

A

1

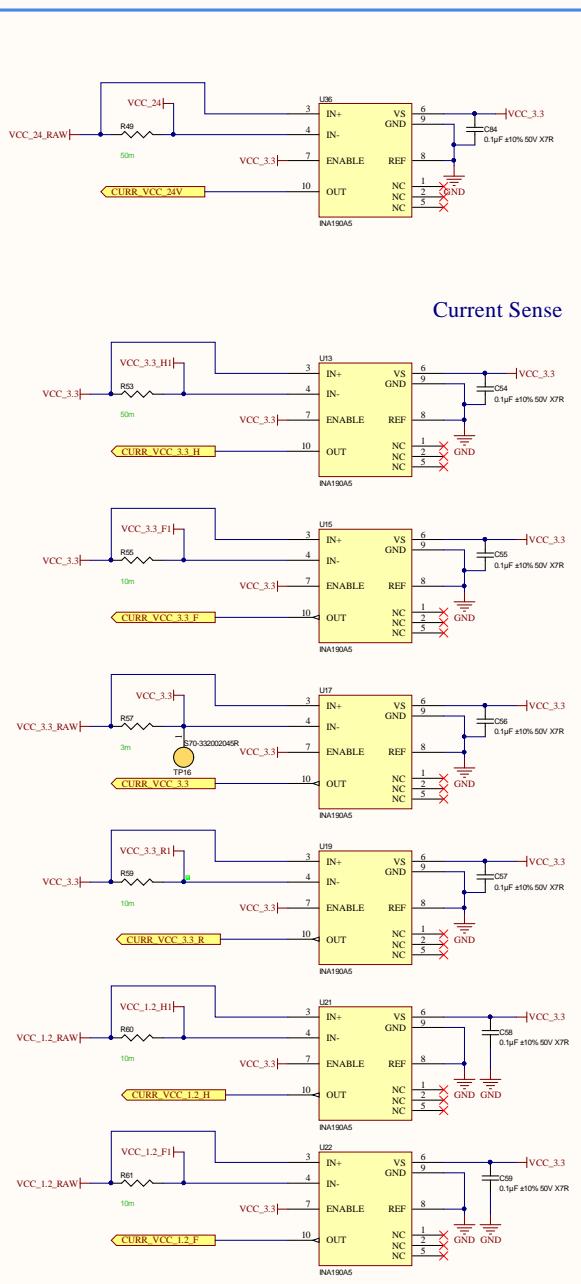
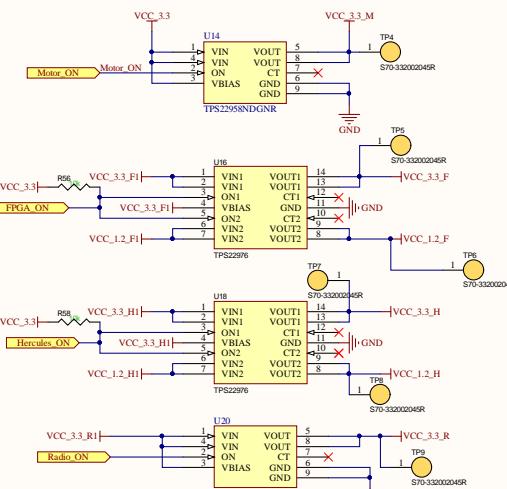
F

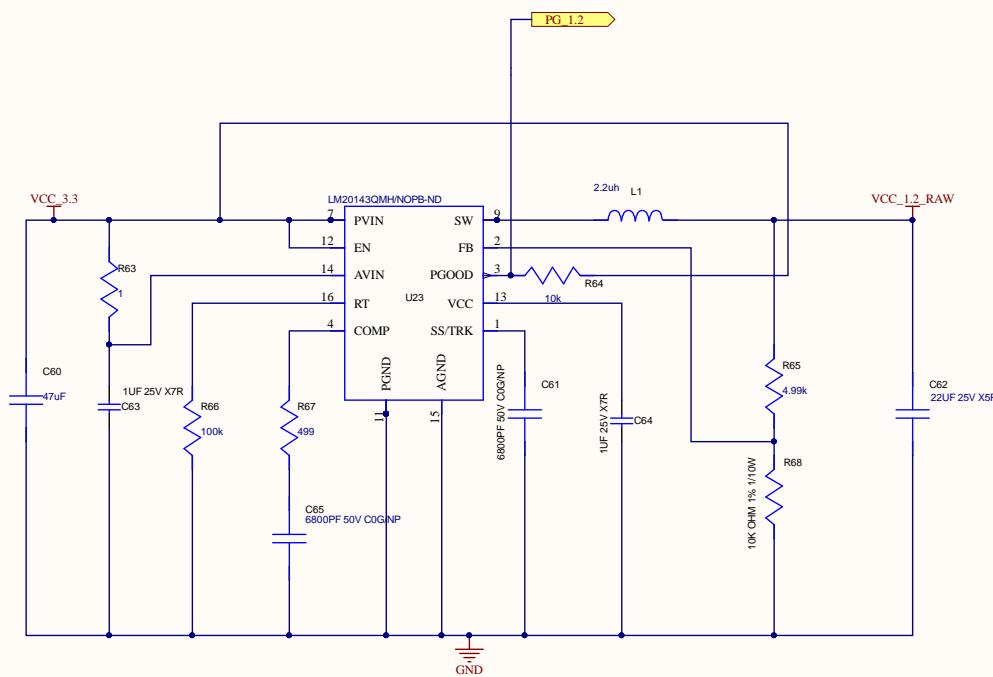
1

1

1

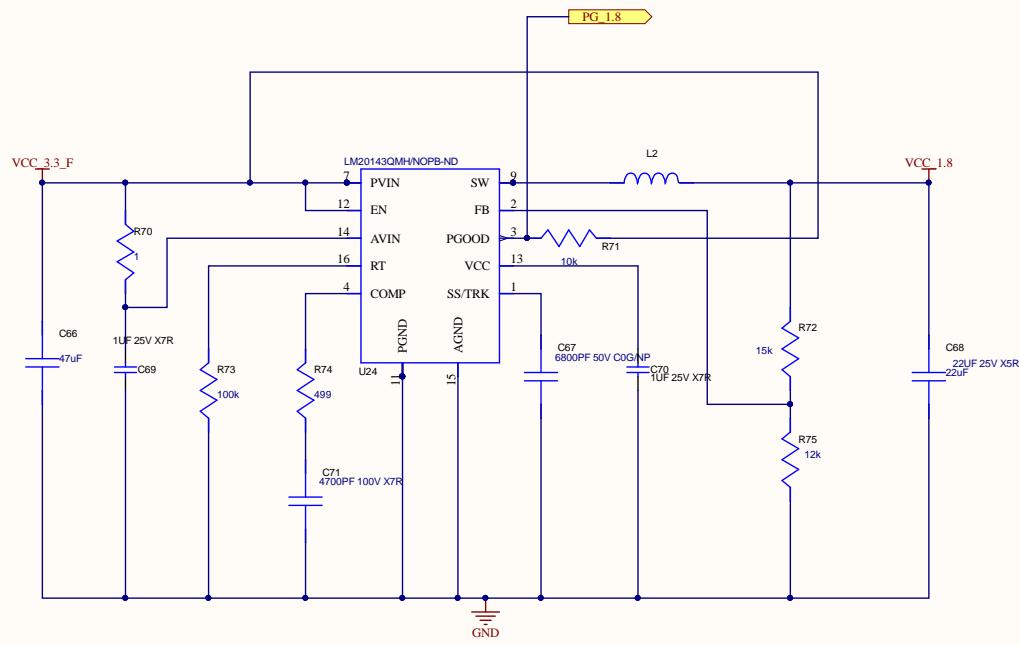
Load Switches





Title POWER IV2		
Size: B	Number: 2	Revision: F
Date: 10/29/2021	Time: 12:42:33 PM	Sheet 2 of 35
File: C:\Users\connor.colombo\Downloads\sbc_1_min_files\Schematic\PS_1.2V.SchDoc		

Altium



Title POWER IV8		
Size: B	Number: 3	Revision: F
Date: 10/29/2021	Time: 12:42:33 PM	Sheet 3 of 35
File: C:\Users\connor.colombo\Downloads\sbc_1_min_files\Schematic\PS_1.8V.SchDoc		

A

A

B

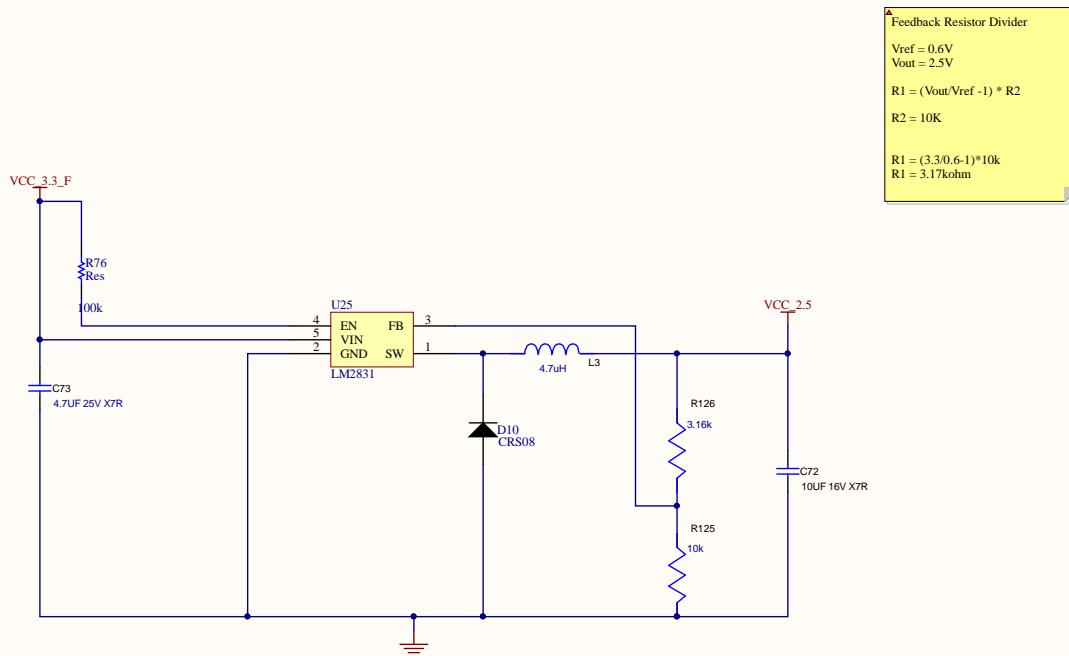
B

C

C

D

D

Title **POWER 2V5**

Size: B Number:4 Revision: F

Date: 10/29/2021 Time: 12:42:33 PM Sheet:4 of 35

File: C:\Users\connor.colombo\Downloads\sbc_1_min_files\Schematic\PS_2.5V.SchDoc

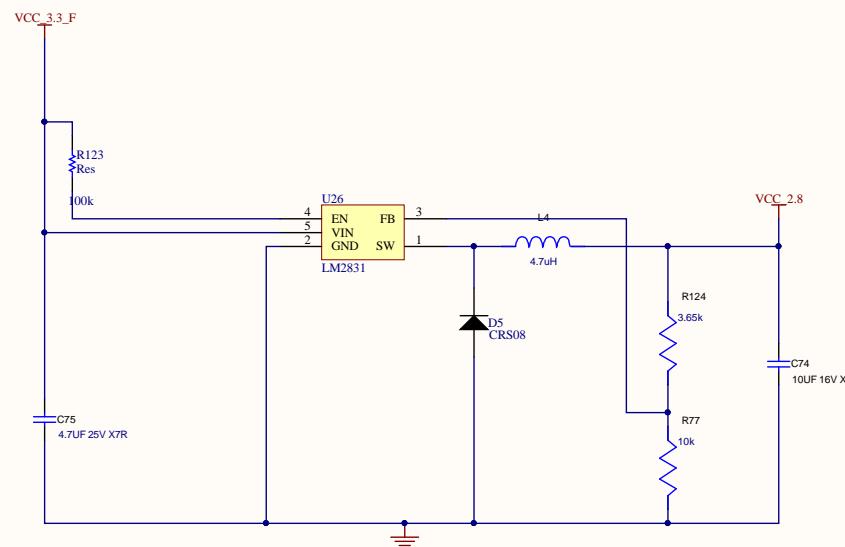
Altium.

