VFD Clock Logic Board

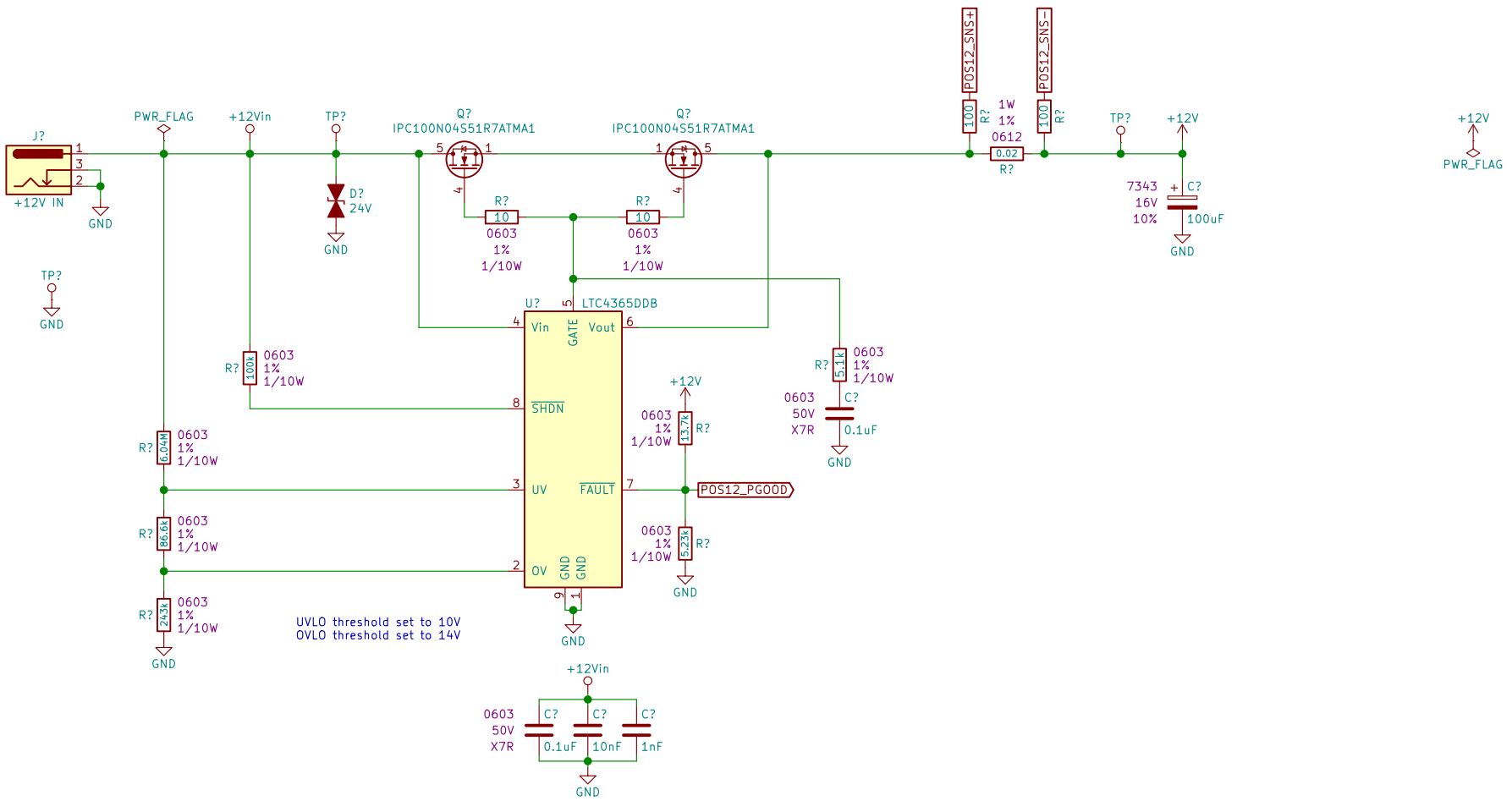
Consider adding net ties on all current sense shunt resistors for net isolation

Drew Maatman

Sheet: /
File: VFD_Clock.sch

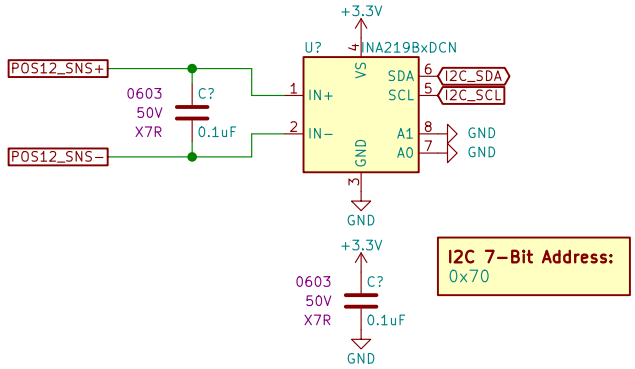
Title: VFD Clock

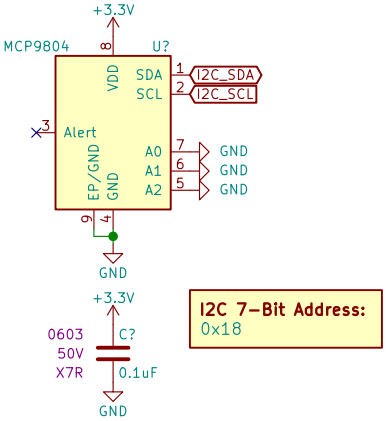
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 1/30



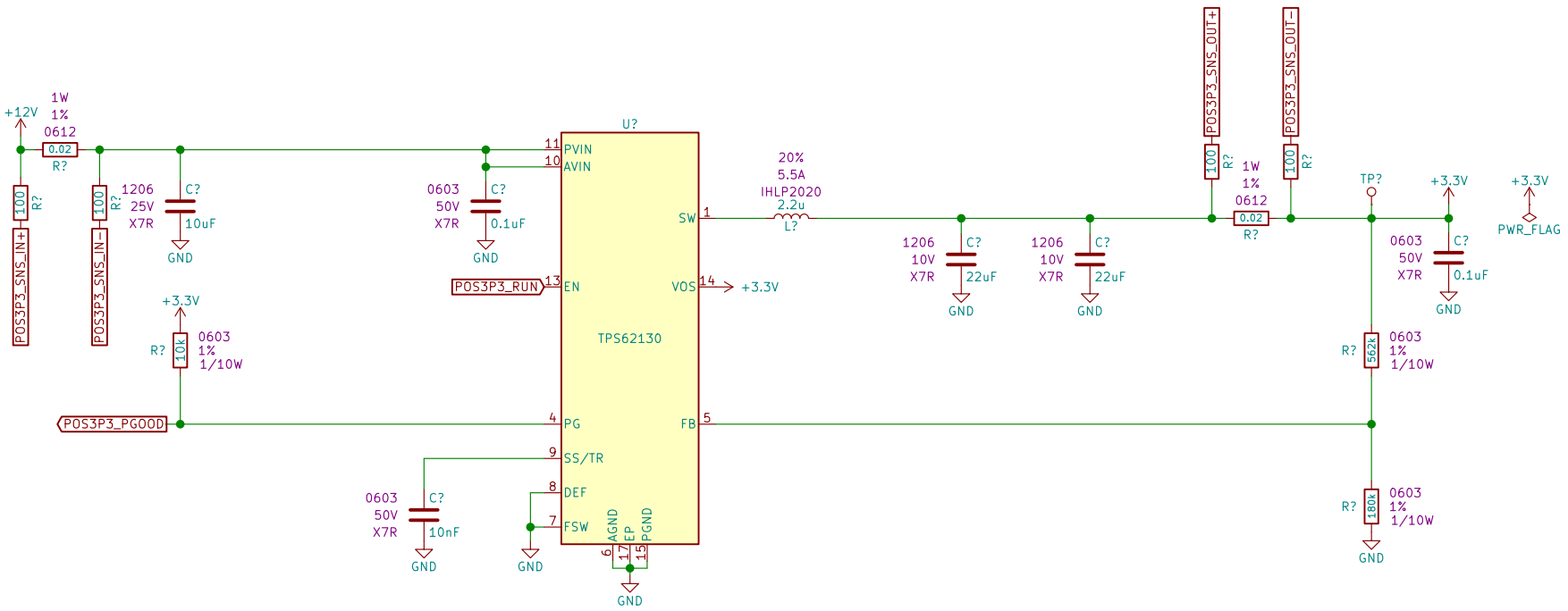
Sheet: /+12V Input/	
File: POS12_Input.sch	
Title: QI Charger	
Size: A	Date: 2019-01-03
KiCad E.D.A. kicad (5.1.4)-1	Id: 2/30

