

2JL11

868 MHz ISM Surface Mount

Key Features

868 MHz ISM

- 863-870 MHz

Surface Mount

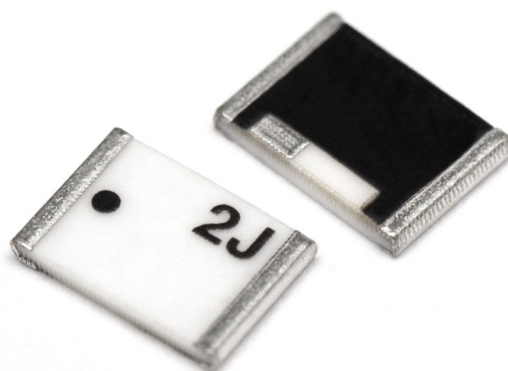
Easy to Integrate

Compact Size

Ceramic Material

Ground Plane Dependent

Dimensions 5.2 x 3.7 x 0.7 mm



1. Antenna and electrical specifications

Parameters	868 MHz ISM Antenna
Standards	ZigBee, ISM, SigFox, LoRa
Band (MHz)	868
Frequency (MHz)	863-870
Return Loss (dB)	~-10.4
VSWR	~1.9:1
Efficiency (%)	~35.4
Peak Gain (dBi)	~-1.4
Average Gain (dB)	~-4.5
Impedance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Omni-Directional
Max. Input Power (W)	25

Antenna Measurement Conditions:

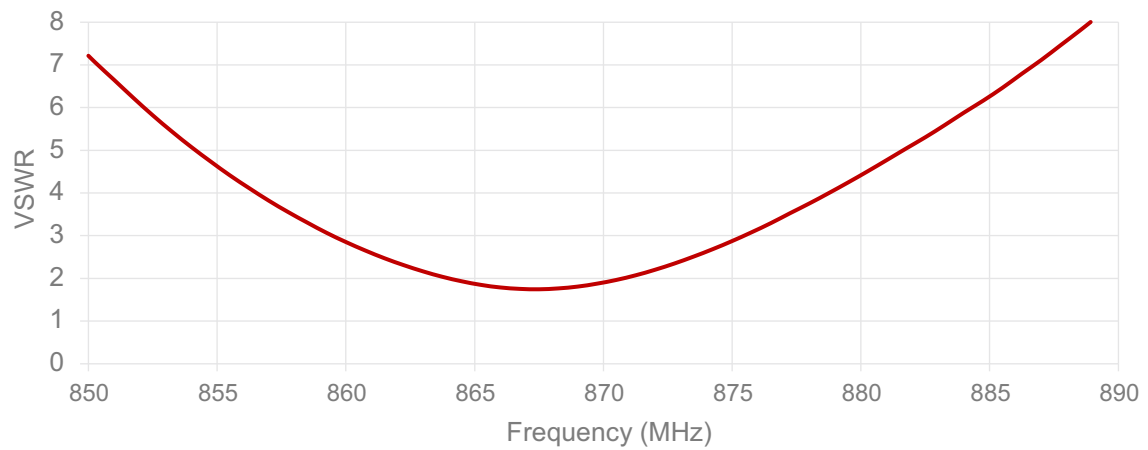
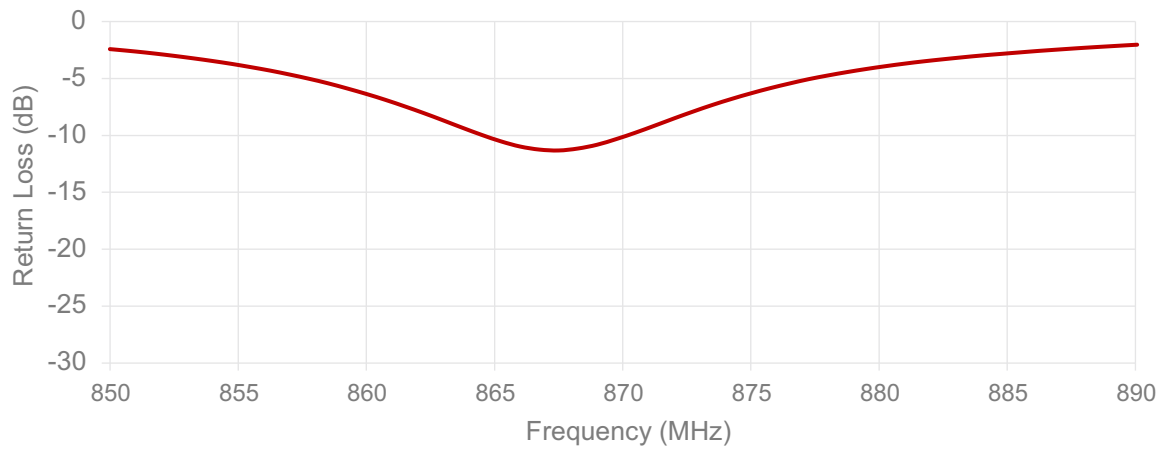
Mounted on ground plane of 80 x 40 mm

