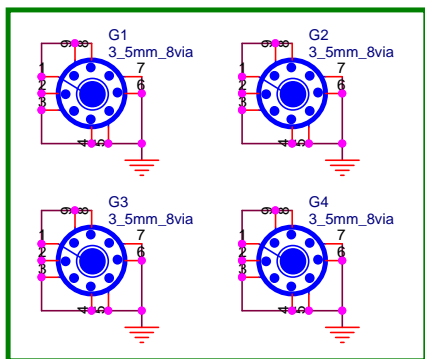


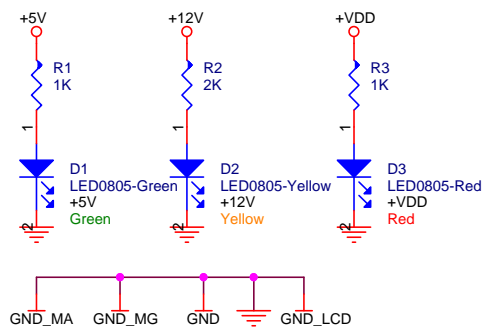
MG04-02

2018.2 GR04-1802B

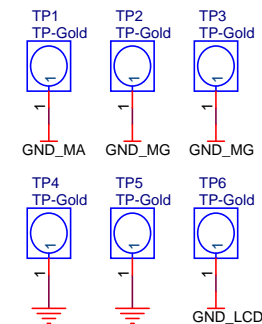
MG32F02A LCD DMB



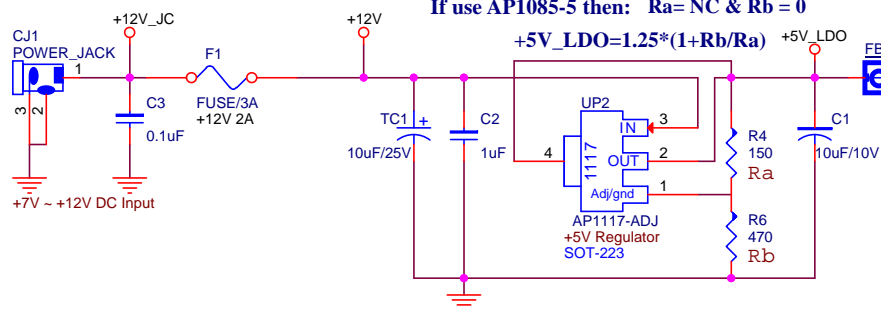
PCB Screw Position



*Short these ground planes on PCB



Power Jack DC 7~12V In

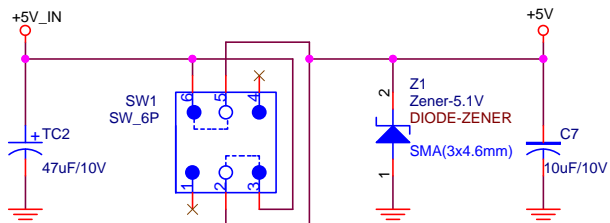
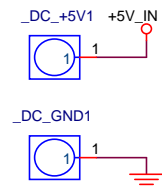


If use AP1085-5 then: $R_a = NC$ & $R_b = 0$

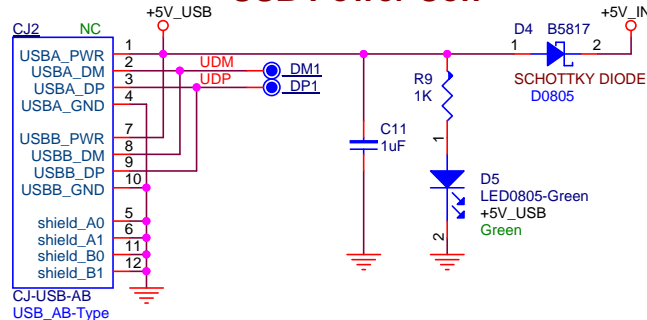
System Power (5V)

+5V about 5.17 volt

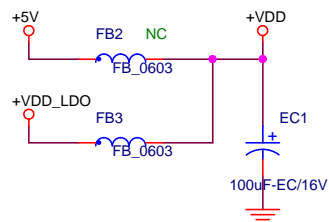
Extra DC Power Con



USB Power Con

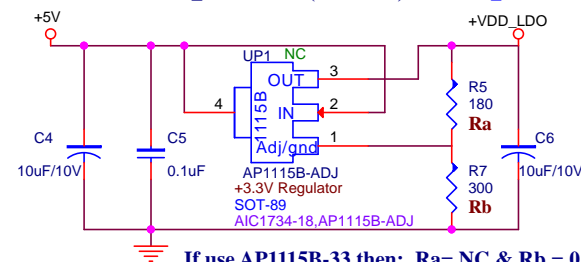


VDD Power



Chip IO(Power (3.3V)

