Sheet: +12V Input

File: POS12_Input.sch

Sheet: +12V Telemetry

File: POS12_Telemetry.sch

Sheet: +3.3V Power Supply

File: POS3P3_Power_Supply.sch

Sheet: +3.3V Telemetry

File: POS3P3_Telemetry.sch

Sheet: Microcontroller

File: Microcontroller.sch

Sheet: Microcontroller Programming

File: Microcontroller_Programming.sch

Sheet: Microcontroller Bypass

File: Microcontroller_Bypass.sch

Sheet: Microcontroller Clocking

File: Microcontroller_Clocking.sch

Sheet: +5V Power Supply

File: POS5_Power_Supply.sch

Sheet: +5V Telemetry

File: POS5_Telemetry.sch

Sheet: +1.2VFF Power Supply

File: POS1P2_VFF_Power_Supply.sch

Sheet: +1.2VFF Telemetry

File: POS1P2_VFF_Telemetry.sch

Sheet: Status LEDs

File: Status_LEDs.sch

Sheet: PGOOD LEDs

File: PGOOD_LEDs.sch

Sheet: +60VAN Power Supply

File: POS60_VAN_Power_Supply.sch

Sheet: +60VAN Telemetry

File: POS60_VAN_Telemetry.sch

Sheet: I2C Buffer

File: I2C_Buffer.sch

Sheet: Time of Flight

File: Time_of_Flight.sch

Sheet: +3.3V BCKP Supply

File: POS3P3_BCKP_Supply.sch

Sheet: Backup RTC

File: Backup_RTC.sch

Sheet: Misc Power

File: Misc_Power.sch

Sheet: IO Connectors

File: IO_Connectors.sch

Sheet: IO Buffers 1

File: IO_Buffers_1.sch

Sheet: IO Buffers 2

File: IO_Buffers_2.sch

Sheet: Mechanical

File: Mechanical.sch

Sheet: USB UART Bridge

File: USB_UART_Bridge.sch

Sheet: USB UART Isolation

File: USB_UART_Isolation.sch

Sheet: USB Telemetry

File: USB_Telemetry.sch

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

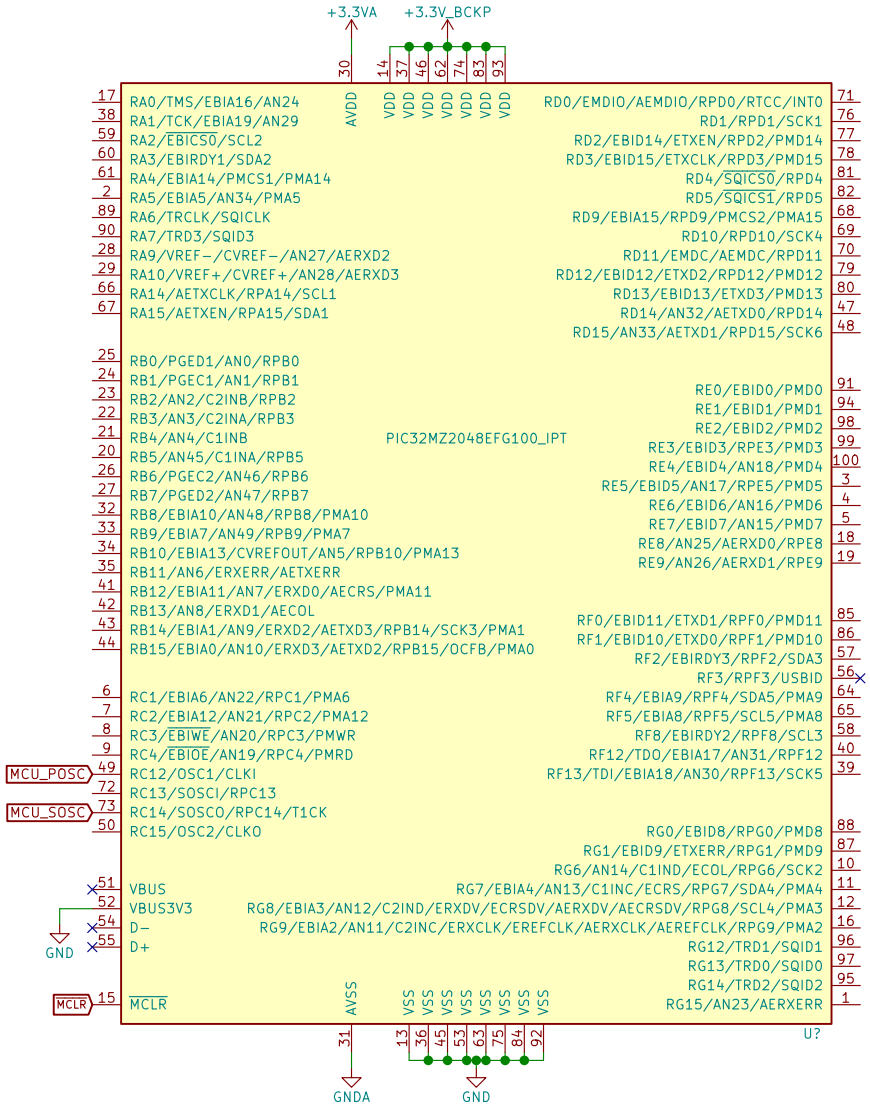
Drew Maatman

Sheet: /

File: VFD_Clock.sch

Title: VFD Clock

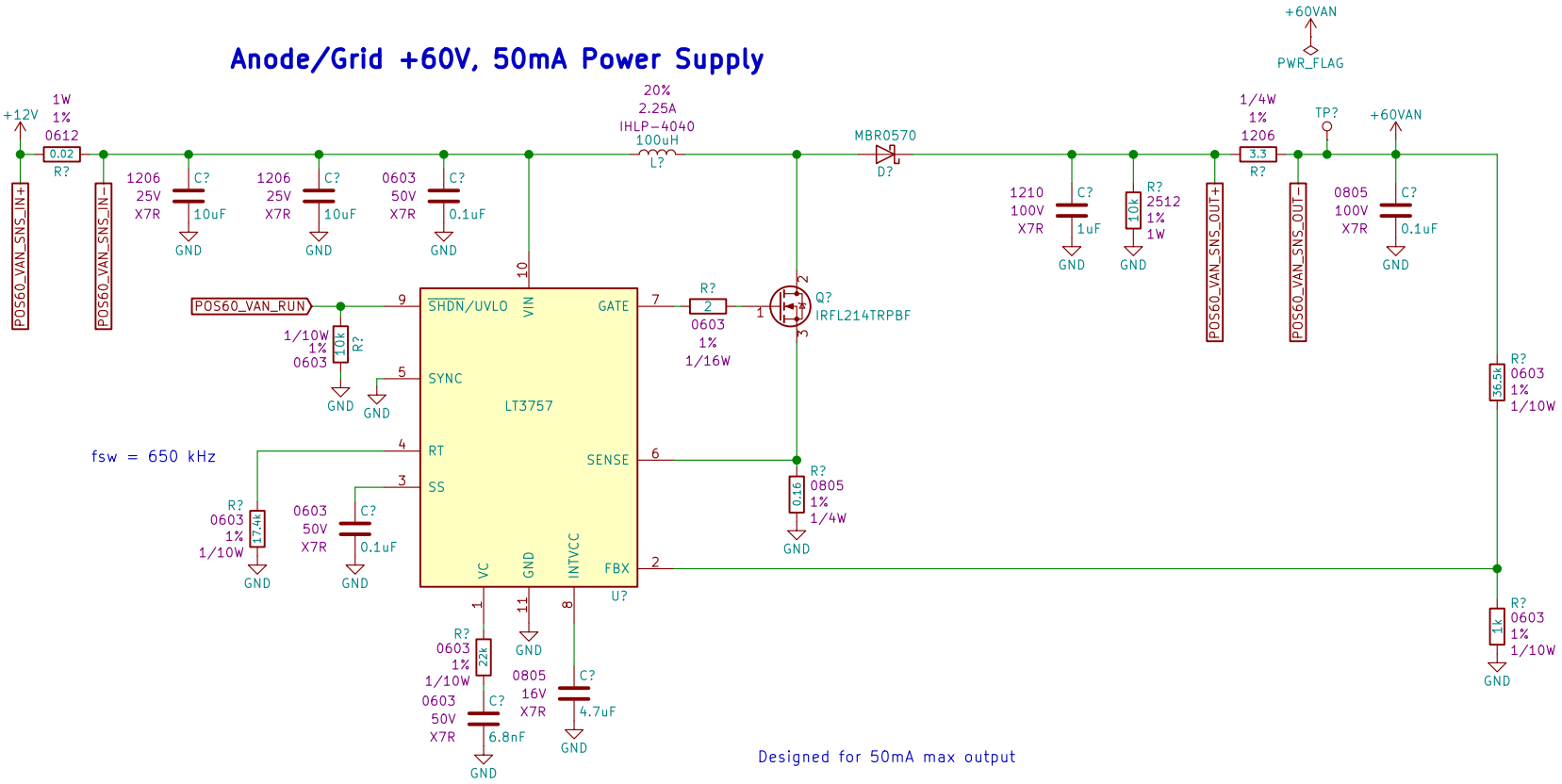
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 1/29

