



MG04-06A

TP2 GND

AIN0  
AIN1  
PC13  
PC14

Touch Key

G2

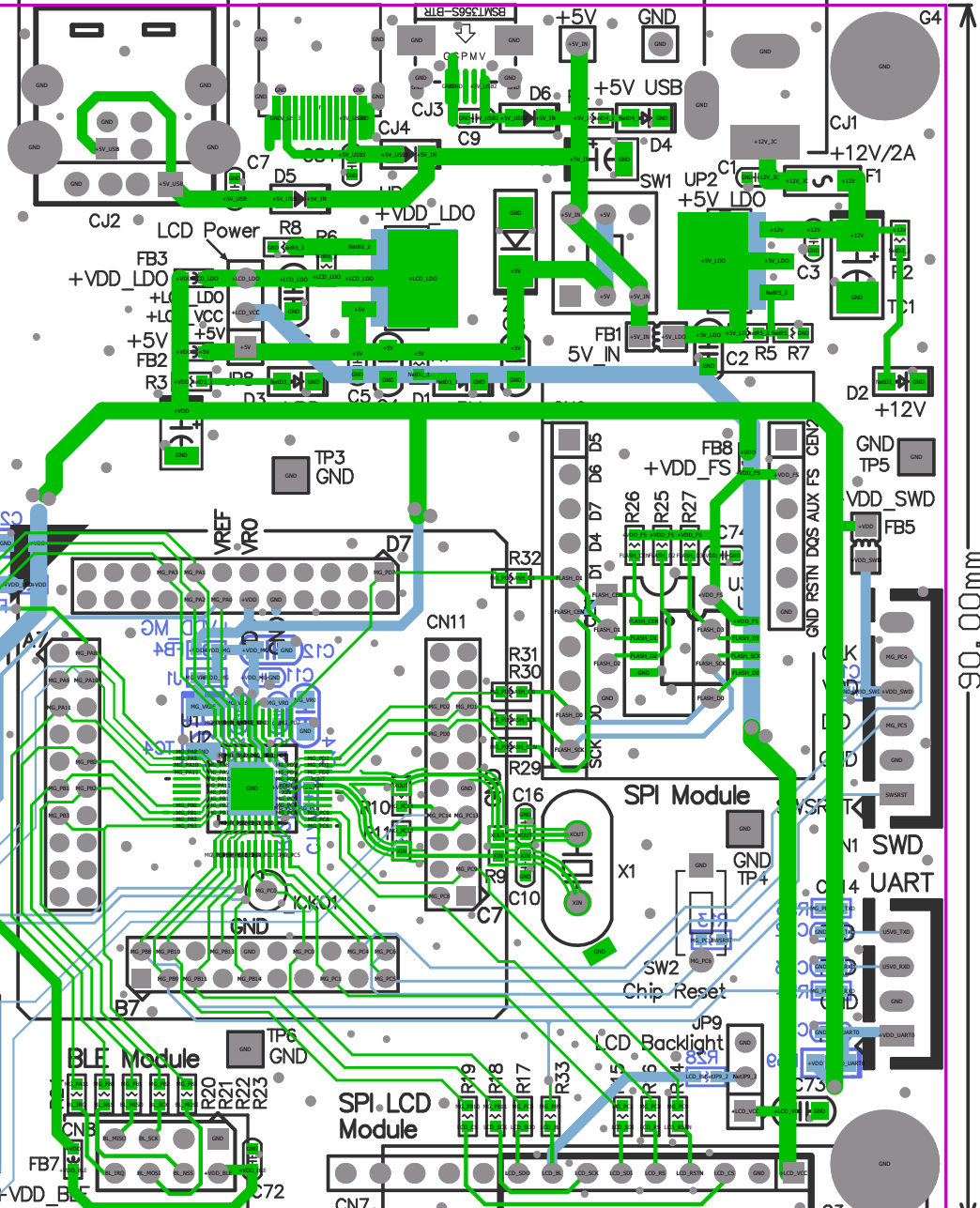
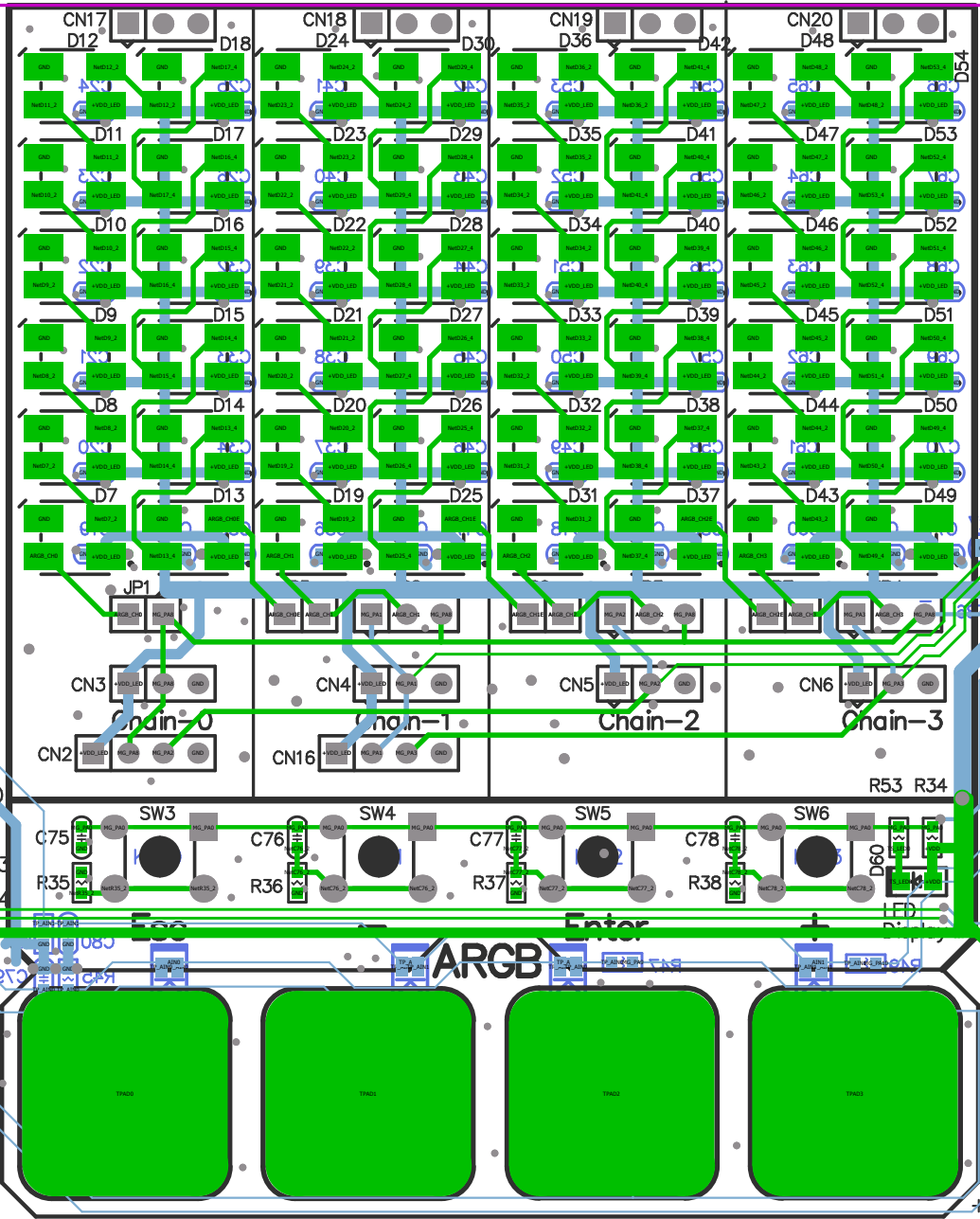
MG32F02V\_ARGB 2022.02

