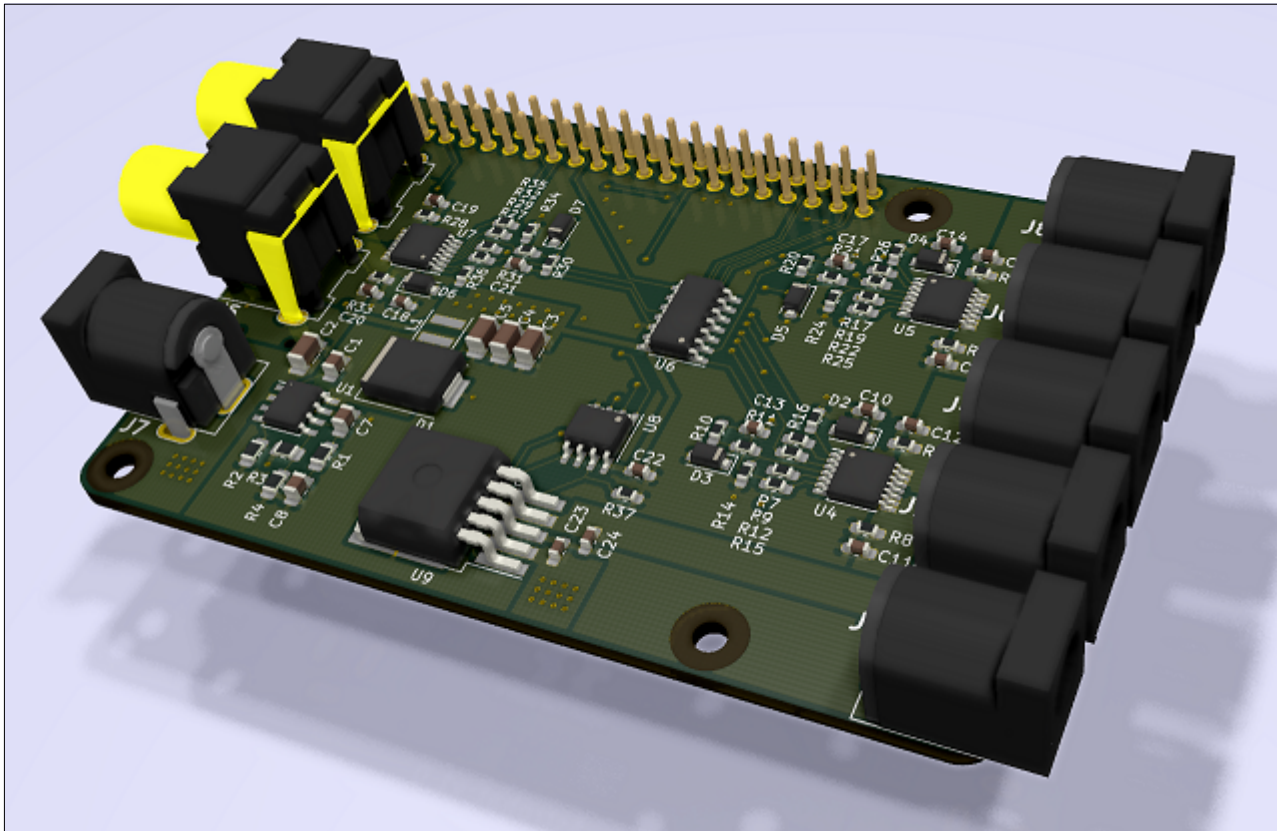


Astrohat Example Documentation



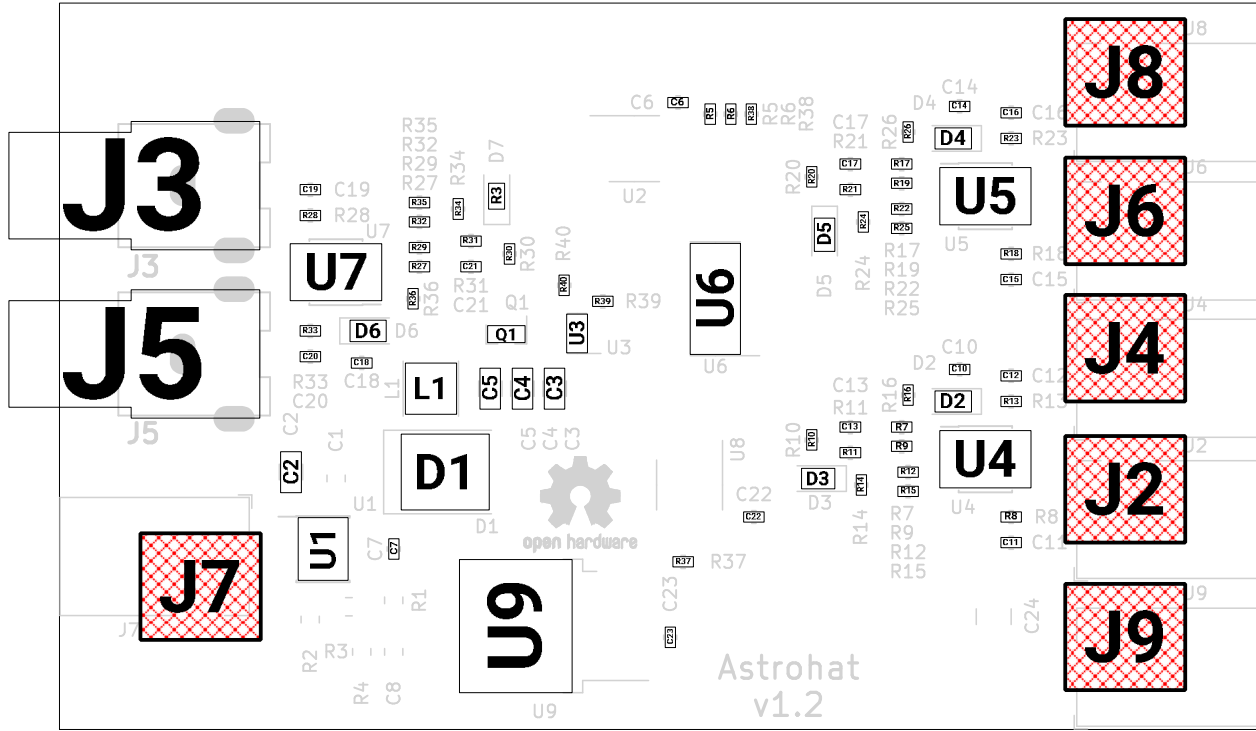
This example documentation is for demonstration purposes only and not to facilitate actual assembly.







