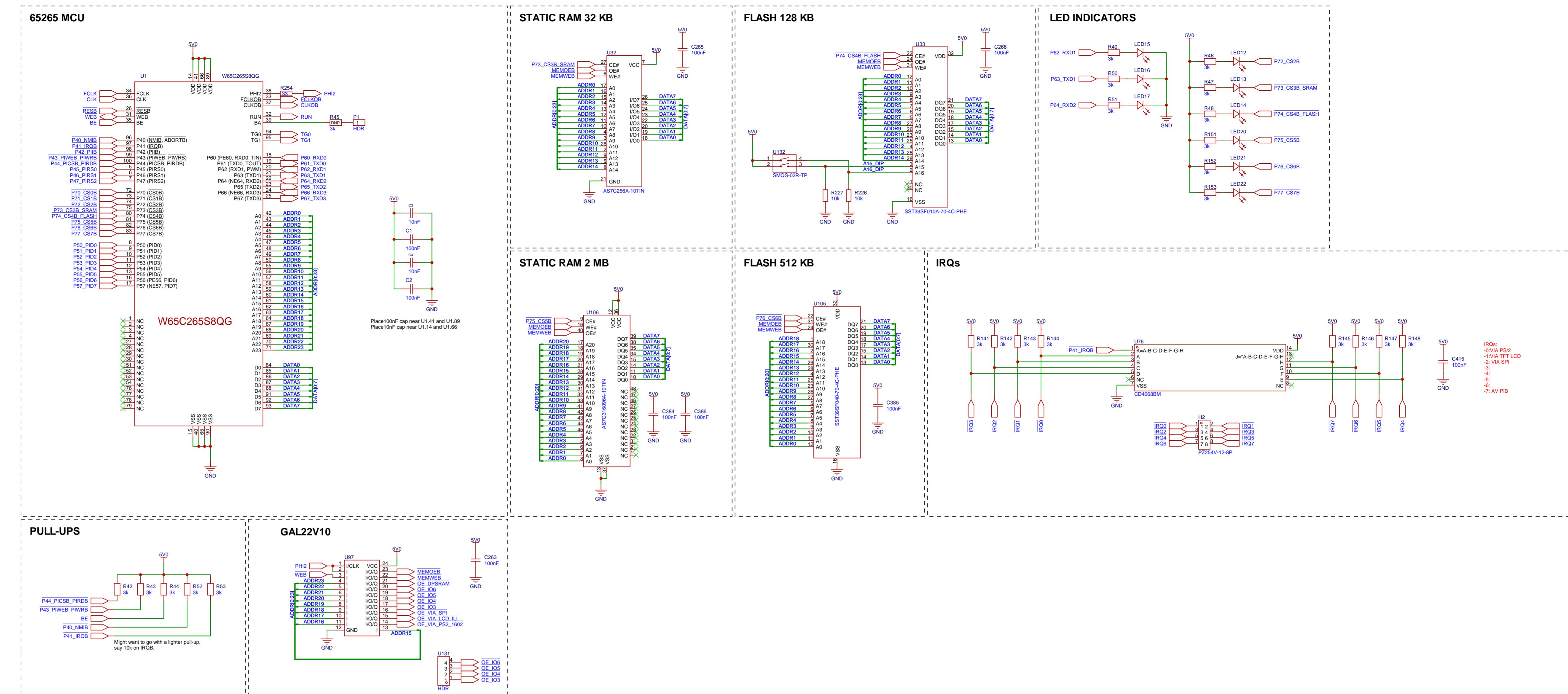
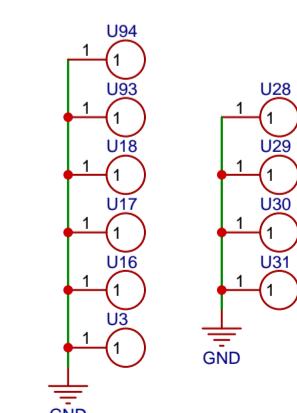




# MCU (Primary)

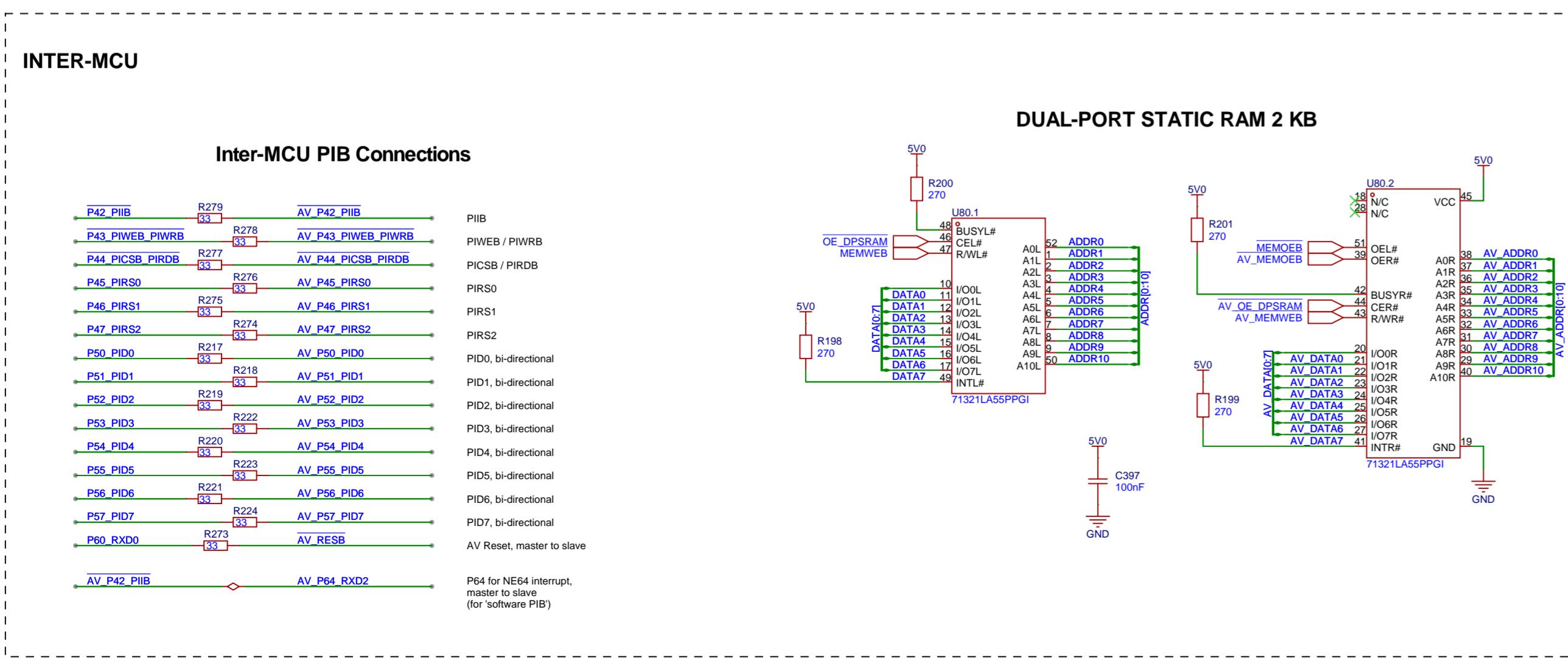
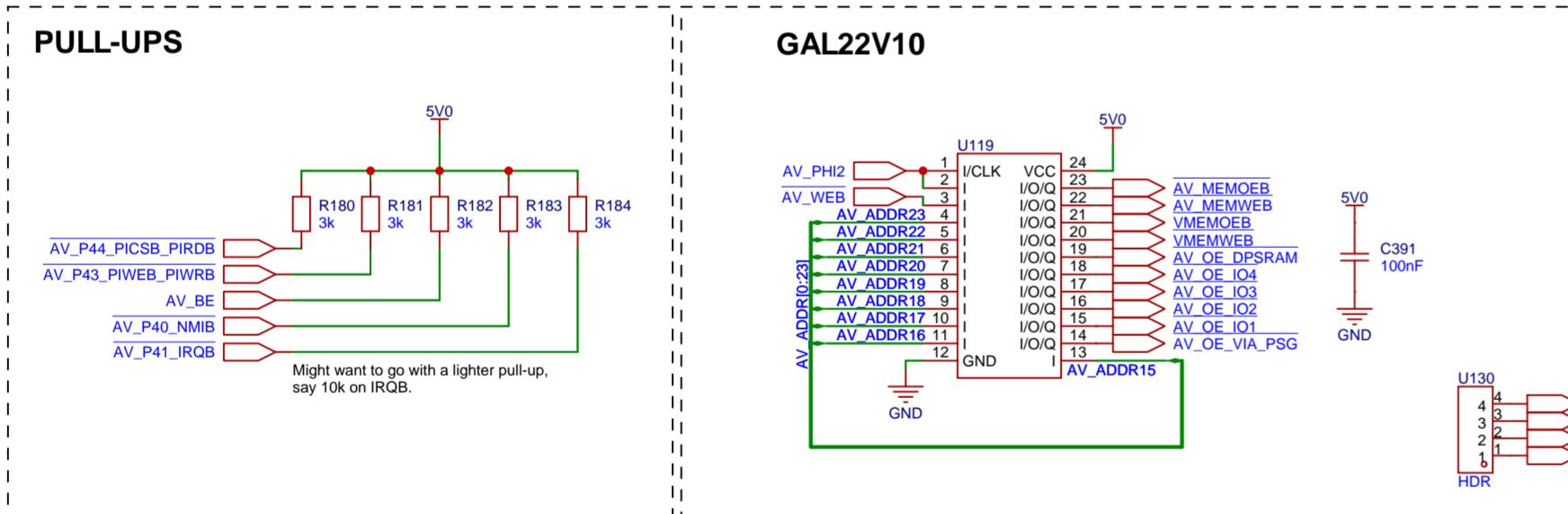
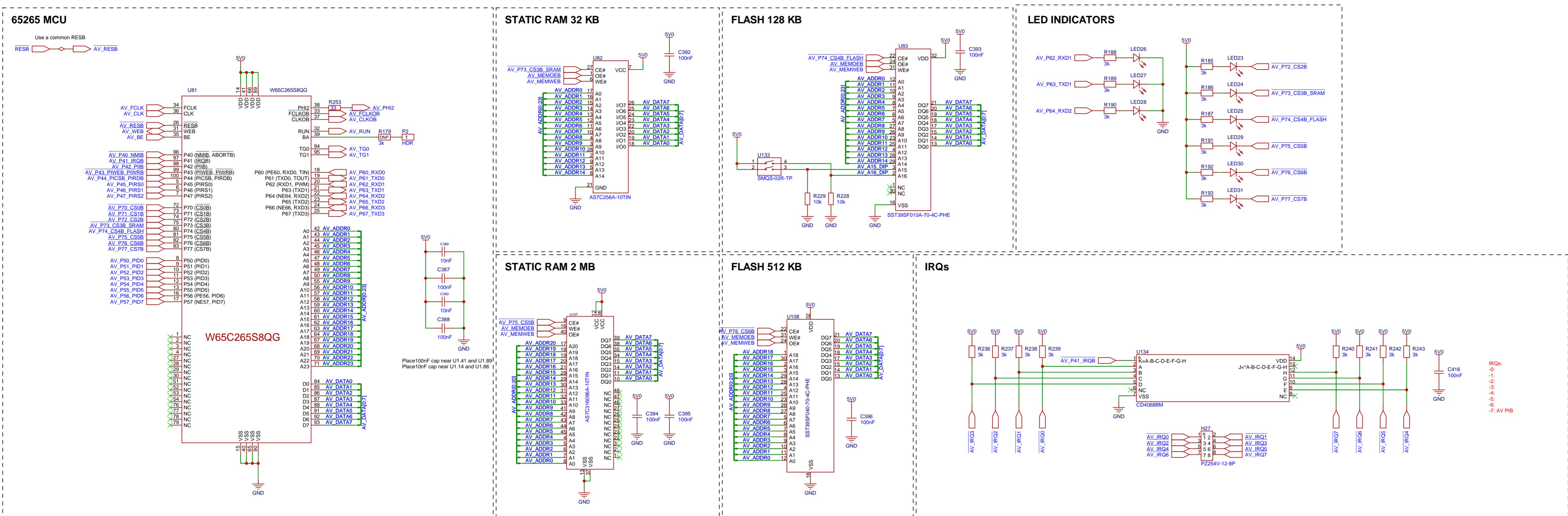


