NCV7680-NCV3163 Demo Board Test Procedure (Rev 4).

TEST Setup

1) Make sure all 12 jumpers (J1-J11, J13) are connected on the board.
2) Move the switch on the board to the left.
    a. This turns the input power off.
3) Connect a DC power supply (16V 2 Amp) to the STOP Input.
4) Connect PWM Input to a function generator with variable duty cycle.
    a. Set function generator to output a square wave.
    b. Set frequency to 200 Hz.
    c. Set amplitude for 0V to 5V.
    d. Set duty cycle to 90% (or as high as function generator will allow).
5) Connect probe to DIAG (5V/Div) and PWM Input (5V/Div).

Functional Check

6) Toggle SW1 (STOP Input) to the right.
    a. Verify all LEDs turn on.
7) Vary the duty cycle of the PWM Input.
    a. Verify LED brightness changes.
    b. Toggle SW1 (STOP Input) to the left.
    c. When completed, disconnect function generator from PWM Input
    d. Short PWM Input to VP.

Measurements

8) Current Source operation (STOP Input) to the right.
    a. Remove Jumper J4.
    b. Connect an ammeter between the posts of the jumper.
    c. Toggle SW1 (STOP Input) to the right.
        i. Verify the ammeter reading follows the Evaluation Board User's Manual values.
    d. Toggle SW1 (STOP Input) back to the left.
    e. Remove ammeter and replace Jumper J4.
9) VBoost Regulation
    a. Connect a voltmeter to VBOOST
    b. Toggle SW1 (STOP Input) to the right.
    c. Measure the voltage on VBOOST
        i. Verify VBOOST is between 27V and 35V (NOTE: Current version of board runs at around 30V)
10) DIAG Reporting
    a. Open Jumper 4.
        i. Verify DIAG is high while PWM Input is high.
    b. Replace Jumper and repeat for Jumpers 5 through 11.
    c. Toggle SW1 (STOP Input) to the left.
11) Quiescent Current.
    a. Remove Jumper J2.
    b. Connect an ammeter between the posts of the jumper.
    c. Toggle SW1 (STOP Input) to the right.
        i. Measure the current through the meter.
            1. Confirm Iq < 10mA.
    d. Toggle SW1 (STOP Input) to the left.
    e. Remove ammeter.
    f. Replace Jumper J2.