Rev: A

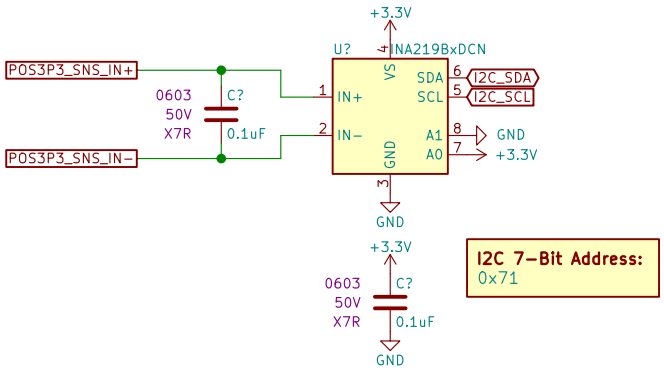


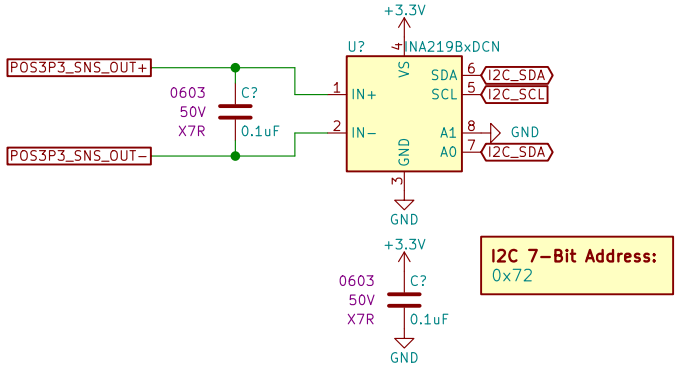


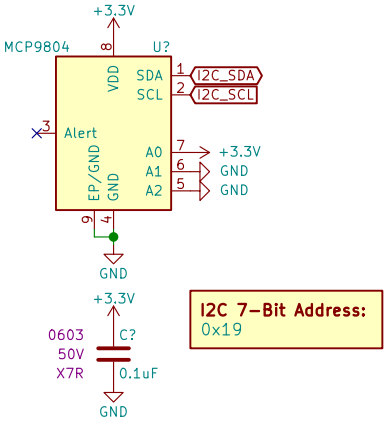
Sheet: /+12V Telemetry/		
File: POS12_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 3/30



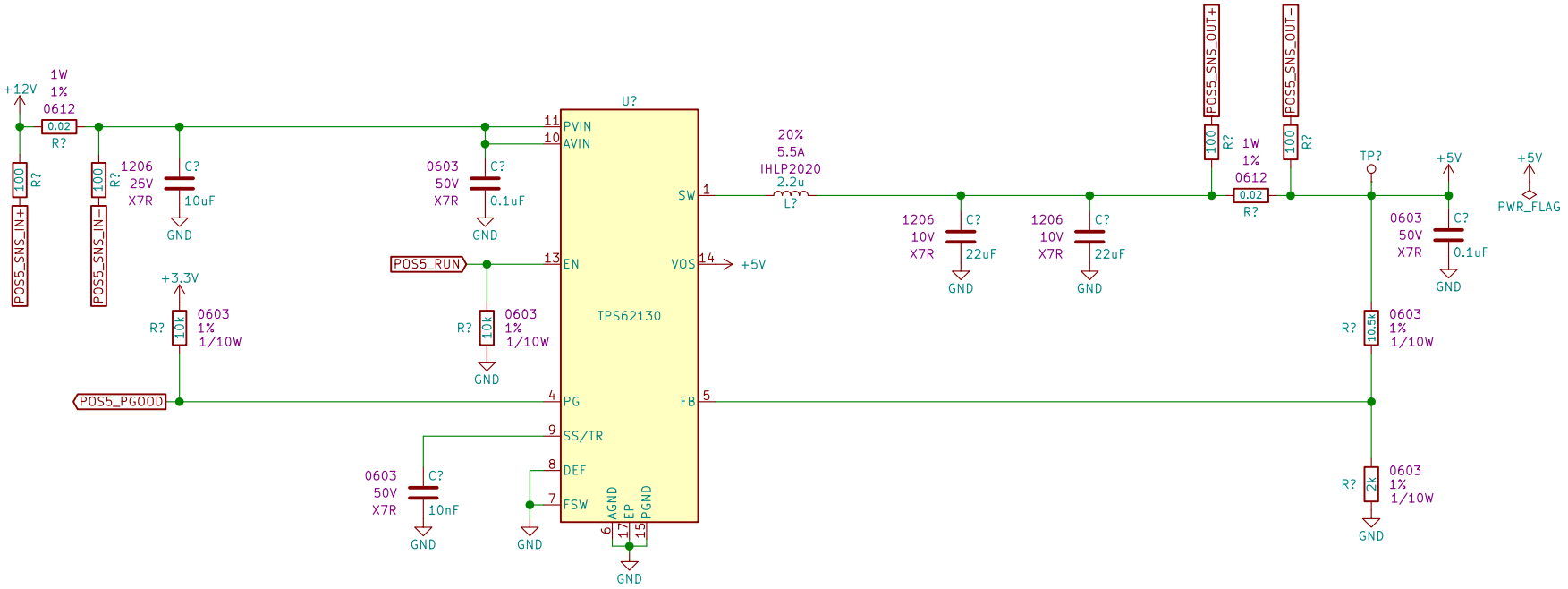
Sheet: /+3.3V Power Supply/		
File: POS3P3_Power_Supply.sch		
Title: QI Charger		
Size: A	Date: 2019-01-03	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 4/30



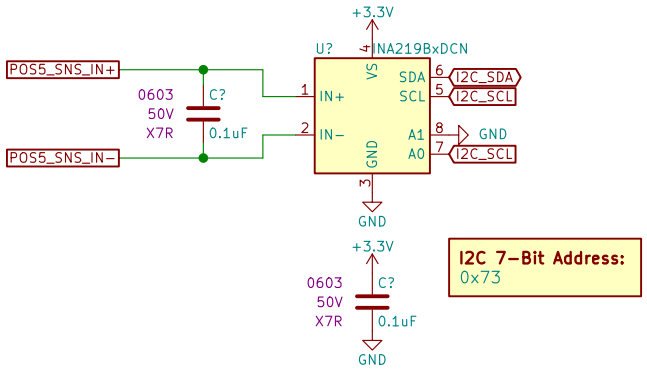


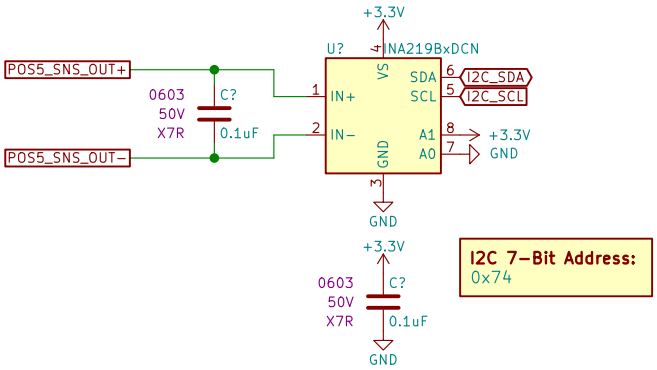


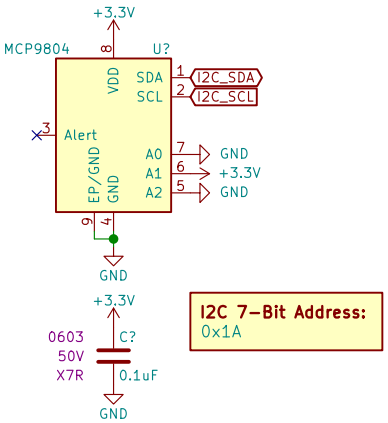
Sheet: /+3.3V Telemetry/ File: POS3P3_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 5/30



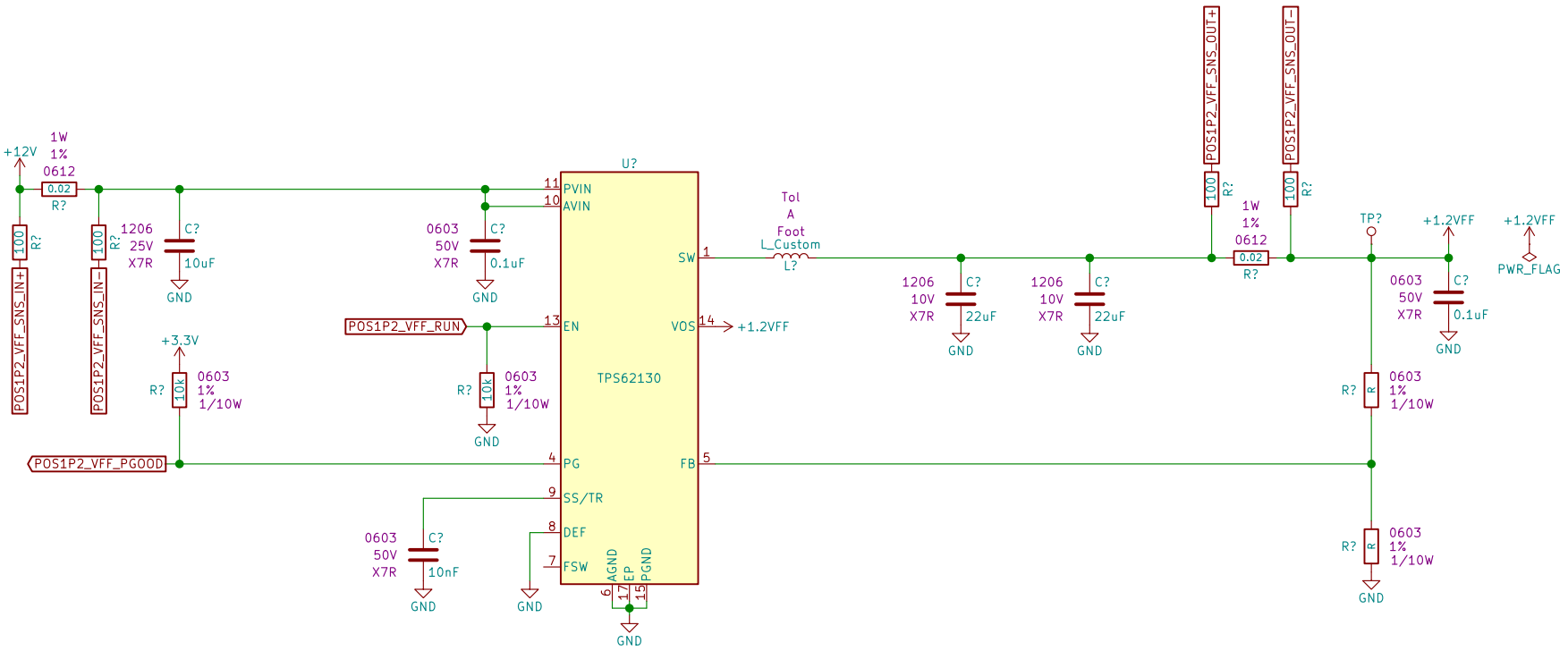
Sheet: /+5V Power Supply/		
File: POS5_Power_Supply.sch		
Title: QI Charger		
Size: A	Date: 2019-01-03	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 6/30