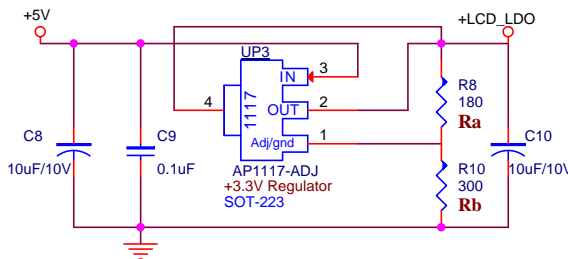
+VDD_LDO=1.25*(1+Rb/Ra) +VDD_LDO about 3.33 volt



If use AP1115B-33 then: $R_a = NC$ & $R_b = 0$

LCD Power (3.3V)

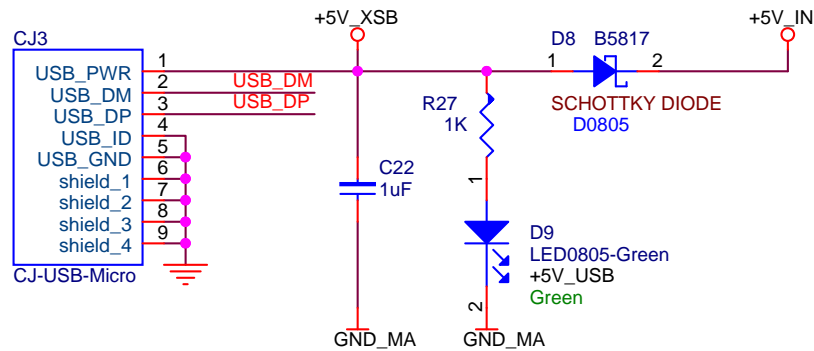
+LCD_LDO=1.25*(1+Rb/Ra) +LCD_LCD about 3.33 volt



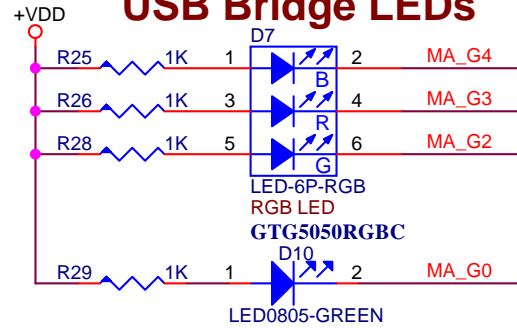
G5
MEGAWIN
Logo_Megawin10+Text
NC

MEGAWIN			
Title		System Power	
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E		MG04-02	1.0
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USB Connector

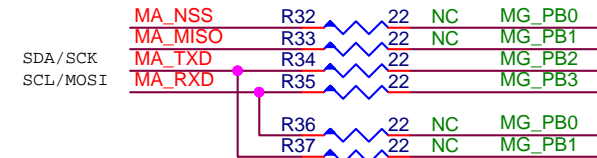
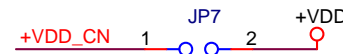
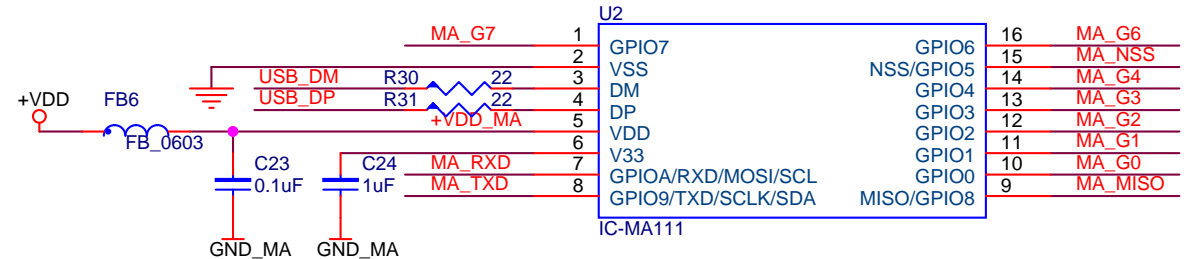
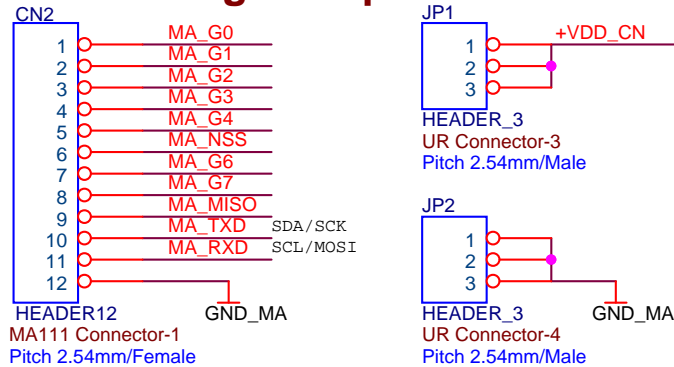


