

# EM-STM3210E LCD Interface Expansion Board (EB-STM3210E-LCD) User Guide

## 1 EB-STM3210E-LCD Overview

The EB-STM3210E-LCD is an extension board for the EM-STM3210E Development Board (see [Figure 1](#)).



Figure 1. LCD connector expansion board for EM-STM3210C

The expansion board has built in LED backlight driver circuit and 60pin FPC connector for the Kentec LCDs (3.5 inch: K350QVG-V2-F; 4.3 inch: K430WQC-V3-FF; 5.0 inch: K50DWN2-V1-FF; 7.0 inch: K70DWN2-V1-FF; 9.0 inch: K90DWN2-V1-FF).

## 2 EB-STM3210E-LCD Dimensions

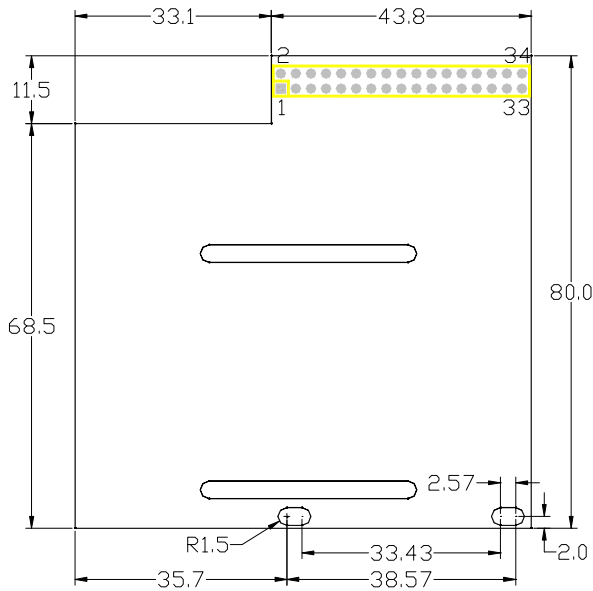


Figure 2. Outline Dimensions (Top)

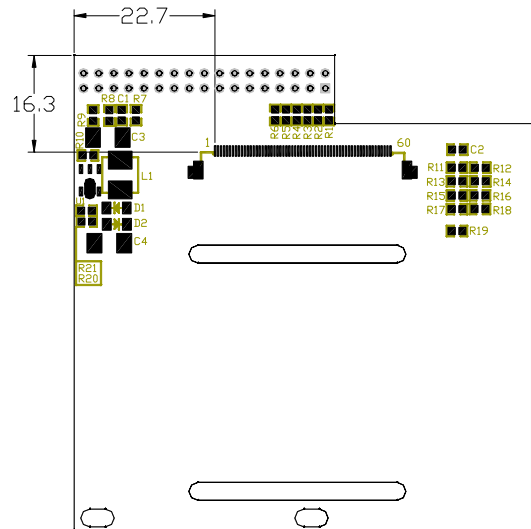


Figure 2. LCD connector Location (Bottom)

### 3 EB-STM3210E-LCD Interface

**Table 1. Main Interface Signal (40pin header connect to EM-STM3210E MCU board)**

Pin	Symbol	Description
1	CS	Chip select signal for LCD
2	RS	Command/Data select input for LCD
3	WR	Write control signal for LCD
4	RD	Read control signal for LCD
5	Reset	Reset input signal for LCD
6~21	D0~D15	16-bit data bus
22	GND	Ground (0V)
23	BL_ON	LCD Backlight control input.
24, 25	VDD	Power Supply (3.3V)
26, 27	GND	Ground (0V)
28	VDD	Power Supply (3.3V)
29, 30	NC	No connection
31	XL	Reserved for 4-wire resistive touch screen
32	XR	
33	YD	
34	YU	

**Table 2. LCD Interface Signal (60pin ZIF connector to LCD module)**

Pin	Symbol	Description
1, 2	LED_K	LED power supply (-)
3, 4	LED_A	LED power supply (+)
5	GND	Ground (0V)
6	XR	4-wire resistor touch screen terminal
7	YD	
8	XL	
9	YU	
10	GND	Ground (0V)
11~13	NC	No Connection
14	Reset	Reset input signal for LCD
15	CS	Chip select for LCD
16~19	NC	No Connection
20	D0	Data bit 0, default connected to GND on MCU board
21~25	D1~D5	Data bit 1 ~ bit 5
26, 27	NC	No Connection
28~30	D6~D8	Data bit 6 ~ bit 8
31	D9	Data bit 9, default connected to GND on MCU board
32, 33	D10, D11	Data bit 10 ~ bit 11
34, 35	NC	No Connection