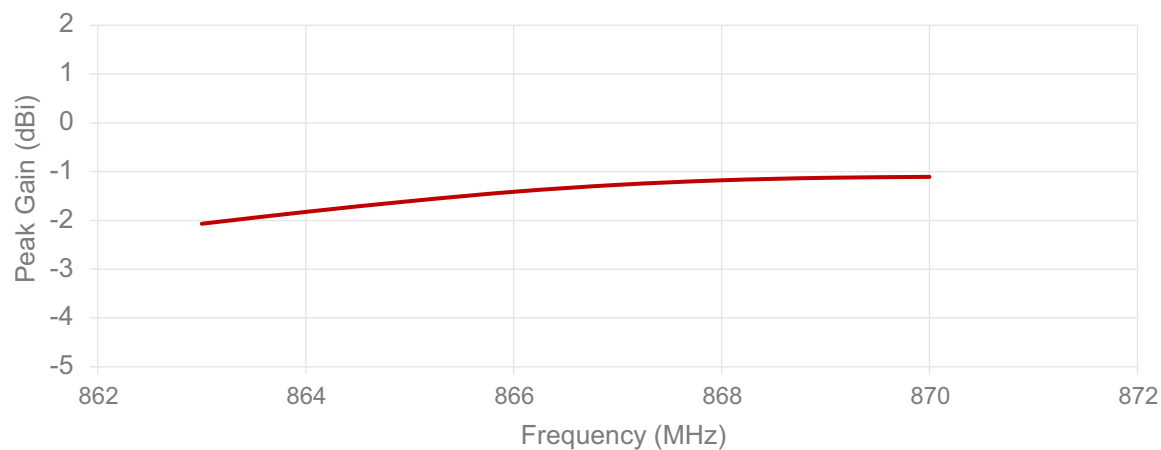
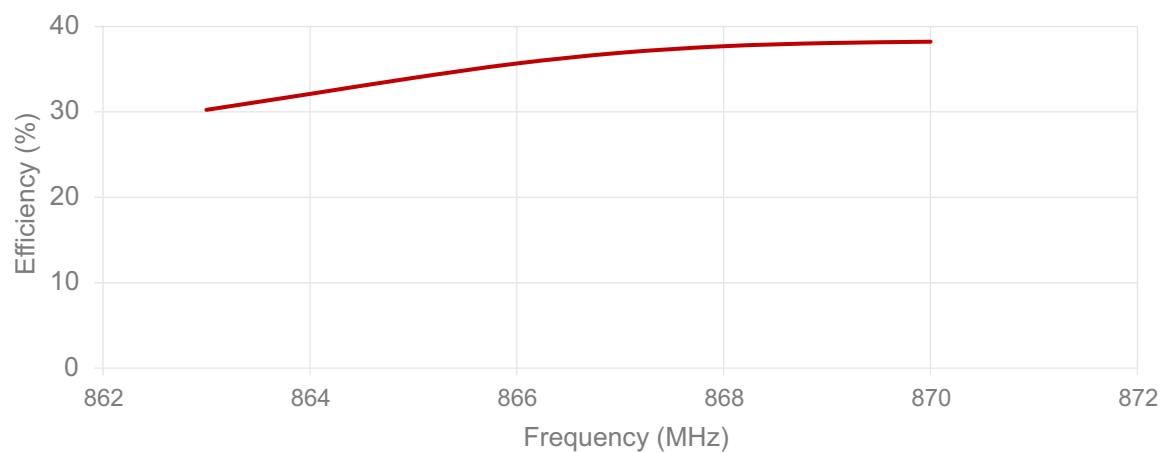
Measured in Certified CTIA 3D Anechoic Chamber

