

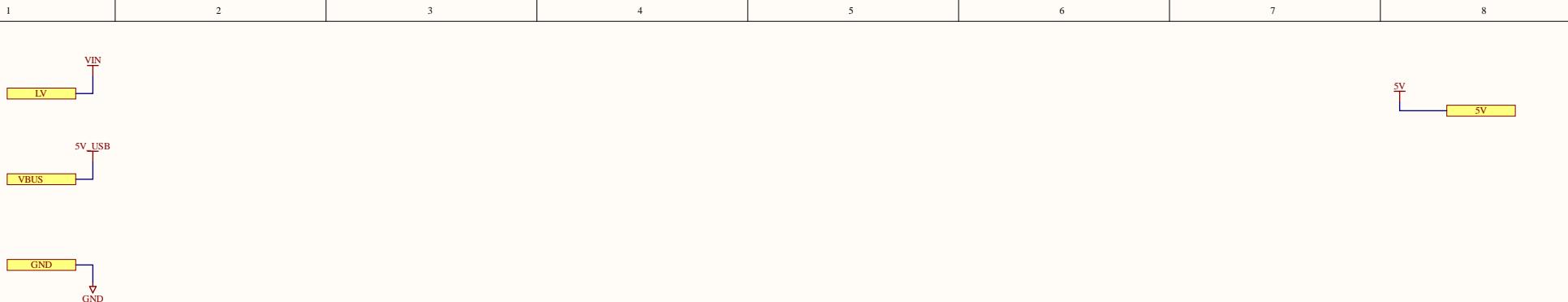
Project:
R20 EV VCU.PriPcb

Title:
zx5.SchDoc

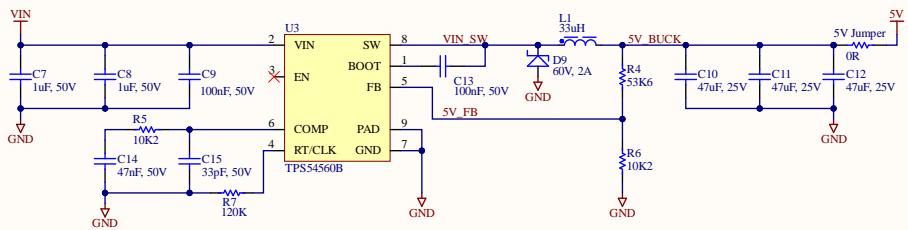
Revision:

Date: 12/19/2019





BUCK CONVERTER

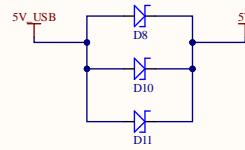


Bucket Caps on Vin:
 - Add one large non-ceramic capacitor of at least 100uF
 - Add at least one ceramic of at least 10uF
 Note that it doesn't really matter where you place these.

Protection on Vin:
 - Add reverse Schottky
 - Add TVS
 These should be rated after whatever you decide your Vin requirement is.
 Place close to connector as opposed to regulator.

USB REVERSE CURRENT PROTECTION

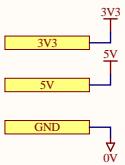
MAKES SURE NO CURRENT CAN FLOW OUT OF USB CONNECTOR



We use 3x rectifier diodes in parallel to reduce the forward voltage drop. ZX5 module needs at least 4.75V. Allows us to solder in more diodes if the voltage drop is too high.

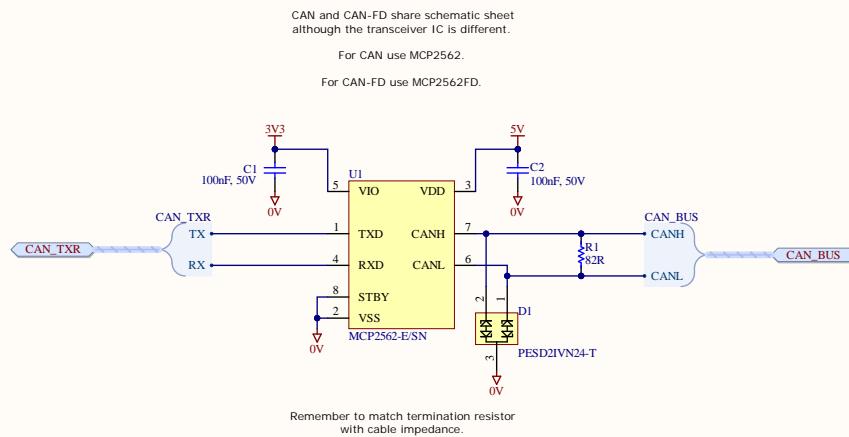
Project: R20_EV_VCU.PnjPcb		
Title: power.SchDoc	Sheet number: 4 out of 12	Date: 12/19/2019
Revision:	Designer: Trym Snellvedt	Date: 12/19/2019