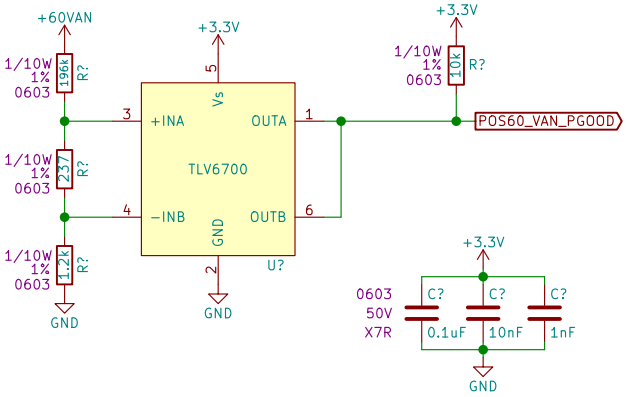


CONSIDER SWITCHING TO 252MHZ OPTION

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: 2/29

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
KiCad E.D.A. kicad (5.1.4)-1	Id: 3/29

Rev: A

H?
MountingHole
H?
MountingHole
H?
MountingHole
H?
MountingHole
H?
MountingHole
H?
MountingHole
H?
MountingHole
H?
MountingHole
Standoff
MK?
Standoff
MK?
Standoff
MK?

Drew Maatman

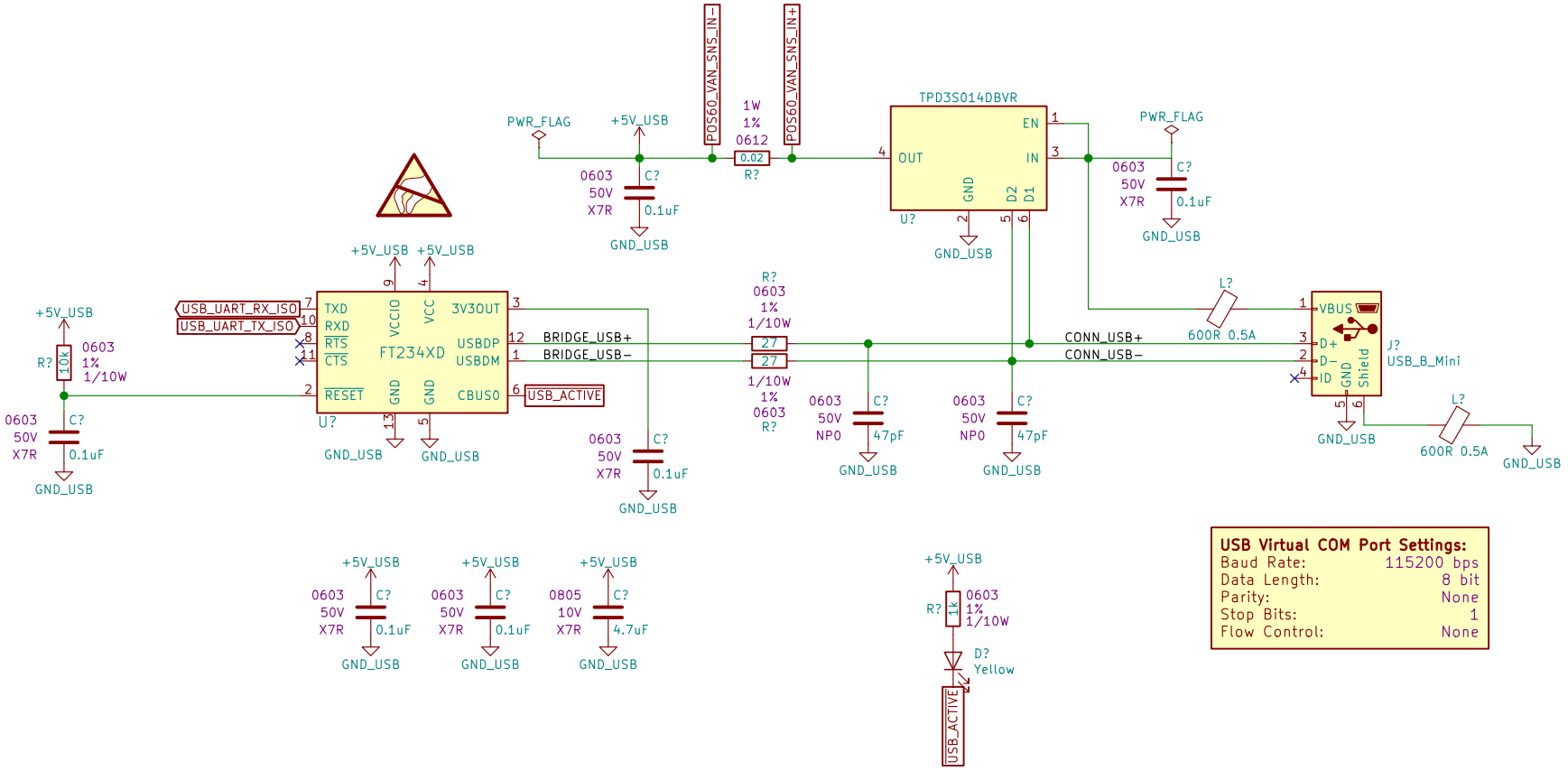
Sheet: /+3.3V BCKP Supply/

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: 5/29

11. USB UART Bridge



USB Virtual COM Port Settings:

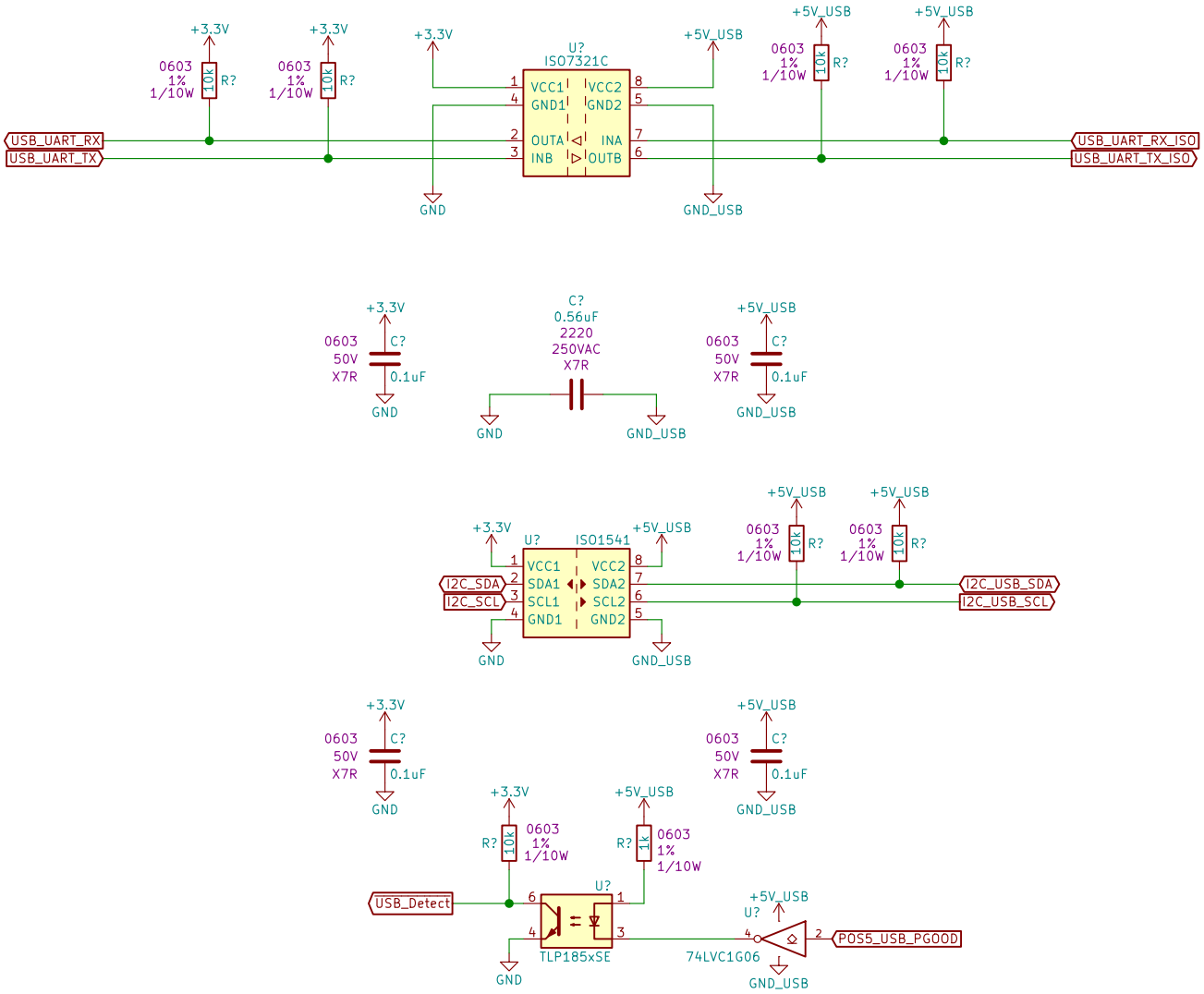
Baud Rate:	115200 bps
Data Length:	8 bit
Parity:	None
Stop Bits:	1
Flow Control:	None

