

Demo Board Manual

megawin

MG32F02A

LCD Demo Set

Using Manual

Version 1.1

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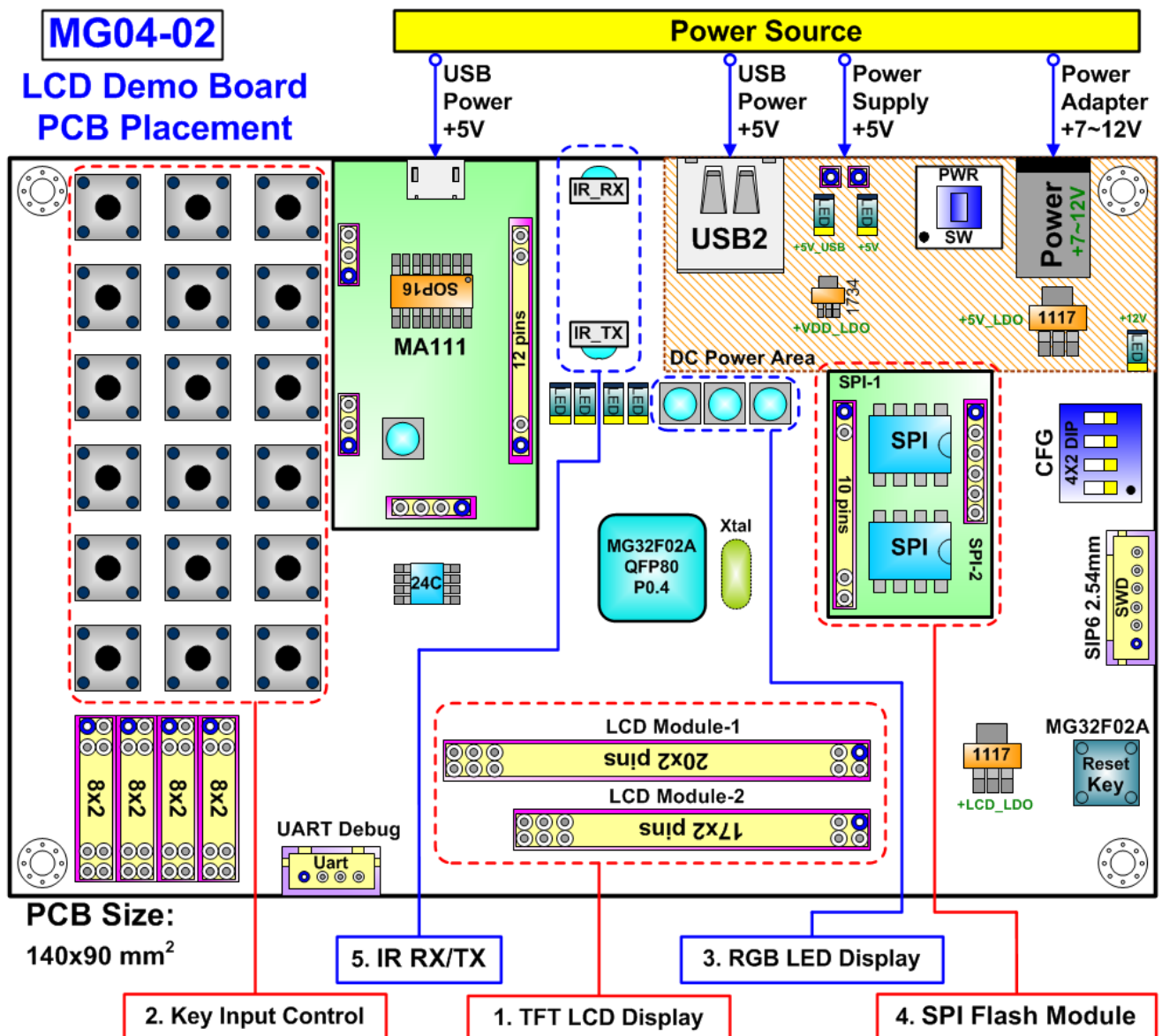
1. Introduction

