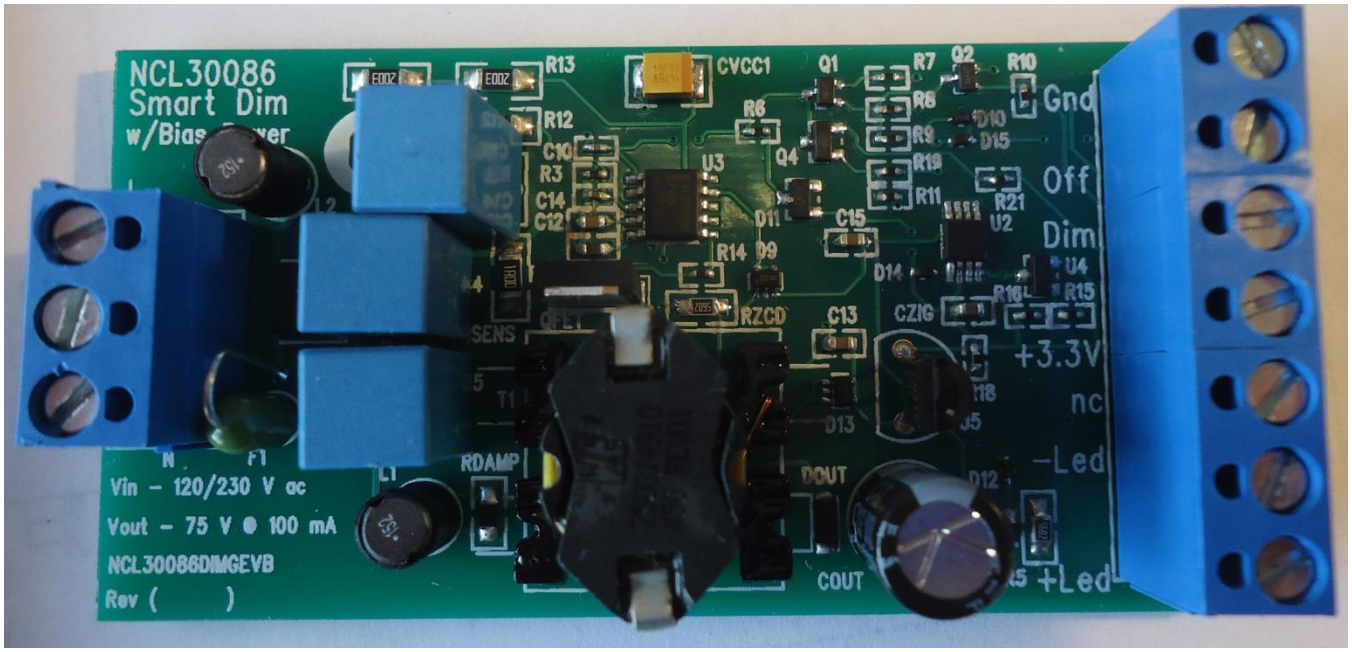
ON Semiconductor®

Test Procedure for the NCL30186SMRTGEVB Evaluation Board

ECA Pictures



Top View

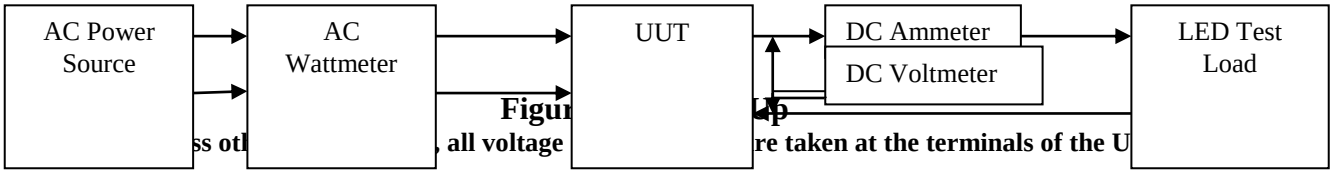
Test Procedure

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.

Test Connections

1. Connect the LED Load 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.



Figur **Up**
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Functional Test Procedure

1. Set the LED Load for 75 V output.
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.

Line and Load Regulation
120 V / Max Load

LED Output	Output Current 100 mA ± 3 mA	Output Power	Power Factor	
75 V				3.3 V Load = 0
75 V				3.3 V Load = 20 mA
	Output Voltage			

Aux Voltage	Min	Measured	Max	
3.3 V	3.0 V		3.6 V	LED Current = max
3.3 V	3.0 V		3.6 V	LED Current = 0 (dim = 0 V)
3.3 V	3.0 V		3.6 V	On/Off = Off

230 V / Max Load

LED Output	Output Current 100 mA ± 3 mA	Output Power	Power Factor	
75 V				3.3 V Load = 0
75 V				3.3 V Load = 20 mA
	Output Voltage			
Aux Voltage	Min	Measured	Max	
3.3 V	3.0 V		3.6 V	LED Current = max
3.3 V	3.0 V		3.6 V	LED Current = 0 (dim = 0 V)
3.3 V	3.0 V		3.6 V	On/Off = Off

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