

Test Procedure for the NCV12711PSRGEVB Evaluation board

04/21/2022

Required Equipment:

DC source (able to provide 50 V / 3 A)..... 1pc
 DC Amp-Meter able to measure up to 3 A..... 1pc
 DC Volt-Meter able to measure up to 50 V..... 1pc
 DC Electronic Load (max 20 V / 1 A) 1pc



Figure 1: Test Setup

SW1 configuration

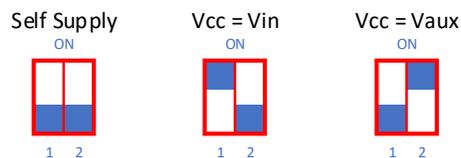


Figure 2: Switch SW1 configuration

The following steps describe the test procedure for all boards. Please connect the boards and equipment based on Figure 1. Set the SW1 switch into OFF position for both channels (self-supply mode).

Test Procedure:

1. Apply an input voltage $V_{IN} = 4.5\text{ V}$, output is no-loaded, i.e. $I_{OUT} = 0\text{ A}$.
2. Check that $V_{OUT} = 12\text{ V}$ (note 1).
3. Increase the input voltage $V_{IN} = 6\text{ V}$ and set the output current to $I_{OUT} = 1\text{ A}$.
4. Verify that the output voltage V_{OUT} is still present (note 2).
5. Increase the input voltage up to $V_{IN} = 45\text{ V}$. The output is still loaded by 1 A. Run the board in this condition for 30 sec at least.
6. Verify that the output voltage is still present (note 2).
7. Set the load current to $I_{OUT} = 0\text{ A}$.
8. Change the position of channel 2 of the SW1 switch to ON ($V_{cc} = V_{aux}$ mode).
9. Change the load current to $I_{OUT} = 1\text{ A}$ and verify that the output voltage is still present (note 2).
10. Set load current to zero and decrease the input voltage to 25 V.
11. Change the position of channel 2 of the SW1 switch to OFF, position of channel 1 to ON ($V_{cc} = V_{in}$ mode).
12. Change the load current to $I_{OUT} = 1\text{ A}$ and verify that the output voltage is still present (note 2).
13. Turn off DC source, set the load current to $I_{OUT} = 0\text{ A}$.
14. End of the test.

Note 1: The unloaded output voltage V_{out} can be up to 13 V for self-supply and $V_{cc}=V_{in}$ mode. For $V_{cc} = V_{aux}$ mode, the output voltage V_{out} can be up to 15.5 V

Note 2: The loaded output voltage V_{out} can drop up to 11 V.