**Test Procedure for the NCV8x1930MW0x Family of Evaluation Boards**

This evaluation board family is designed for a maximum output load of 6 A (10 A maximum for the NCV881930MW00−50GEVB) over an input voltage range of 6 V to 35 V (37 V surge). A number of components vary in value between boards to optimize them for the given output voltage, switching frequency, and load current (listed as SEE BOM on the schematic).

This test procedure will demonstrate the general functionality of the NCV8x1930 evaluation boards:

1. Connect a DC input voltage, within the 6 V to 35 V range, between VIN and PGND. Initial setting should be 6 V.
2. Connect an oscilloscope channel between the SW test point pad and PGND.
3. Connect an electronic load (set to 6 A for evaluation board’s output voltage) or calculated equivalent power resistive load between VOUT and PGND.
4. Connect a digital voltmeter between VOUT and PGND.
5. Connect an ammeter in line with the electronic load or calculated equivalent power resistive load.
6. Connect a jumper wire between ENABLE and VIN.
7. The following should be observed on the connected test equipment:

NCV891930MW00−33GEVB,

NCV881930MW00−33GEVB

* Digital Voltmeter reads 3.3 V ±2% and should remain at this level until ENABLE jumper is removed.
* Ammeter reads 6 A.

NCV891930MW00−50GEVB,

NCV881930MW00−50GEVB

* Digital Voltmeter reads 5.0 V ±2% and should remain at this level until ENABLE jumper is removed.



**NCV8x1930MW0x−xxxGEVB PCB Connections**

* Ammeter reads 6 A.

NCV891930MW01−3.65GEVB

* Digital Voltmeter reads 3.65 V ±2% and should remain at this level until ENABLE jumper is removed.
* Ammeter reads 6 A.

NCV891930MW01−40GEVB

* Digital Voltmeter reads 4.0 V ±2% and should remain at this level until ENABLE jumper is removed.
* Ammeter reads 6 A.

1. Increase VIN to approximately 7.5 V.

Note that the switching waveform now shows the distinctive spread spectrum behavior around the appropriate frequency (410 kHz for NCV881930 boards and 2 MHz for the NCV891930 boards)

1. Further increase VIN to approximately 20 V.

Note that the switching waveform now shows a fixed 410 kHz for the NCV881930 boards and a fixed 1 MHz for the NCV891930 boards.

1. Reduce VIN to 13.2 V (spread spectrum behavior should return).
2. Remove ENABLE jumper – both ammeter and voltmeter readings should show zero.