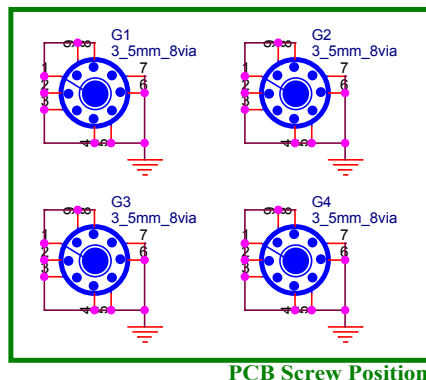
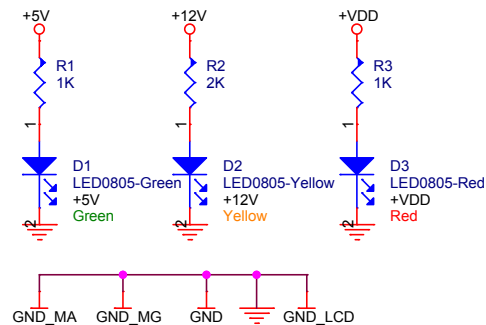


# MG04-02

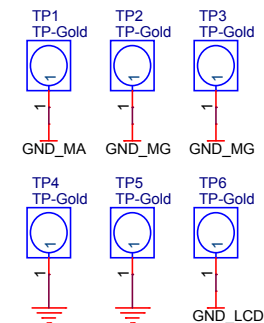
2018.2 GR04-1802B  
MG32F02A LCD DMB



PCB Screw Position

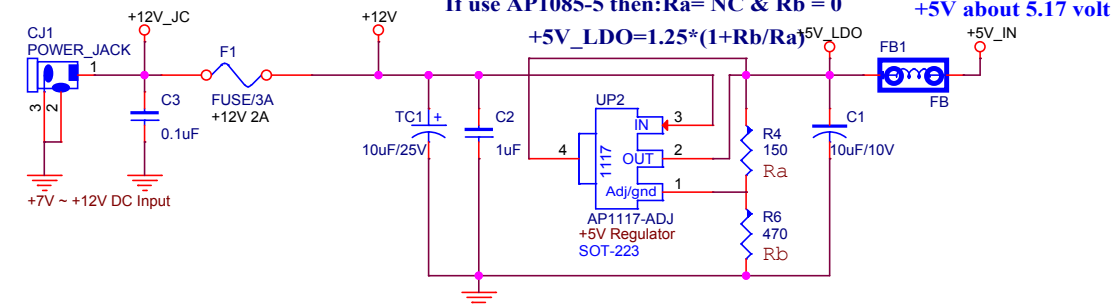


\*Short these ground planes on PCB



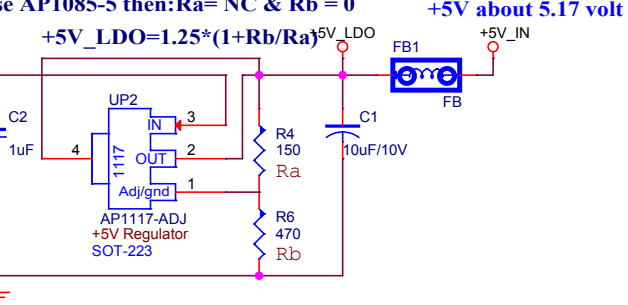
## Power Jack DC 7~12V In

If use AP1085-5 then: Ra= NC & Rb = 0

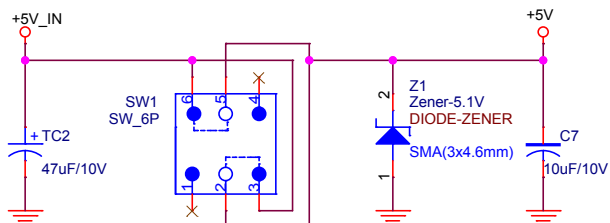
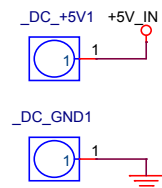


## System Power (5V)

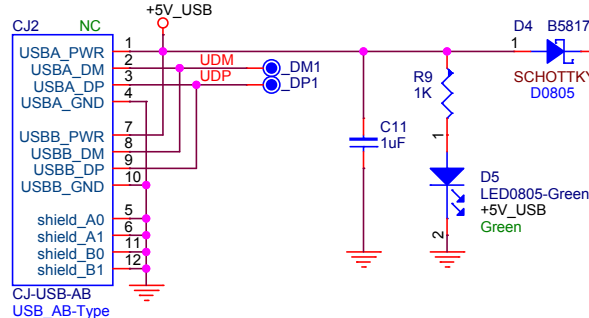
+5V about 5.17 volt



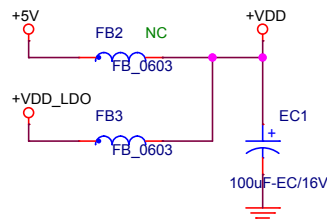
## Extra DC Power Con



## USB Power Con

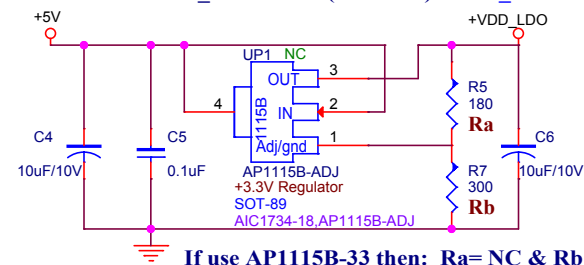


## VDD Power



## Chip IO( Power (3.3V)

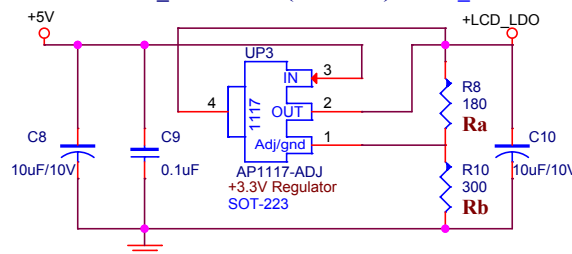
+VDD\_LDO=1.25\*(1+Rb/Ra)+VDD\_LDO about 3.33 volt




