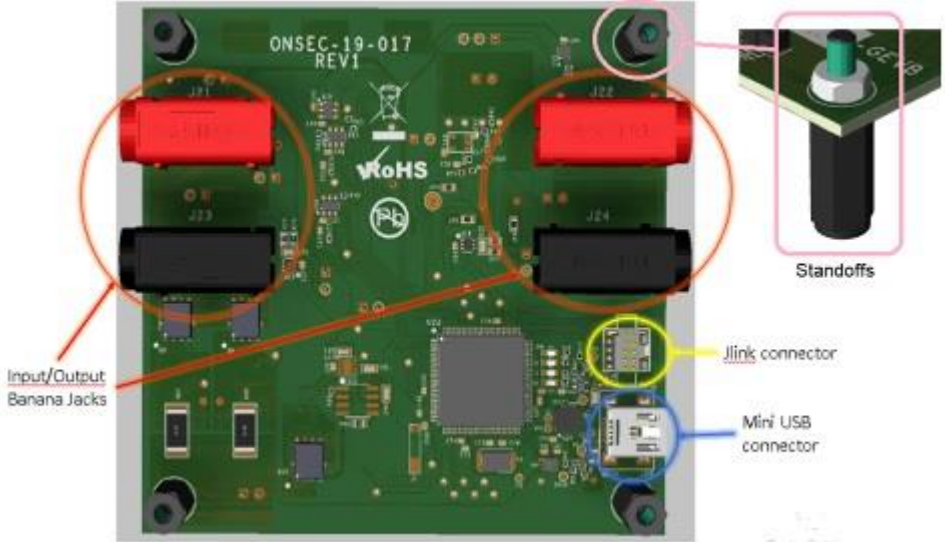
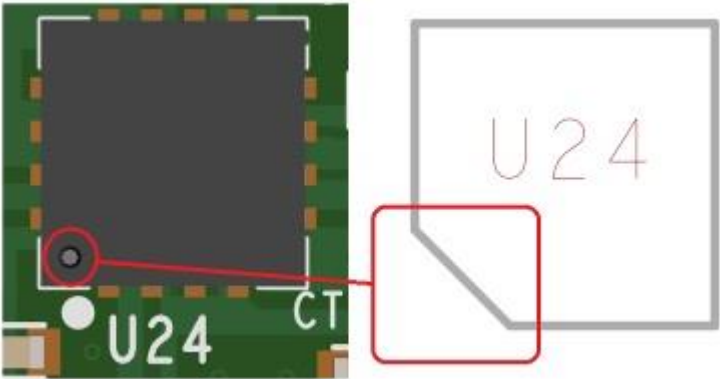
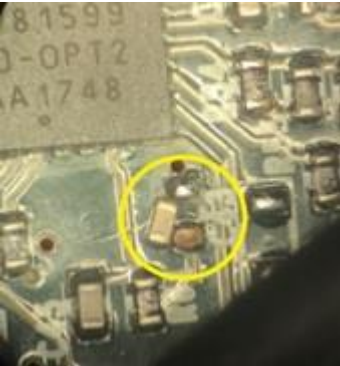
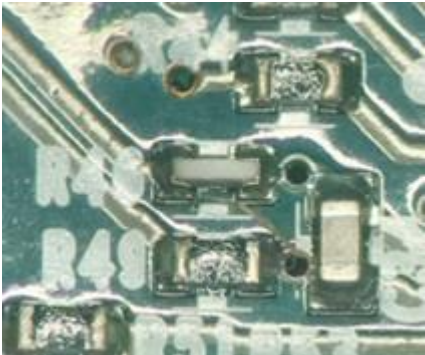

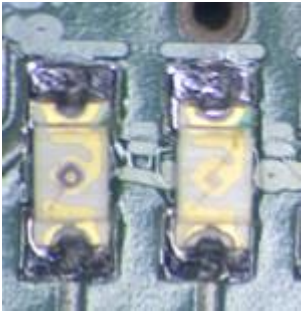



Visual Inspection


Please perform a brief visual inspection of every PCB to ensure adequate PCB fabrication and assembly quality. The tests are generic and intended to catch “big-ticket” manufacturing errors that could indicate electrical performance issues and the existence of obscure issues. Return to the manufacturer if any of these issues are present:


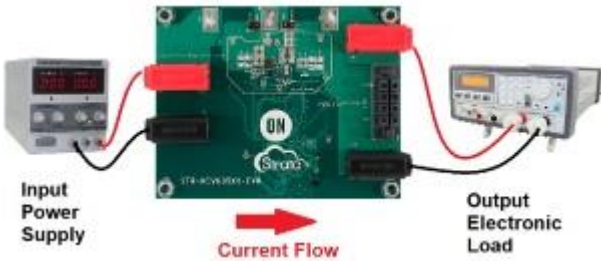
Test	Instructions		Pass Condition
All Board Tests	Tests must be done for every board.		
Component Orientation	<div>1) Ensure proper orientation of all major connectors/mechanical components:<div>a) Mini USB receptacle</div><div>b) Input/output banana jacks</div><div>c) JLink debug connector</div><div>d) Standoffs</div><div>e) <insert applicable items here></div></div> <div>2) Check orientation of polarized component against the assembly layer according to the “Layout” gerber document in Strata’s Platform Content tab. DO NOT use silkscreen as a reference for polarity.<div>a) ICs: U3/U24</div><div>b) Diodes: D37/D38/D39/D40/D41/D42/D48/D49</div></div>	<div>Proper connector/standoff orientation:</div>  <div>Example of correct IC orientation:</div> 	<div><input type="checkbox"/> All components installed with proper orientation</div>
Component Solder Attach/ Seating	<div>1) Check for noticeable errors in component installation:<div>a) Tombstoned/misaligned components</div><div>b) Ripped pads</div><div>c) Cold solder joints</div></div>	<div>Example of improper component placement/seating:</div>  <div>Example of resistor rotated on its side:</div> 	<div><input type="checkbox"/> No obvious solder attachment and seating issues for any components</div>