Feedback Resistor Divider (to FB)

Vref = 0.6V
Vout = 2.8V

R1 = (Vout/Vref - 1) * R2 (R124)
R2 = 10K (R77)

R1 = (3.3/0.6-1)*10k
R1 = 3.67kohm



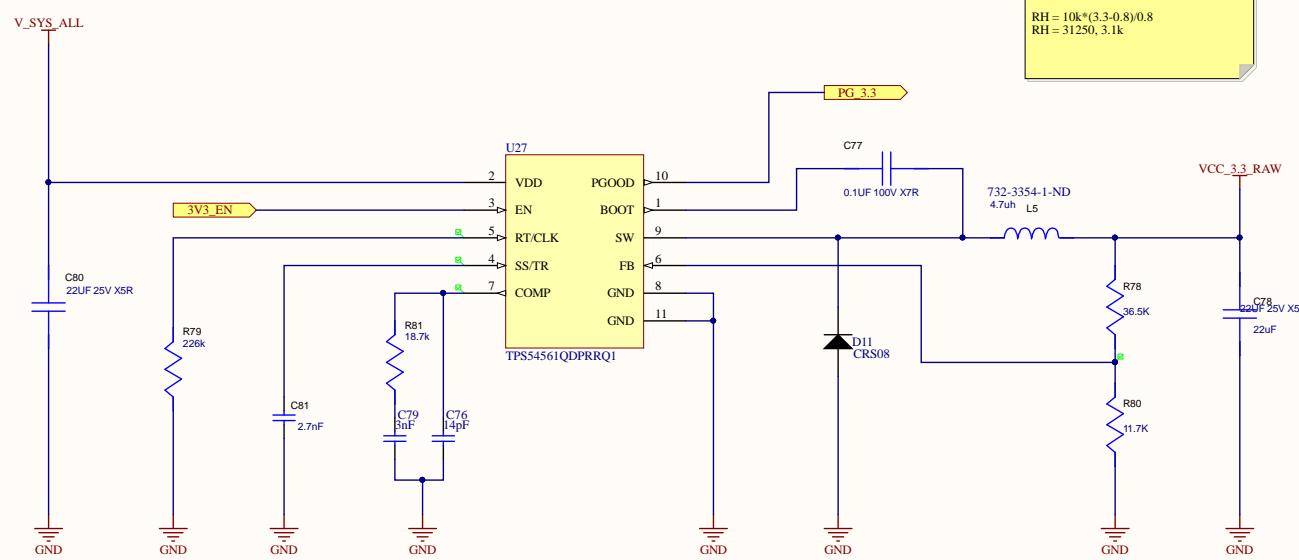
Title POWER 2V8		
Size: B	Number: 5	Revision: F
Date: 10/29/2021	Time: 12:42:33 PM	Sheet 5 of 35
File: C:\Users\connor.colombo\Downloads\sbc_1_min_files\Schematic\PS_2.8V.SchDoc		

Altium

1 2 3 4 5 6

A A

RL = 10k
Vout = 3.3
RH = RL*(Vout - 0.8V)/0.8V
RH = 10k*(3.3-0.8)/0.8
RH = 31250, 3.1k

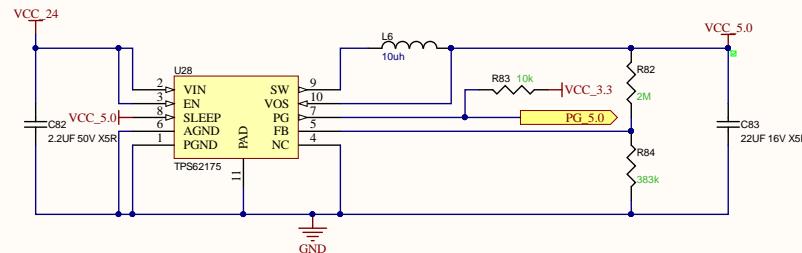


1 2 3 4 5 6

1 2 3 4 5 6

A

A



B

B

C

C

D

D

Title POWER 5V		
Size: B	Number: 7	Revision: F
Date: 10/29/2021	Time: 12:42:33 PM	Sheet 7 of 35
File: C:\Users\connor.colombo\Downloads\sbc_1_min_files\Schematic\PS_5.0V.SchDoc		

Altium

1 2 3 4 5 6

A

A

B

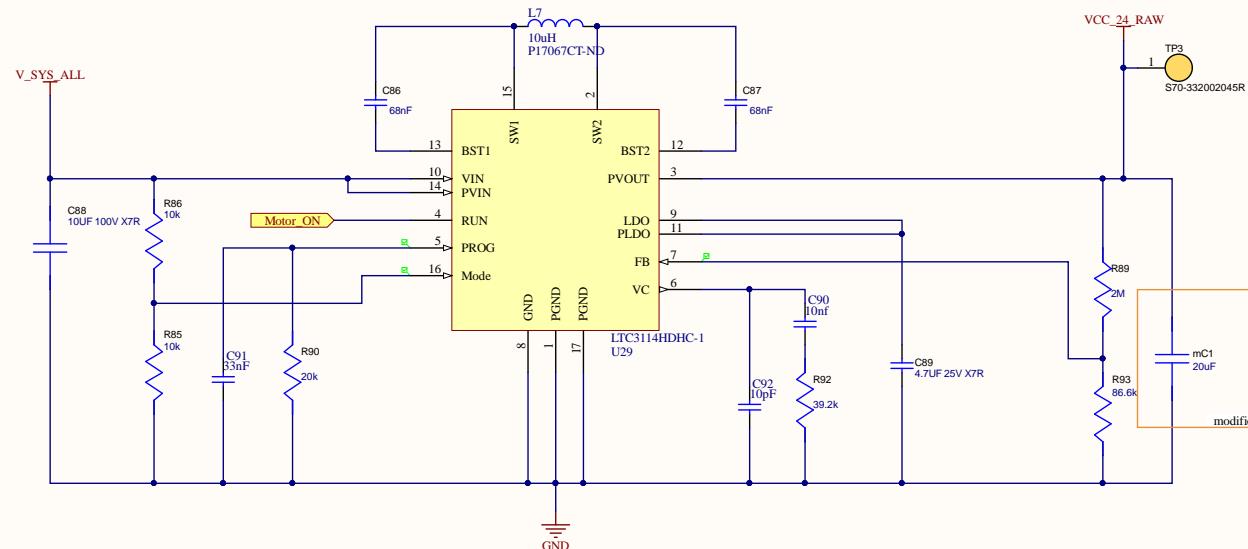
B

C

C

D

D



Title POWER 24V			CMU/ASTROBOTIC
Size: B	Number: 8	Revision: F	*
Date: 10/29/2021	Time: 12:42:33 PM	Sheet: 8 of 35	*
File: C:/Users/connor.colombo/Downloads/sbe_1_min_files/Schematic/PS_24V.SchDoc			*

Altium.

1 2 3 4 5 6

A

A

B

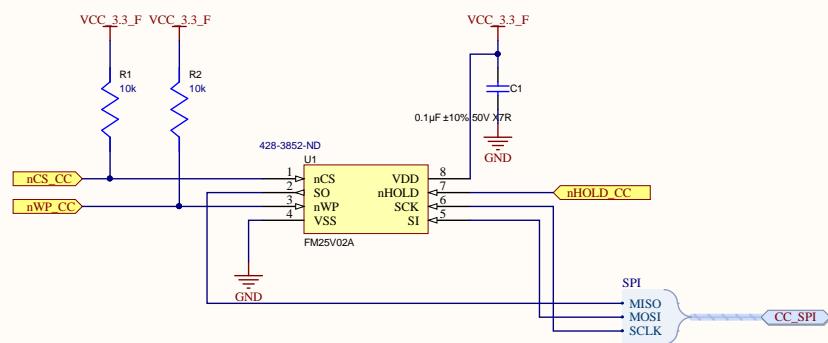
B

C

C

D

D



Title: **CAMERA CONFIG. MEMORY**

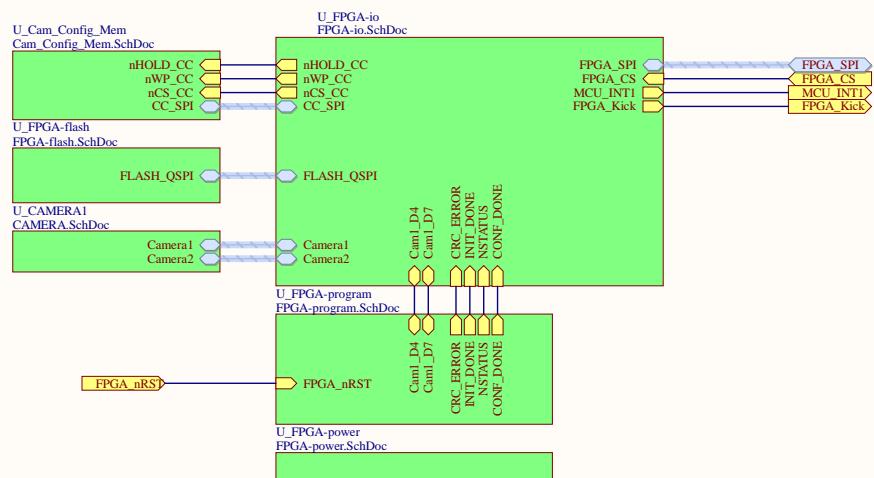
Size: **B** Number: **9** Revision: **F**

Date: **10/29/2021** Time: **12:42:34 PM** Sheet: **9** of **35**

File: **C:\Users\Connor.Colombo\Downloads\sbc_1_min_files\Schematic\Cam_Config_Mem.SchDoc**

Altium.

