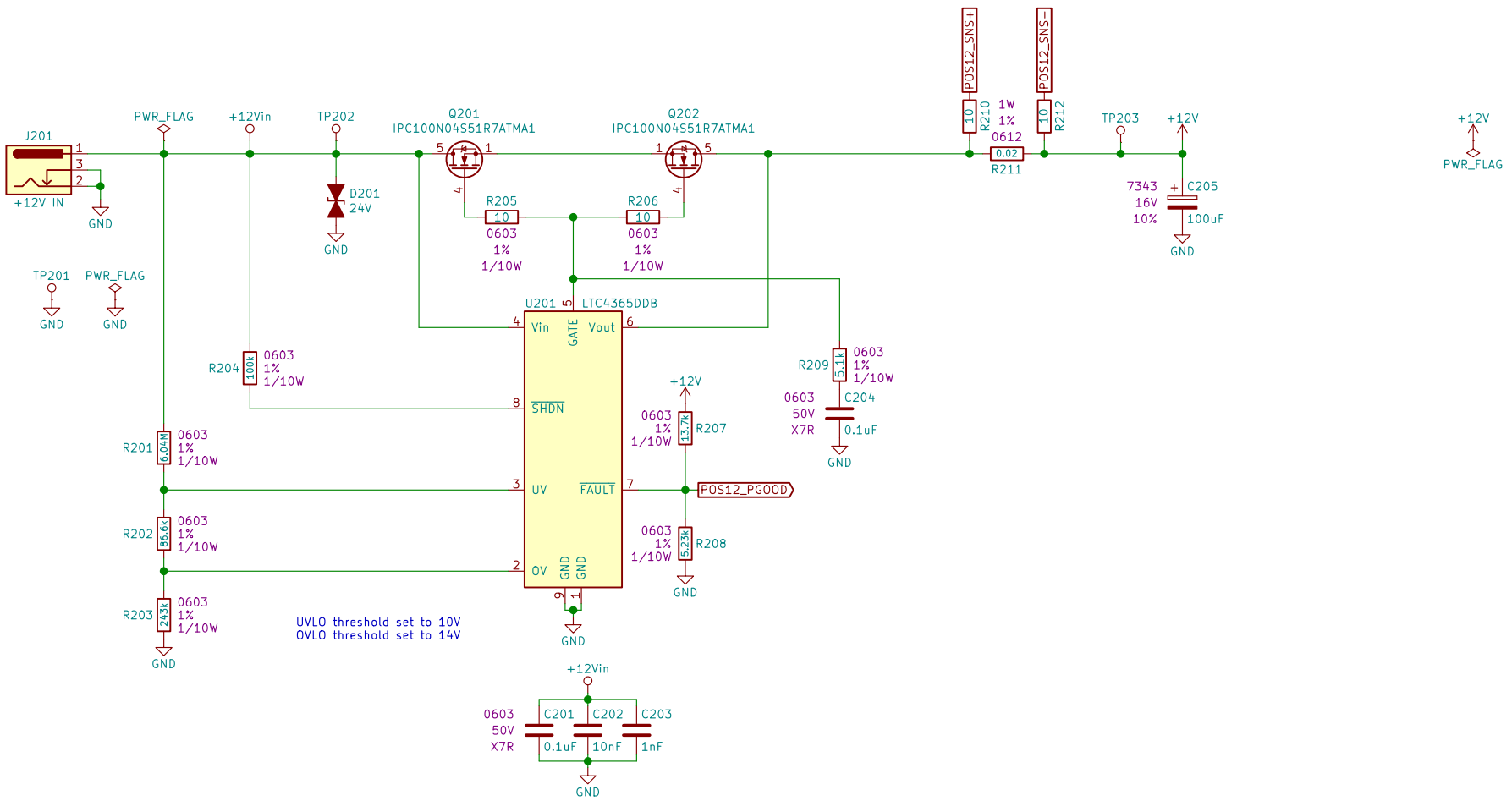
VFD Clock Logic Board

Drew Maatman

Sheet: /
File: VFD_Clock.sch

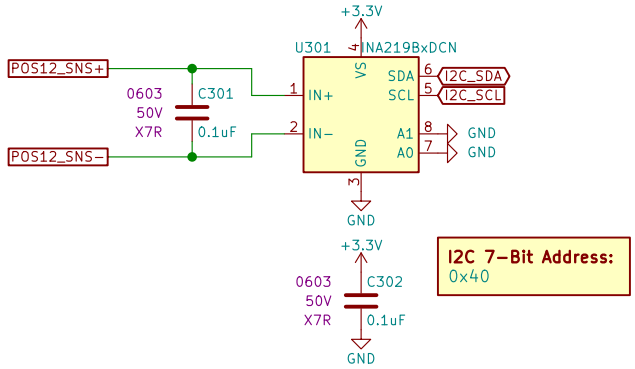
Title: VFD Clock

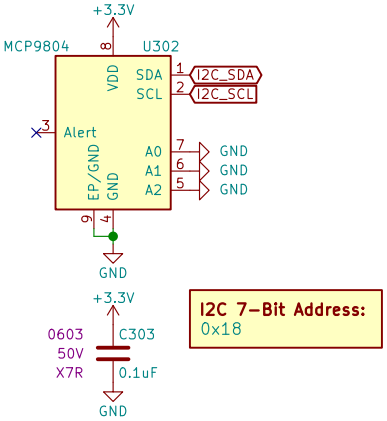
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 1/31



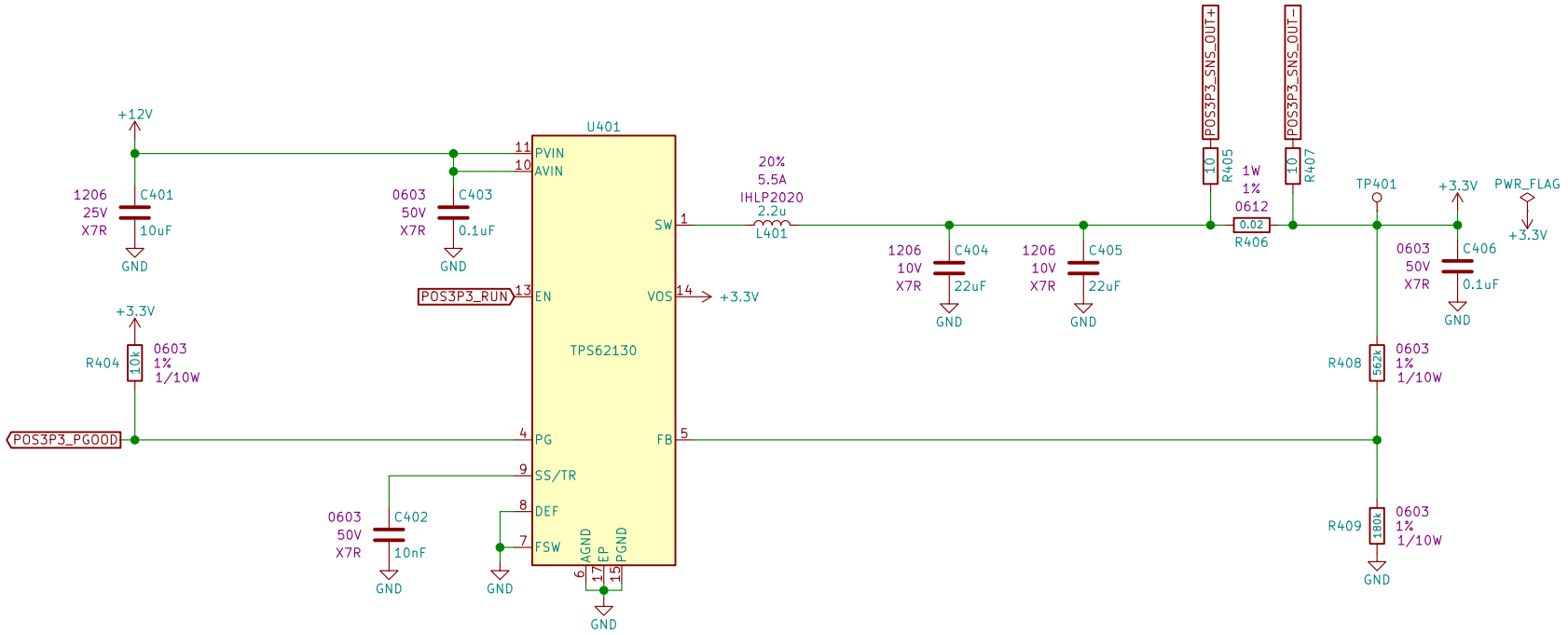
Sheet: /+12V Input/	
File: POS12_Input.sch	
Title: QI Charger	
Size: A	Date: 2019-01-03
KiCad E.D.A. kicad (5.1.4)-1	Id: 2/31

