antenna conceptor

Product Datasheet

2JL20

915 MHz ISM Surface Mount

Key Features

915 MHz ISM
- 902-928 MHz
Surface Mount
Easy to Integrate
Compact Size
Ceramic Material
Ground Plane Dependent
Dimensions 10 x 3.2 x 0.5 mm



1. Antenna and electrical specifications

Parameters	915 MHz ISM Antenna
Standards	ZigBee, ISM, SigFox, LoRa
Band (MHz)	915
Frequency (MHz)	902-928
Return Loss (dB)	~-8.8
VSWR	~3.1:1
Efficiency (%)	~58.3
Peak Gain (dBi)	~0.2
Average Gain (dB)	~-2.5
Impendance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Omni-Directional
Max. Input Power (W)	25

Antenna Measurement Conditions:

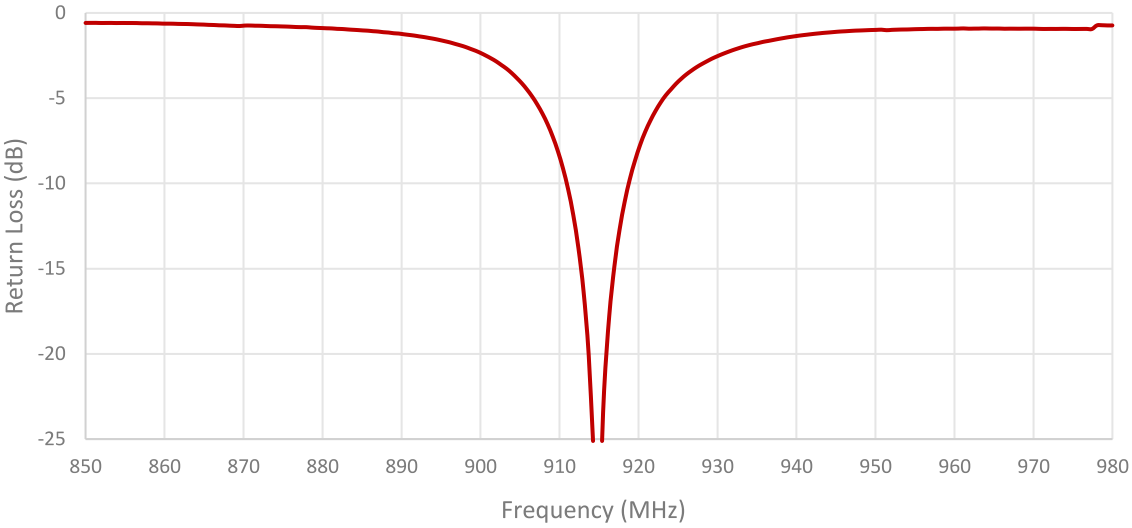
Mounted on ground plane of 80 x 40 mm

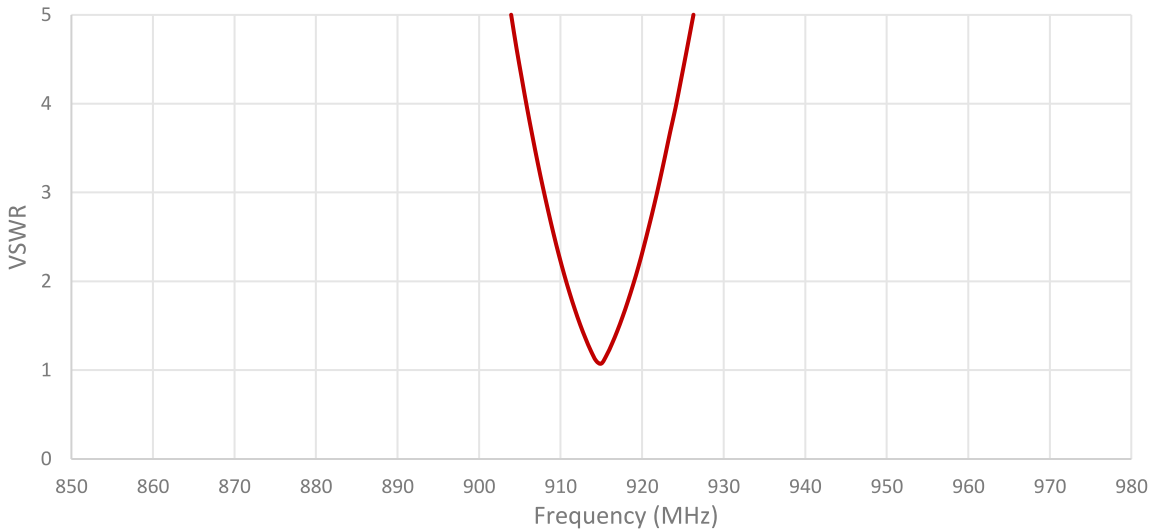
Measured in Certified CTIA 3D Anechoic Chamber