TP2 GND

AIN0  
AIN1  
PC13  
PC14

Touch Key

G2



150.00mm

90.00mm

# MG04-06

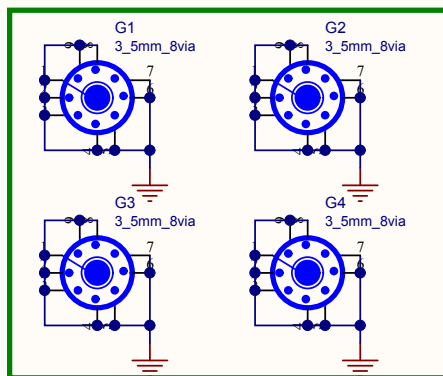
2021.09

GR1x-21xxx

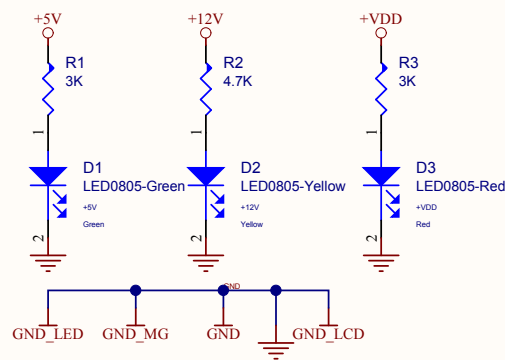
MG32F02V ARGB DMB

G5

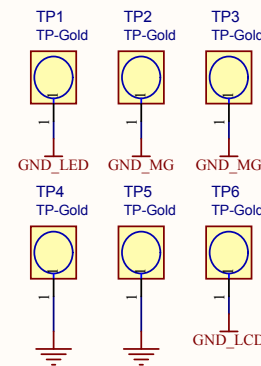
megawin  
Logo\_Megawin\_3\_4



PCB Screw Position

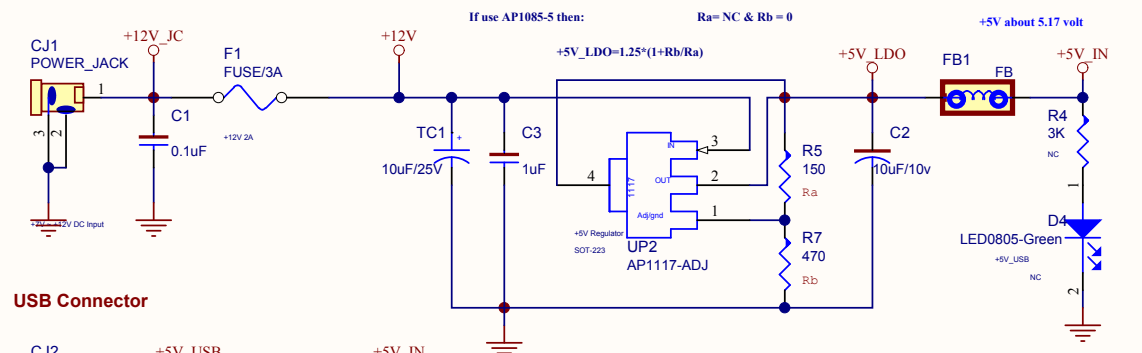


\*Short these ground planes on PCB

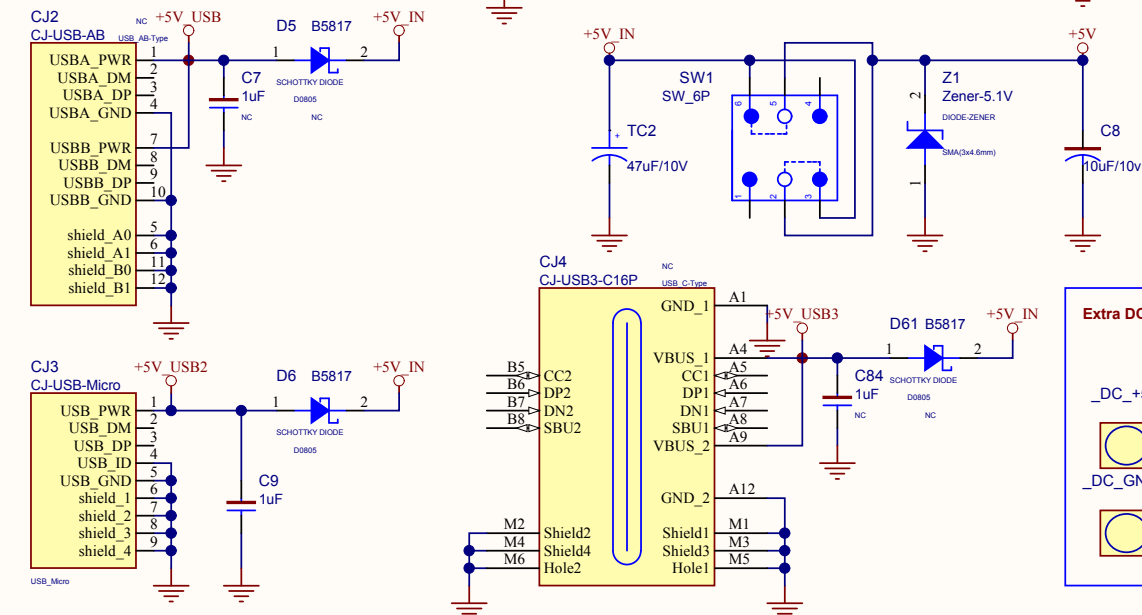


## Power Jack DC 7~12V In

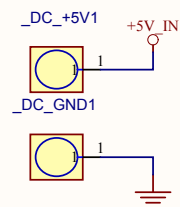
## System Power (5V)