Continued Table 2, LCD Interface Signal (60pin ZIF connector to LCD module)

36~41	D12~D17	Data bit 12 ~ bit 17
42~44	GND	Ground (0V)
45, 46	AVDD	Power supply (3.3V)
47, 48	VCC	Power supply (3.3V)
49	RS	Command/Data select signal for LCD
50	RD	Read control signal for LCD
51	WR	Write control signal for LCD
52	PS0	LCD interface select pin for K350QVG-V2-F, default set to 4-wire SPI interface.
53	PS1	
54	PS2	
55	PS3	
56, 57	NC	No connection
58~60	GND	Ground (0V)

### 4 Schematics

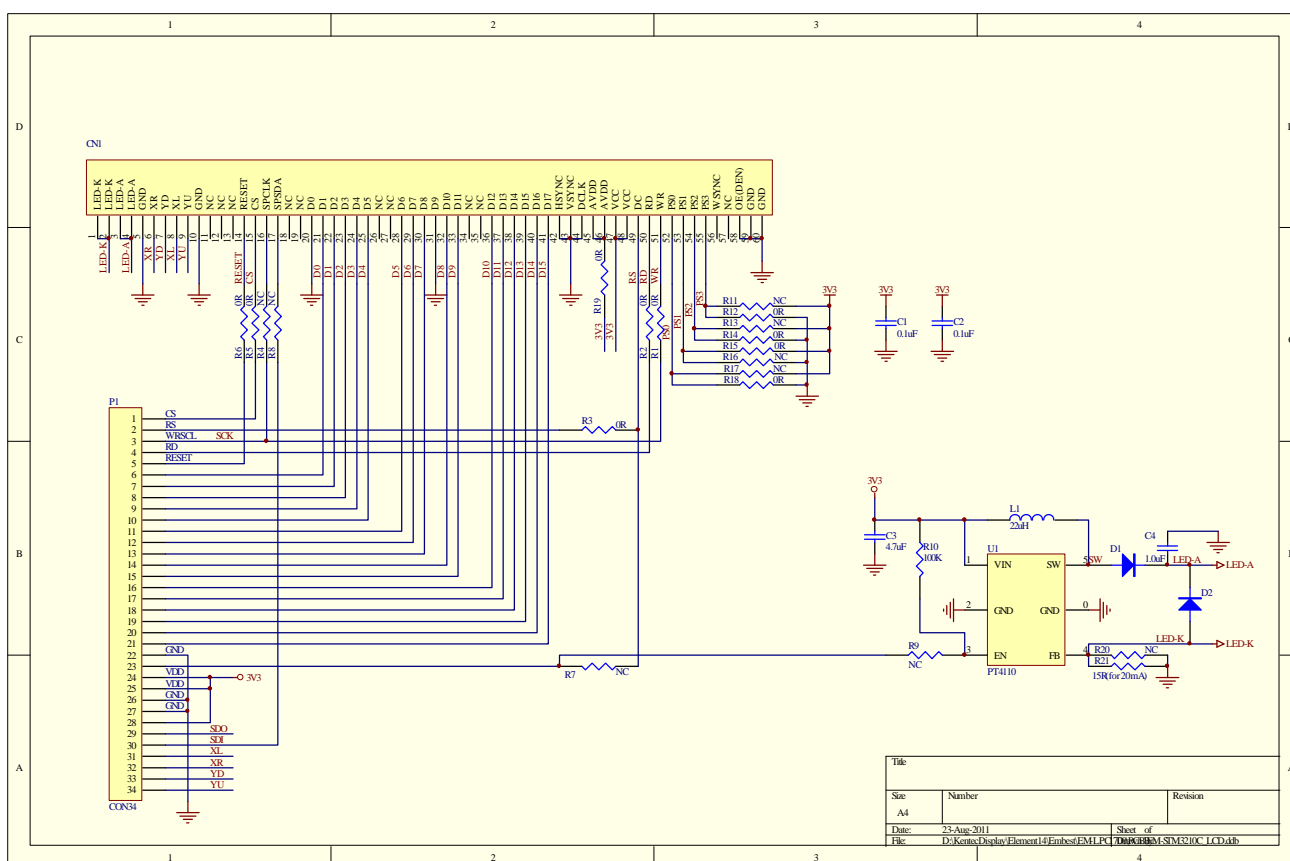


Figure 3. Expansion board schematic

### 5 LCD driver code examples

Bellow attachment is the source code for the K350QVG-V2-F.

NO.	Document	Attachment
1	Source code package	