Schematic	Schematic1		Create at	2026-01-04
Board	Board1		Update at	2026-01-09
Drawn			Page	MCU Primary
Reviewed				
			Version	Size
			V1.0	A4
				EasyEDA.com



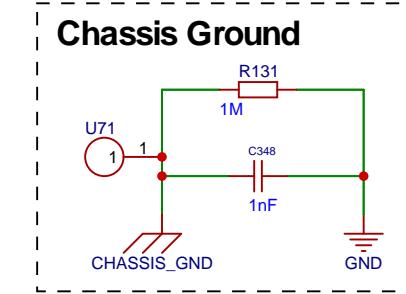
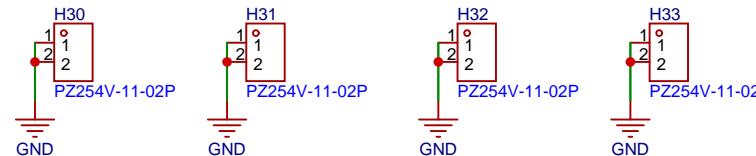
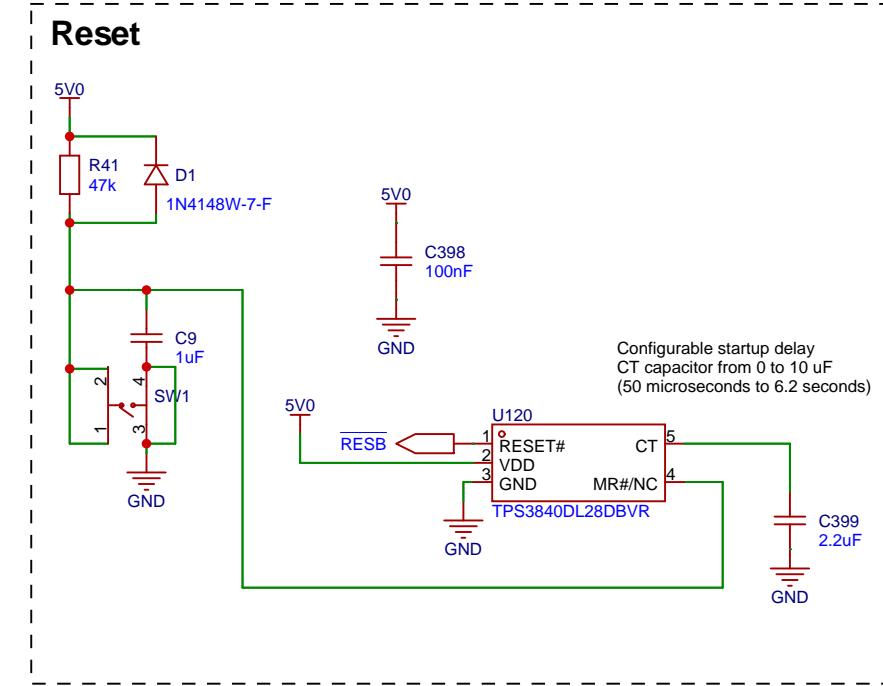
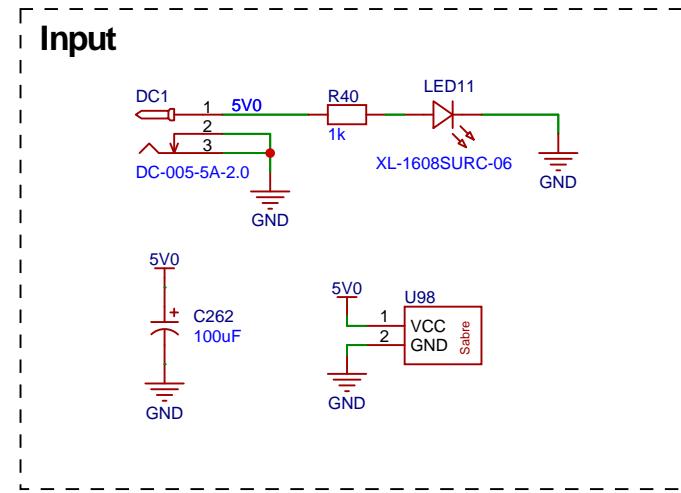
W65C265S v0.12