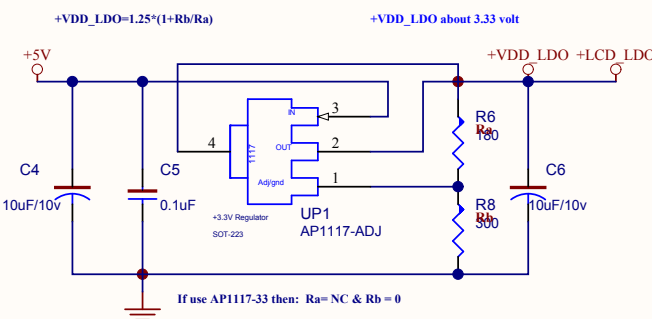
## USB Connector



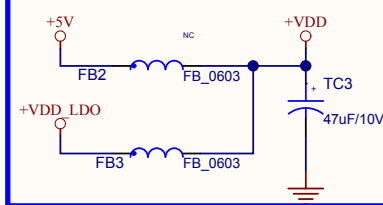
## Extra DC Power Con



## Chip IO Power (3.3V)

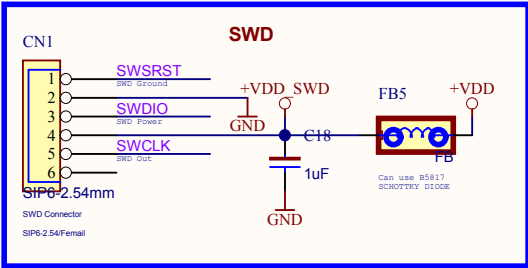