A



A

B

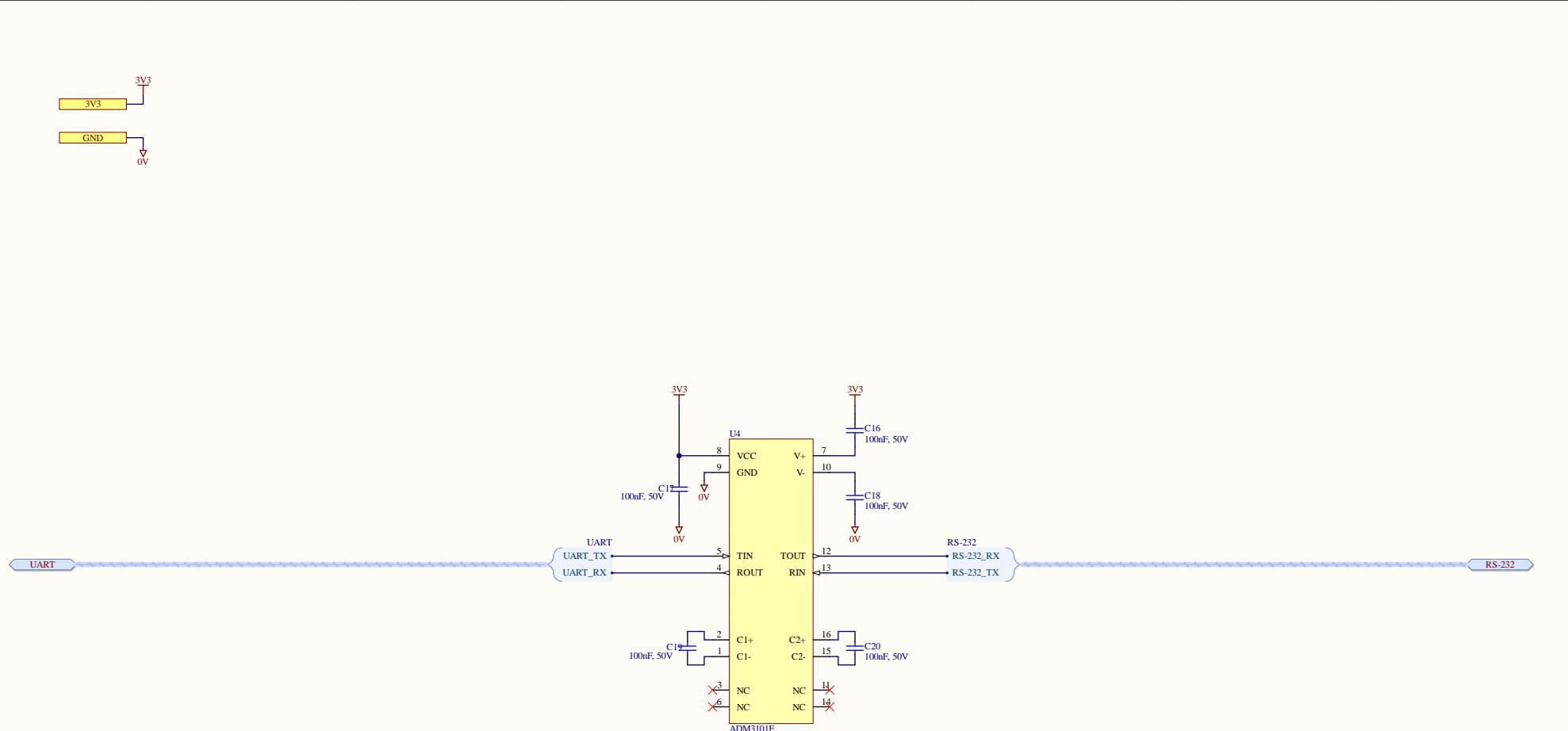


B

C

D

Project: R20_EV_VCU.PnjPcb		
Title: canfd.SchDoc		Sheet number: 5 out of 12
Revision:	Designer: Trym Snelveldt	Date: 12/19/2019