Rev: A

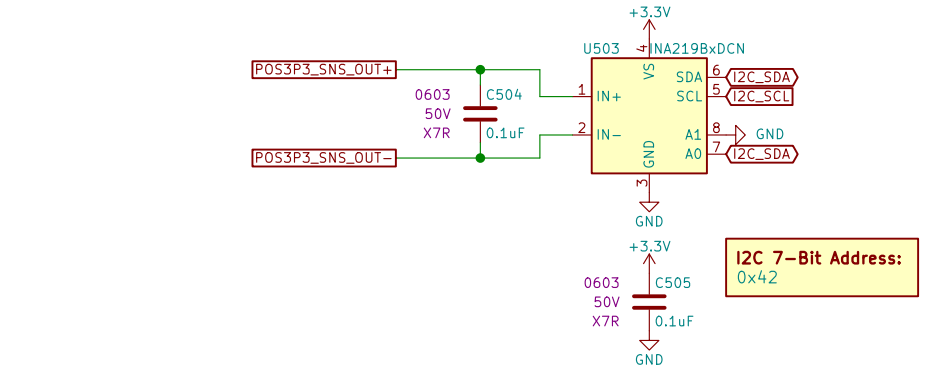


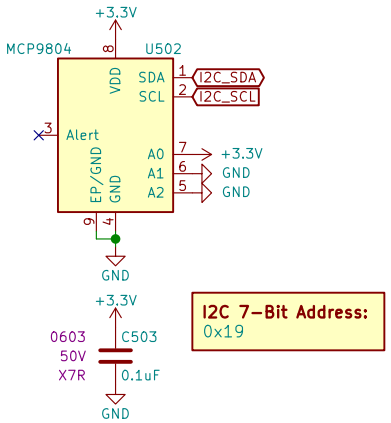


Sheet: /+12V Telemetry/		
File: POS12_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 3/31

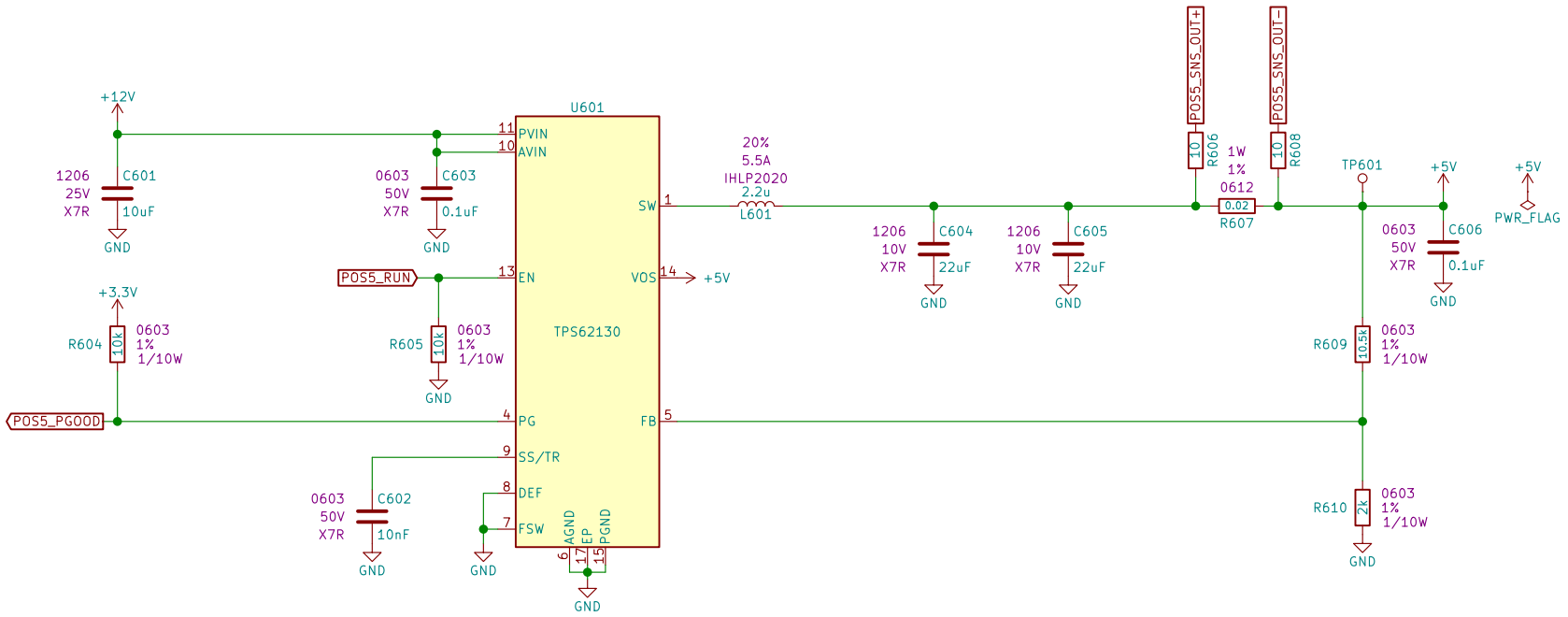


Sheet: /+3.3V Power Supply/		
File: POS3P3_Power_Supply.sch		
Title: QI Charger		
Size: A	Date: 2019-01-03	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 4/31