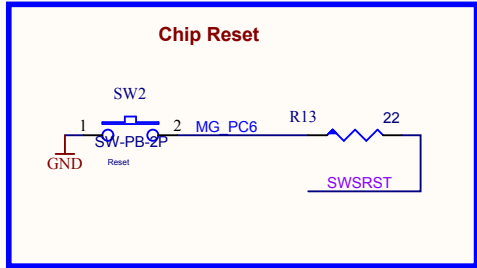
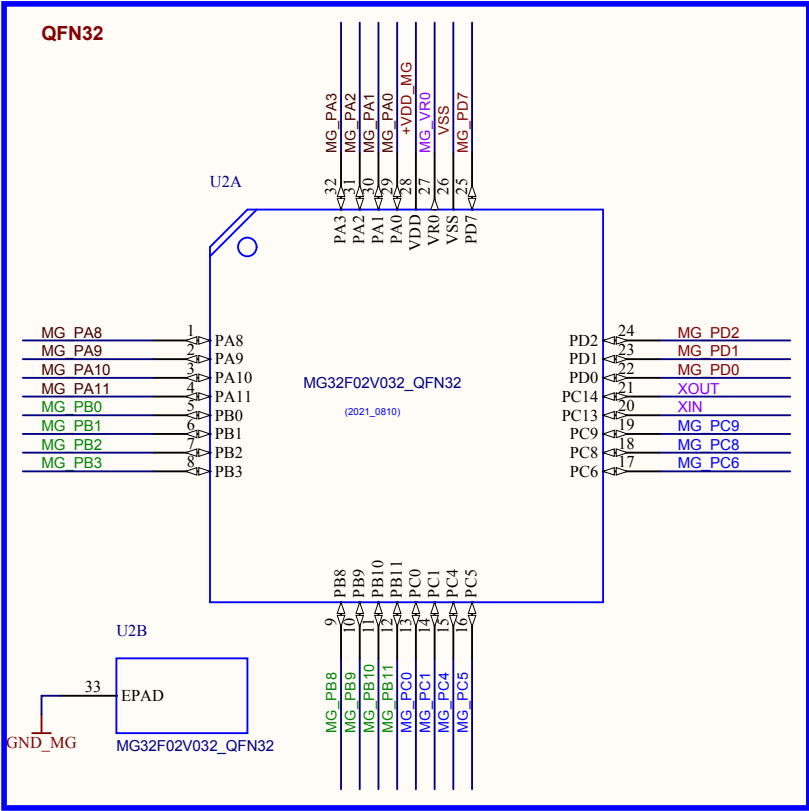
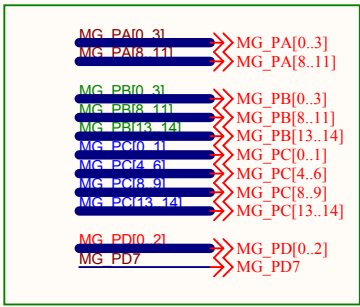
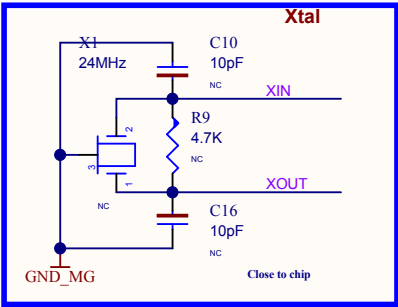
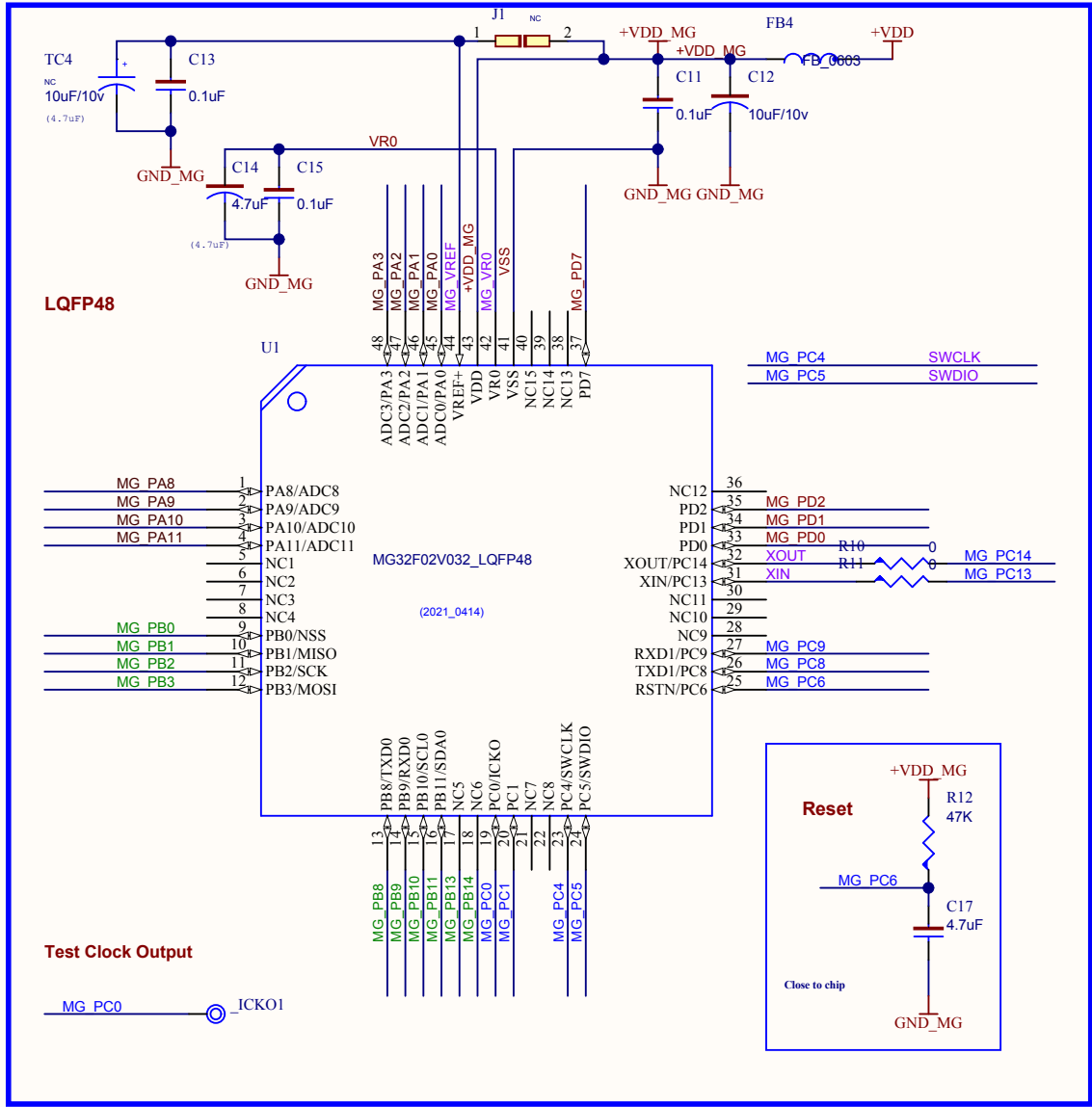


