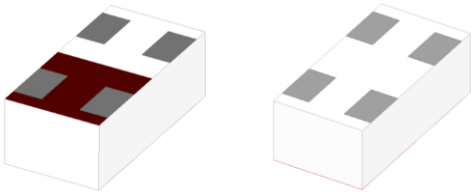
2.44 GHz RF Chip Antenna

- 2.4 – 2.48 GHz Operational frequency
- Bluetooth, WLAN
- Ultra-Miniature SMD, EIA 0402
- Center-edge mount
- RoHS compliant and AEC-Q200 Qualified available

Johanson Technology, Inc. (JTI) miniature RF ceramic chip antennas are made using Low Temperature Co-fired Ceramic (LTCC) technology which has the ability to embed low and high dielectric constants inside our antenna. This enables our components to have high detuning resilience and stability over extreme temperatures (~2ppm).



Recommended mounting locations for this antenna

PCB Center-edge



General Specifications[1] [2]

Frequency Range (MHz)	**2400 - 2480**
Impedance (Ω)	50
Return Loss (dB)	6.0 Min.
Peak Gain (dBi)	1.0 Typ.
Average Gain (dBi)	-1.5 Typ.
Ave. Radiated Efficiency (%)	58 Typ.

Maximum Ratings

Power Capacity (W)	2 Max. (CW)
Operating Temperature (°C)	-40 to +85
Recommended Storage Conditions post-installation (°C)	-40 to +85
Recommended Storage Conditions and Period for Unused T&R Product	45% - 75% RH +5 to +35 °C 18 Months Max.

[1] Typical value represents average measurement at 25°C. Min./Max. values represent measurements over specified operating temperature.

[2] General specifications measured on Johanson's evaluation board PN 2450AT07A0100001CE1.

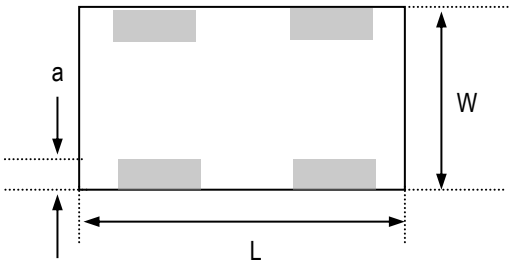
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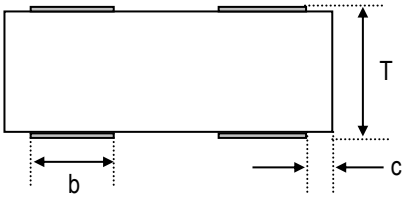
Mechanical Dimensions

	Inches		Millimeters	
L	0.039	± 0.004	1.00	± 0.10
W	0.020	± 0.004	0.50	± 0.10
T	0.015	Max.	0.37	Max.
a	0.006	+.004/-.002	0.15	+0.1/-0.05
b	0.010	+.004/-.002	0.25	+0.1/-0.05
c	0.003	+.004/-.002	0.08	+0.1/-0.05

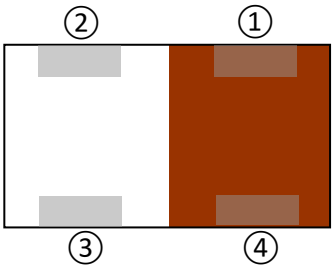
Bottom view



Side view



Top view



Terminal Configuration[3]

Pin Number	Function
1	Feed
2	GND
3	GND
4	Feed

[3] The termination type is Nickel/Tin. Go to: https://www.johansontechnology.com/ipcsoldering-profile for Typical Soldering Profile.

