antenna conceptor

Product Datasheet

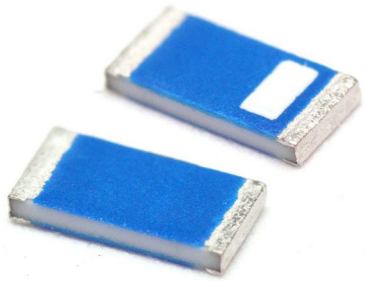
2JL40

2.4/5.0 GHz ISM Surface Mount

Key Features

2.4/5.0 GHz ISM
- 2410-2490 MHz
- 4920-5925 MHz

Surface Mount
Easy to Integrate
Compact Size
Ceramic Material
Ground Plane Dependent
Dimensions 3.2 x 1.6 x 0.5 mm



1. Antenna and electrical specifications

Parameters	2.4 / 5.0 GHz ISM Antenna	
Standards	WiFi, BT, ZigBee, ISM, SigFox, LoRa	
Band (MHz)	2.4 GHz	5.0 GHz
Frequency (MHz)	2410-2490	4920-5925
Return Loss (dB)	~-12.6	~-11.7
VSWR	~1.6:1	~2.0:1
Efficiency (%)	~67.1	~56.2
Peak Gain (dBi)	~6.0	~1.1
Average Gain (dB)	~-1.7	~-2.5
Impendance (Ohm)	50	
Polarisation	Linear	
Radiation Pattern	Omni-Directional	
Max. Input Power (W)	10	

Antenna Measurement Conditions:

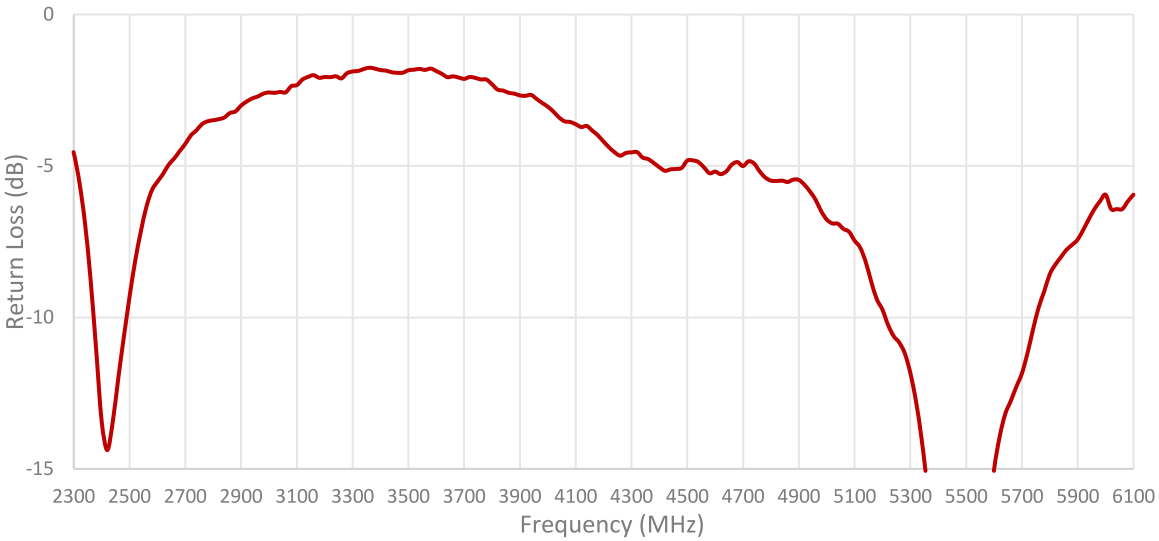
Mounted on ground plane of 80 x 40 mm

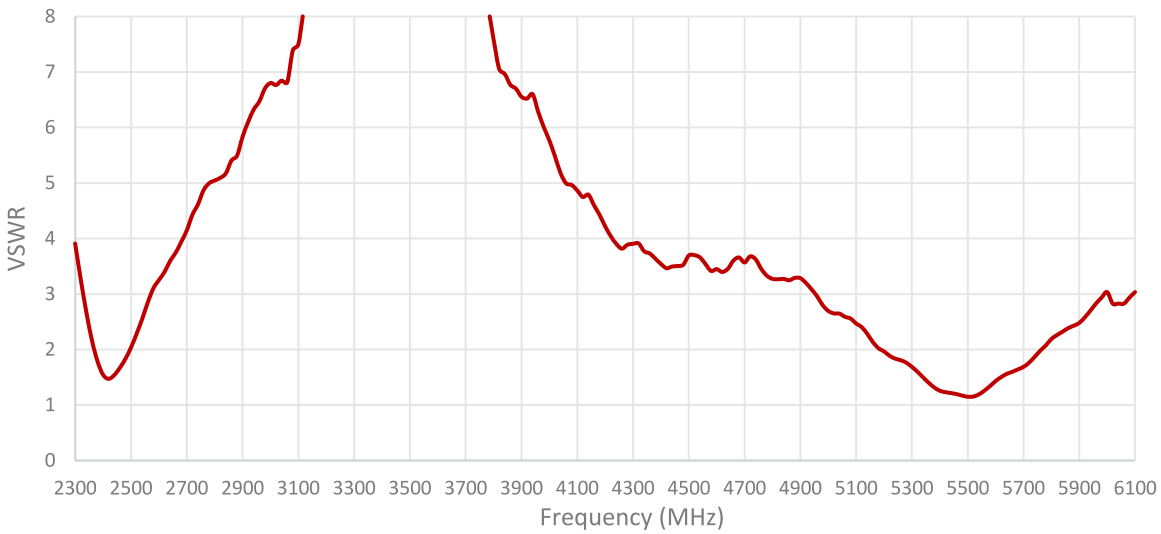
Measured in Certified CTIA 3D Anechoic Chamber

