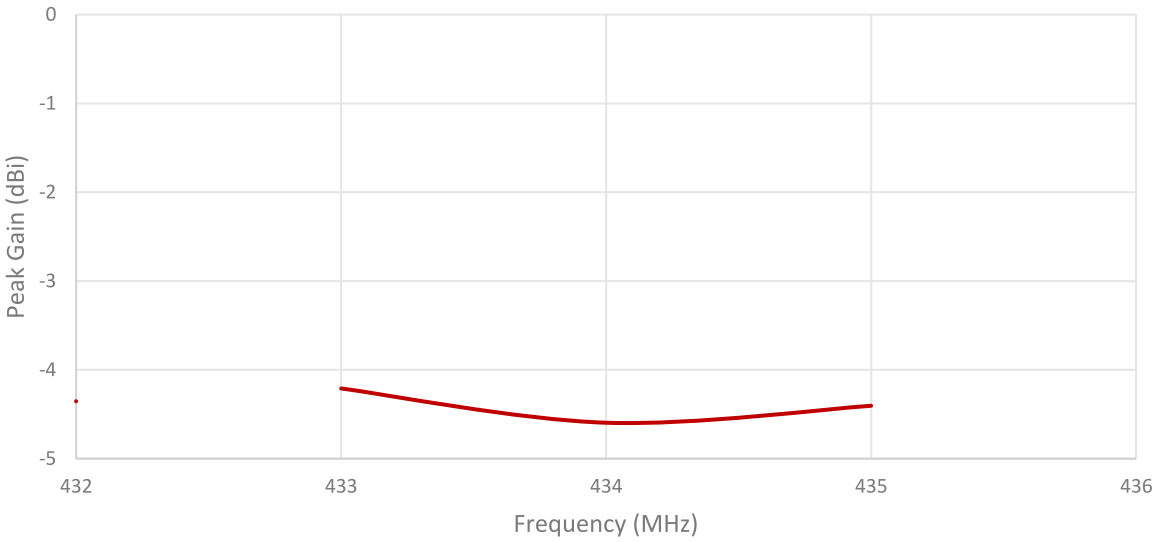
2. Mechanical and environmental specifications

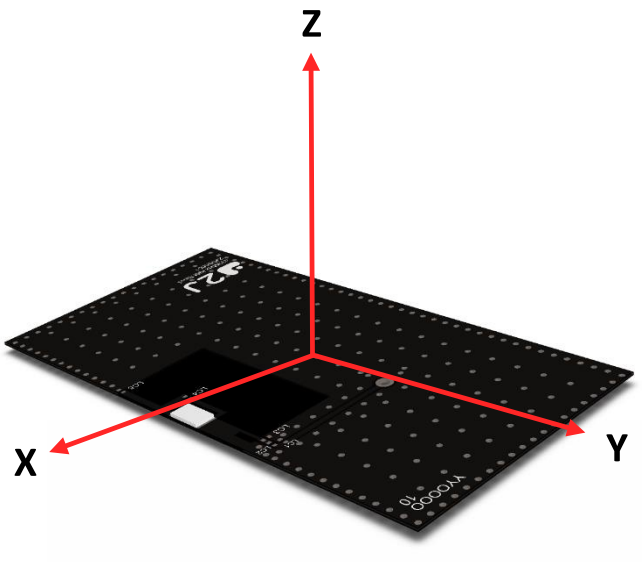
Specifications	2JL01
Mounting Type	Surface Mount
Dimensions (mm)	5 x 3 x 0.5
Material	Ceramic
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS