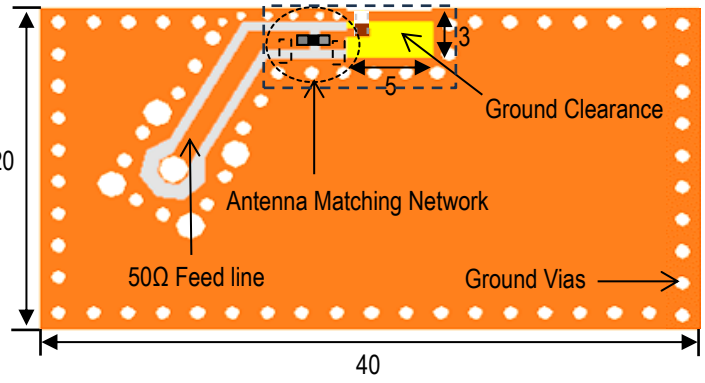
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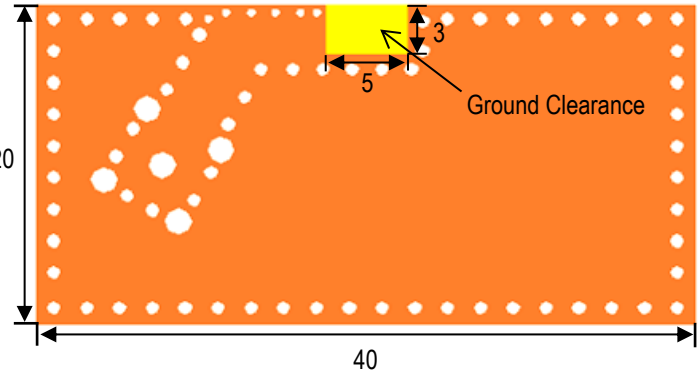
Evaluation Board and Recommended Mounting Configuration (P/N 2450AT07A0100001CE1)

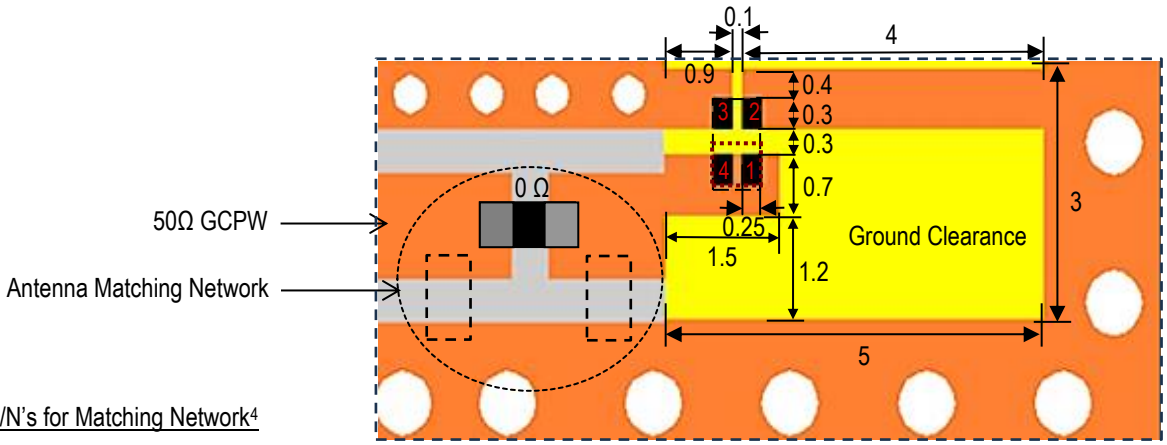
All units in mm

Top



Bottom





JTI P/N's for Matching Network[4]
N/A

*Note: Ground Vias are highly recommended to have better antenna efficiency.

