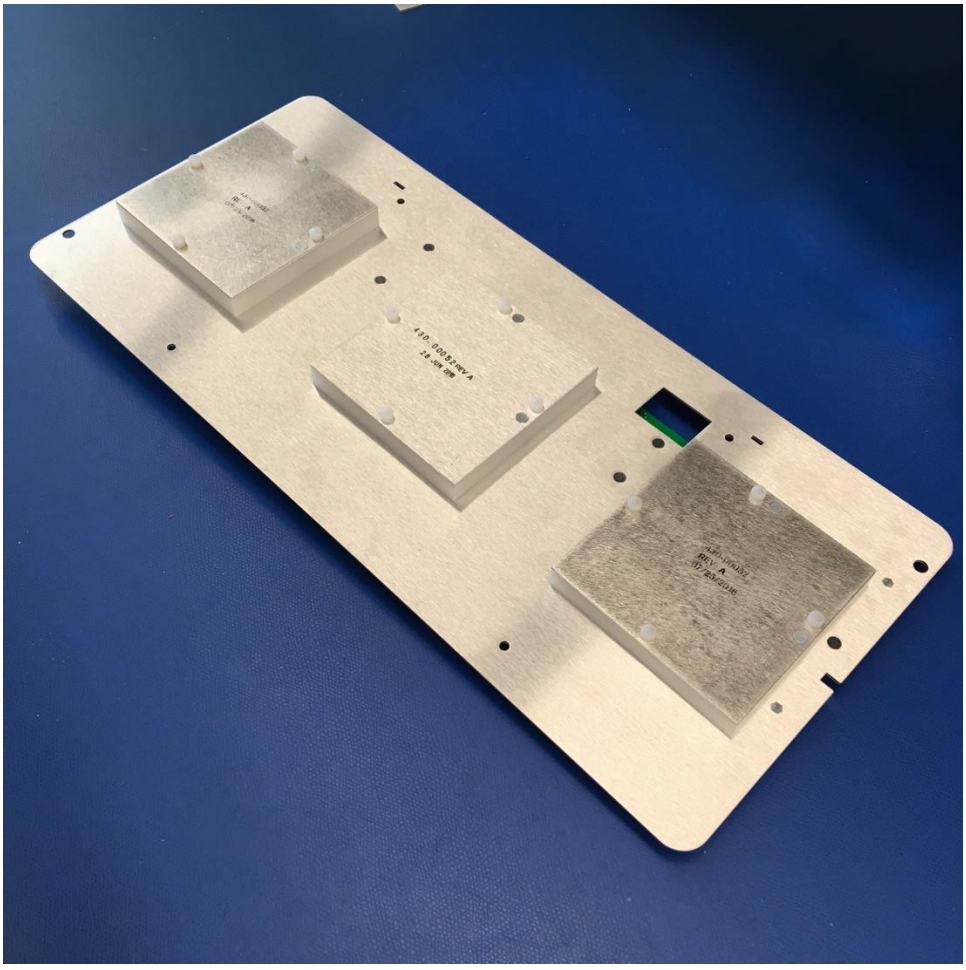
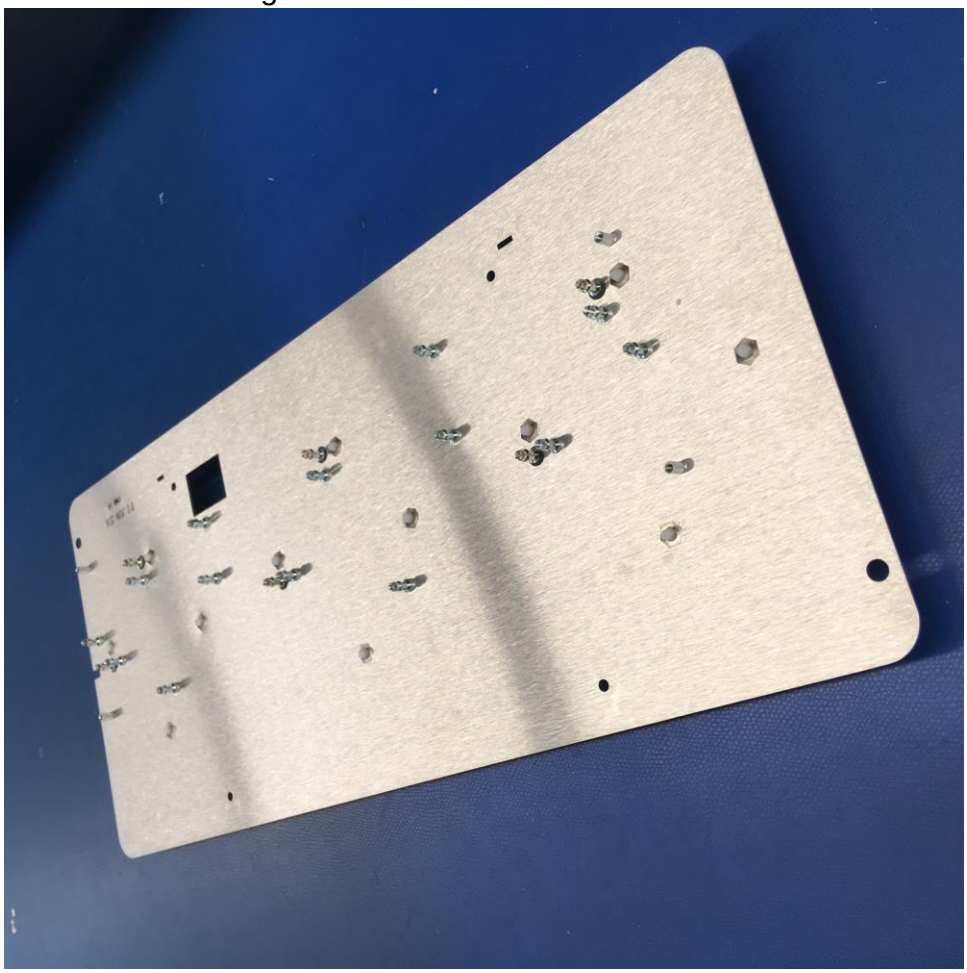
R660 Antenna Info REV 3