If use AP1115B-33 then: Ra= NC & Rb = 0

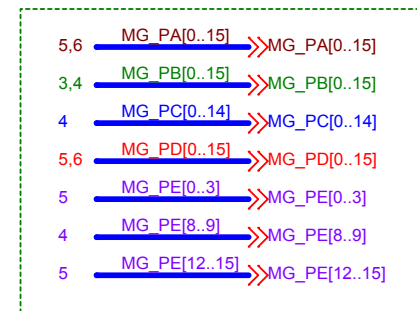
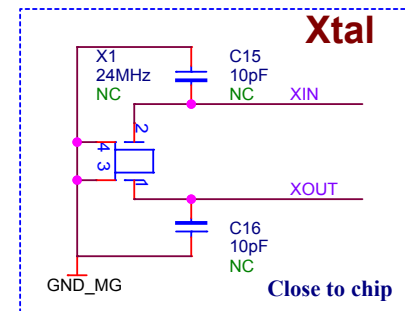
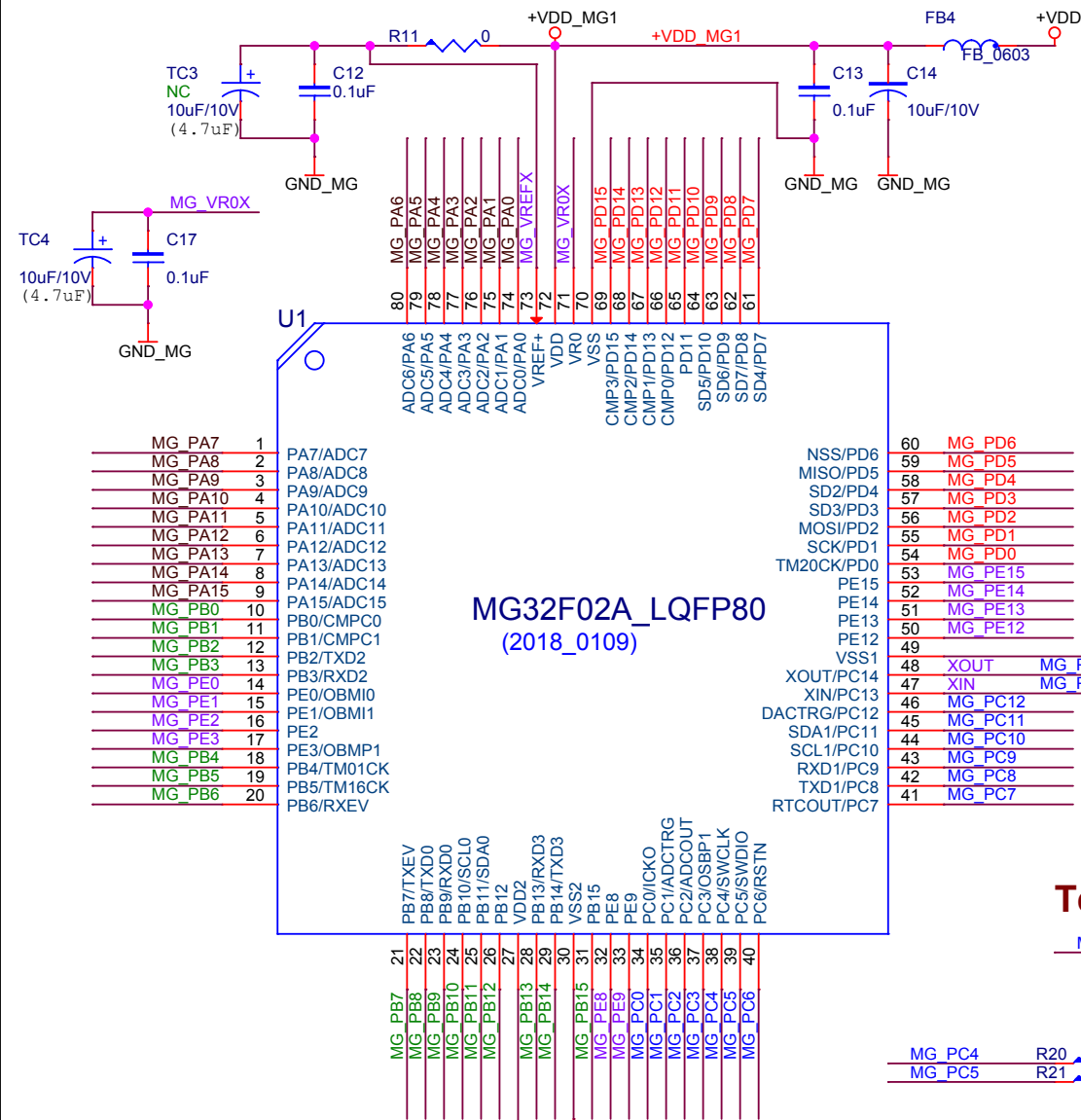
## LCD Power (3.3V)

