Test Procedure for the LV8548MCGEVB Evaluation Board

For stepper motor control
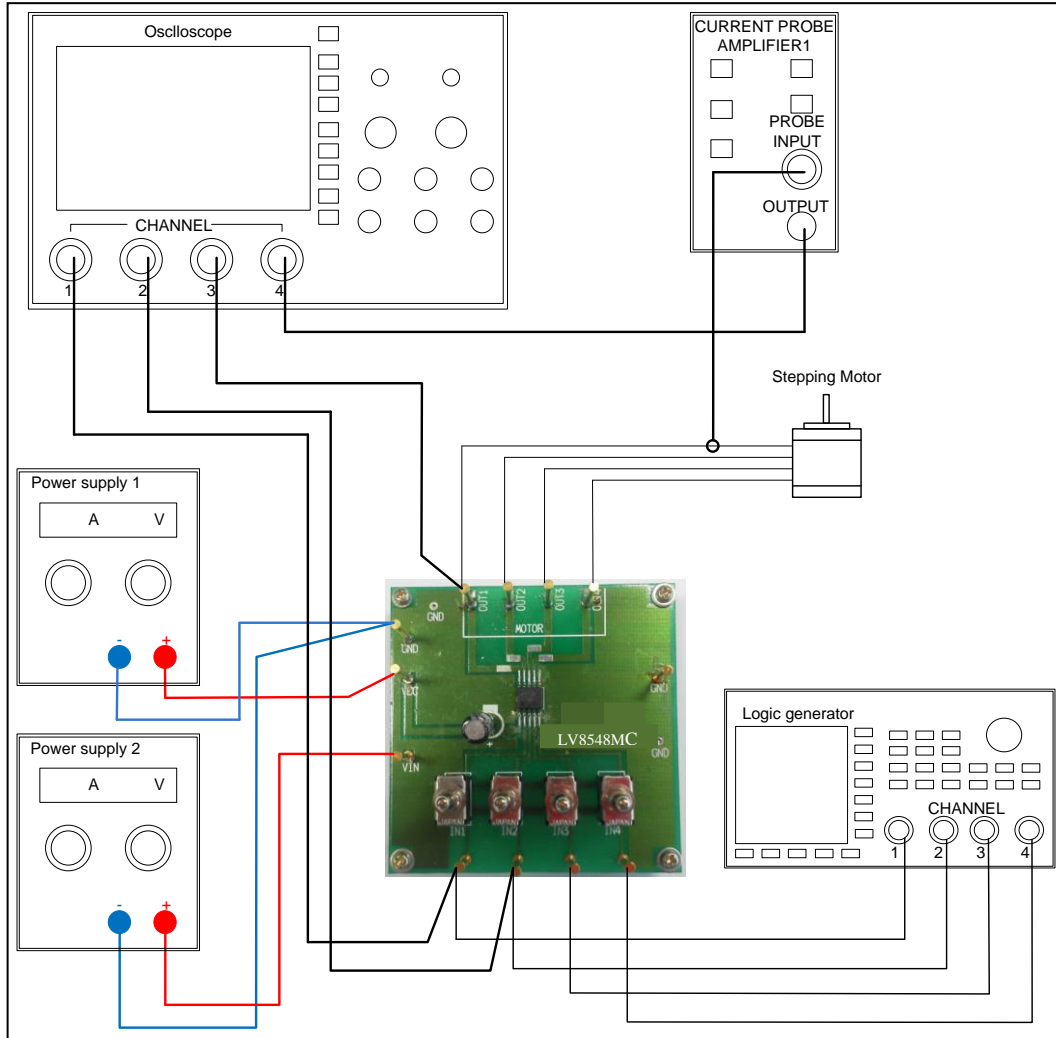

Table1: Required Equipment

Equipment	Efficiency
Power supply1	25V-3A
Power supply2	5V-0.5A
Logic generator	-
Oscilloscope	4 channel
Current probe1	-
LV8548MC Evaluation Board	-
Stepper Motor	25V-2A

Test Procedure:

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

    [Supply Voltage]   VCC (4 to 16V) : Power Supply for LSI
                                       VIN (1.8 to 5.5V) : Logic "High" voltage for toggle switch

    [Toggle Switch State]   Upper Side: High (VIN)
                                  Middle: Open, enable to external logic input
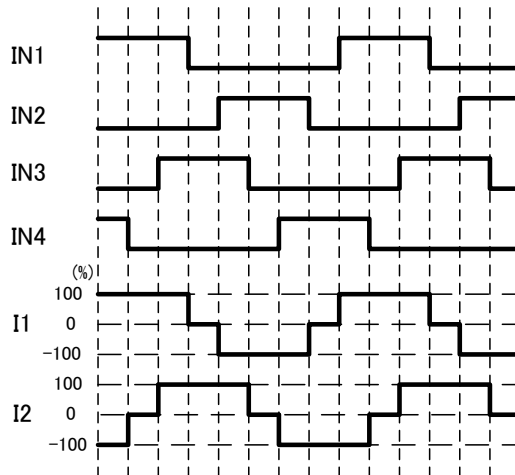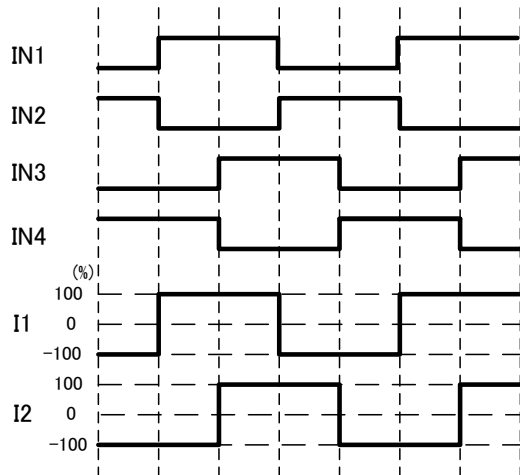   Lower Side: Low (GND)