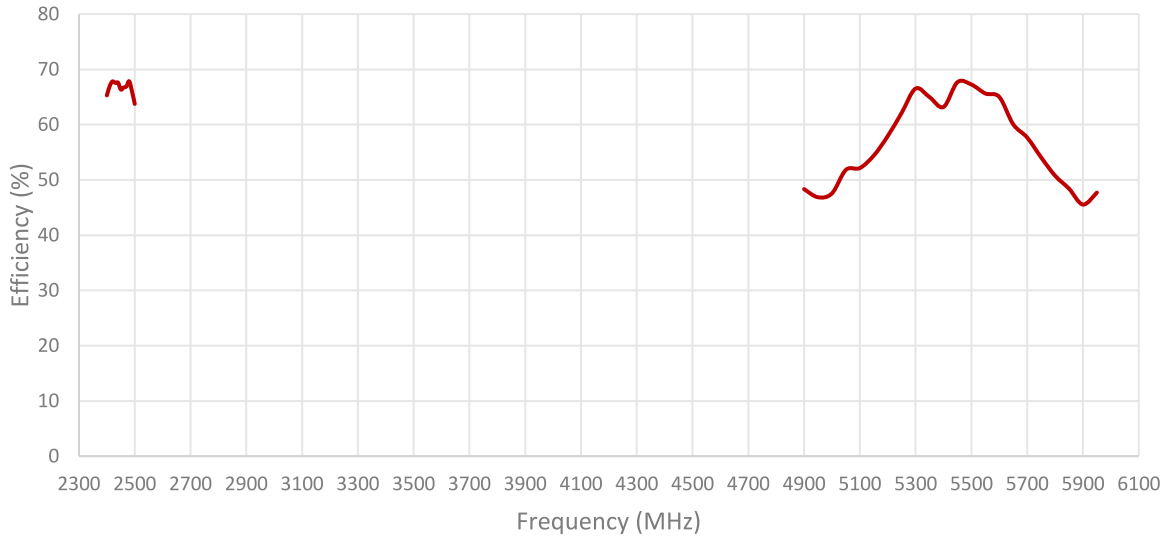
2. Mechanical and environmental specifications

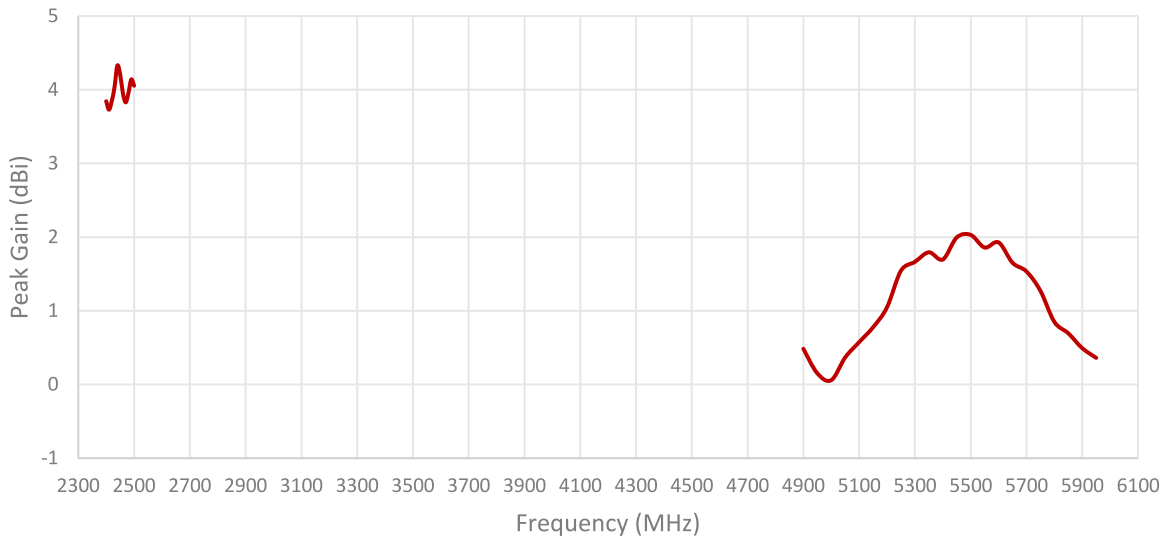
Specifications	2JL40
Mounting Type	Surface Mount
Dimensions (mm)	3.2x 1.6 x 0.5
Material	Ceramic
Operating Temperature (C)	-40 to +85
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS

