Test Procedure for the LV8400VEVB Evaluation Board

For DC Motor Control:

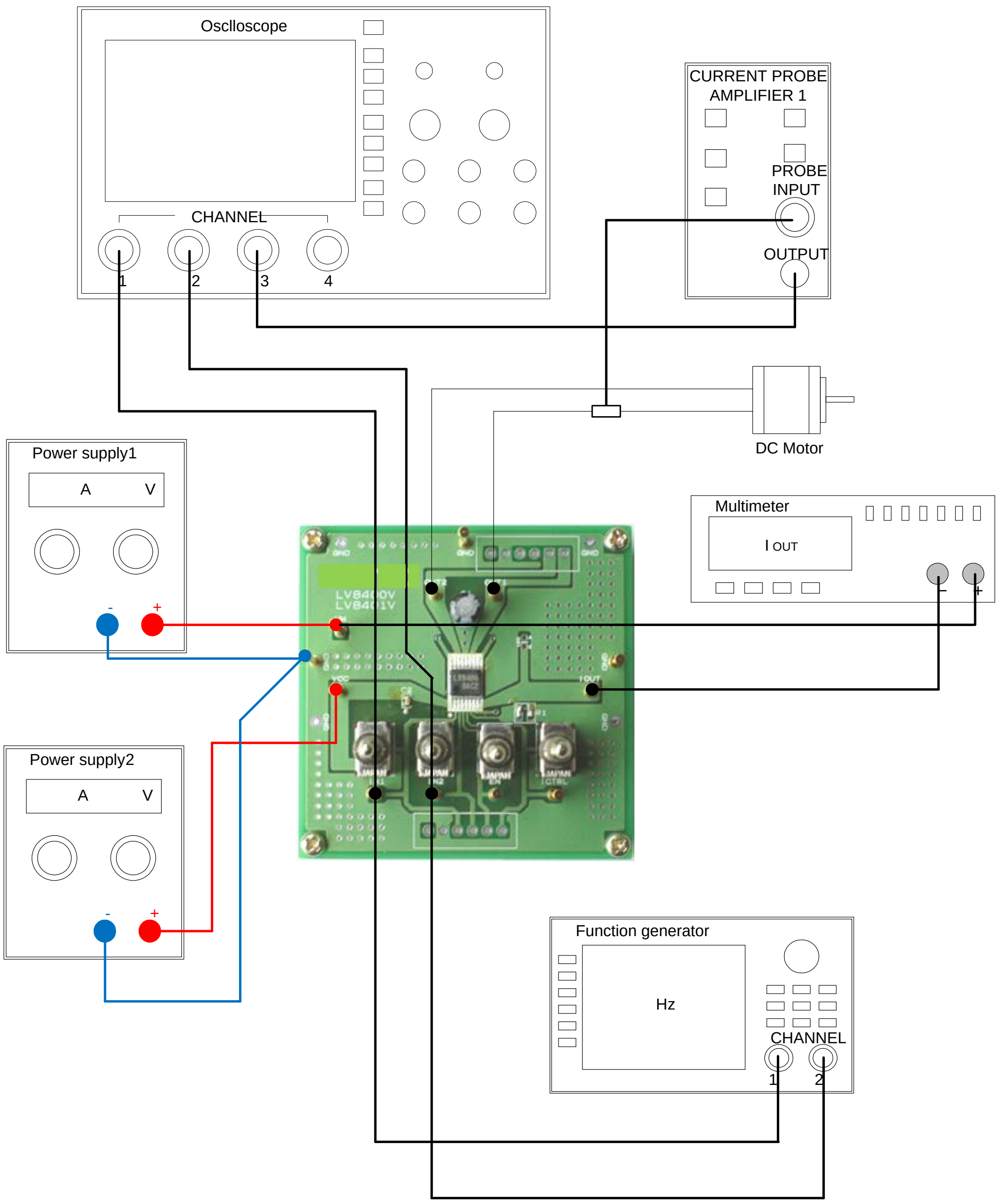


Table1: Required Equipment

Equipment	Efficiency
Power Supply1	18V-4A
Power Supply2	6V-0.5A
Function generator	200kHz
Multimeter	-
Oscilloscope	4 channel
Current probe	-
LV8400V Evaluation Board	-
DC Motor	18V-2A

Test Procedure:

1. Connect the test setup as shown above.
2. Set it according to the following specifications:

Supply Voltage:

