Test Procedure for the LC75843UGA Evaluation Board (LC75843UGAGEVB)

1. Recommended Test Setup

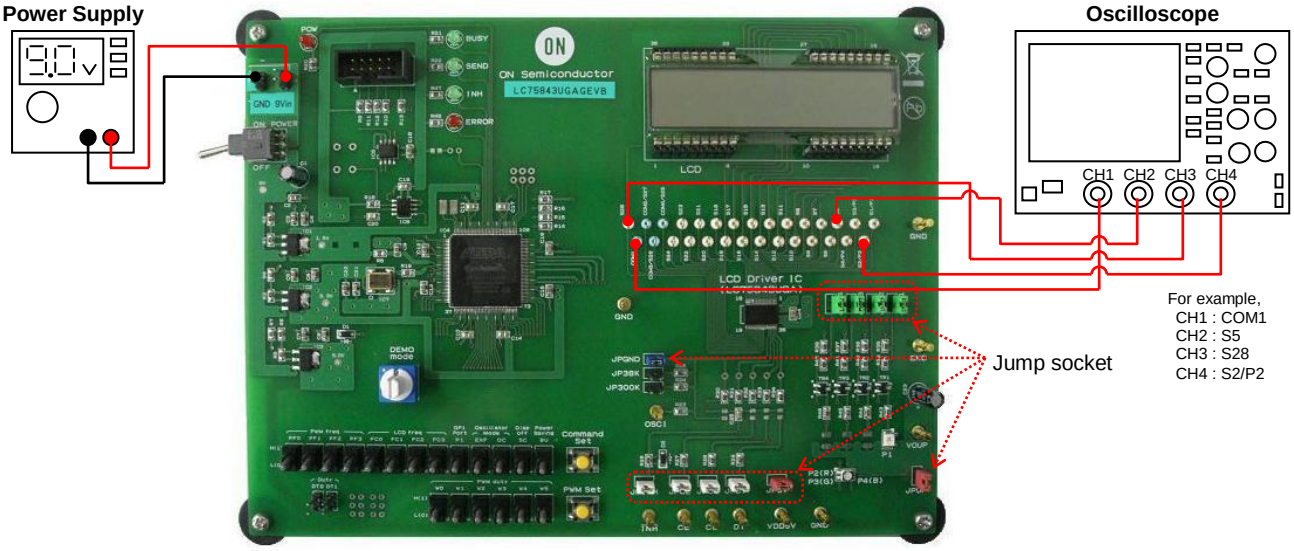


Figure 1. LC75843UGAGEVB Recommended Test Setup

2. Test Equipment

Table 1. Required Equipment

Equipment	Efficiency
Power supply	10V, 0.5A
Oscilloscope	4 channel

3. Test Procedure

(1) Connect the test setup as shown in figure 1.

(2) Insert the jump sockets of the JP5V, JPGND, JPINH, JPCE, JPCL, JPDI, JPUP, JPP1, JPP2, JPP3 and JPP4, and remove the jump sockets of the DT0, DT1, JP38K and JP300K.

(3) The power supply of the evaluation board is turned on by moving “POWER” switch to the “ON” position. (The red monitor LED of the “POW” turns on)

(4) An automatic demonstration mode is selected by moving “DEMO mode” switch to the “9” position.

Table 2. Setting Contents of the “DEMO mode” Rotary Switch

DEMO mode	Demonstration item	LCD display contents	LED control contents
0	all OFF test	All segments are off.	All LED turn off the light.
1	all ON test	All segments are on.	All LED turn on the light.
2	LCD display test (1)	The LCD displays a “01234”.	All LED turn off the light.
3	LCD display test (2)	The LCD displays a “AbcdE”.	All LED turn off the light.
4	Segment test	The LCD segment displays on in turn.	LED does on in turn.
5	Common test	LCD segment corresponding to same COM are all on.	When COM1 is on, LED turn on the light.
6	LED(PWM) test (1)	The LCD displays a “PWM_1” and a PWM duty value.	Any PWM duty are selected by the switches from W0 to W5. (LED1 to LED3 can set same duty)
7	LED(PWM) test (2)	The LCD displays a “PWM_2” and a PWM channel number.	Any PWM duty are selected by the switches from W0 to W5. (LED1 to LED3 can set each duty)
8	Demonstration (1)	LCD number display count ups every 1sec.	LED does on in turn every 1sec.
9	Demonstration (2)	The LCD displays a “ AUTO” and a PWM duty value.	PWM duty changes every 100msec.

(5) Set the following switches. About the setting contents details of the switch, refer to User's Manual.

Table 3. Setting Contents of the Toggle Switch

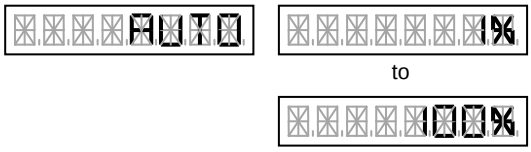
Switches	Functions	Contents which are set
PF0 to PF3	PWM output waveform frame frequency select.	The PWM output waveform frame frequency is 195 [Hz] by moving “PF0, PF1, PF2, PF3” switch to the “L(0), L(0), L(0), L(0)” position.
FC0 to FC3	Common/Segment output waveform frame frequency select.	The common/segment output waveform frame frequency is 97 [Hz] by moving “FC0, FC1, FC2, FC3” switch to the “L(0), H(1), L(0), H(1)” position.
P1	General-purpose output port (S1/P1) function select.	L(0) : Low level output mode H(1) : High level output / Clock output mode
EXF	External clock operating frequency mode select at OC=H(1).	L(0) : 300kHz input operating mode H(1) : 38kHz input operating mode
OC	Fundamental clock operating mode select.	L(0) : Internal oscillator clock operating mode H(1) : External clock operating mode
SC	Display on/off select.	L(0) : Normal display mode H(1) : All segments are OFF display mode
BU	Power saving mode select.	L(0) : Normal mode H(1) : Power saving mode
W0 to W5	PWM output waveform duty select.	When switch of the “DEMO mode” is set to “9”, duty of the PWM output waveform is automatically set, therefore switches of the “Wo to W5” are set to “L(0), L(0), L(0), L(0), L(0), L(0)” position.

(6) The CCB serial data are transferred from a controller circuit to LCD driver IC by pushing the “Command Set” switch. (The green monitor LEDs of the “BUSY” and “INH” turns on)

(7) The customer can confirm the movement of the LCD display and LED brightness adjustment by the automatic demonstration. Then, the customer can confirm the waveform of the common outputs (COM1 to COM4), segment outputs (S5 to S24, S28) and general-purpose port outputs (P1 to P4).
(The green monitor LED of the “SEND” flashes quickly)

For example, when the DEMO mode is “9”

- The green monitor LED of the “SEND” flashes quickly.
- The customer can confirm that a “AUTO” characters and a PWM duty value are displayed to LCD.



- The customer can confirm that LEDs from P1 to P4 change brightly gradually.