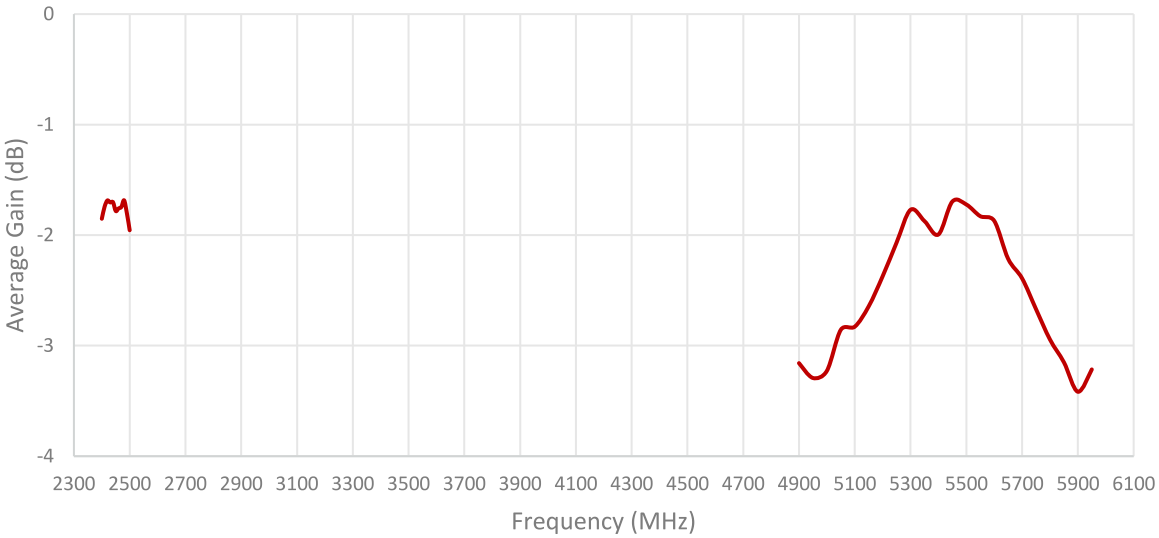
3. Antenna parameters

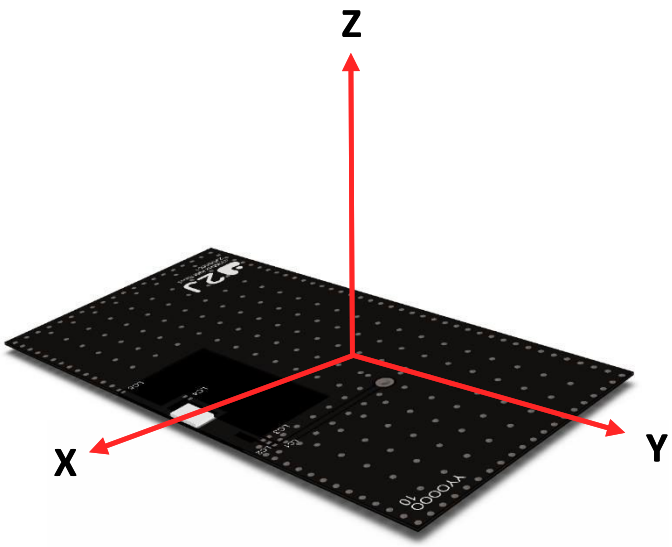




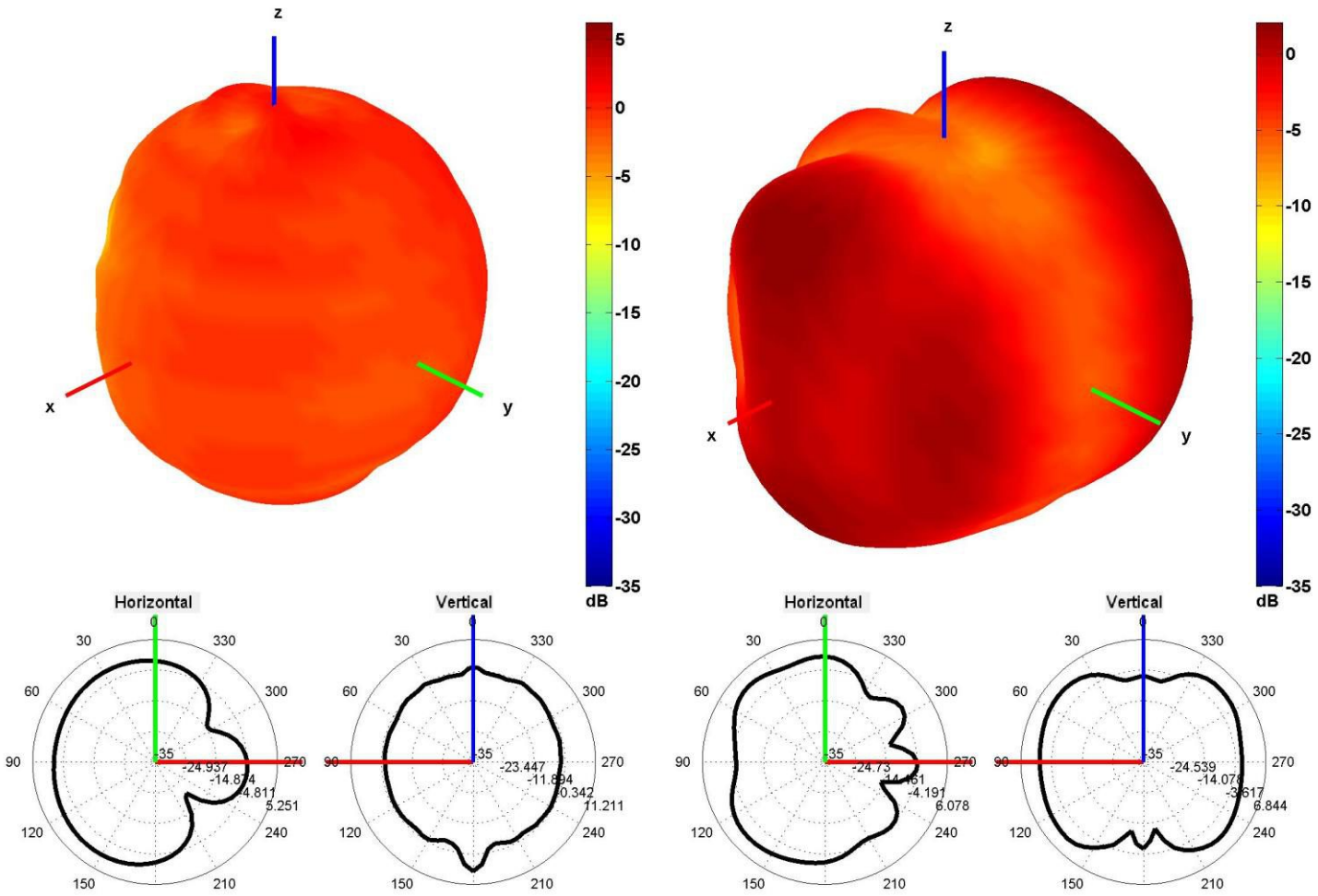

80
70
60
50
40
30
20
10
0
Efficiency (%)
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)


5
4
3
2
1
0
-1
Peak Gain (dBi)
2300 2500 2700 2900 3100 3300 3500 3700 3900 4100 4300 4500 4700 4900 5100 5300 5500 5700 5900 6100
Frequency (MHz)