Drew Maatman

Sheet: /USB UART Bridge/
File: USB_UART_Bridge.sch

Title: VFD Clock

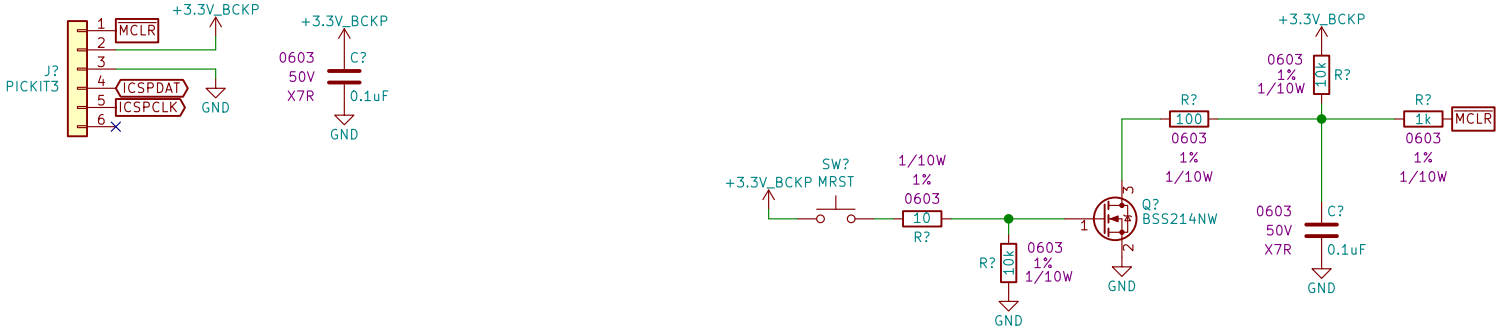
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 6/29



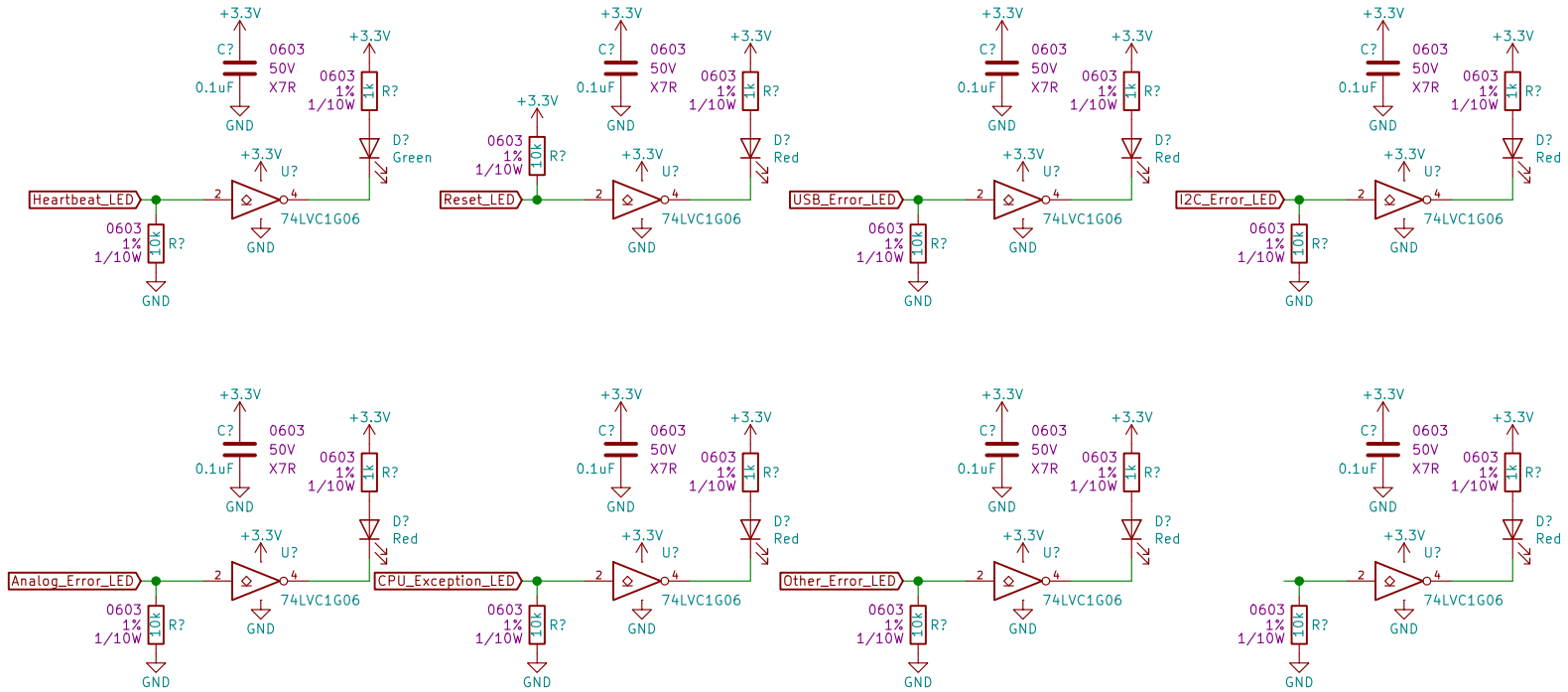
Drew Maatman	
Sheet: /USB UART Isolation/	
File: USB_UART_Isolation.sch	
Title: VFD Clock	
Size: A	Date: 2019-04-11
KiCad E.D.A. kicad (5.1.4)-1	Id: 7/29