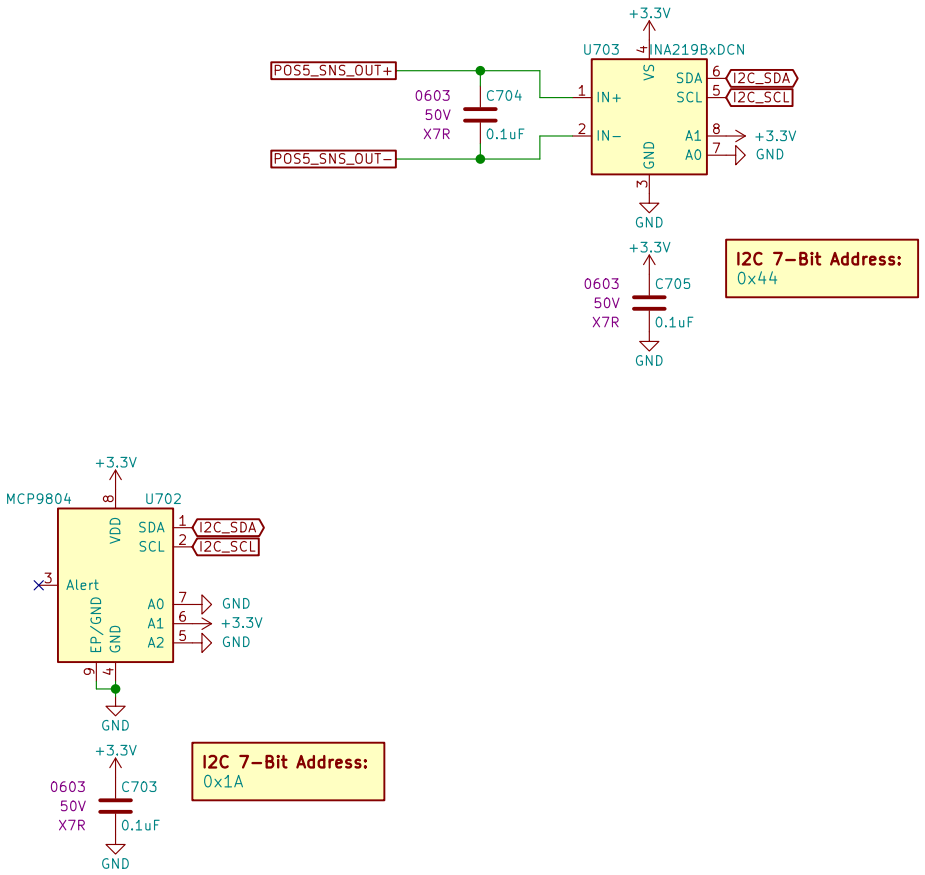




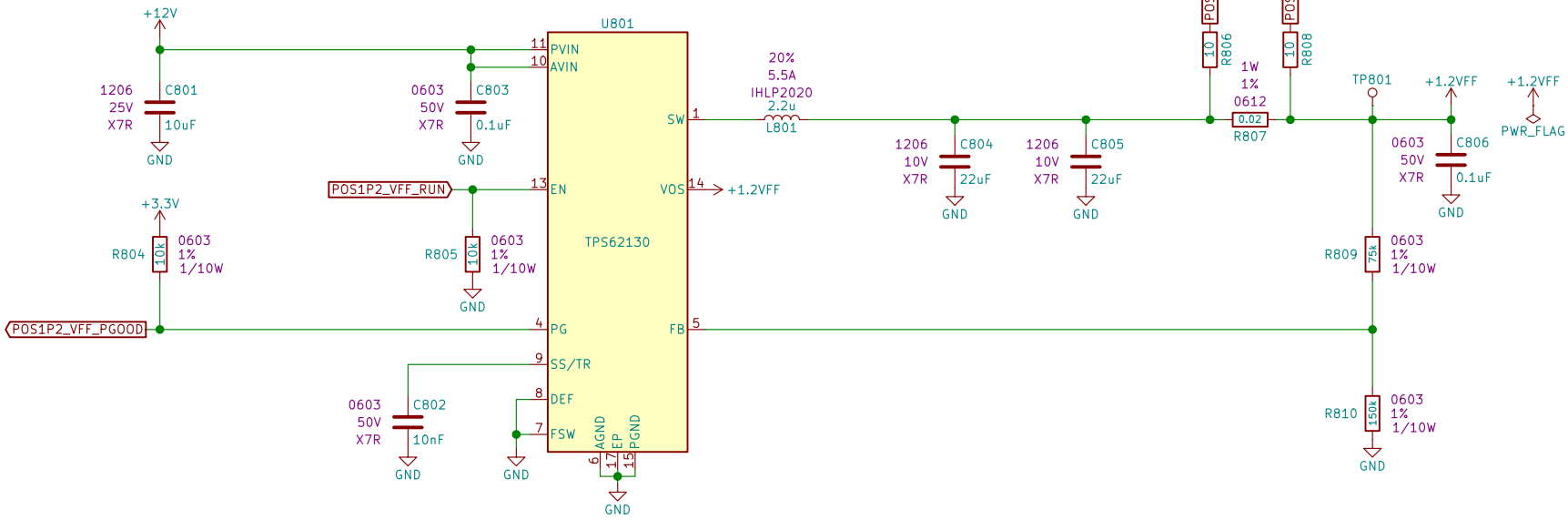
Sheet: /+3.3V Telemetry/		
File: POS3P3_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 5/31



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: 6/31



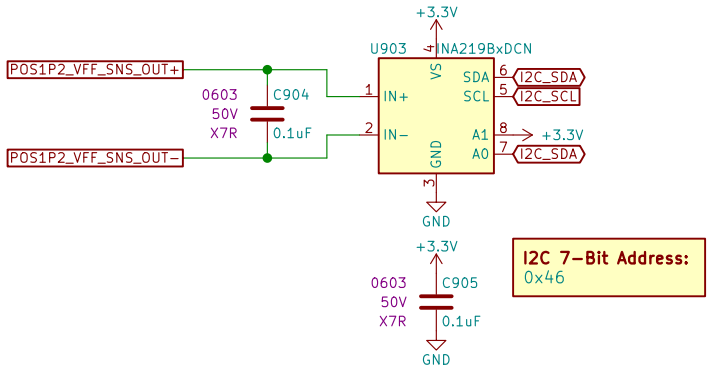
Sheet: /+5V Telemetry/		
File: POS5_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 7/31

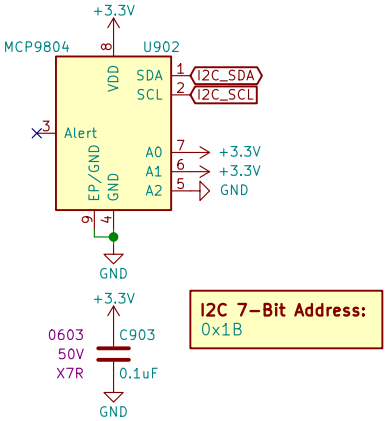


Sheet: /+1.2VFF Power Supply/
File: POS1P2_VFF_Power_Supply.sch

Title: QI Charger

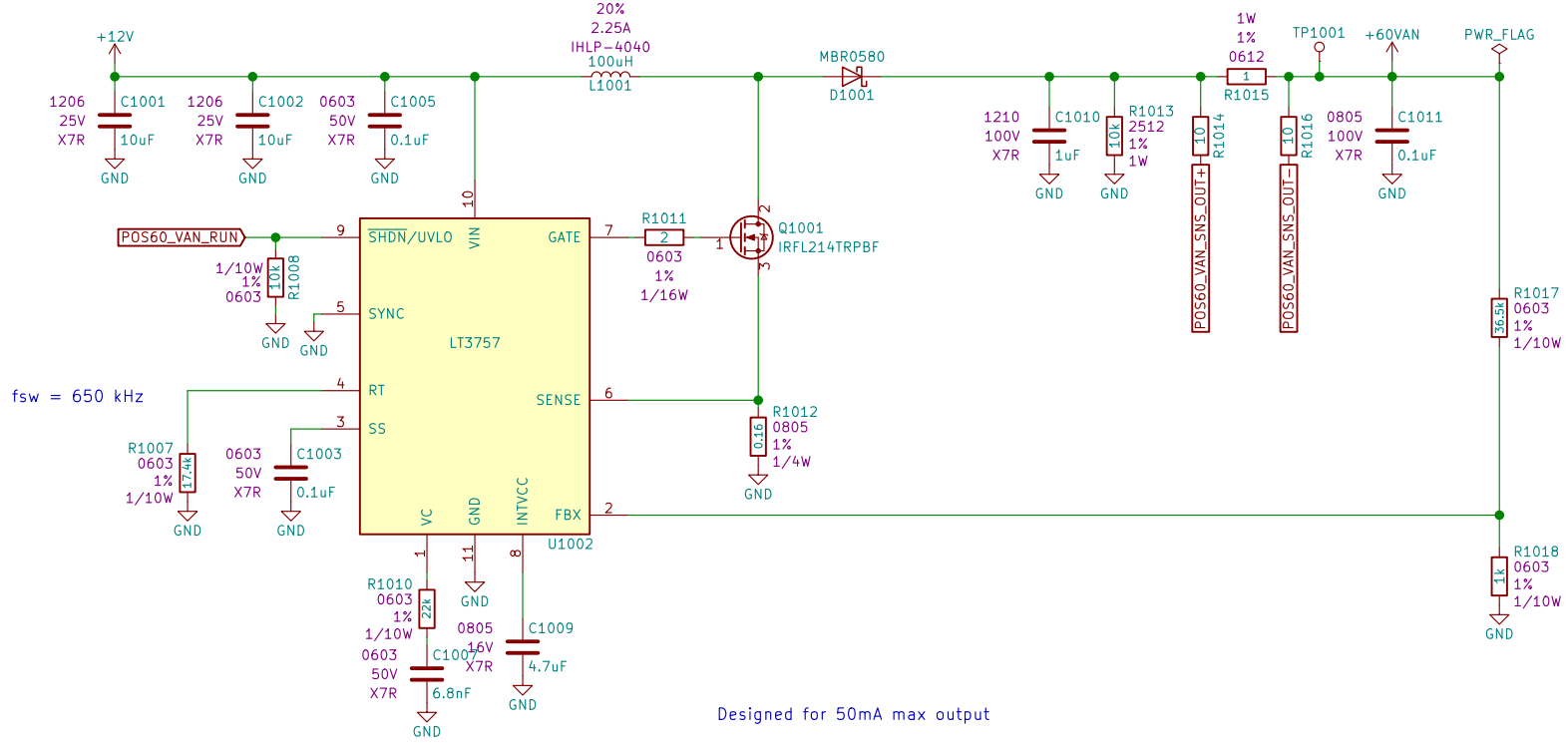
Size: A	Date: 2019-01-03	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 8/31

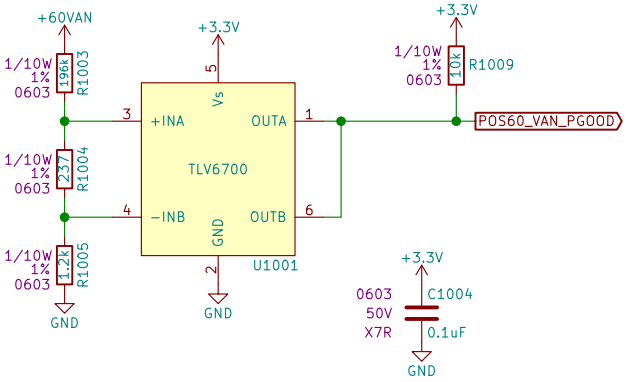




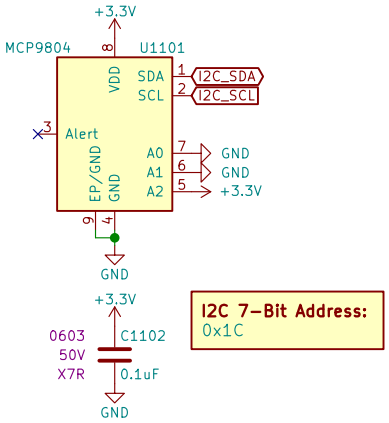
Sheet: /+1.2VFF Telemetry/ File: POS1P2_VFF_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)−1		Id: 9/31