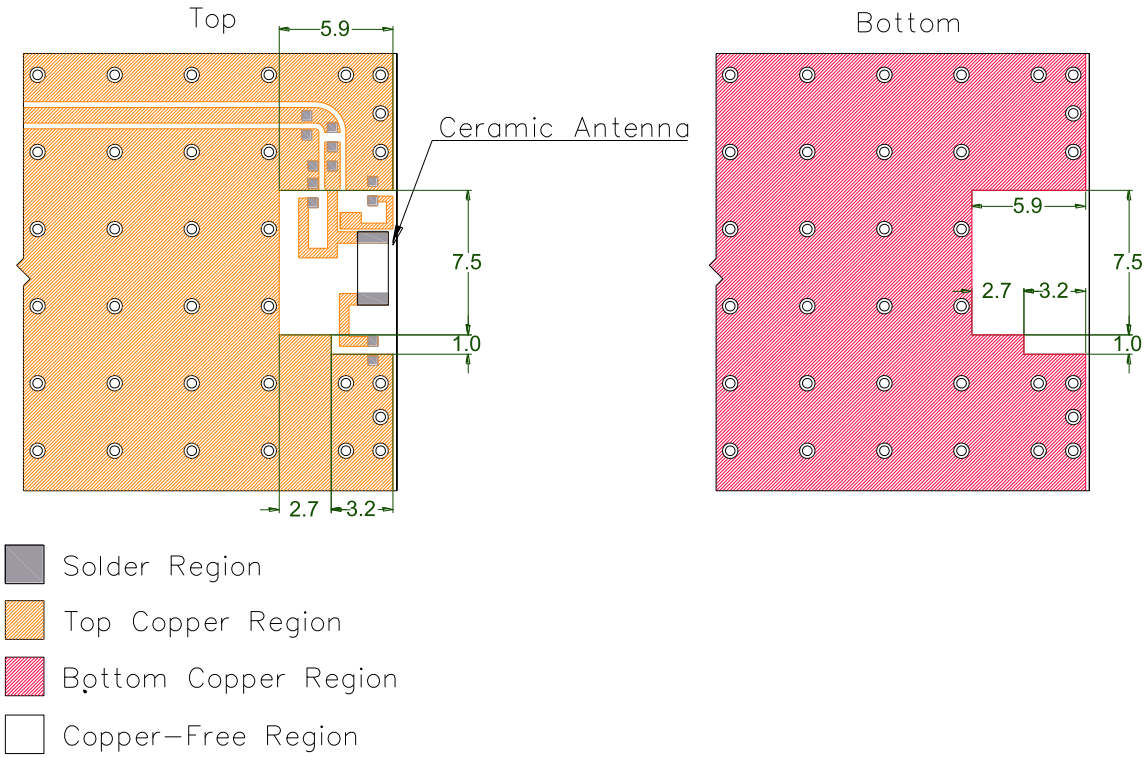


Radiation pattern reference



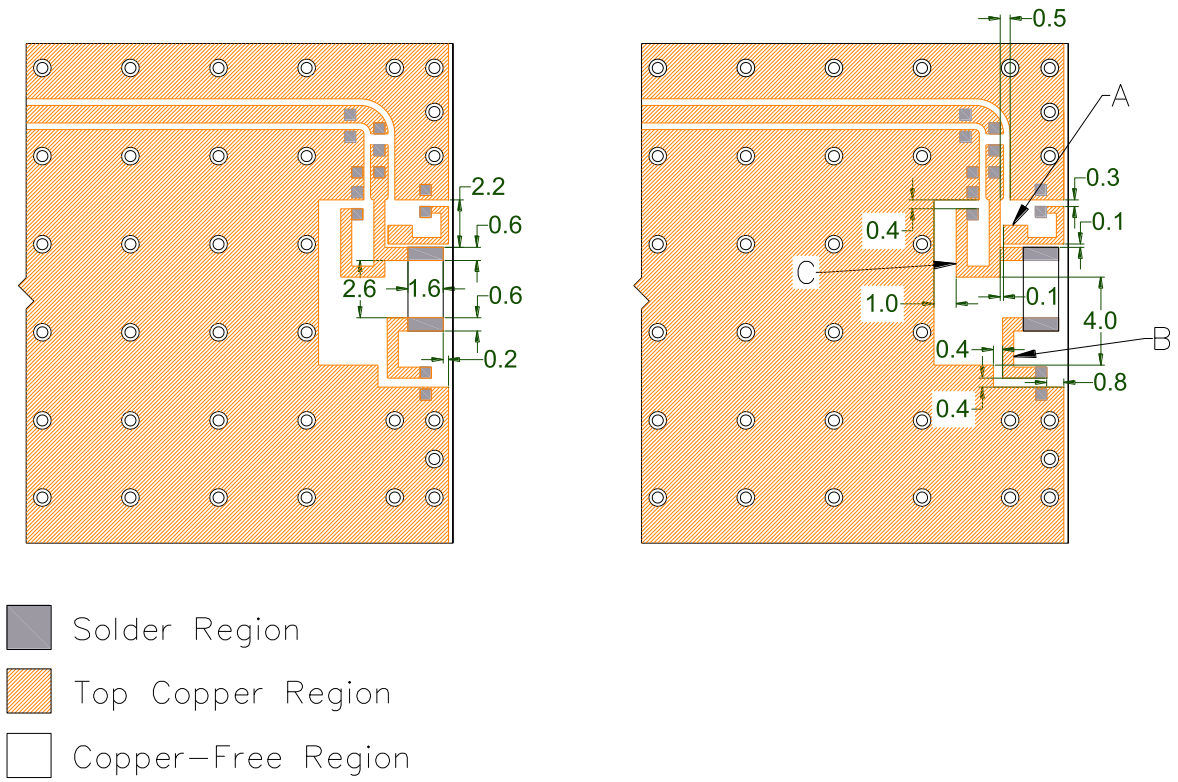
2450 and 5500 MHz Radiation pattern

4. PCB Layout



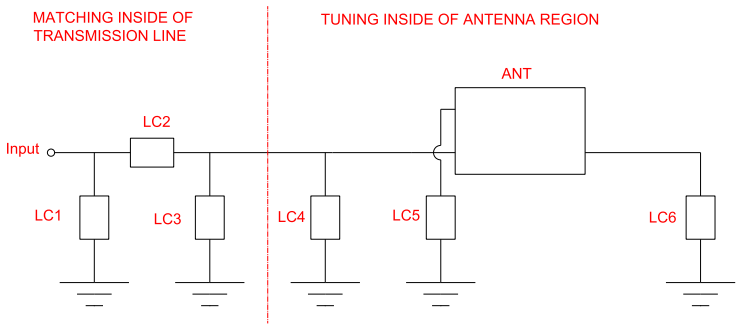
Minimum area required for antenna integration (15.6mm × 14.5mm)