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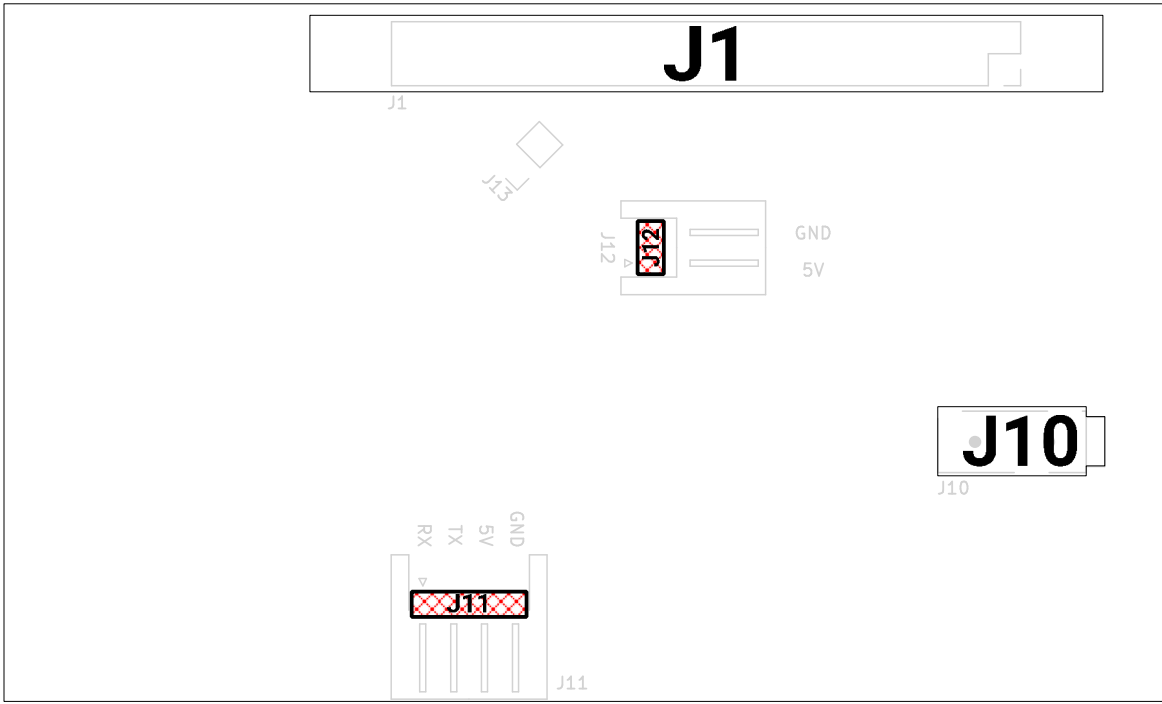
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Do Not Install - Top