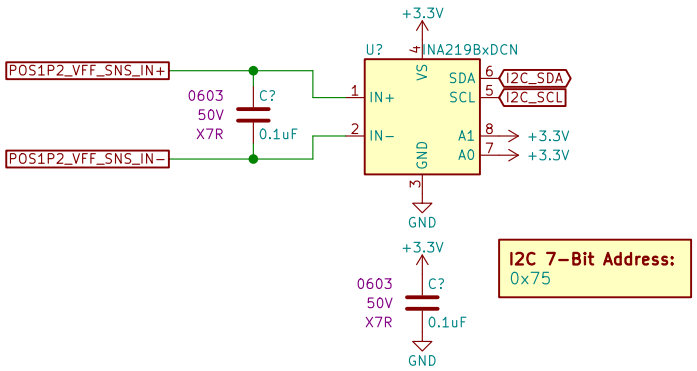


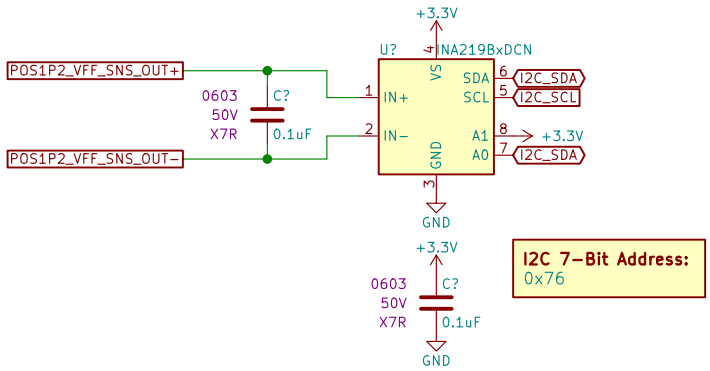


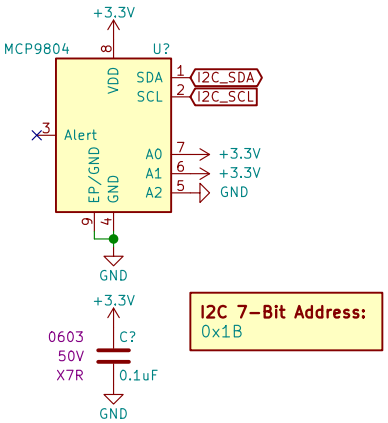
Sheet: /+5V Telemetry/ File: POS5_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 7/30



Sheet: /+1.2VFF Power Supply/		
File: POS1P2_VFF_Power_Supply.sch		
Title: QI Charger		
Size: A	Date: 2019-01-03	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 8/30

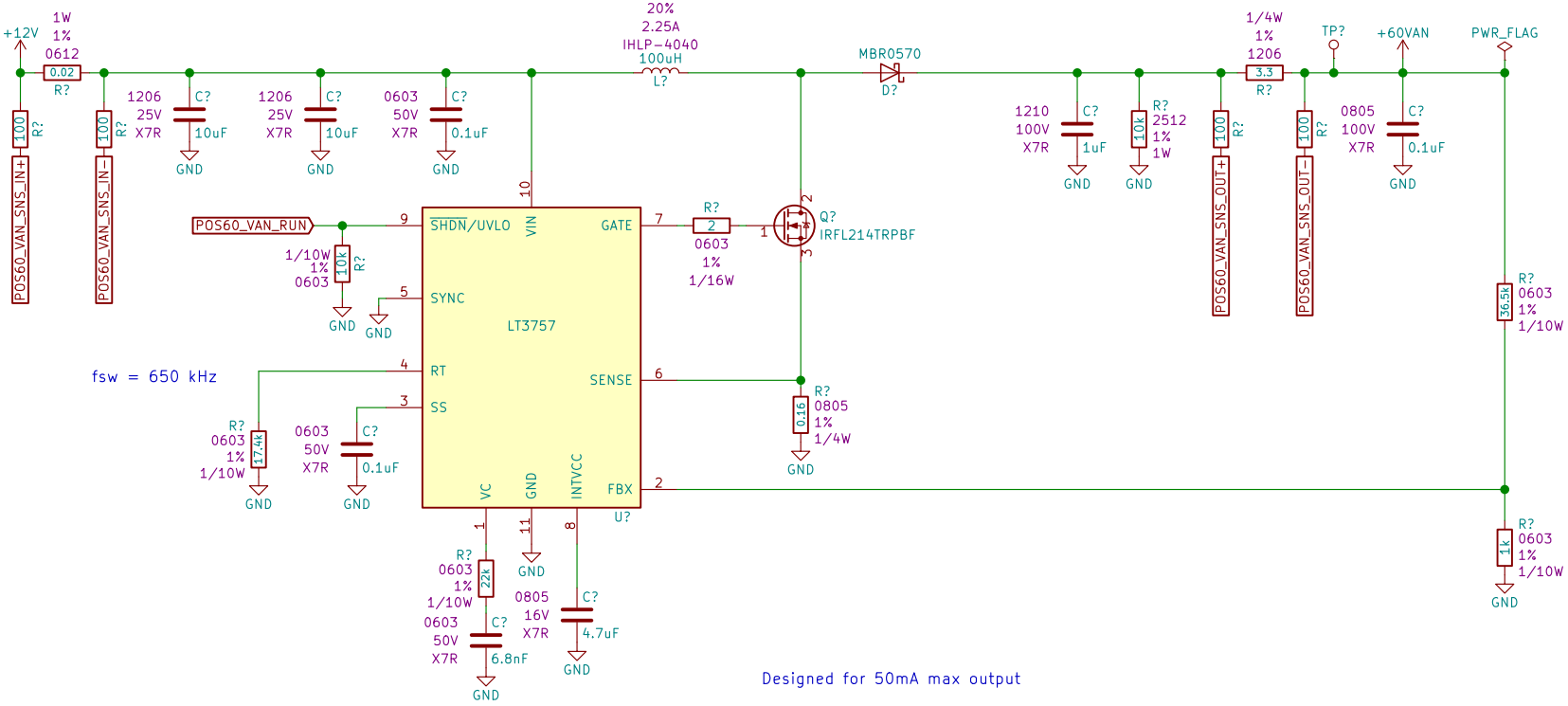


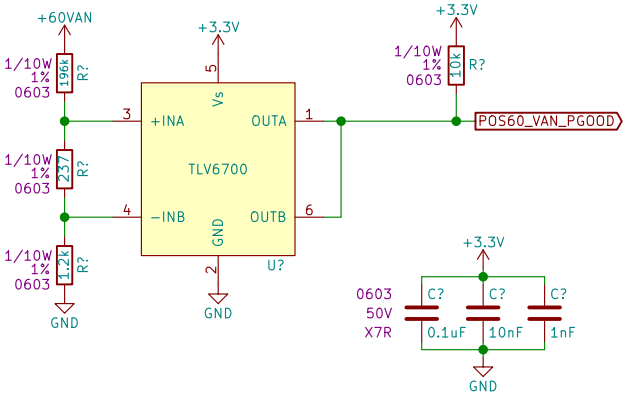




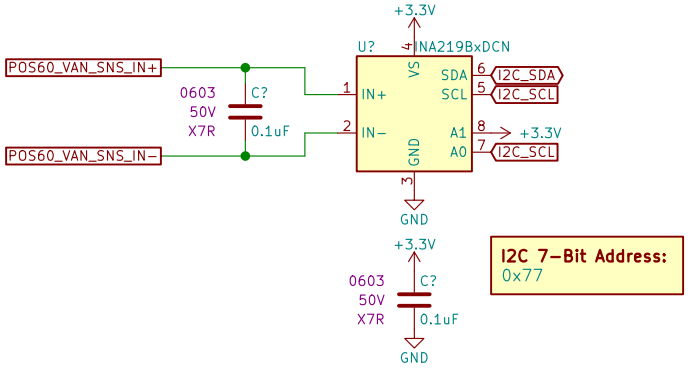
Sheet: /+1.2VFF Telemetry/		
File: POS1P2_VFF_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 9/30