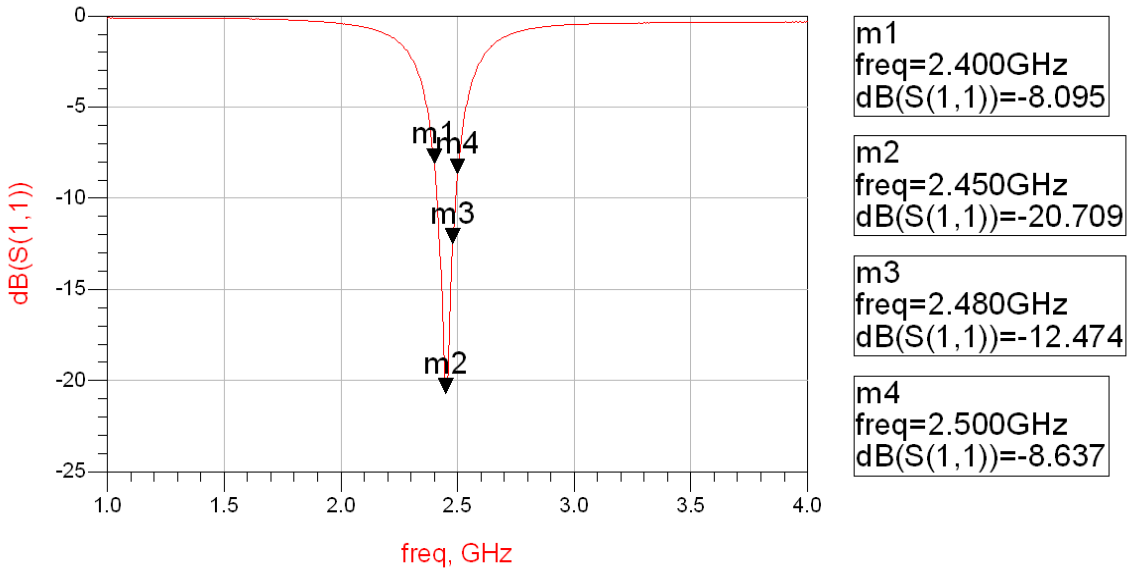
If you'd like the CAD PCB layout or have any questions,
contact our application engineers at https://www.johansontechnology.com/ask-a-question

[4] It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values above are used when antenna is mounted on Johanson's evaluation board. The matching values