PCB Version

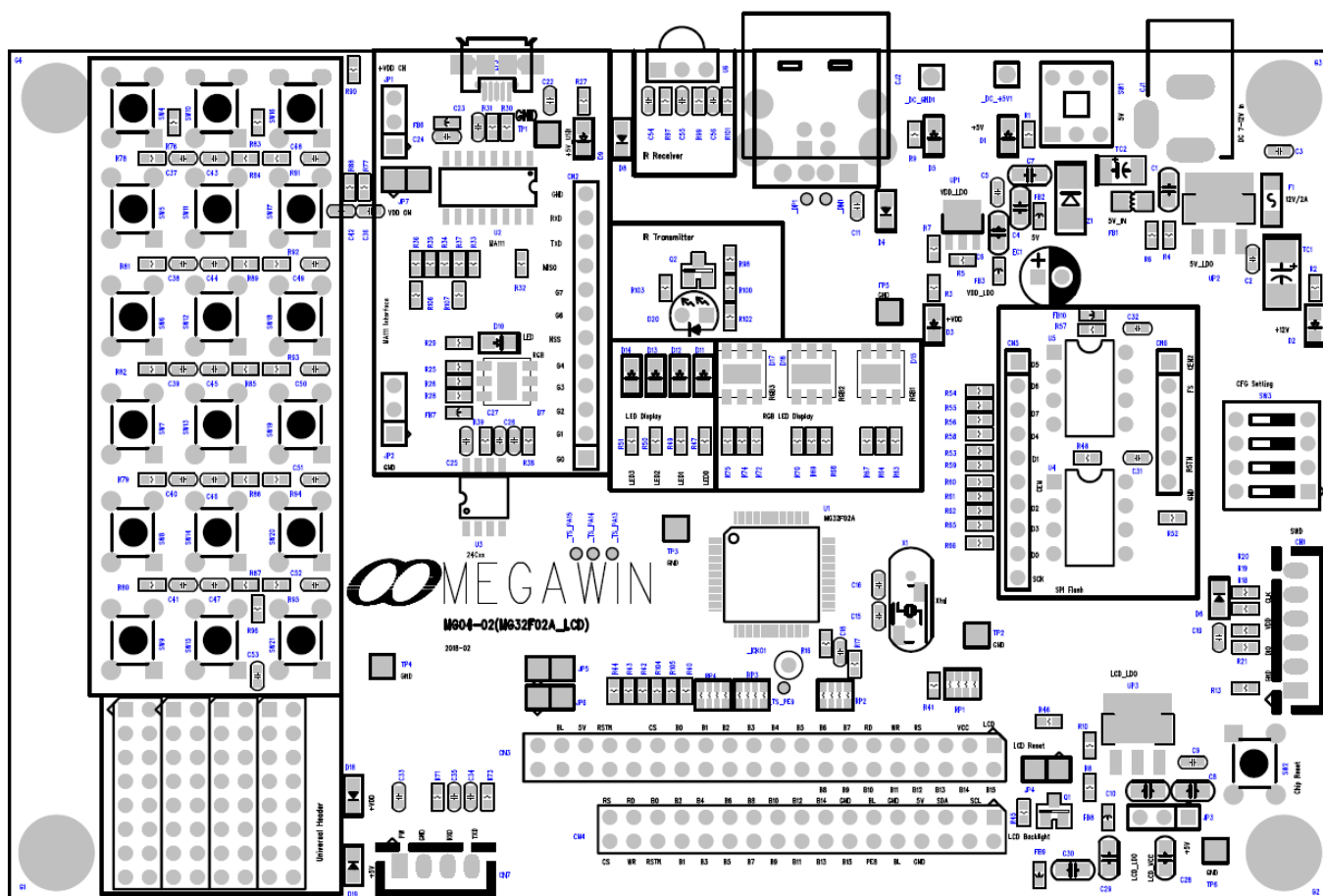
MG04-02(MG32F02A_LCD)