Icon	RefDes
	J2
	J4
	J6
	J7
	J8
	J9

Total :6

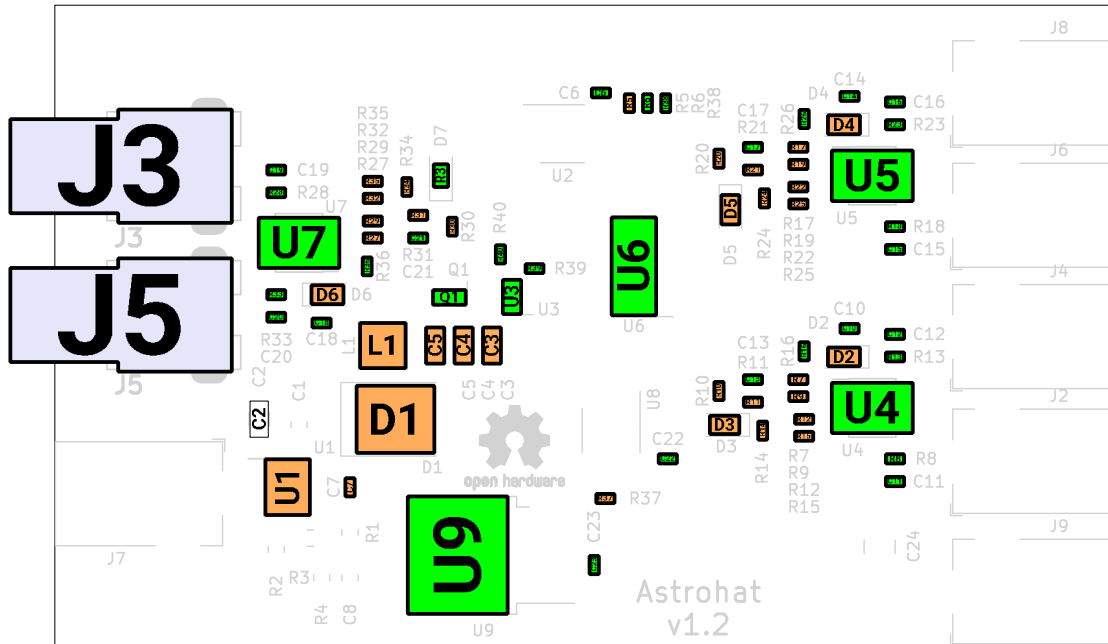





Icon	RefDes
	J11
	J12

Total :2

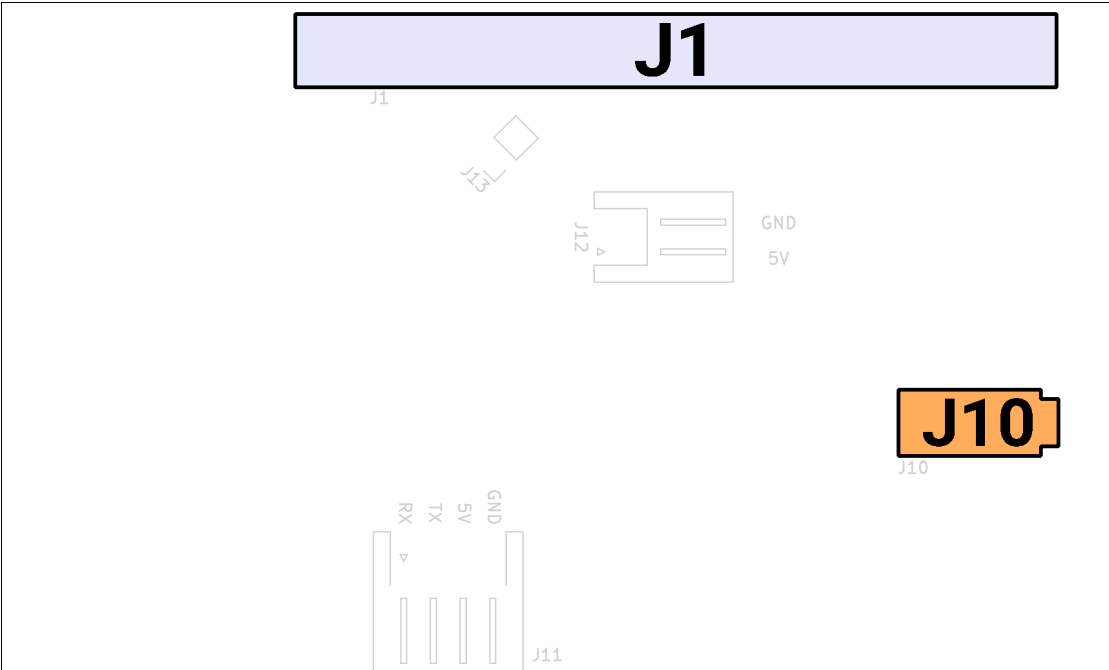
Assembly Plan - Top



NOTICE: C2 is to be held from pick and place operations and dead-bugged during manual assembly.



Icon	Station	RefDes
	Manual Assembly	J3, J5
	edttest7725 - MY9 TPSys25-07	C3-C5, C7, D1-D6, L1, R5, R7, R9-R12, R14-R15, R17, R19-R22, R24-R25, R27, R29-R32, R34-R35, R37, U1
	edttest7725 - MY9 TPSys25-08	C6, C10-C23, Q1, R3, R6, R8, R13, R16, R18, R23, R26, R28, R33, R36, R38-R40, U3-U7, U9

Total :73



Icon	Station	RefDes
	Manual Assembly	J1
	edtttest7725 - MY9 TPSys25-07	J10

Total :2

Preparations

1. Clean the bare board before beginning assembly.
2. Mark the assembly P/N and S/N using a label and 12-point font.
3. Form, tin, and prepare parts, as needed.
4. Organize and place parts in labeled electrostatic safe bags as indicated in Table A and Table B, below.
5. Bake the cleaned bare board and any moisture sensitive parts @ 115-135 °C for a minimum of 1 hour.
 - Record bake times and temperatures in the QMS.
6. After baking, store any moisture sensitive parts in a dry box until they are required for assembly.

Table A (Top)

IPN	Quantity	Station
502PJRAN1X1U03AUX	2	Flexible Manual Assembly - Through-Hole, Manual Assembly