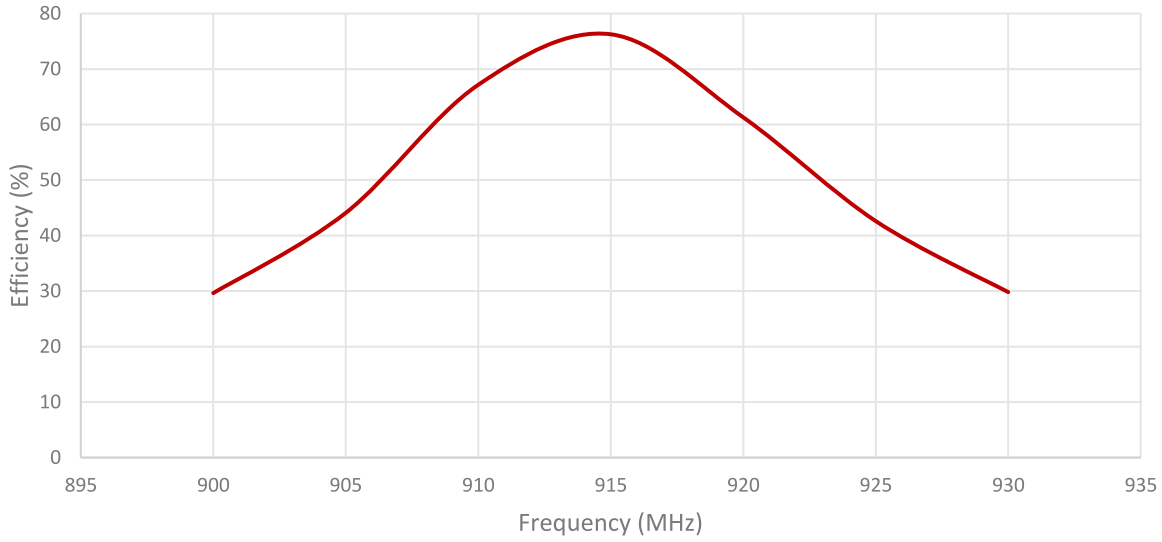
2. Mechanical and environmental specifications

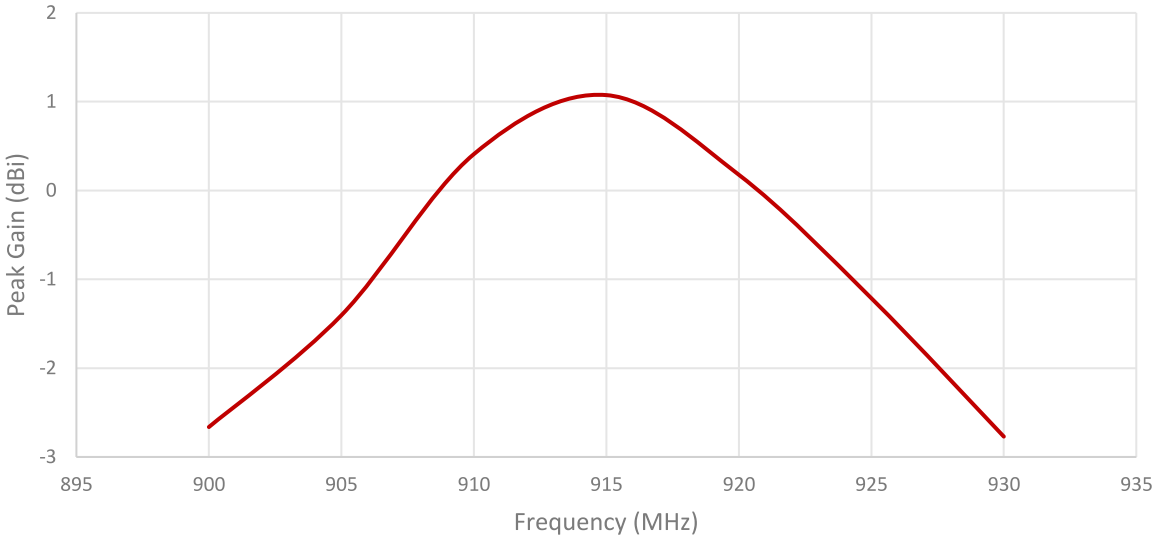
Specifications	2JL20
Mounting Type	Surface Mount
Dimensions (mm)	10 x 3.2 x 0.5
Material	Ceramic
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS

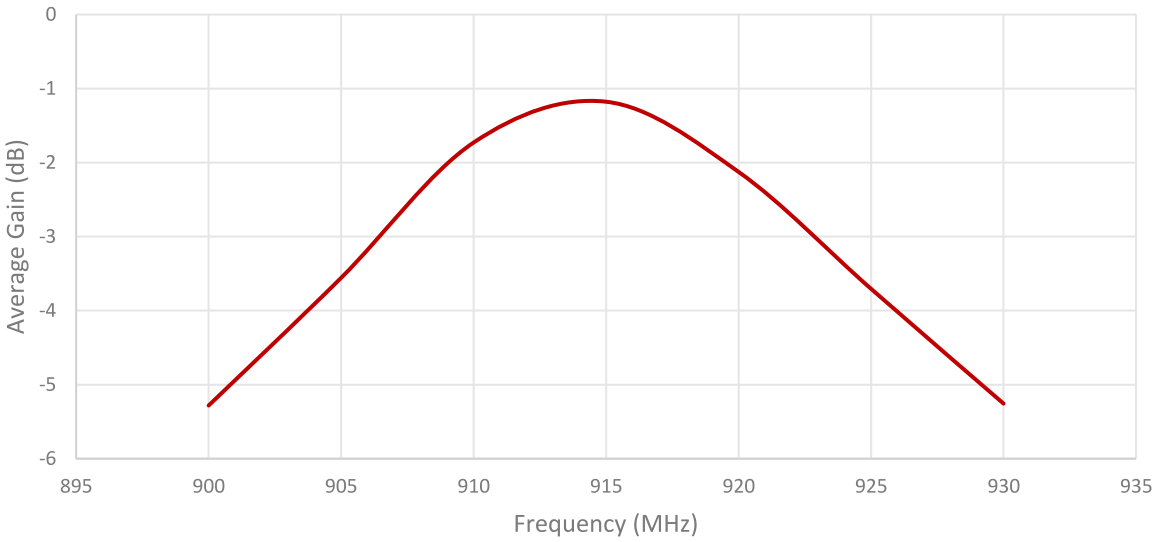
3. Antenna parameters

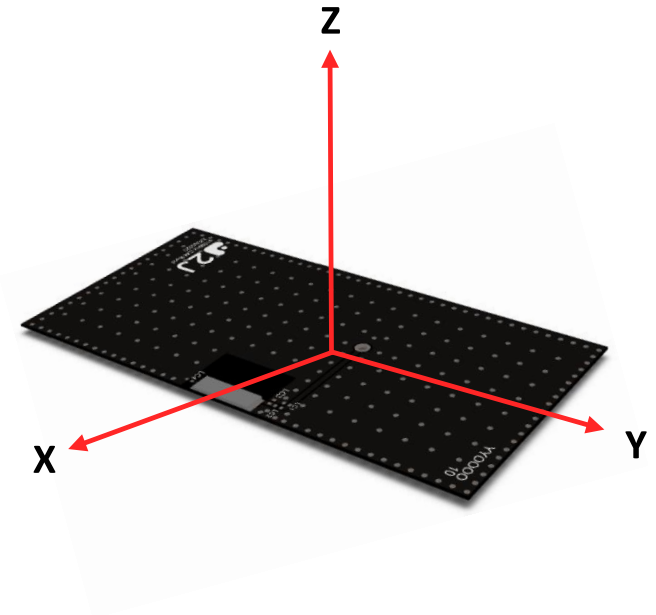




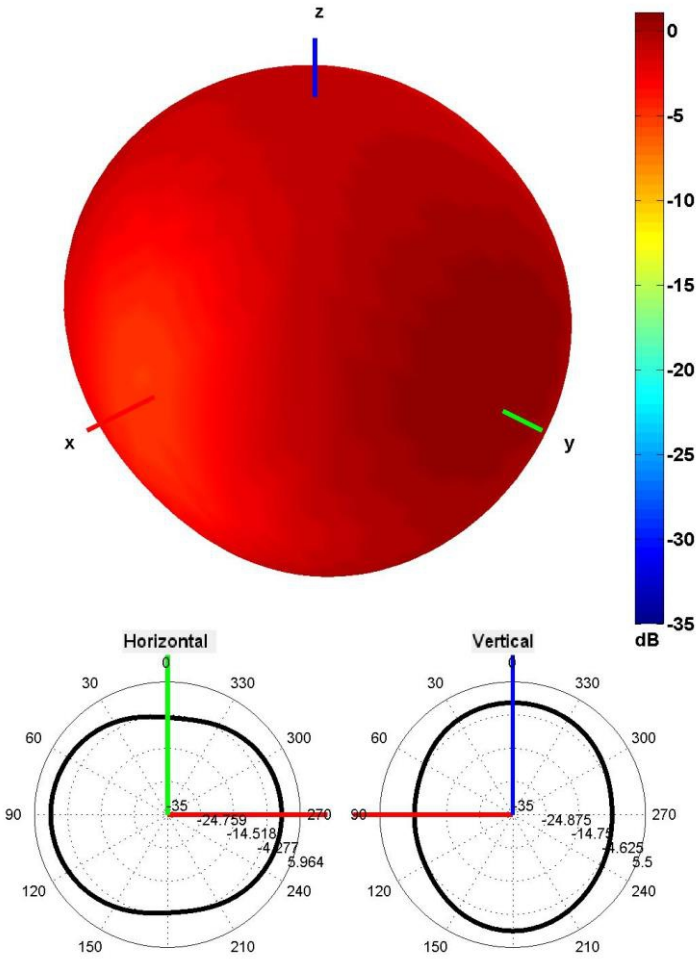

80
70
60
50
40
30
20
10
0
Efficiency (%)
895
900
905
910
915
920
925
930
935
Frequency (MHz)


2
1
0
-1
-2
-3
Peak Gain (dBi)
895
900
905
910
915
920
925
930
935
Frequency (MHz)