+LCD\_LDO=1.25\*(1+Rb/Ra)+LCD\_LCD about 3.33 volt

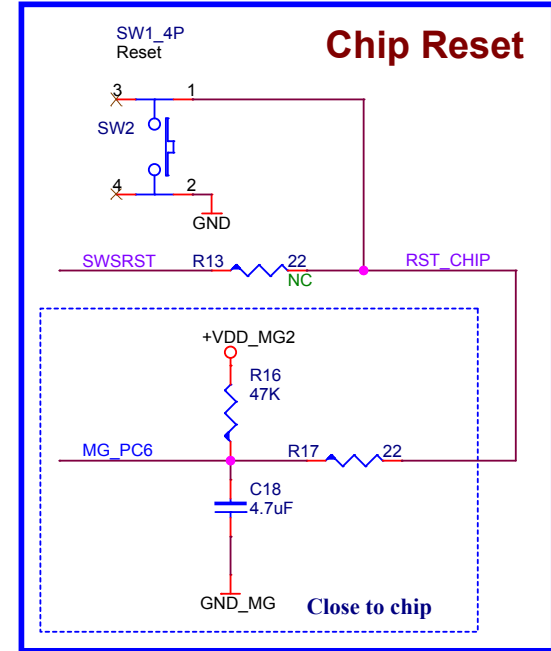
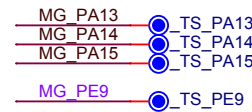


G5  
MEGAWIN  
Logo\_Megawin10+Text  
NC

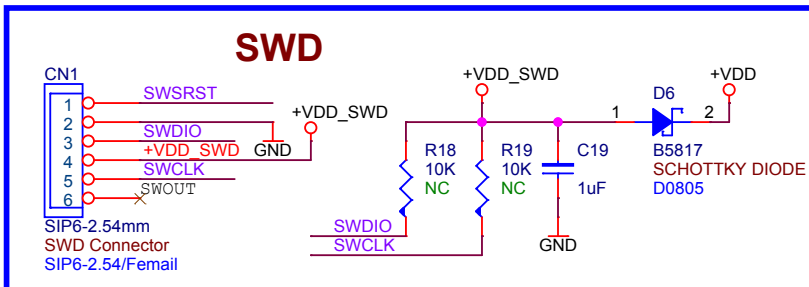
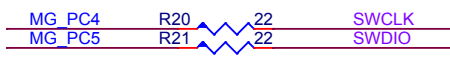
 MEGAWIN	MEGAWIN			
	Title			
	System Power			
	Size	Document Number	Rev	
	E	MG04-02	1.0	
Date:		Wednesday, February 14, 2018		
Sheet		1	of 9	



## Unused Pins

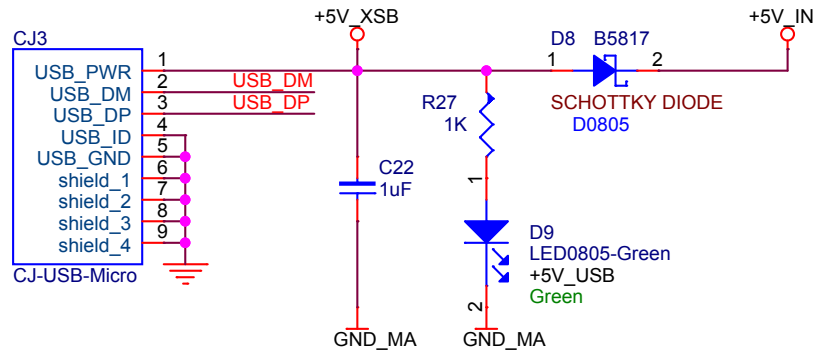


## Test Clock Output

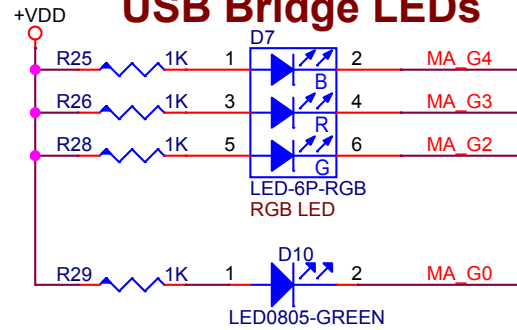


<b>MEGAWIN</b>			
<b>MG32F02A Chip</b>			
Size C	Document Number		Rev
	<b>MG04-02</b>		<b>1.0</b>
Date:	Wednesday, February 14, 2018		
	Sheet	2	of 9

## USB Connector

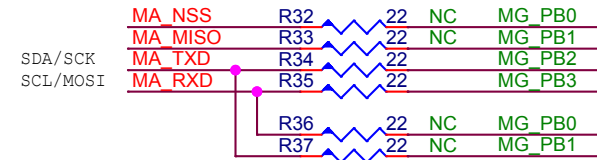
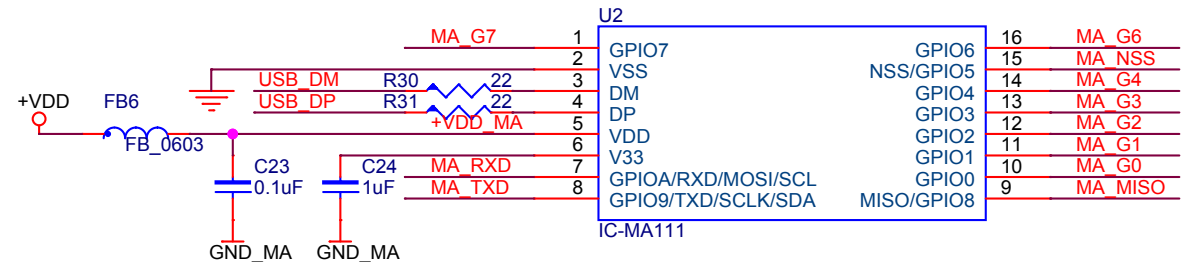
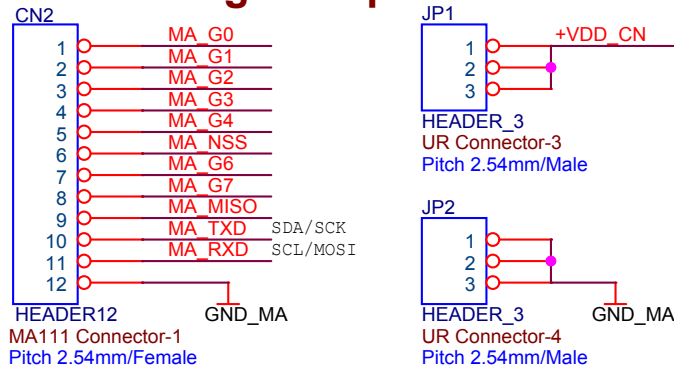