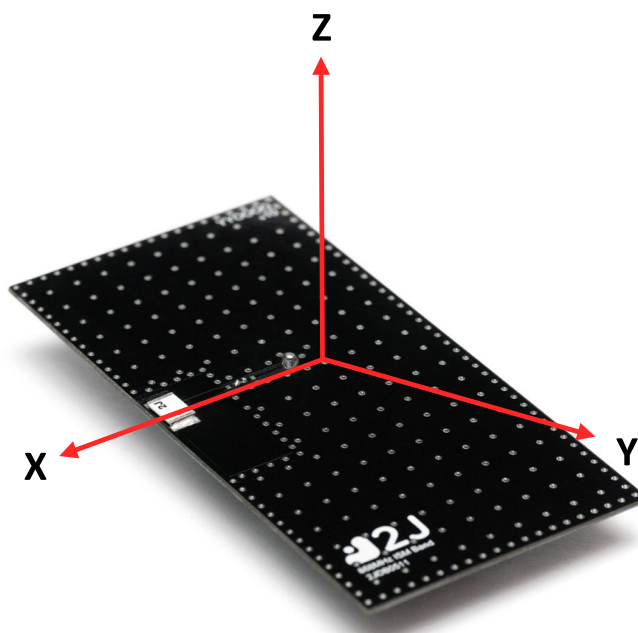
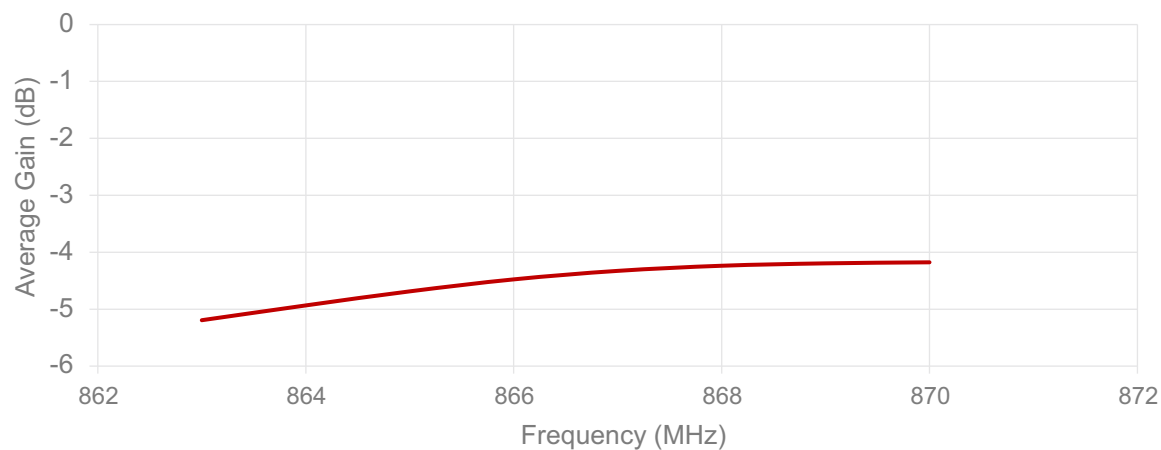
2. Mechanical and environmental specifications