1 2 3 4 5 6



Title CAMERA SYSTEM		
Size: B	Number: 10	Revision: F
Date: 10/29/2021	Time: 12:42:34 PM	Sheet 10 of 35
File: C:\Users\connor.colombo\Downloads\sbe_1_min_files\Schematic\CameraSystem.SchDoc		

A

A

B

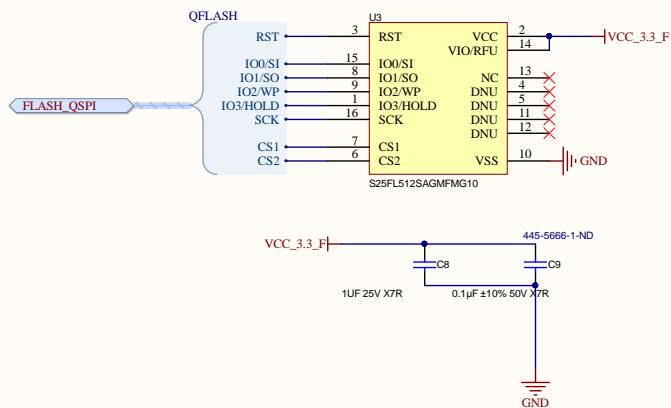
B

C

C

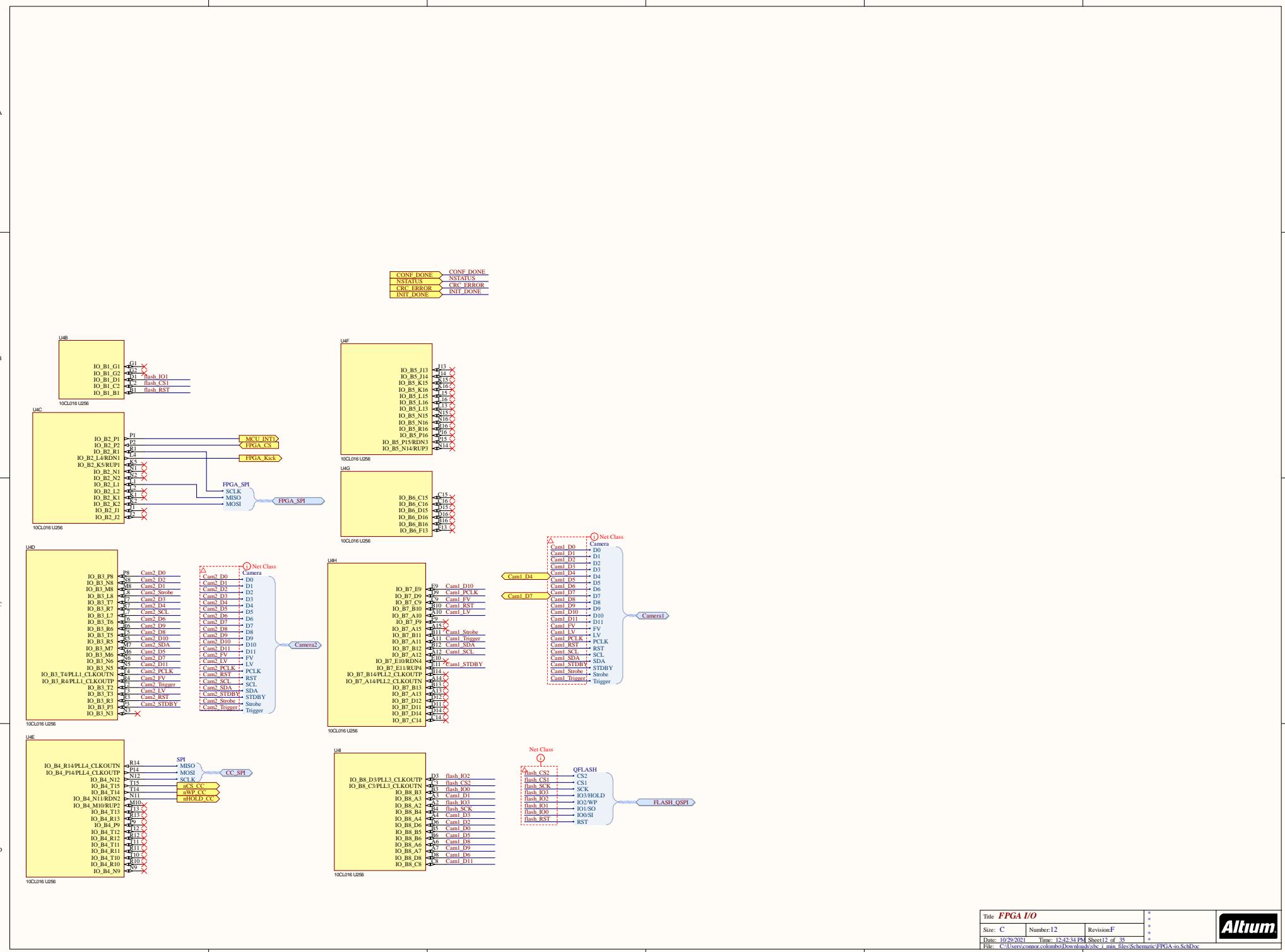
D

D

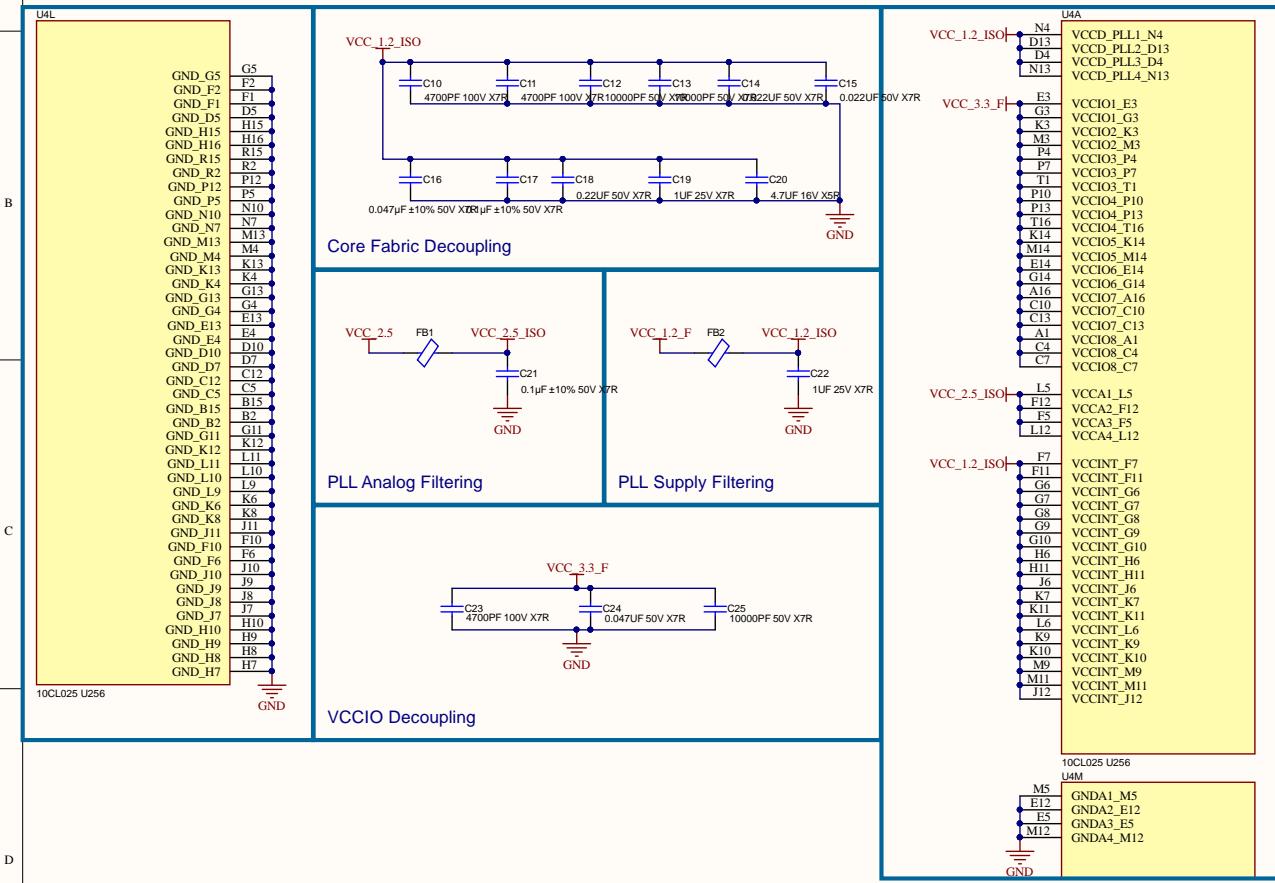


Title FPGA FLASH		
Size: B	Number: 11	Revision: F
Date: 10/29/2021	Time: 12:42:34 PM	Sheet 11 of 35
File: C:\Users\connor.colombo\Downloads\sbc_1_min_files\Schematic\FPGA-flash.SchDoc		

Altium



A



Title FPGA POWER		
Size: B	Number: 13	Revision: F
Date: 10/29/2021	Time: 12:42:34 PM	Sheet 13 of 35
File: C:\Users\Connor.Coloomb\Downloads\sbe_1_min_files\Schematic\FPGA-power.SchDoc		

Altium.

A

A

B

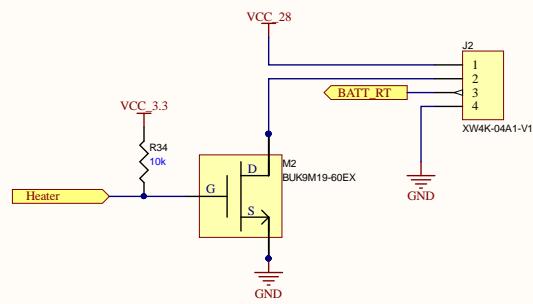
B

C

C

D

D



Title HEATER			CMU/ASTROBOTIC
Size: B	Number: 14	Revision: F	*
Date: 10/29/2021	Time: 12:42:35 PM	Sheet 14 of 35	*
File: C:\Users\Connor.Coloombo\Downloads\sbc_1_min_files\Schematic\Heater.SchDoc			*

A

A

B

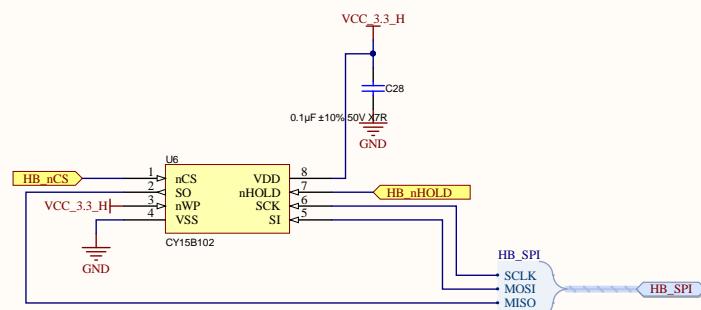
B

C

C

D

D



Title HERCULES BACKUP		
Size: B	Number: 15	Revision: F
Date: 10/29/2021	Time: 12:42:35 PM	Sheet 15 of 35
File: C:\Users\connor.colombo\Downloads\sbe_1_min_files\Schematic\HercBackup.SchDoc		

