Demo Board Manual

megawin

MG32F02U

USB+RGB Keyboard

Using Manual

Version 1.1

Date 2021/07/14

by Lucas

List of Contents

1. Introduction

PCB Version

MG07-01(PKT84_LQFP80_USB) ~ MCU chip daughter board

MG04-05A (MG32F02U_KEYBOARD) ~ USB keyboard main board

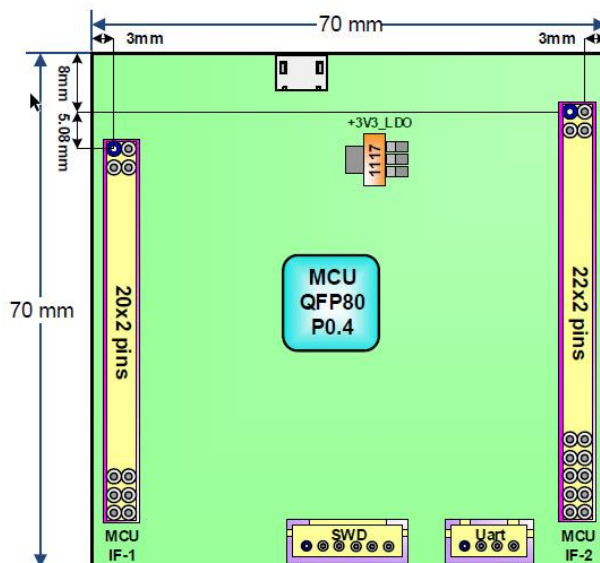## Features

1. 104 keys: 104 Standard key.

2. 6 keys: multimedia key.

3. 4 keys: user defined keys (the sample code use the key to control RGB mode).

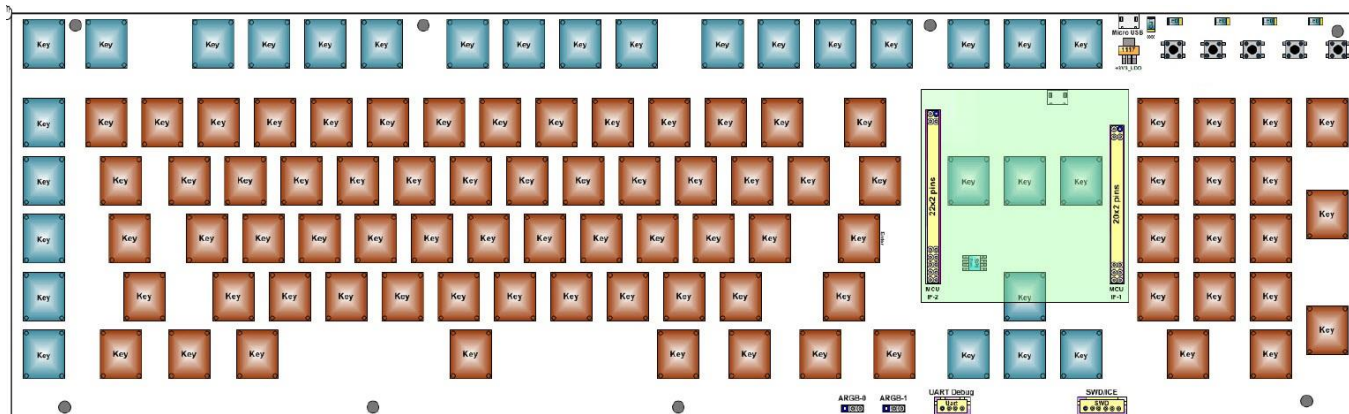4. RGB controlled by TEXAS INSRUMENTS TLC5948A (SPI interface)

5. 7 types of RGB mode.