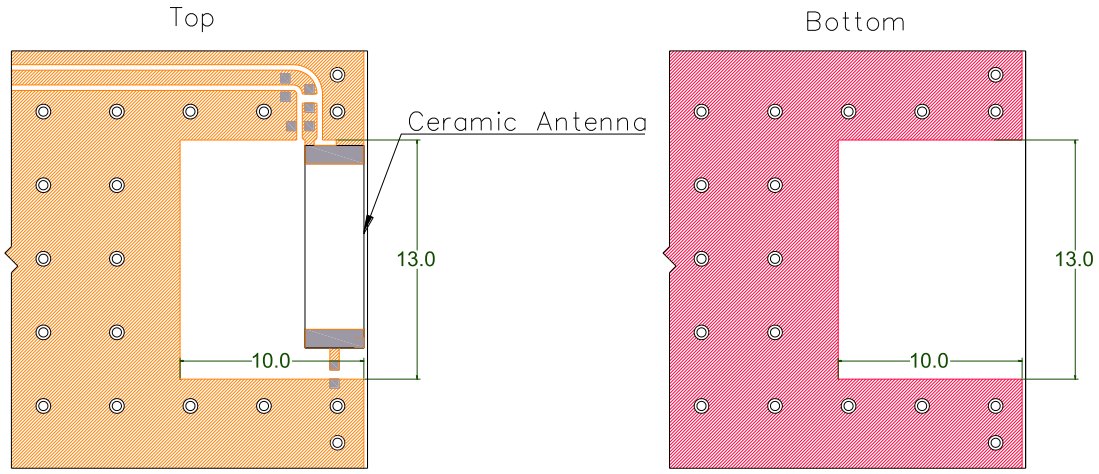


Radiation pattern reference



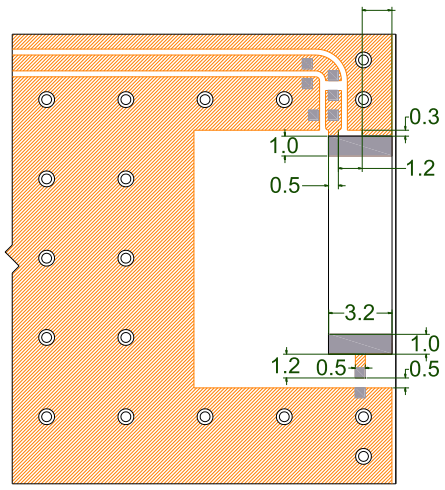
915 MHz Radiation pattern

4. PCB Layout



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

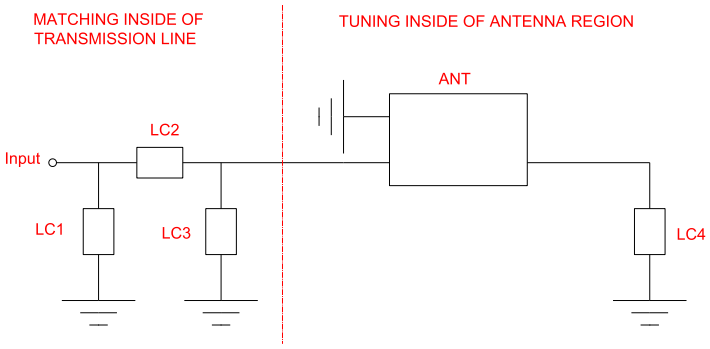
Minimum area required for antenna integration (10mm × 10mm)