A

A

B

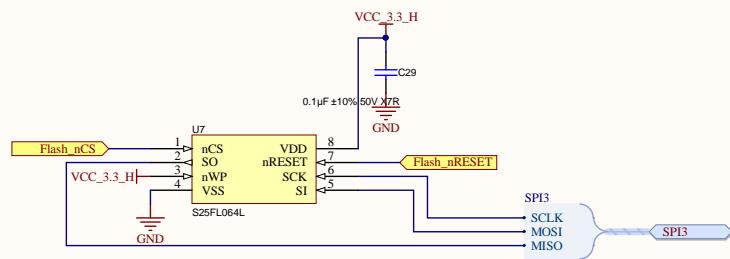
B

C

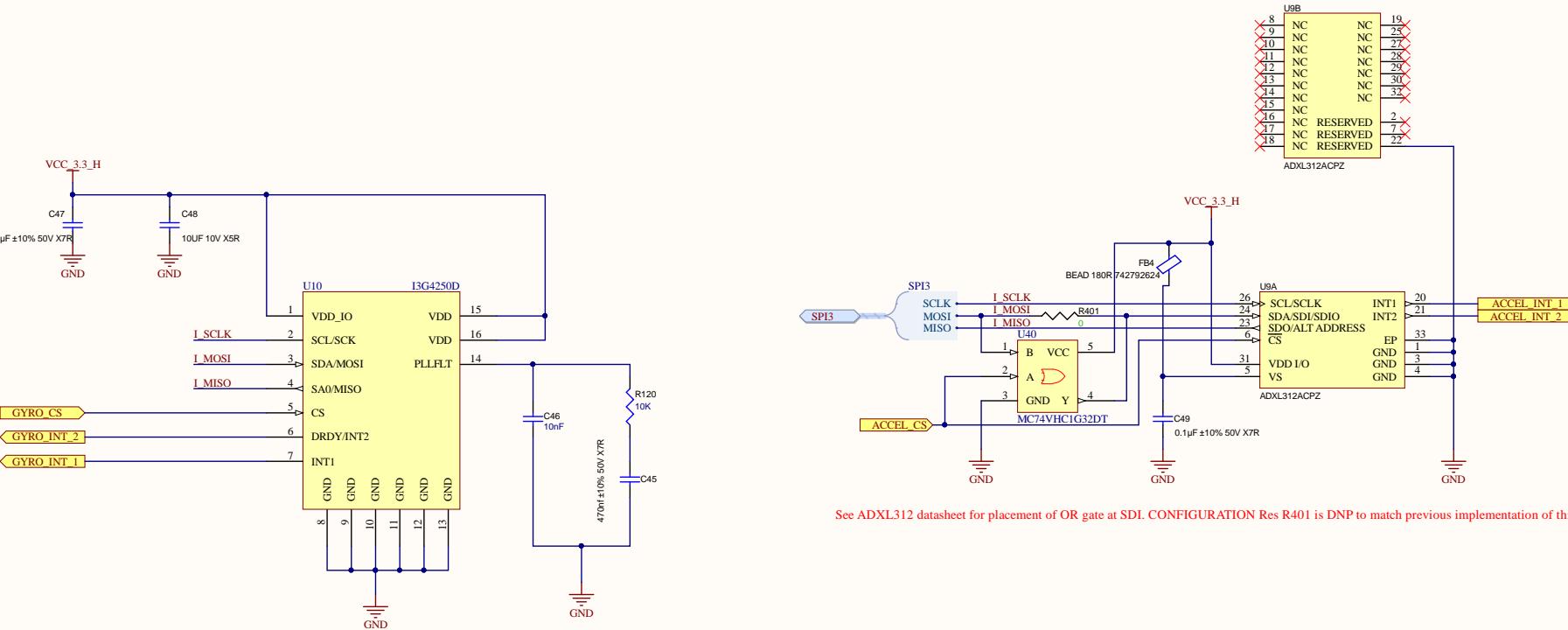
C

D

D



Title HERCULES FLASH			CMU/ASTROBOTIC
Size: B	Number: 16	Revision: F	*
Date: 10/29/2021	Time: 12:42:35 PM	Sheet 16 of 35	*
File: C:\Users\Connor.Columbo\Downloads\sbe_1_min_files\Schematic\HercFlash.SchDoc			*



See ADXL312 datasheet for placement of OR gate at SDI. CONFIGURATION Res R401 is DNP to match previous implementation of this circuit.

Title: ***INERTIAL*** *
 Size: B Number:17 *
 Revision:F *
 Date: 10/29/2017 Time: 12:42:35 PM Sheet17 of 35 *
 File: C:\Users\conor.colombo\Downloads\sbc_i_min_files\Schematic\Inertial.SchDoc

1 2 3 4 5 6

A

A

B

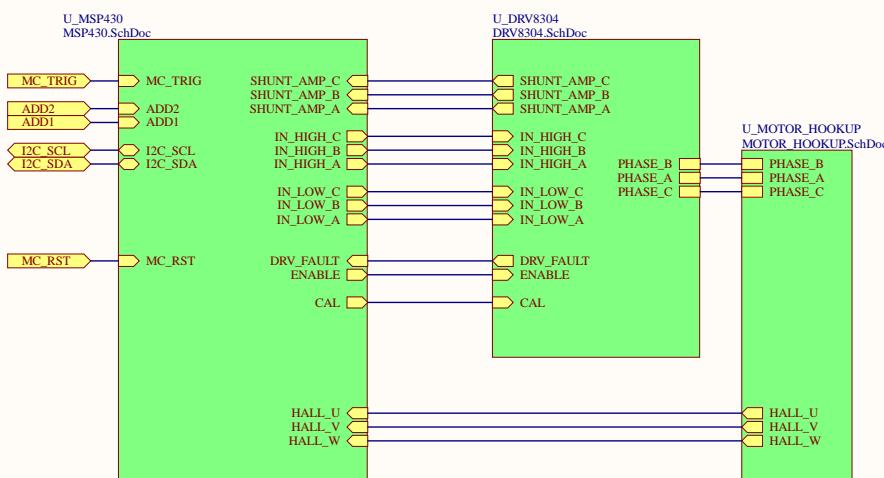
B

C

C

D

D

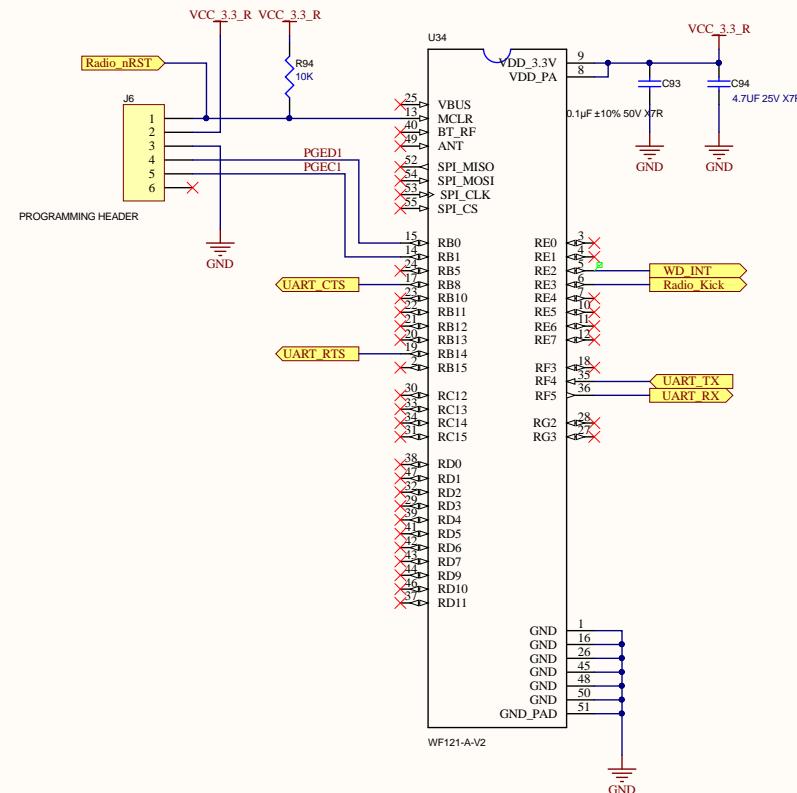


Title MOTOR DRIVER			CMU/ASTROBOTIC
Size: B	Number: 18	Revision: F	*
Date: 10/29/2021	Time: 12:42:35 PM	Sheet 18 of 35	*
File: C:\Users\Connor.Colombo\Downloads\sbe_1_min_files\Schematic\Motor_Driver.SchDoc			Altium

1 2 3 4 5 6

A

A



B

B

C

C

D

D

Title RADIO		
Size: B	Number: 19	Revision: F
Date: 10/29/2021	Time: 12:42:35 PM	Sheet 19 of 35
File: C:\Users\Connor.Coloombo\Downloads\sbc_1_min_files\Schematic\Radio.SchDoc		

Altium

1 2 3 4 5 6

A

A

B

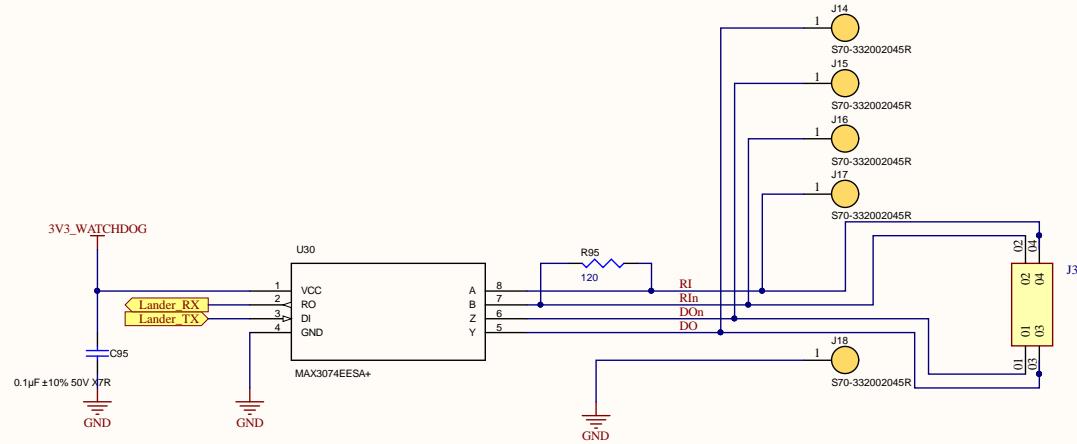
B

C

C

D

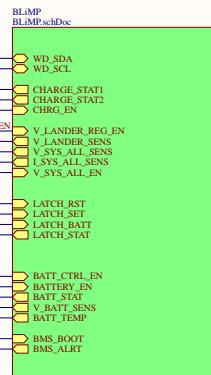
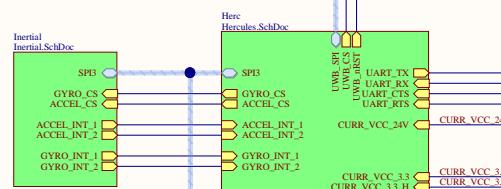
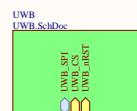
D



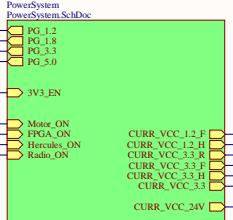
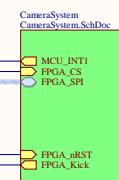
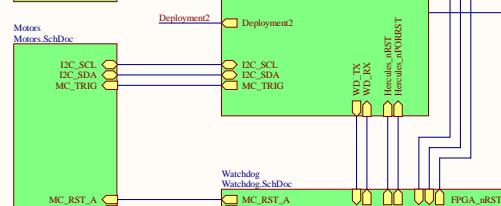
Title RS-422		
Size: B	Number: 20	Revision: F
Date: 10/29/2021	Time: 12:42:35 PM	Sheet 20 of 35
File: C:\Users\Connor.Coloombo\Downloads\sbc_1_min_files\Schematic\RS422.SchDoc		
Altium		