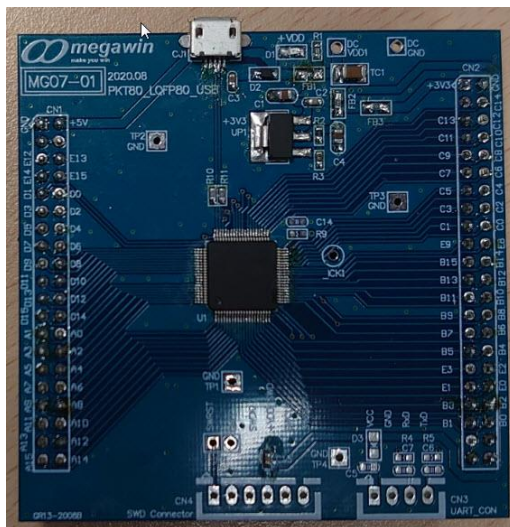# 2. PCB Information

PCB Placement and Function Block Diagram

- **MG07-01(PKT84_LQFP80_USB)**
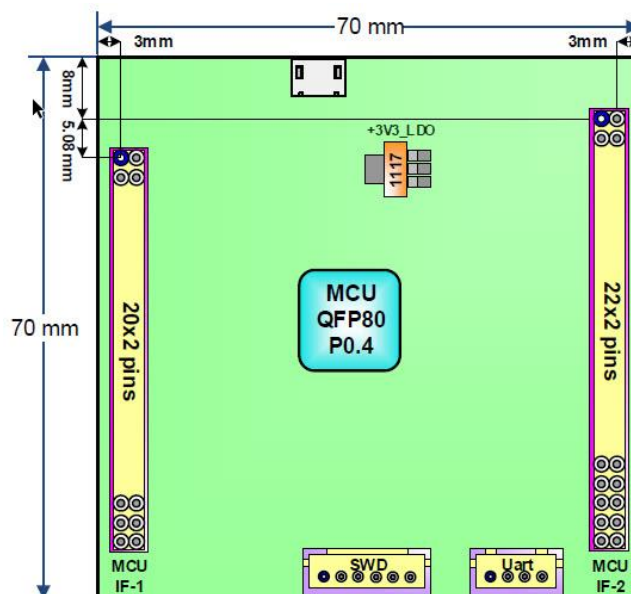

- **MG04-05A(MG32F02U_KEYBOARD)**

Main Board Pictures

PCB Outline and Options
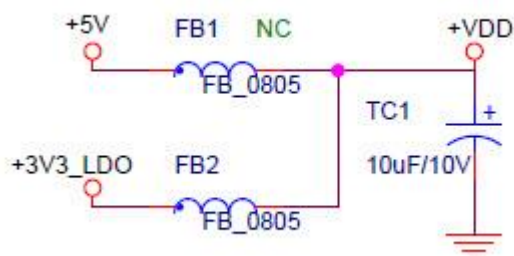
◆ MG07-01(PKT84_LQFP80_USB)

- **DC Input Power Source**

    User can input +5 volt DC power from the Micro USB connect, User can select work voltage of the system according to FB1 or FB2.
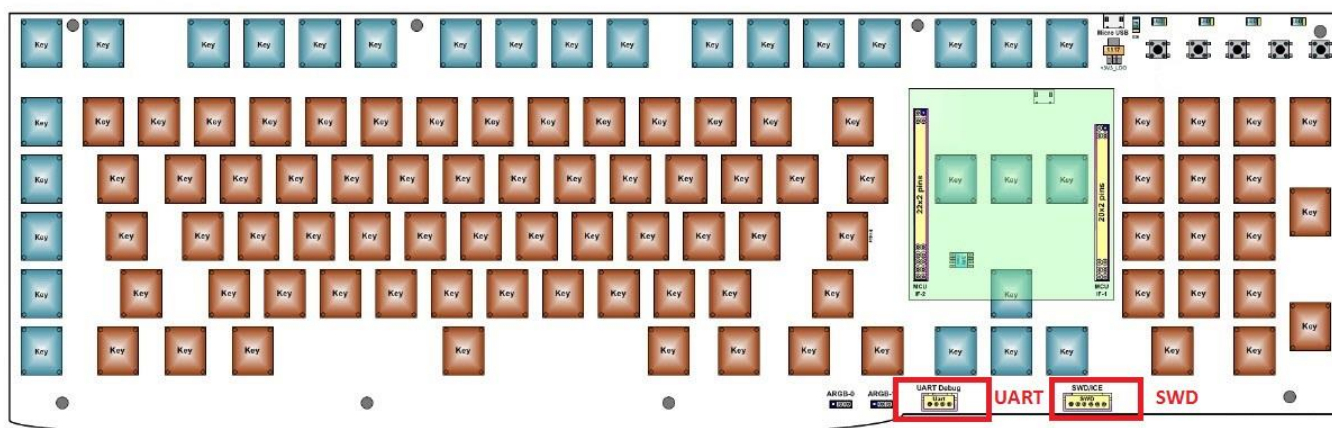
    FB1 : 5V

    FB2 : 3.3V

- **SWD Connector**

    User can connect the MG32F02U128 MCU to the external SWD controller or debug ICE by through the SWD connector.

- **UART Connector**

    User can connect the MG32F02U128 MCU to the external UART controller or PC COM port by through the UART Debug connector.

◆ **MG04-05A (MG32F02U_KEYBOARD)**

● **SWD Connector**

User can connect the MG32F02U128 MCU to the external SWD controller or debug ICE by through the SWD connector.