USB Bridge LEDs

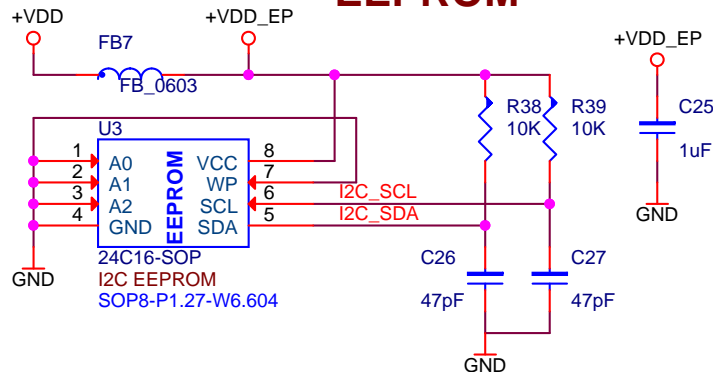



2,4 MG_PB[0..15] >> MG_PB[0..15]

USB Bridge Adapter Connector



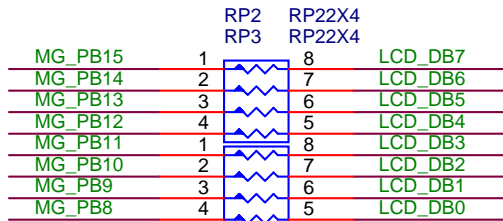
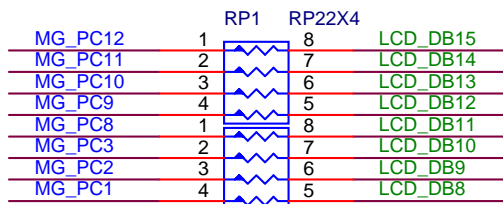
EEPROM



	MEGAWIN		
	MA111 Interface		
	MG04-02	Rev 1.0	
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LCD IF

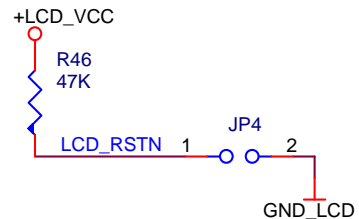


RP4 RP22X4

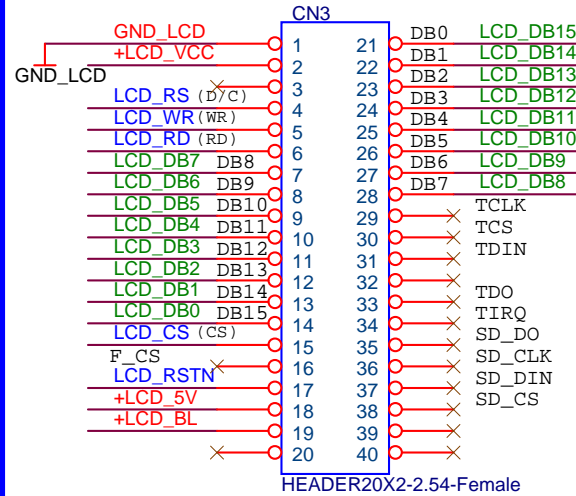
Place RP9~12 on Bottom Side

Swap MG_xx and LCD_DBxx Lsb/Msb nets if place on Top Side

LCD Reset

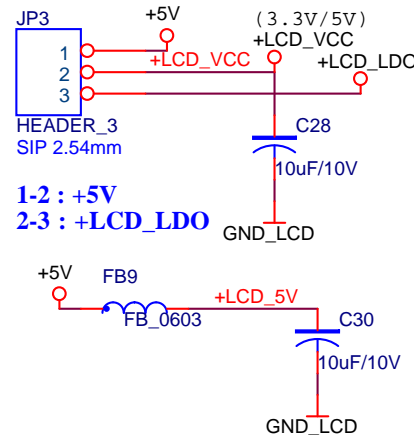


LCD Module IF-1

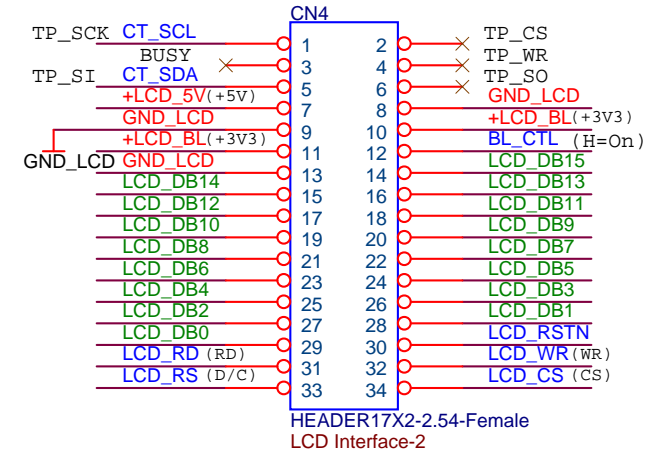


3.2TFT-ILI9341 (240x320)(TFT-320QVT-9341)
 2.4TFT-ILI9325 (240x320)