## USB Bridge LEDs

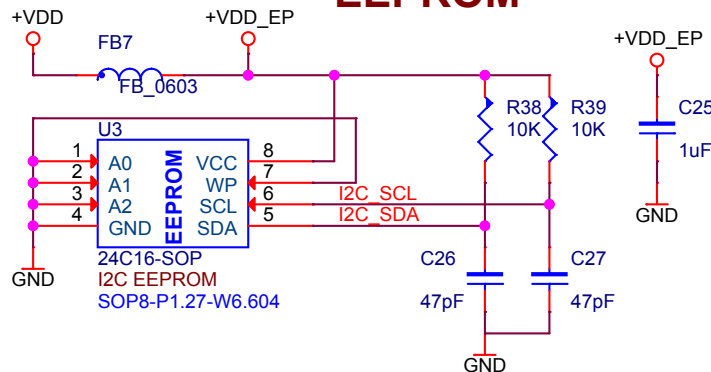


2,4 MG\_PB[0..15] >>> MG\_PB[0..15]

## USB Bridge Adapter Connector

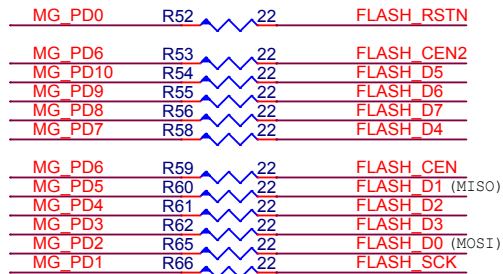
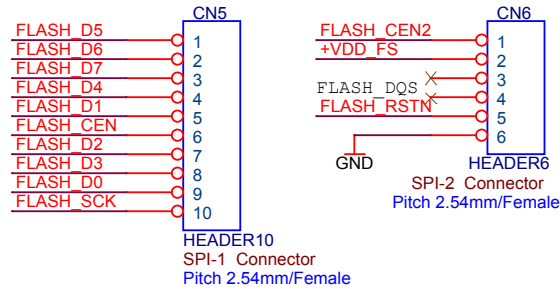