    [Operation Guide]
1. <u>Initial Condition Setting:</u> Set "Open" the toggle switches IN1-IN4.
2. <u>Power Supply:</u> Supply DC voltage to VCC and VIN.
3. <u>Motor Operation:</u> Input the signal which is in condition to want to operate Full-step , Half-step into IN1-IN4.
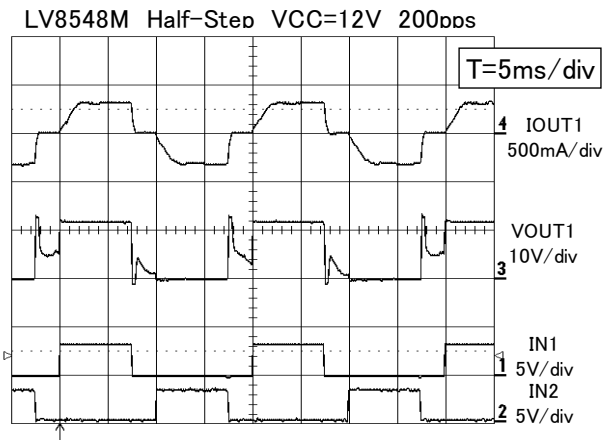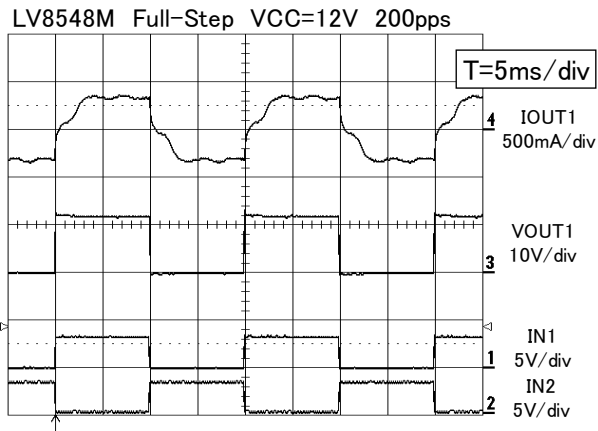
3. Check the IN1 , IN2 and OUT1 terminal voltage at scope CH1 , CH2 and CH3, and the output current waveform at scope CH4.

Table2: Desired Results

INPUT	OUTPUT
VCC=12V VIN=5V IN1-IN4=Full-step or Half-step signal	* Refer to the following waveform