3. Antenna parameters

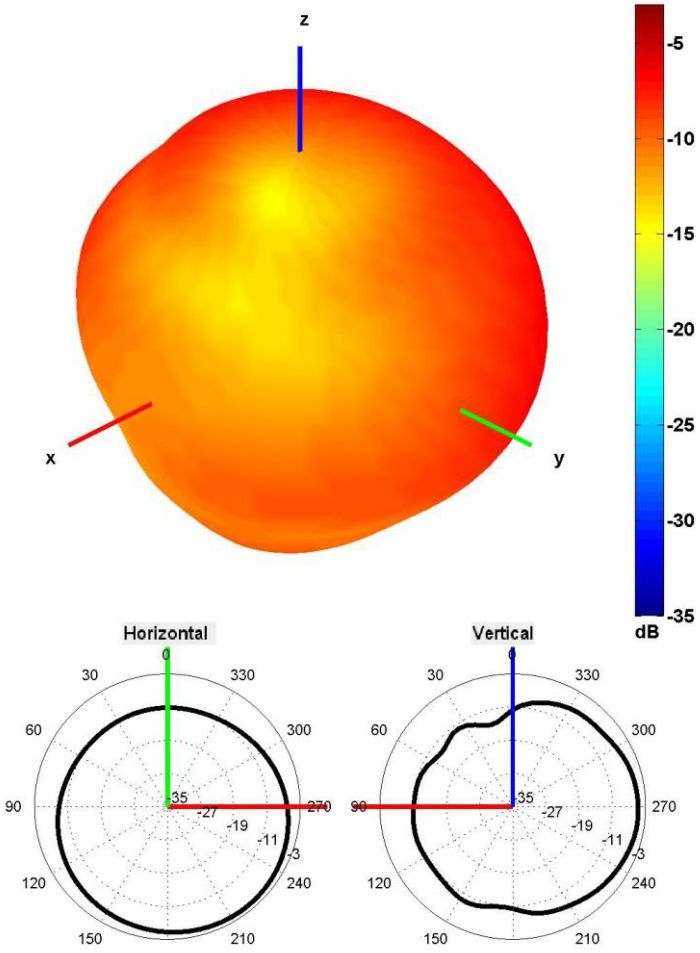






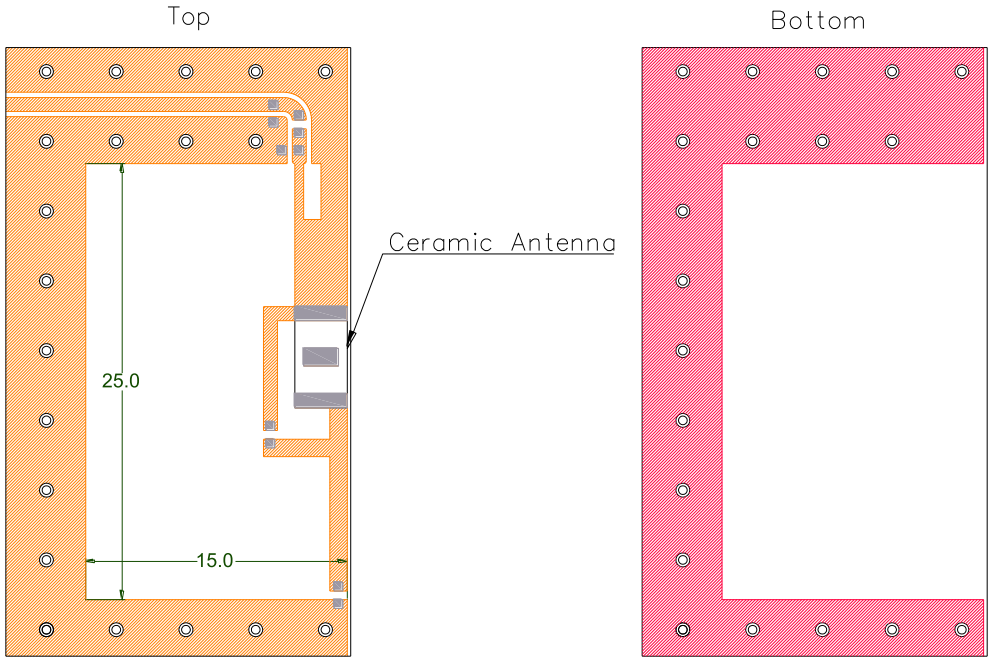


Radiation pattern reference