## VDD Power

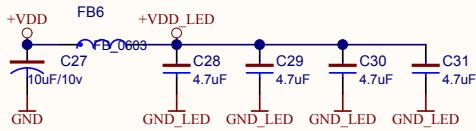


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System Power	
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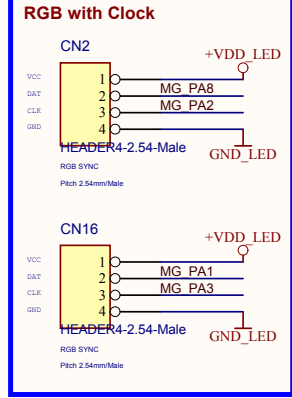
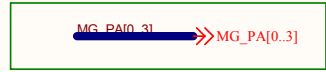




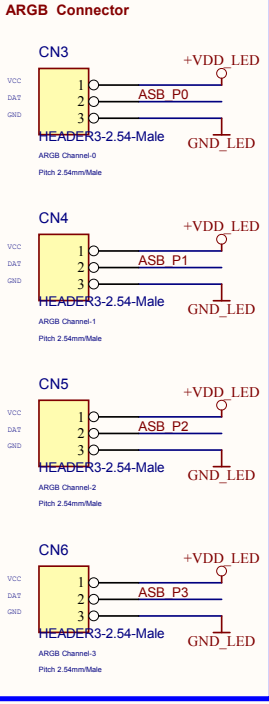
megawin			
MG32F02V Chip			
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ARGB LED Power Capacitors for each channel



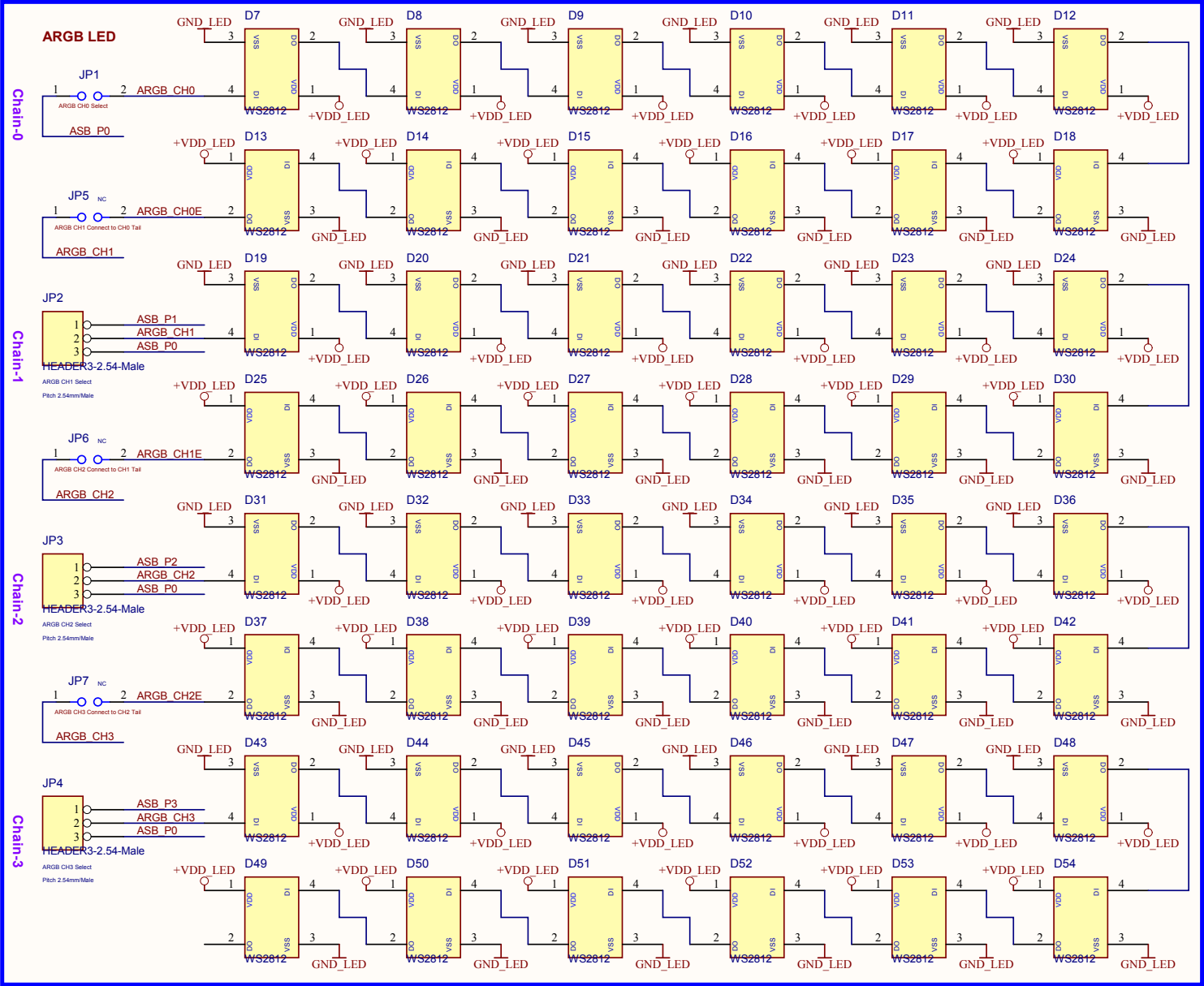
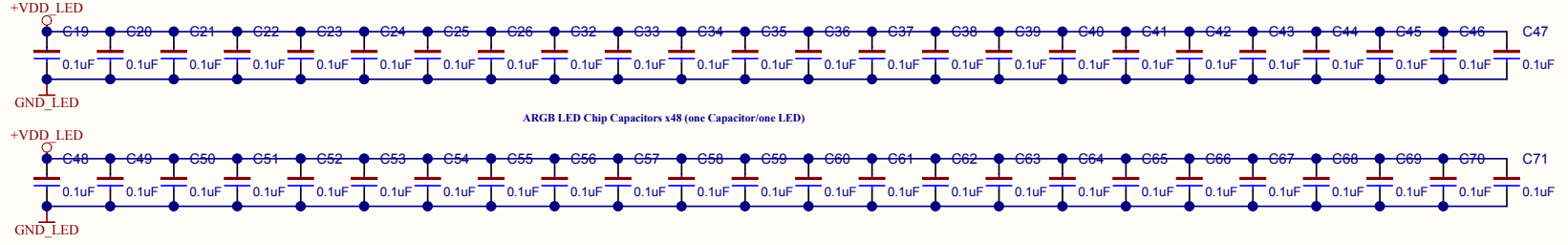
MG_PA8	ASB_P0
MG_PA1	ASB_P1
MG_PA2	ASB_P2
MG_PA3	ASB_P3