# MCU (AV)



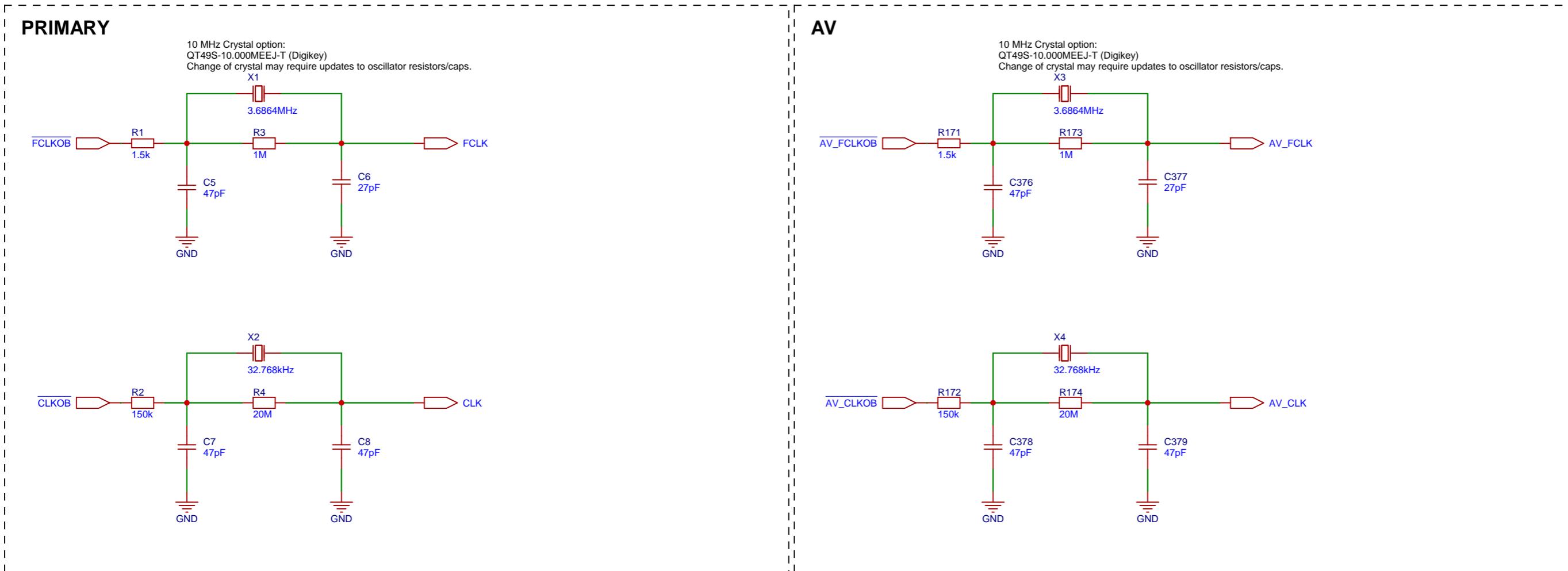
Schematic	Schematic1		Create at	2026-01-05
			Update at	2026-01-12
Board	Board1		Page	MCU AV
Drawn				
Reviewed			W65C265S v0.12	
			Page 3 Total 12	
 EasyEDA		V1.0	A4	EasyEDA.com

# POWER



Schematic	Schematic1		Create at	2026-01-05
Board	Board1		Update at	2026-01-06
Drawn			Page	Power
Reviewed				
	Version	Size	Page 4 Total 12	
 EasyEDA		V1.0	A4	EasyEDA.com

# CLOCKS



Schematic	Schematic1		Create at	2026-01-05
			Update at	2026-01-04
Board	Board1		Page	Clocks
Drawn				
Reviewed			W65C265S v0.12	
	Version	Size	Page 5 Total 12	
 EasyEDA		V1.0	A4	EasyEDA.com

# EXPANSION

1

2

3

4

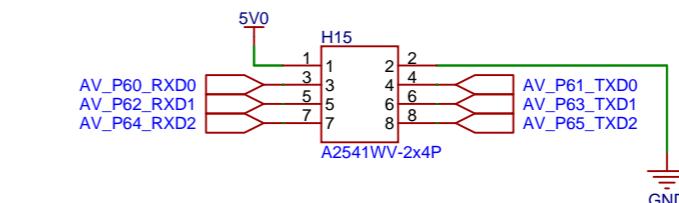
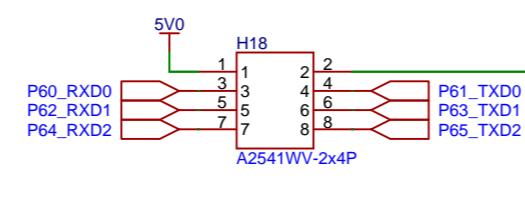
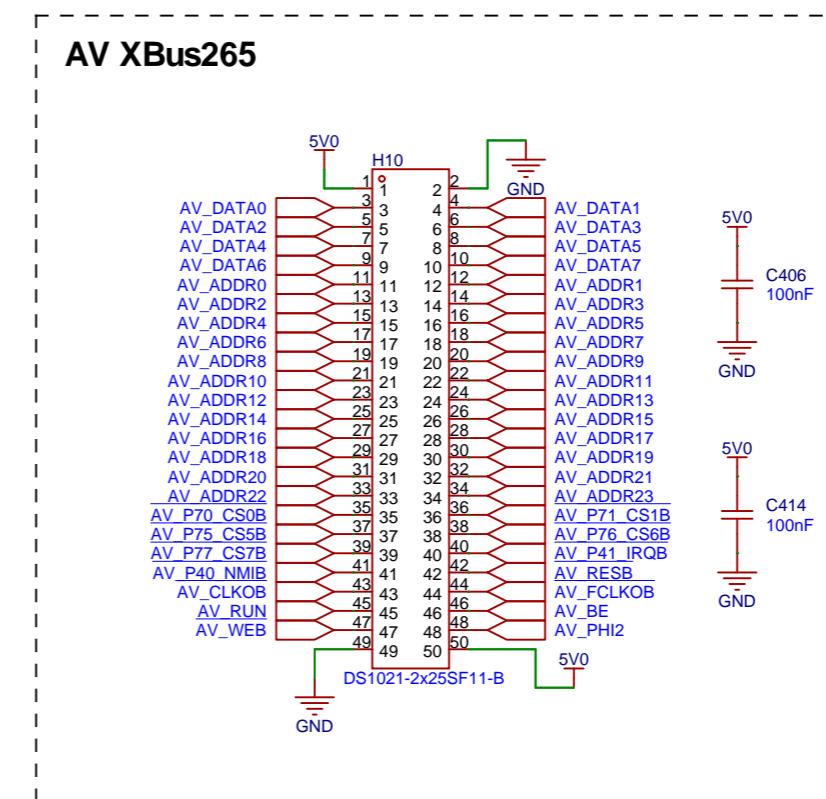
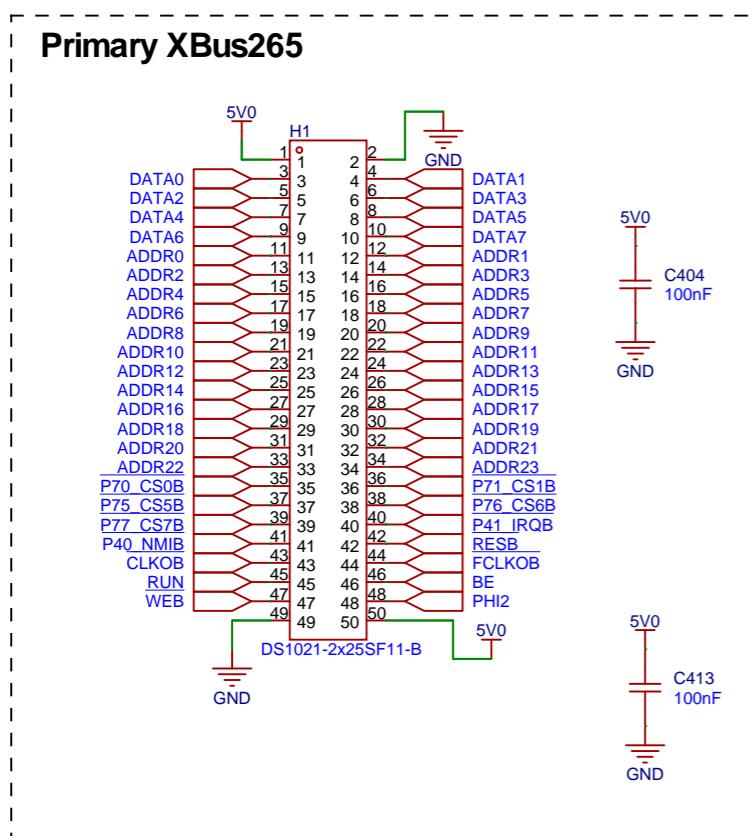
5