## EEPROM

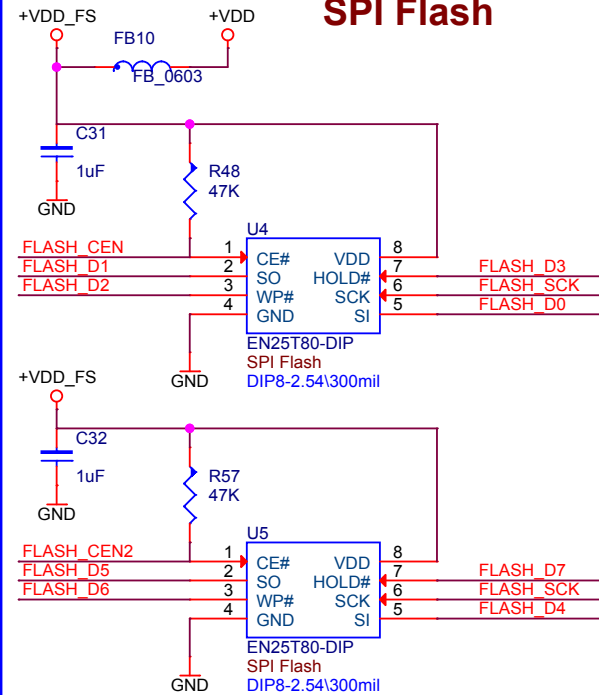




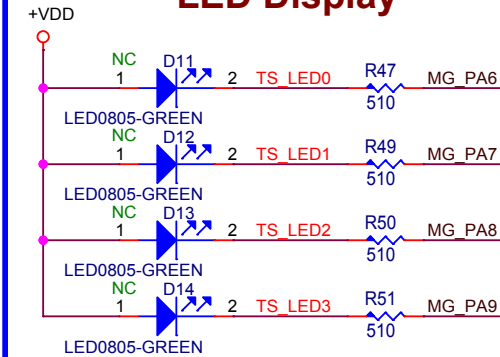
## SPI Connector



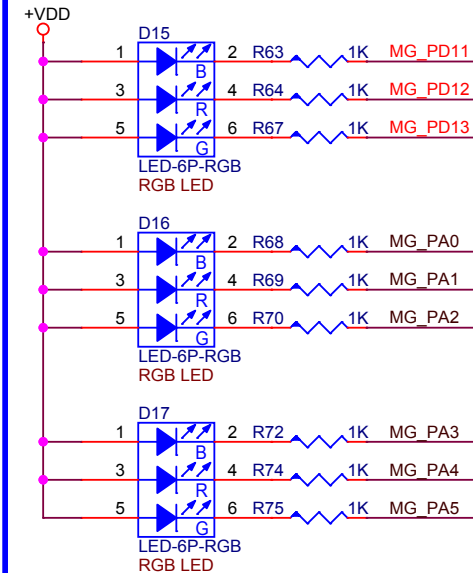
## SPI Flash



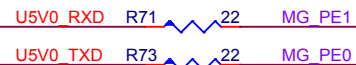
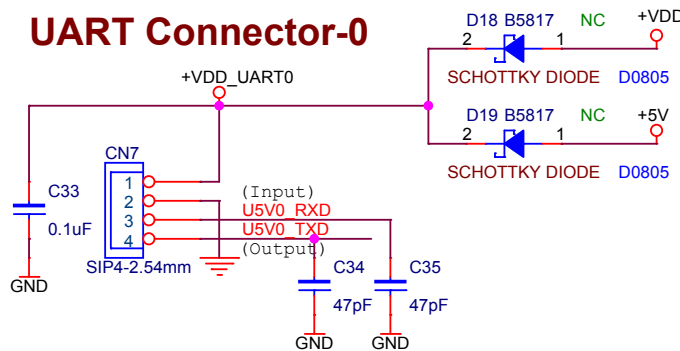
## LED Display



## RGB LED Display

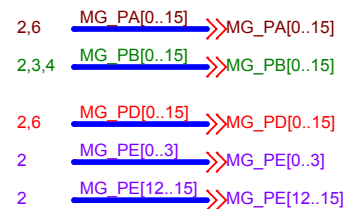
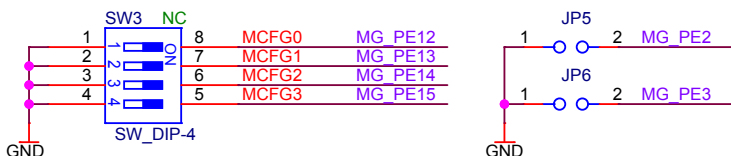


## UART Connector-0



These parts close to CN7 .