4. PCB Layout

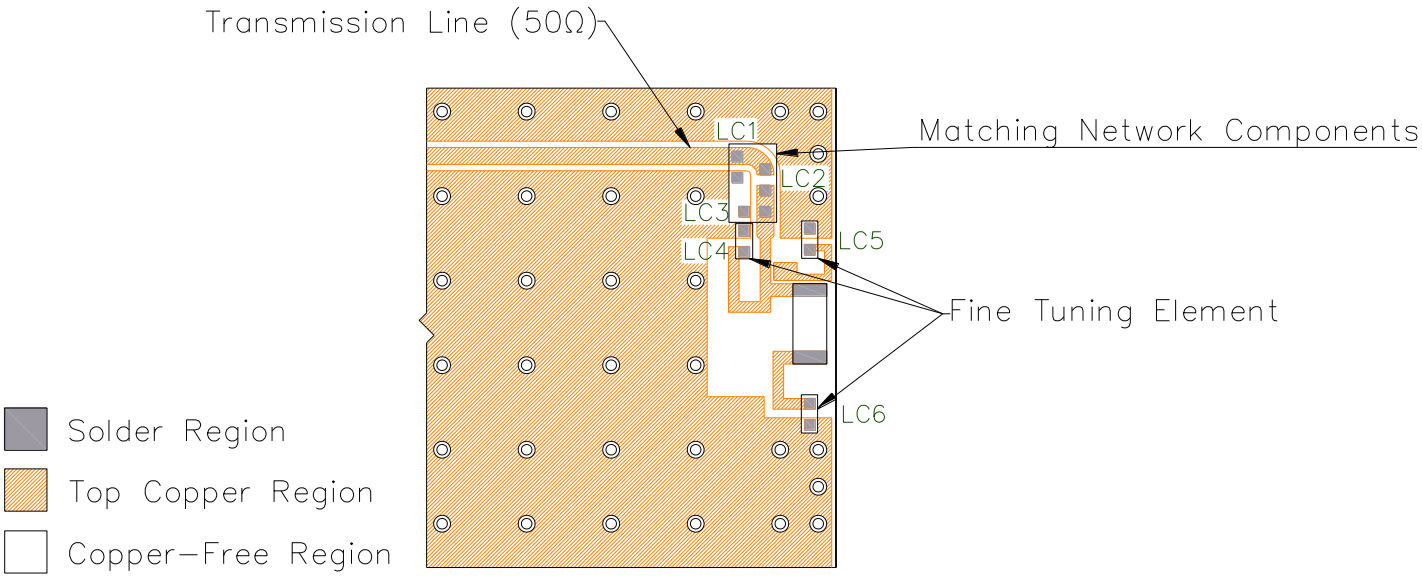


Layout dimensions for antenna integration (mm)