6

Used:

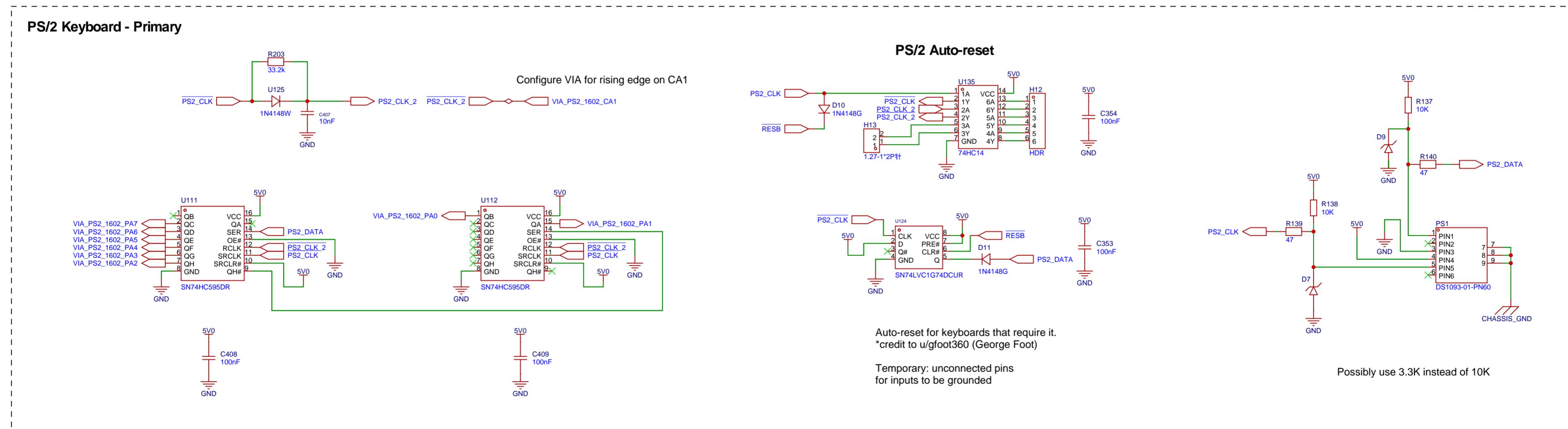
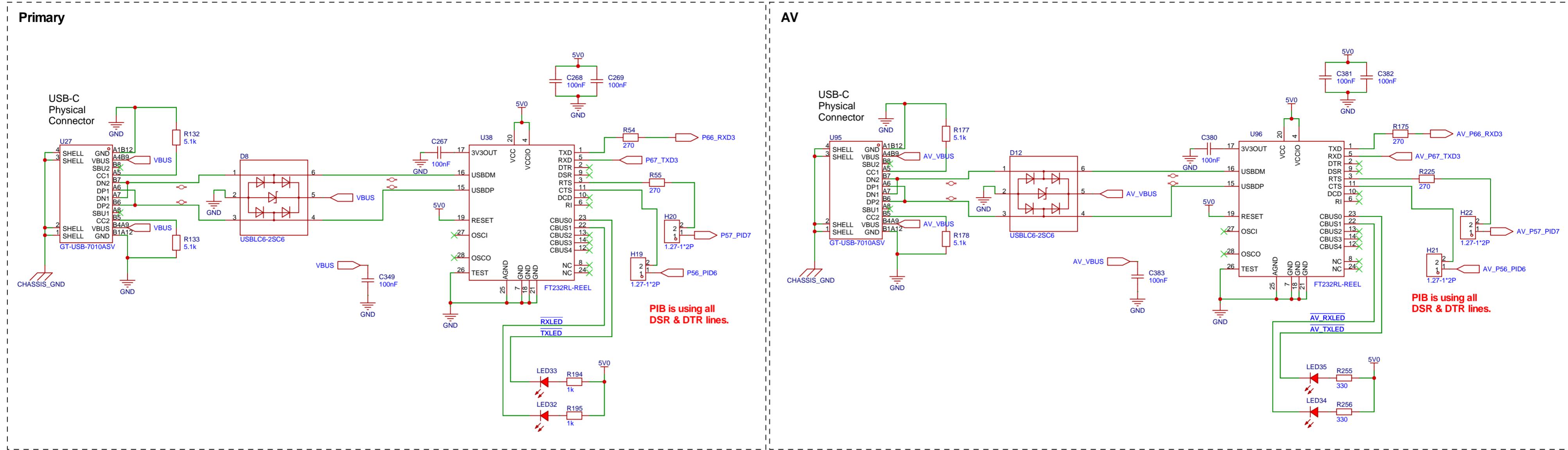
P50:56 - 1602 LCD  
P51 - Available

P62 - PS2KBD DATA  
P64 - PS2KBD CLK  
P66 - RXD3  
P67 - TXD3



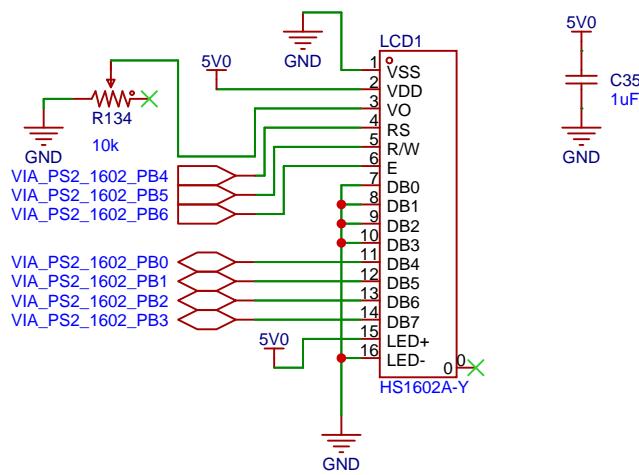
Schematic	Schematic1			Create at	2026-01-04		
Board	Board1			Update at	2026-01-09		
Drawn				Page	Expansion		
Reviewed				W65C265S v0.12			
	Version	Size	Page 6 Total 12				
	V1.0	A4	EasyEDA.com				

# USB SERIAL, PS/2 KEYBOARD



Schematic	Schematic1		Create at	2026-01-05
Board	Board1		Update at	2026-01-08
Drawn			Page	Serial & PS2
Reviewed			W65C265S v0.12	
Version	1	Size	Page 7 Total 12	
	V1.0	A4	EasyEDA.com	