1 2 3 4 5 6

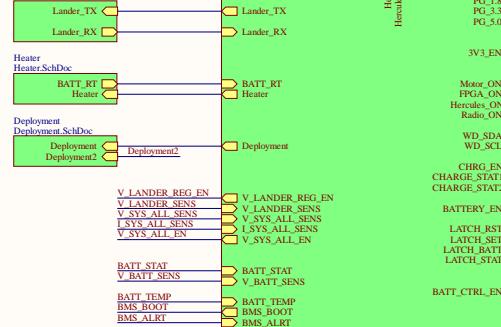
A



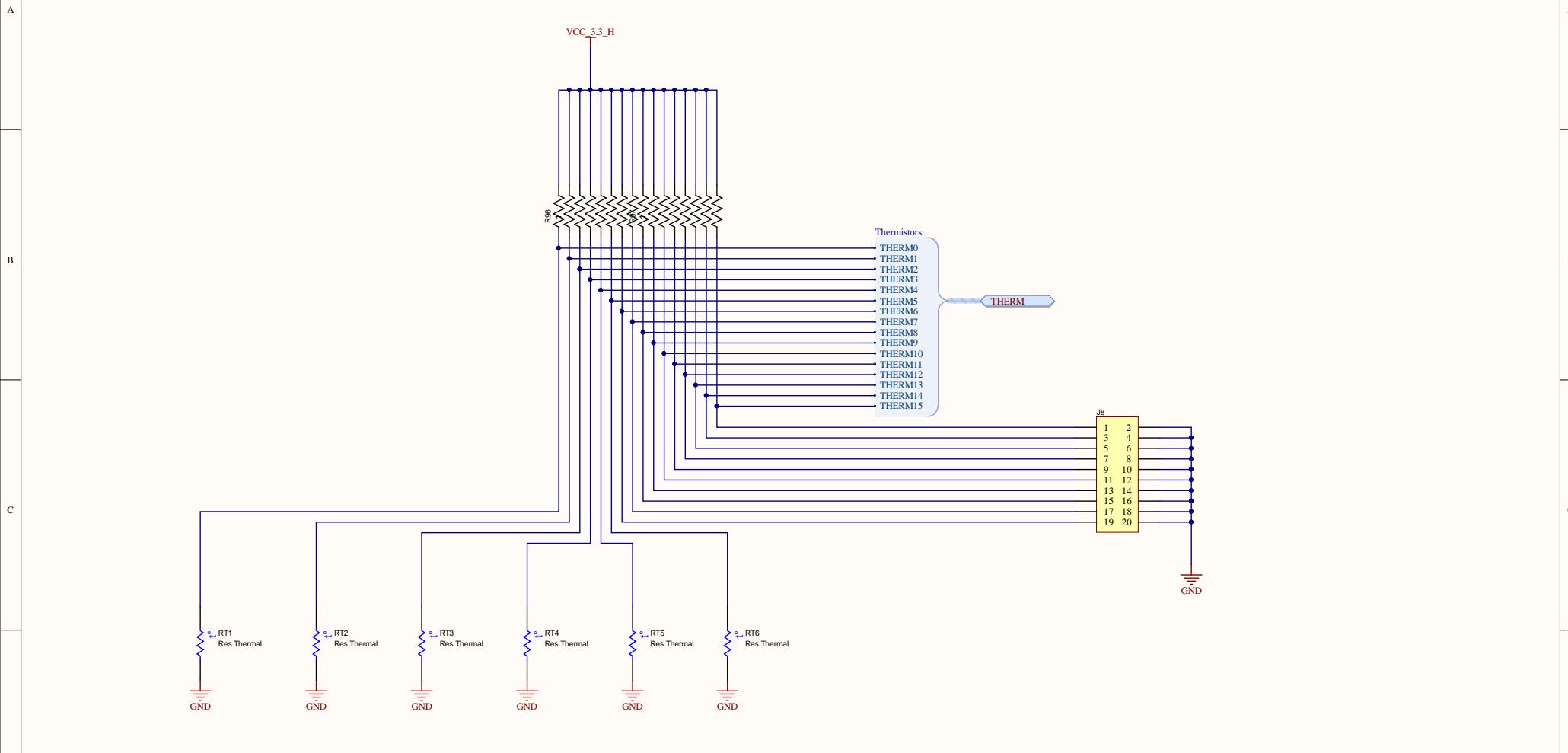
B



C



1 2 3 4 5 6



Title **THERMISTORS**

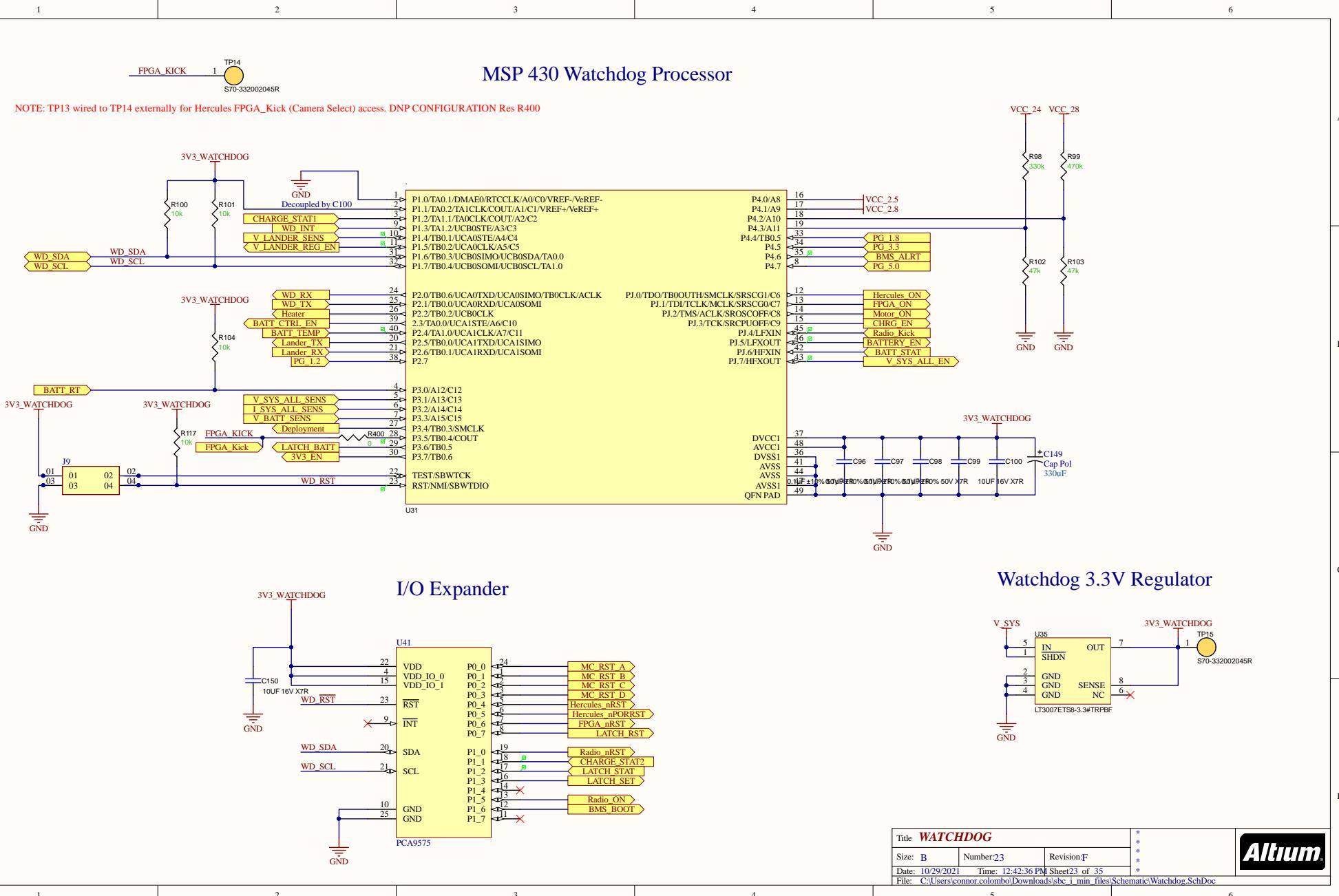
Size: B Number:22 Revision:F

Date: 10/29/2021 Time: 12:42:36 PM Sheet:22 of 35

File: C:\Users\Connor.Columbo\Downloads\sbc_1_min_files\Schematic\Thermistors.SchDoc

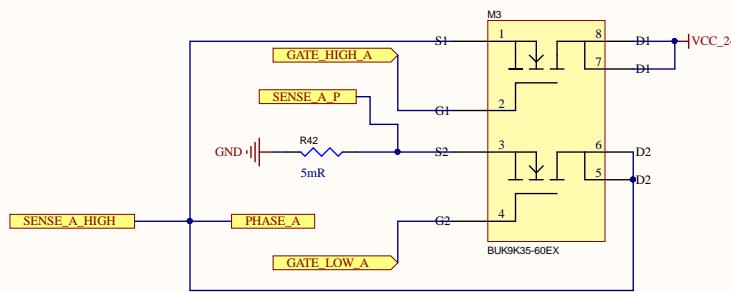
Altium

1 2 3 4 5 6



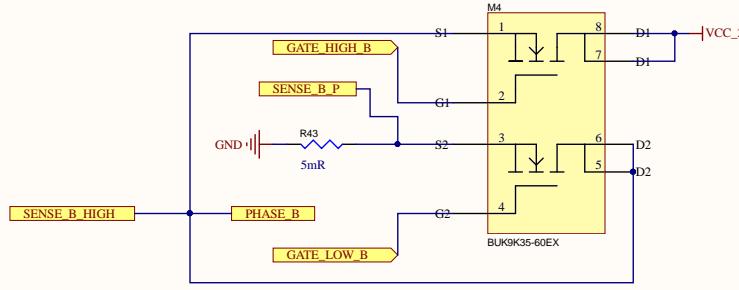
A

A



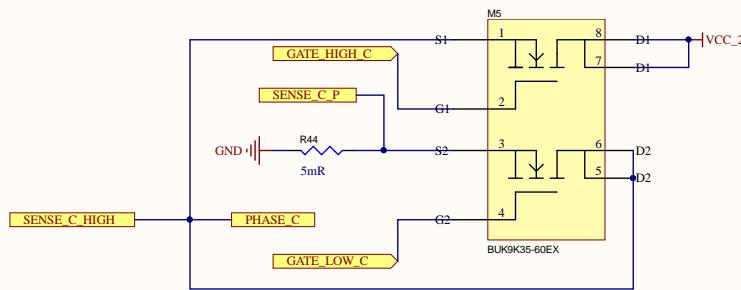
B

B



C

C



D

D

Title MOSFETS		
Size: B	Number: 24	Revision: F
Date: 10/29/2021	Time: 12:42:36 PM	Sheet 24 of 35
File: C:\Users\Connor.Coloombo\Downloads\sbc_1_min_files\Schematic\MOSFETS.SchDoc		

Altium.