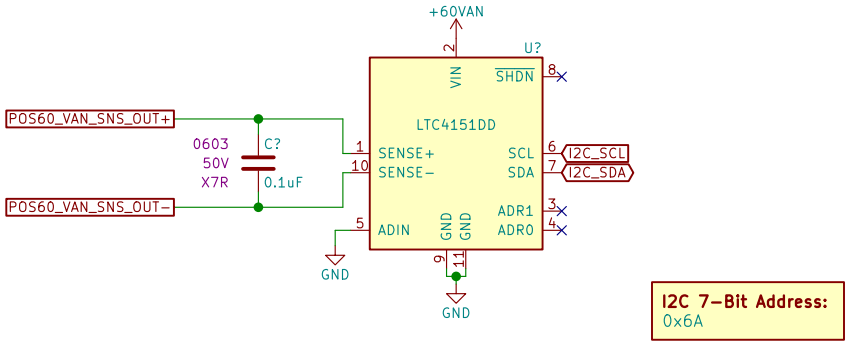
Anode/Grid +60V, 50mA Power Supply

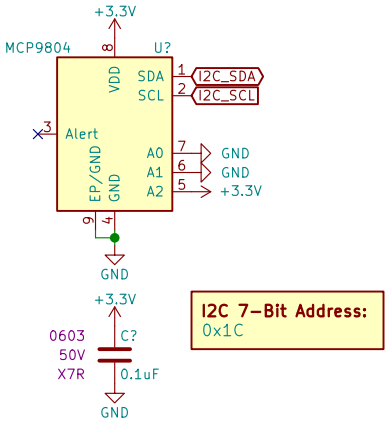




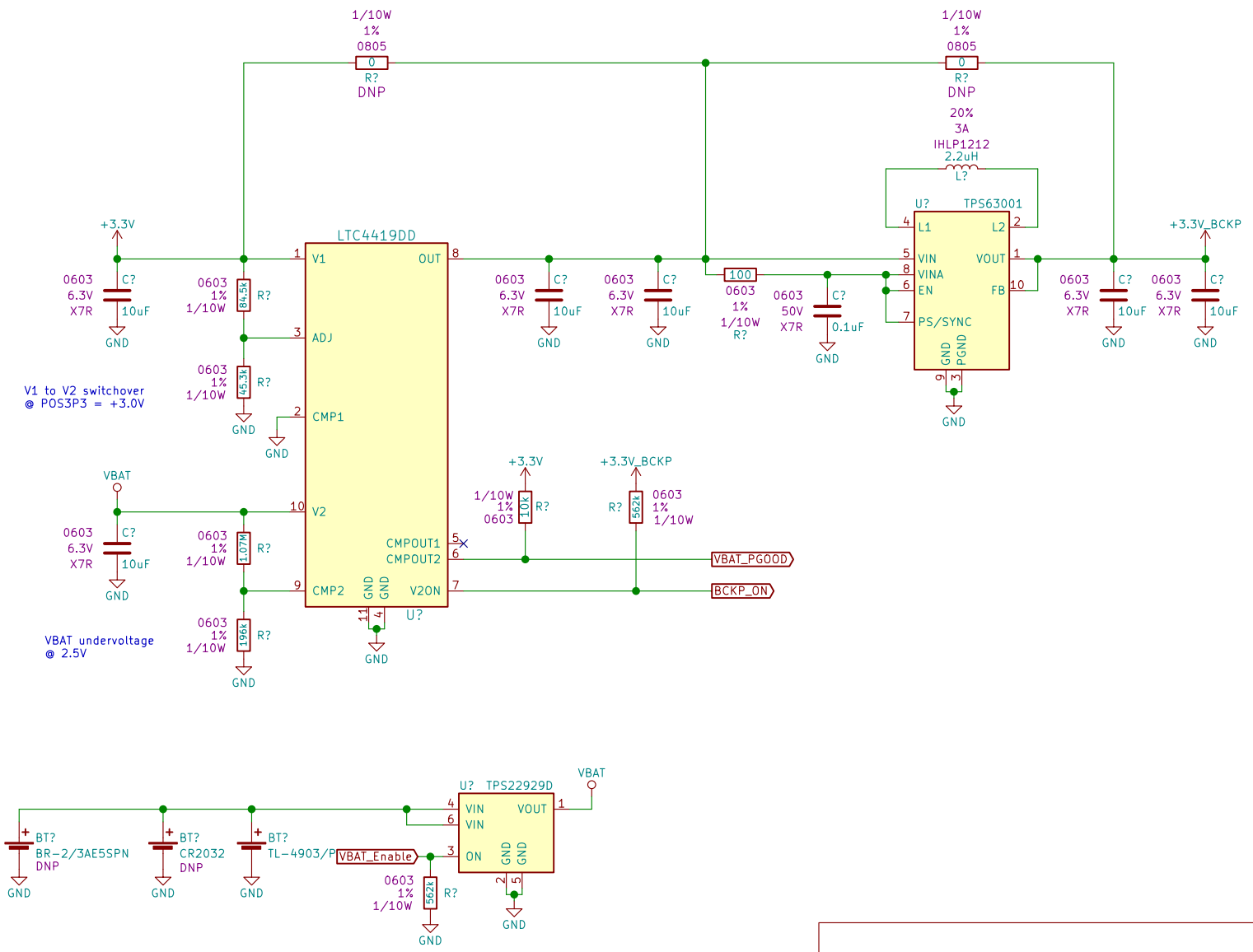
Drew Maatman		
Sheet: /+60VAN Power Supply/		
File: POS60_VAN_Power_Supply.sch		
Title: VFD Clock		
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 10/30



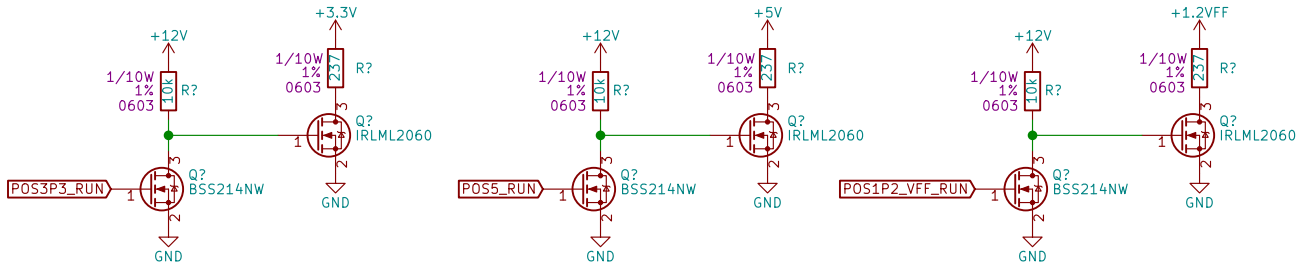


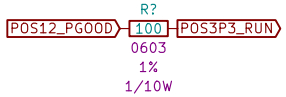


Sheet: /+60VAN Telemetry/		
File: POS60_VAN_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 11/30

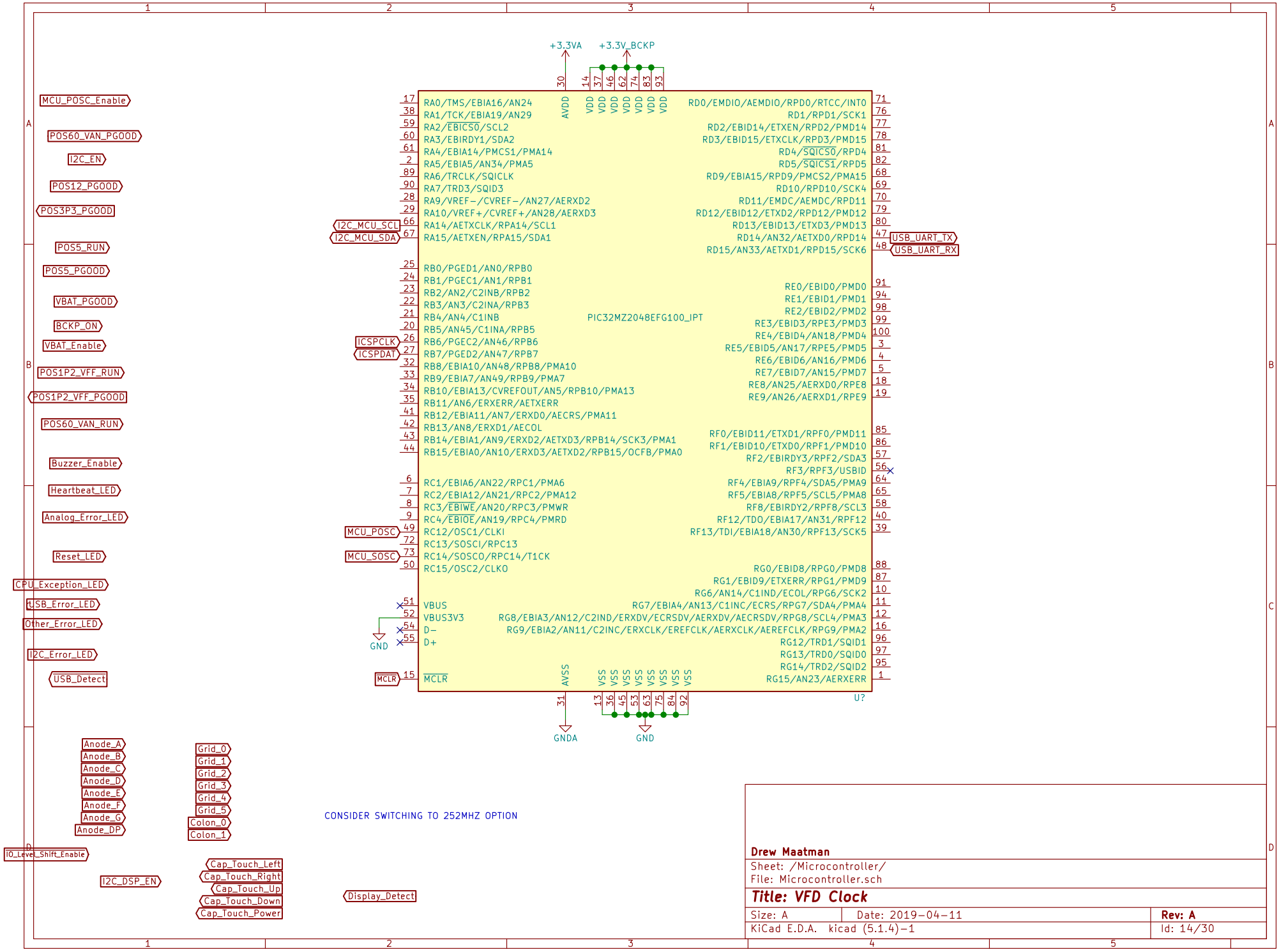


Drew Maatman		
Sheet: /+3.3V BCKP Supply/		
File: POS3P3_BCKP_Supply.sch		
Title: VFD Clock		
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 12/30