Project:
R20_EV_VCU.PnjPcb

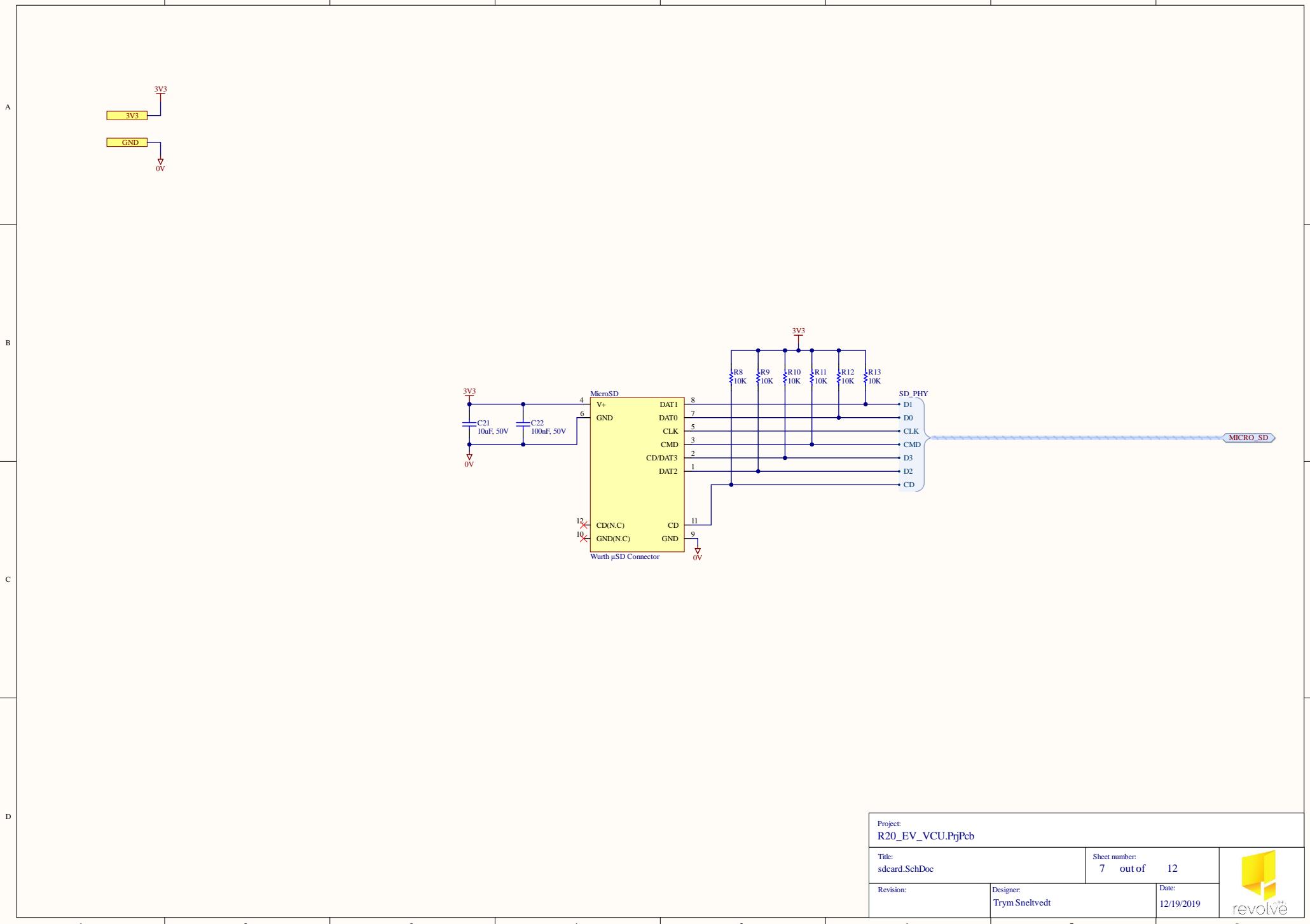
Title:
rs232.SchDoc

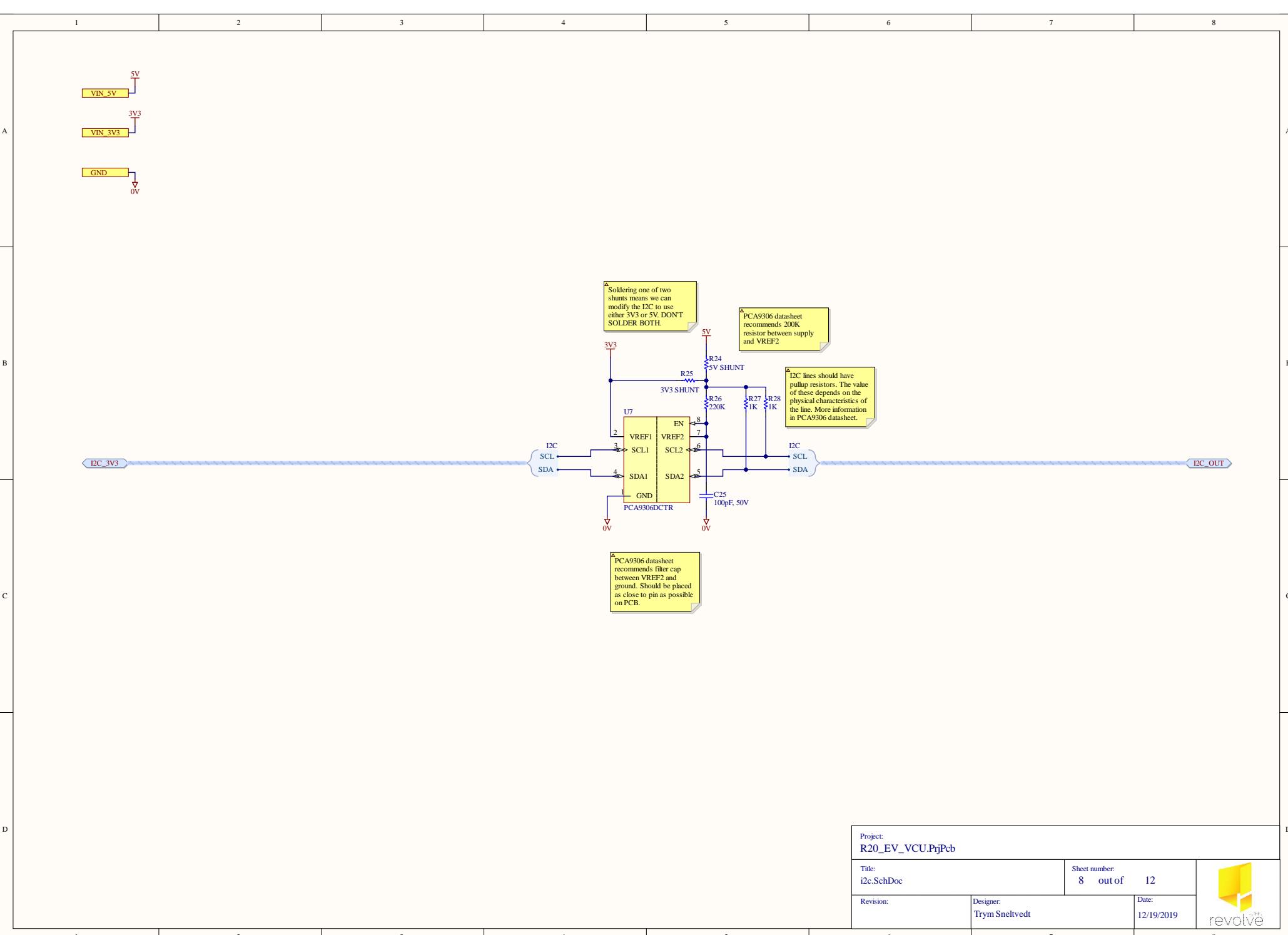
Sheet number:
6 out of 12

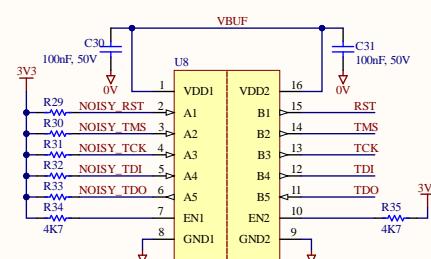
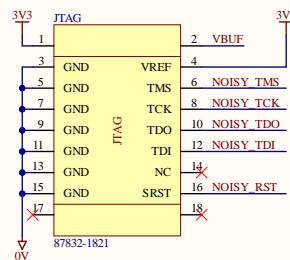
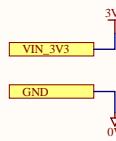


Revision:
Trym Sneltvedt

Designer:
Date:
12/19/2019



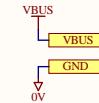




SI8651EB-B-IU is a digital isolator used as a programming buffer. This is to prevent noise on the programming pins.