A

A

B

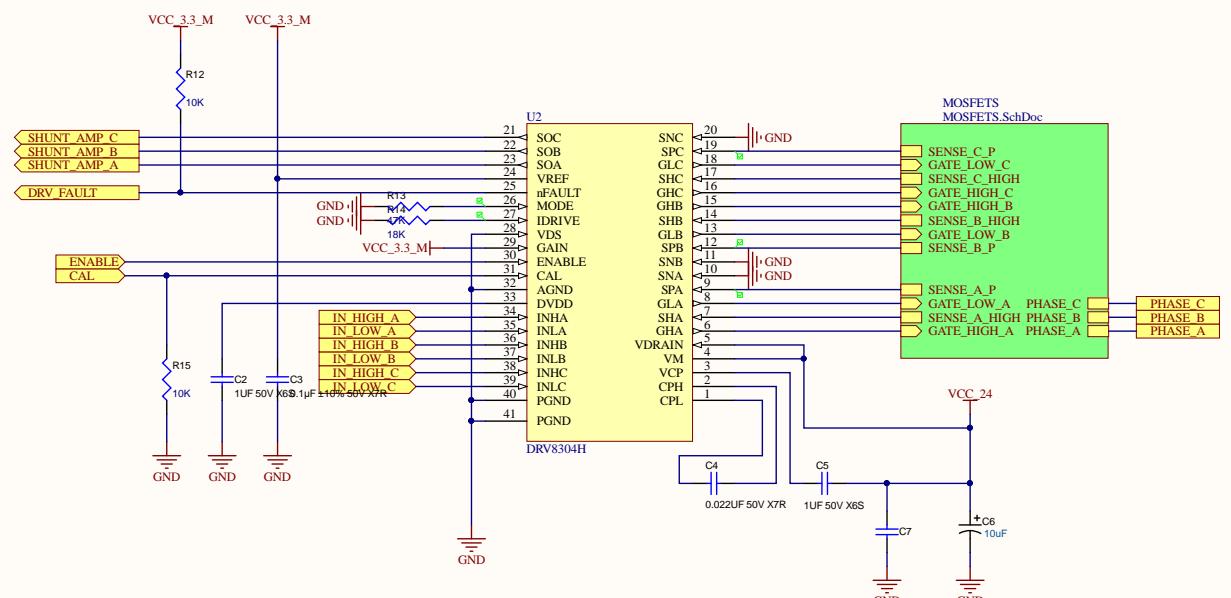
B

C

C

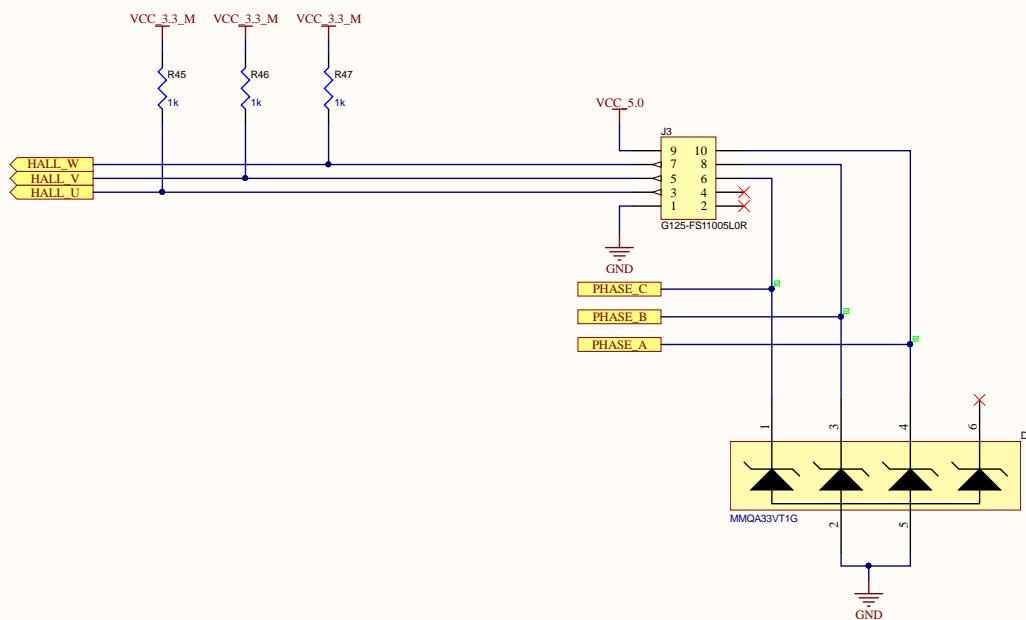
D

D



Title DRV8304		
Size: B	Number: 25	Revision: F
Date: 10/29/2021	Time: 12:42:36 PM	Sheet 25 of 35
File: C:\Users\Connor.Colo...Downloads\sbc_1_min_files\Schematic\DRV8304.SchDoc		





Title Motor Interface		
Size: B	Number: 26	Revision: F
Date: 10/29/2021	Time: 12:42:36 PM	Sheet 26 of 35
File: C:\Users\connor.colombo\Downloads\sbc_1_min_files\Schematic\MOTOR_HOOKUP.SchDoc		

Altium.

A

A

B

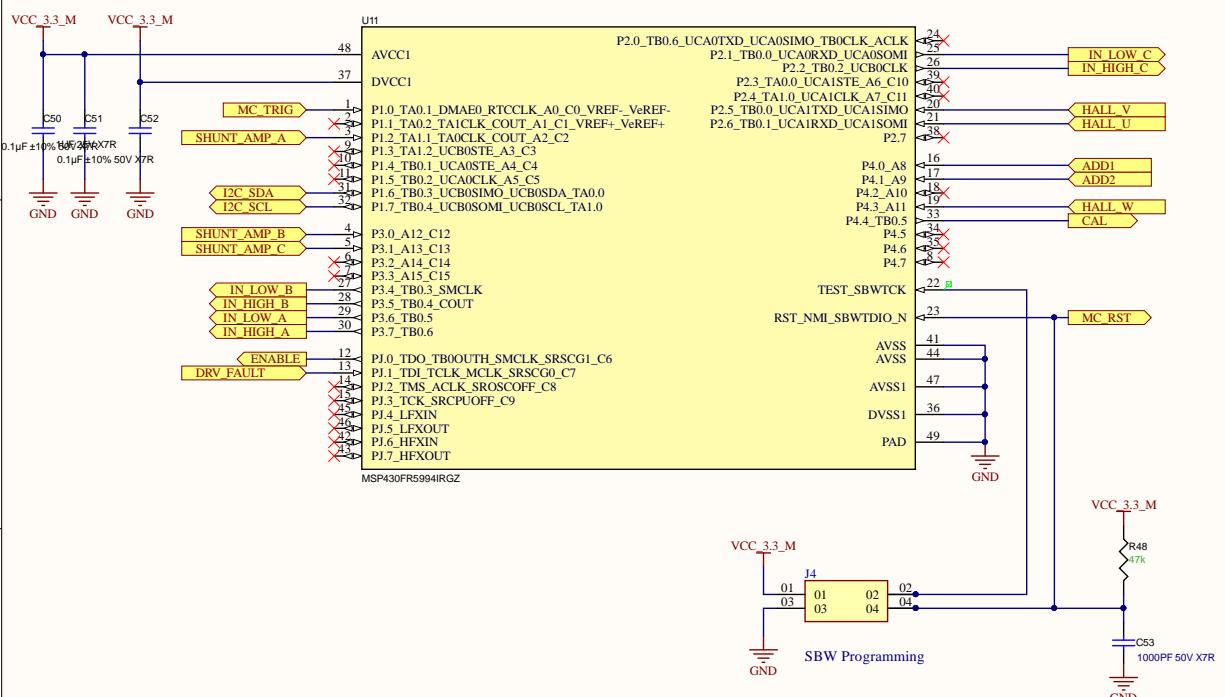
B

C

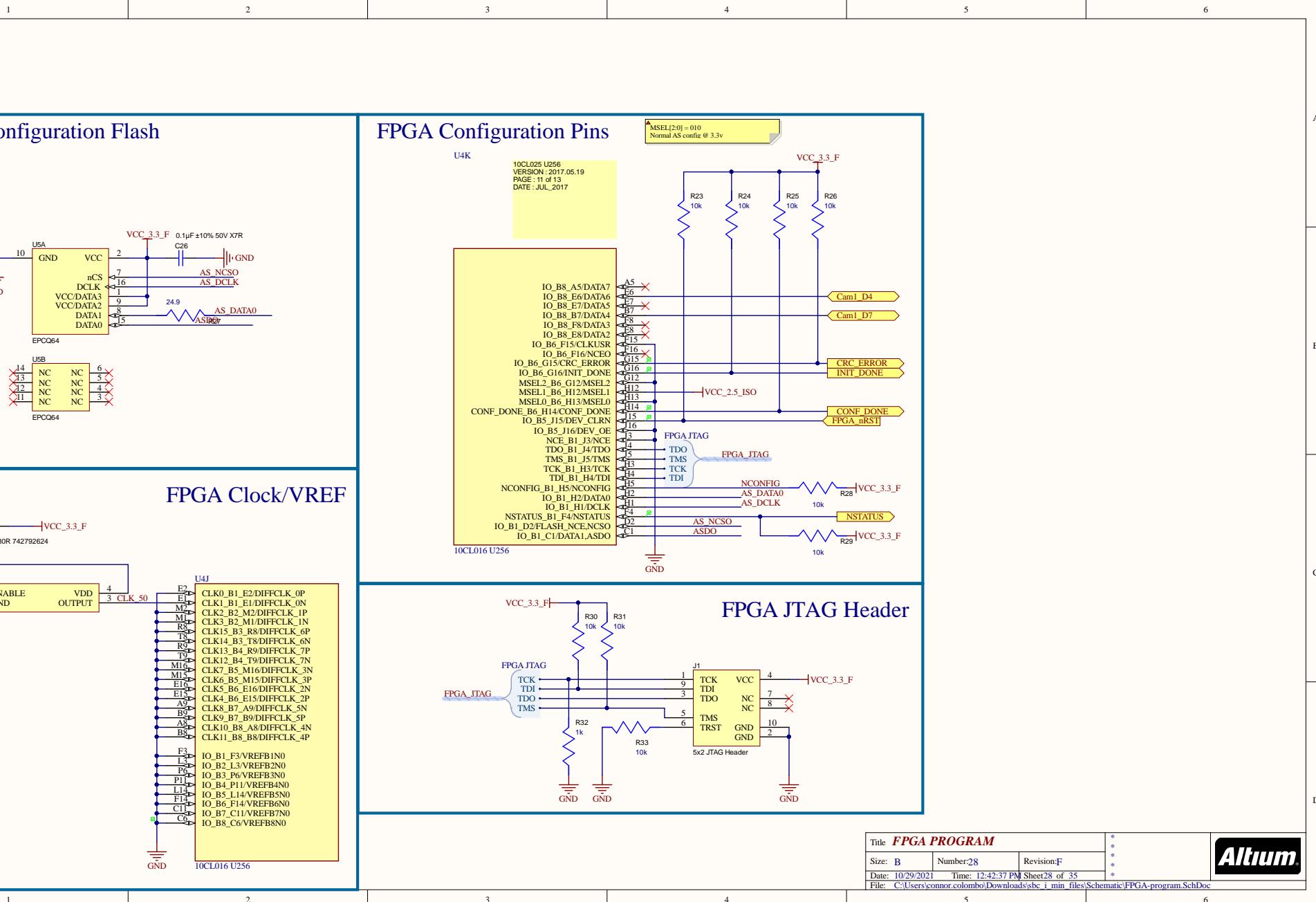
C

D

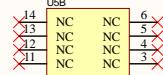
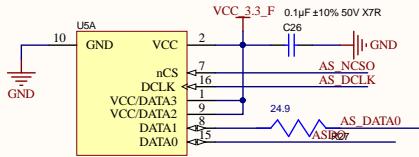
D



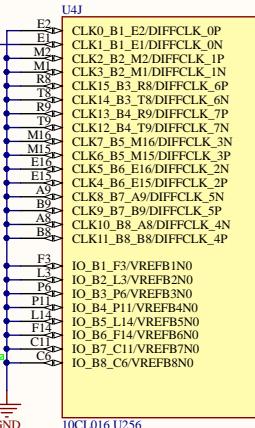
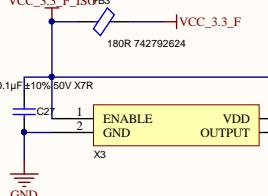
Title WATCHDOG			CMU/ASTROBOTIC
Size: B	Number: 27	Revision: F	*
Date: 10/29/2021	Time: 12:42:36 PM	Sheet: 27 of 35	*
File: C:\Users\Connor.Colo...Downloads\sbc_1_min_files\Schematic\MS...			Altium.