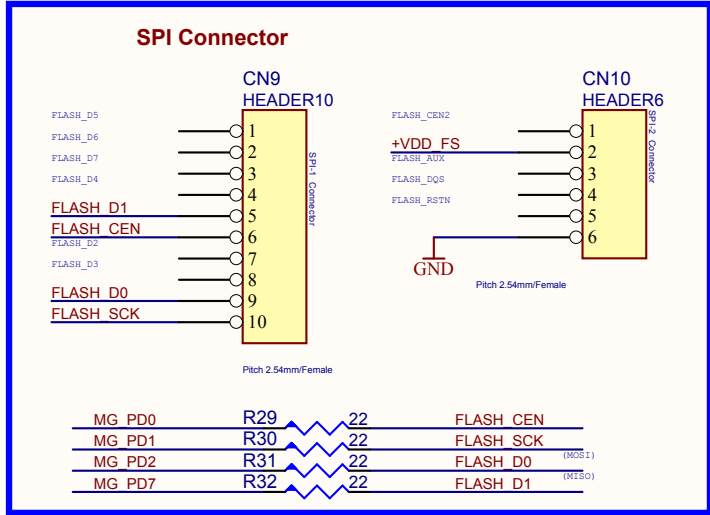
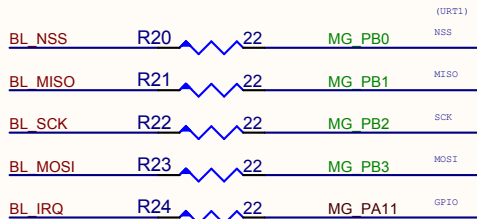
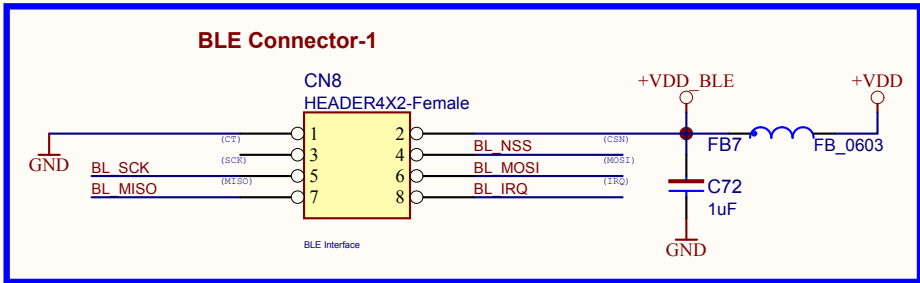
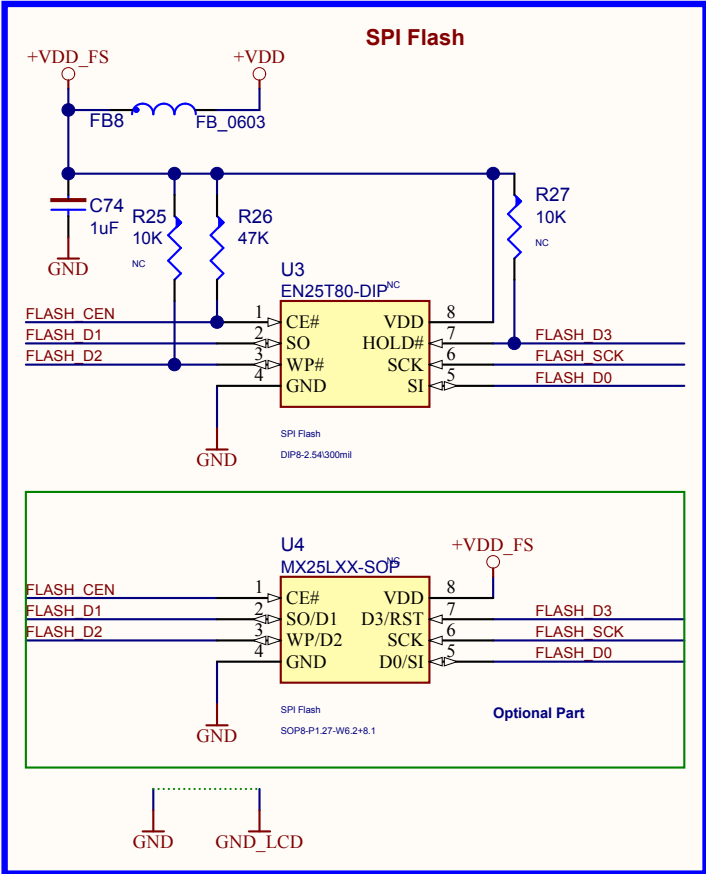
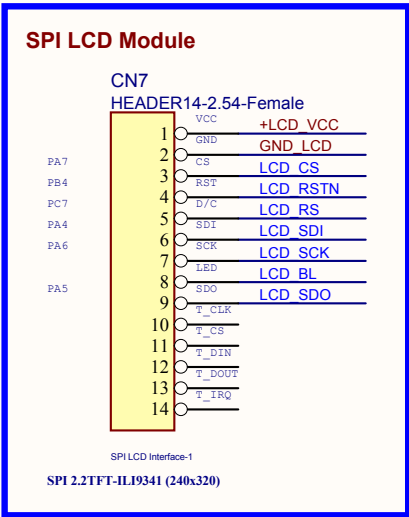
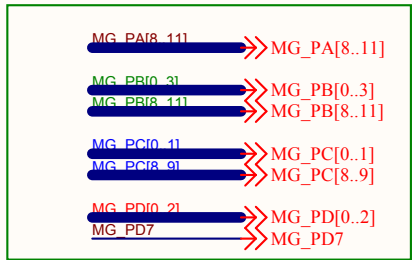
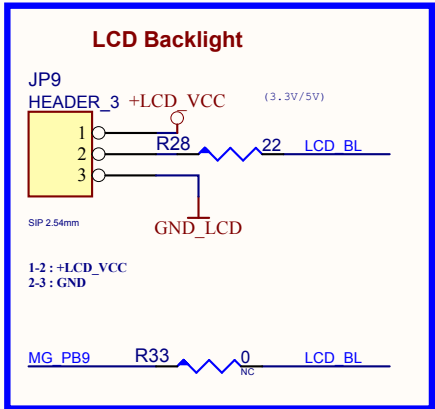
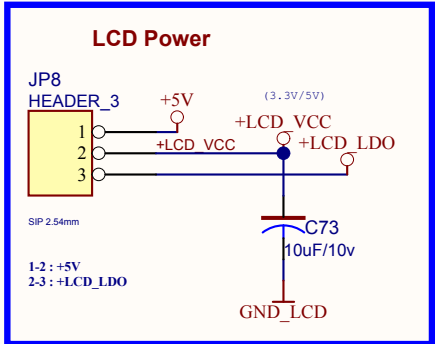
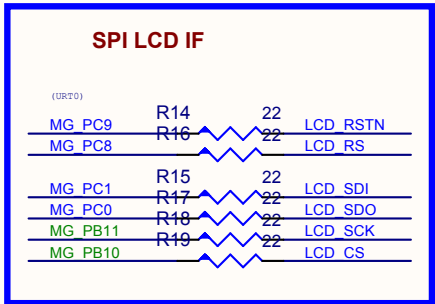