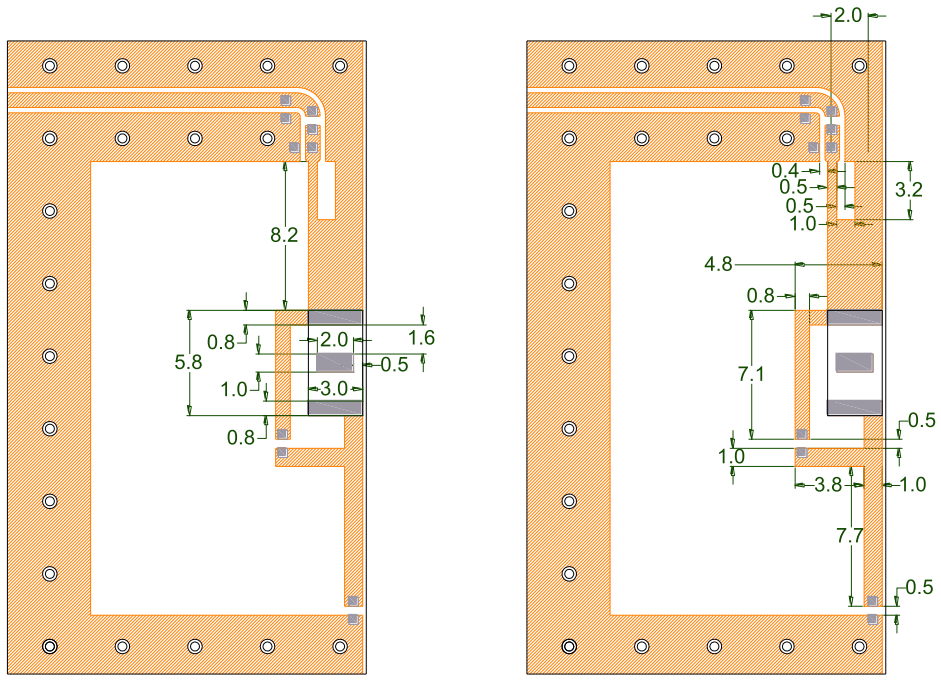
433 MHz Radiation pattern

4. PCB Layout



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

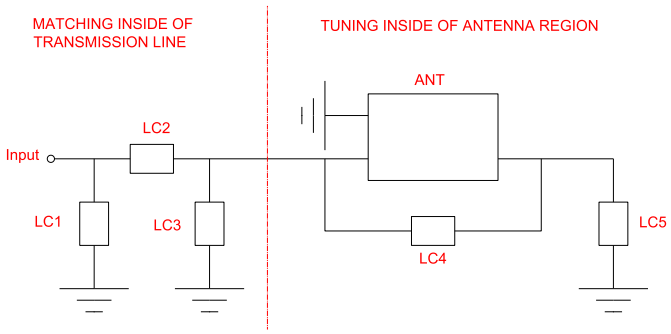