Specifications	2JL11
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

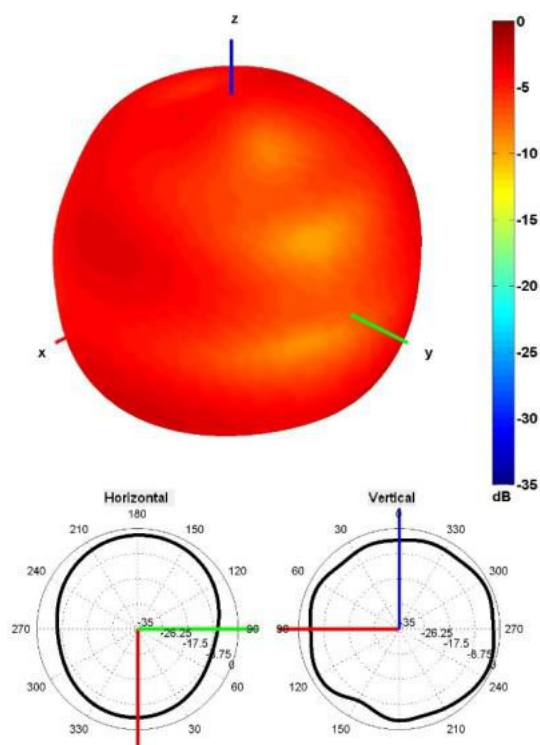
3. Antenna parameters





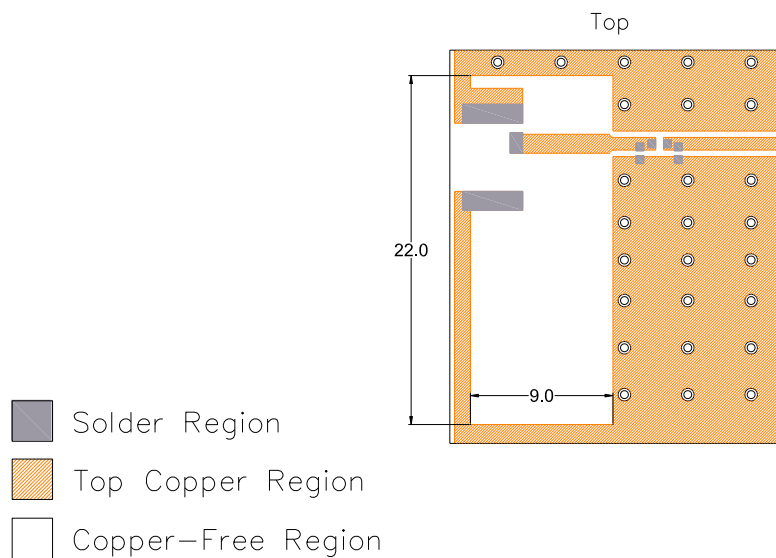


Radiation pattern reference