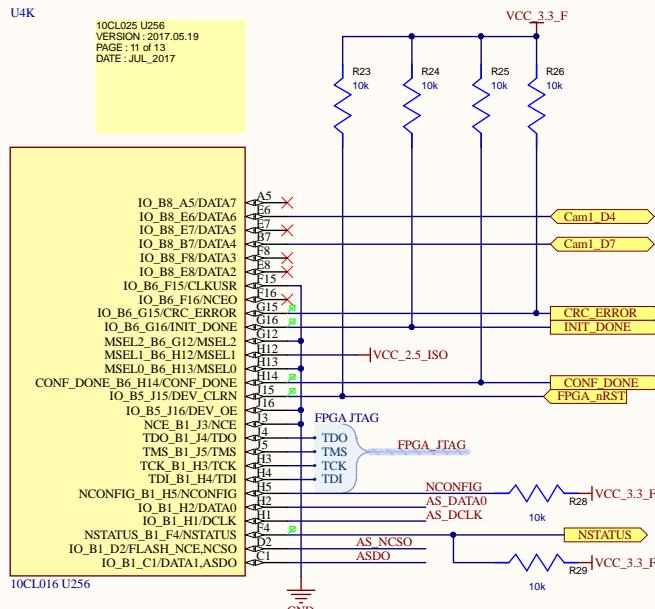
FPGA Configuration Flash



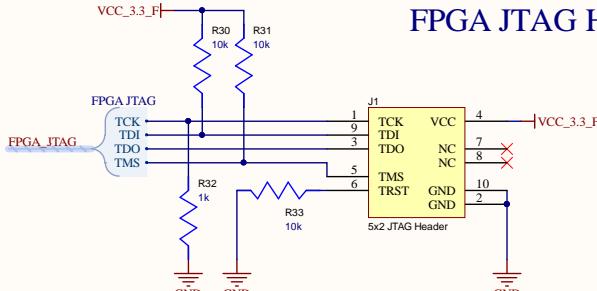
FPGA Clock/VREF



FPGA Configuration Pins



FPGA JTAG Header



Title	FPGA PROGRAM		*
Size:	B	Number:28	Revision:F
Date:	10/29/2021	Time:	12:42:37 PM Sheet28 of 35
File:	C:\Users\Connor.Columbo\Downloads\sbc_1_min_files\Schematic\FPGA-program.SchDoc		

Altium

A

B

C

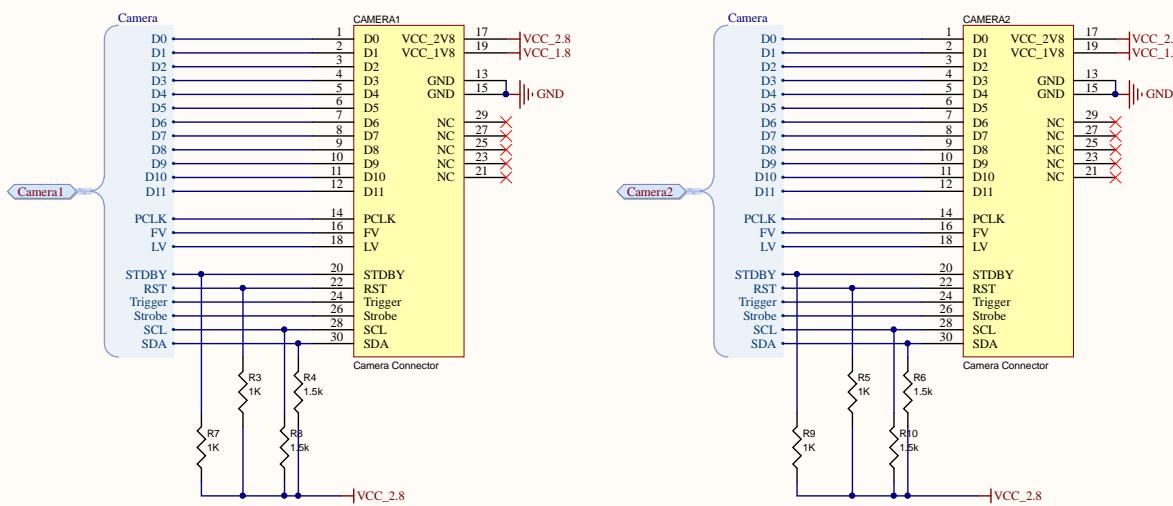
D

A

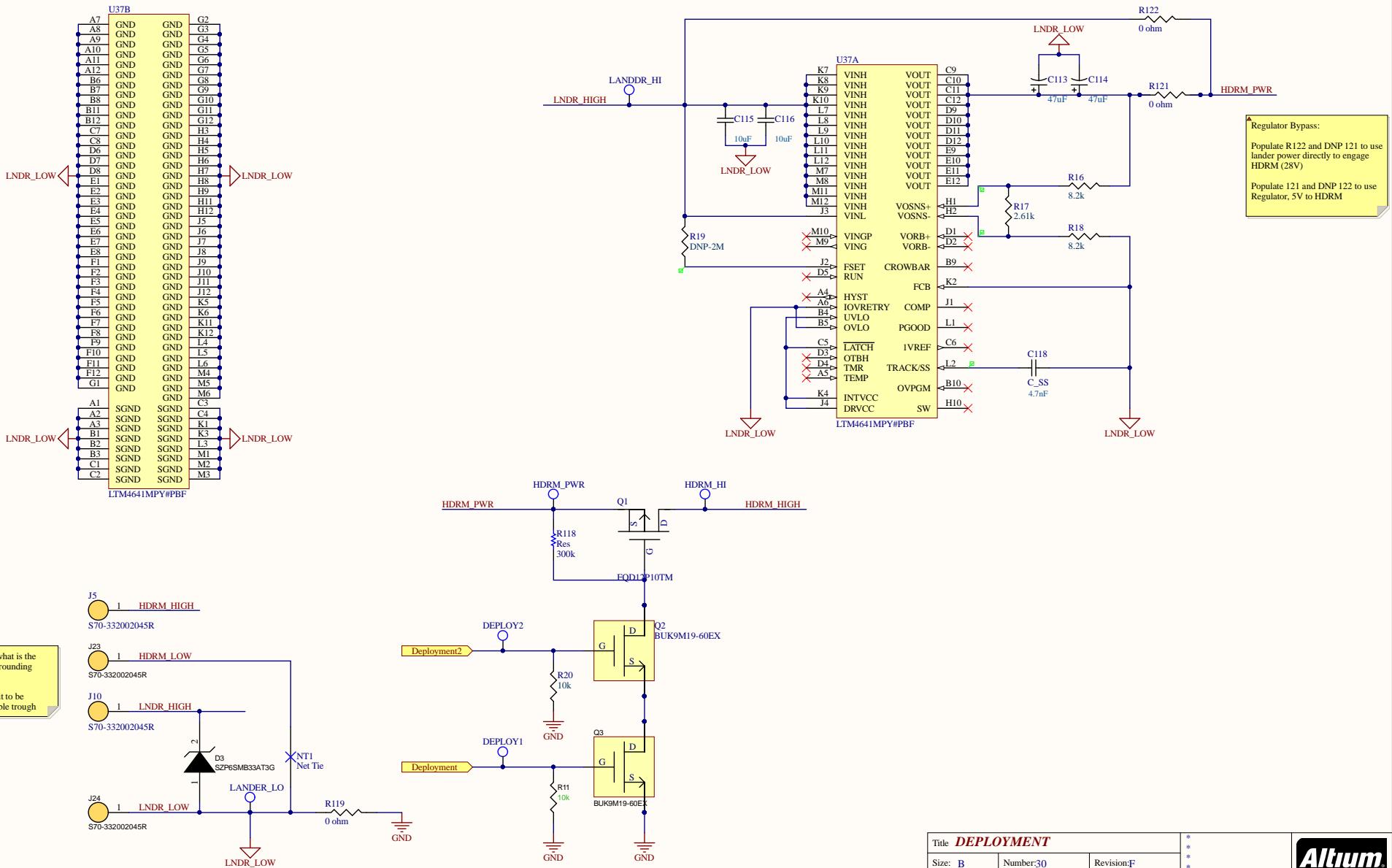
B

C

D

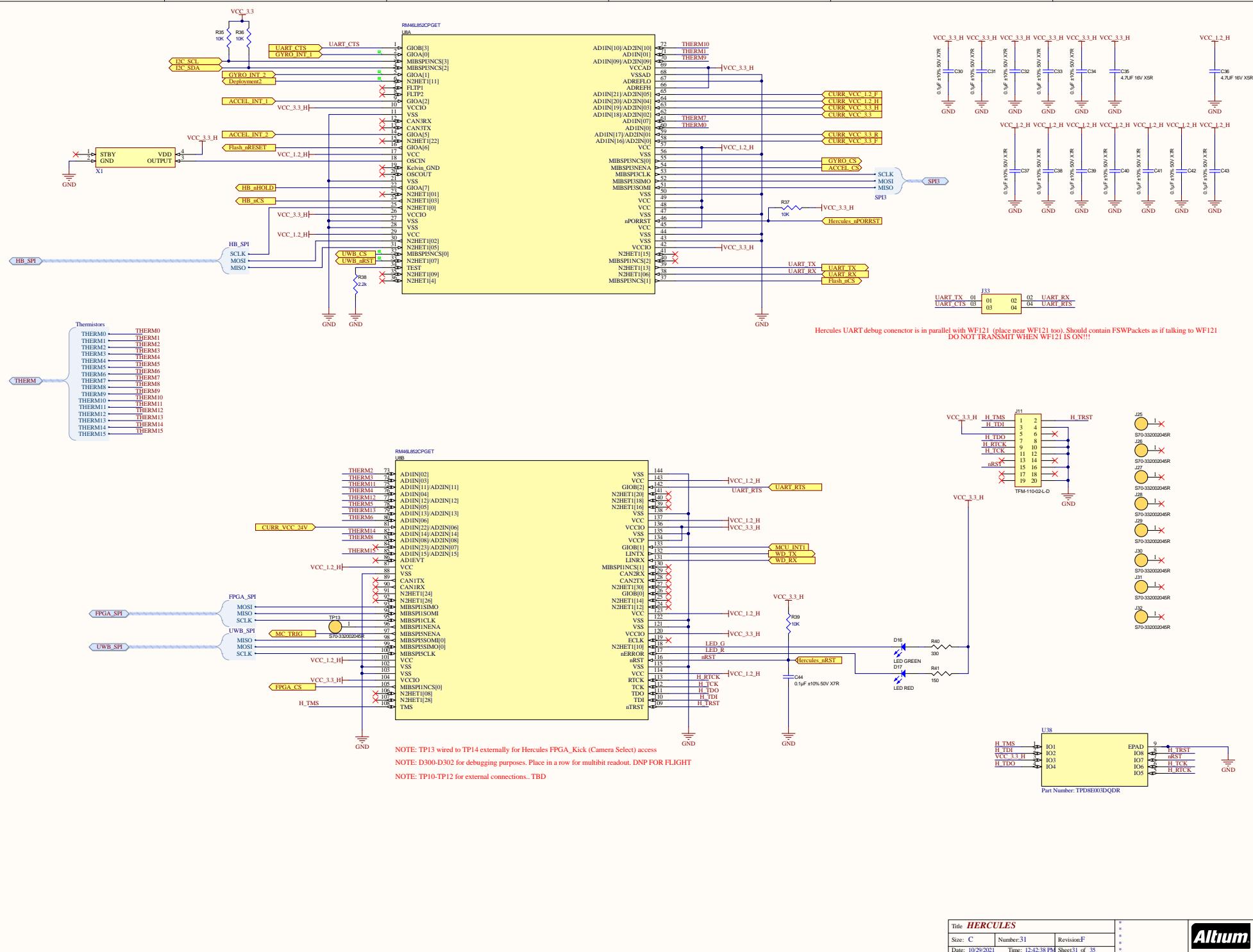


Title CAMERA		
Size: B	Number: 29	Revision: F
Date: 10/29/2021	Time: 12:42:37 PM	Sheet 29 of 35
File: C:\Users\Connor.Coloombo\Downloads\sbc_1_min_files\Schematic\Camera.SchDoc		
Altium	*	*



