

# NCV78343 Evaluation Kit


## Test Procedure

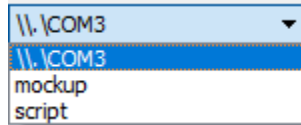
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### Required Equipment:

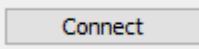
- Power supply
- Multimeter
- NCV78343\_EVK\_V4 board
- PC with installed SW control program
- Mini USB cable

### Initial setup:

1. Connect power supply to VBAT (positive) and GND (negative) using 4mm banana plugs or barrel jack. Set voltage to 12 V with current limitation approximately 3 A and switch it on.
2. Connect mini USB cable to the ONMCU\_DIL control board.
3. Start the GUI SW. In the status bar click on icon  to refresh information about available virtual COM ports. Select the port where the EVK is connected:



Click on “Connect” button



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Test Procedure

- Visual Inspection of Board and Components

Results (Pass/Fail)	Estimated Time	Items and Critical points	Comments
	<60s	<ol style="list-style-type: none"> <li>No damaged board or component</li> <li>Not shorted component</li> </ol>	Only obvious issues can be found

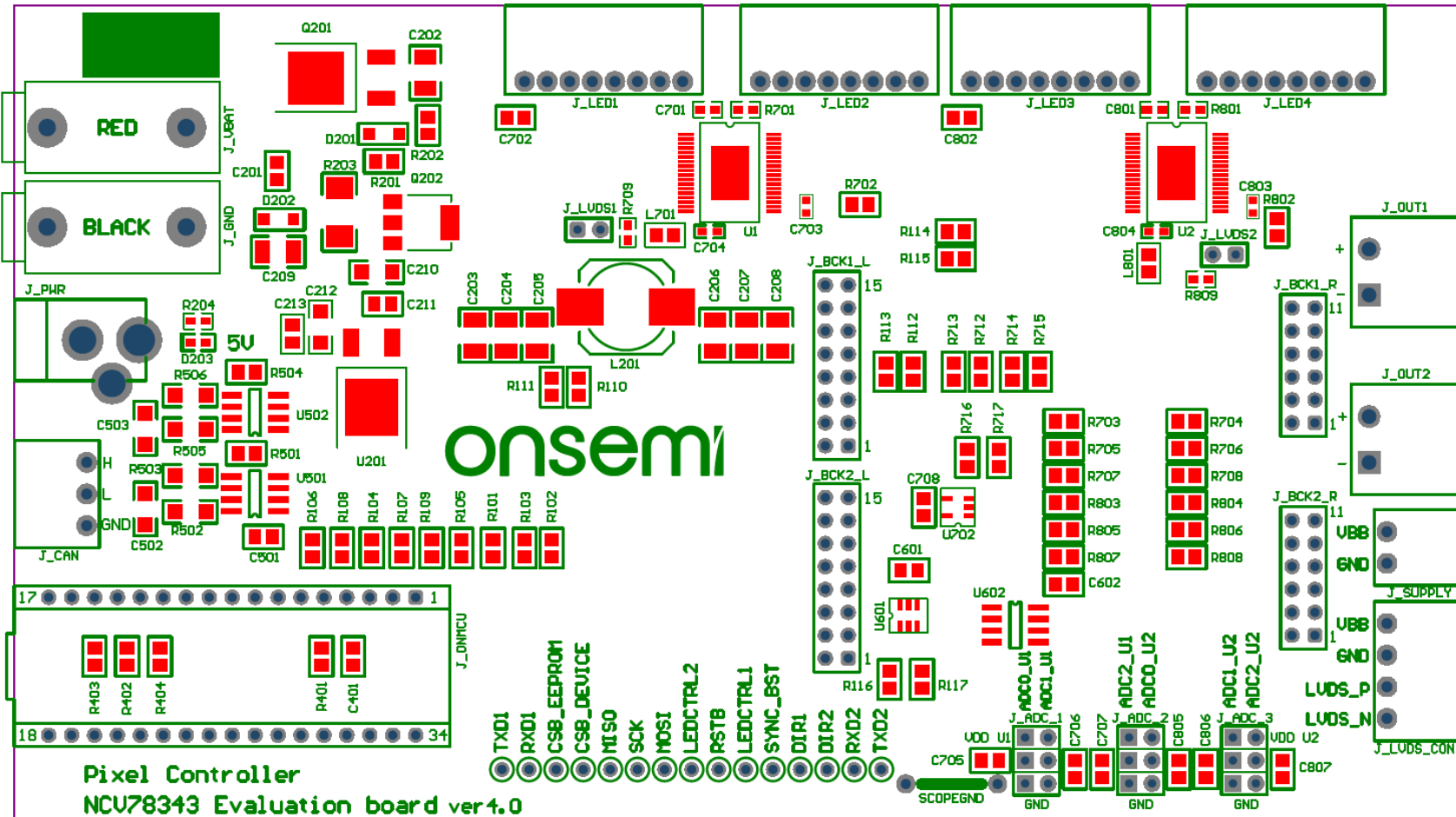


Figure 1. Components

- **Electrical characteristics testing**

Supply the kit with 5-24 V (typ. 12 V) and measure the voltage of VBB and VDD

- **VBB**

Results (Pass/Fail)	Estimated Time	Items and Critical points	Comments
	<60s	0 – 0.7 V lower than Vsupply	Voltage drop on reverse polarity protection