RFID Antenna

- Manufacture – Impinj
- Model Number – R600
- Antenna Info – 3 Element, Dual Polarization (Vertical and Horizontal), Phased Array Antenna
- Maximum Antenna Gain – 9.5 dBi
- Photograph of Antenna

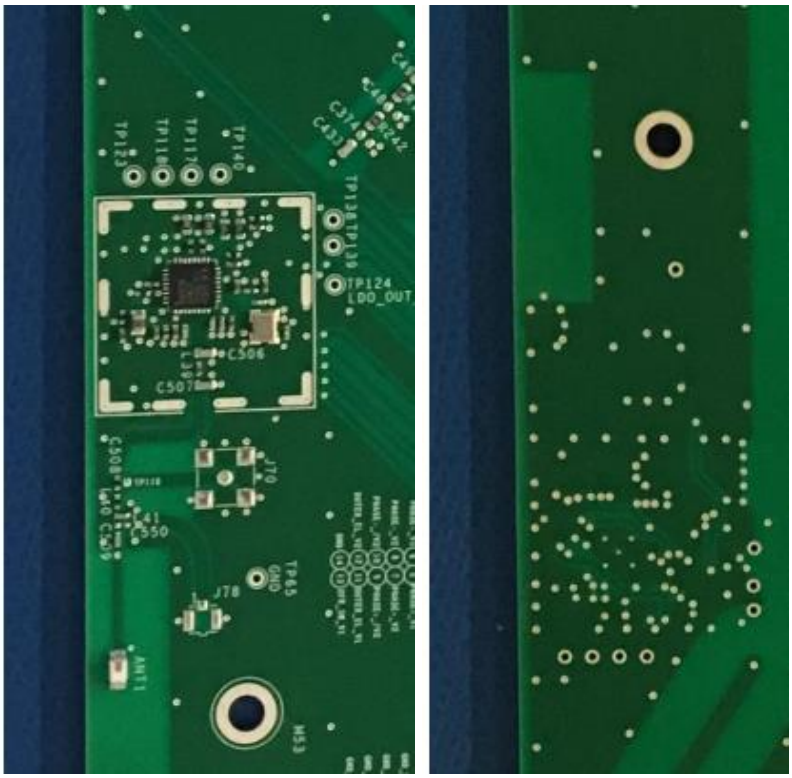


- FCC Part 15 transmitters, compliance with FCC 15.203
    - Antenna is an integrated unit with no external RF connectors



Bluetooth Antenna

- Manufacture – Johanson Technology Inc
- Model Number – 2450AT18A100E
- Antenna Info – 2.4GHz Chip RF Antenna 2.4GHz ~ 2.5GHz 0.5dBi Solder Surface Mount
- Maximum Antenna Gain – 0.5 dBi
- Photograph of Antenna