## CFG Setting

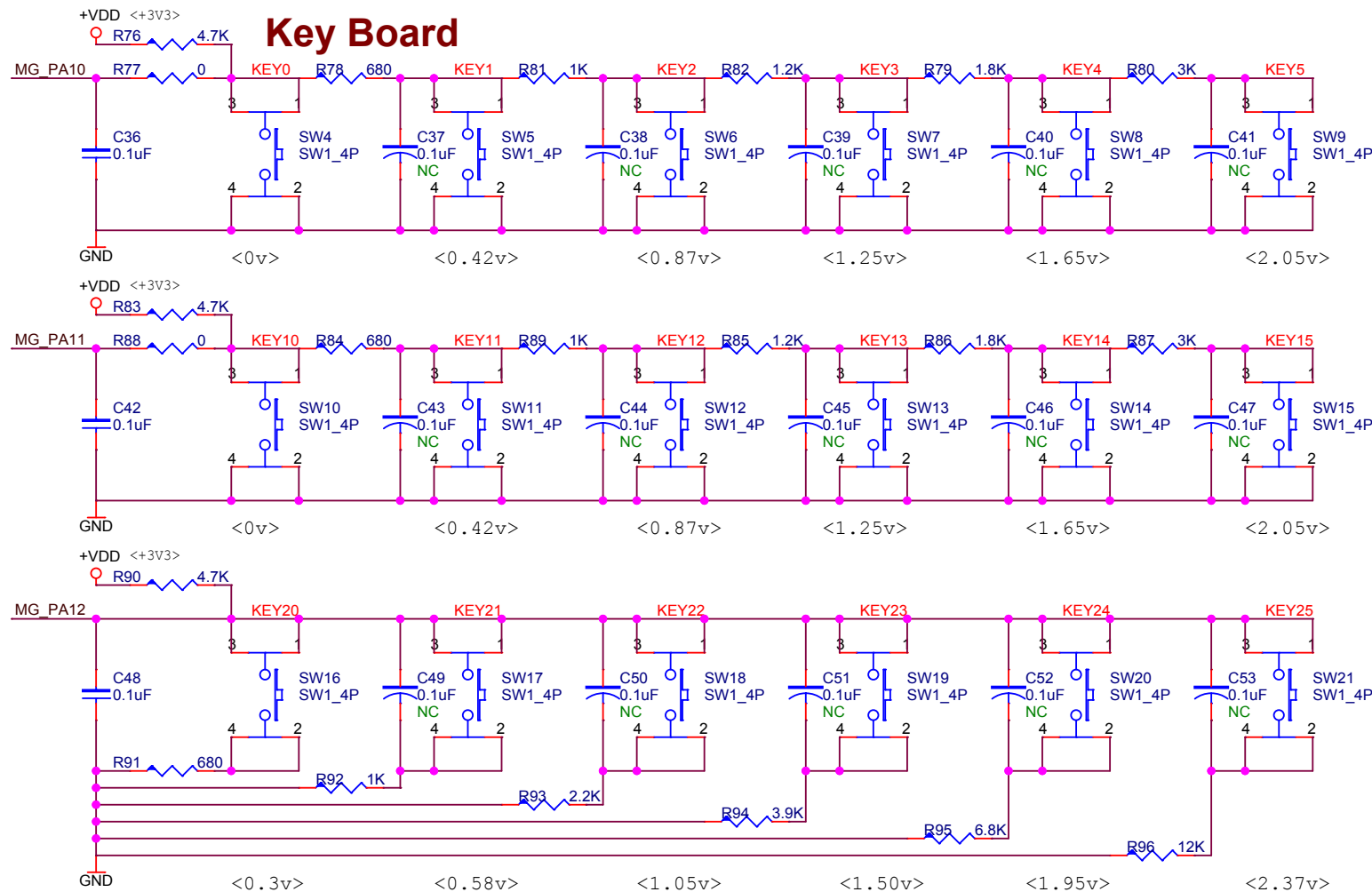


**MEGAWIN**

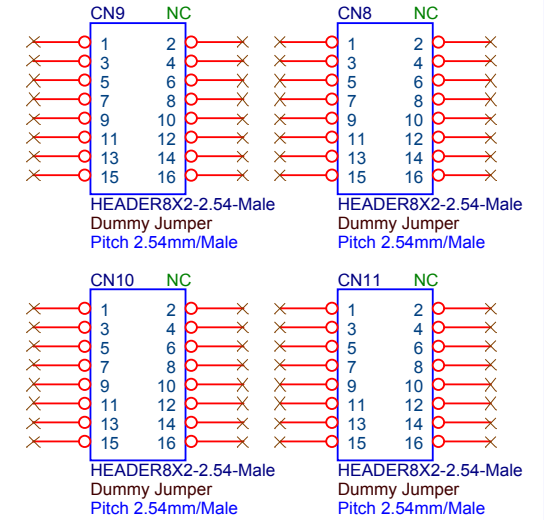
**SPI Flash and UART**

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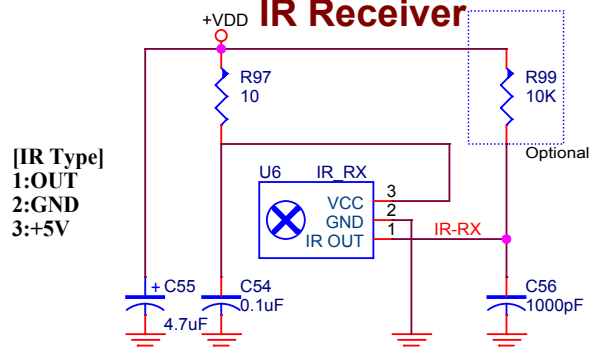
## Key Board



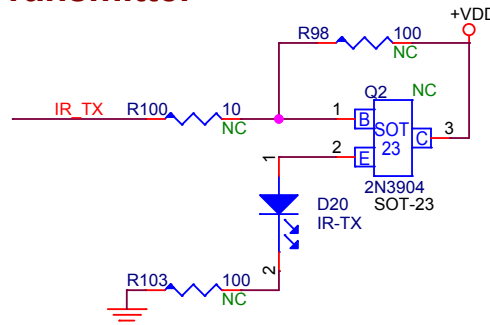
## Dummy Universal Header



## IR Receiver



## IR Transmitter



2,5 MG\_PA[0..15] >> MG\_PA[0..15]  
2,5 MG\_PD[0..15] >> MG\_PD[0..15]

MG\_PD14 R101 22 NC IR-RX  
MG\_PD15 R102 22 NC IR\_TX



**MEGAWIN**

**Others**

Size C	Document Number	Rev
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Board Features

- \* MG32F02A Demo Board
- \* 8/16-bit LCD Interface
- \* MA111 Adapter Interface
- \* SPI Flash Adapter Interface
- \* RGB LED
- \* SARADC Key Input

Power ~

- \* 12V DC Jack , 5V DC SIP2-2.54 , USB-A/B/Micro Connector
- \* Built-in 12V-to-5V LDO Circuit
- \* Built-in 5V-to-3.3V(VDD) LDO Circuit
- \* Built-in 5V-to-3.3V(LCD) LDO Circuit

Input / Output ~

- \* SWD IF Connector SIP6-2.54 \*1 , HD5x2-1.27 \*1
- \* UART Connector SIP4-2.54 \* 2

Module IF

- \* LCD Module-1 Connector 20x2
- \* LCD Module-2 Connector 17x2
- \* MA111 Module Connector
- \* SPI Flash Module Connector

Component Circuit

- \* SPI Flash DIP+SOP \*2
- \* MA111 Circuit \*1
- \* XTAL Circuit \*1
- \* IR RX Circuit \*1
- \* IR TX Circuit \*1

Others ~

- \* Trap DIP Switch 4x2 \*1
- \* RGB LED \*3
- \* User LED \*4
- \* Push Button \*1 (Reset )
- \* SARADC Key Matrix 6x3
- \* Dummy Universal Header 8x2 \*4

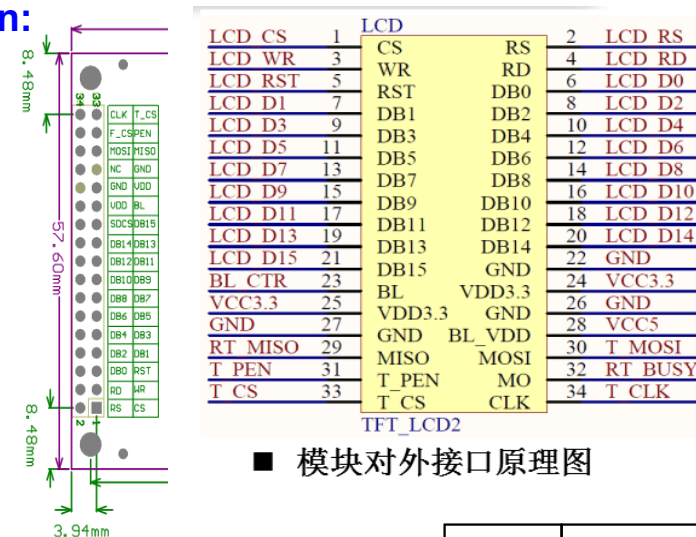
Layout Rule

- \* Impedance :
  1. Single-end signals ~ 12 mil/124ohm(Coated MicroStrip) for general nets
  2. Single-end signals ~ 10 mil/129ohm(Coated MicroStrip) for LQFP80
  3. Single-end signals with ground shield ~ 12-6/61ohm(Coated Coplanar Strips)
  4. USB differential signals ~ 15-5/90ohm (Edge-Coupled Coated MicroStrip)
- \* Power/Ground :
  1. Bypass cap. need close to related power/ground pin
  2. Using Copper for DC input source and LDO input/output path
- \* Clock/XTAL :
  1. Ground shielding and arc routing
  2. Signal trace cross orthogonal with test point outline and do not directly pass through the central hole of test point for high speed signal

