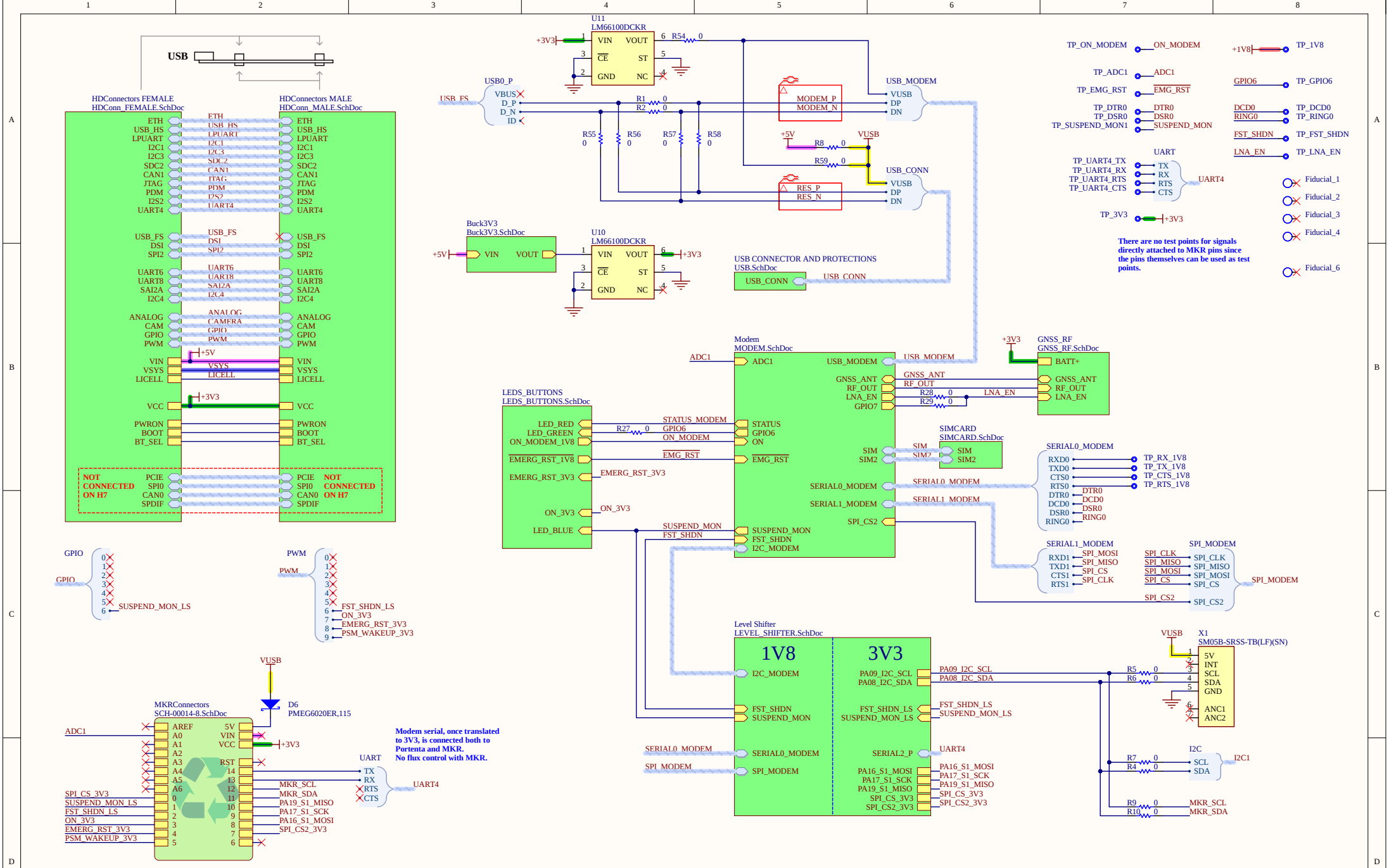
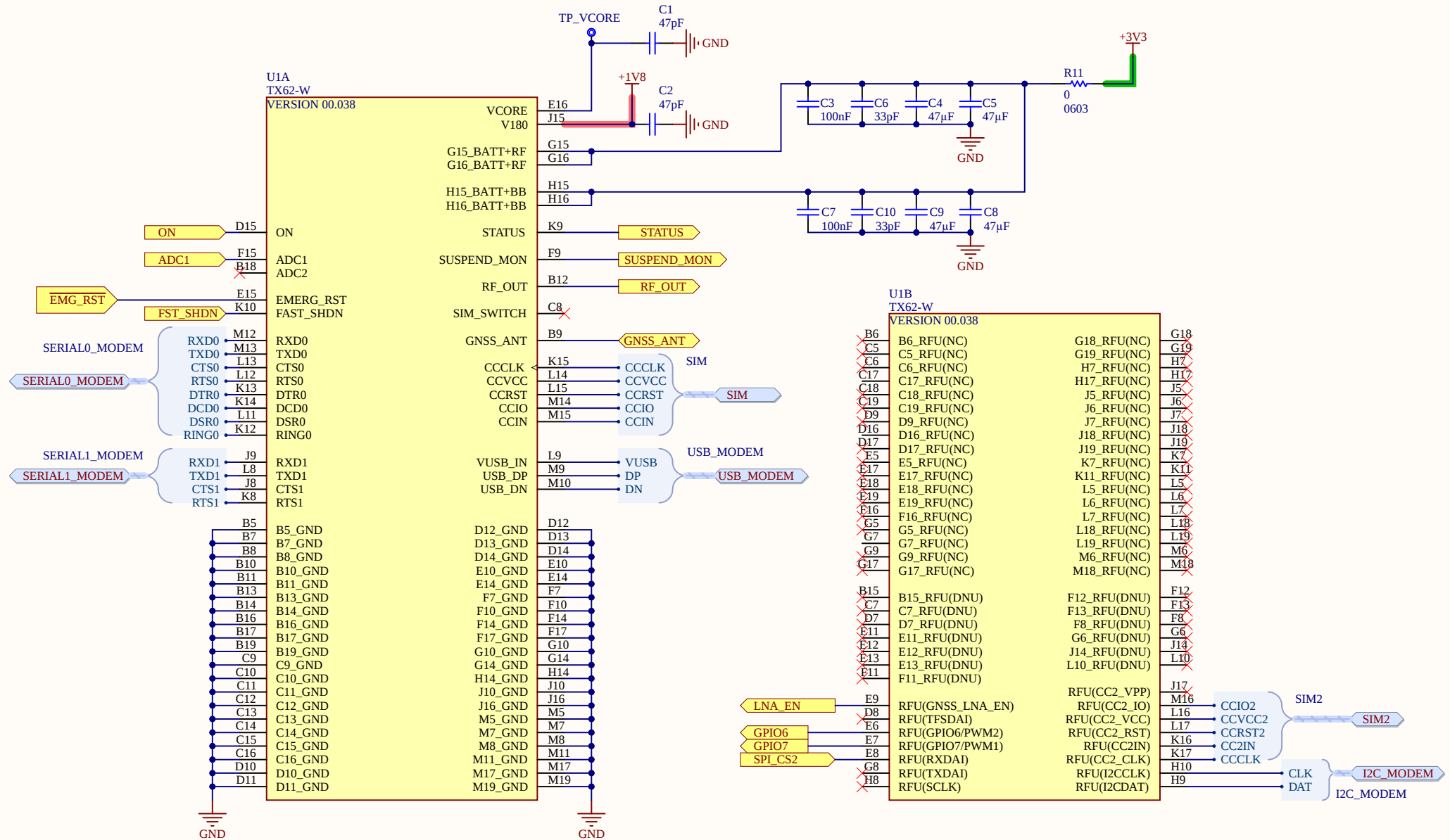




