Test Procedure for the NCV7535V5C450GEVB Evaluation Board

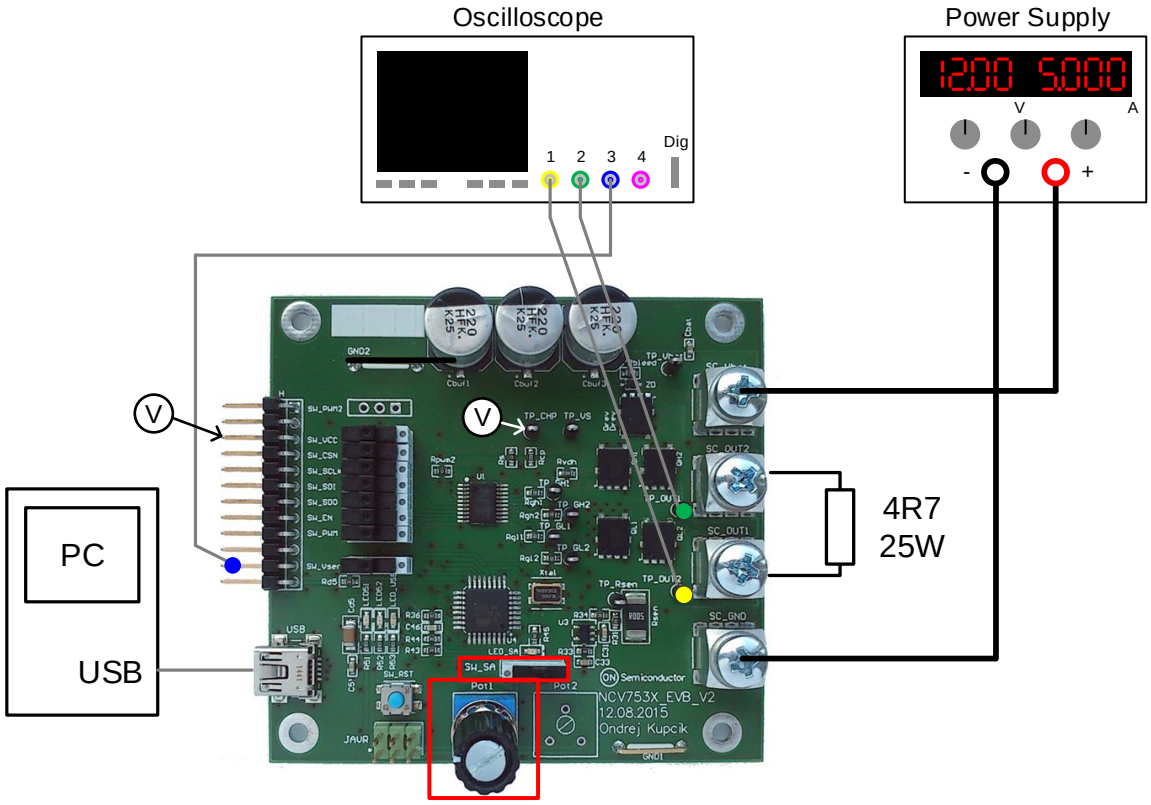

Figure 1: Test Setup Configuration

Required Equipment

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

Test procedure Step 1 (Standalone mode):

1. Set SW_SA switch to Standalone mode
2. Turn Pot1 left
3. Connect supply
4. Check I_{BAT}
5. Check OUT1/2 state
6. Check V_{CHP}
7. Check Vsen voltage
8. Turn Pot1 right
9. Check OUT1/2 state

Table 1: Desired Results

I_{BAT} = I_{BAT}
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%)

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

1. Set SW_SA switch to PC mode
2. Connect USB
3. Start NCV7535 Control Software
4. Set software:
    a. Check PWM ON
    b. Check Motor-Control -> Forward
    c. Check Motor-Control -> HS/LS Freewheeling
5. Move Duty slider
6. Check OUT1/2 state

Table 2: Desired Results

OUT1/2 = PWM duty-cycle per Duty slider position

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

1. Set software:
    a. Check PWM ON
    b. Check Motor-Control -> Reverse
    c. Check Motor-Control -> HS/LS Freewheeling
2. Move Duty slider
3. Check OUT1/2 state

Table 3: Desired Results

OUT1/2 = PWM duty-cycle per Duty slider position

DC Characteristics

	MIN	TYP	MAX
VCC ON	4.9 V	5 V	5.1 V
I_{BAT} (H-bridge off)			
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	40 mV	200 mV	360 mV
Vsen_on	550 mV	710 mV	870 mV