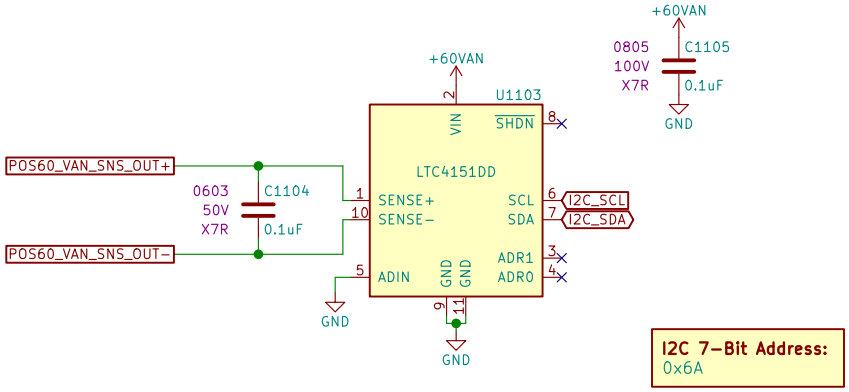
Anode/Grid +60V, 50mA Power Supply





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: 10/31





Sheet: /+60VAN Telemetry/		
File: POS60_VAN_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 11/31

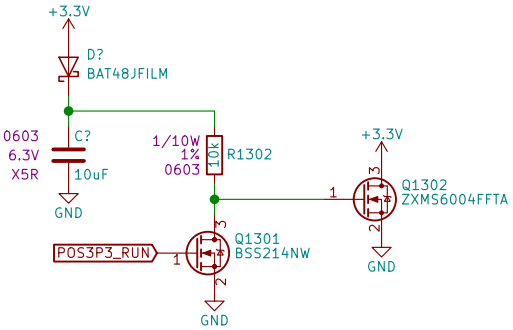
Drew Maatman

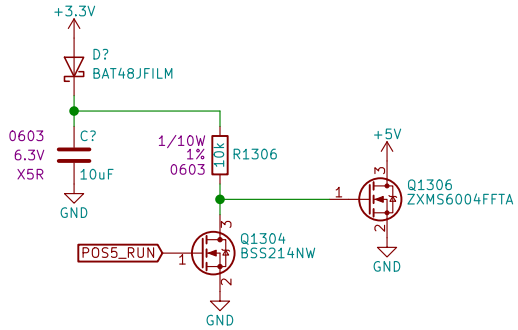
Sheet: /+3.3V BCKP Supply/

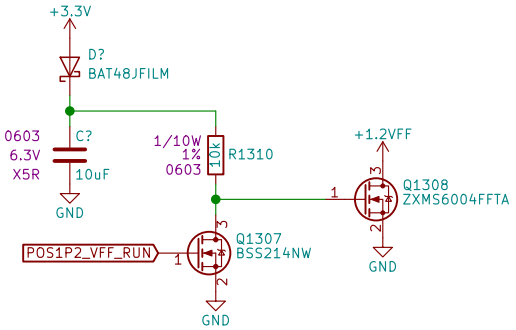
File: POS3P3_BCKP_Supply.sch

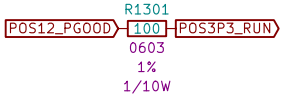
Title: VFD Clock

Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 12/31

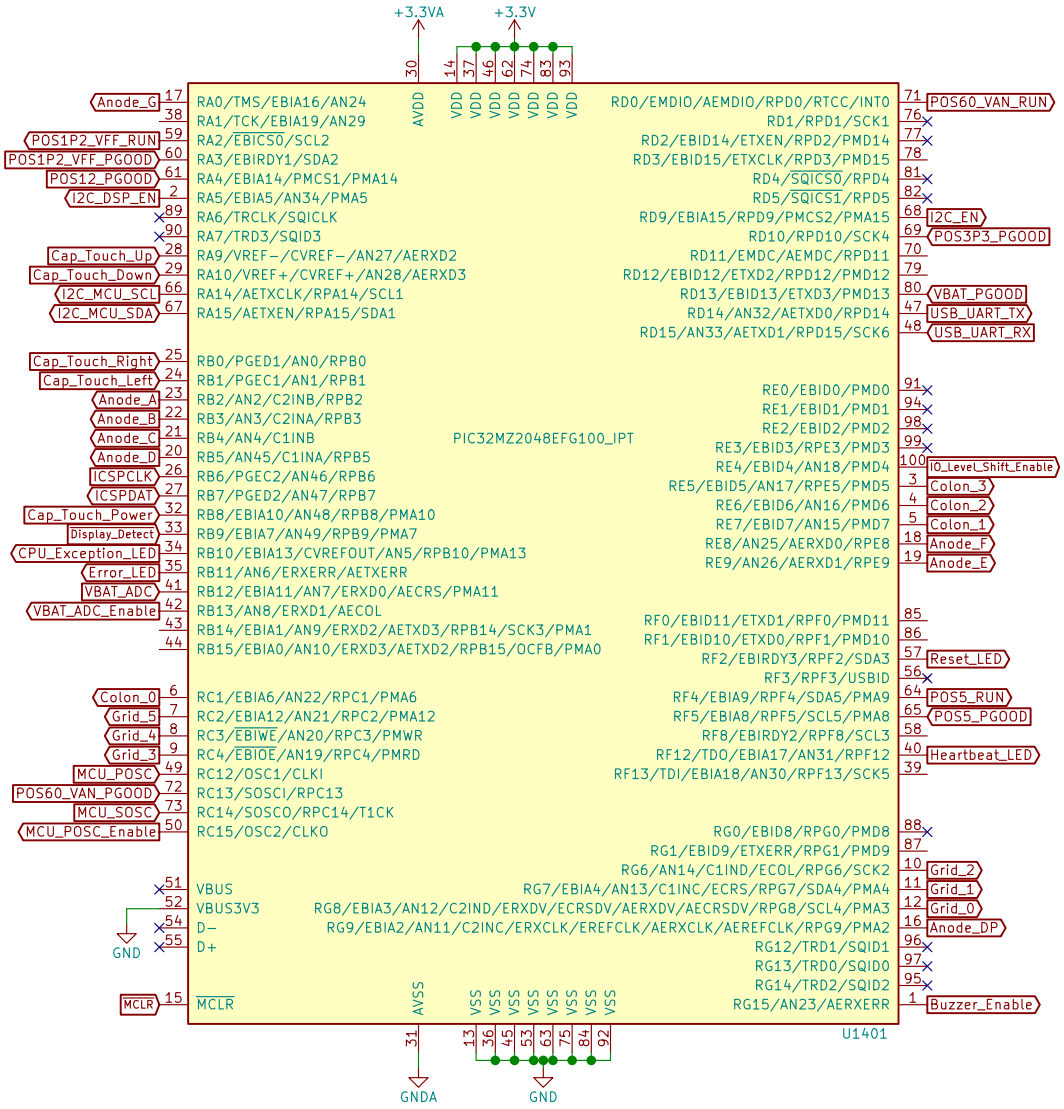






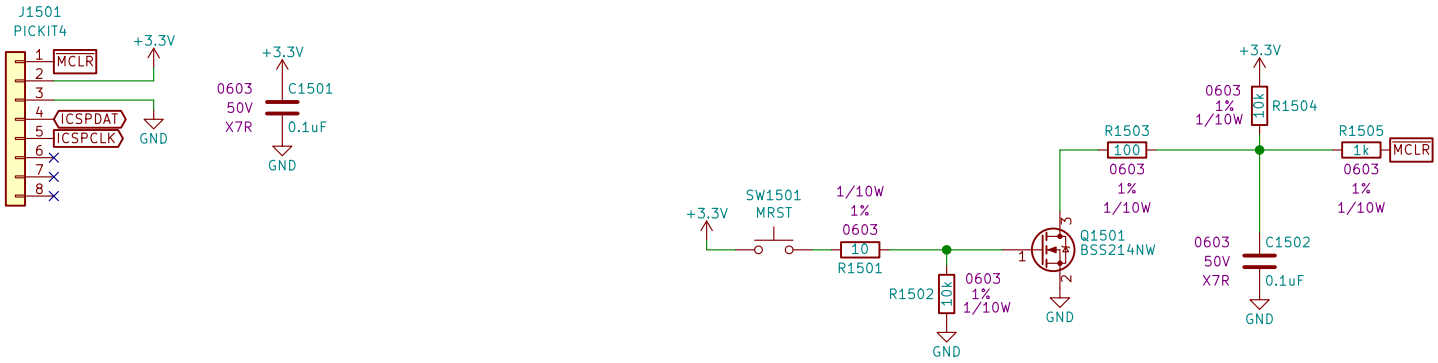


Sheet: /Misc Power/ File: Misc_Power.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 13/31