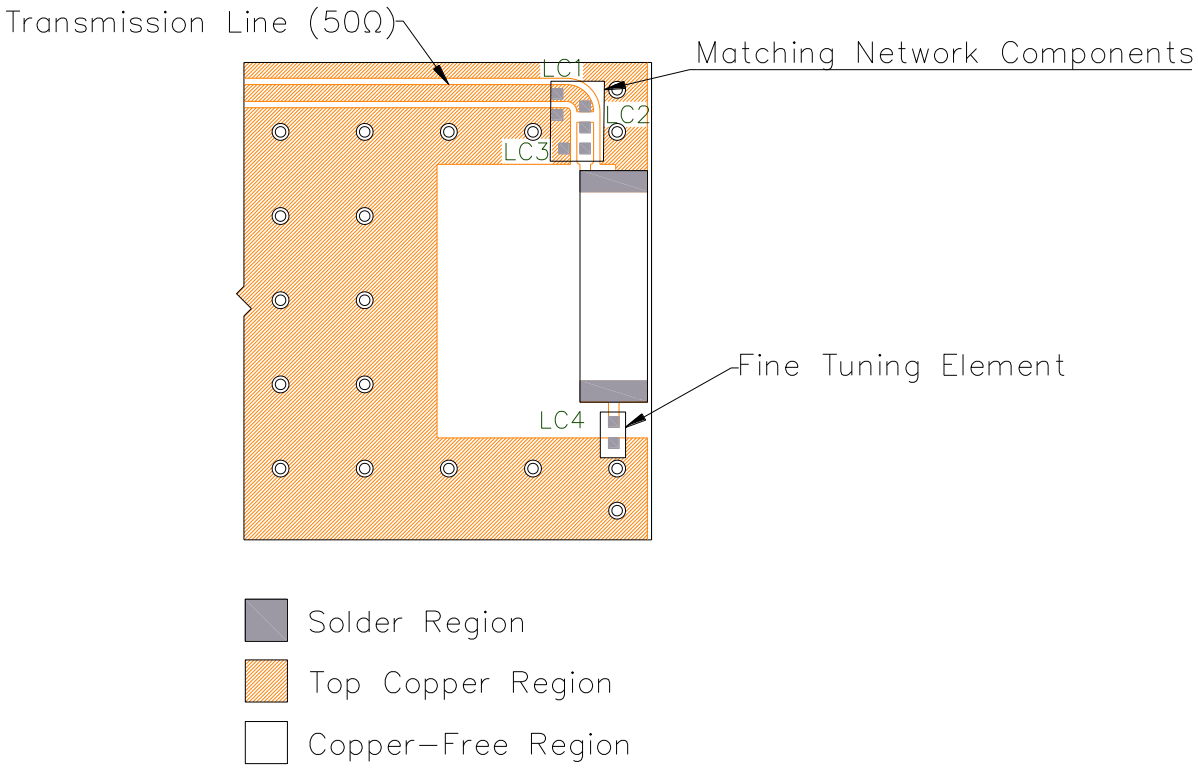
Solder Region
Top Copper Region
Copper-Free Region

Layout dimensions for antenna integration (mm)

