Test Procedure for the NCV7535EVB

ON Semiconductor®

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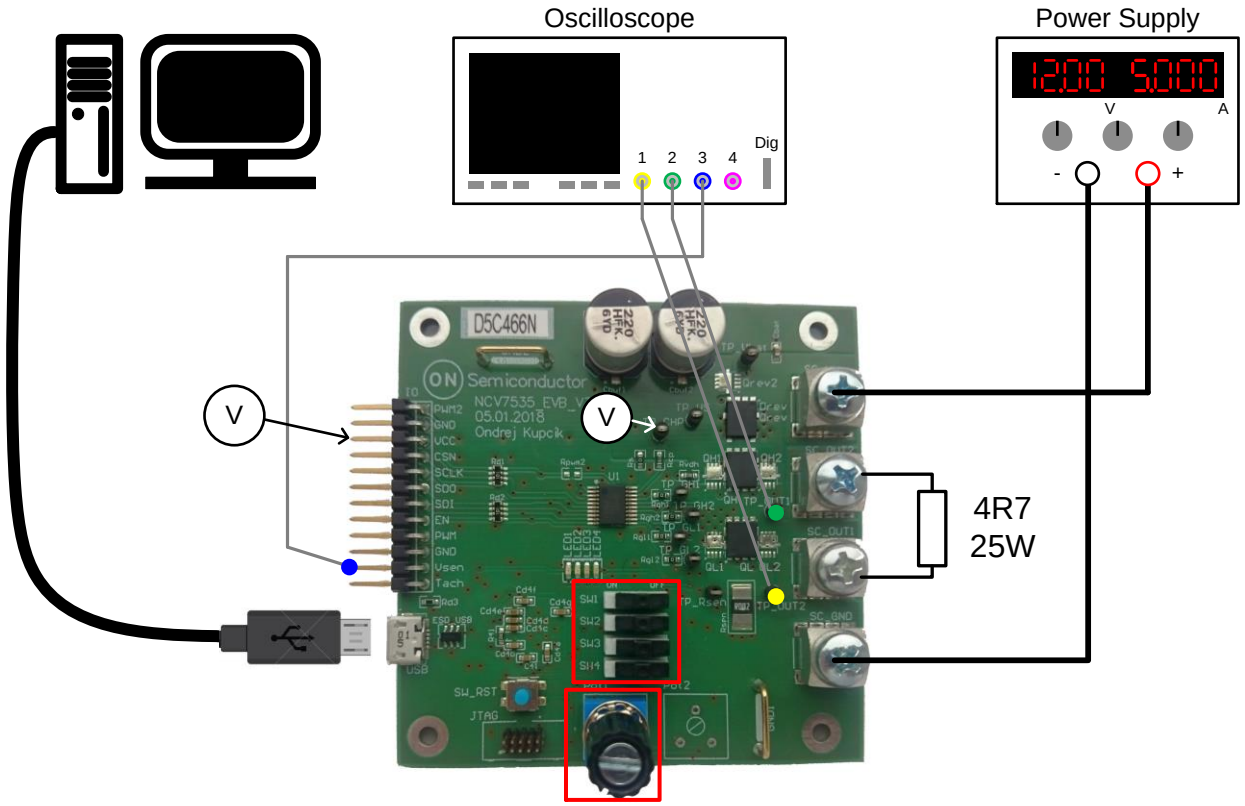

Figure 1: Test Setup Configuration

Required Equipment

- Oscilloscope
- Bench Power Supply, current capability min. 3 A, Ampermeter
- Voltmeter (alternatively free oscilloscope channel)
- PC Software for NCV7535 EVB Control
- Micro USB Cable
- NCV7535 Evaluation Board (NCV7535_EVB_V3)

Test procedure Step 1 (Standalone mode):

1. Turn Pot1 left
2. Move SW1-4 to the right positions (OFF)
3. Connect supply
4. Check I_{BAT}
5. Check OUT1/2 state
6. Check V_{CHP}
7. Check Vsen voltage
8. Turn Pot1 right
1. Check OUT1/2 state
2. Move SW1 to the left position (ON)
3. Check OUT1/2 state

Table 1: Desired Results

$I_{BAT} = I_{BAT\_SA}$
OUT1/2 = PWM duty-cycle per Pot1 position
$V_{CHP} = V_{CHP}$
Vsen = Vsen_off (when duty-cycle 0%)
Vsen = Vsen_on (when duty-cycle 100%)
LED1 off, LED2 on, LED3 off, LED4 off

Test procedure Step 2 (PC Mode, HS1 + LS2 on):

1. Connect USB
2. Start NCV7535 Control Software
3. After connected virtual COM port appears, click “Connect” button
4. Click “Run Forward” button in “Basic” window
5. Move “Speed Control” slider
6. Check OUT1/2 state

Table 2: Desired Results

OUT1/2 = PWM duty-cycle per Duty slider position
LED1 on, LED2 off, LED3 off, LED4 off

Test procedure Step 4 (PC Mode, HS2 + LS1 on):

1. Click “Stop” button in “Basic” window
2. Click “Run Backward” button in “Basic” window
3. Move “Speed Control” slider
4. Check OUT1/2 state

Table 3: Desired Results

OUT1/2 = PWM duty-cycle per Duty slider position
LED1 on, LED2 off, LED3 off, LED4 off

DC Characteristics

	MIN	TYP	MAX
VCC ON	4.9 V	5 V	5.1 V
I_{BAT_SA} (H-bridge off)		24 mA	
V_{CHP}, Active mode	VBAT + 8 V	VBAT + 10 V	VBAT + 12 V
OUTx LS			0.1 V
OUTx HS	VBAT – 0.1 V		
Vsen_off		0 mV	100 mV
Vsen_on	200 mV	250 mV	300 mV