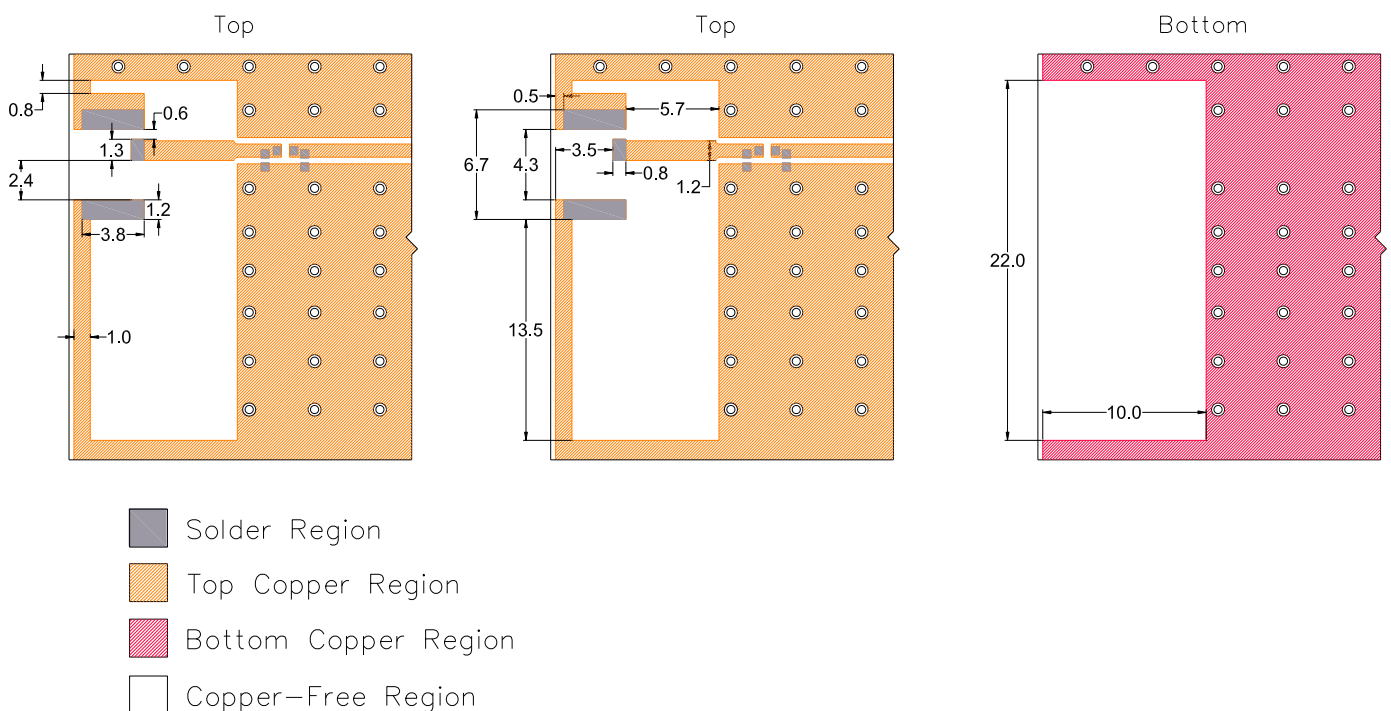


868 MHz Radiation pattern

4. PCB Layout

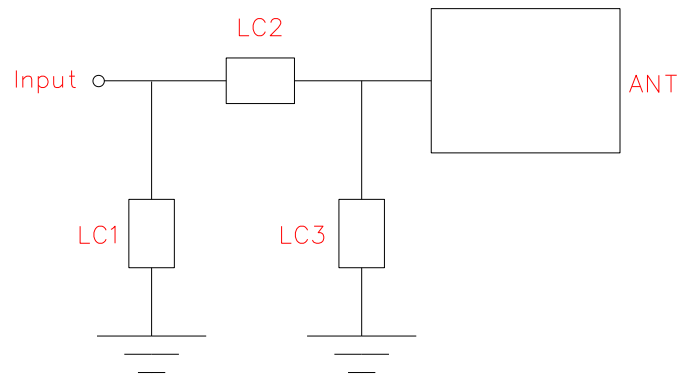


Minimum area required for antenna integration (22mm × 10mm)