Minimum area required for antenna integration (25mm × 15mm)



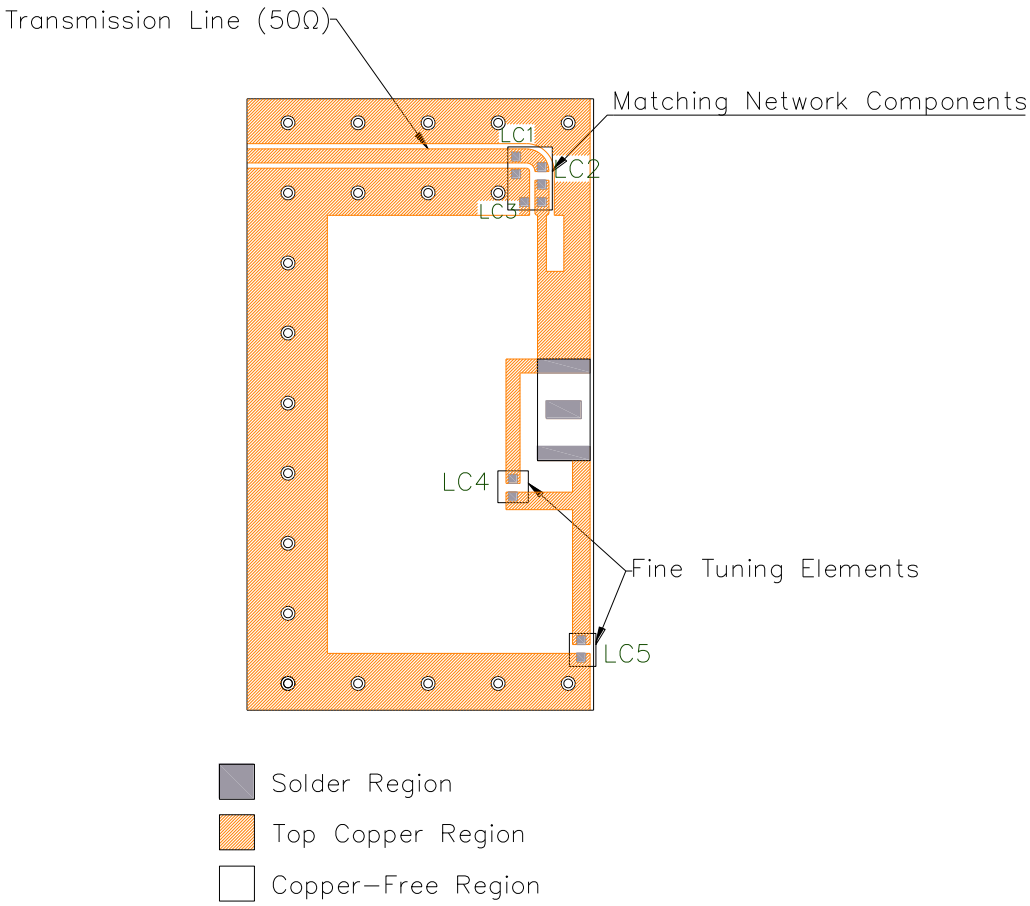
Solder Region
Top Copper Region
Copper-Free Region