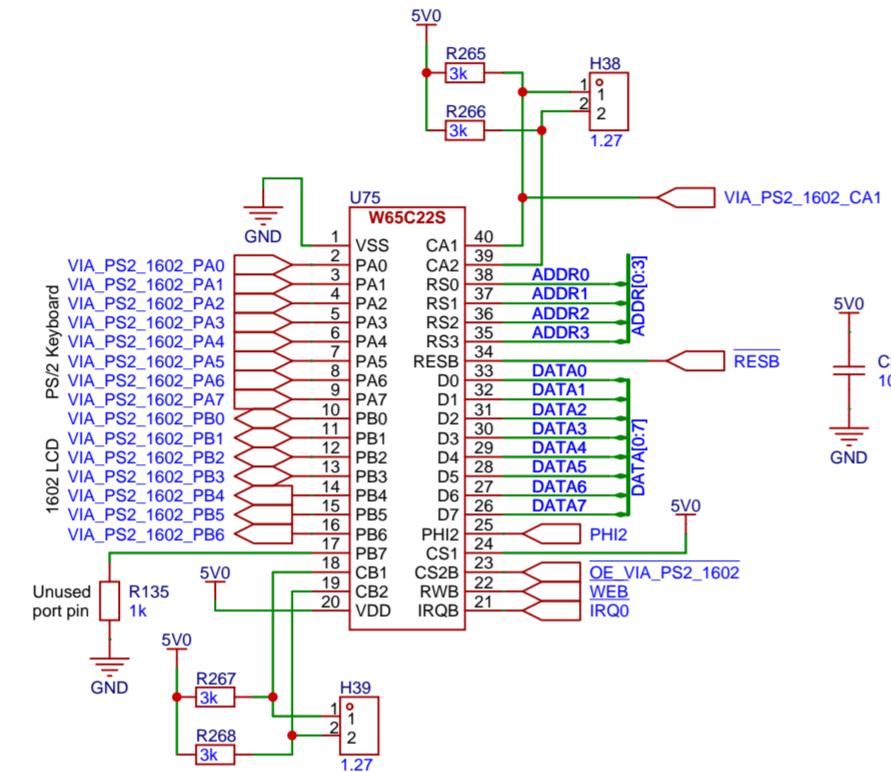
# LCD 1602



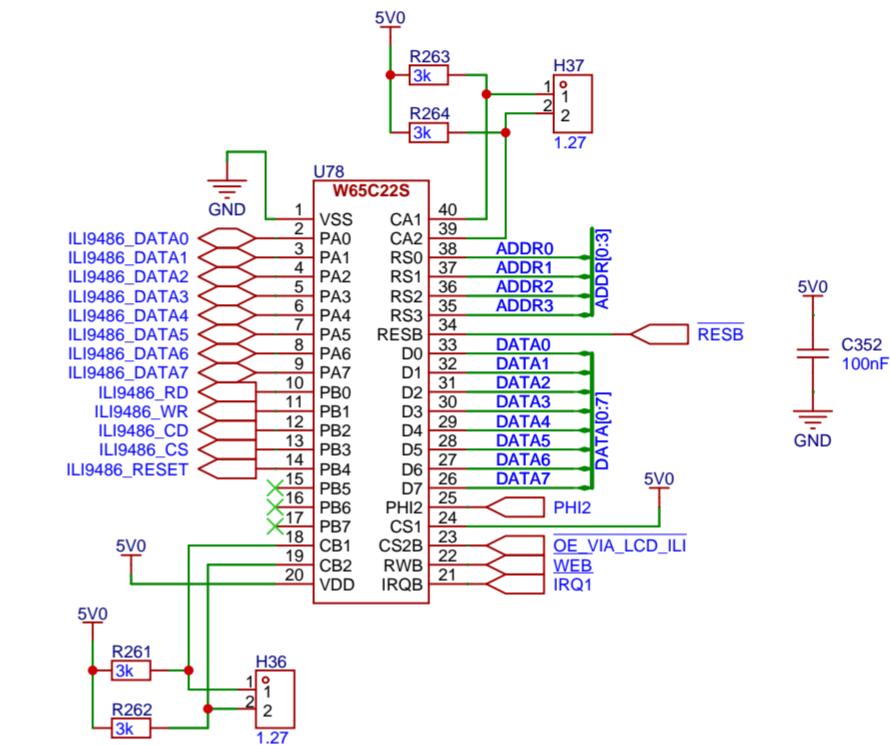
Schematic	Schematic1		Create at	2026-01-04
			Update at	2026-01-07
Board	Board1		Page	LCD_1602
Drawn				
Reviewed				
		Version	Size	Page 8 Total 12
		V1.0	A4	EasyEDA.com

# VIA

PS/2 Keyboard, 1602 LCD

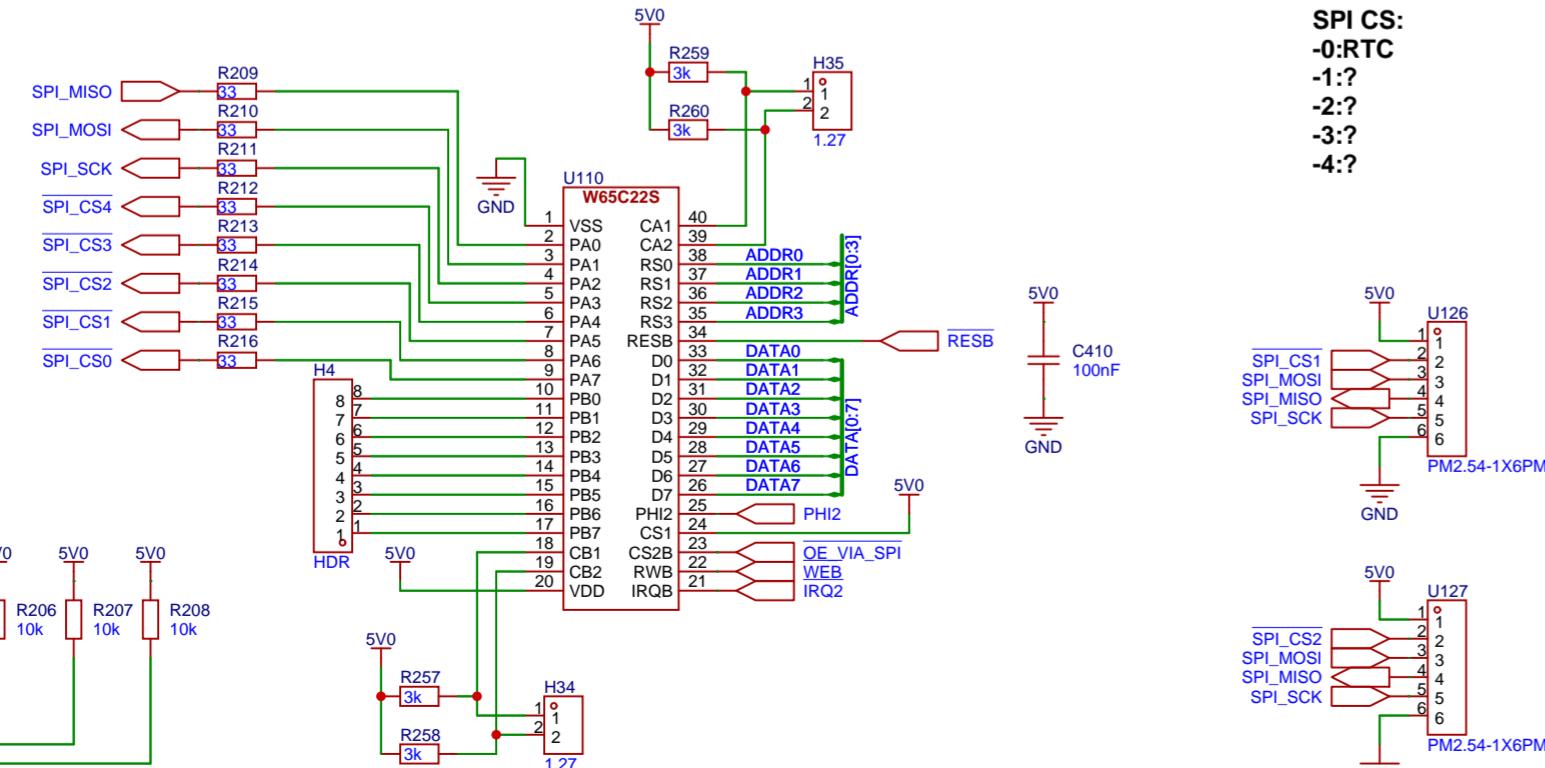


TFT LCD (ILI)

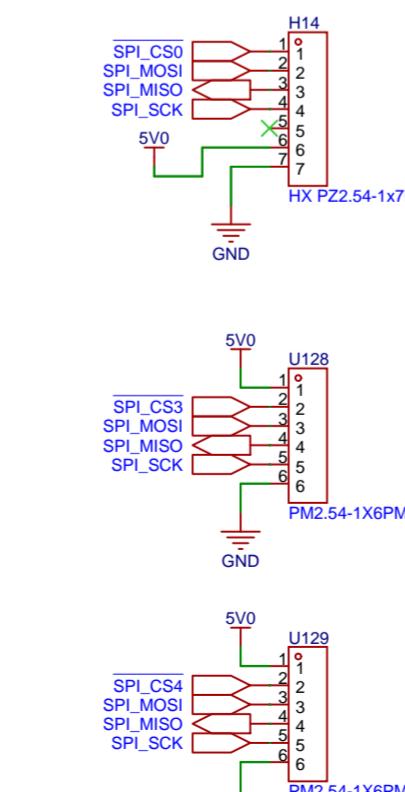


C0:0000 to FF:FFFF CS7B  
1100:0000000000000000000000000000 to  
1111:11111111111111111111111111  
(range: top two bits are 11)  
1100: VIA0 C0:xxxx C0:0000 to C0:000F  
1101: VIA1 D0:xxxx D0:0000 to D0:000F  
1110: VIA2 E0:xxxx E0:0000 to E0:000F  
1111: VIA3 F0:xxxx F0:0000 to F0:000F