Features

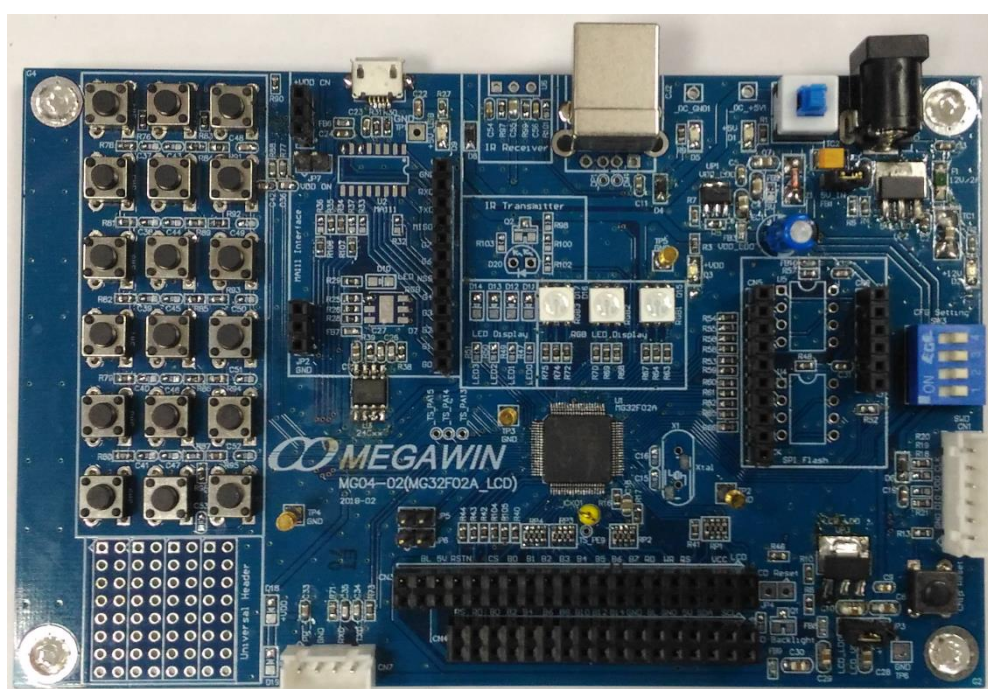
1. TFT LCD Display : Display picture on 240x320 LCD through EMB interface.
2. Key Input Control : Detect multi-key input by SARADC and show message on LCD.
3. RGB LED Display : Show coloring RGB LEDs by TMx or software GPIO PWM control.
4. SPI Flash Access : Store and get picture data on SPI flash.
5. IR RX/TX : IR receiving and transmission circuit.