Board Note

- \* Ferrite Beed Spec :  
FB : Rdc=0.2 , Z=300/100MHz , Idc=500mA ~ MCB2012S301H  
FB\_L : Rdc=0.015 , Z=120/100MHz , Idc=6000mA ~ MHC3216S121W  
FB\_S : Rdc=0.25 , Z=60/100MHz , Idc=500mA ~ MCB1608H600H  
FB\_0603 : Rdc=0.15 , Z=120/100MHz , Idc=500mA ~ MCB1608S121H

LCD Interface-2 Definition:



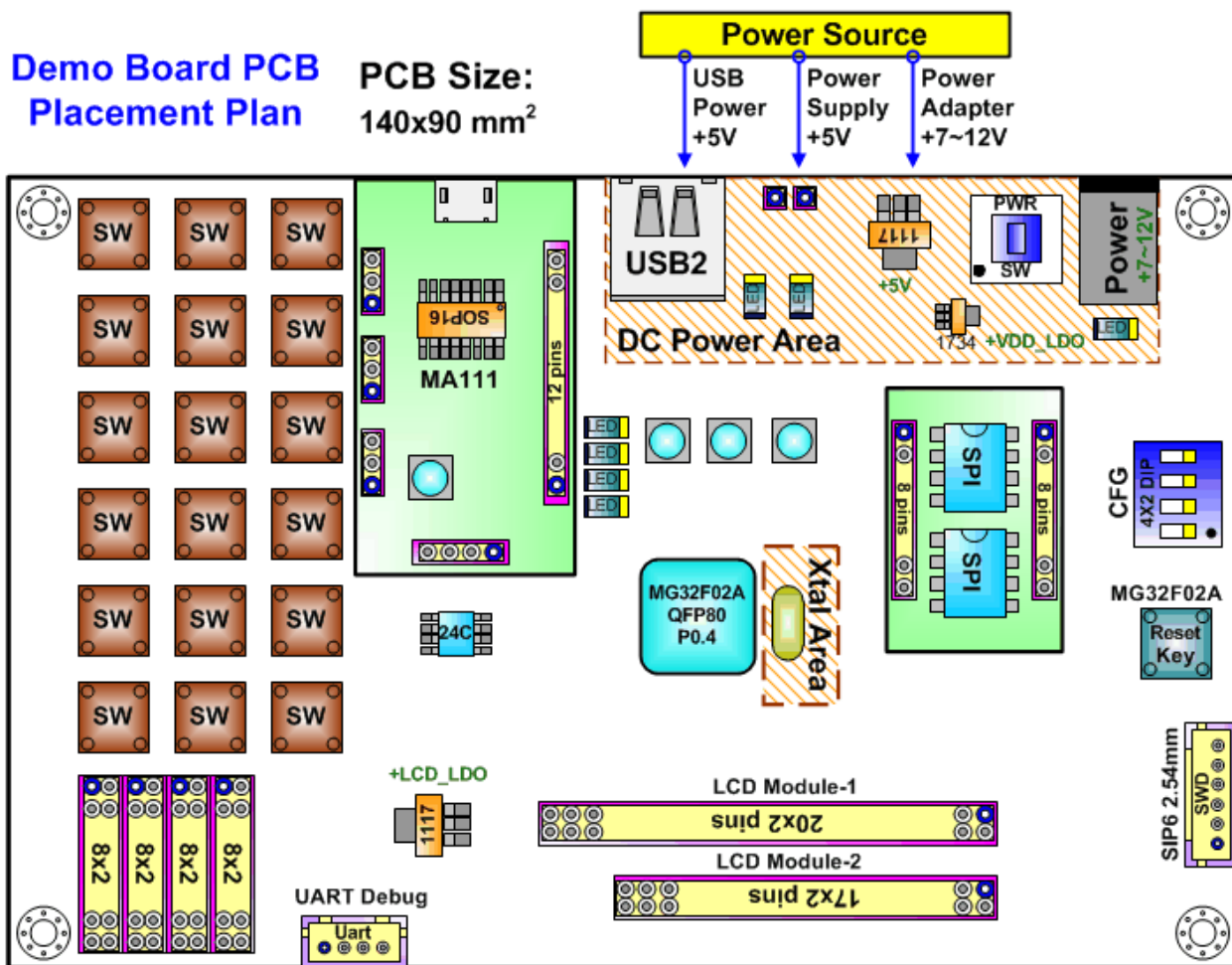
模块对外接口原理图

MEGAWIN			
Title		Board Comment	
Size	Document Number	MG04-02	Rev 1.0
E			
Date: Wednesday, February 14, 2019			
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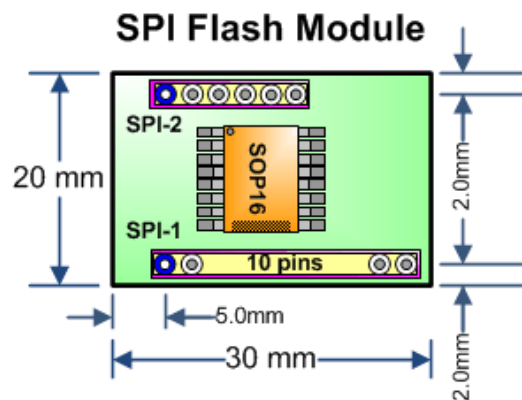
