



Test Procedure for the NCP1083WIRGEVB Evaluation Board

Test Procedure:

- 1) Connect a load to the output connector Jout (1, 2, 3) is +12V and Jout (4, 5, 6) is ground. The load may range from 0 to 30W.
- 2) When using the Power over Ethernet input, connect a lab supply or IEEE802.3at compliant PSE equipment to one of the power over Ethernet inputs pair connections:
 - a. Between connector P1, pin 3 and 4 for regular efficiency (polarity can be chosen freely).
 - b. Between connector P1, pin 5 and 6 for increased efficiency (polarity can be chosen freely).
- 3) When using the auxiliary input, connect a lab supply (or any other available DC source) to connector P1, pin 7, 8 for the positive node and pin 9, 10 for ground.
- 4) The DC/DC converter shall start working as soon as detection and classification is completed in PoE powered mode or as soon as power is applied on the auxiliary input.
- 5) Measure the output voltage to be 12V and that ripple or noise on the output is within the specification.
- 6) DC/DC converter stability can be briefly checked by switching on and of repeatedly the load and monitor the voltage transients on an oscilloscope (there should be no oscillation on the output voltage).

Notes:

- 1) Only apply power to either one of the PoE input pairs or the auxiliary input supply, not at 2 or 3 inputs at the same time (although this should not result in damage to the board).
- 2) The heat sinks on the board are dimensioned to cope with the extreme input currents when the lowest auxiliary input voltage of 9V is used.
- 3) The auxiliary input supply circuitry was designed to operate from 9V. Although the board supports higher auxiliary input voltages (up to 57V), it is advisable to tune the Raux1...3 resistors when higher input voltages are used for long duration in order not to generate excess heat in the clamping diodes Zaux1,2. (see NCP1082-3 PoE Auxiliary Supply Applications.pdf)