

# Test Procedure for the NCP1230GEVB

ON Semiconductor®



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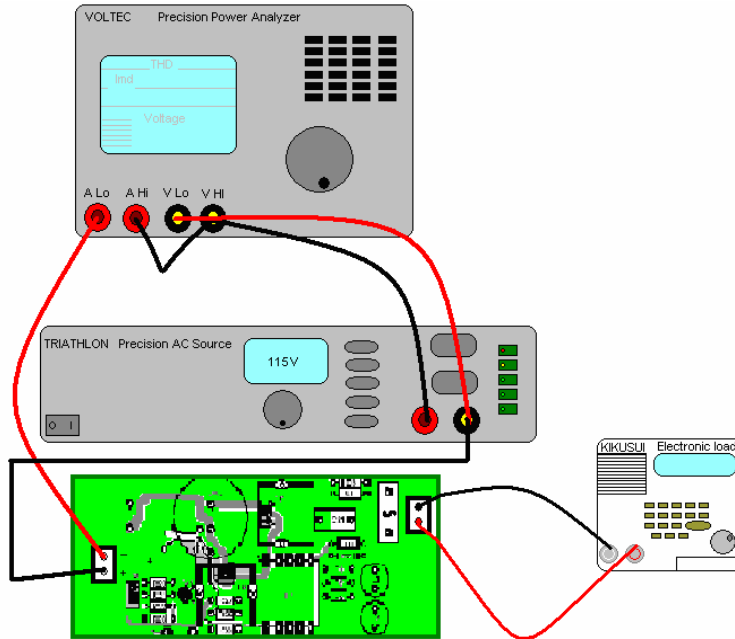


Figure 1: NCP1230 Test Setup

Table 1 : Test Equipment

ac Source 85 - 265 Vac, 47 - 64 Hz	Variable Electronic Load
Digital Multimeter	Voltec Precision Power Analyzer

1. Connect the ac source to the input terminals J4.
2. Connect a variable electronic load to the output terminals J2, the PWB is marked +, for the positive output, and - for the return.
3. Set the variable electronic load to 45 W.
4. Turn on the ac source and set it to 115 Vac at 60 Hz.
5. Verify that the NCP1230 provides 19 Vdc to the load.
6. Vary the load and input voltage. Verify that the output voltage is within the minimum and maximum values as shown in Table 3.

**Table 2: Expected Values for Varying Input Voltages and Loads**

Vin (Vac)	Vo (Vdc) @ No Load	Vo (Vdc) @ 45 W	Vo (Vdc) @ 90 W	THD (%)	PF 90 W
90	19.1	19.0	18.8	6.5	0.995
115	19.1	19.0	18.8	7.8	0.995
230	18.7	19.1	18.8	20	0.97

Table 2 shows typical values, the initial set point (19.0 Vdc may vary).

7. To verify total harmonic distortion (THD) first, shut off the ac power supply.
8. Connect the Voltec Precision Power Analyzer as shown in Figure 1.
9. Turn on the ac source to 115 Vac at 60 Hz and set the electronic load to 90 W (Only measure the THD at full load).
10. Verify that the current Harmonics (THD) are less than the maximum vales in Table 5.
11. Verify that the PF is greater than the minimum values in Table 5.
12. Set the ac source output to 230 Vac at 60 Hz.
13. Verify that the current Harmonics (THD) are less than the maximum vales in Table 5.
14. Verify that the PF is greater than the minimum values in Table 5.
15. Set the ac source to 115 Vac, set the load to 0 Adc, and measure the standby power, refer to Table 4 for the maximum acceptable input power.
16. Set the ac source to 230 Vac, and refer to Table 4 for the maximum input power.

**Table 3 : Regulation**

Vin (Vac)	Pinmax (W)	Vomin (Vdc)	Vomax (Vdc)	IO (Adc)	Po (W)	Eff (%)
90	115	18.7	19.1	4.85	90	80.0
115	114	18.7	19.1	4.85	90	80.0
230	112	18.7	19.1	4.85	90	81.0

**Table 4: Stand-by Power**

Vin (Vac)	Pinmax (mW)
115	150
230	200

**Table 5: Power Factor and THD**

Vin (Vac)	PFmin (W)	THDmax (%)	PO (W)
90	0.990	8.0	90
115	0.990	9.0	90
230	0.96	21.0	90