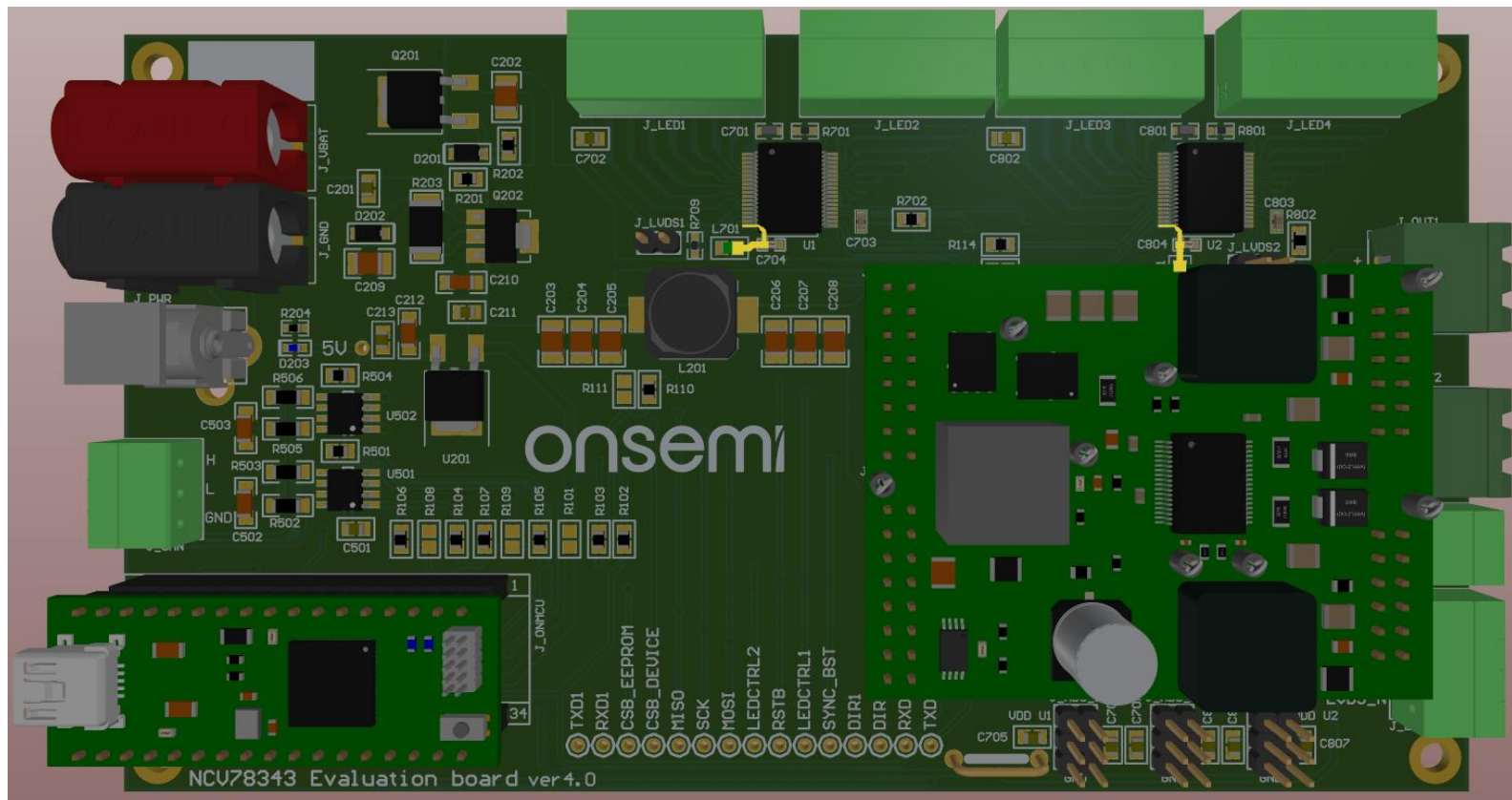


Figure 2. VBB nets

➤ VDD

Results (Pass/Fail)	Estimated Time	Items and Critical points	Comments
	<60s	3.45 V (typical)	3.15 V – 3.6 V

