

## Test Procedure for the NCV7451V1GEVB Evaluation Board

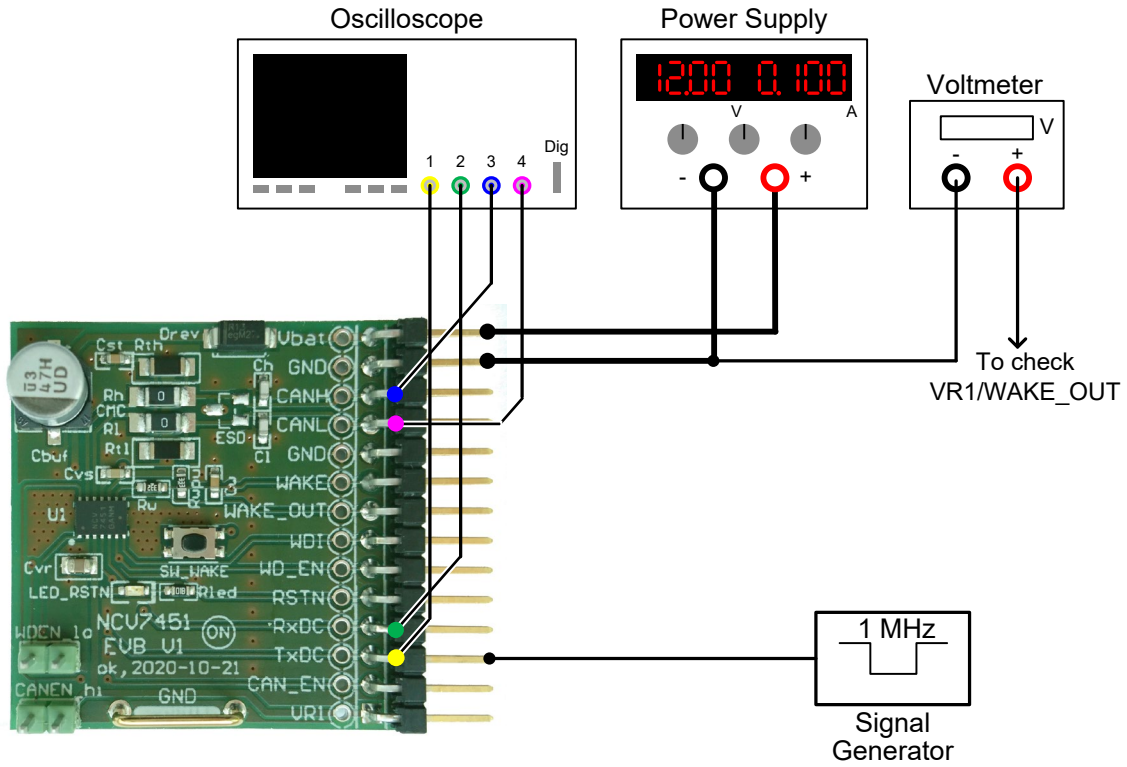


Figure 1: Test Setup Configuration



**Required Equipment**

- Oscilloscope
- Bench Power Supply
- Voltmeter
- Signal Generator
- CAN Evaluation Board

**Test procedure Step 1 (Low power mode):**

1. Connect the setup as shown above
2. Close (short) W DEN\_lo
3. Open CANEN\_hi
4. Check VR1
5. Check RxDC, CANH, CANL, RSTN
6. Check I<sub>Vbat</sub>.

**Table 1: Desired Results**

VR1
LED RSTN off
RxDC HIGH
CANH OFF
CANL OFF
I <sub>Vbat</sub> < 0.05 mA

**Test procedure Step 2 (Normal mode, CAN recessive):**

1. Open W DEN\_lo
2. Close (short) CANEN\_hi
3. Check I<sub>Vbat</sub>.

**Table 2: Desired Results**

RxDC HIGH
I <sub>Vbat</sub> = < 2 mA – 12 mA >
LED RSTN flashing

**Test procedure Step 3 (Normal mode, CAN square-wave):**

1. Close (short) W DEN\_lo
2. Apply Square-wave signal to TxDC (0-5 V, 1 MHz)
3. Check AC characteristics of RxDC, CANH, CANL
4. Check WAKE\_OUT

**Table 3: Desired Results**

RxDC HIGH / LOW
I <sub>Vbat</sub> = < 10 mA – 30 mA >
CANH RECESSIVE / DOMINANT
CANL RECESSIVE / DOMINANT
WAKE_OUT LOW

**Test procedure Step 4 (Normal mode):**

1. Press SW\_WAKE
2. Check WAKE\_OUT

**Table 4: Desired Results**

WAKE_OUT HIGH
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DC Characteristics

	MIN	TYP	MAX
VR1	4.9 V	5.0 V	5.1 V
RxDC LOW		0 V	0.4 V
RxDC HIGH	VR1 – 0.4 V	VR1	
WAKE_OUT LOW		0 V	0.4 V
WAKE_OUT HIGH	VR1 – 0.4 V	VR1	
CANH OFF			0.1 V
CANL OFF			0.1 V
CANH RECESSIVE	2 V	VR1/2	3 V
CANL RECESSIVE	2 V	VR1/2	3 V
CANH DOMINANT	2.75		VR1
CANL DOMINANT	0		2.25 V

AC Characteristics