SPI, Expansion



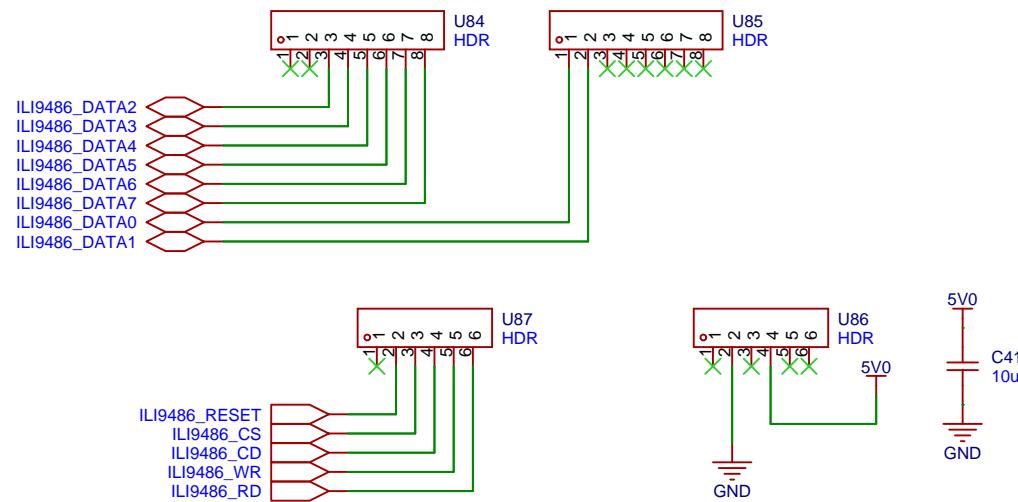
SPI CS:  
-0:RTC  
-1:?  
-2:?  
-3:?  
-4:?



Schematic	Schematic1	
Board	Board1	
Drawn		
Reviewed		
	W65C265S v0.12	
Version	Size	Page 9 Total 12
V1.0	A4	EasyEDA.com

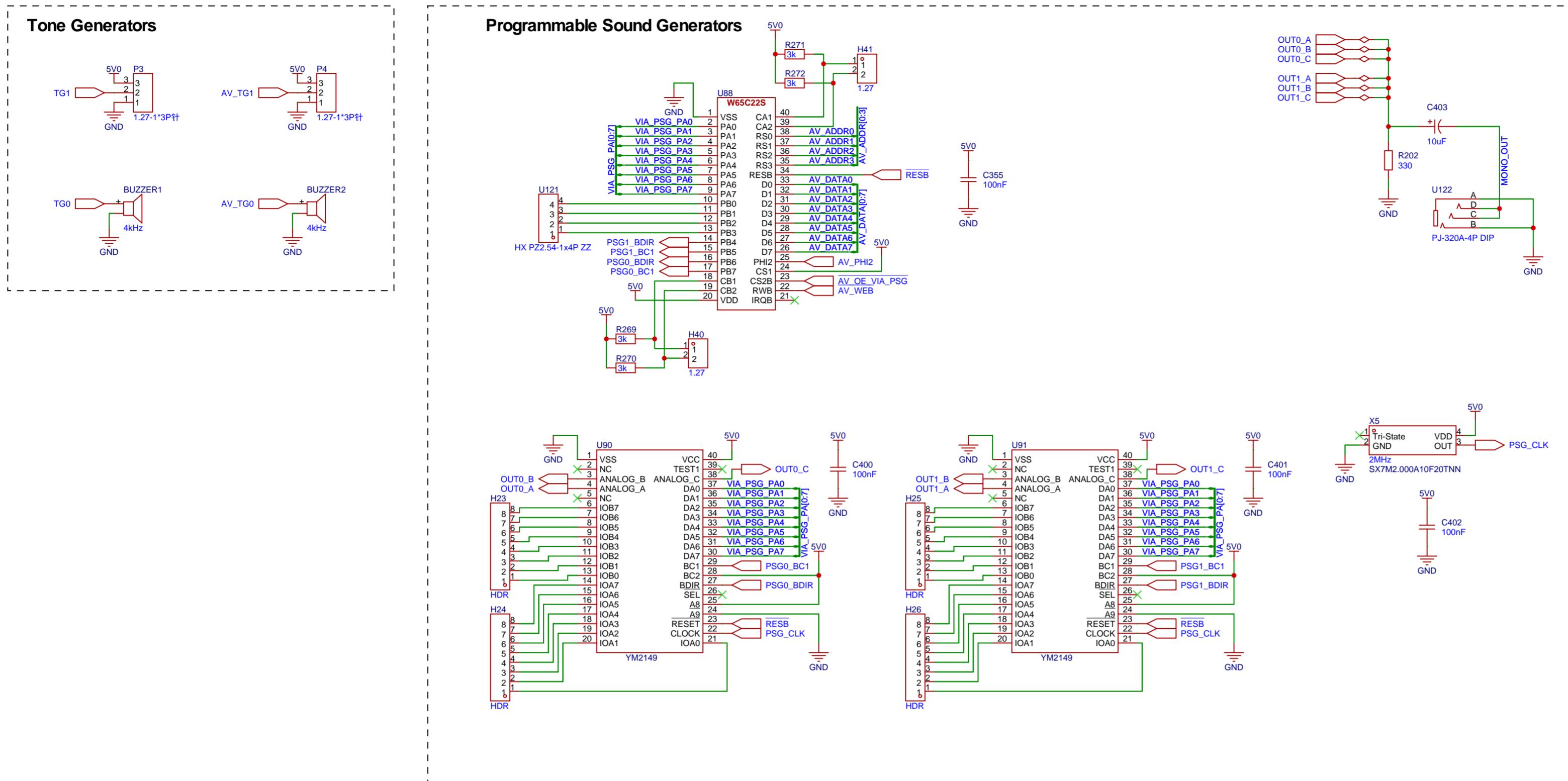
# LCD - ILI

Arduino-style header for DIYables TFT LCD



Schematic	Schematic1		Create at	2026-01-05
			Update at	2026-01-04
Board	Board1		Page	LCD_ILI
Drawn				
Reviewed				
	Version	Size	Page 10 Total 12	
		V1.0	A4	EasyEDA.com

# Sound



Schematic	Schematic1			Create at	2026-01-05
Board	Board1			Update at	2026-01-08
Drawn				Page	Sound
Reviewed					
W65C265S v0.12			Version	Size	Page 11 Total 12
		V1.0	A4	EasyEDA.com	

# VGA 320x240 x1 Byte

RRRGGBB

VGA Signal 320 x 240 @ 60 Hz

General timing  
Screen refresh rate 60 Hz  
Vertical refresh 31.46875 kHz  
Pixel freq 12.3875 MHz

Horizontal timing (line)  
Polarity of horizontal sync pulse is negative.  
Scanline period 11.711 μs  
Visible area 318 x 240 pixels  
Front porch 0.318 320 101000000  
Sync pulse 0.491 328 101001000  
Back porch 0.064 498 011110100  
Whole line 0.405 499 110010000

Vertical timing (frame)  
Polarity of vertical sync pulse is negative.  
Frame period 16.667 ms  
Visible area 318 x 240 pixels  
Front porch 0.318 480 011110000  
Sync pulse 0.064 498 011110100  
Back porch 0.049 498 011110100  
Whole frame 0.405 499 100001001