- FCC Part 15 transmitters, compliance with FCC 15.203
    - Antenna is a surface mount component with no rf connector

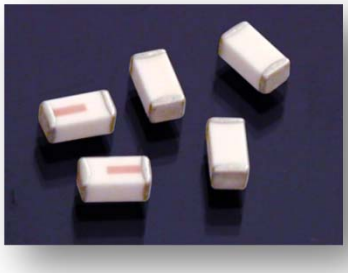
"High Frequency Ceramic Solutions"

Mini 2.45 GHz Antenna

P/N 2450AT18A100

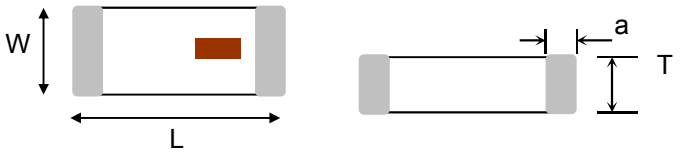
Detail Specification: 7/18/2014

General Specifications	
Part Number	2450AT18A100
Frequency Range	2400 - 2500 Mhz
Peak Gain	0.5 dBi typ. (XZ-V)
Average Gain	-0.5 dBi typ. (XZ-V)
Return Loss	9.5 dB min.
Input Power	2W max. (CW)
Impedance	50 Ω
Operating Temperature	-40 to +125°C
Reel Quanity	3,000



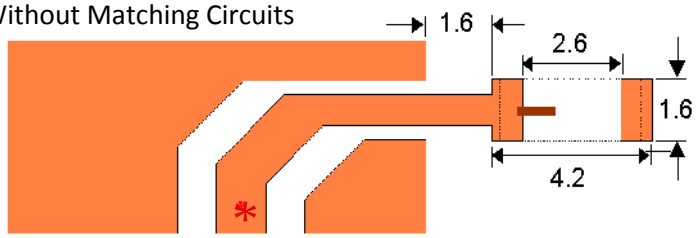
Mechanical Dimensions

	In	mm
L	0.126 ± 0.008	3.20 ± 0.20
W	0.063 ± 0.008	1.60 ± 0.20
T	0.051 +.004/-.008	1.30 +0.1/-0.2
a	0.020 ± 0.012	0.50 ± 0.30

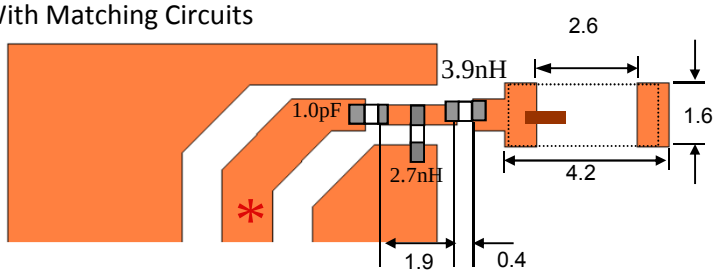


Mounting Considerations

a) Without Matching Circuits



b) With Matching Circuits



Mount these devices with mark facing up. Units: mm

* Line width should be designed to provide 50 Ω impedance matching characteristics.

Terminal Configuration

No.	Function
1	Feeding Point
2	NC

Note: It is recommended that the designer leave available slots for a "pi" (or shunt-series-shunt) network. The antenna matching network values here are used when antenna is mounted on Johanson's evaluation board. The matching values and topology on clinet's PCB will be different.
Need our help tuning the antenna on your board? Contact our RF Applications Eng Team at:
www.johansontechnology.com/component/techquestion

Antenna Tuning services:
www.johansontechnology.com/ipcantennaservices

Need the layout file of the above? Contact us at: www.johansontechnology.com/en/ask-a-technical-question.html

JOHANSON TECHNOLOGY

www.johansontechnology.com

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Mini 2.45 GHz Antenna **P/N 2450AT18A100**

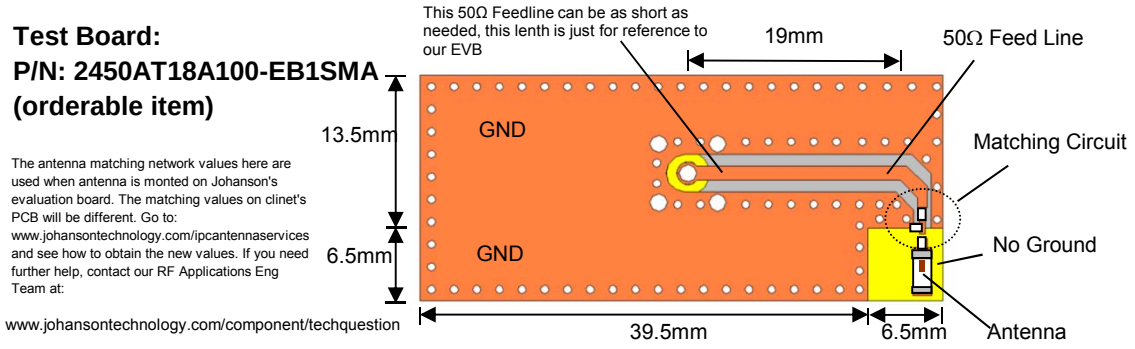
Detail Specification: 7/18/2014 Page 2 of 4