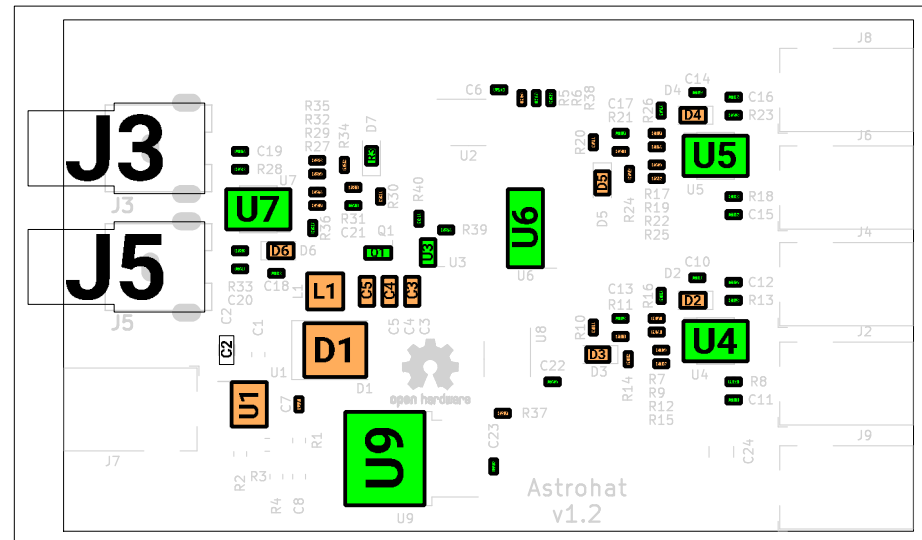
Table B (Bottom)

IPN	Quantity	Station
4851992	1	Manual Assembly, Flexible Manual Assembly - Press-Fit



Pick and Place - Top

NOTICE: C2 is to be held from pick and place operations and will be dead-bugged during manual assembly.

1. Retrieve parts from the dry box and parts stored in reels from the Property Management group for pick and place, as needed.
2. Load the “Astrohat Top Side” pick and place profile.
3. Load parts into the pick and place machine as indicated in the profile.
4. QC,
 - Verify that the parts loaded into the machine match the parts designated for installation by the BOM and engineering.
 - Verify the loaded profile settings.
 - Sign your acknowledgement in the QMS.
5. Apply solder paste to the assembly using the “Astrohat Top Side” stencil.
6. Run the loaded pick and place profile.
7. QC,
 - Inspect parts placed for proper orientation and flag any missing part locations.
 - Direct an operator to place or shift parts by hand, as required.
 - Sign your acknowledgement in the QMS.



Pick and Place - Top

Icon	Station	RefDes
	edtttest7725 - MY9 TPSys25-07	C3-C5, C7, D1-D6, L1, R5, R7, R9-R12, R14-R15, R17, R19-R22, R24-R25, R27, R29-R32, R34-R35, R37, U1
	edtttest7725 - MY9 TPSys25-08	C6, C10-C23, Q1, R3, R6, R8, R13, R16, R18, R23, R26, R28, R33, R36, R38-R40, U3-U7, U9

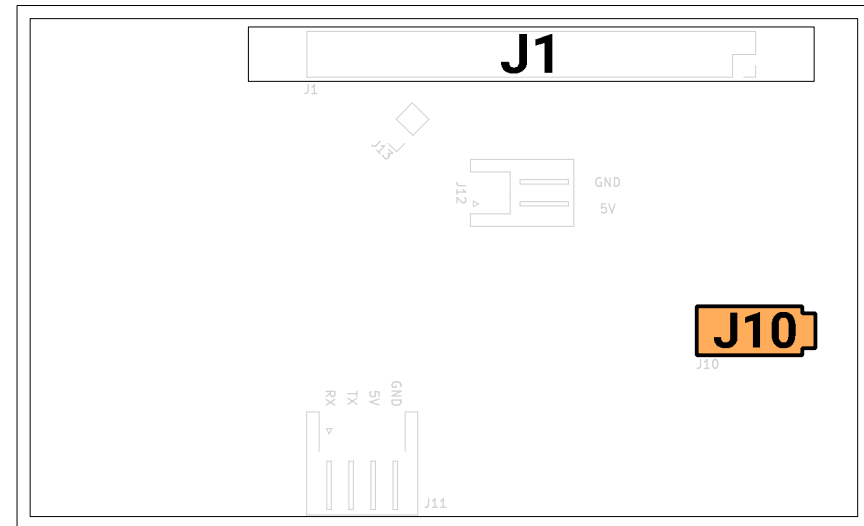
Total :71

Vapor Phase - Top


1. Load the "Astrohat Top Side" vapor phase profile.
 2. QC, verify the loaded profile settings.
 - Sign your acknowledgement in the QMS.
 3. Run the loaded vapor phase profile.
 4. Clean the assembly after it returns to room temperature.
 5. Bake the assembly @ 115-135 °C for a minimum of 1 hour.
 - Record bake times and temperatures in the QMS.
-