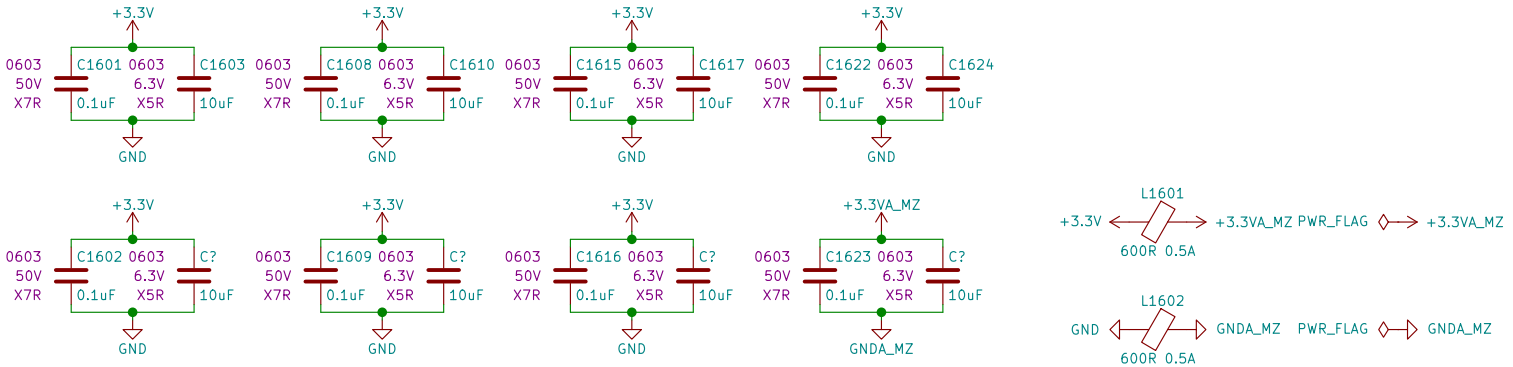


Drew Maatman	
Sheet: /Microcontroller/	
File: Microcontroller.sch	
Title: VFD Clock	
Size: A	Date: 2019-04-11
KiCad E.D.A. kicad (5.1.4)-1	Id: 14/31

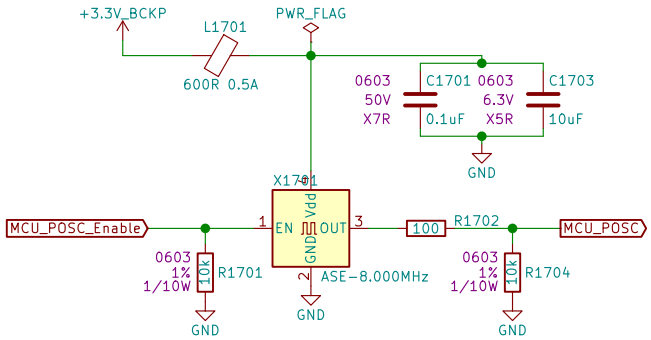
Rev: A

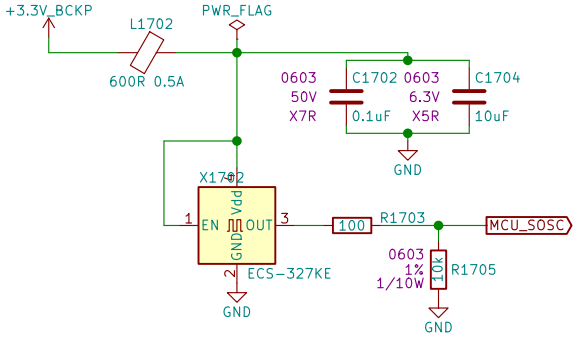


Drew Maatman		
Sheet: /Microcontroller Programming/		
File: Microcontroller_Programming.sch		
Title: VFD Clock		
Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 15/31

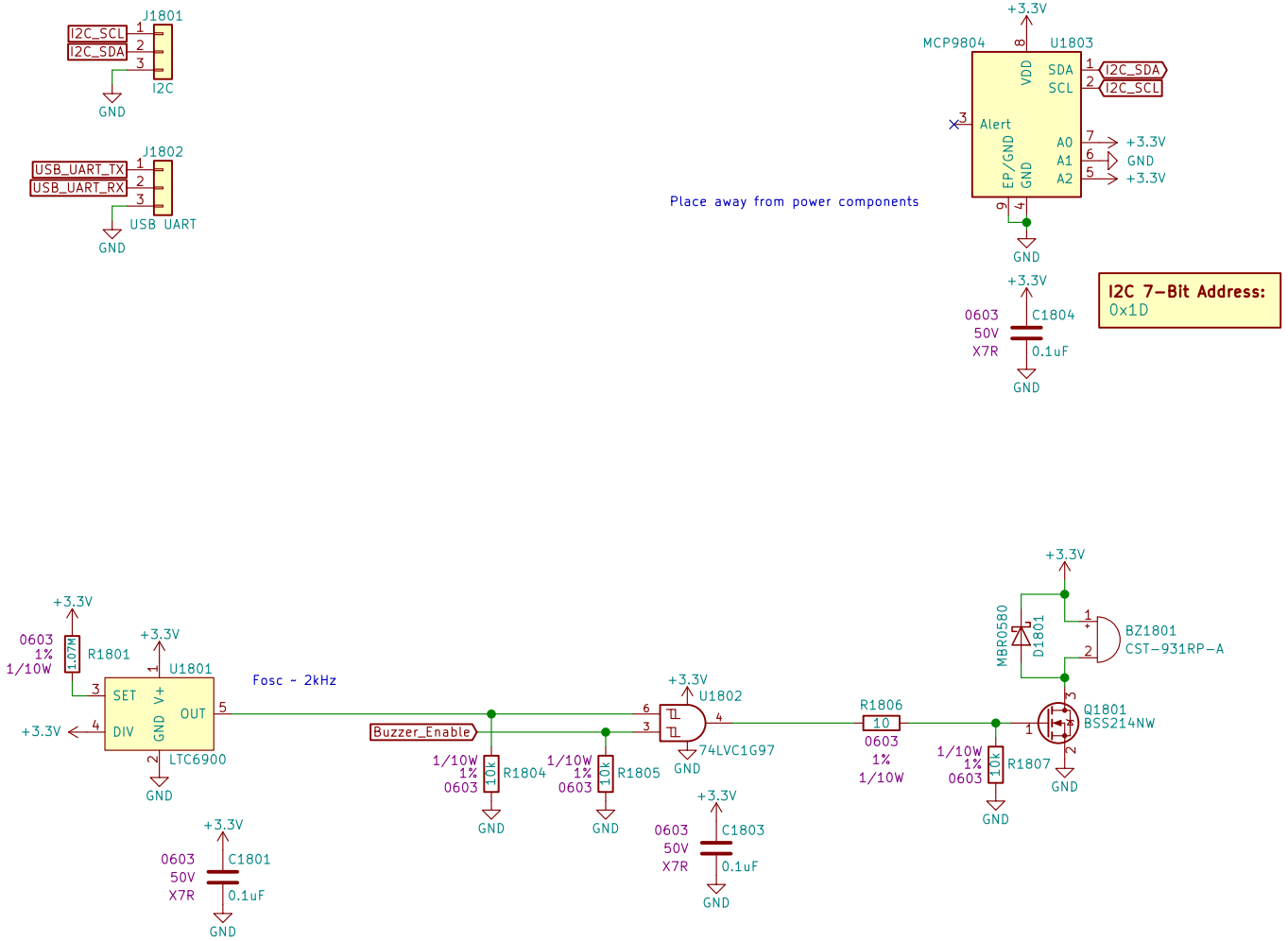


Sheet: /Microcontroller Bypass/		
File: Microcontroller_Bypass.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 16/31

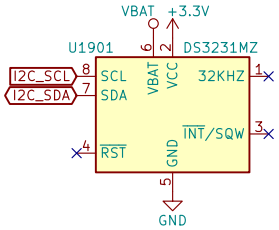




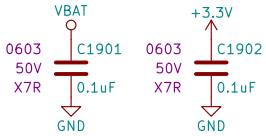
Sheet: /Microcontroller Clocking/ File: Microcontroller_Clocking.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 17/31