		<div>Example of ripped pads:</div>  <div>Example of questionably cold/hand-soldered joints:</div> 	
Silkscreen Quality	<div>1) Check for major silkscreen errors. At a minimum, ensure the following are legible:<div>a) OPN marking</div><div>b) ON logo</div><div>c) Strata logo</div><div>d) <insert applicable items here></div></div> <div>2) Ensure no silk on pads</div>	<div>Example of poor silkscreen quality:</div> 	<div><input type="checkbox"/> No major silkscreen errors</div>

Strata Functionality

The following tests are used to verify basic Strata connectivity and proper functionality of the UI/firmware for receiving telemetry and controlling the platform. Some tests only need to be completed once, while others must be completed for every board.

Test	Instructions		Pass Condition
One Time Tests	These tests only need to be done one time per OPN.		
Strata Version Confirmation	<div>1) Ensure Strata version is appropriate for validation.</div> <div>2) Open Strata and login. Create a login if you don't already have one.</div> <div>3) Click the profile letter (first letter of the first name used for login registration step), in the top right corner of the screen, then select "About".</div> <div>4) Check the Strata version in the dialog box that comes up.<div>a) If version is out of date, install the newest Strata release.</div><div>b) If the newest official release version is not new enough, contact SEC for a Beta release.</div></div>		<div><input type="checkbox"/> Strata Developer Studio version is v2.7.0</div>
Strata Platform Selector	<div>1) On "Platform Selection" tab find/search for the STR-100V-BUCK-NCP1034-GEVB OPN in this list</div> <div>2) Select "Browse Documentation"</div>		<div><input type="checkbox"/> OPN is in the "Platform Selection" list</div> <div><input type="checkbox"/> At least one document is shown in "Platform Documents" section unless listed as "Coming Soon"</div>
All Board Tests	Tests below this line must be done on every board.		
Flashing Bootloader and Application	<div>1) Refer to the "bootloader_application_flashing.pdf" file if it exists in the validation document package.<div>a) Otherwise, contact Portland SEC for flashing instructions.</div></div> <div>2) Use the command as referenced in external instructions:</div>		<div><input type="checkbox"/> Conditions in external instructions are satisfied</div>

	a. {"cmd": "set_platform_id", "payload": {"platform_id": "fda98159-37f0-4e07-9ffe-28f46f80f7b5", "class_id": "fda98159-37f0-4e07-9ffe-28f46f80f7b5", "board_count": 0}}		
Strata Detection	<div>1) Unplug mini USB cable from any previous steps (see picture to right for reference to which USB cable).</div> <div>2) Open Strata and Login, you should see Platform Selection list</div> <div>3) Plug in board to computer using mini USB cable</div>		<div><input type="checkbox"/> Strata detects board and is shown as connected in Platform Selector tab</div> <div><input type="checkbox"/> Click “Open Platform Controls”</div> <div><input type="checkbox"/> Both temperature gauges should read room temperature, approximately 21-26°C.</div>
Input Voltage	<div>1) Using lab power supply and banana plugs provide evaluation board with 60V DC with at least 1A current limit (see image to right for polarity).</div> <div>a) Lab power supply must be able to create at least 60V input voltage for these tests.</div> <div>2) HIGH VOLTAGE. BE CAREFUL.</div>		<div><input type="checkbox"/> “Input Voltage” under “Telemetry” will read 60V within 5%.</div> <div><input type="checkbox"/> “VIN” LED under “Status Indicators” is green.</div>
Enable	<div>1) Under “Set Output Voltage” set the slider position in the left most position for 5V.</div> <div>2) Ensure “Enable VCC LDO” and “Output Voltage Adjustment” are in the ON position. This is the default position.</div> <div>3) Toggle the “Enable Buck” switch to the ON position. Read the Output voltage.</div>		<div><input type="checkbox"/> The “Output Voltage” reading is 5V within 5%.</div> <div><input type="checkbox"/> Both “VOUT” and “VCC” LEDs under “Status Indicators” are green.</div>
Interrupts	<div>1) Set Input Power Supply to 60V</div> <div>2) Set “Enable Buck” to ON</div> <div>3) Turn OFF the Input Power Supply</div> <div>4) Check Pass Condition 1</div> <div>5) Turn ON the Input Power supply back to 60V</div> <div>6) Set “Enable VCC LDO” to OFF</div> <div>7) Check Pass Condition 2</div>		<div><input type="checkbox"/> 1) “Status List” box shows “VIN UVLO protection triggered” warning and recommends the user that VIN is too low.</div> <div><input type="checkbox"/> 2) “Status List” box show “VCC fault detected. Check external VCC supply.”</div>