Rev: A

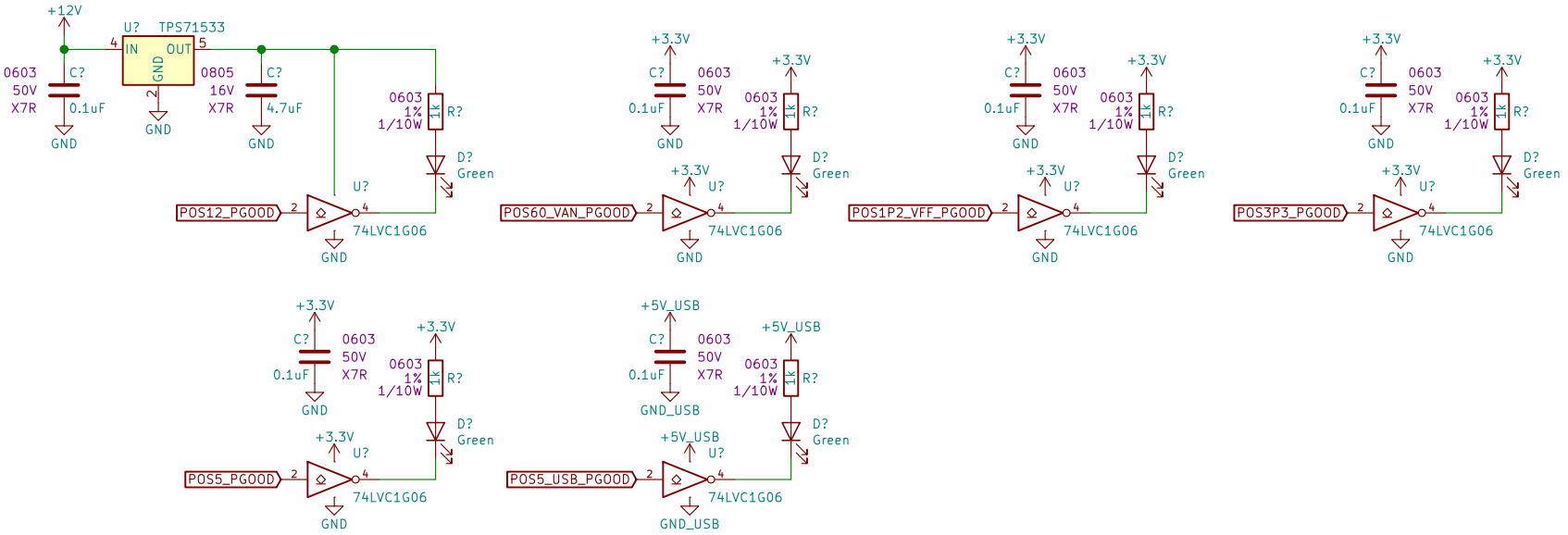
Microcontroller Programming



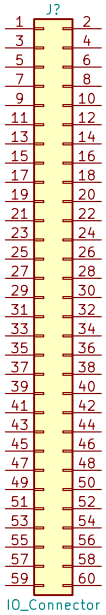
Drew Maatman			
Sheet: /Microcontroller Programming/			
File: Microcontroller_Programming.sch			
Title: VFD Clock			
Size: A	Date: 2019-04-11		**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1			Id: 8/29



Sheet: /Status LEDs/		
File: Status_LEDs.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 9/29



Sheet: /PGOOD LEDs/	
File: PGOOD_LEDs.sch	
Title:	
Size: A	Date:
KiCad E.D.A. kicad (5.1.4)-1	Id: 10/29

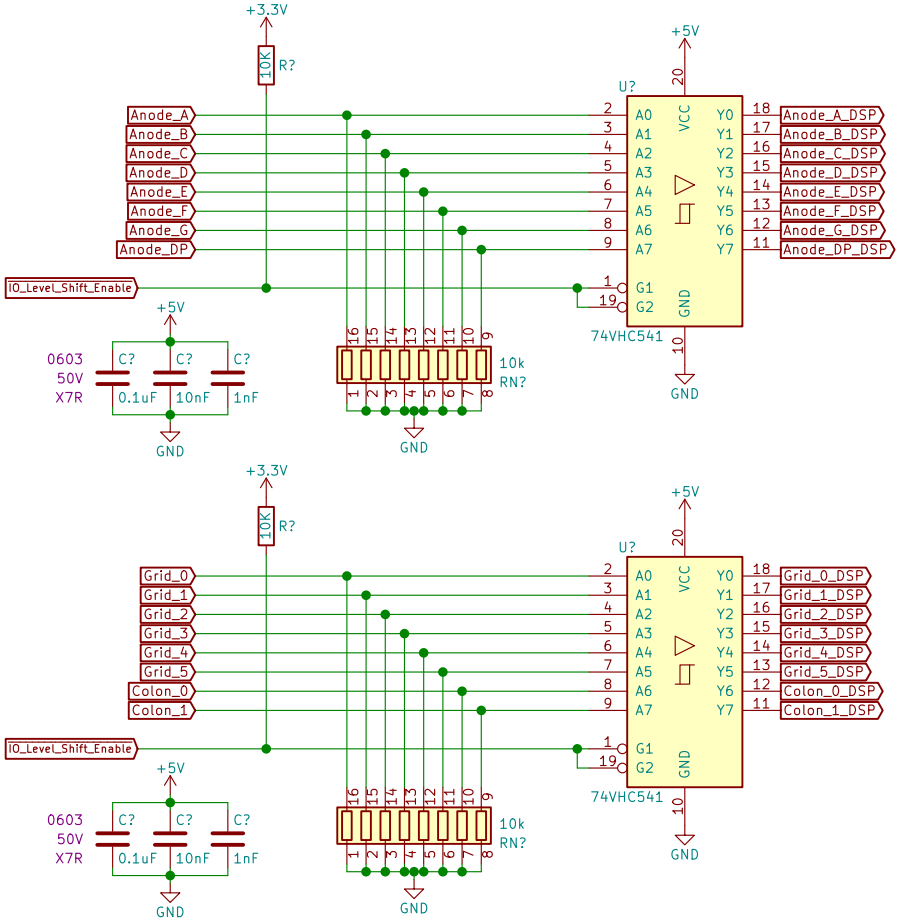


Sheet: /IO Connectors/
File: IO_Connectors.sch

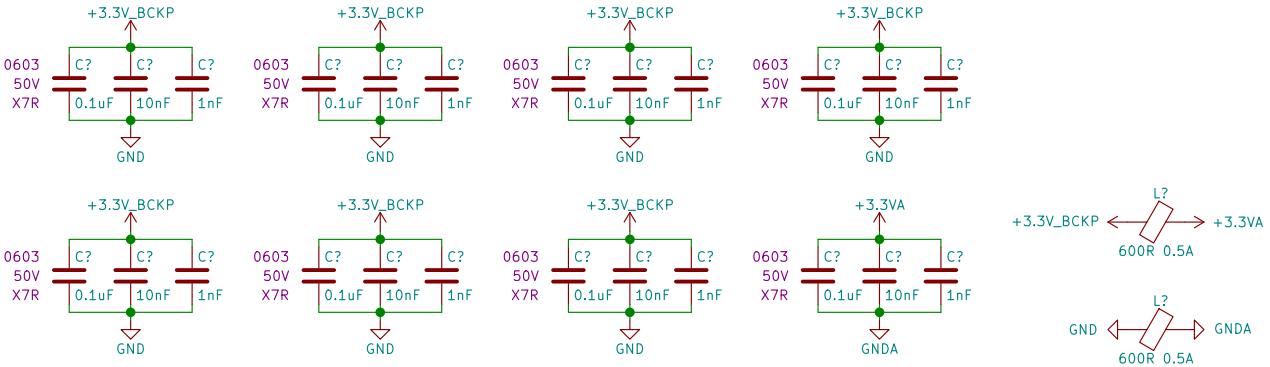
Title:

Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 11/29

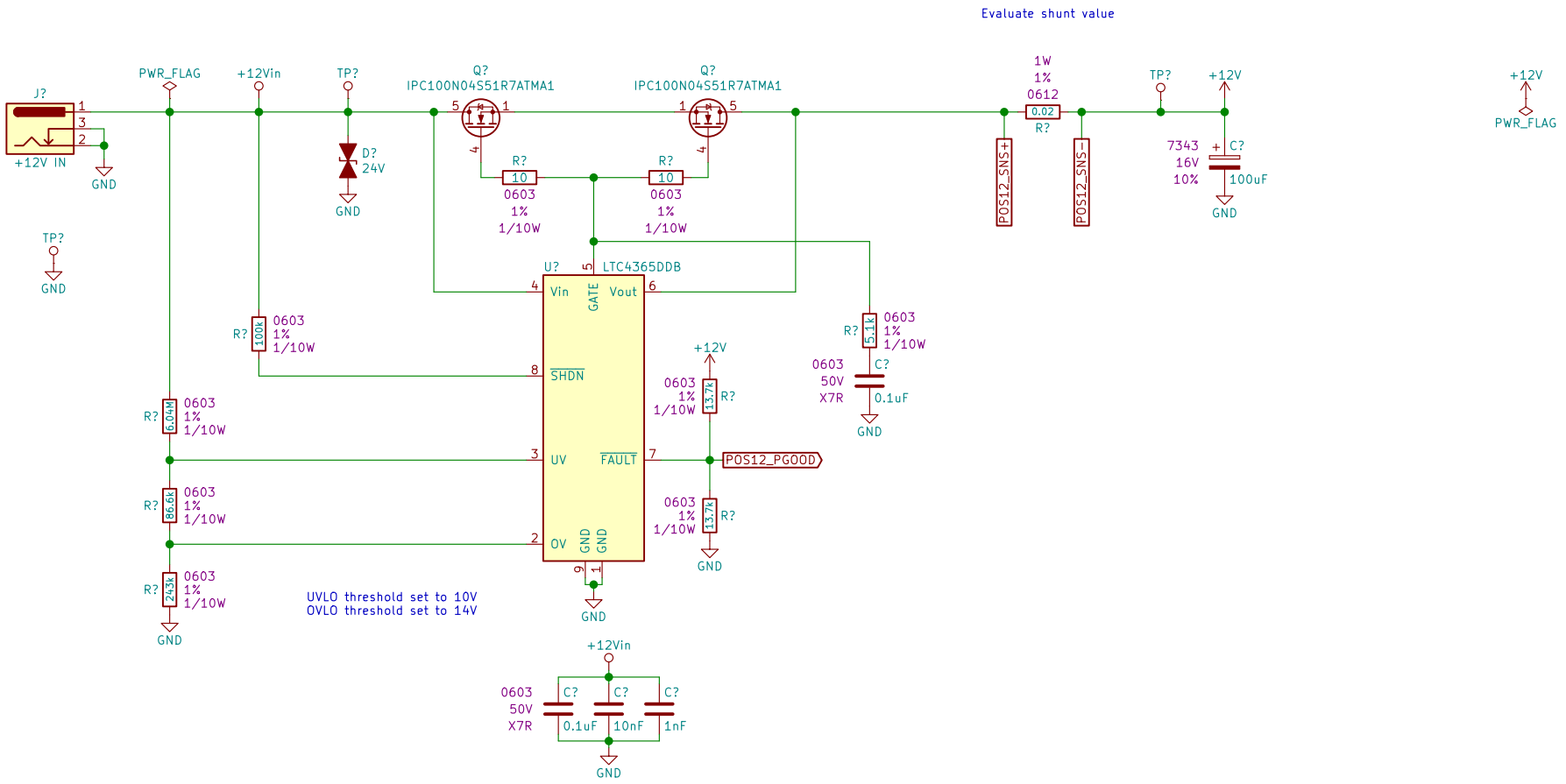
I/O Buffers



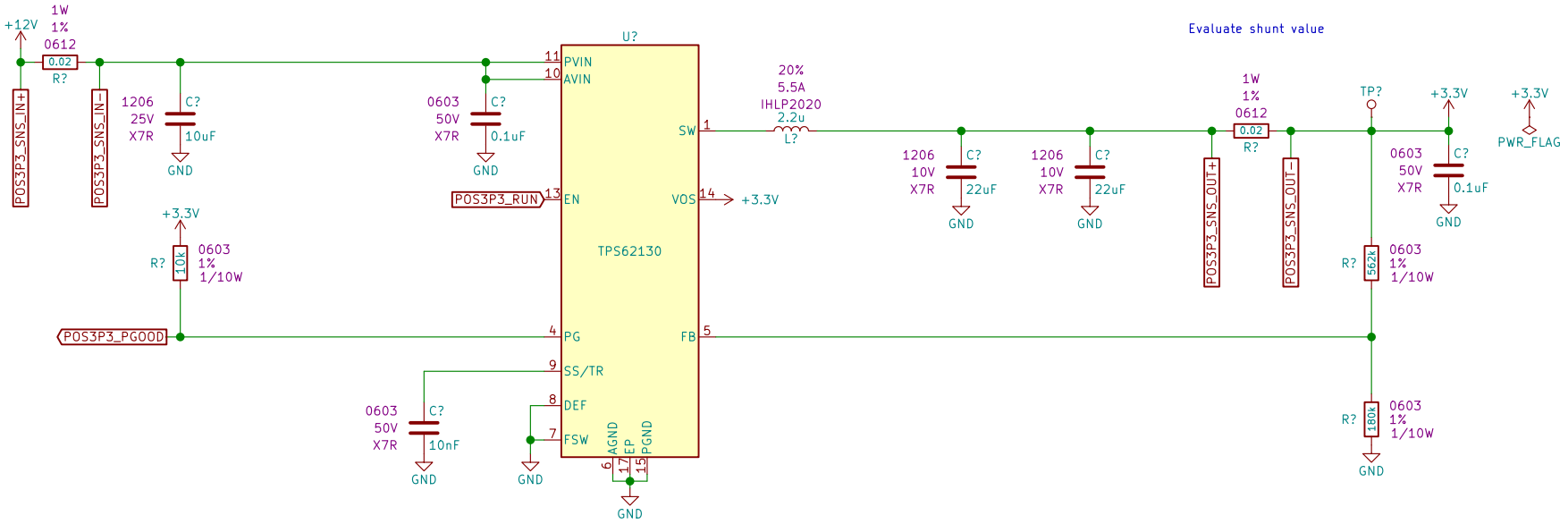
Marquette University Senior Design 2018/2019 Group E44		
Sheet: /IO Buffers 1/		
File: IO_Buffers_1.sch		
Title: Electronic Display Logic Board		
Size: A	Date: 2018-12-15	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 12/29



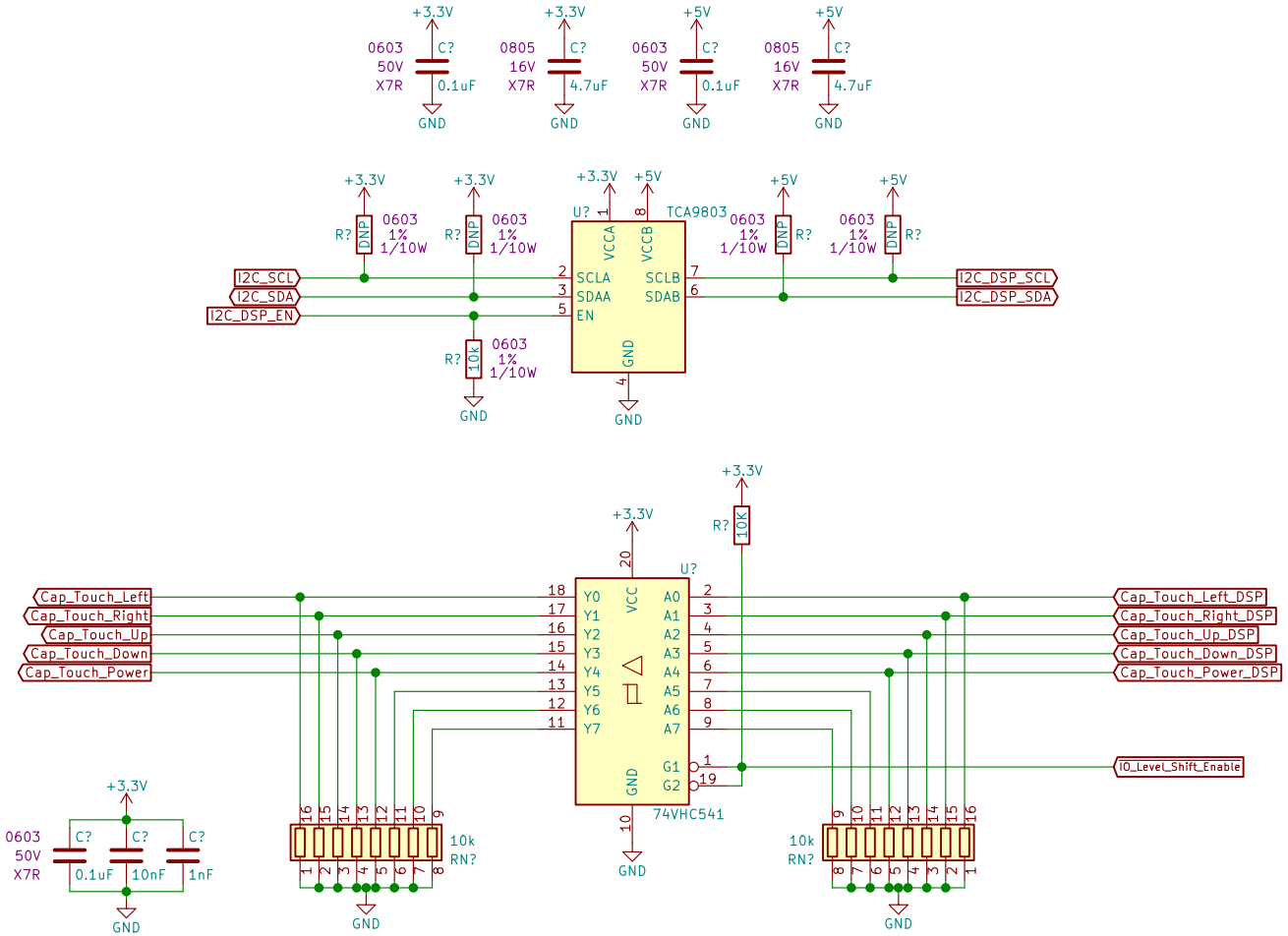
Sheet: /Microcontroller Bypass/		
File: Microcontroller_Bypass.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 13/29