Typical Electrical Characteristics (T=25°C)

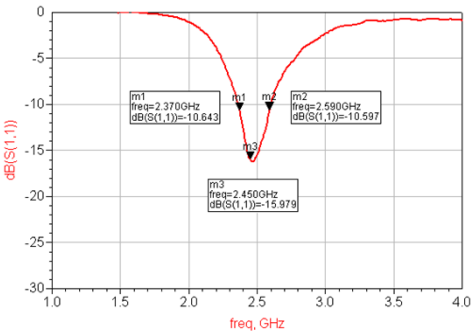
Test Board:
P/N: 2450AT18A100-EB1SMA
(orderable item)

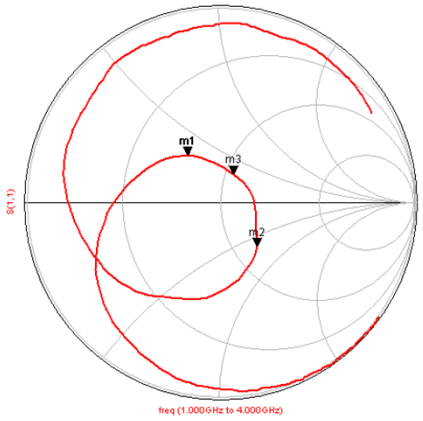
The antenna matching network values here are used when antenna is monted on Johanson's evaluation board. The matching values on clinet's PCB will be different. Go to: www.johansontechnology.com/ipcantennaservices and see how to obtain the new values. If you need further help, contact our RF Applications Eng Team at:

www.johansontechnology.com/component/techquestion

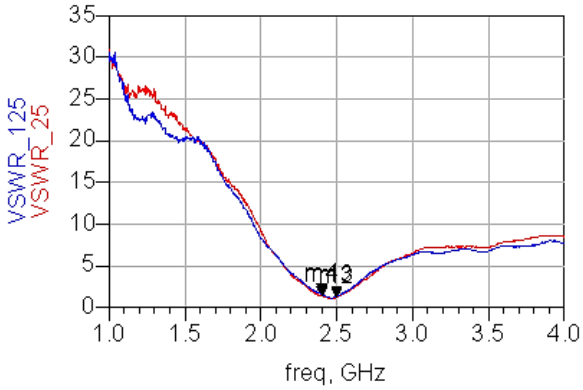


Return Loss with matching circuit @ +25C





VSWR with matching circuit @ +25C and +125C



m1
freq=2.400GHz
VSWR_25=1.386

m2
freq=2.500GHz
VSWR_25=1.219

m4
freq=2.400GHz
VSWR_125=1.606

m3
freq=2.500GHz
VSWR_125=1.332

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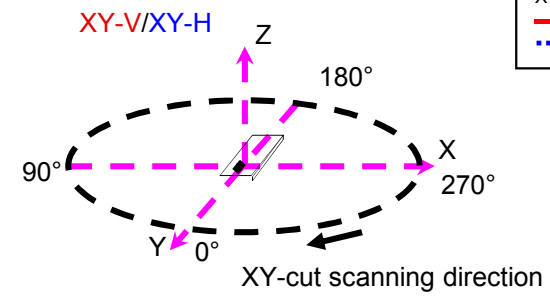
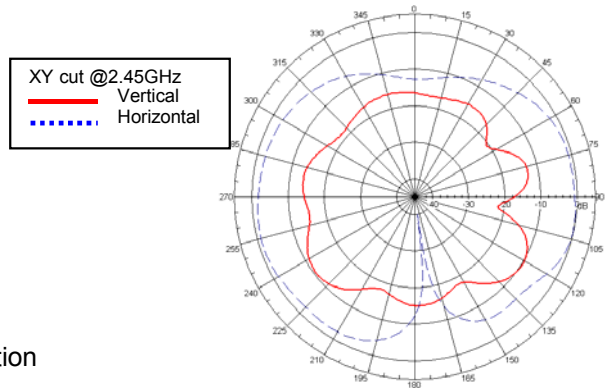
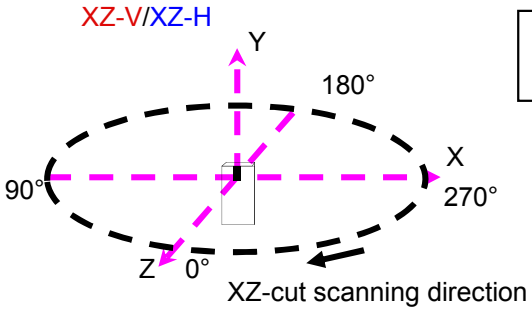
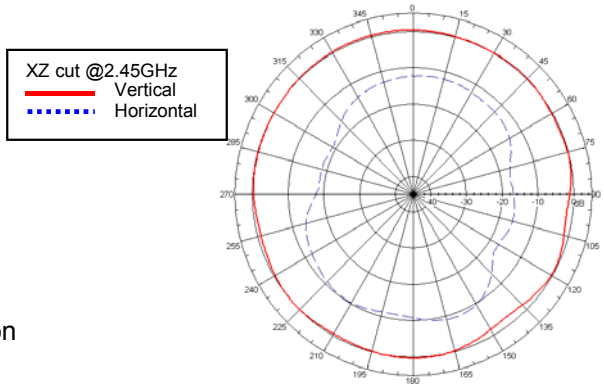
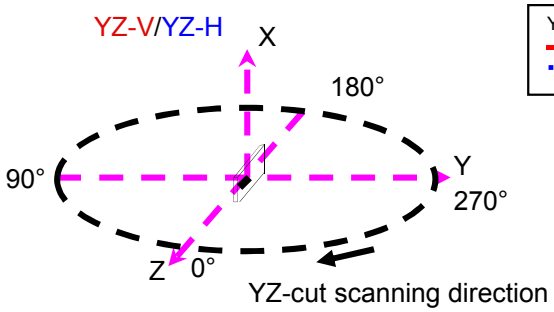
Typical Radiation Patterns at 2.45GHz (+25C)

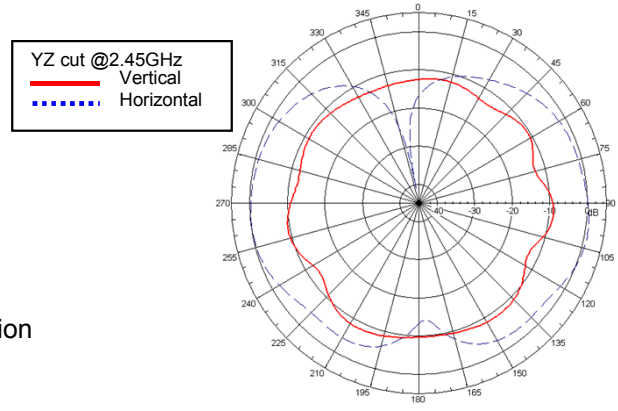












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Part Number Explanation				
P/N Suffix	Packaging Style	Bulk (loose pieces)	Suffix = S	Eg. 2450AT18A100S
		T & R	Suffix = E	Eg. 2450AT18A100E
		T & R (Reverse)	Suffix = R	Eg. 2450AT18A100R (MOQ Applies)
	Termination style	100% Tin (RoHS)	Suffix = S/E/R	Eg. 2450AT18A100(S, E, R)
		Tin / Lead	Please consult Factory	
	Evaluation Board(s) (1-port SMA antenna test boards)	2450AT18A100-EB1SMA (Page 2) Orderable item!		

AEC-Q2000 qualification available after special p/n: 2450AT18A100-AEC order. MOQ of 24K PCS applies for AEC and allow 16 weeks for AEC report leadtime.

Would you like Johanson Technology's RF team to help you design and tune our antenna on your board? Click on the link below:

Antenna layout review, tuning, and characterization services
www.johansontechnology.com/ipcantennaservices

Packaging information
www.johansontechnology.com/ipcpackaging.html

Soldering Information
www.johansontechnology.com/ipcsoldering-profile

RoHS Compliance
www.johansontechnology.com/technical-notes/rohs-compliance.html

MSL Info
www.johansontechnology.com/technical-notes/msl-rating.html

Recommneded Storage Condition and Max Shelf Life
www.johansontechnology.com/ipcstorage-shelflife

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