Sheet: /Misc Circuits/		
File: Misc_Circuits.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 18/31



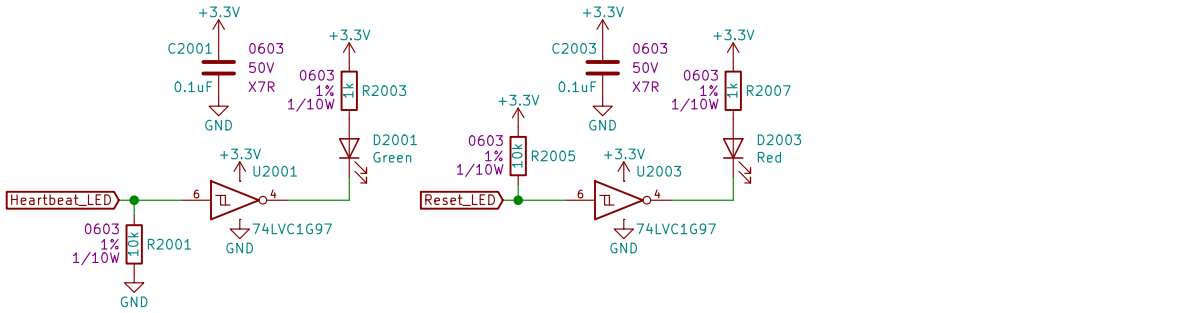
I2C 7-Bit Address:
0x68

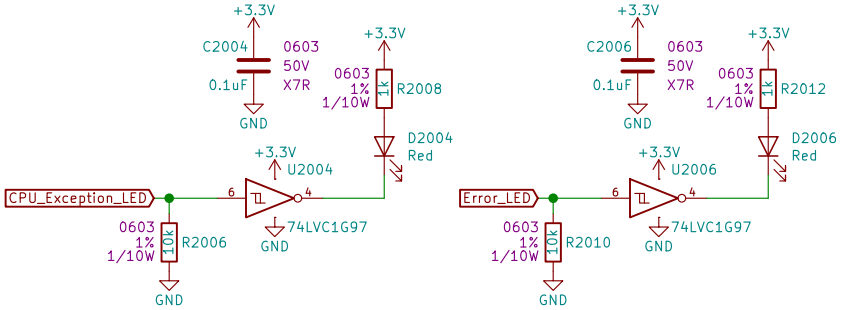


Sheet: /Backup RTC/
File: Backup_RTC.sch

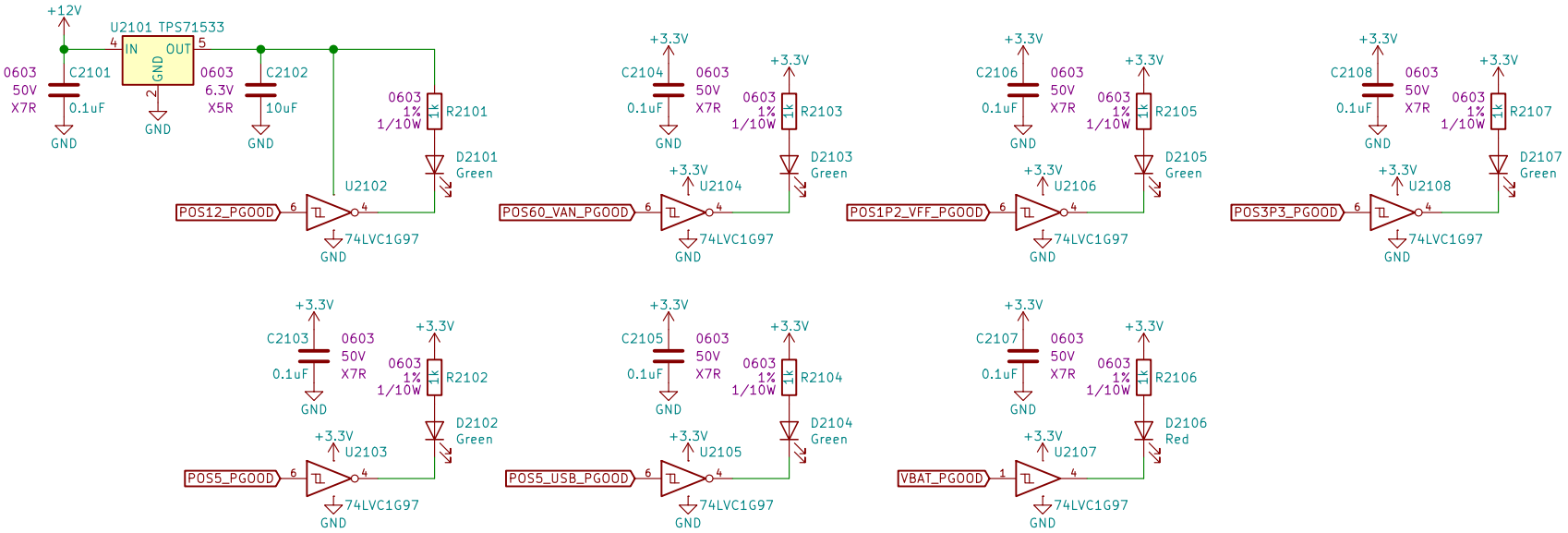
Title:

Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 19/31

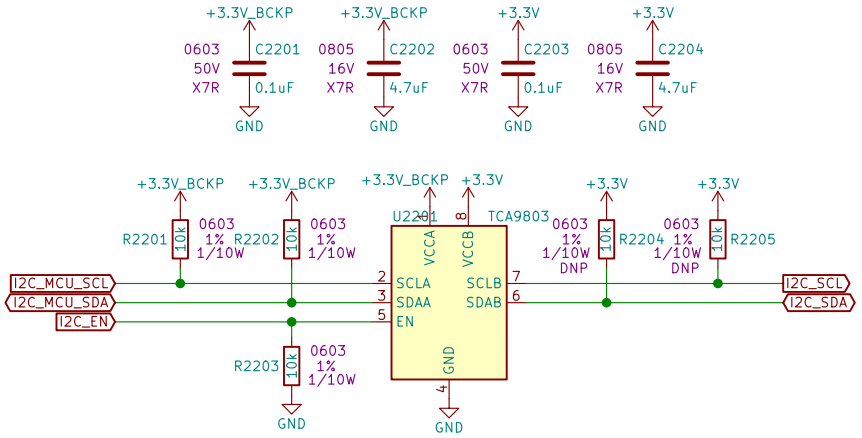




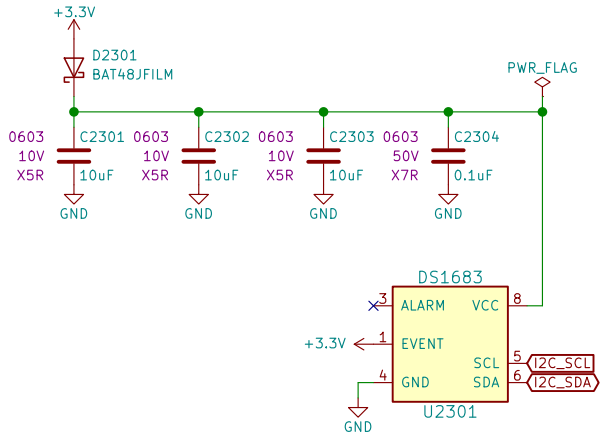
Sheet: /Status LEDs/ File: Status_LEDs.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 20/31



Sheet: /PGOOD LEDs/ File: PGOOD_LEDs.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 21/31