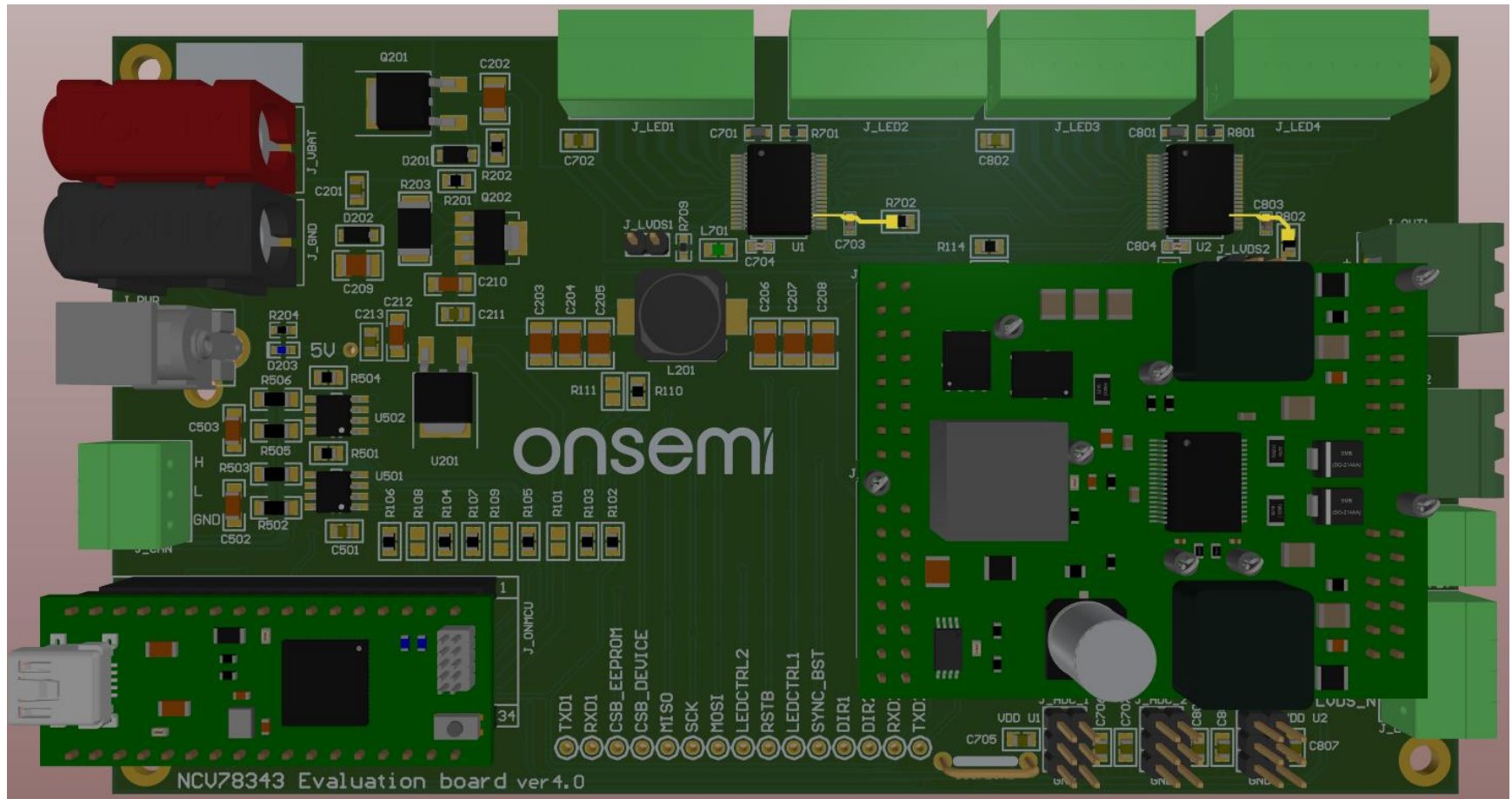


Figure 3. VDD nets

- **Software characteristics testing**

Once the evaluation kit is supplied and connected to the PC via mini USB cable.  
 Device must be addressed (using resistor divider, OTP memory address or auto-addressing).

- **Read OPMODE CF6**

Results (Pass/Fail)	Estimated Time	Items and Critical points	Comments
	<60s	An addressed device should provide valid OPMODE	Number in Address field should correspond to selected device addressing method.

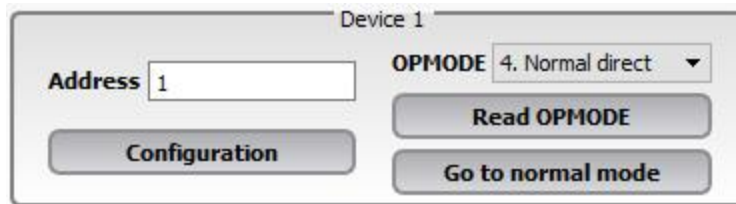


Figure 4. Read OPMODE

➤ **Read VBOOST and VBAT voltages**

Results (Pass/Fail)	Estimated Time	Items and Critical points	Comments
	<60s	1. VBOOST = ~50 V 2. VBAT = ~12 V	Default values after startup