PCB Outline



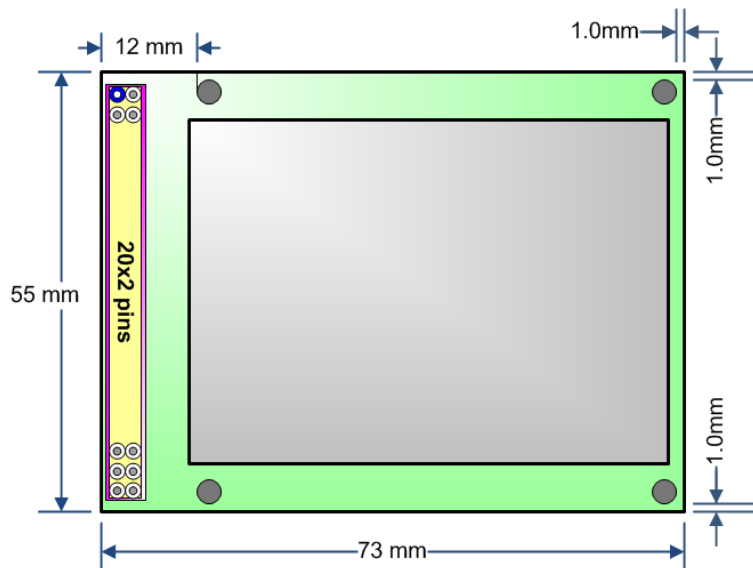
Main Board Pictures



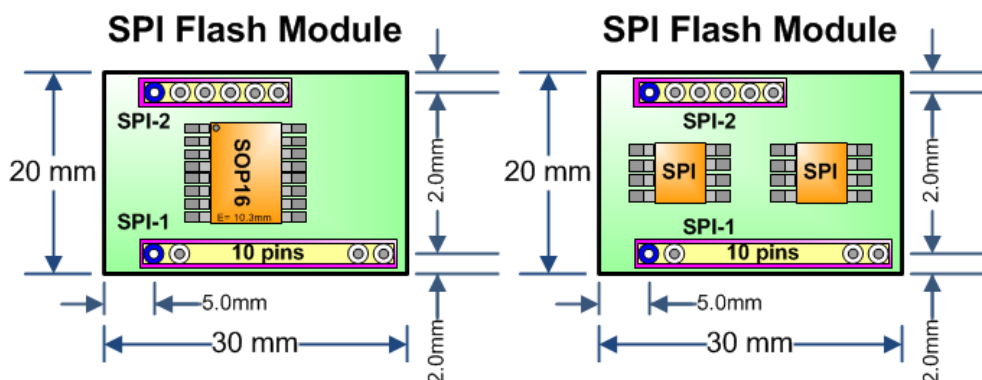
Module Board and Components

1. MG32F02A : 32-Bit CM0 MCU with UART/SPI/8080-LCD interfaces
2. TFT LCD Module : Display LCD with 8080 interface

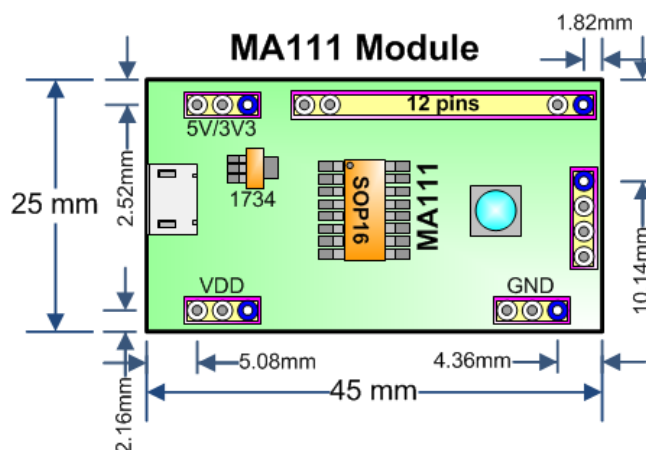
ILI9325 LCD Module



3. SPI Flash Module : Storing LCD display raw data



4. MA111 Module : USB bridge for UART/SPI/I2C communication



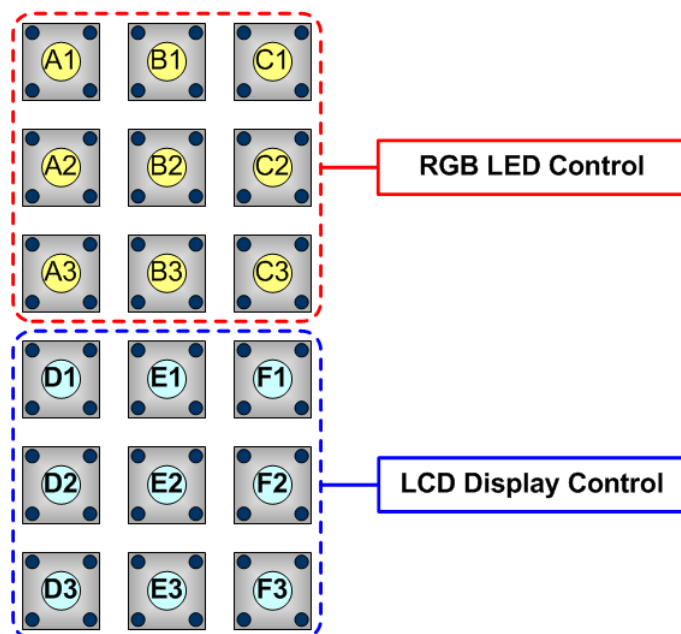
PCB Assembly



3. Key Matrix for User

Control Key Mapping

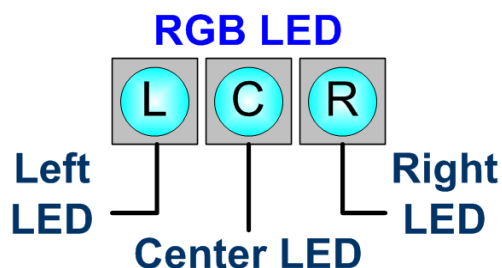
- Key A1, A2, A3, B1, B2, B3, C1, C2, C3 are used for RGB LED display control.
- Key D1, D2, D3, E1, E2, E3, F1, F2, F3 are used for TFT LCD display control.