The connector connect to SWD connector of MG07-01board.
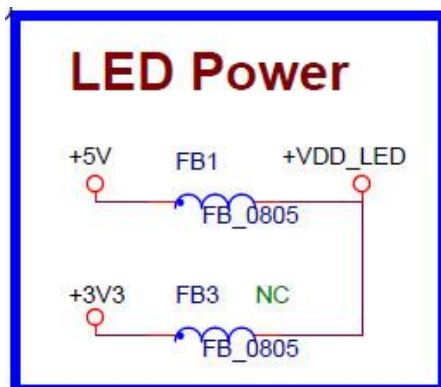
● **UART Connector**

User can connect the MG32F02U128 MCU to the external UART controller or PC COM port by through the UART Debug connector.

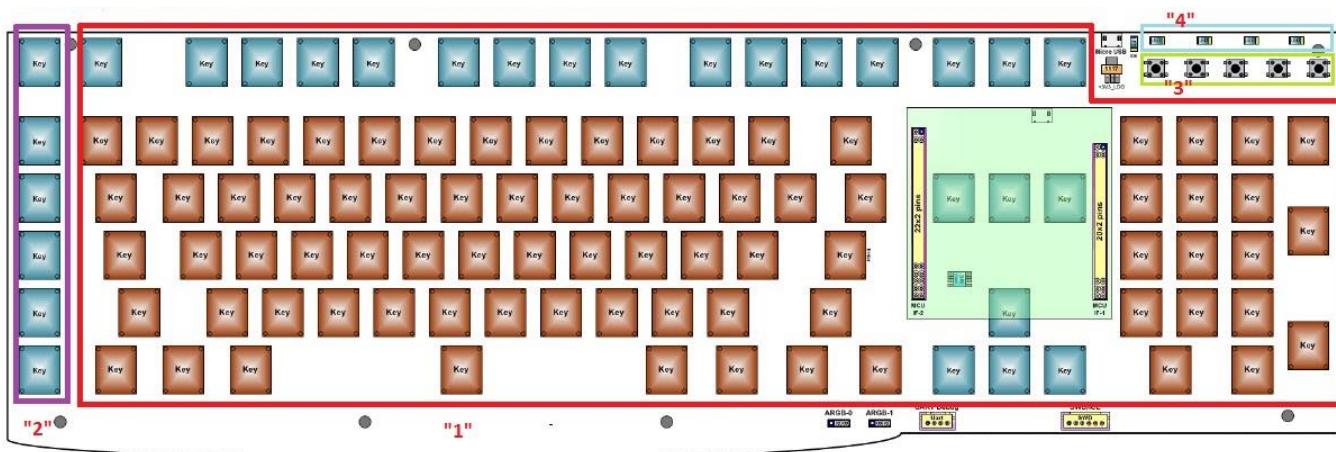The connector connect to UART connector of MG07-01 board.

● **RGB LED operation power option**
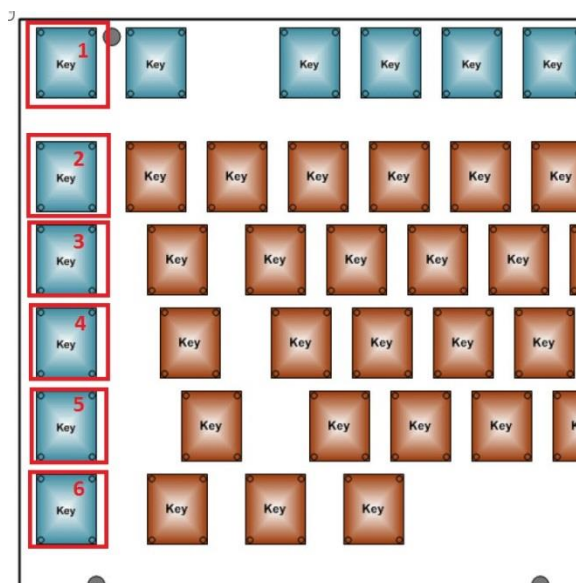
FB1 : 5V