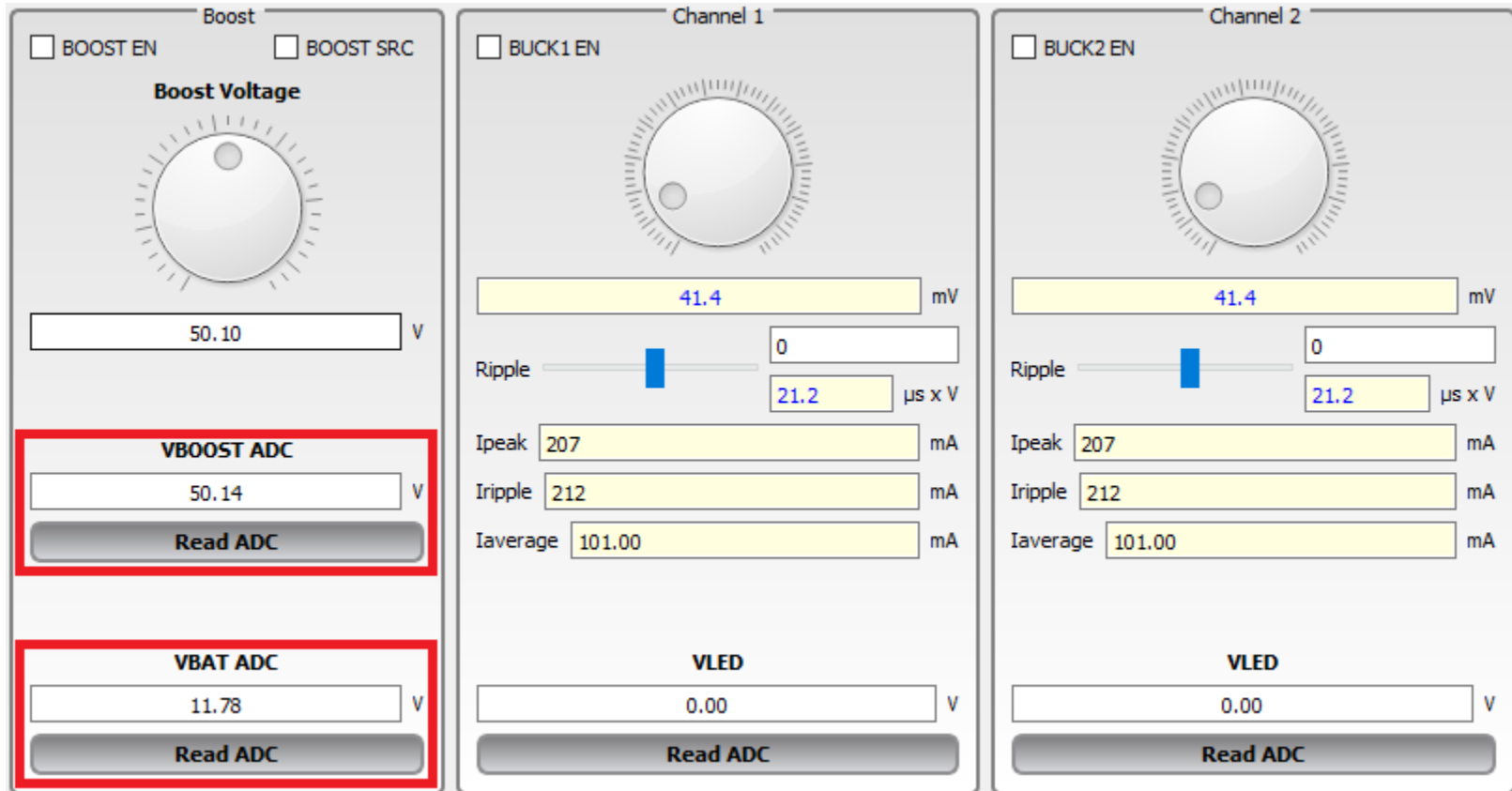


Figure 5. Read OPMode

➤ **Communication protocol**

<b>Results (Pass/Fail)</b>	<b>Estimated Time</b>	<b>Items and Critical points</b>	<b>Comments</b>
	>5min	Communication corresponds to transmitted commands.	

Open “Log” window available from the bottom menu. Whenever a user sends either read or write command to the chip, a command appears in the Log window.

**Command pattern:**

set SER2PXNDATA=0e03550101

set SER2PXNDATA=AABBCCDDEE

AA – the BREAK pulse length (number of Tbits)

BB – number of bytes to be written

CC – SYNC field of the communication protocol

DD – PID1 field of the communication protocol

EE – PID2 field of the communication protocol