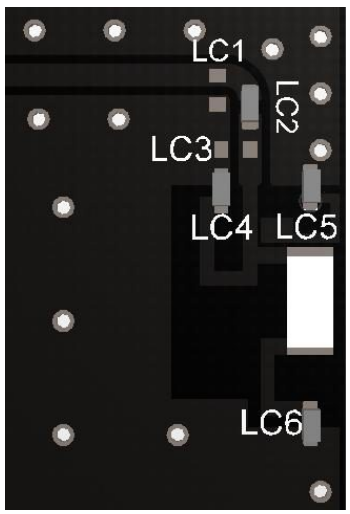
5. Matching Components



Matching Network Schematic

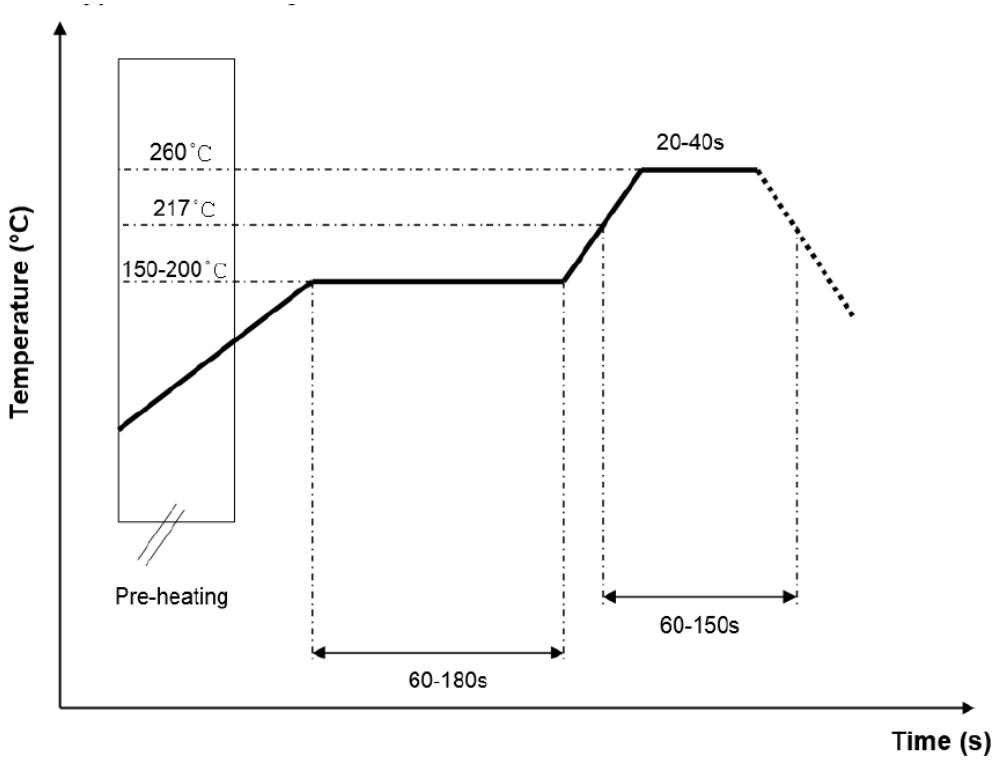


Matching network drawing (LC1=OPEN, LC2=1nH±0.03nH, LC3=OPEN, LC4=9pF±0.05pF,LC5=0.2pF±0.05pF, LC6=1.0pF±0.05pF)



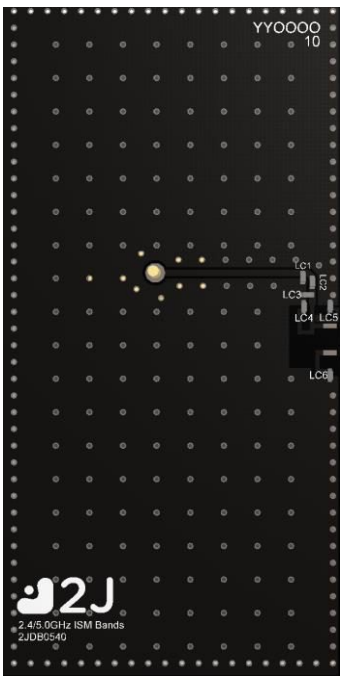
3D View of matching components and recommended values