FB3 : 3.3V

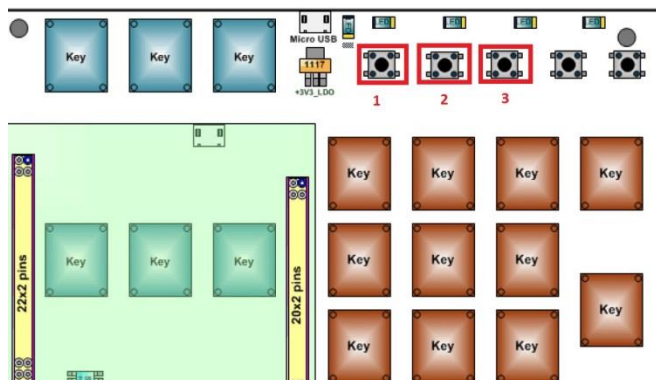## 3. KeyBoard Function

1. Standard Keyboard (104 Keys)
2. Multimedia Key (6 Keys)
3. RGB Mode Control Key (3 Keys)
4. Keyboard LED (3 LEDs)

◆ **Multimedia Key**

1. Volume Up
2. Volume Down
3. Mute
4. Next Track
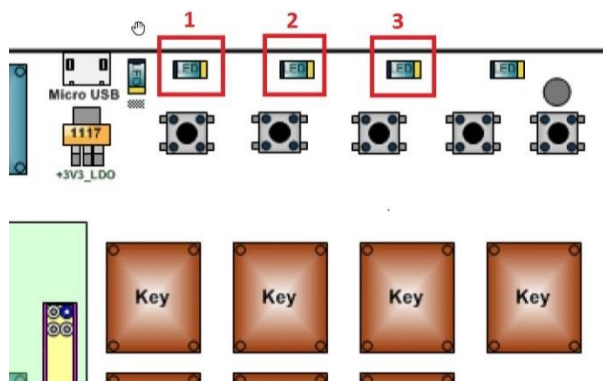5. Play / Pause
6. Previous Track

◆ **RGB Mode Control Key**

1. Change RGB Mode
2. Change RGB Sub. Mode
3. Change RGB Color of the RGB Mode

RGB Mode	RGB Sub Mode	RGB Color
Disable		
Static User Define Color		
Static Single Color		V
Breath		V
Rainbow	V	
Morphing		
Key Interlock	V	V

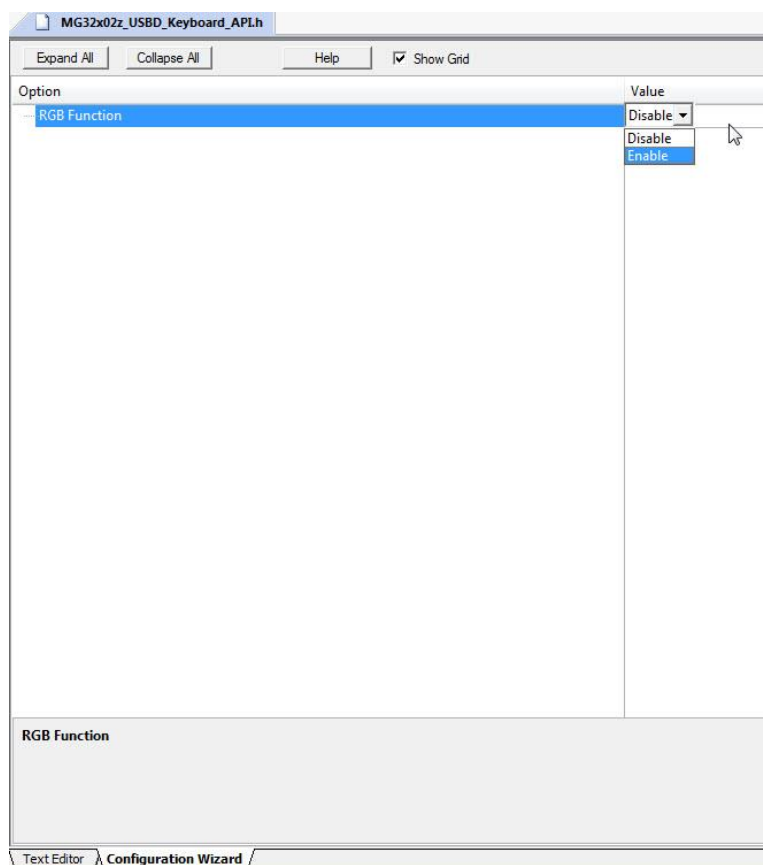*Note: **V** represent that can change the opinion in the mode.

- **Disable**: RGB Disable Mode
- **Static User Define Color** (Default): User Define Key Color Mode.
- **Static Single Color**: Single Color Mode
    - The mode can change RGB Color (6 colors).
- **Breath**: Single Color Breath Mode
    - The mode can change RGB Color (6 colors).
- **Rainbow**: Rainbow mode
    - The mode has 3 sub modes.
- **Morphing**: Color morphing mode
- **Key Interlock**: Key interlock mode
    - The mode has 2 sub modes.
    - The second mode can change RGB Color (6 colors).

◆ **Keyboard LED**

1. Number Lock LED
2. Caps Lock LED
3. Scroll Lock LED

◆ **Software Option**

Option the project whether RGB function enable or not in MG32x02z_USBD_Keyboard_API.h.

4. Test List

LED Driver List

- **TLC5948A: 16-Channel LED driver.**

5. Revision History

Revision V1.0 (2021_0329)	Chapter
1 Initial version	