on client's PCB will be different, depending on the layout, thickness, material, etc. Go to: https://www.johansontechnology.com/tuning and see how to obtain the new values.

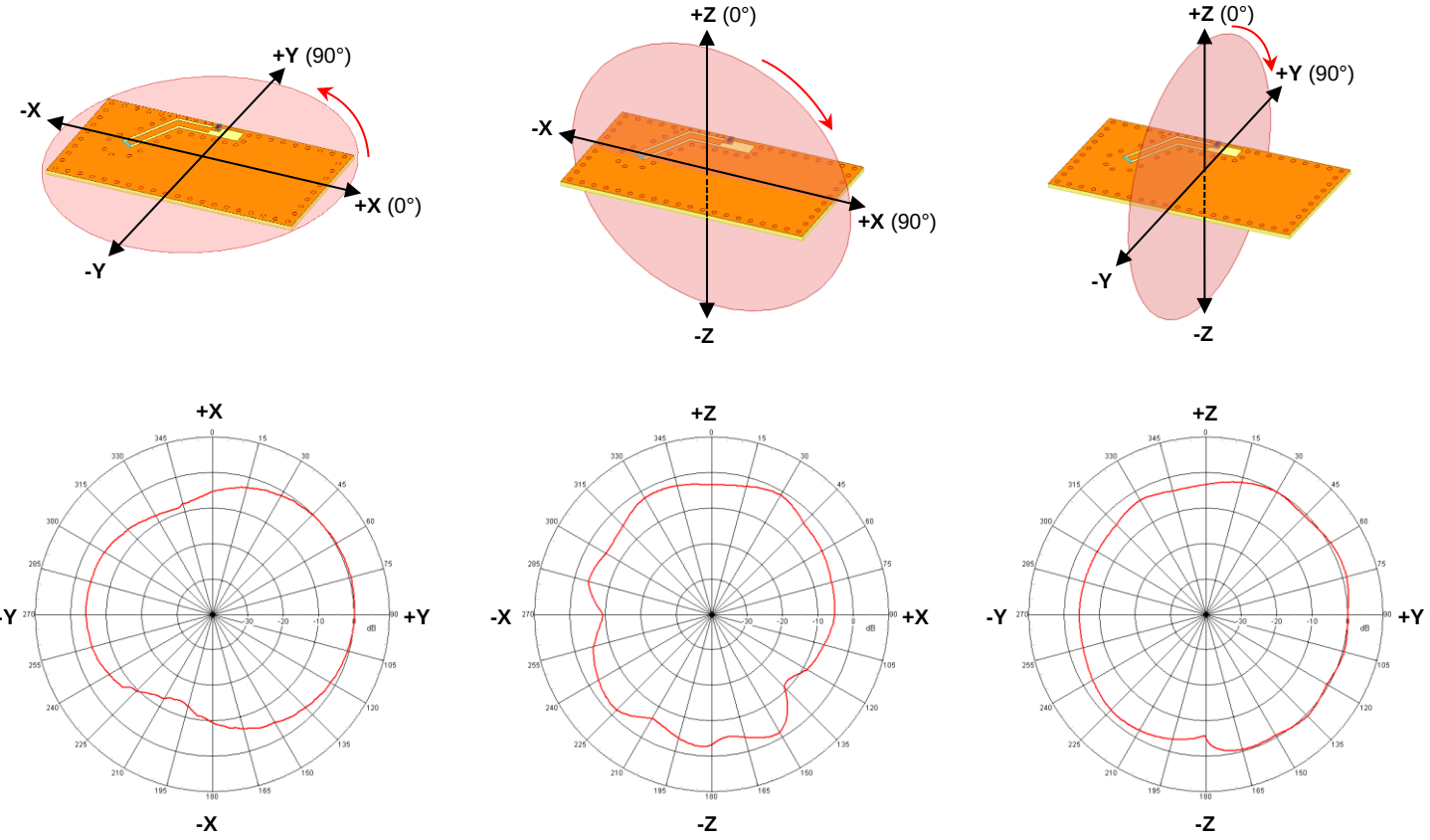
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Evaluation Board Return Loss Measurement (P/N 2450AT07A0100001CE1)



