



Test Procedure for the NCV48220D50GEVB 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)

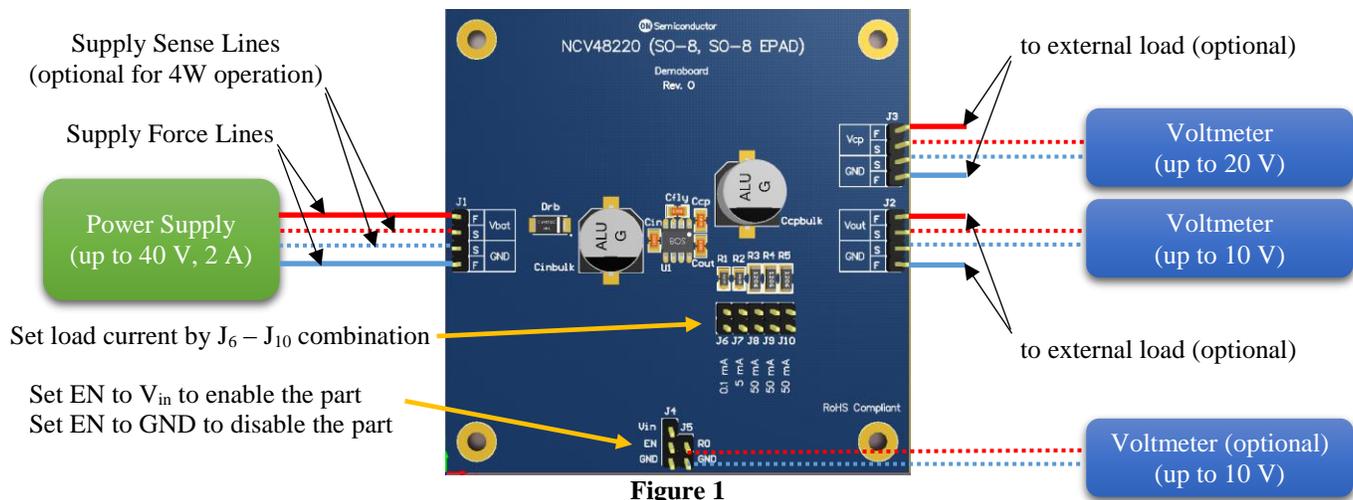


Figure 1

Test Procedure:

1. Connect the test setup as shown in Figure 1.
2. Set Power Supply to 13.5 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 jumpers to set desired output load current (from 0.1 mA to 155.1 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 boosting mode:

- b. Decrease Power Supply voltage continuously from 7.5 V (or higher) down to 3.5 V.
- c. Measure V_{CP} voltage at J₃ 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.
- d. V_{out} voltage shall be 5.0 V (RO voltage at J₅ shall be 5.0 V).

Charge Pump voltage limitation mode:

- e. Increase Power Supply voltage continuously up to 20 V (up to 40 V if load current < 5 mA).
 - f. V_{CP} shall be limited to 14 V.
 - g. V_{out} voltage shall be 5.0 V (RO voltage at J₅ shall be 5.0 V).
5. Set J₄ jumper in position connecting EN and GND together to disable the part.
 6. End of test.