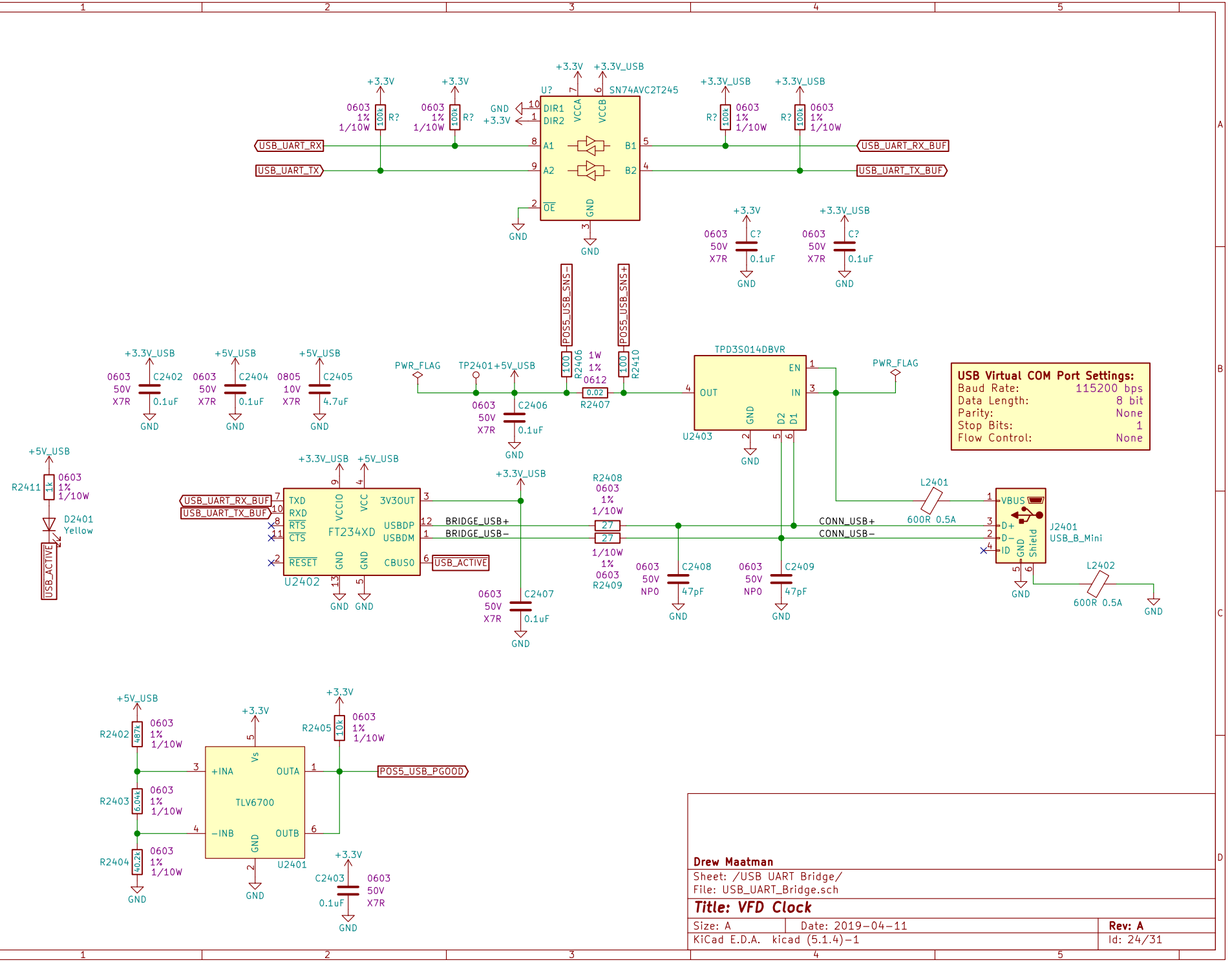


Sheet: /I2C Buffer/ File: I2C_Buffer.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 22/31



I2C 7-Bit Address:
0x6B

Sheet: /Time of Flight/ File: Time_of_Flight.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 23/31

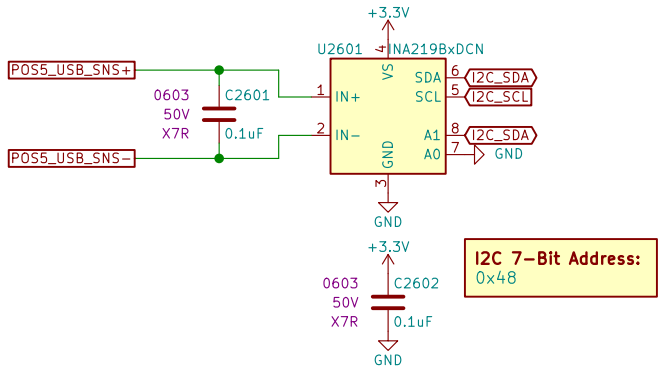

U?
SN74AVC2T245
DIR1
DIR2
VCCA
VCCB
A1
A2
B1
B2
OE
GND
+3.3V
+3.3V_USB
USB_UART_RX
USB_UART_TX
USB_UART_RX_BUF
USB_UART_TX_BUF
0603
1%
1/10W
100k
R?
C?
50V
X7R
0.1uF
TPD3S014DBVR
EN
OUT
IN
GND
D2
D1
U2403
PWR_FLAG
TP2401
POS5_USB_SNS-
POS5_USB_SNS+
R2406
R2410
100
1W
0612
0.02
R2407
C2406
+5V_USB
C2402
C2404
0805
10V
4.7uF
C2405
USB Virtual COM Port Settings:
Baud Rate: 115200 bps
Data Length: 8 bit
Parity: None
Stop Bits: 1
Flow Control: None
R2411
1k
D2401
Yellow
USB_ACTIVE
FT234XD
U2402
TXD
RXD
RTS
CTS
RESET
VCCIO
VCC
3V3OUT
USBDP
USBDM
CBUS0
BRIDGE_USB+
BRIDGE_USB-
R2408
R2409
27
C2407
C2408
47pF
C2409
NP0
L2401
600R 0.5A
L2402
J2401
USB_B_Mini
VBUS
D+
D-
ID
Shield
CONN_USB+
CONN_USB-
R2402
R2403
R2404
487k
6.04k
40.2k
R2405
10k
TLV6700
U2401
+INA
-INB
OUTA
OUTB
Vs
POS5_USB_PGOOD
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: 24/31

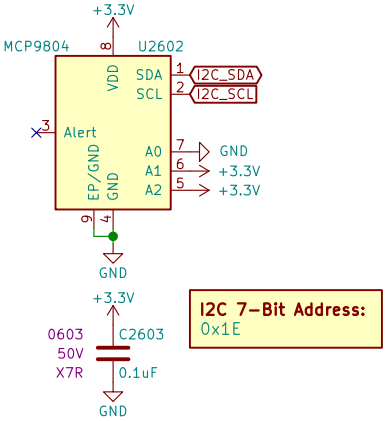
Drew Maatman

Sheet: /USB UART Isolation/
File: USB_UART_Isolation.sch

Title: VFD Clock

Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 25/31



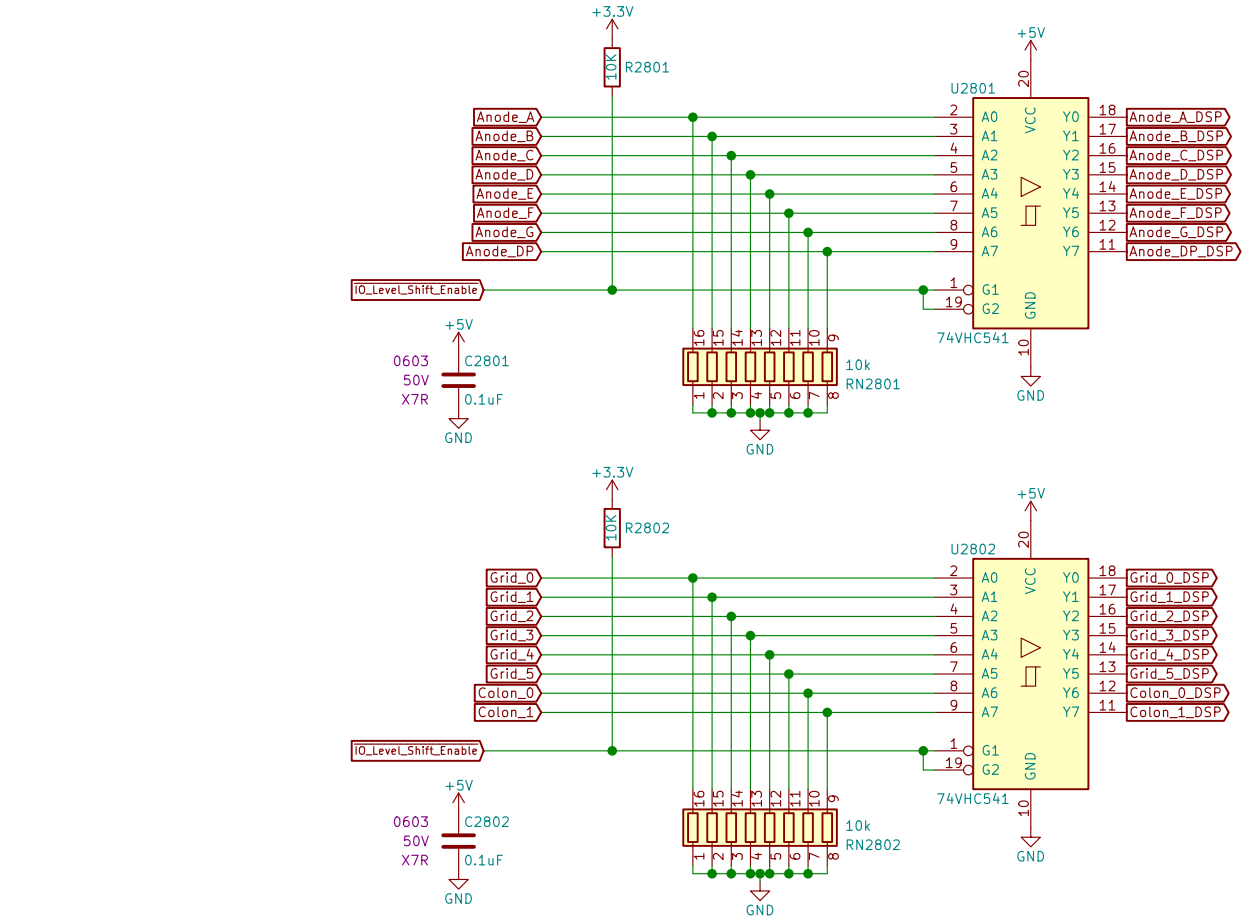


Sheet: /USB Telemetry/		
File: USB_Telemetry.sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 26/31