Vapor Phase - Bottom

1. Manually apply solder paste to the J10 SMT connector location on the board.
2. Place J10 onto the solder paste by hand.
3. Load the “Astrohat Bottom Side” vapor phase profile.
4. QC, verify the loaded profile settings.
 - Sign your acknowledgement in the QMS.
5. Run the loaded vapor phase profile.
6. After the assembly returns to room temperature, solder the through-hole pins of J10 by hand.
7. Clean the assembly.
8. Bake the assembly @ 115-135 °C for a minimum of 1 hour.
 - Record bake times and temperatures in the QMS.



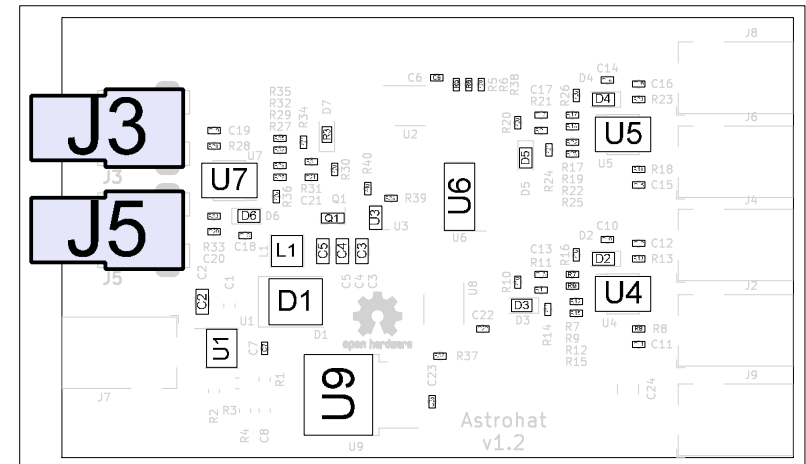
Vapor Phase - Bottom

Icon	Station	RefDes
	edtttest7725 - MY9 TPSys25-07	J10

Total :1

Through-Hole Solder


1. Assemble the J3 and J5 solder fixture (unmarked, provided by engineering) using fasteners and washers (2x IPN 4876882 and 5876334).
2. Using a calibrated torque driver, torque Sequence #1 as indicated in Torque Table 1, below.
 - Record the torque value achieved and the driver calibration record in the QMS.
3. Place J3 and J5 onto their locations on the PCB and slide the solder fixture over the top to hold them in place during solder-pot reflow.
 - The solder fixture may also be secured in place with temporary masking tape, as needed. Use caution not to cover any J3 or J5 pin locations.
4. Mask around connector pins to protect surrounding parts and board traces, as needed.
5. With the assistance of engineering, solder the pins of J3 and J5 using the solder-pot.
 - Engineer, sign your acknowledgement in the QMS.
6. Remove any masking material.
7. Remove the solder fixture and return to engineering.
8. Clean the assembly.
9. Bake the assembly @ 115-135 °C for a minimum of 1 hour.
 - Record bake times and temperatures in the QMS.



Torque Table 1

Sequence #	IPN	Quantity	Description	Torque Range
1	4876882	2	J3 & J5 Fixture	3-4 in-lbs.
	5876334	2		