- VM (4.0 to 15.0V): Power Supply for LSI
- VCC (2.7 to 5.5V): Logic “High” voltage for toggle switch

Toggle Switch State:

- Upper Side: High (VCC)
- Middle: Open, enable to external logic input
- Lower Side: Low (GND)

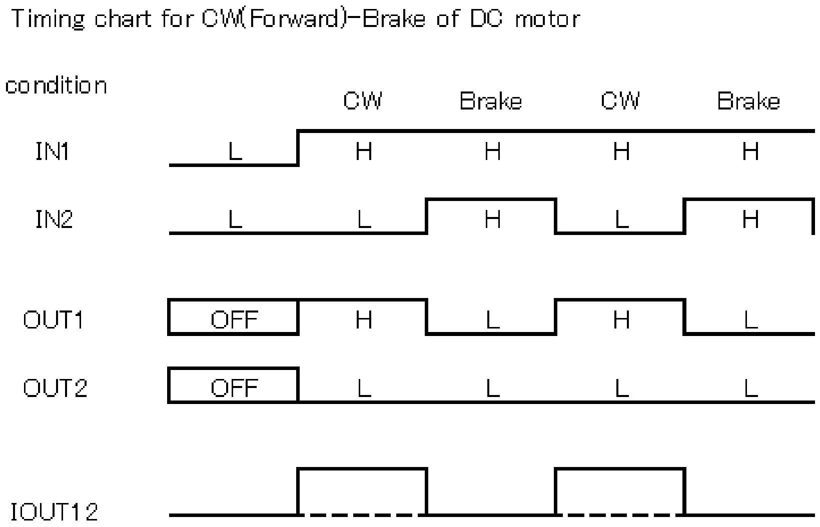
Operation Guide:

- You can drive DC motor by setting EN=High and switching the input signal as follows:

Table2: Truth table

EN	IN1	IN2	OUT1	OUT2	Mode
H	H	H	L	L	Brake
	H	L	H	L	Forward
	L	H	L	H	Reverse
	L	L	Z	Z	Standby
L	-	-	Z	Z	All function stop

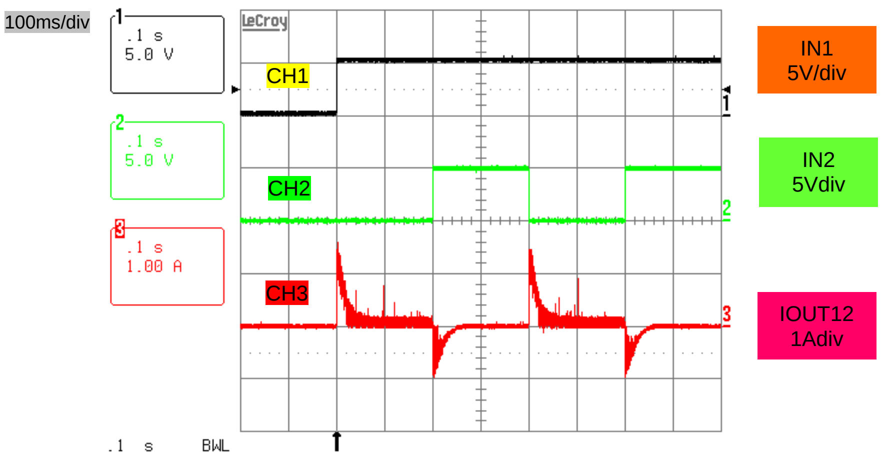
“-“ : denotes a don't care value. Z: High-impedance



3. Check the IN1 and IN2 terminal voltage at scope CH1 and CH2, and the output current waveform at scope CH3.

Table3: Desired Results

INPUT	OUTPUT
VM=12.0V VCC=5.0V IN1=High IN2=2.5Hz(Duty50%)	The output current and rotation of the DC motor is confirmed. (The Iomax and Iopeak confirm whether it is allowed by this output current.)



4. By setting ICTRL to High, constant current output circuit operates.

* The output constant current (IOUT) is determined by the internal reference voltage and the sense resistor between the ISET and SGND pins. IOUT = Internal reference voltage (0.2V) ÷ Sense resistor (RSET).

IOUT calculating formula:

$$IOUT = \frac{0.2[V]}{39\Omega} \cong 5.0[mA]$$

Check the multimeter, and it is confirmed that about 5mA is displayed.