Evaluation Board 2D Radiation Patterns @2440 MHz (P/N 2450AT07A0100001CE1)

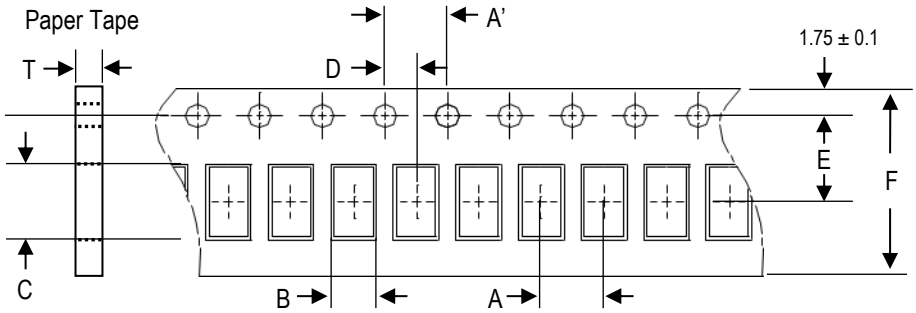


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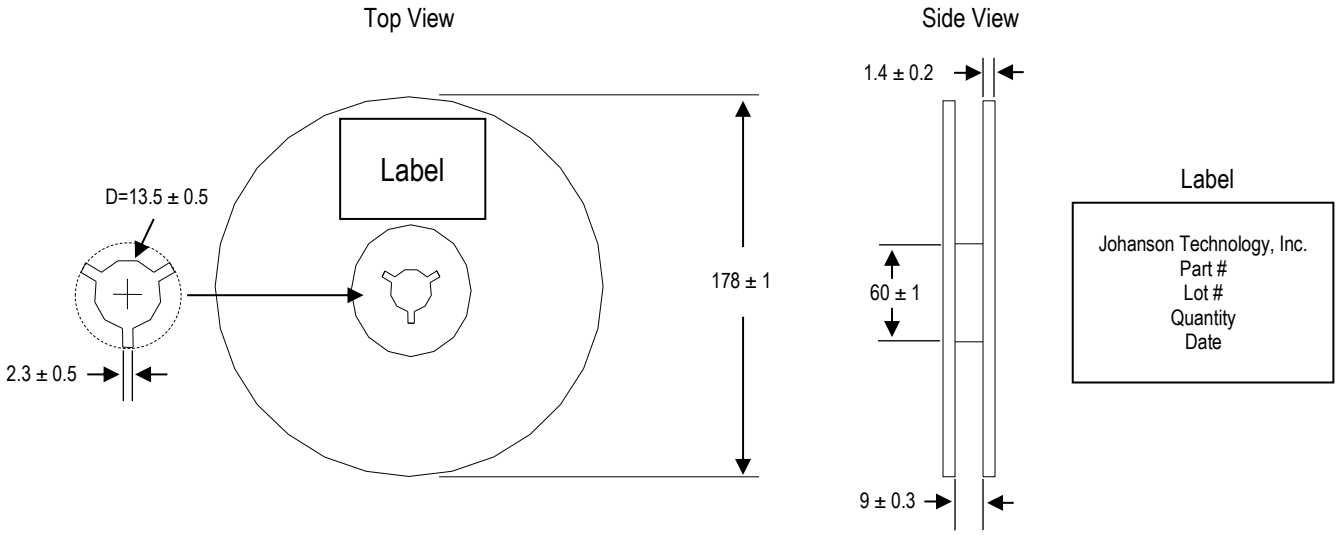
Tape and Reel Specification (Units in mm)

Tape Dimensions

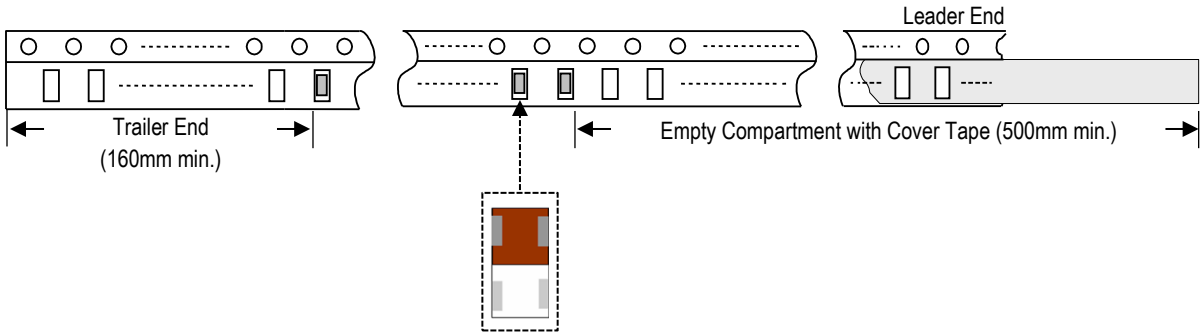


A	A'	B	C	D	E	F	T	Quantity/reel	Tape material
2.0±0.05	4.0±0.1	0.62±0.03	1.12±0.03	2.0±0.05	3.5±0.05	8.0±0.1	0.43±0.03	10,000pcs.	Paper

Reel Dimensions



Leader and Trailer Dimensions



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Orderable Part Number

Packaging Style	Part Number	Termination
Bulk (loose pcs.)	2450AT07A0100001B	Nickel Tin
T & R (7" Reel Paper Tape)	2450AT07A0100001T (Qty: 10,000 pcs./reel)	
Evaluation Board with 1 SMA Connector	2450AT07A0100001CE1	

Important Links

2450AT07A0100001T Product Page

More RF Chip Antennas

Antenna Tuning, Optimization, and Validation Services

Soldering Information

MSL Information

Packaging Information

Recommended Storage Condition and Max Shelf Life

RoHS Compliance

Contact our application engineers for a PCB layout review.

Johanson Technology, Inc. reserves the right to make design changes without notice.
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