REFLOW TEMPERATURE PROFILE



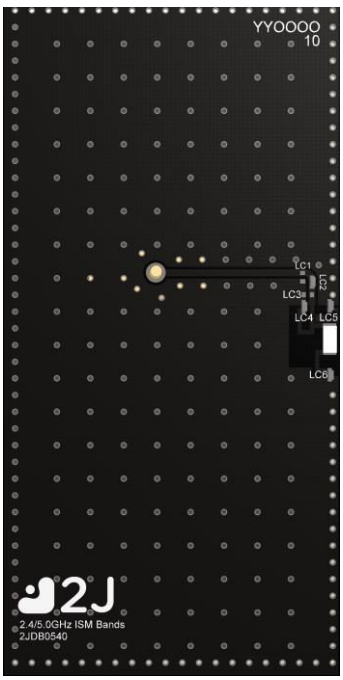
6. Evaluation Board

80mm x 40mm



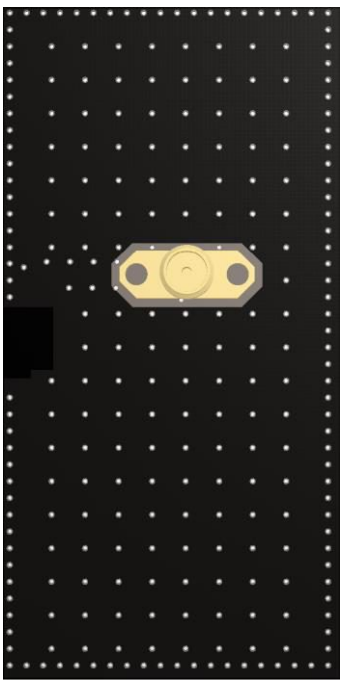
Front View without Antenna

80mm x 40mm



Front View with Antenna

80mm x 40mm



Back View

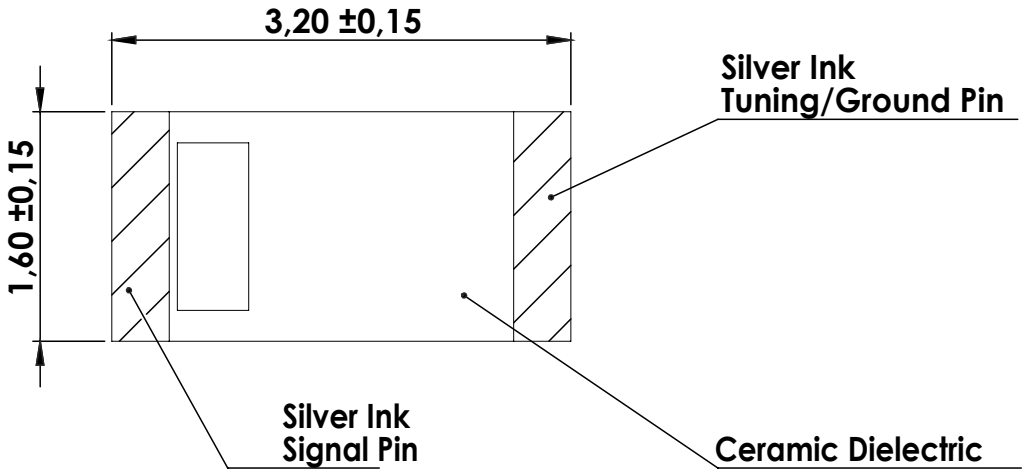
80mm x 10.8mm
(PCB: 0.8mm, Antenna: 0.5mm,
Connector: 9.5mm)