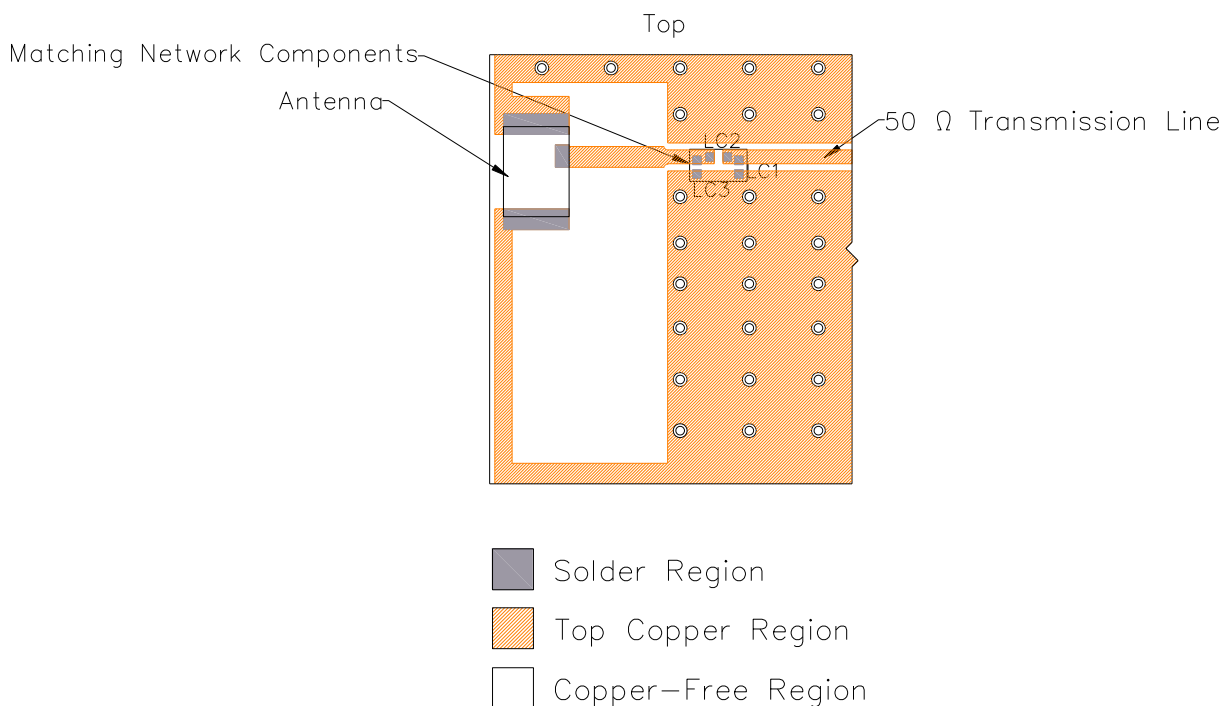


Layout dimensions for antenna integration (mm)

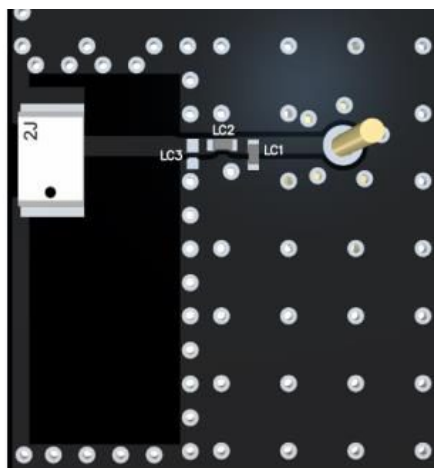
5. Matching Components



Matching Network Schematic

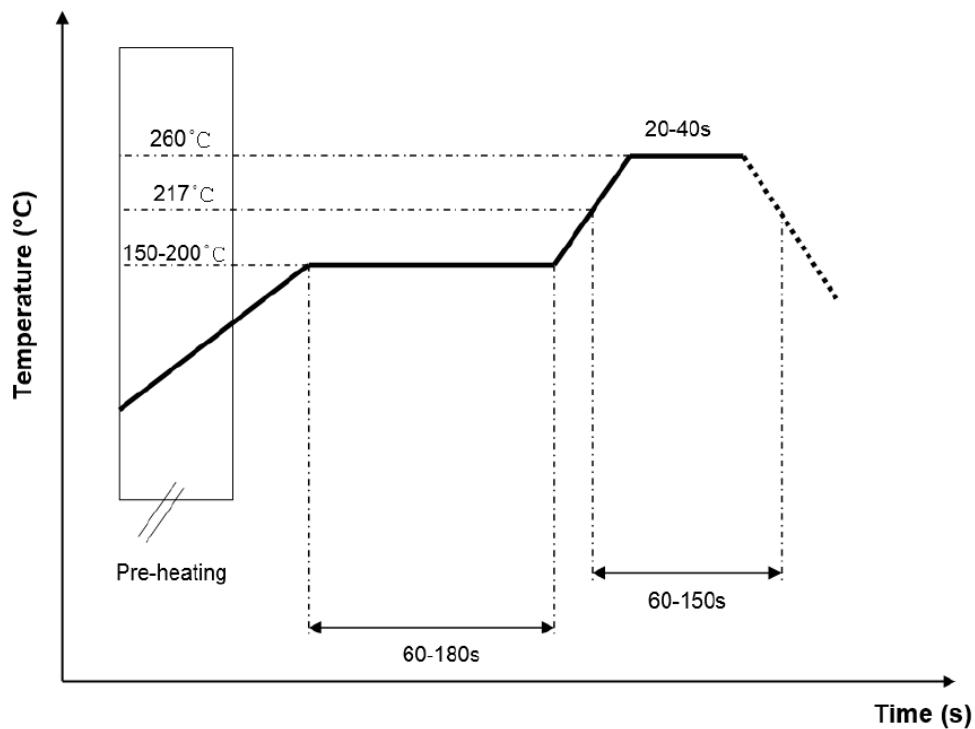


Matching network drawing (LC1=11.0pF $\pm$ 5%, LC2=2.4pF $\pm$ 0.05pF, LC3=OPEN)