Through-Hole Solder - Top

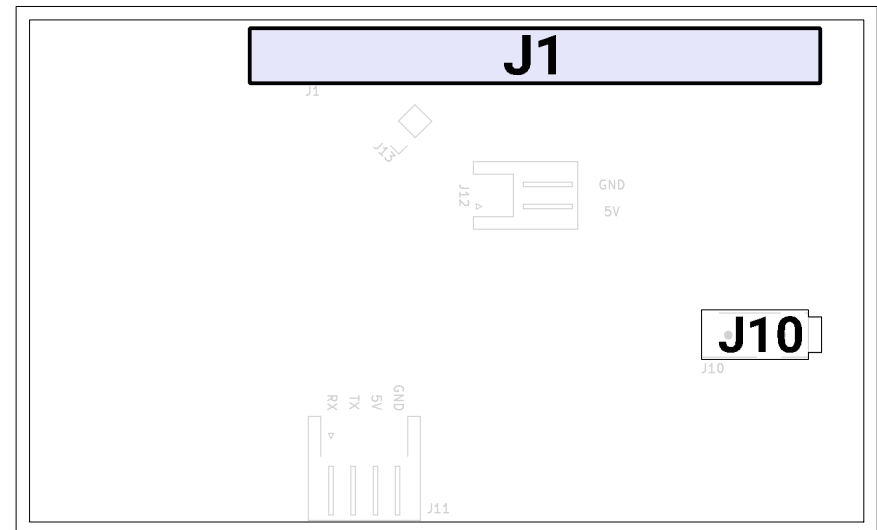
Icon	Station	RefDes
	Flexible Manual Assembly - Through-Hole	J3, J5

Total :2


Press-Fit

NOTICE: If the J1 part in your kit is not the press-fit alternate, please contact engineering for a replacement.

1. Before installation, visually verify that all J1 pins align properly with the holes on the board.
2. With the assistance of a second technician for safe handling, install J1 using the bench-mounted press.
3. QC, inspect J1 for bent pins and proper alignment.
 - Sign your acknowledgement in the QMS.



Press-Fit - Bottom

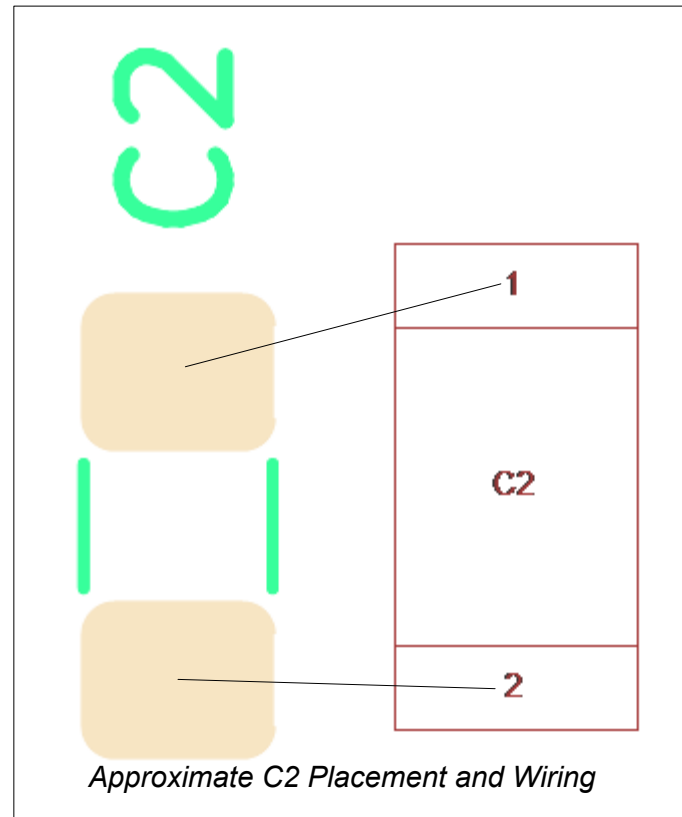
Icon	Station	RefDes
	Flexible Manual Assembly - Press-Fit	J1

Total :1

Dead-Bug

NOTICE: The provided C2 part does not fit on its pads.

1. Prepare a batch of the two-part epoxy (IPN 6874332) by using a rolling device to break the seal and thoroughly mix the parts together.
2. Using a dot of the prepared epoxy, bond C2 next to its pads so that it can be wired to them with 22-gauge wire, after cure.
 - C2 is not polarized and can be placed in any orientation.
3. Cure the epoxy @ 60-70 °C for 1-2 hours.
 - Record bake times and temperatures in the QMS.
4. Using 22-guage wire (IPN 7872553), solder one end of C2 to its adjacent pad and the other end of C2 to its adjacent pad.