Control Key Function

RGB LED Control	<Left LED> Mode Select	<Center LED> Mode Select	<Right LED> Mode Select
	<Left LED> Increase LED Brightness	<Center LED> Increase LED Brightness	<Right LED> Increase LED Brightness
	<Left LED> Decrease LED Brightness	<Center LED> Decrease LED Brightness	<Right LED> Decrease LED Brightness
LCD Display Control	Freeze Screen 	Freeze Screen 	Freeze Screen
	Freeze Screen Change to Front Pattern	Freeze Screen 	Freeze Screen Change to Next Pattern
	Loop Show Pattern	Freeze Screen 	Freeze Screen Key Operating Log

4. RGB LED Display Control



RGB LED Display Modes

1. Static Display
2. Pulsing
3. Breath
4. Spectrum
5. Off / Disabled LED

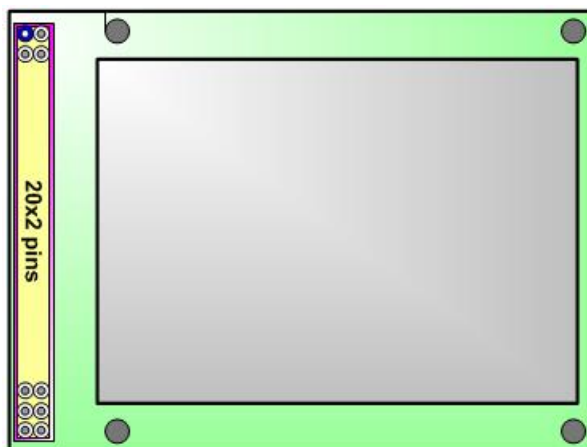
RGB LED Display Mode Setting

Independent display mode controls by pressing A1/B1/C1 key for Left/Center/Right RGB LED.

RGB LED Brightness Control

Independent LED brightness increases or decreases by pressing A2/B2/C2 key or A3/B3/C3 for Left/Center/Right RGB LED.

5. TFT LCD Display Control



LCD Display Modes/Patterns

1. Information. (Show Initial Ready and LCD Panel Model.)
2. Megawin Logo
3. Text
4. Gray Bar
5. Color Bar 1

6. Color Bar 2
7. Random Line
8. Random Rectangle
9. Random Circle
10. Random Geometry
11. Random Text

LCD Display Auto Demo

The LCD demo PCB is automatically sequential showing the patterns of the display mode list after power on. When the screen is freezing by user operating, user also can press the D3 key to restart the LCD display auto demo.

LCD Display Freezing

User can freeze by pressing the any key of D1, D2, E1, E2, E3, F1, F2 or F3 during LCD display auto demo.

Show User Operating Log

User press the F3 key, the screen will be frozen and show the history log message of user key operating in any time.

LCD Display Pattern Change

User can change the screen display to front pattern or next pattern by pressing the D2 or F2 key when the display is freezing.

6. Test List

8080 TFT LCD Module List

1. ILI9325 : 240x320 TFT LCD
2. ILI9341 : 240x320 TFT LCD
3. NT35510 : 480x800 TFT LCD

SPI Flash List

1. MXIC MX25L3206E 32M-bit
2. MXIC MX25L12835F 128M-bit
3. MXIC MX25R512F 512K-bit
4. Winbond W25Q16BV 16M-bit

7. Revision History

Revision V1.1 (2020_0513)		Chapter
1	Change the descriptions of “Key D1, D2, D3, E1, E2, E3, F1, F2, F3 are used for RGB LED display control” to “Key D1, D2, D3, E1, E2, E3, F1, F2, F3 are used for TFT LCD display control”	3
2	Add SPI Flash List	6
Revision V1.0 (2018_1026)		Chapter
1	Initial version	