Layout dimensions for antenna integration (mm)

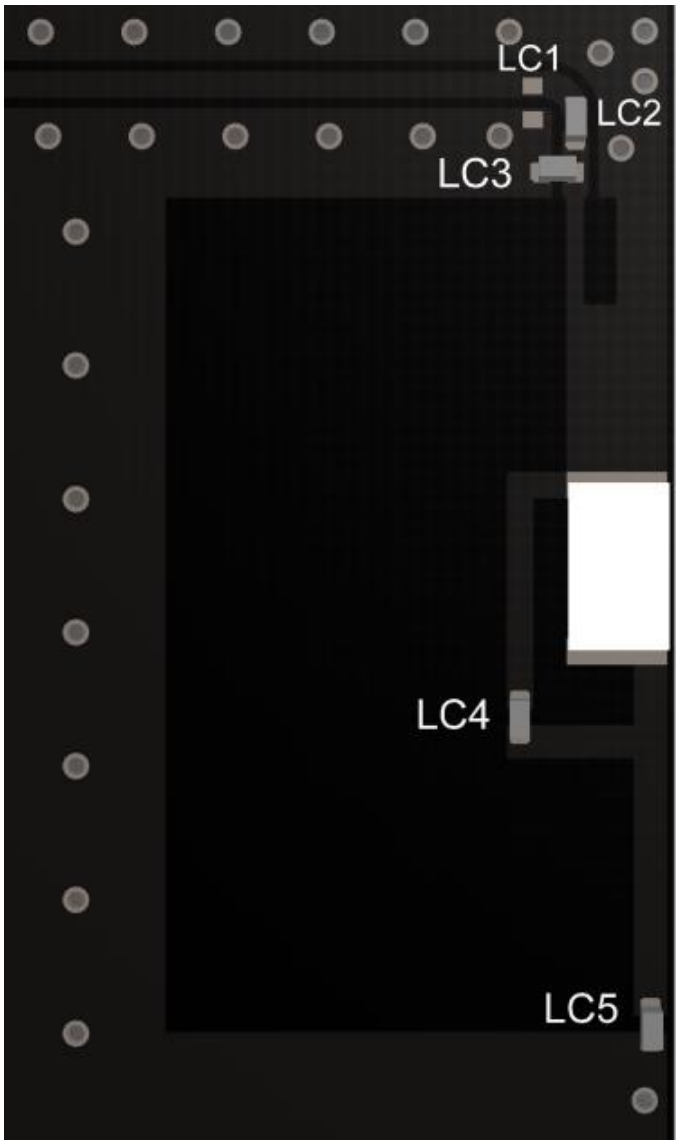
5. Matching Components



Matching Network Schematic

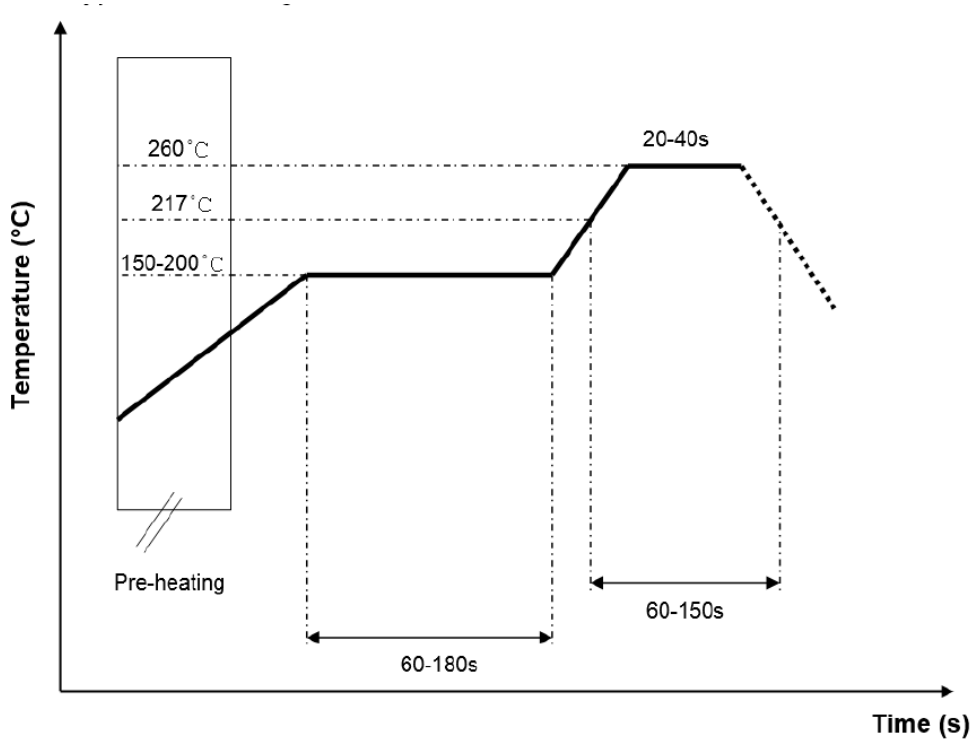


Matching network drawing (LC1=OPEN, LC2=0 Ohm, LC3=3.3pF, LC4=6.8pF±0.05pF,LC5=5.6pF±0.05pF)



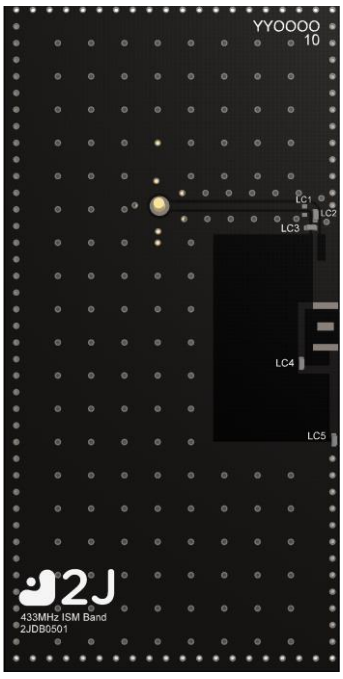
Matching network drawing (LC1=OPEN, LC2=0 Ohm, LC3=3.3pF, LC4=6.8pF±0.05pF,LC5=5.6pF±0.05pF)

