Test Procedure for the NCP12700 45W PoE Compatible Fixed Vout EVB

ON Semiconductor®

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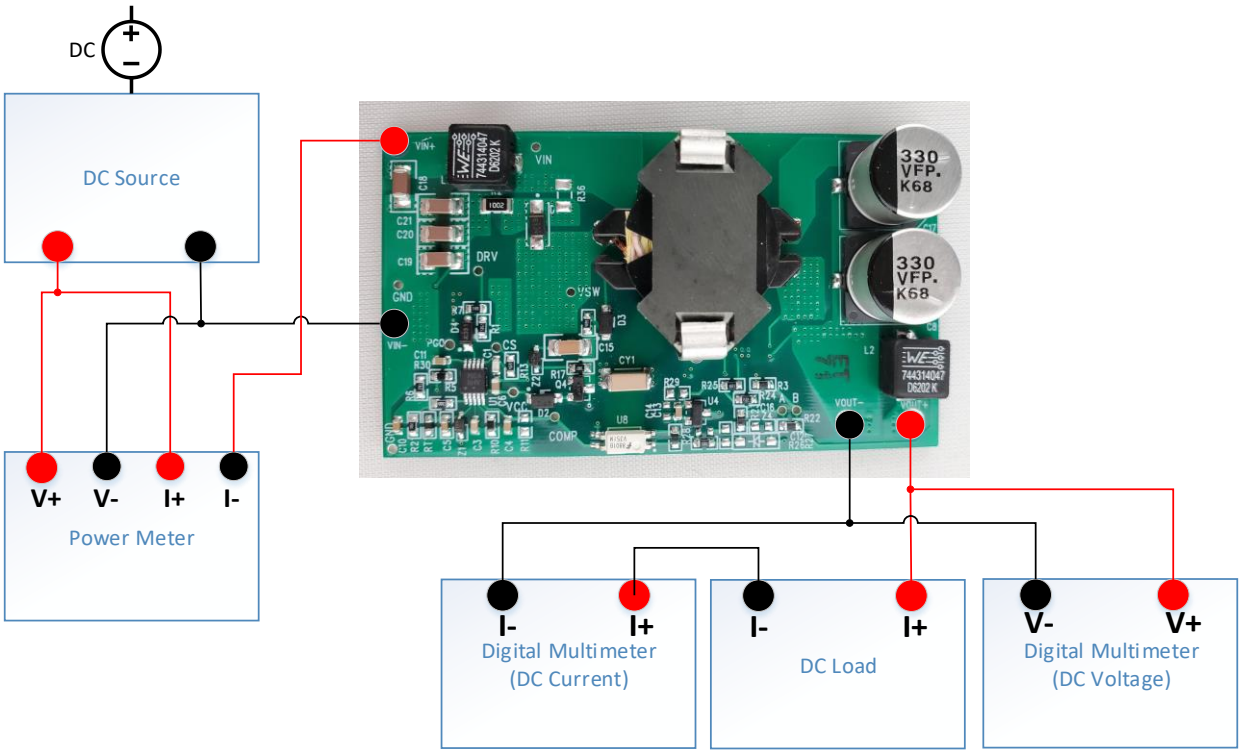

Figure 1 - Test Configuration

Table 1: Required Equipment

*Chroma 62012 DC Source	*Yokogawa WT210 Power Meter	*Agilent 34401A Digital Multimeter x2
*Kikusui PLZ303W DC Electronic Load		One NCP12700 Fixed Vout Evaluation Board

*Equivalent test equipment may be substituted

Test Procedure:

1. Connect the Agilent 34401A Digital Multimeter (measuring DC I) in series with the output terminals and the Kikusui PLZ303W DC Electronic Load. Reference figure 1.
2. Set Kikusui PLZ303W DC Electronic Load to C.C. mode.
3. Set load current on Kikusui PLZ303W DC Electronic Load to 500 mA.
4. Connect the Agilent 34401A Digital Multimeter (measuring DC V) to the output as shown on figure 1.
5. Connect the DC source with the Power Meter and NCP12700 board as shown in Figure 1.
6. Set the DC power source to 48 V and turn on power source
7. Wait 10 seconds and verify that the voltage measured on Agilent voltage multimeter is 23.5 +/- 0.5 V. Verify load current on Agilent current multimeter.
8. Slowly increase the load current to 1.91 A. Verify on Agilent current multimeter that current is 1.91 A +/- 1%
9. Allow evaluation board to run for approximately 30 seconds then use Power Meter to measure input power. Calculate the efficiency and record measurements.
10. Take the efficiency readings at 1.91 A (100% Load), 1.43 A (75% load), 0.96 A (50% load), 0.48 A (25% load) and 0.19 A (10% load). Verify the readings around the numbers in table 2.
11. Set the DC power source to 37 V and turn on power source
12. Repeat steps 8-11.
13. Set the DC power source to 57 V and turn on power source
14. Repeat steps 8-11
15. Turn off the DC power source.
16. Disconnect the DC source.
17. Disconnect the electronic load.
18. Disconnect multimeters.
19. End of test.

Table 2. Efficiency Measurements

	Efficiency @ Load Percentage (%)				
Load Percentage	10%	25%	50%	75%	100%
Efficiency at Vin = 37 Vdc	77.8%	81.6%	88.9%	92.2%	91.3%
Efficiency at Vin = 48 Vdc	68.1%	82.5%	91.4%	90.1%	93.1%
Efficiency at Vin = 57 Vdc	64.5%	85.3%	88.8%	90.4%	91.1%