LCD Power

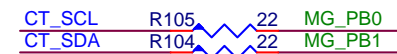
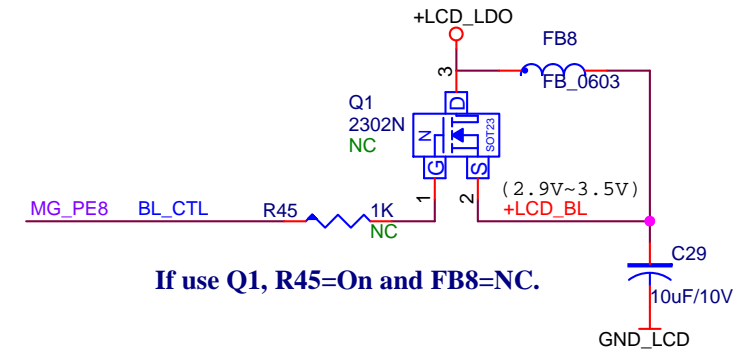


LCD Module IF-2



4.3TFTLCD (480x800)(ALIENTEK-NT35510)

LCD Backlight Control



MEGAWIN

Title

LCD Interface

Size B

Document Number

MG04-02

Rev 1.0

Date:

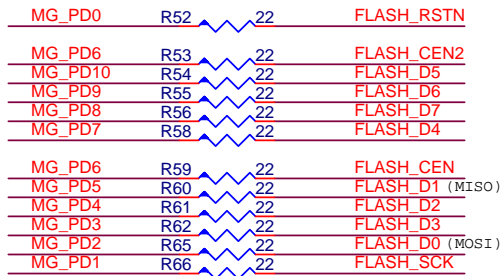
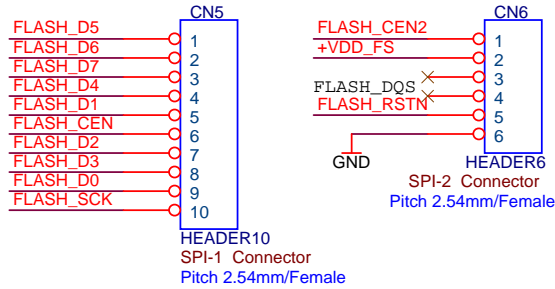
Thursday, March 01, 2018