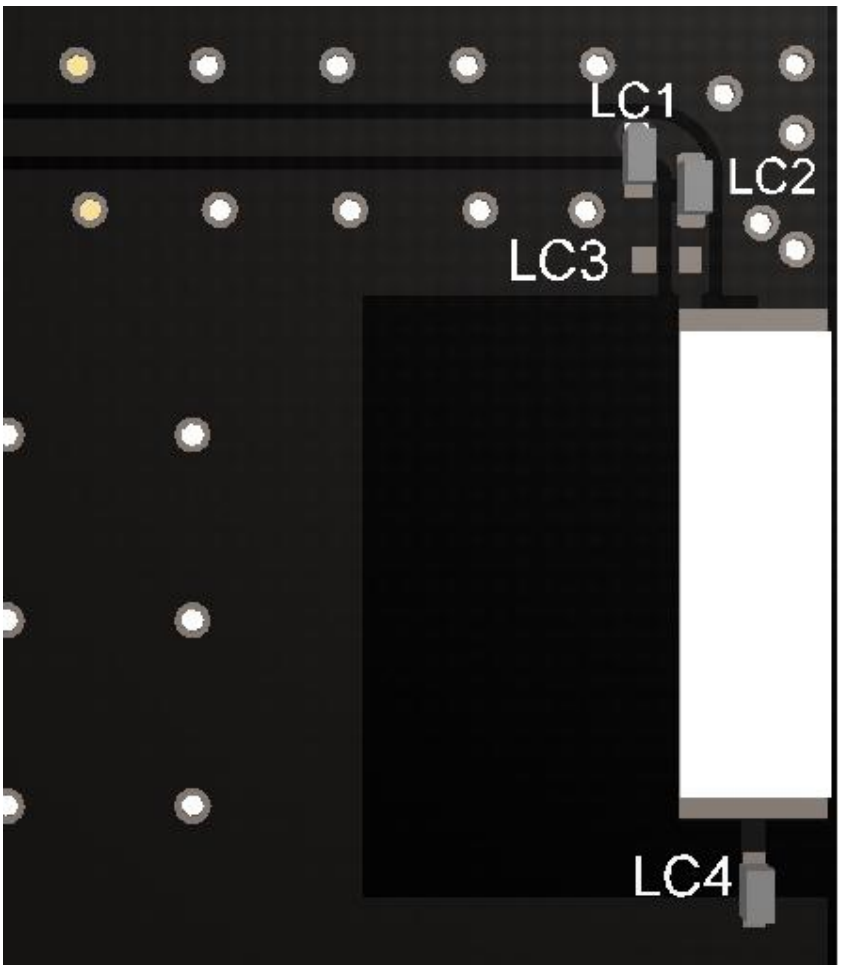
5. Matching Components



Matching Network Schematic



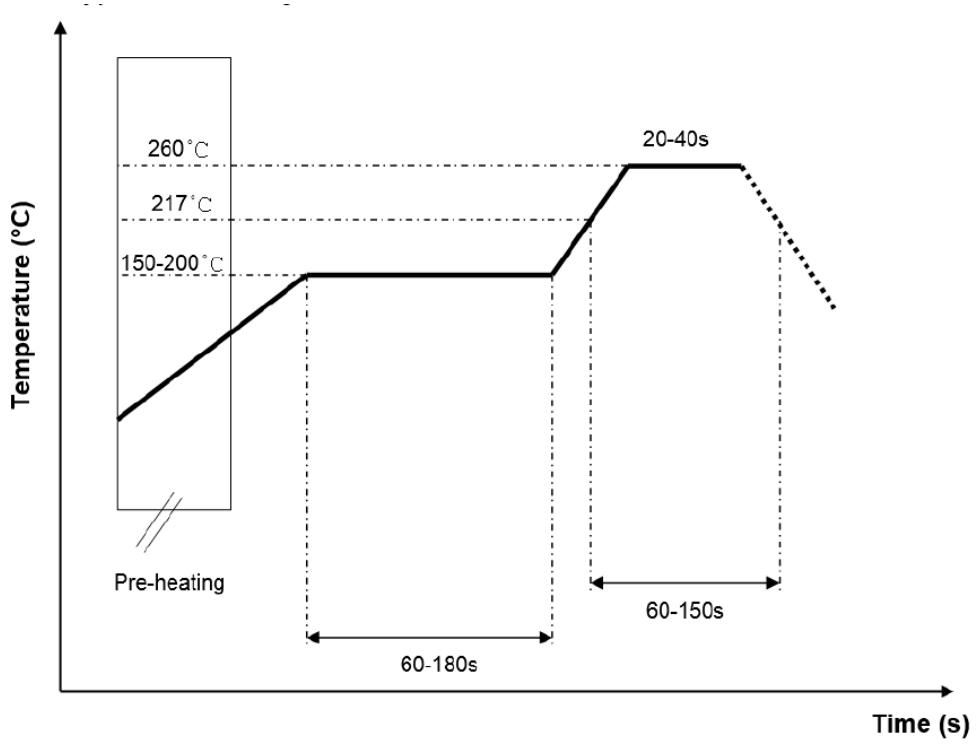
Matching network drawing (LC1=5.6pF±0.05pF, LC2=0 Ohm, LC3=OPEN, LC4=10pF±0.05pF)



3D View of matching components and recommended values

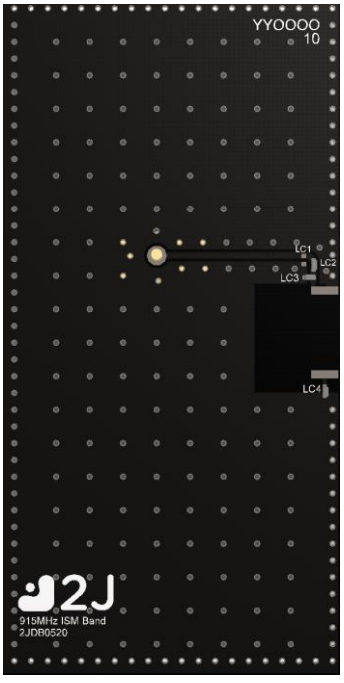
Matching network drawing (LC1=5.6pF±0.05pF, LC2=0 Ohm, LC3=OPEN, LC4=10pF±0.05pF)