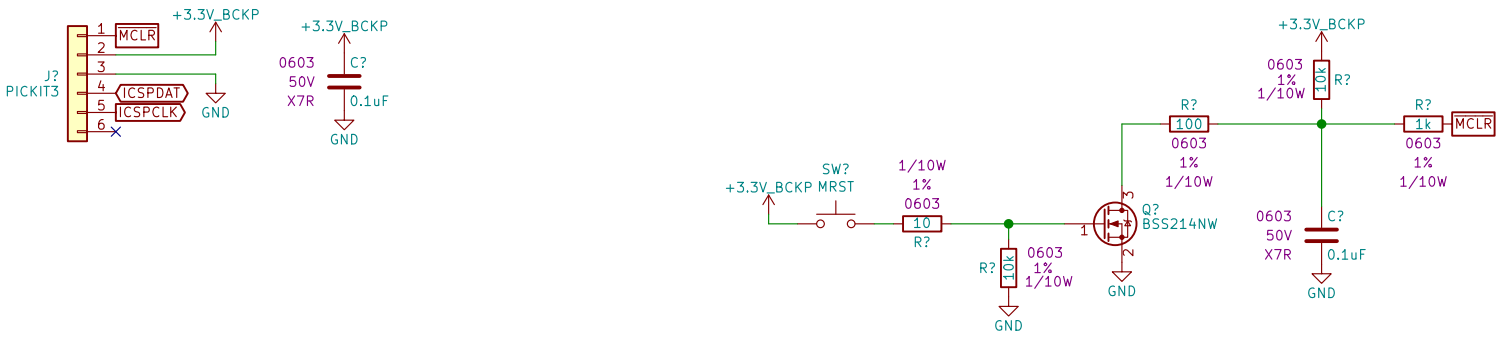




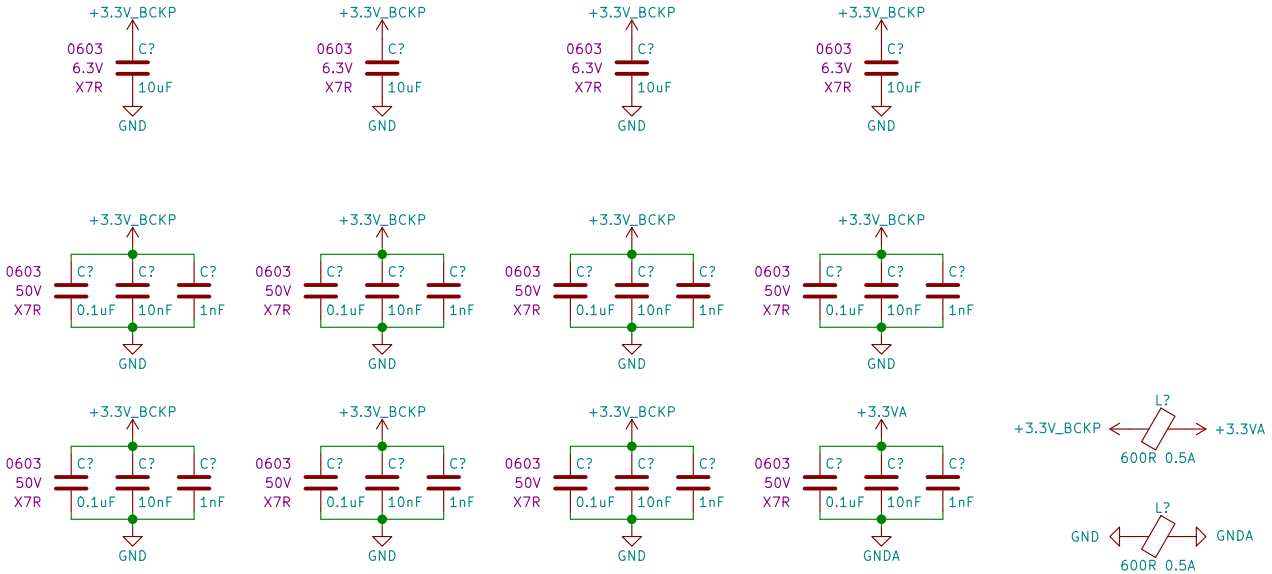
Sheet: /Misc Power/		
File: Misc_Power.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 13/30


+3.3VA
+3.3V_BCKP
PIC32MZ2048EFG100_IPT
U?
GND
GNDA
GND
MCU_POSC_Enable
POS60_VAN_PGOOD
I2C_EN
POS12_PGOOD
POS3P3_PGOOD
POS5_RUN
POS5_PGOOD
VBAT_PGOOD
BCKP_ON
VBAT_Enable
POS1P2_VFF_RUN
POS1P2_VFF_PGOOD
POS60_VAN_RUN
Buzzer_Enable
Heartbeat_LED
Analog_Error_LED
Reset_LED
CPU_Exception_LED
USB_Error_LED
Other_Error_LED
I2C_Error_LED
USB_Detect
IO_Level_Shift_Enable
I2C_DSP_EN
Anode_A
Anode_B
Anode_C
Anode_D
Anode_E
Anode_F
Anode_G
Anode_DP
Grid_0
Grid_1
Grid_2
Grid_3
Grid_4
Grid_5
Colon_0
Colon_1
Cap_Touch_Left
Cap_Touch_Right
Cap_Touch_Up
Cap_Touch_Down
Cap_Touch_Power
Display_Detect
I2C_MCU_SCL
I2C_MCU_SDA
ICSPCLK
ICSPDAT
MCU_POSC
MCU_SOSC
MCLR
USB_UART_TX
USB_UART_RX
CONSIDER SWITCHING TO 252MHZ OPTION
Drew Maatman
Sheet: /Microcontroller/
File: Microcontroller.sch
Title: VFD Clock
Size: A
Date: 2019-04-11
Rev: A
KiCad E.D.A. kicad (5.1.4)-1
Id: 14/30

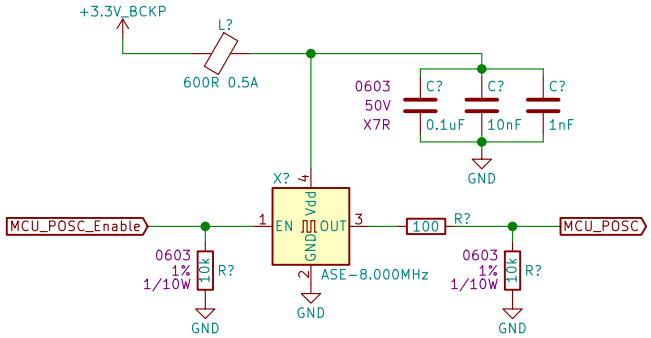
Microcontroller Programming

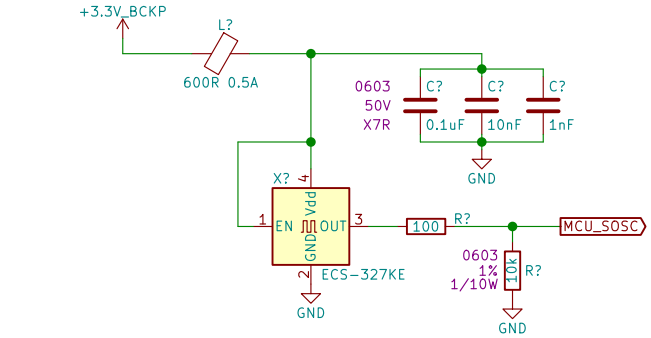


Drew Maatman		
Sheet: /Microcontroller Programming/		
File: Microcontroller_Programming.sch		
Title: VFD Clock		
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 15/30



Sheet: /Microcontroller Bypass/		
File: Microcontroller_Bypass.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 16/30