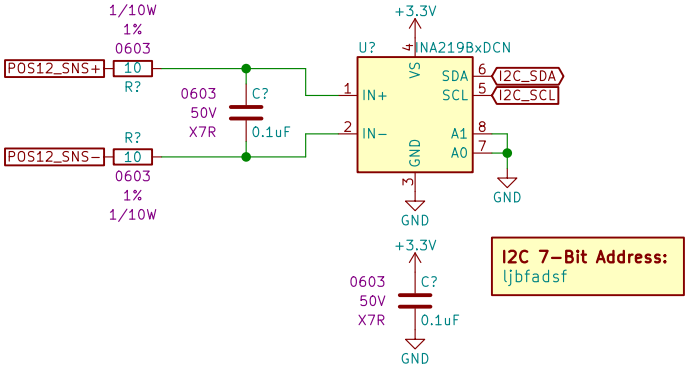
Sheet: /+12V Input/		
File: POS12_Input.sch		
Title: QI Charger		
Size: A	Date: 2019-01-03	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 14/29

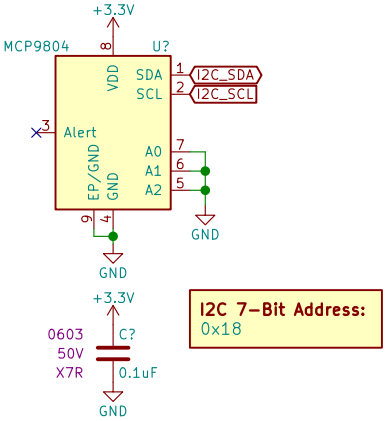


Sheet: /+3.3V Power Supply/		
File: POS3P3_Power_Supply.sch		
Title: QI Charger		
Size: A	Date: 2019-01-03	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 15/29



Sheet: /IO Buffers 2/		
File: IO_Buffers_2.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 16/29

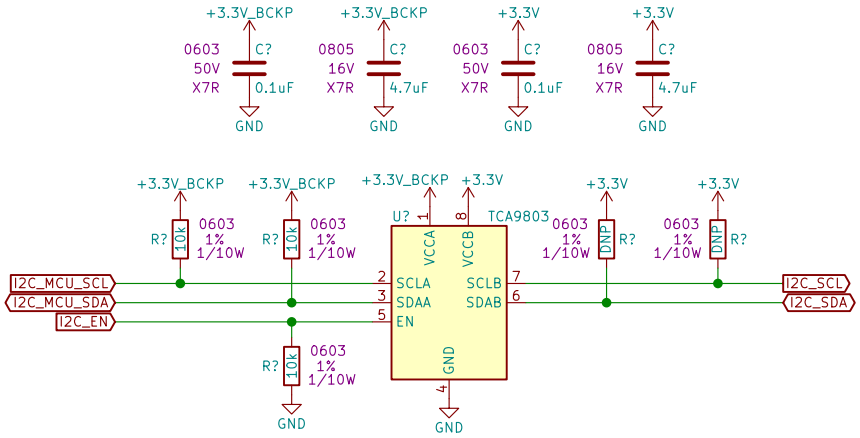




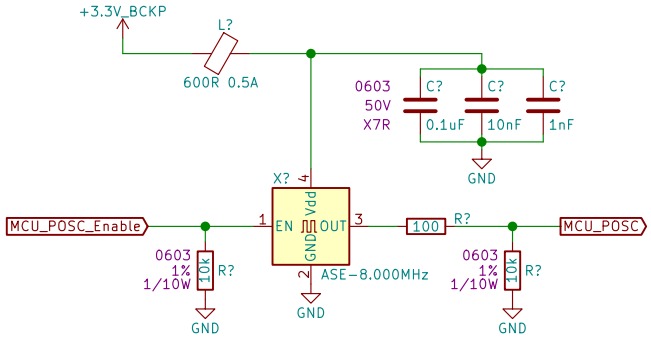
Sheet: /+12V Telemetry/
File: POS12_Telemetry.sch

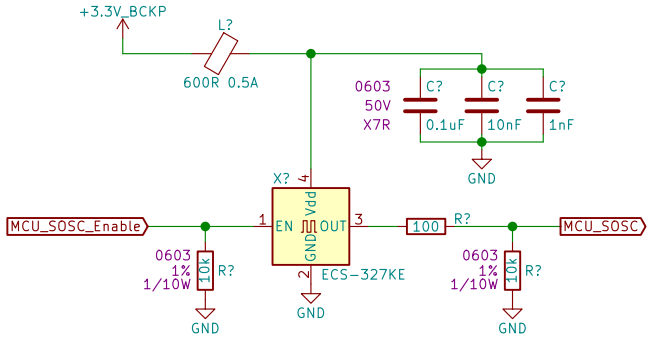
Title:

Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 17/29

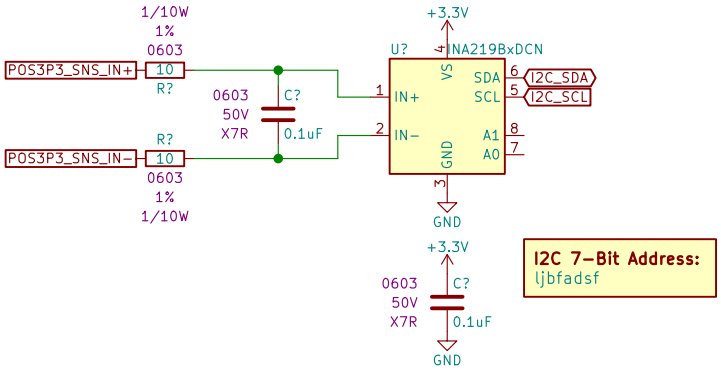


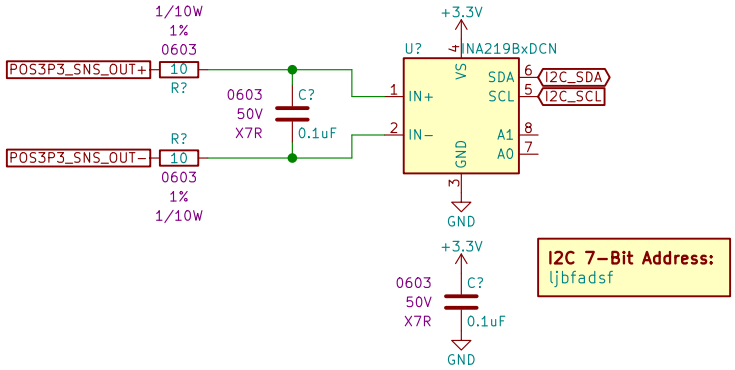
Sheet: /I2C Buffer/ File: I2C_Buffer.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 18/29