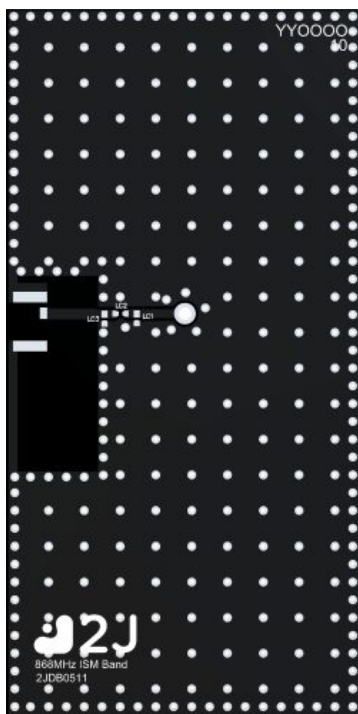
3D View of matching components and recommended values (LC1=11.0pF $\pm 5\%$, LC2=2.4pF $\pm 0.05\text{pF}$, LC3=OPEN)

REFLOW TEMPERATURE PROFILE



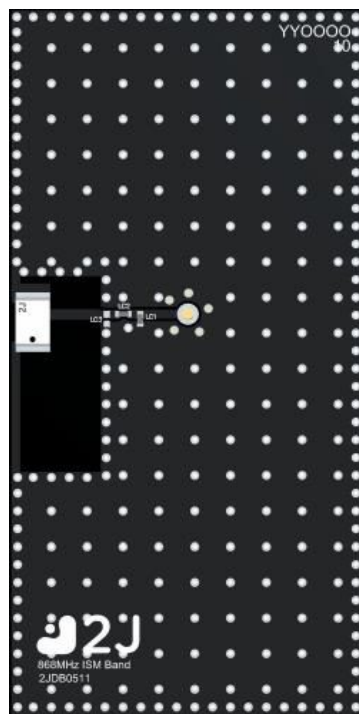
6. Evaluation Board

80mm x 40mm



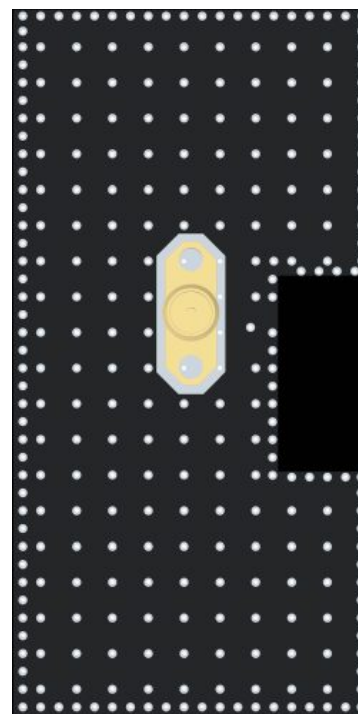
Front View without Antenna

80mm x 40mm



Front View with Antenna

80mm x 40mm



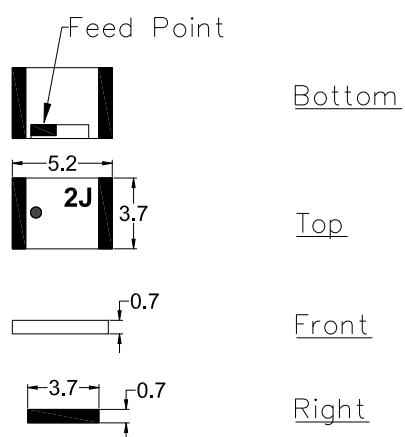
Back View

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



Side View

7. Antenna drawings



Dimensions for ceramic antenna 5.2 x 3.7 x 0.7 mm



9. Packaging

PACKAGING SPECIFICATION

Antenna	2JL11
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