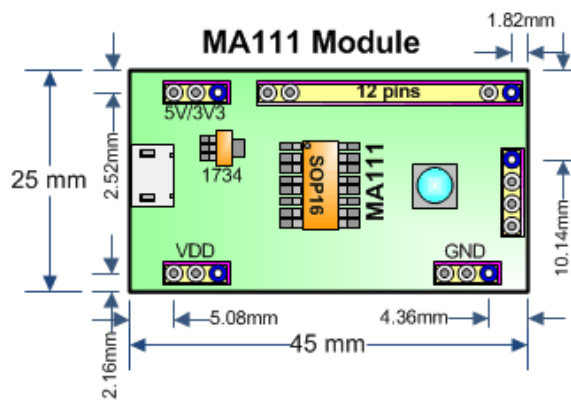
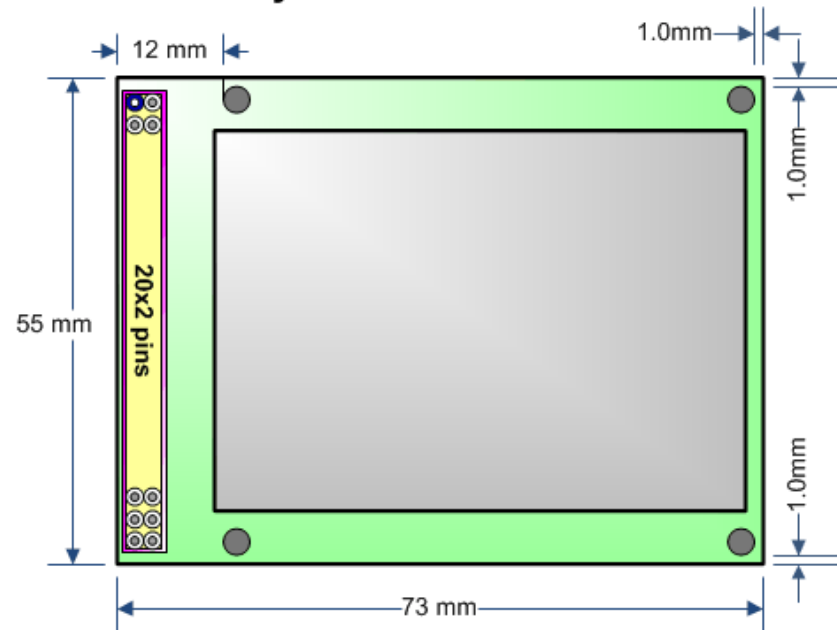



# Demo Board PCB Placement Plan

PCB Size:  
140x90 mm<sup>2</sup>



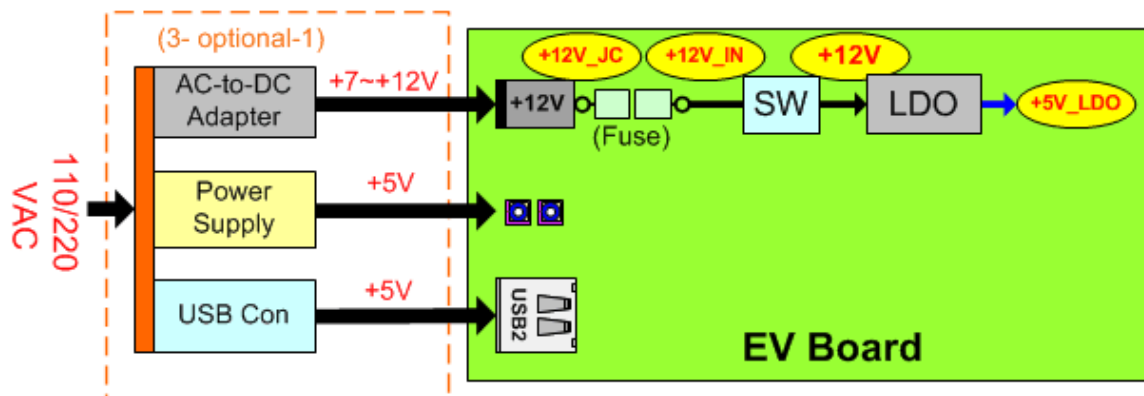
## 100y ILI9325 LCD Module



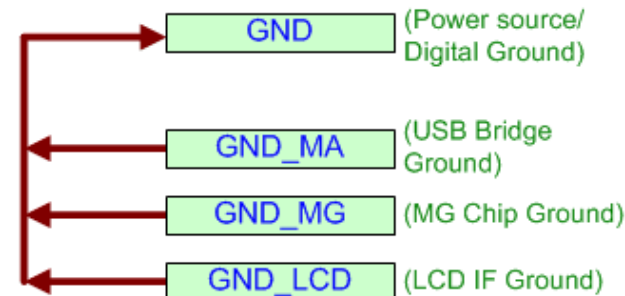
	<b>MEGAWIN</b>		
	<b>PCB Placement Plan</b>		
	Size Custom	Document Number <b>MG04-02</b>	Rev <b>1.0</b>
	Date: Wednesday, February 14, 2018		



## Power Supply Source Diagram



## Ground Connection Diagram



## Power Connection Diagram