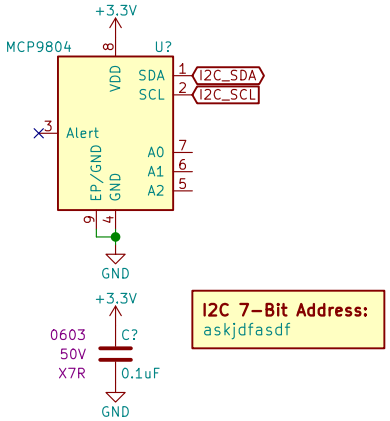




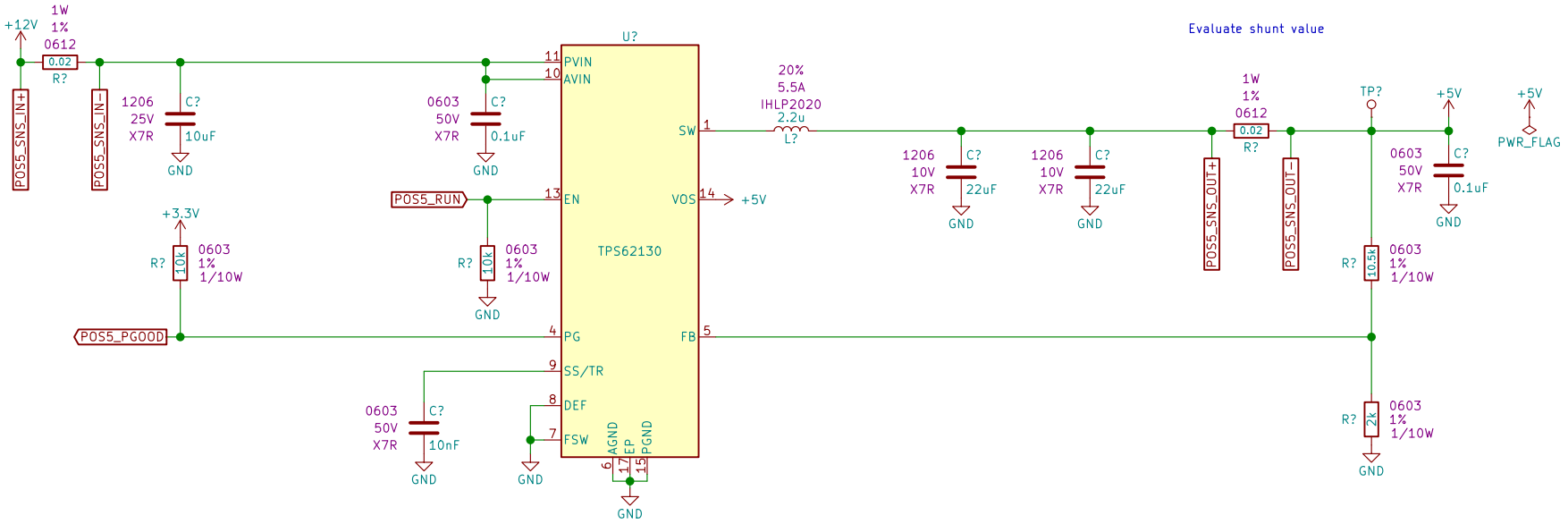
Sheet: /Microcontroller Clocking/ File: Microcontroller_Clocking.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 19/29



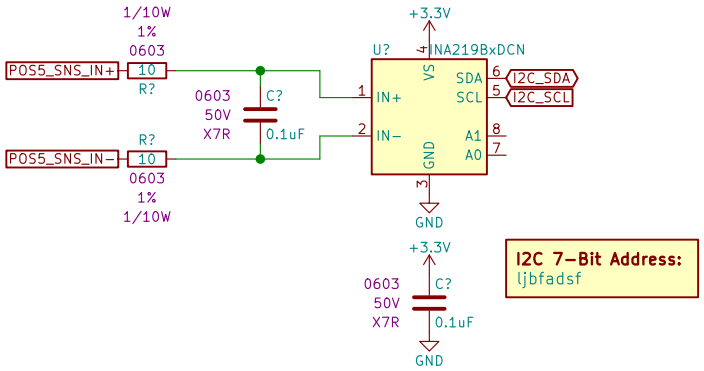


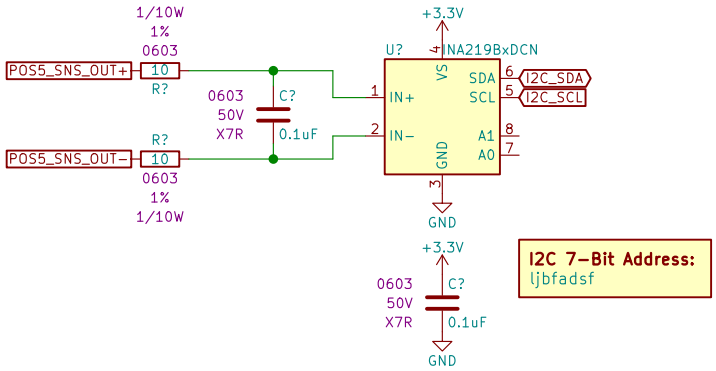


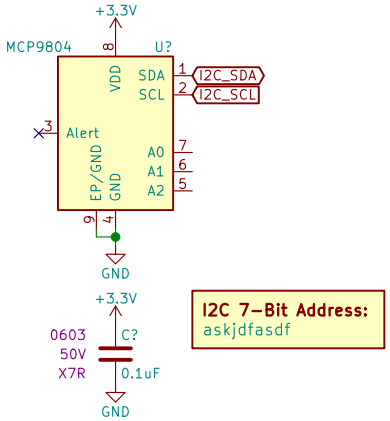
Sheet: /+3.3V Telemetry/ File: POS3P3_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 20/29



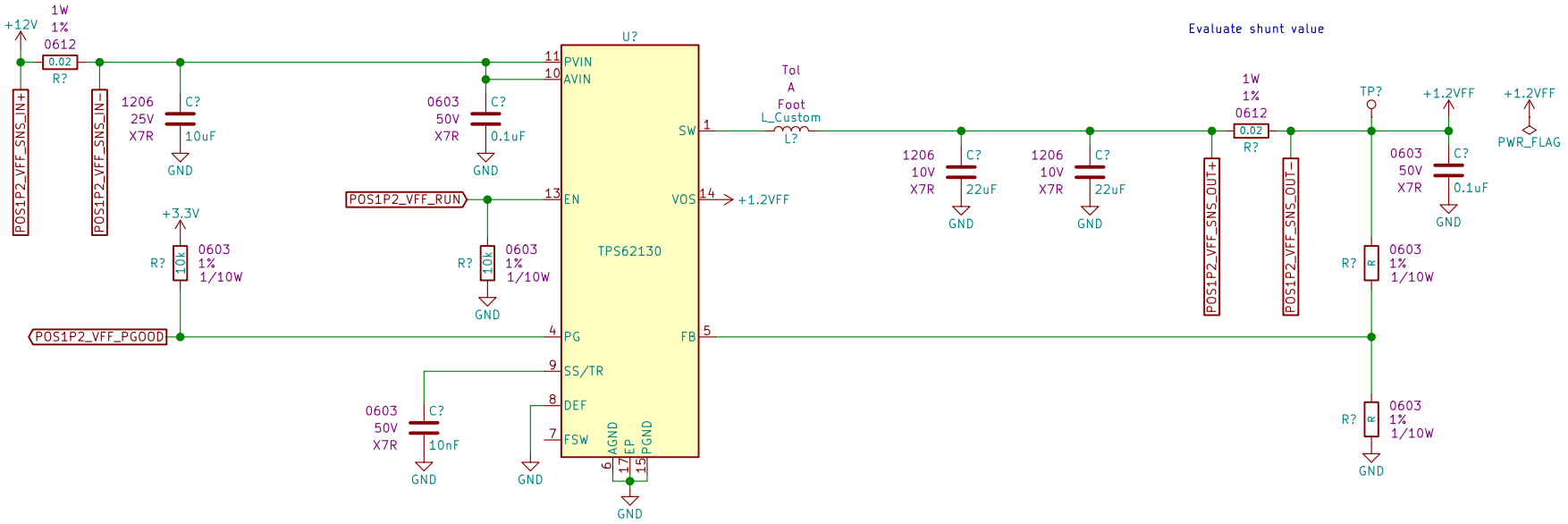
Sheet: /+5V Power Supply/		
File: POS5_Power_Supply.sch		
Title: QI Charger		
Size: A	Date: 2019-01-03	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 21/29



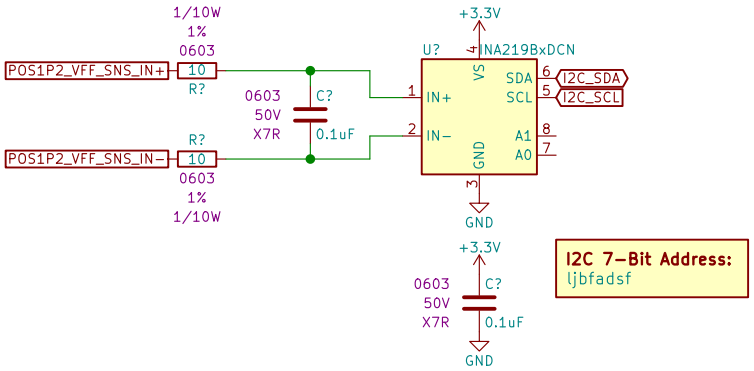


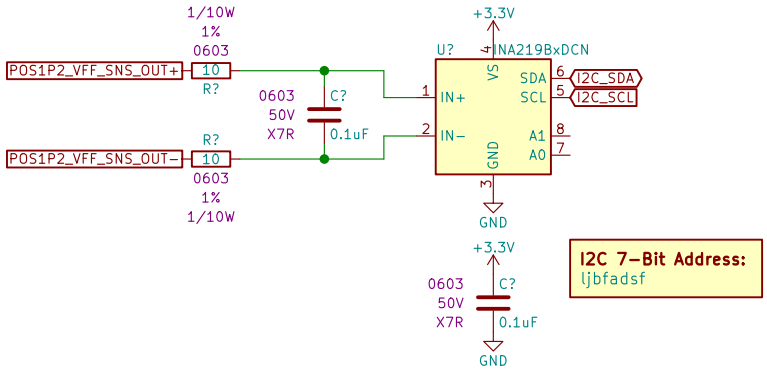


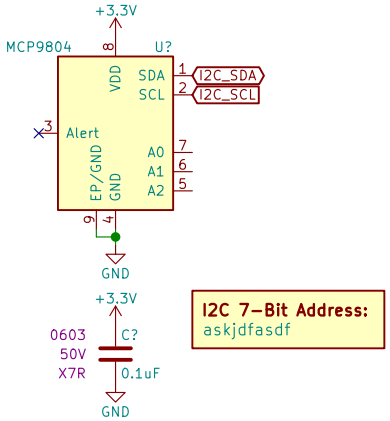
Sheet: /+5V Telemetry/ File: POS5_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 22/29