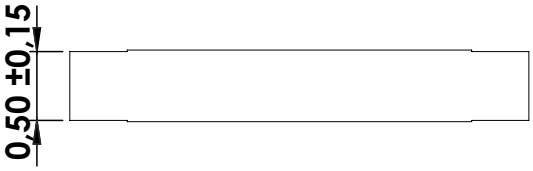
Side View

7. Antenna drawings

TOP VIEW



FRONT VIEW



BOTTOM VIEW

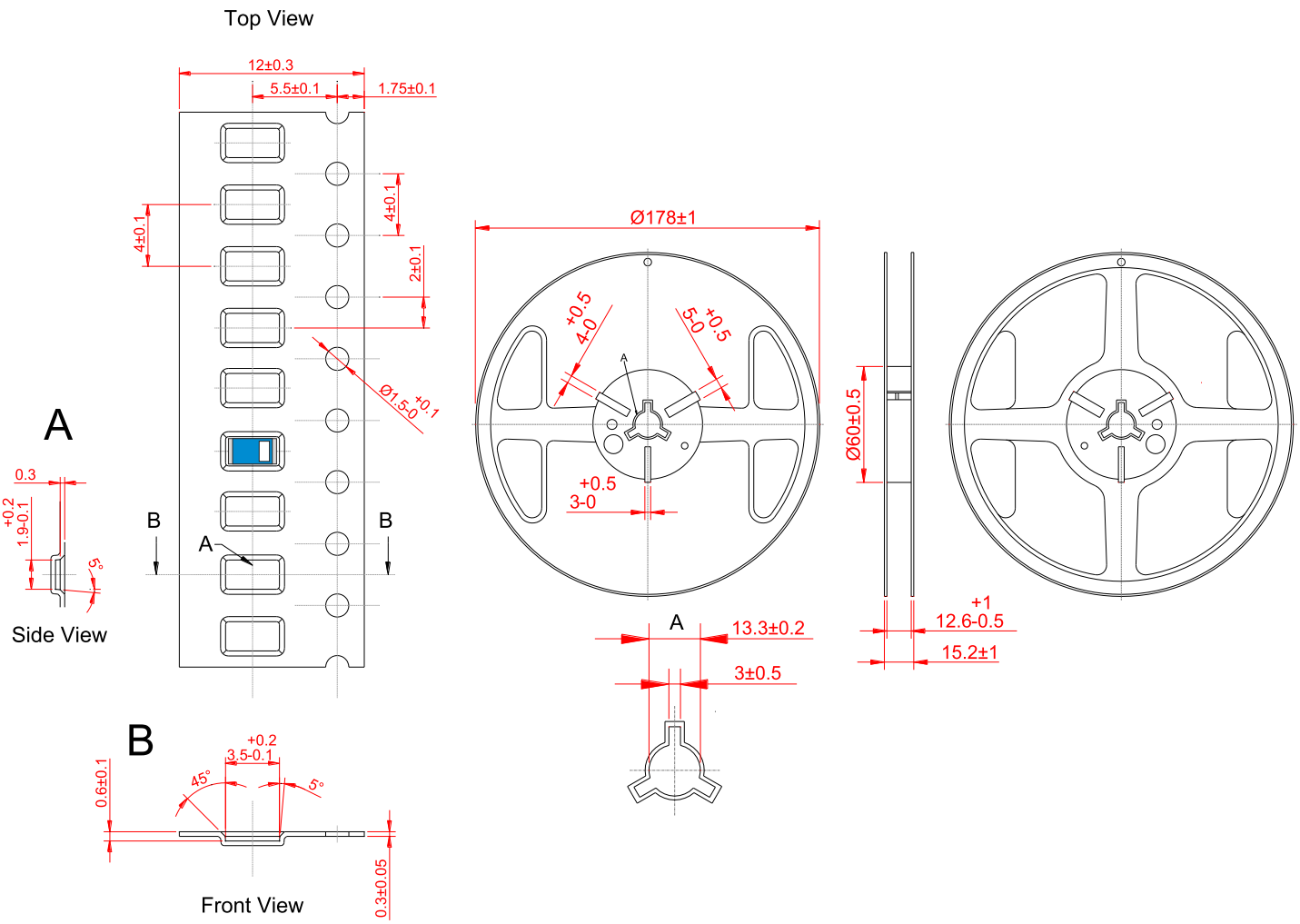


BACK VIEW



ceramic antenna body (mm)

8. Tape and Reel Information



Tape and Reel Specifications

9. Packaging

PACKAGING SPECIFICATION	
Antenna	2JL40
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 ℃ to +85 ℃
- Oxidizable material. Store for 12 months in vacuum sealed bag.
- Repack material after use by re-sealing package.

10. Antenna Images

