Test Procedure for the NCL30083BB1GEVB Evaluation Board

Equipment Needed

- AC Source – 100 to 265 V ac 50/60 Hz Minimum 1 A ac capabilities
- AC Wattmeter – 30 W Minimum, True RMS Input Voltage and Current, Power Factor 0.2% accuracy or better
- DC Voltmeter – 100 V dc minimum 0.1% accuracy or better
- DC Ammeter – 1 A dc minimum 0.1% accuracy or better
- LED Load
    - Flyback – 14 – 17 V dc – 5 LED Load @ 500 mA
    - Buck Boost – 50 – 55 V dc – 15 LED Load @ 200 mA

Test Connections

1. Connect the Unit Under Test (UUT) per the test set up in Figure below.

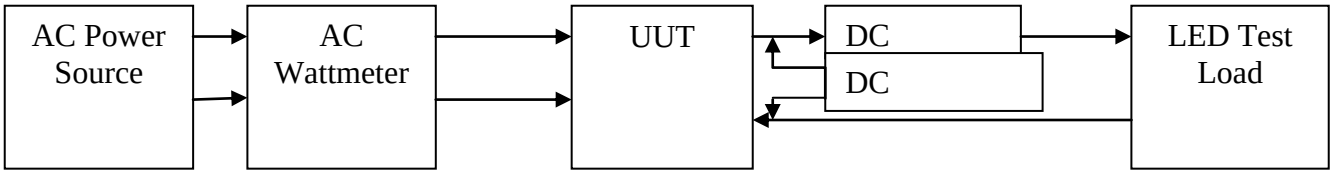

Figure: Test Set Up

2. Set the AC source to 120 ±1 V ac RMS 60 Hz or 230 ±2 V ac RMS 50 Hz.

Note: Unless otherwise specified, all voltage measurements are taken at the terminals of the UUT.

Functional Test Procedure

Buck Boost Version (NCL30083BB1GEVB)

Test Condition	Test Variable	Test Limits		Pass/Fail
		Min	Max	
Vin = 100 V ac	Output Current	190 mA	200 mA	
Vin = 120 V ac	Output Current	190 mA	200 mA	
Vin = 265 V ac	Output Current	190 mA	200 mA	
Vin = 265 V ac	Power Factor	0.70		
Vin = 120 V ac Vout = 55 V	Efficiency (use actual measured data)	87 %		

$$\text{Efficiency} = \frac{Vout \times Iout}{Pin} \times 100\%$$

Step Dimming Test Procedure NCL30083BB1GEVB/NCL30083FLYGEVB

1. Connect the UUT to the LED load.
2. Apply 120 V ac power.
3. Verify that the output current is within the regulation limits as specified in the functional test procedure.
4. Interrupting the AC input for 1-2 s will step the output current down.
5. There 6 discrete current levels. After the lowest level, the current will return to maximum output.
6. Cycle the input power 6 times validating that the current steps down at each cycle and returns to maximum.