REFLOW TEMPERATURE PROFILE



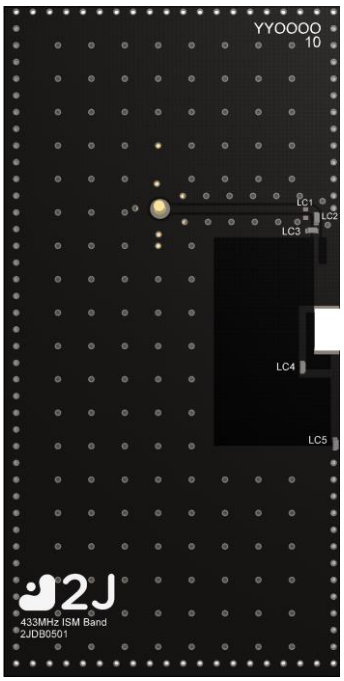
6. Evaluation Board

80mm x 40mm



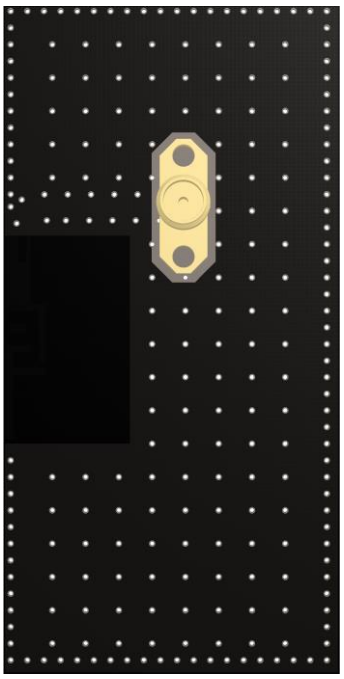
Front View without Antenna

80mm x 40mm



Front View with Antenna

80mm x 40mm



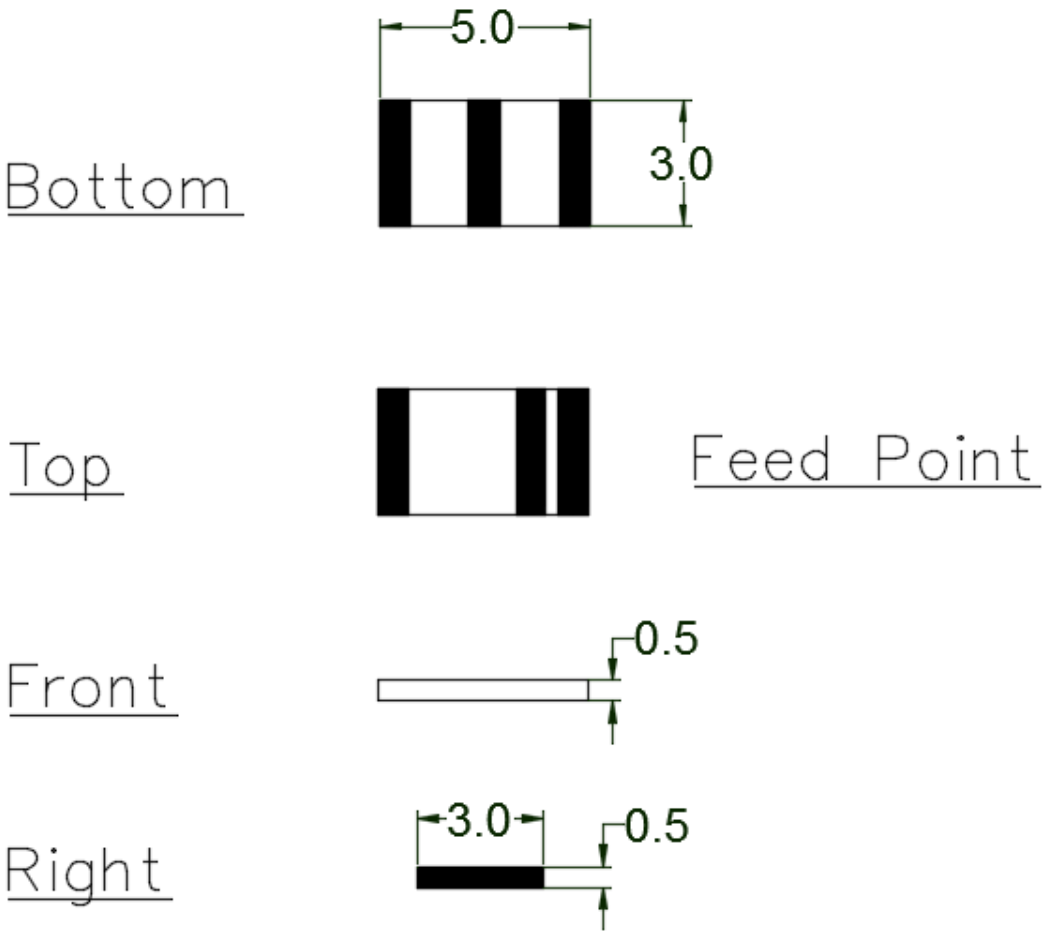
Back View