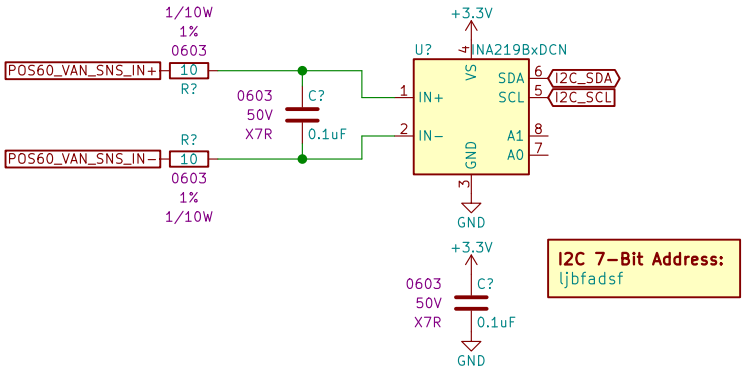
Sheet: /+1.2VFF Power Supply/		
File: POS1P2_VFF_Power_Supply.sch		
Title: QI Charger		
Size: A	Date: 2019-01-03	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 23/29

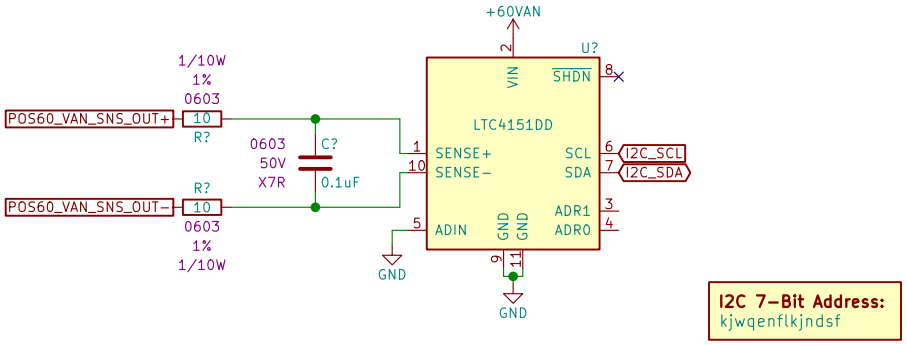


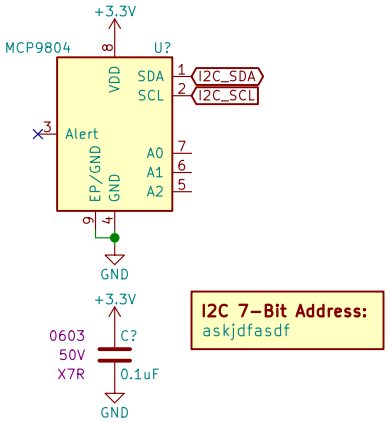




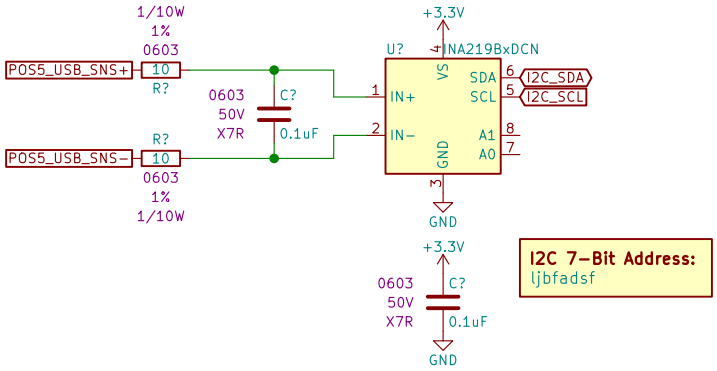
Sheet: /+1.2VFF Telemetry/		
File: POS1P2_VFF_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 24/29

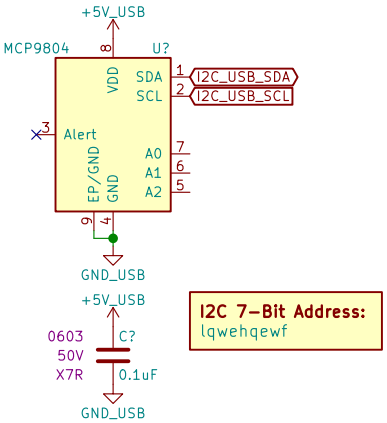




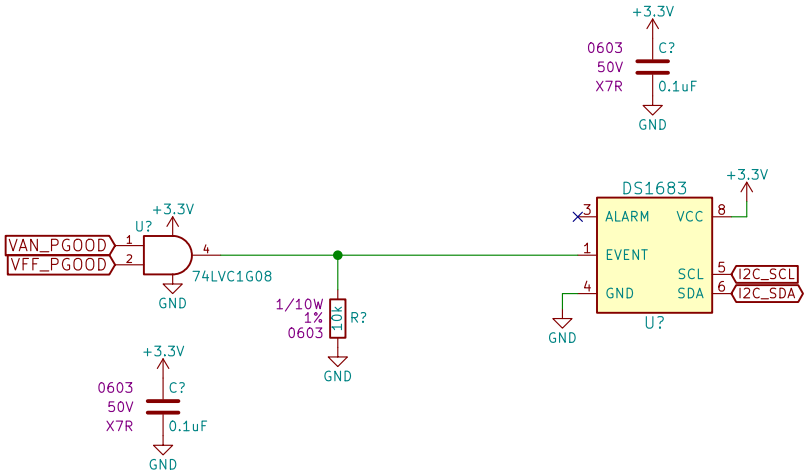


Sheet: /+60VAN Telemetry/		
File: POS60_VAN_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 25/29

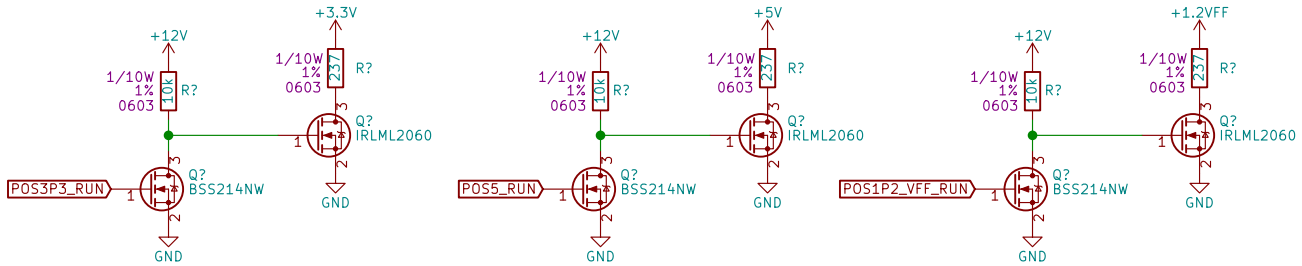


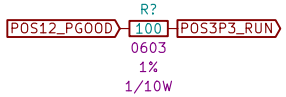


Sheet: /USB Telemetry/ File: USB_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 26/29

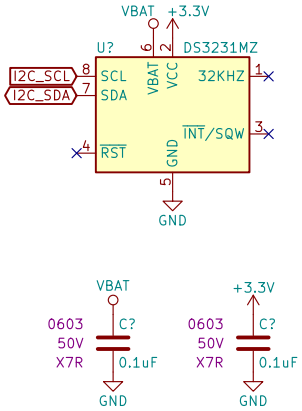


Sheet: /Time of Flight/ File: Time_of_Flight.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 27/29





Sheet: /Misc Power/		
File: Misc_Power.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 28/29



Sheet: /Backup RTC/		
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Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 29/29