Sheet

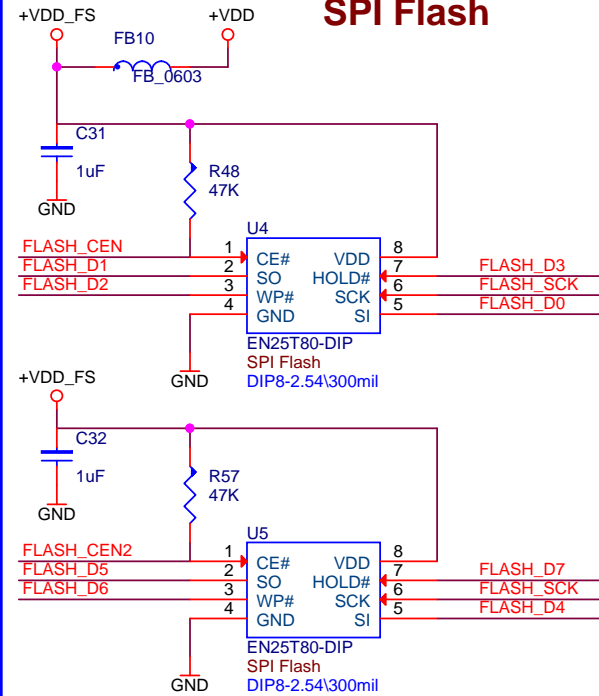
4

of 9

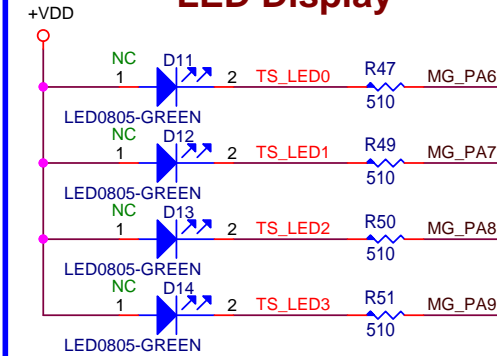
SPI Connector



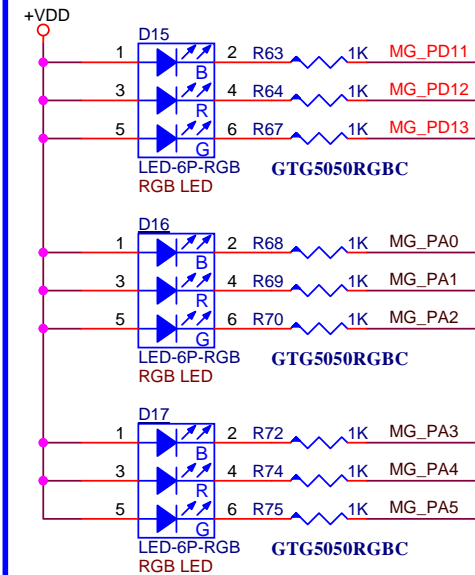
SPI Flash



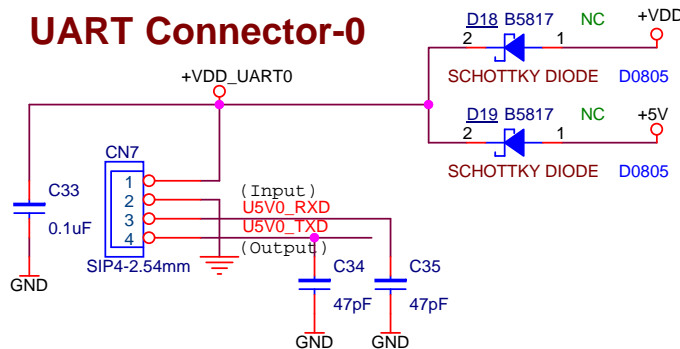
LED Display



RGB LED Display



UART Connector-0

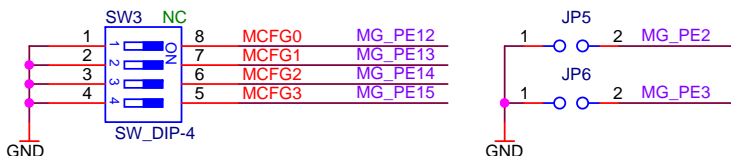


U5V0_RXD R71 22 MG_PE1

U5V0_TXD R73 22 MG_PE0

These parts close to CN7 .

CFG Setting



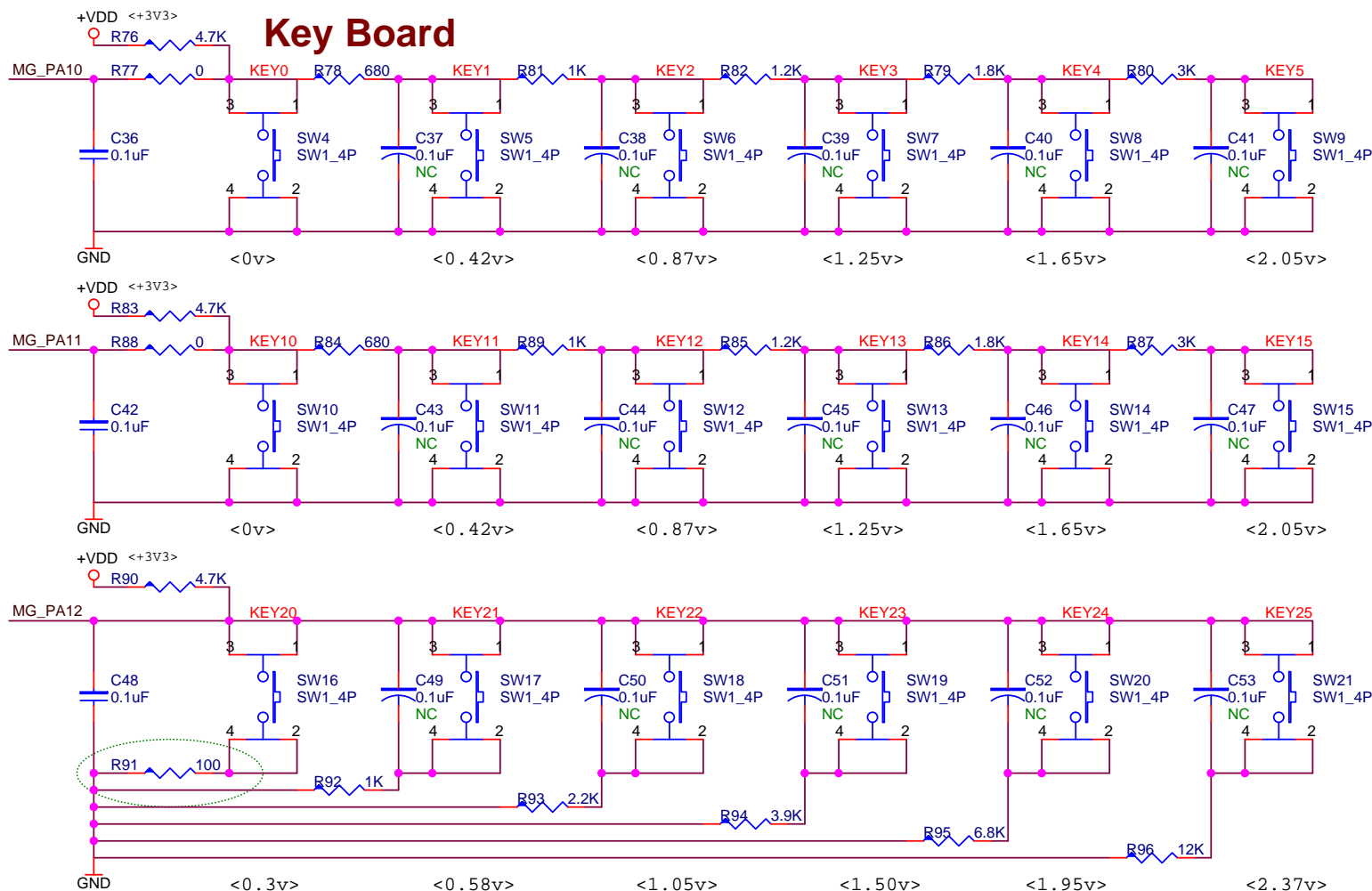
2,6 MG_PA[0..15] >> MG_PA[0..15]
2,3,4 MG_PB[0..15] >> MG_PB[0..15]
2,6 MG_PD[0..15] >> MG_PD[0..15]
2 MG_PE[0..3] >> MG_PE[0..3]
2 MG_PE[12..15] >> MG_PE[12..15]



