

Test Procedure for the NCP12510B65GEVB Demo Board



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Required Equipment:

Current limited 90 ÷ 265 Vrms AC source (current limited to avoid board destruction in case of defective part) (e.g. KEYSIGHT 6813B) 1pc
AC Wattmeter (e.g. Tektronix PA1000) 1pc
DC Amp-Meter able to measure up to 3.5 A DC (e.g. TEKTRONIX DMM4050)..... 1pc
DC Volt-Meter able to measure up to 30 V DC (e.g. KEITHLEY 2000) 1pc
DC Electronic Load (e.g. AGILENT 6060B) 1pc

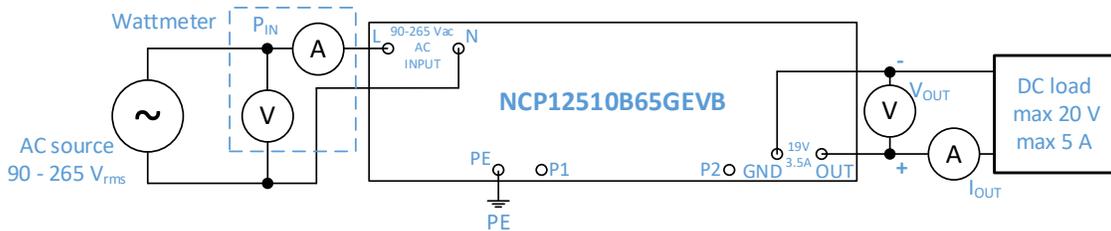


Figure 1: Test Setup

Note:

1) Instead of the external W/V/A-meter, the internal measurement in the AC source and DC load can be used.

Test Procedure:

1. Connect the test setup as shown in Figure 1.
2. Set load current to $I_{OUT} = 0$ A.
3. Apply an input voltage to NCP12510B65GEVB demo board, $V_{IN} = 90 \div 265$ Vac.
4. Check that $V_{OUT} = 19$ Vdc no later than 3s after the input voltage was connected.
5. Set $I_{OUT} = 3.5$ A.
6. Check that $V_{OUT} = 19$ Vdc (there will be some small voltage drop caused by the drop across the terminal connection, drop across wires, etc.).
7. Check that $V_{OUT} = 19$ Vdc and ($70 \text{ W} < P_{IN} < 80 \text{ W}$) if the $I_{OUT} = 3.5$ A and $V_{IN} = 90$ Vac.
8. Check that $V_{OUT} = 19$ Vdc and ($70 \text{ W} < P_{IN} < 80 \text{ W}$) if the $I_{OUT} = 3.5$ A and $V_{IN} = 265$ Vac.
9. For $V_{IN} = 90$ Vac set $I_{OUT} = 5$ A. The output voltage should be zero immediately after the output current 5A was set.
10. Set $I_{OUT} = 3.5$ A and check that $V_{OUT} = 19$ Vdc again. The controller should recovery its normal operation in ~ 3 s after the output voltage collapsed.
11. For $V_{IN} = 90$ Vac set short-circuit by the DC load at the output. The output voltage should be zero immediately after the short-circuit was set.
12. Set $I_{OUT} = 3.5$ A and check that $V_{OUT} = 19$ Vdc again. The controller should recovery its normal operation in ~ 3 s after the output voltage collapsed.
13. Turn off AC source
14. Turn off the load
15. End of the test

Be careful when manipulating the boards during operation, lethal voltages up to 425V are present on the primary side. An isolation transformer is also recommended for safer manipulations.