Sheet: /Microcontroller Clocking/		
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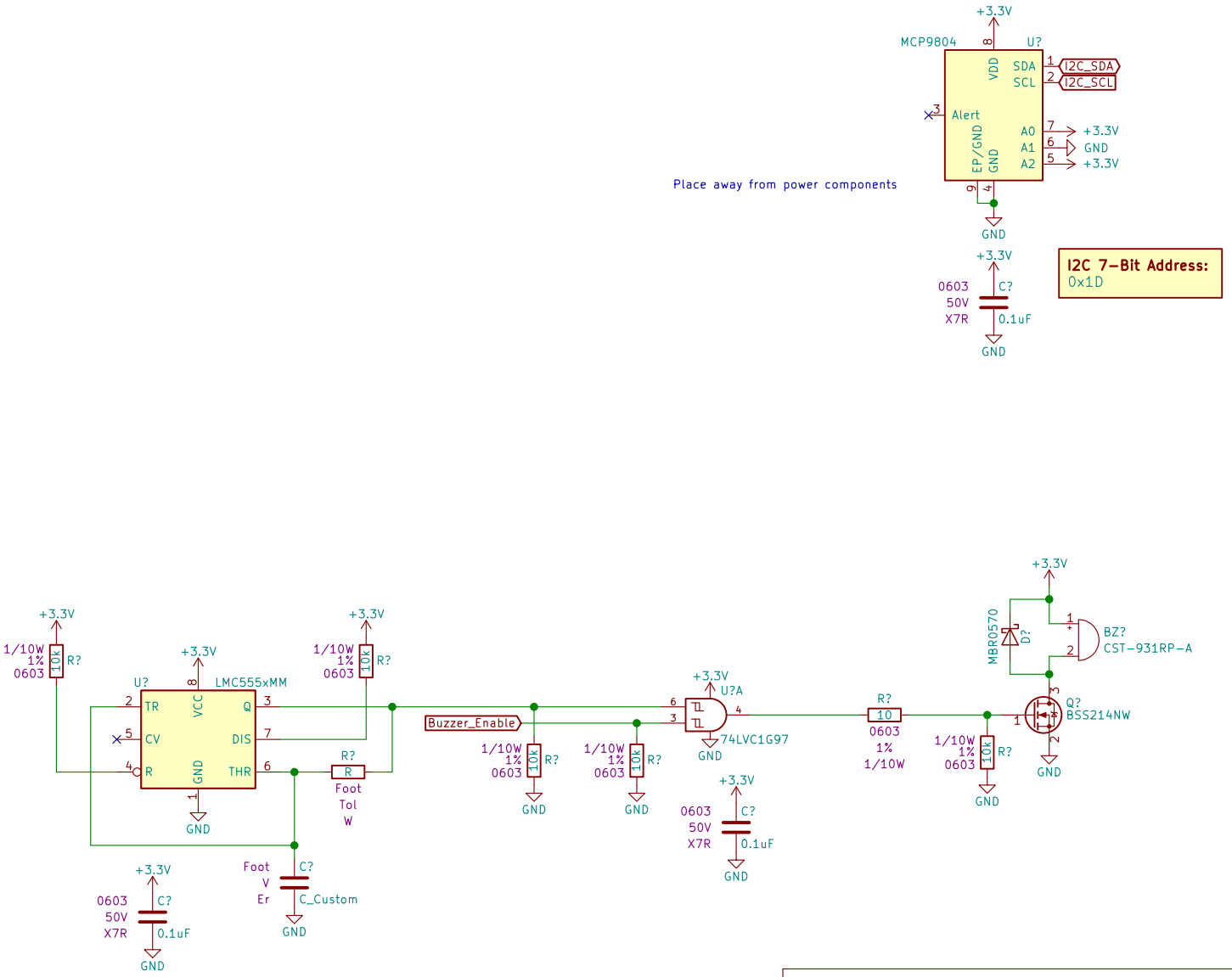
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 17/30



Sheet: /Misc Circuits/		
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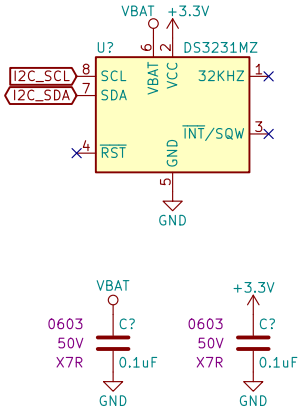
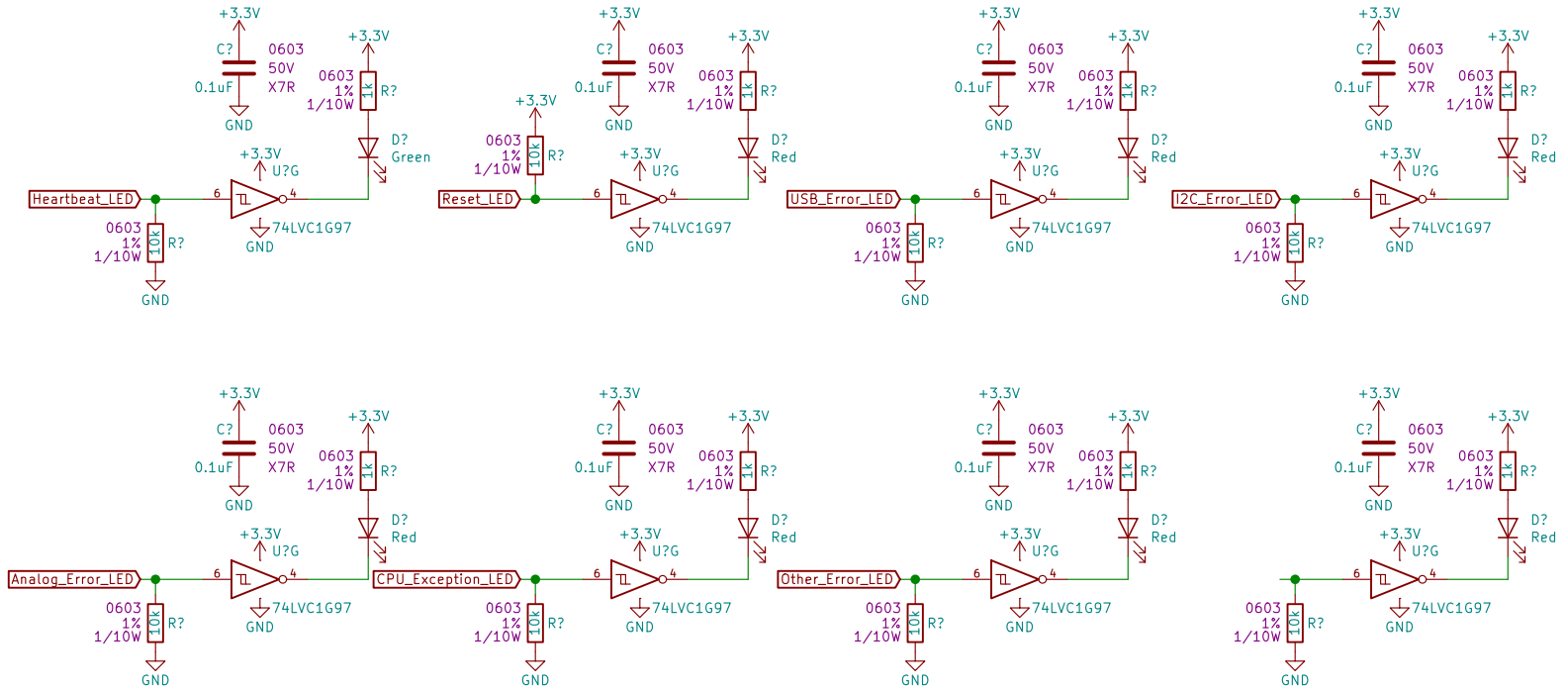
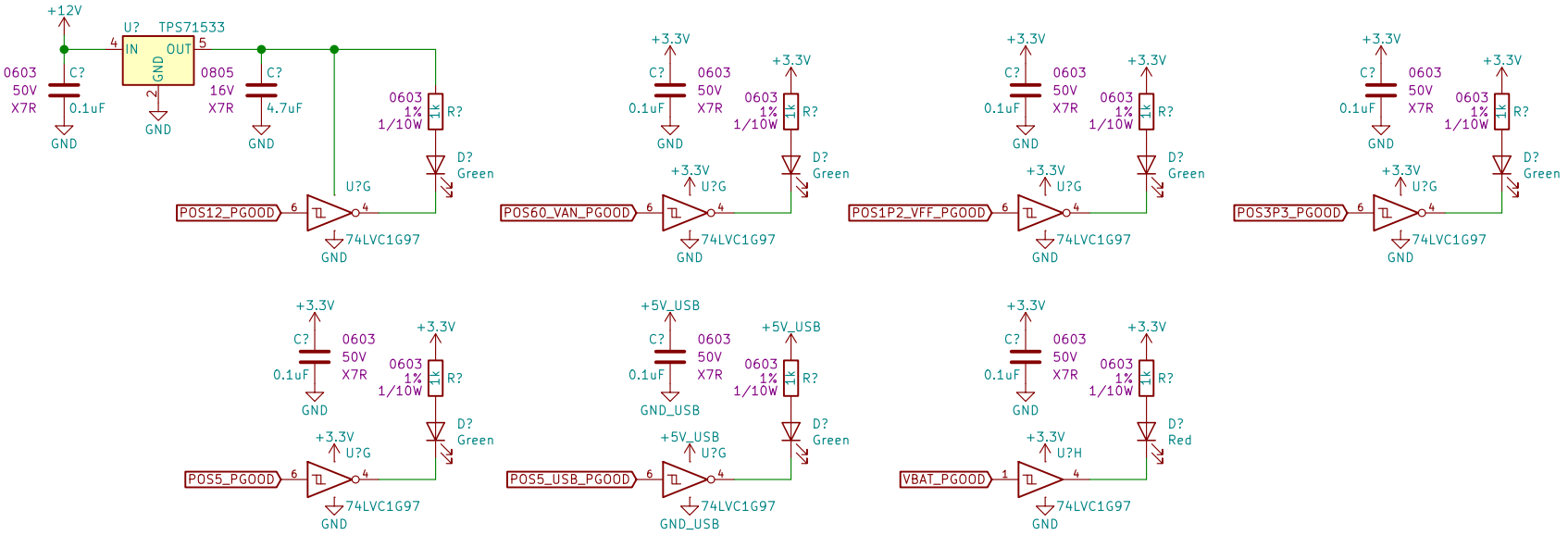
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 18/30