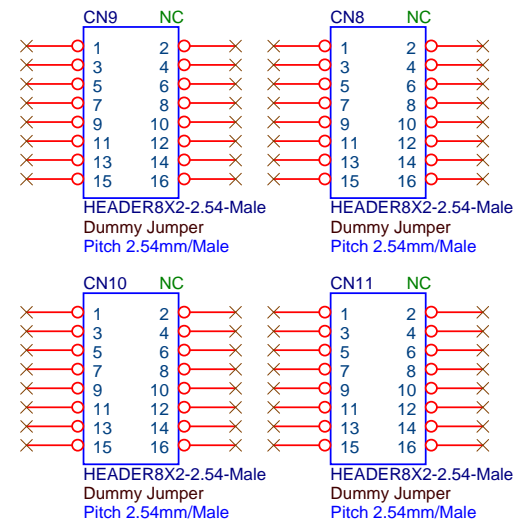
MEGAWIN

Title		
SPI Flash and UART		
Size C	Document Number	Rev
	MG04-02	1.0
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Key Board



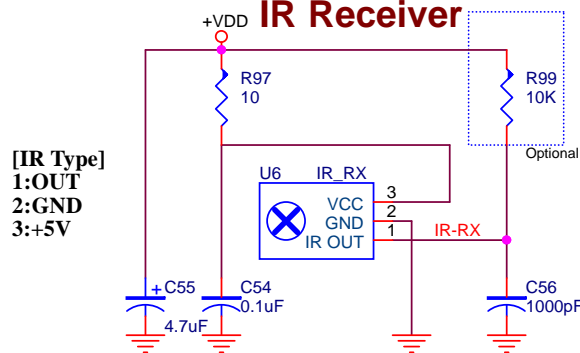
Dummy Universal Header



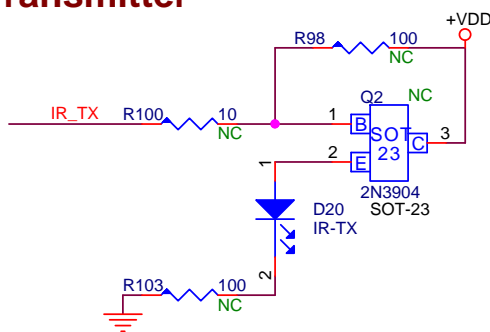
ECO List: (v1.0 -> v1.1)

1. Change R91 value from 680 to 100

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

Title		
Others		
Size C	Document Number	Rev
	MG04-02	1.1
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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

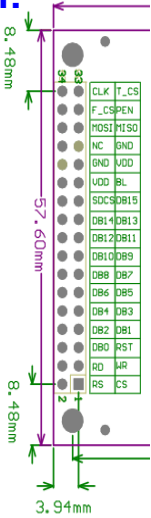
Layout Rule

- * 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 ~ 15-5-15/90ohm (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 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:



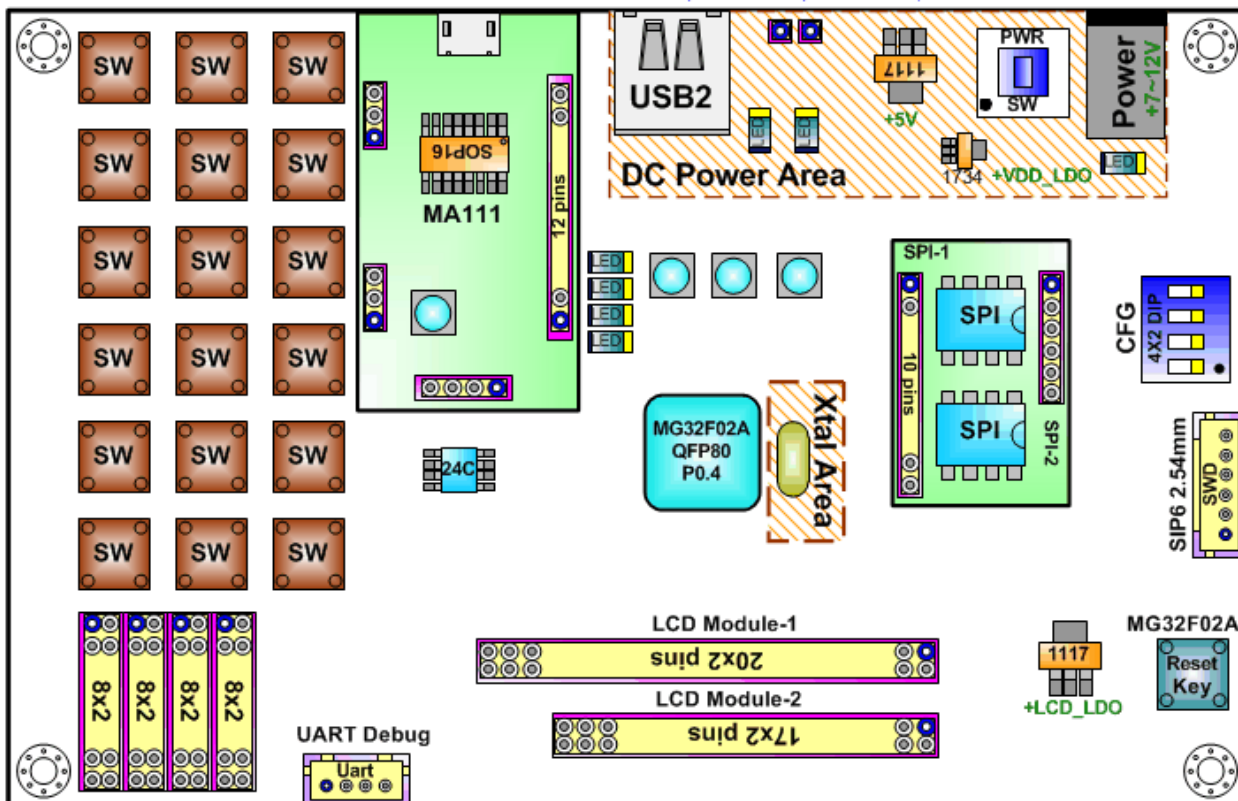
LCD		LCD	
LCD CS	1	CS	RS
LCD WR	3	WR	RD
LCD RST	5	RST	DB0
LCD D1	7	DB1	DB2
LCD D3	9	DB3	DB4
LCD D5	11	DB5	DB6
LCD D7	13	DB7	DB8
LCD D9	15	DB9	DB10
LCD D11	17	DB11	DB12
LCD D13	19	DB13	DB14
LCD D15	21	DB15	GND
BL CTR	23	BL	VDD3.3
VCC3.3	25	VDD3.3	GND
GND	27	GND	BL_VDD
RT MISO	29	MISO	MOSI
T_PEN	31	T_PEN	MO
T CS	33	T_CS	CLK