- Not sure what is the proper grounding scheme

what is the
surrounding



1 2 3 4 5 6

A

A

B

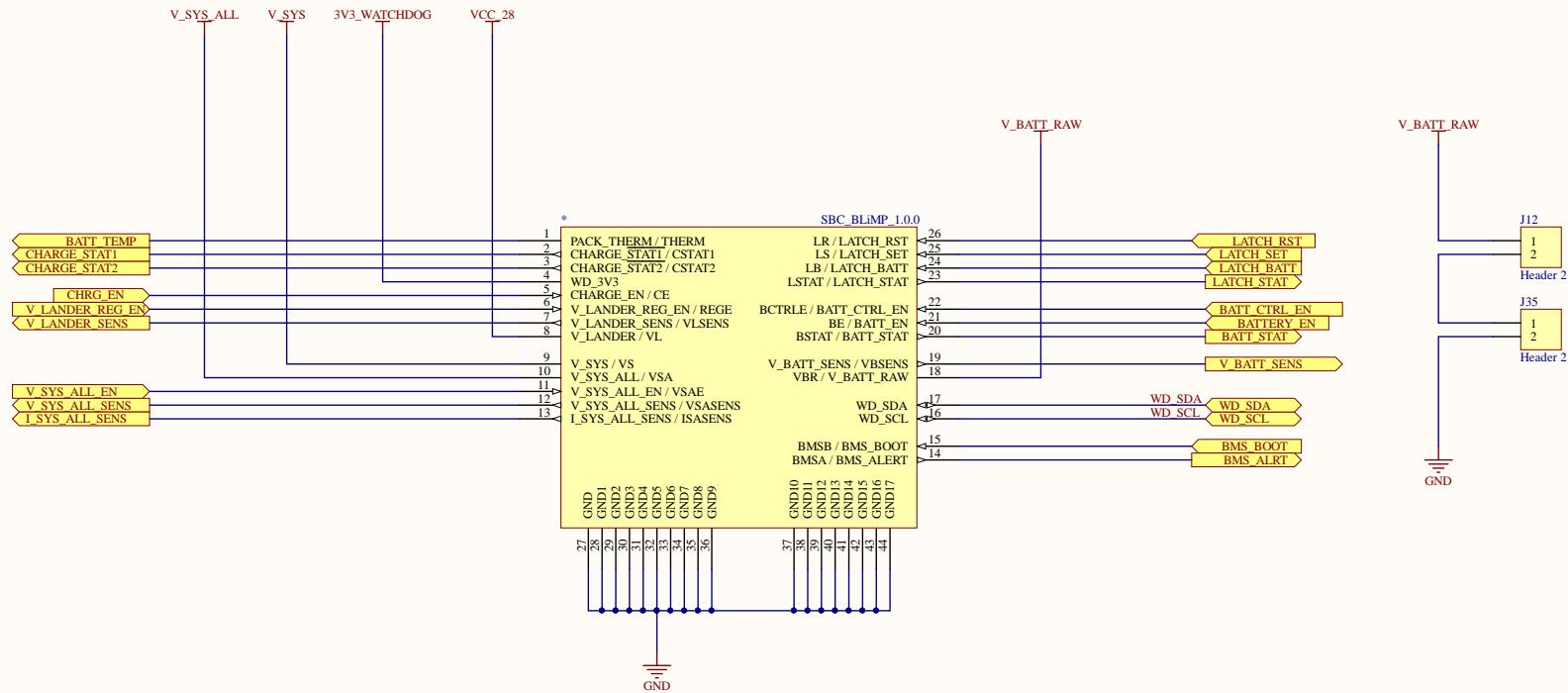
B

C

C

D

D

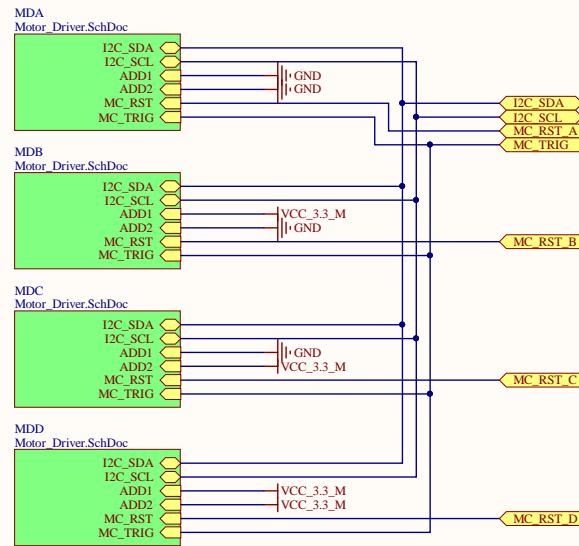


Title: SOLAR			CMU/ASTROBOTIC
Size: B	Number: 32	Revision: F	*
Date: 10/29/2021	Time: 12:42:38 PM	Sheet: 32 of 35	*
File: C:\Users\Connor.Coloombo\Downloads\sbc_1_min_files\Schematic\BLiMP.SchDoc			*

1 2 3 4 5 6

6

6



1 2 3 4 5 6

A

A

B

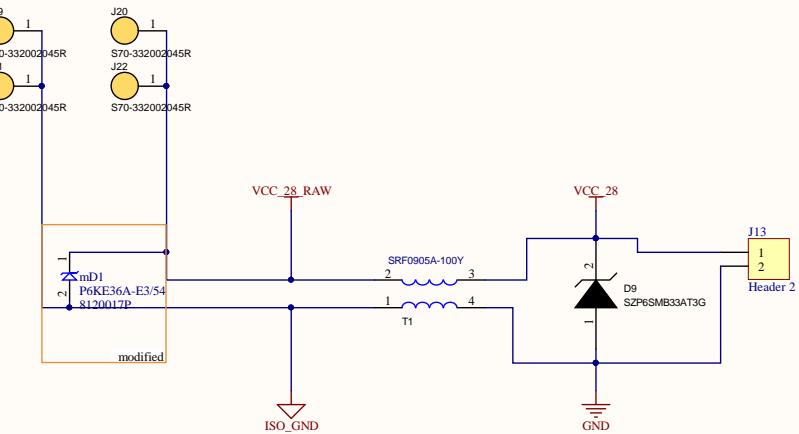
B

C

C

D

D

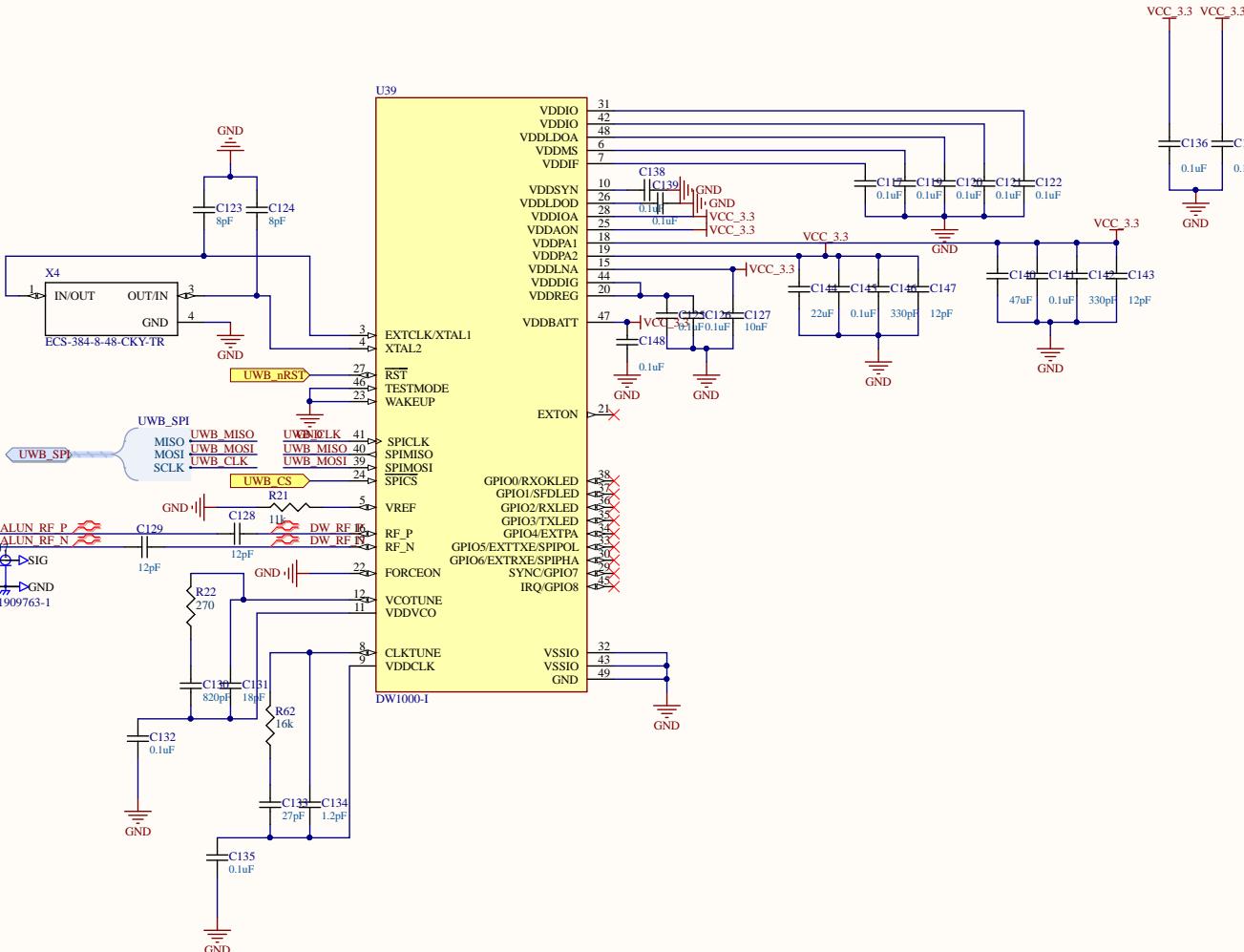


Title LANDER POWER			CMU/ASTROBOTIC
Size: B	Number: 35	Revision: F	*
Date: 10/29/2021	Time: 12:42:38 PM	Sheet 35 of 35	*
File: C:\Users\Connor.Colombo\Downloads\sbc_1_min_files\Schematic\LanderPower.SchDoc			*

1 2 3 4 5 6

6

Altium.



Title			
Size	Number	Revision	
B			
Date:	10/29/2021	Sheet	of
File:	C:\Users\...\UWB.SchDoc	Drawn By:	