Use ARGB Connector for external ARGB LED line(s):  
JP1, JP2, JP3, JP4 all off

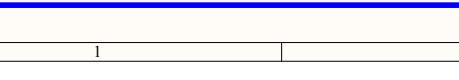
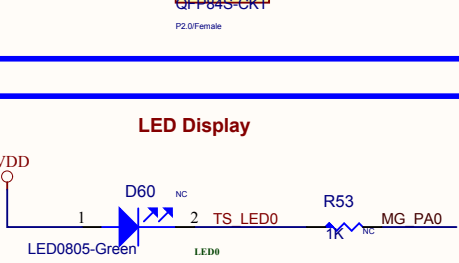
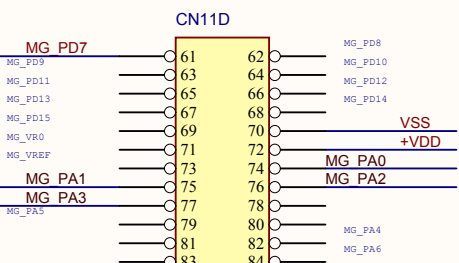
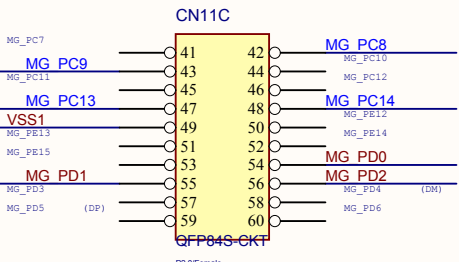
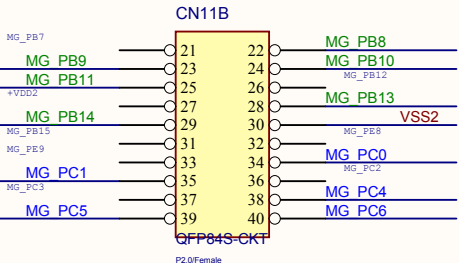
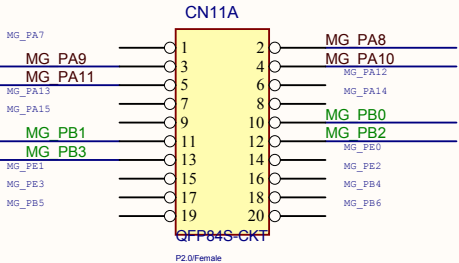
- On Board ARGB Mode:
- One Single Channel to One LED Chain with all LED:  
JP1/5/6/7 on, JP2/3/4 off
  - Four Independent Channel to wire-OR Four LED Chain:  
JP1 on, JP5/6/7 off, JP2/3/4 select 1-2(ASB\_P1/2/3)
  - One Single Channel to Four LED chain:  
JP1 on, JP5/6/7 off, JP2/3/4 select 2-3(ASB\_P0/0/0)