模块对外接口原理图

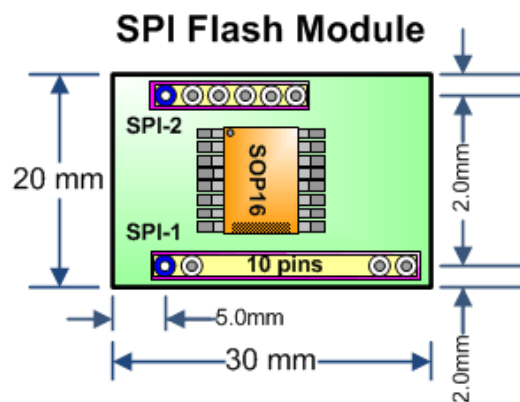
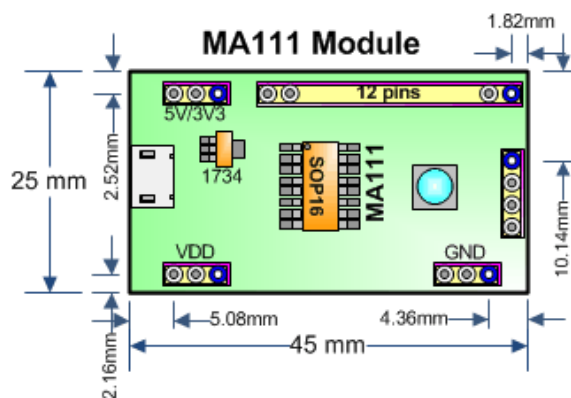
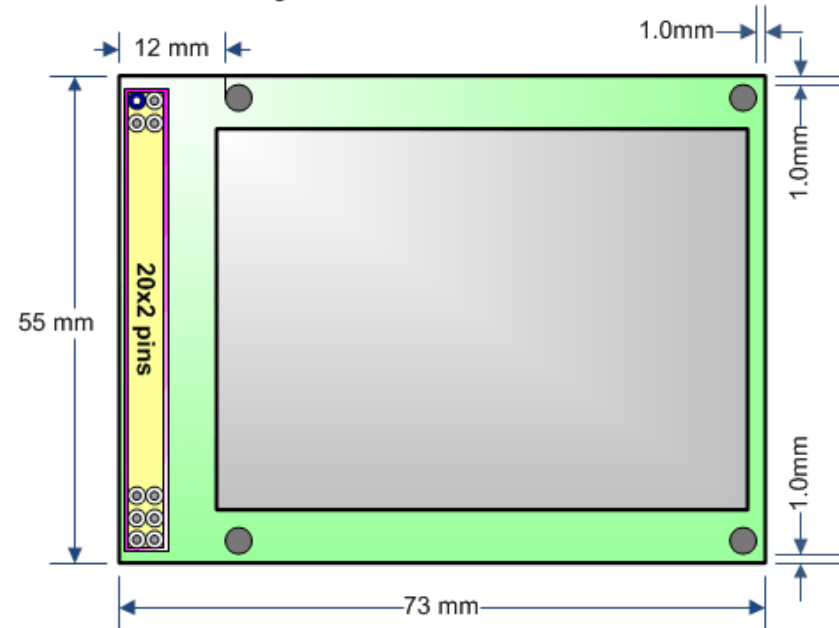
MG04-02


Demo Board PCB Placement Plan

PCB Size:
140x90 mm²

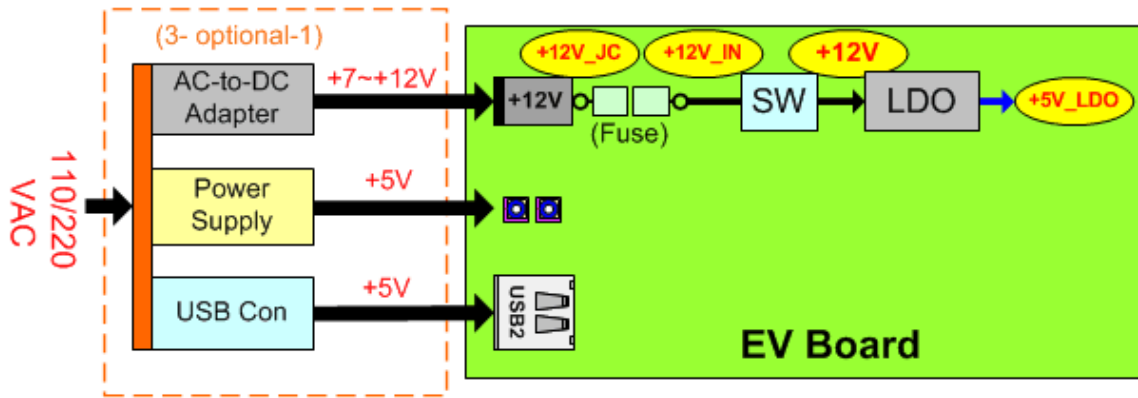


100y ILI9325 LCD Module

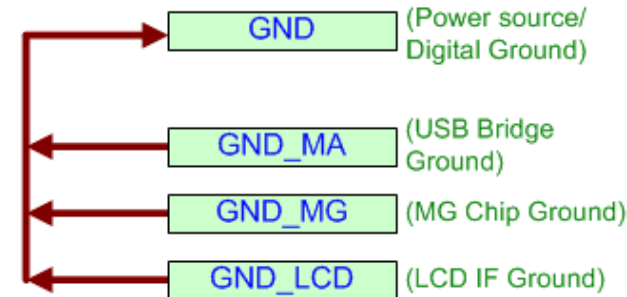


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	Title		
	PCB Placement Plan		
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Power Supply Source Diagram



Ground Connection Diagram



Power Connection Diagram