320x240 x1Byte

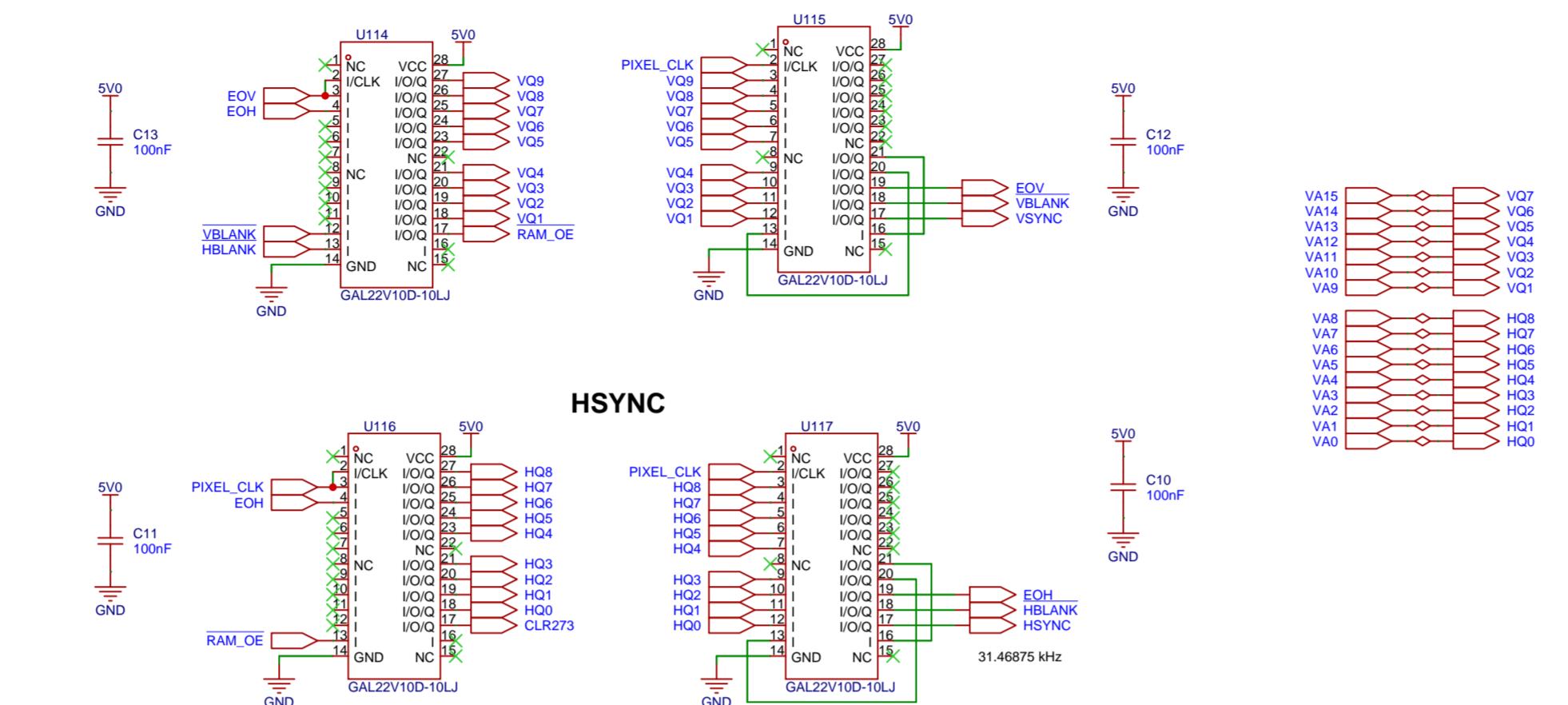
-3bit Red

-8bit Green

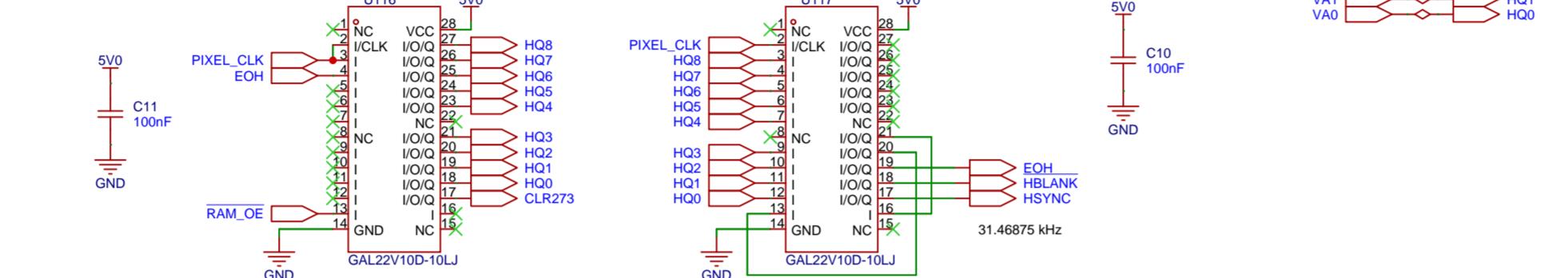
-2bit Blue

I02\_EN# OR'd with MEMR#&MEMW# to generate VMEMOB and VMEMEW#  
CS7B is C0000 to FF-FFFF  
C0EB is E0000 to F0000  
Video MR&MW# are EA-0000 to EB-FFFF