Project:
R20_EV_VCU.PnjPcb

Title: jtag.SchDoc		Sheet number: 9 out of 12	Date: 12/19/2019
Revision:		Designer: Trym Snelvoldt	



A

A

B

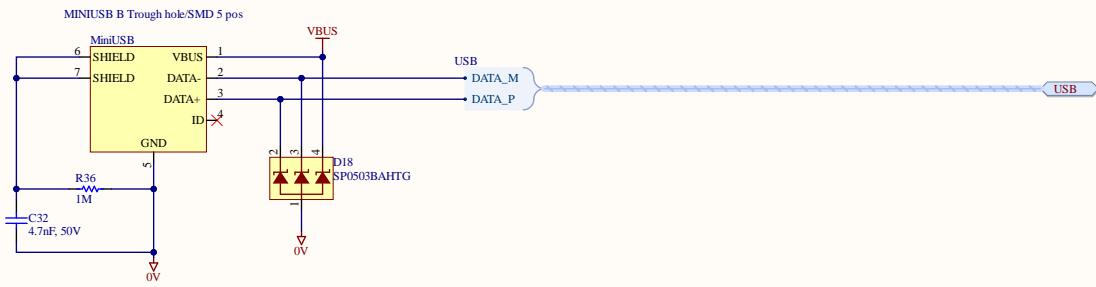
B

C

C

D

D



Project:
R20_EV_VCU.PrjPcb

Title:
usb.SchDoc

Sheet number:
11 out of 12



Revision:
Trym Sneltvedt

Date:
12/19/2019

A

A

B

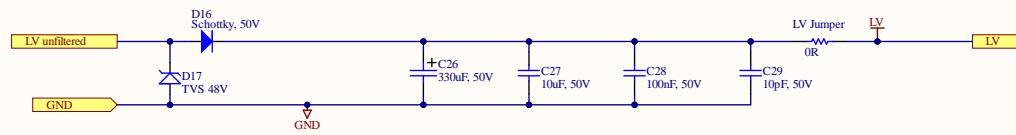
B

C

C

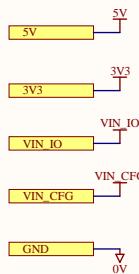
D

D

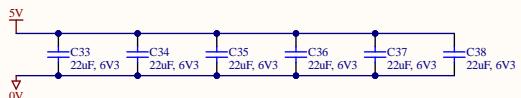


Project: R20_EV_VCU.PrjPcb		
Title: input_filter.SchDoc	Sheet number: 12 out of 12	
Revision:	Designer: Trym Sneltvedt	Date: 12/19/2019

1 2 3 4 5 6 7 8

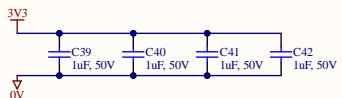


VCC_MAIN

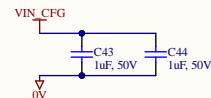


[▲]We want small 0603 capacitors for decoupling, that's the reason for the 6V3 rating.

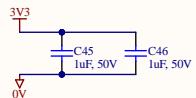
VCC_3V3_MOD



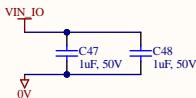
VIN_CFG



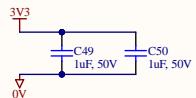
VCC_OUT_A



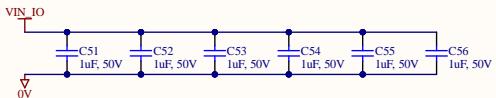
VIN_IO_A



VCC_OUT_B



VIN_IO_B



Project:
R20_EV_VCU.PnjPcb

Title:
zx5_decoupling.SchDoc

Sheet number:
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Revision:
Designer:
Trym Snellvedt

Date:
12/19/2019

1 2 3 4 5 6 7 8

