ON Semiconductor®

Test Procedure for the NCL30086GEVB Evaluation Board

Test Procedure

Equipment Needed

AC Source – 90 to 305 V ac 50/60 Hz Minimum 500 W capability
AC Wattmeter – 300 W Minimum, True RMS Input Voltage, Current, Power Factor, and THD 0.2 % accuracy or better
DC Voltmeter – 300 V dc minimum 0.1 % accuracy or better
DC Ammeter – 1 A dc minimum 0.1 % accuracy or better
LED Load – 75 V @ 0.1 A. A constant voltage electronic load is an acceptable substitute for the LEDs as long as it is stable. Use 100Ω resistor in series with electronic load and set electronic load at 65V CV to compensate for 10V drop across the resistor.
Electronic Load – 20 mA CC
Decade Box/Resistor – 100 Ω

Test Connections

1. Connect the LED Load or the electronic load with the 100 ohm resistor in series to the red(+) and black(-) leads through the ammeter shown in Figure 8. Caution: Observe the correct polarity or the load may be damaged.

2. Connect the AC power to the input of the AC wattmeter shown in Figure 8. Connect the white leads to the output of the AC wattmeter

3. Connect the DC voltmeter as shown in Figure 8.

4. Connect the DC electronic load between ground and +3.3V on the output block terminal

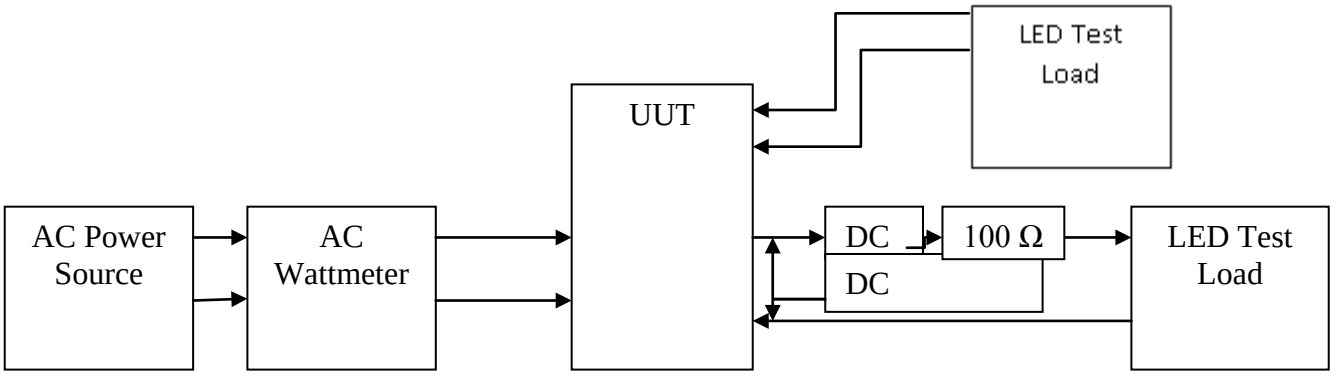


Figure 8. Test Set Up

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

Functional Test Procedure

1. Set the LED Load for 75 V output or with electronic load set for 65 V constant voltage with 100Ω in series.
2. Set the input power to 120 V 60 Hz. Caution: Do not touch the ECA once it is energized because there are hazardous voltages present.
3. Output current should be 100mA ± 3mA.
4. Power factor should be greater than 0.95
5. Power on the DC electronic load to 20mA
6. The voltage on the DC electronic load should be 3.3V
7. Set the input power to 230 V 60 Hz
8. Output current should be 100mA ± 3mA.
9. Power factor should be greater than 0.80
10. Power on the DC electronic load to 20mA
11. The voltage on the DC electronic load should be 3.3V