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ARGB LED			
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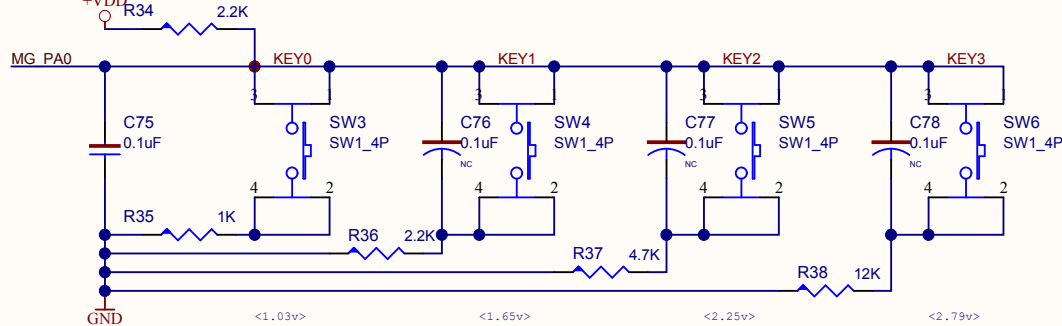




# PKT84S

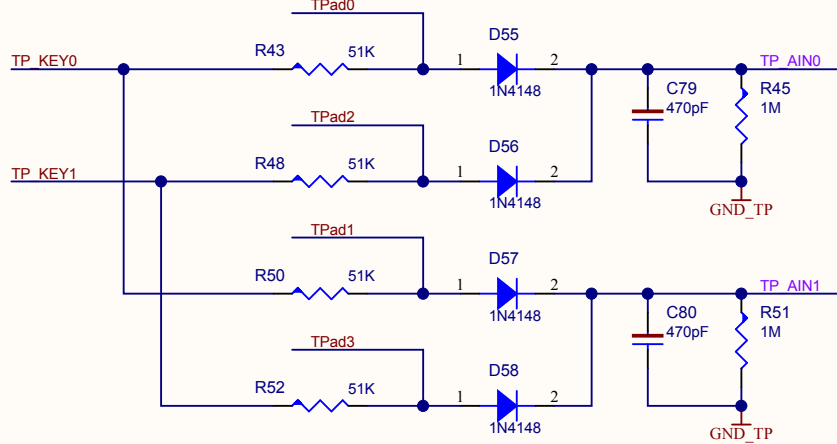


# Key Board (SARADC)

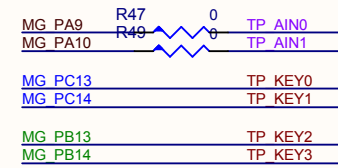


[Composited Key]  
Key0+Key1 : 0.79v  
Key0+Key2 : 0.90v  
Key0+Key3 : 0.98v  
Key1+Key2 : 1.34v  
Key1+Key3 : 1.51v  
Key2+Key3 : 2.00v

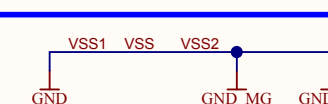
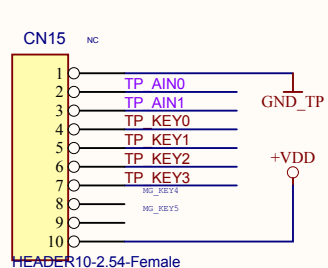
# Touch Key Pad



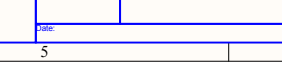
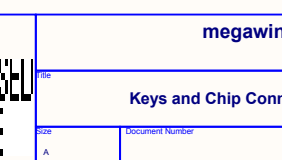
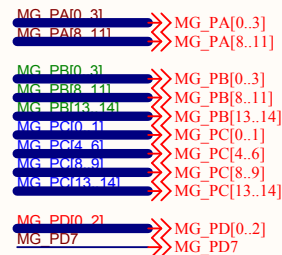
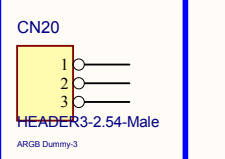
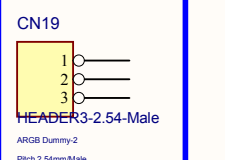
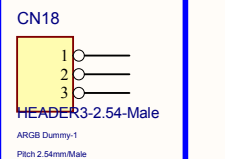
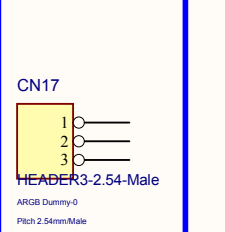
[Layout Rule]  
1.Pad Space >=2.5mm  
2.Pad to GND = 0.2mm  
3.Pad to MCU Trace Width = 6mil  
4.Pad Size 15x15mm  
5.Ground copper: wire width=10mil, space=30mil



# Touch Key CON



# ARGB DummyConnector



# megawin

## Keys and Chip Connector

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COMPRESSED  
IMAGE



Board Features :

- \* MG32F02V Demo Board
- \* ARGB LED
- \* SPI LCD Interface
- \* Multi-Function Module Interface
- \* SPI Flash Module Interface
- \* BLE Module Interface
- \* SARADC/Touch 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

Debug Interface ~

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

Module IF

- \* ARGB Connector \*5
- \* SPI LCD Module Connector 14x1 \*1
- \* Multi-Function Module Connector
- \* SPI Flash Module Connector
- \* BLE Module Connector
- \* Touch Key Connector

On Board Component Circuit

- \* ARGB LED \*24
- \* SPI Flash DIP + SOP
- \* MCU XTAL Circuit \*1
- \* Touch Key \*4
- \* SARADC Key \*4

Others ~

- \* Push Button \*1 (Reset )

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 15-5-15/90ohm (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 passthrough 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

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	Board Comment					
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Module  
Board  
Dimens  
ion:



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