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



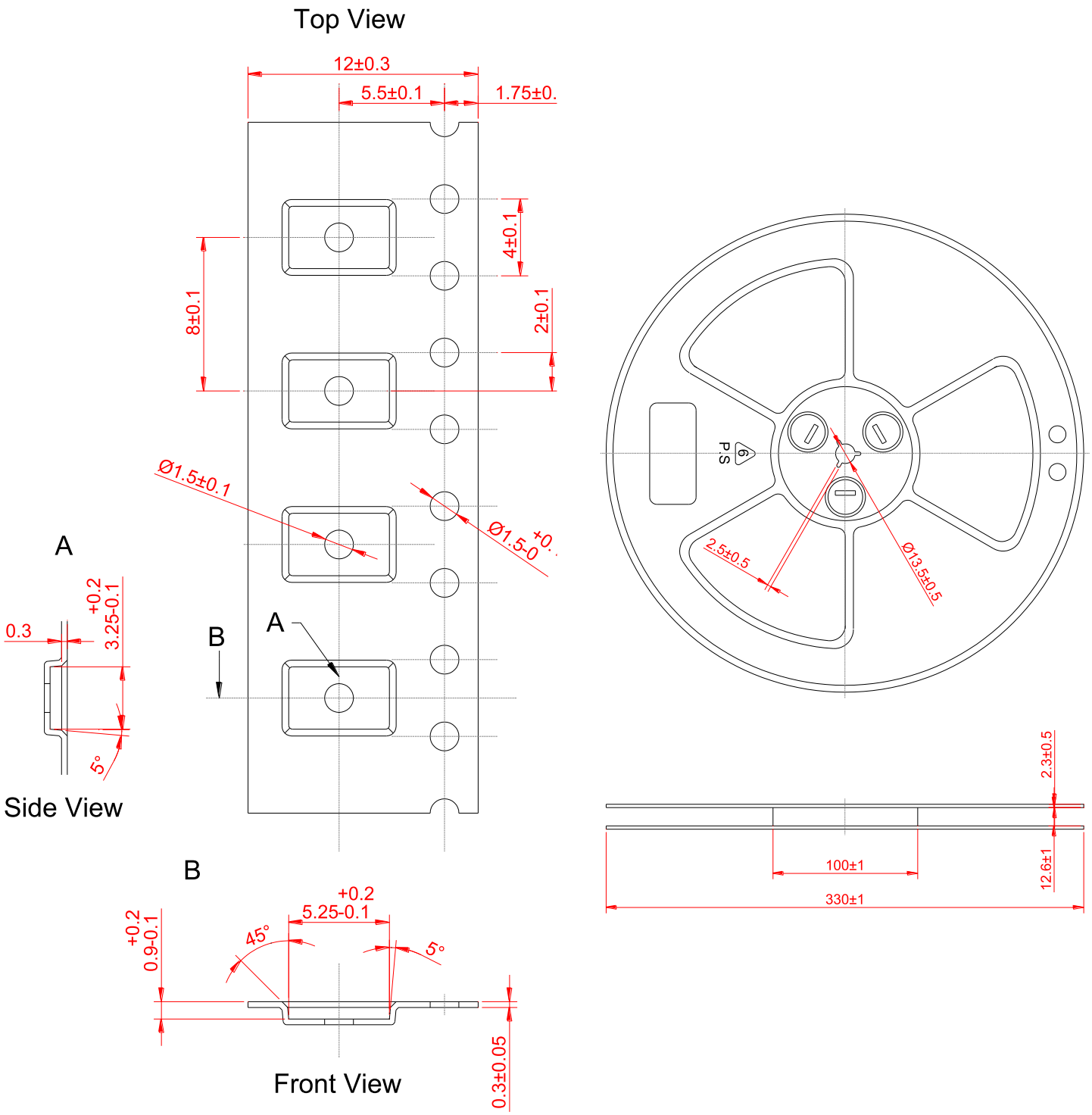
Side View

7. Antenna drawings



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 ºC to +85 ºC
- Oxidizable material. Store for 12 months in vacuum sealed bag.
- Repack material after use by re-sealing package.

10. Antenna Images