Sheet: /BLE/
File: BLE.sch

Title:

Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 27/31



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
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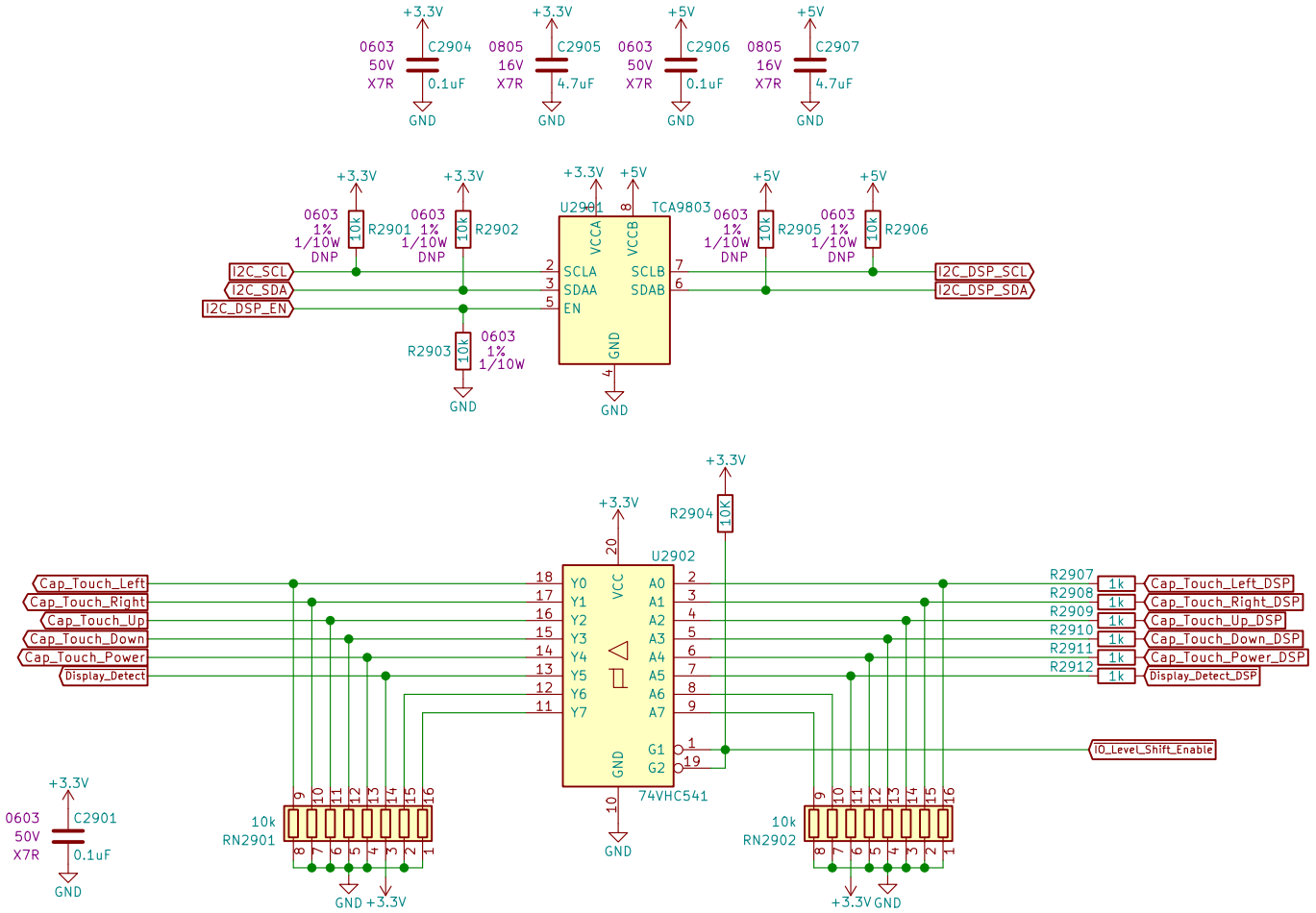

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Size: A	Date:	**Rev:**
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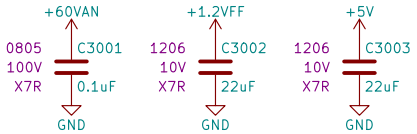

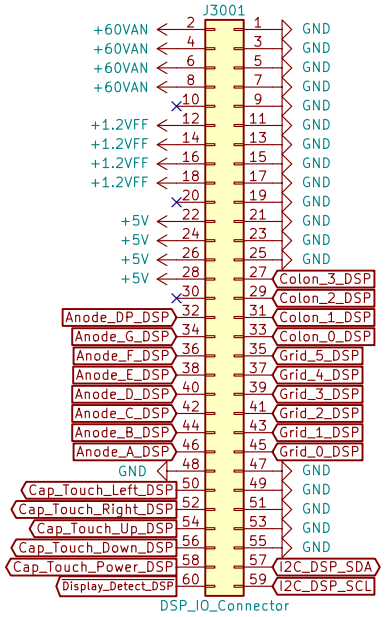

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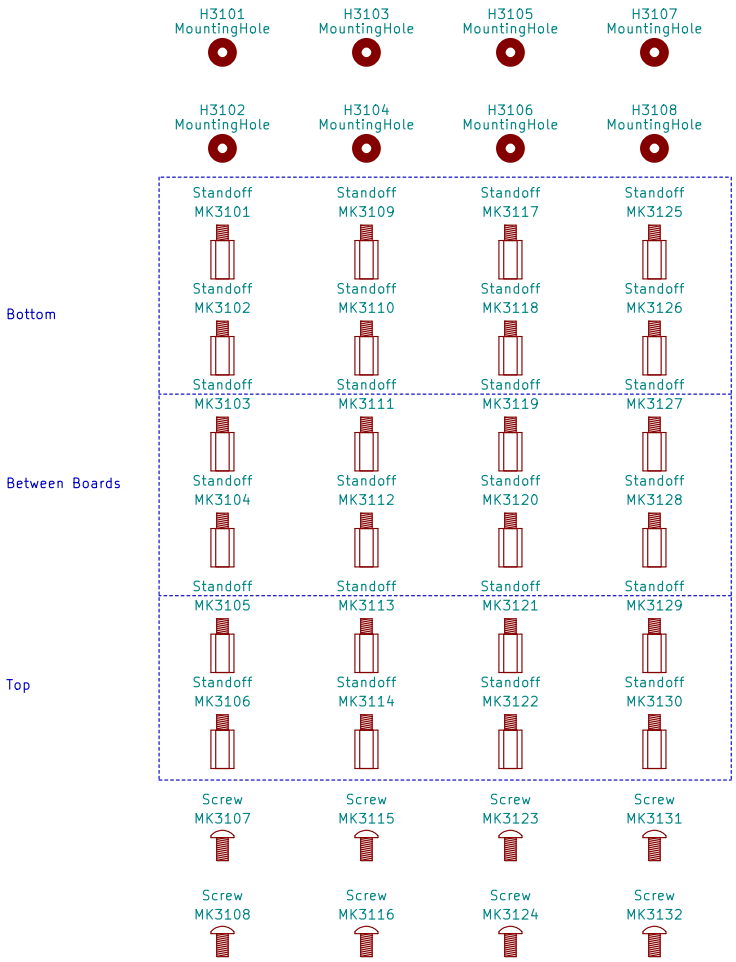
Size: A	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 30/31



Drew Maatman

Sheet: /Mechanical/
File: Mechanical.sch

Title: VFD Clock

Size: A	Date: 2019-04-11	**Rev: A**
KiCad E.D.A. kicad (5.1.4)-1		Id: 31/31