REFLOW TEMPERATURE PROFILE



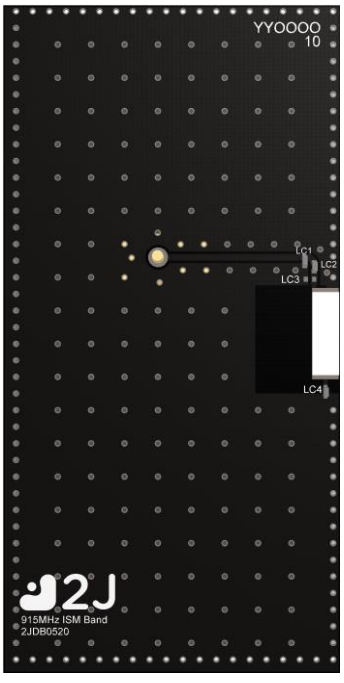
6. Evaluation Board

80mm x 40mm



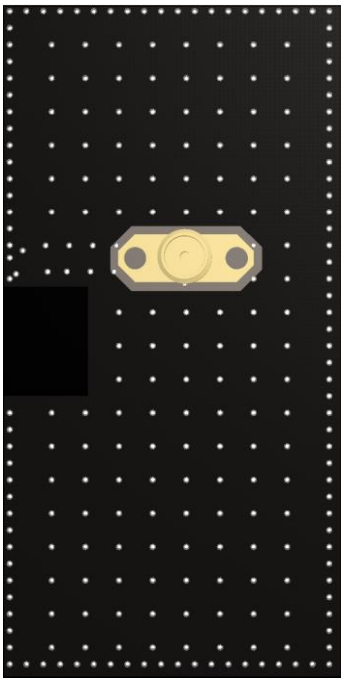
Front View without Antenna

80mm x 40mm



Front View with Antenna

80mm x 40mm



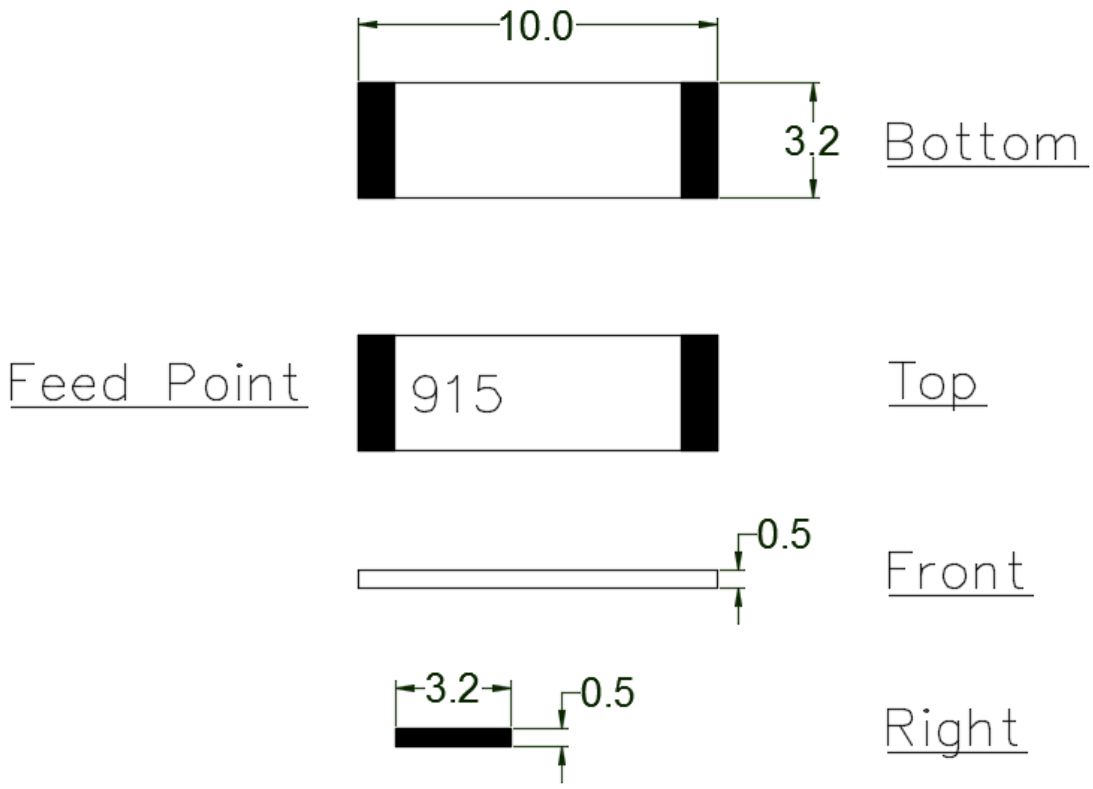
Back View

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



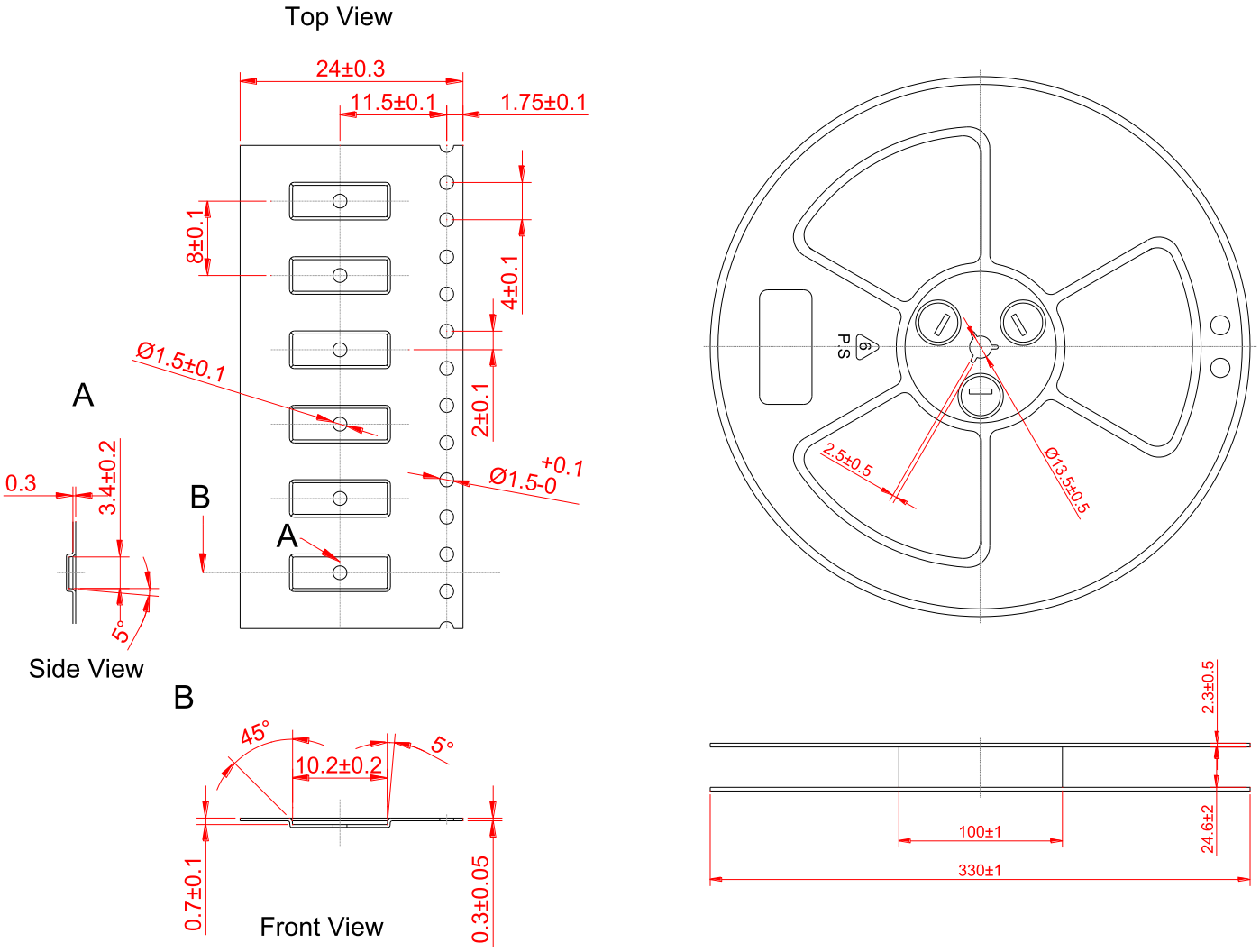
Side View

7. Antenna drawings



Dimensions for ceramic antenna 10 x 3.2 x 0.5 mm

8. Tape and Reel Information



Tape and Reel Specifications

9. Packaging

PACKAGING SPECIFICATION	
Antenna	2JL20
REEL	
Max Quantity per Reel	3000
REEL BOX	
Reels per Box	1
Max Quantity per Box	3000
Reel Box Dimensions (cm)	18 x 18 x 3.6
Reel Box Weight (Kg)	1.1
CARTON	
Reels per Carton	2
Max Quantity per Carton	30000
Reel Carton Dimensions (cm)	40.5 x 24.7 x 22.5
Reel Carton Weight (Kg)	11

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

