Test Procedure for the NCP4371QC30GEVB Demoboard

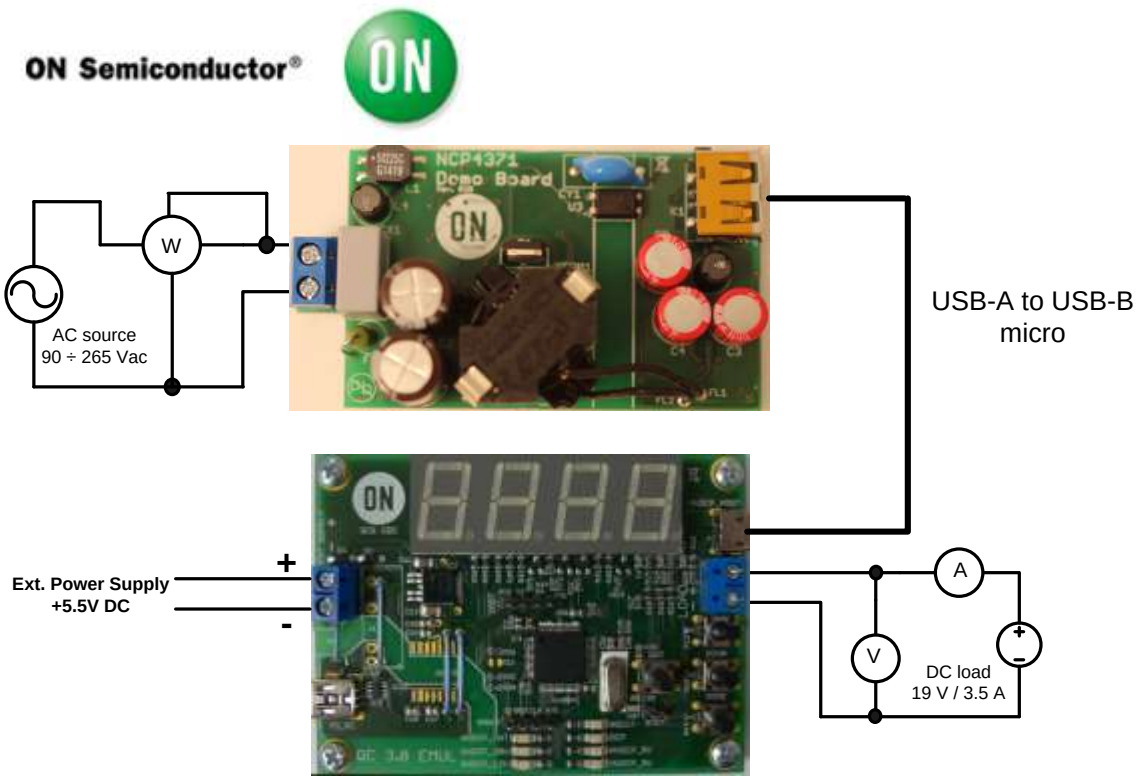

Figure 1: Test Setup

The following steps describe the test procedure for all these boards:

Required Equipment:

Current limited AC Power Supply (e.g. AGILENT 6811B) ····· 1pc
DC Volt-Meter able to measure up to 60 V DC (e.g. KEITHLEY 2000) ····· 1pc
DC Amp-Meter able to measure up to 5 A DC (e.g. FLUKE 89 IV) ····· 1pc
Watt-Meter (e.g. Yokogawa WT210) ····· 1pc
DC Electronic Load (e.g. AGILENT 6060B) ····· 1pc
QC3.0 EMULATOR ····· 1pc

Test Procedure:

1. Connect the test setup as shown in Figure 1.
2. Apply an input voltage, VIN = 120 Vac
3. Check V_{OUT}= 5.0 V +/- 0.2 V
4. Apply $I_{OUT(load)}$ = 500 mA
5. Check V_{OUT}> 4.5 V
6. Check efficiency that Eff > 80%
7. Apply $I_{OUT(load)}$ = 2 A
8. Check V_{OUT}> 4.5 V
9. Check efficiency that Eff > 82%
10. Apply $I_{OUT(load)}$ = 1 A

11. Push button MODE on QC3.0 Emulator, yellow LED HVDCP_CNT is on
12. Push UP button several times and observe if VOUT increases in 200mV steps
13. Push DOWN button several times and observe if VOUT decreases in 200mV steps
14. Push button MODE on QC3.0 Emulator (2x), yellow LED HVDCP_9V is on
15. Check V_{OUT}> 8.5 V
16. Push button MODE on QC3.0 Emulator (1x), yellow LED HVDCP_12V is on
17. Check V_{OUT}> 11.5 V
18. Push button MODE on QC3.0 Emulator (1x), yellow LED HVDCP_20V is on
19. Check V_{OUT}> 11.5 V
20. Push button MODE on QC3.0 Emulator (1x), yellow LED HVDCP_5V is on
21. Check V_{OUT}> 4.5 V
22. Increase an input voltage to VIN = 230 Vac
23. Apply $I_{OUT(load)}$ = 2 A
24. Check V_{OUT}> 4.5 V
25. Check efficiency that Eff > 82%
26. Turn off AC source
27. End of the test