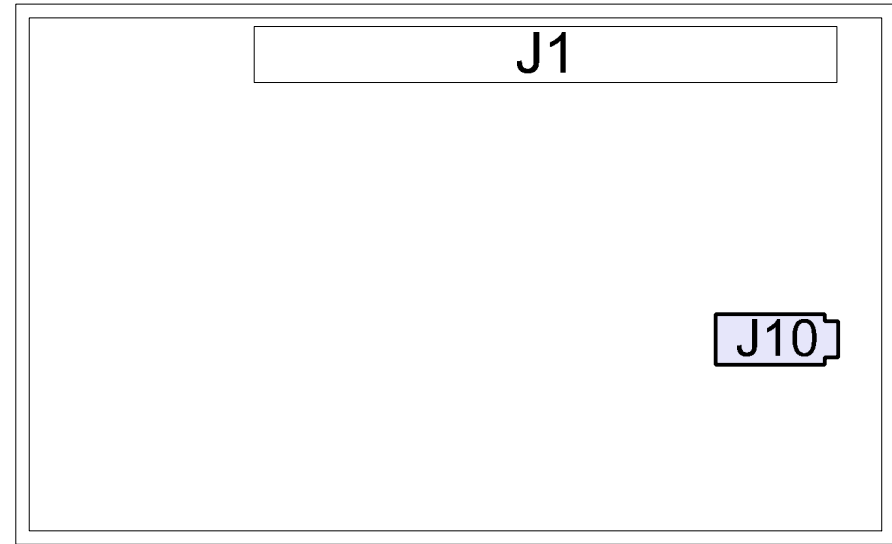
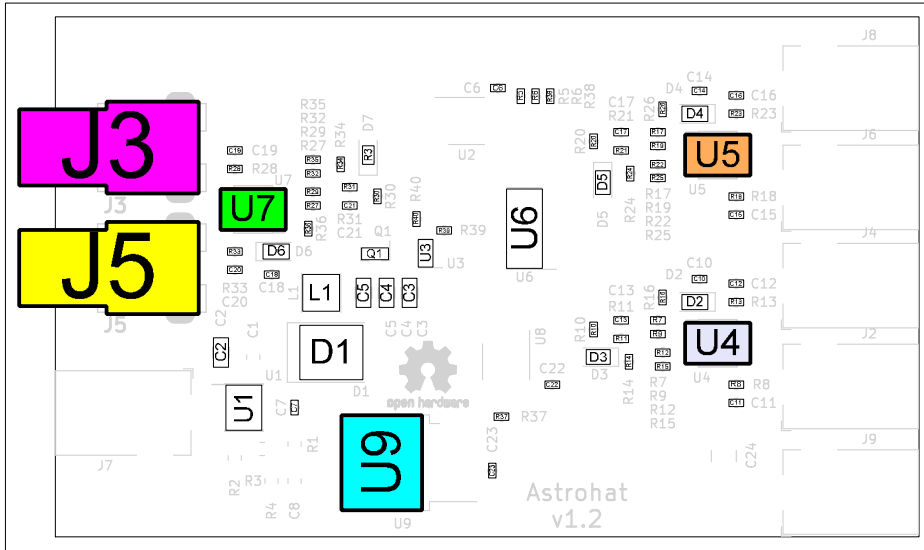
Inspection

1. QC, perform a full assembly inspection including a magnification aided inspection on all solder joints.
 - Sign your acknowledgement in the QMS.
-







X-Ray

1. Obtain x-rays of the parts listed in the tables below and inspect images for compliance.

- Record x-ray duration and sign your acknowledgement in the QMS.




Top X-Rays

Icon	RefDes
	J3
	J5
	U4
	U5
	U7
	U9

Total :6

Bottom X-Rays

Icon	RefDes
	J10

Total :1

Electrical Test

1. Engineering, perform the “Astrohat” test procedure.
 - Record any test events and sign your acknowledgement in the QMS.
-

Final Inspection

1. QC:

- a) Inspect all digital QMS paperwork for proper completion.
 - b) Verify that there are no open test events or non-conformances.
 - c) Perform a final inspection on the completed assembly.
 - d) Sign in the QMS to signify final passage.
 - e) Print the final QMS reports and package with the assembly.
-

Completion

1. Route the completed assembly to the shipping and receiving department with the finalized QMS paperwork.
 2. Mark the work order as completed in the QMS.
-