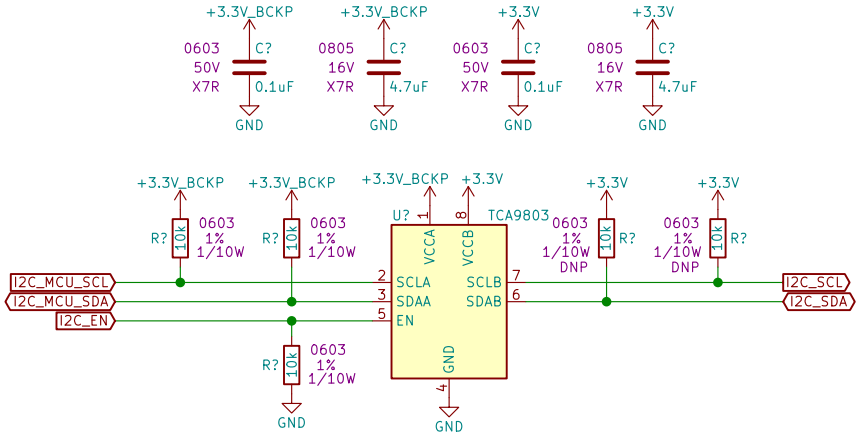
Sheet: /Backup RTC/		
File: Backup_RTC.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 19/30



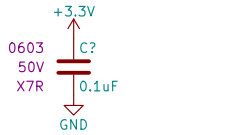
Sheet: /Status LEDs/		
File: Status_LEDs.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 20/30

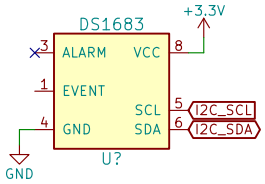


Sheet: /PGOOD LEDs/	
File: PGOOD_LEDs.sch	
Title:	
Size: A	Date:
KiCad E.D.A. kicad (5.1.4)-1	Id: 21/30



Sheet: /I2C Buffer/ File: I2C_Buffer.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 22/30

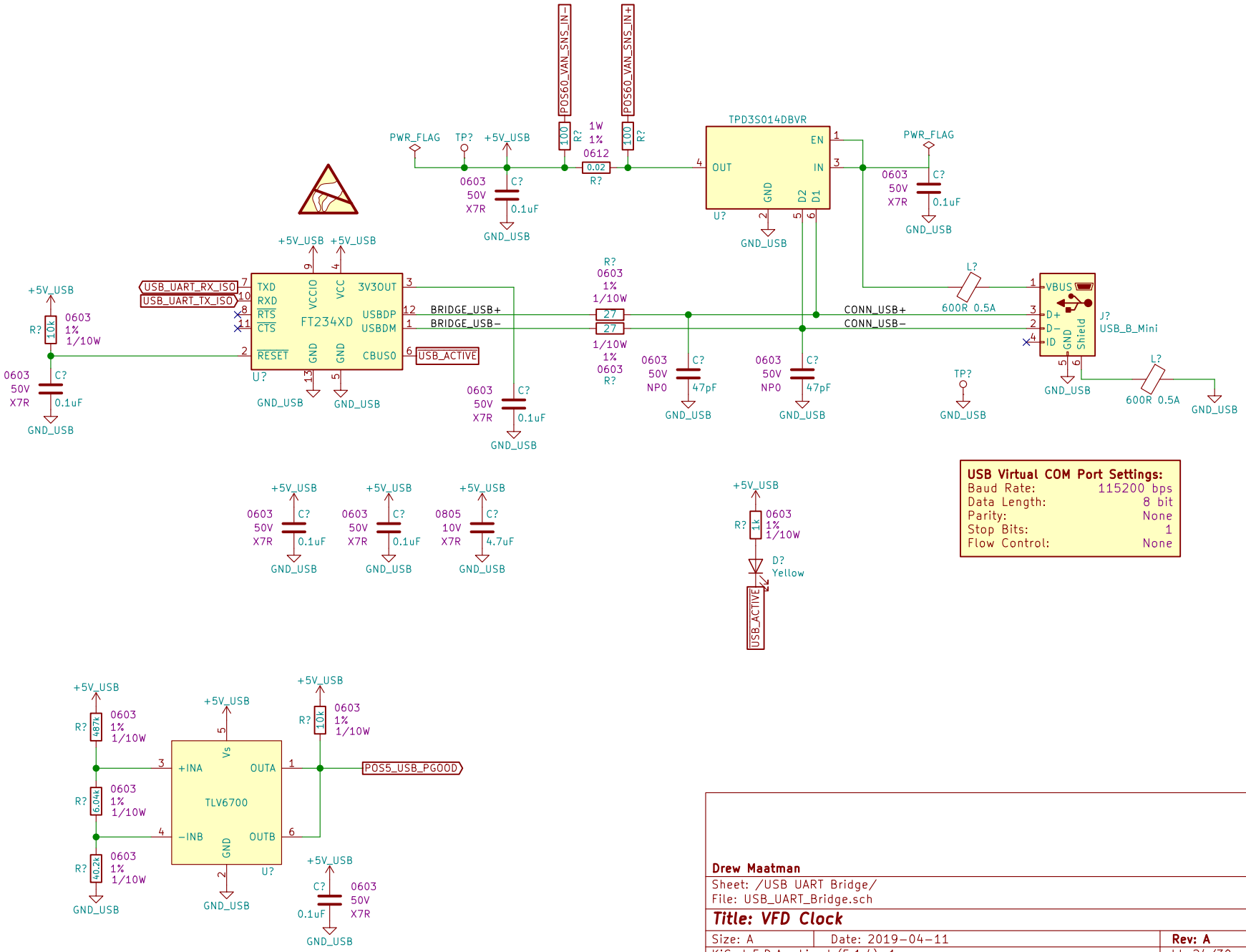




I2C 7-Bit Address:
0x3B

Sheet: /Time of Flight/ File: Time_of_Flight.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 23/30

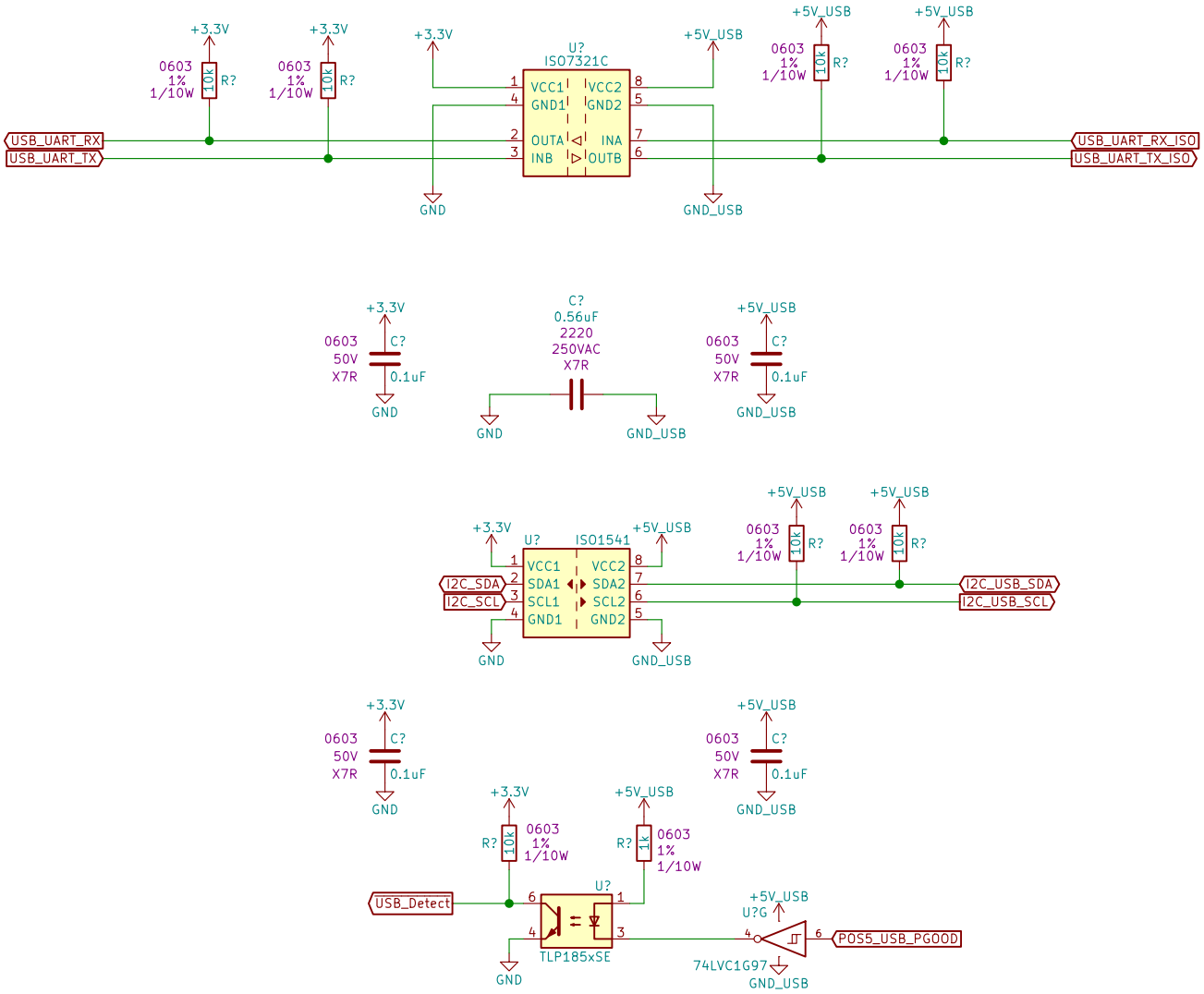
11. USB UART Bridge



USB Virtual COM Port Settings:

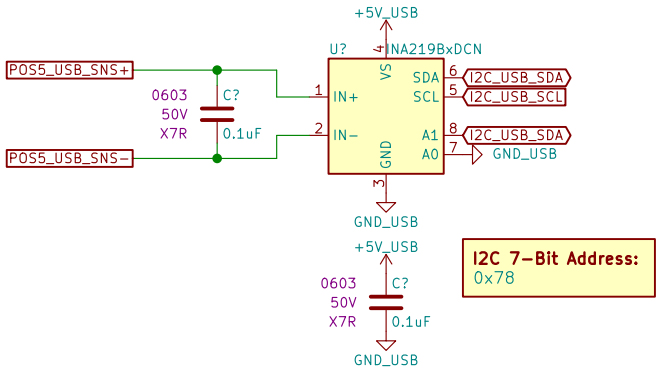
Baud Rate:	115200 bps
Data Length:	8 bit
Parity:	None
Stop Bits:	1
Flow Control:	None

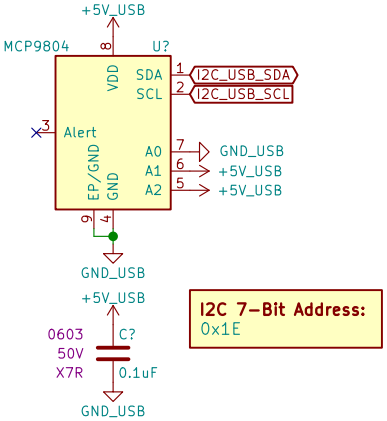
Drew Maatman		
Sheet: /USB UART Bridge/		
File: USB_UART_Bridge.sch		
Title: VFD Clock		
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 24/30



Drew Maatman	
Sheet: /USB UART Isolation/	
File: USB_UART_Isolation.sch	
Title: VFD Clock	
Size: A	Date: 2019-04-11
KiCad E.D.A. kicad (5.1.4)-1	Id: 25/30

Rev: A





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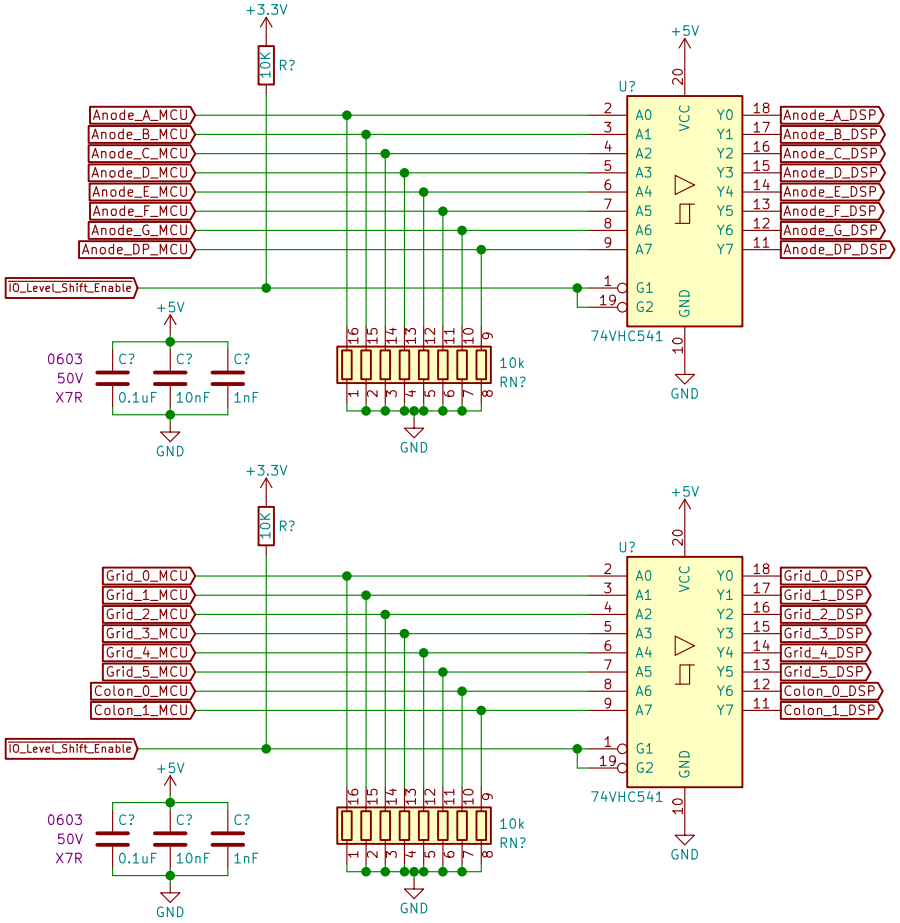
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 26/30

I/O Buffers



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Sheet: /IO Buffers 1/
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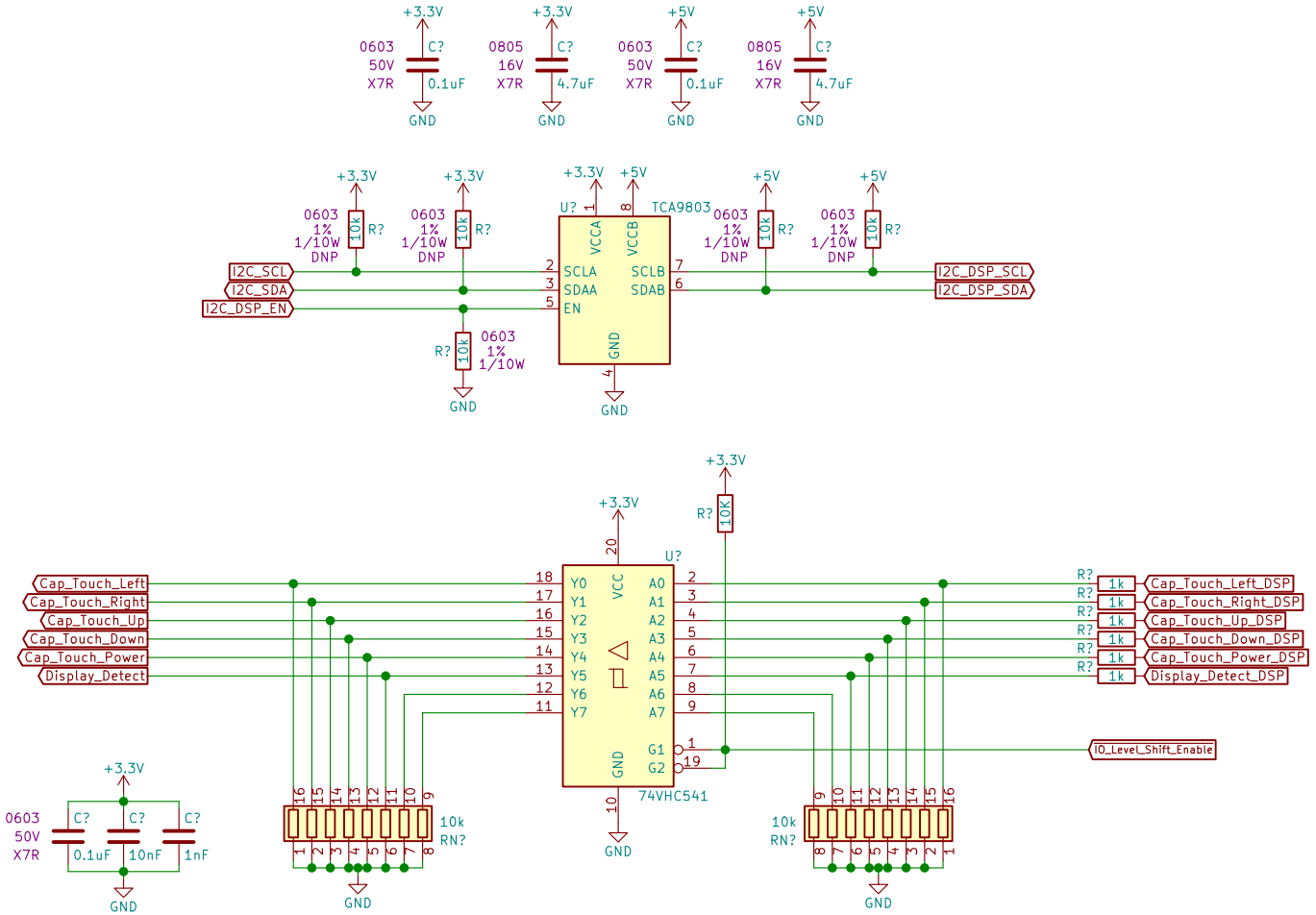
Title: Electronic Display Logic Board

Size: A	Date: 2018-12-15	Rev: A
KiCad E.D.A. kicad (5.1.4)-1		Id: 27/30



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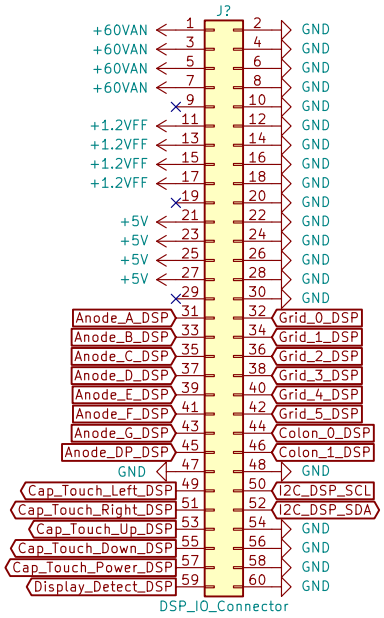
KiCad E.D.A. kicad (5.1.4)-1		Id: 28/30



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Size: A	Date:	**Rev:**
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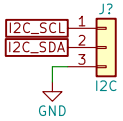

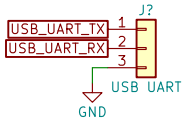

Drew Maatman		
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File: Mechanical.sch		
Title: VFD Clock		
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 30/30