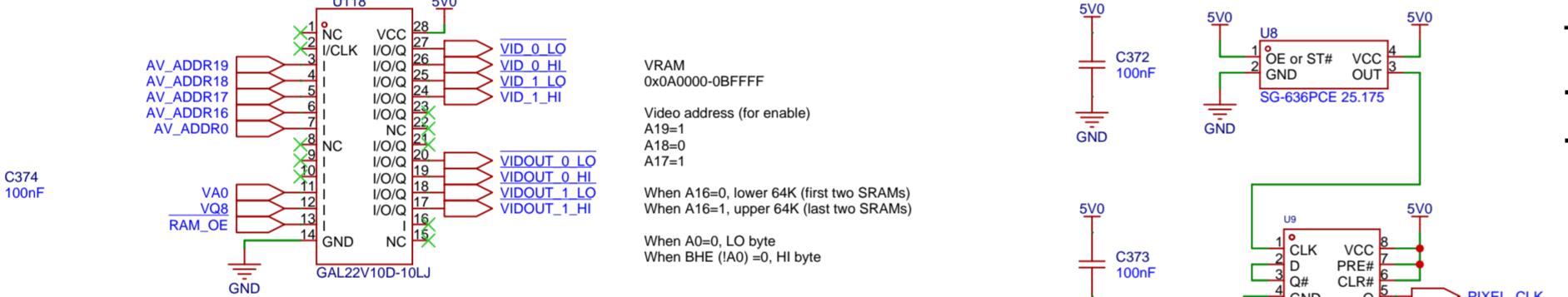
## VSYNC



## HSYNC

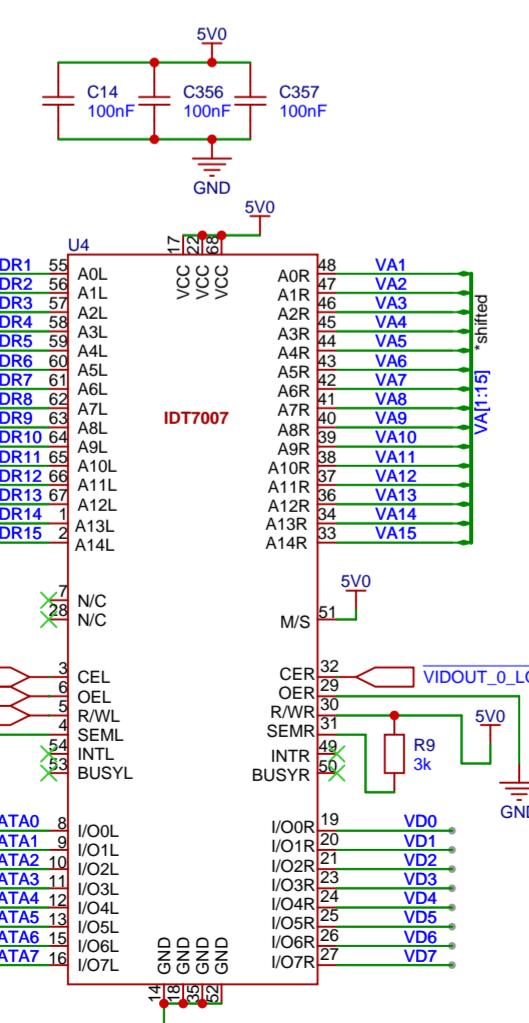


## DECODE

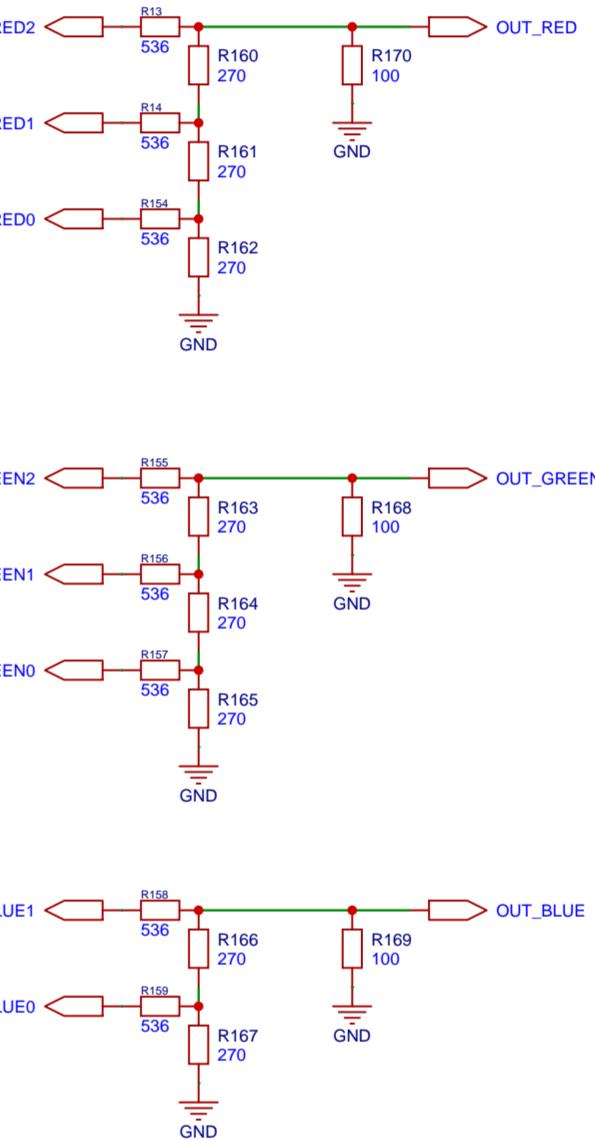
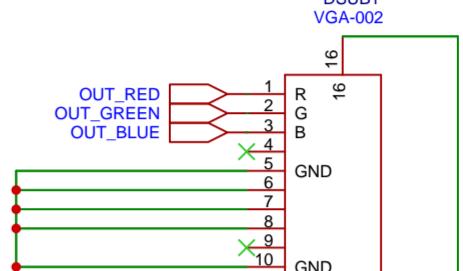
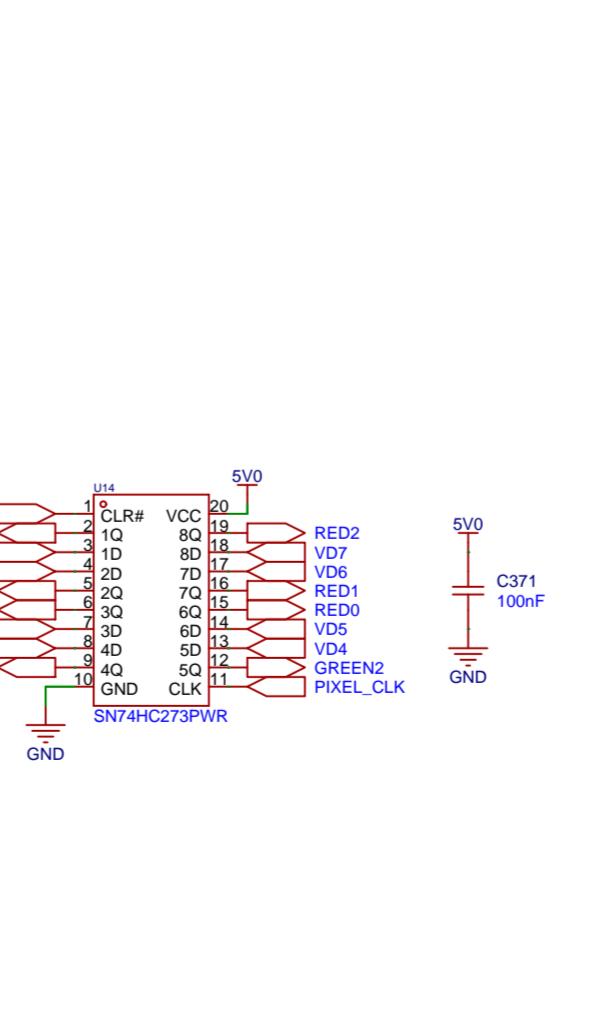
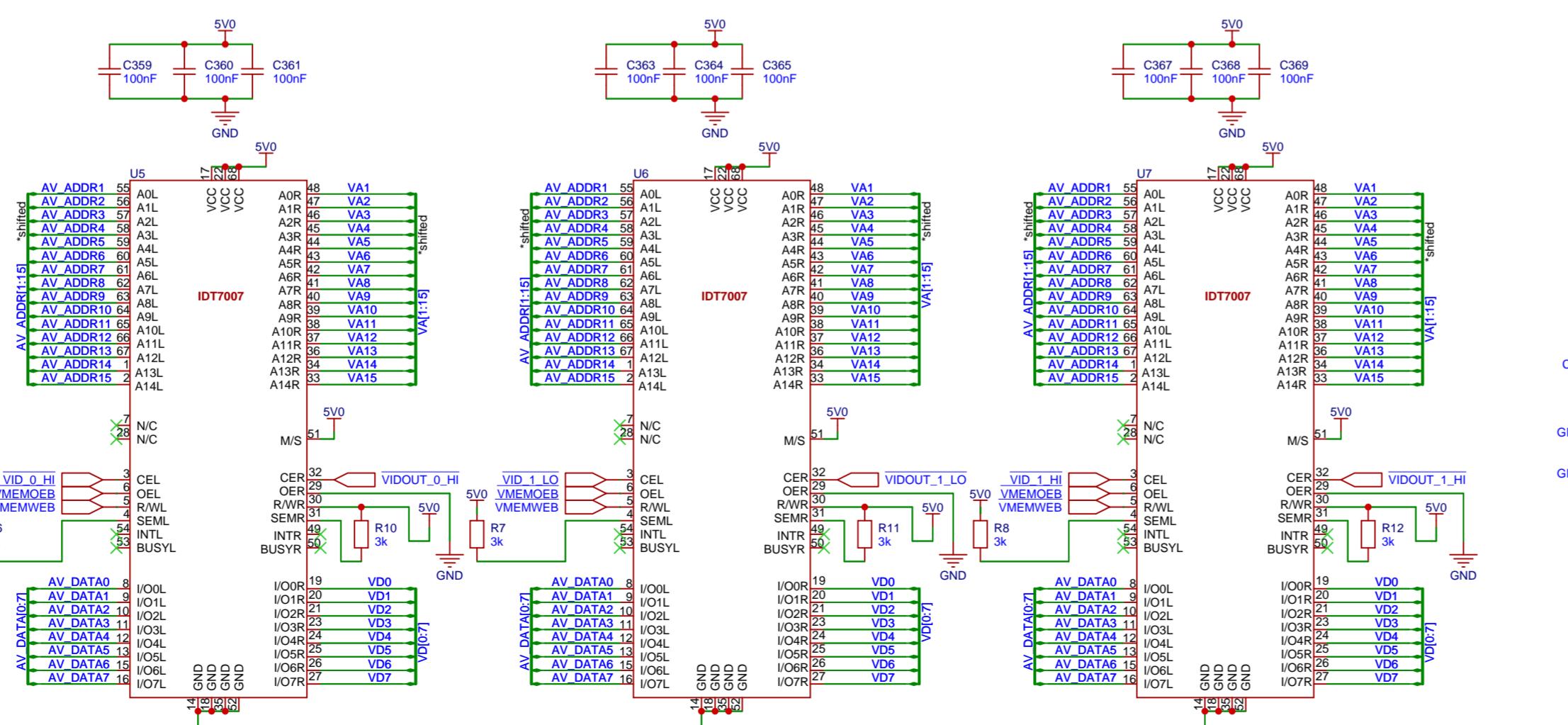


To do:  
 - fill top / bottom layers with GND  
 - same with inner signal

## LOWER 64K (VID\_0)



## UPPER 64K (VID\_1)



Schematic	Schematic1	Create at	2026-01-05
Board	Board1	Update at	2026-01-04
Drawn		Page	VGA
Reviewed			

W65C265S v0.12