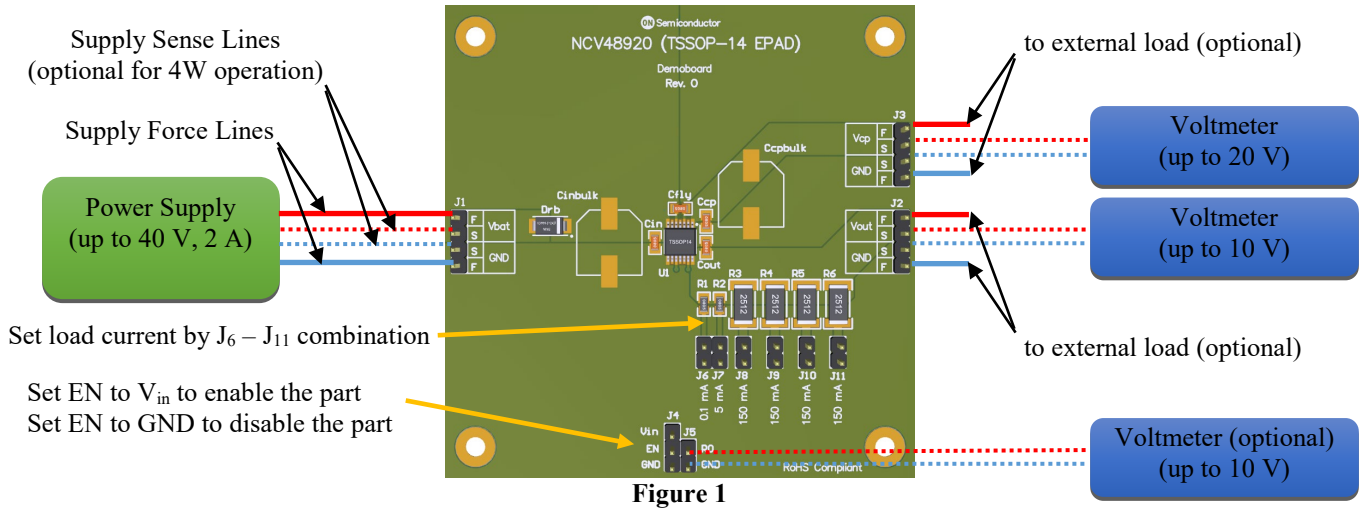




## Test Procedure for the NCV48920PAGEVB Evaluation Board

### Necessary Equipment:

- 1x Power Supply up to 40 V with current limitation up to 2 A (e.g. HAMEG HMP4040)
- 2x (3x optional) DC Volt-Meter able to measure up to 20 V DC. (e.g. KEITHLEY 2000/1)



### Test Procedure:

1. Connect the test setup as shown in Figure 1.
2. Set Power Supply to 8.0 V with current limitation 2 A.
3. Set J4 jumper in position connecting  $V_{in}$  and EN together to enable the part.
4. Set J6, J7, J8, J9, J10, J11 jumpers to set desired output load current (from 0.1 mA to 605.1 mA).

#### LDO mode:

- a. Measure  $V_{out}$  voltage at J2 connector. Use  $V_{out}$  S and GND S terminals for voltage measurements. The measured voltage shall be 5.0 V (RO voltage at J5 shall be 5.0 V).

#### Charge Pump buck mode:

- a. Increasing Power Supply voltage above 13.5 V changes the part to enter to Buck Mode of operation.
- b. Measure  $V_{CP}$  voltage at J3 connector. Use  $V_{CP}$  S and GND S terminals for voltage measurements. At power supply voltage set to 13.5 V the  $V_{CP}$  voltage shall be ~6.5 V or lower depending on load current.
- c. Decreasing Power Supply voltage up to 10.0 V changes the part to enter to LDO mode of operation.
- d.  $V_{out}$  voltage shall be 5.0 V (RO voltage at J5 shall be 5.0 V).

**Charge Pump boosting mode:**

- a. Decrease Power Supply voltage continuously from 7.5 V (or higher) down to 3.5 V.
- b. Measure  $V_{CP}$  voltage at J<sub>3</sub> connector. Use  $V_{CP}$  S and GND S terminals for voltage measurements. At power supply voltage set to 3.5 V the  $V_{CP}$  voltage shall be ~6 V or lower depending on load current. Increasing Power Supply voltage up to ~7.5 V causes that  $V_{CP}$  voltage increases almost ~14 V. Increasing Power Supply voltage above 7.5 V changes the part to enter to LDO mode of operation.
- c.  $V_{out}$  voltage shall be 5.0 V (RO voltage at J<sub>5</sub> shall be 5.0 V).

**Charge Pump voltage limitation mode:**

- a. Increase Power Supply voltage continuously up to 20 V (up to 40 V if load current < 5 mA).
  - b.  $V_{CP}$  shall be limited to 14 V.
  - c.  $V_{out}$  voltage shall be 5.0 V (RO voltage at J<sub>5</sub> shall be 5.0 V).
5. Set J<sub>4</sub> jumper in position connecting EN and GND together to disable the part.
  6. End of test.