Typical current waveform

LV8548M Full-Step VCC=12V 200pps

T=5ms/div

4 IOUT1
500mA/div

VOUT1
3 10V/div

IN1
1 5V/div
IN2
2 5V/div

LV8548M Half-Step VCC=12V 200pps

T=5ms/div

4 IOUT1
500mA/div

VOUT1
3 10V/div

IN1
1 5V/div
IN2
2 5V/div

For DC motor control
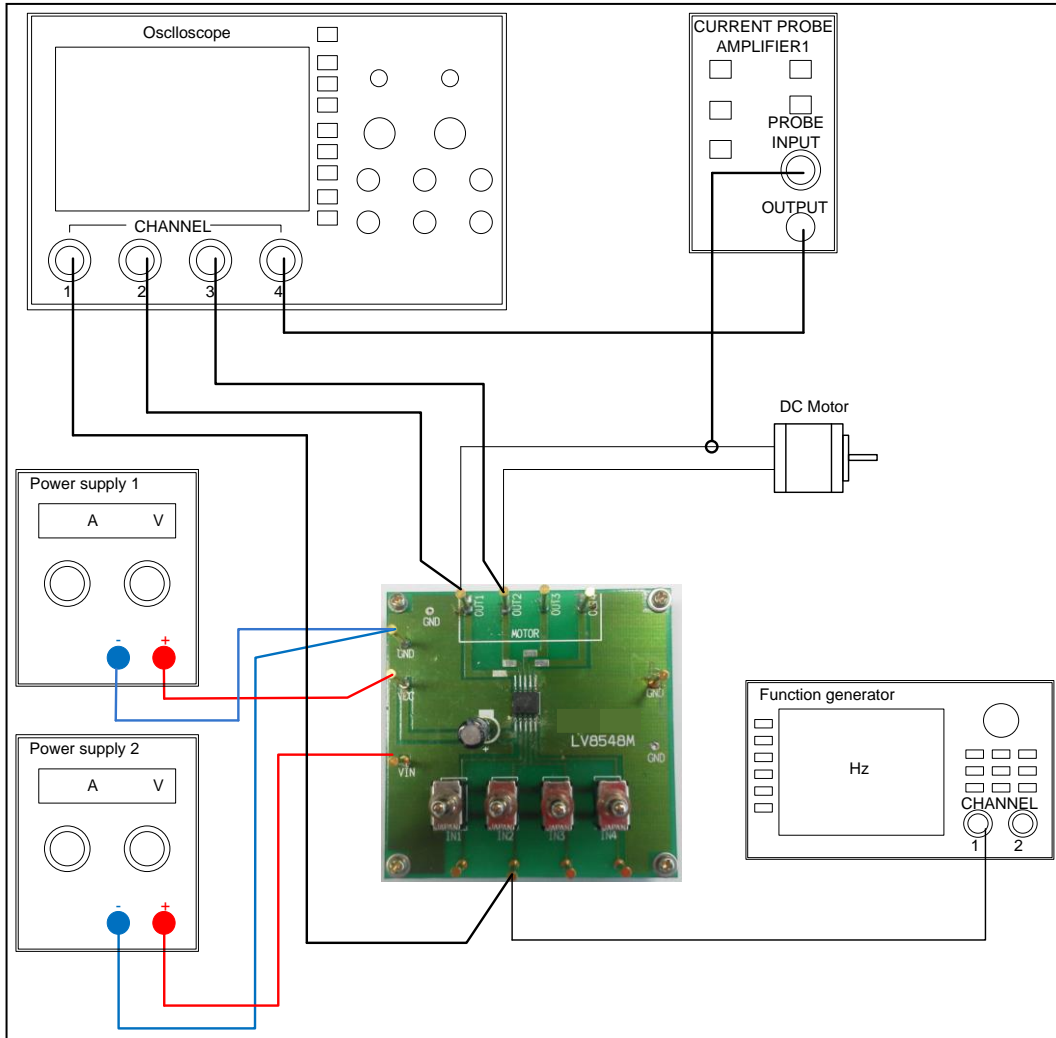
Table3: Required Equipment

Equipment	Efficiency
Power supply1	25V-3A
Power supply2	5V-0.5A
Function generator	200kHz
Oscilloscope	4 channel
Current probe	-
LV8548MC Evaluation Board	-
DC Motor	25V-2A

Test Procedure:

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

   [Supply Voltage]   VCC (4 to 16V) : Power Supply for LSI
                                          VIN (1.8 to 5.5V) : Logic "High" voltage for toggle switch

   [Toggle Switch State]   Upper Side: High (VIN)
                                    Middle: Open, enable to external logic input
                                    Lower Side: Low (GND)

   [Operation Guide]
         1.   <u>Initial Condition Setting:</u> Set "Open" the toggle switches IN1-IN4.
         2.   <u>Power Supply:</u> Supply DC voltage to VCC and VIN.
         3.   <u>Motor Operation:</u> Set IN1, IN2, IN3, and IN4 terminals according to the purpose.

3. Check the IN2, OUT1, and OUT2 terminal voltage at scope CH1, CH2, and CH3, and the output current waveform at scope CH4.
4. Connected in the same way as the 1ch side and measure the 2ch side .

Table4: Desired Results

INPUT	OUTPUT
VCC=12V VIN=5V IN1=High IN2=10KHz (Duty50%)	* Refer to the following waveform
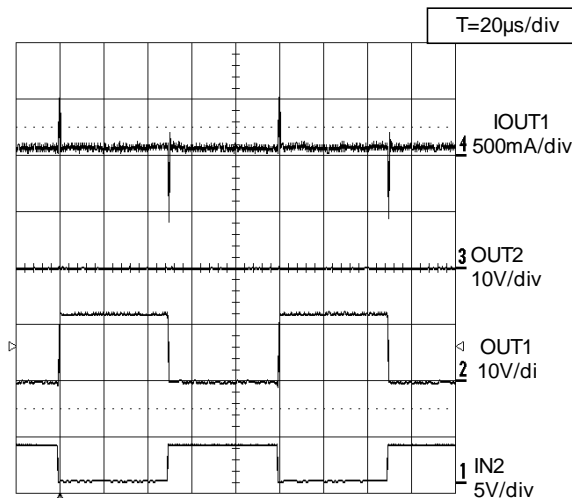
DCM output control logic

Input				Output				Remarks	
IN1	IN2	IN3	IN4	OUT1	OUT2	OUT3	OUT4		
L	L	L	L	OFF	OFF	OFF	OFF	Stand-by	
L	L			OFF	OFF			1CH	Stand-by
H	L			H	L				Forward
L	H			L	H				Reverse
H	H			L	L				Brake
		L	L			OFF	OFF	2CH	Stand-by
		H	L			H	L		Forward
		L	H			L	H		Reverse
		H	H			L	L		Brake