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Title: **Modem**

ID: **ASX00027**

Date: **2022-01-24** Time: **12:53:10**

File: **MODEM.SchDoc**

Revision: **V1.5**

Sheet **2** of **11**

Author: **Silvio Navaretti**

RevAuthor: *



A

B

C

D

A

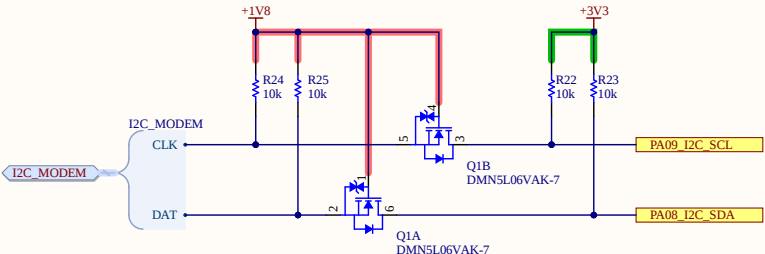
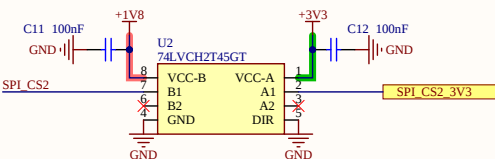
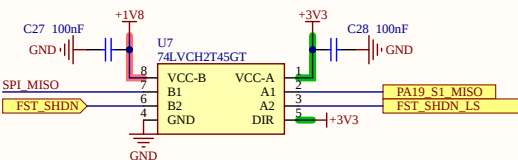
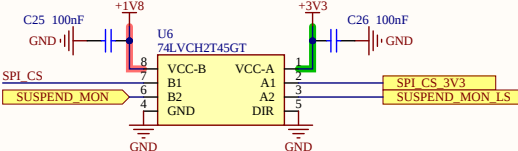
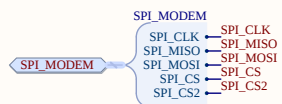
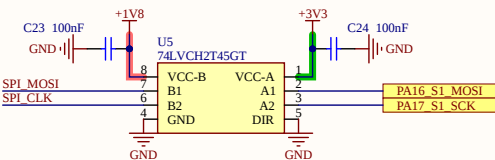
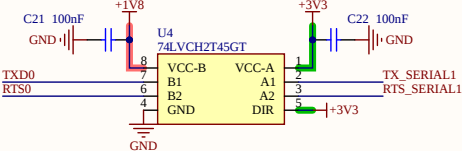
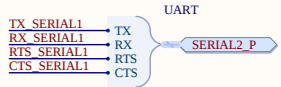
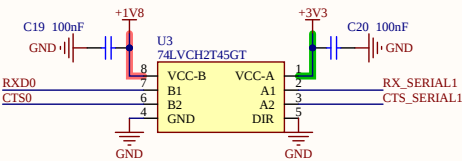
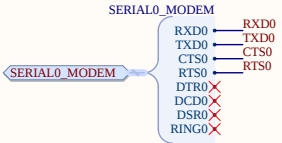
B

C

D

A HIGH on DIR allows transmission from nA to nB

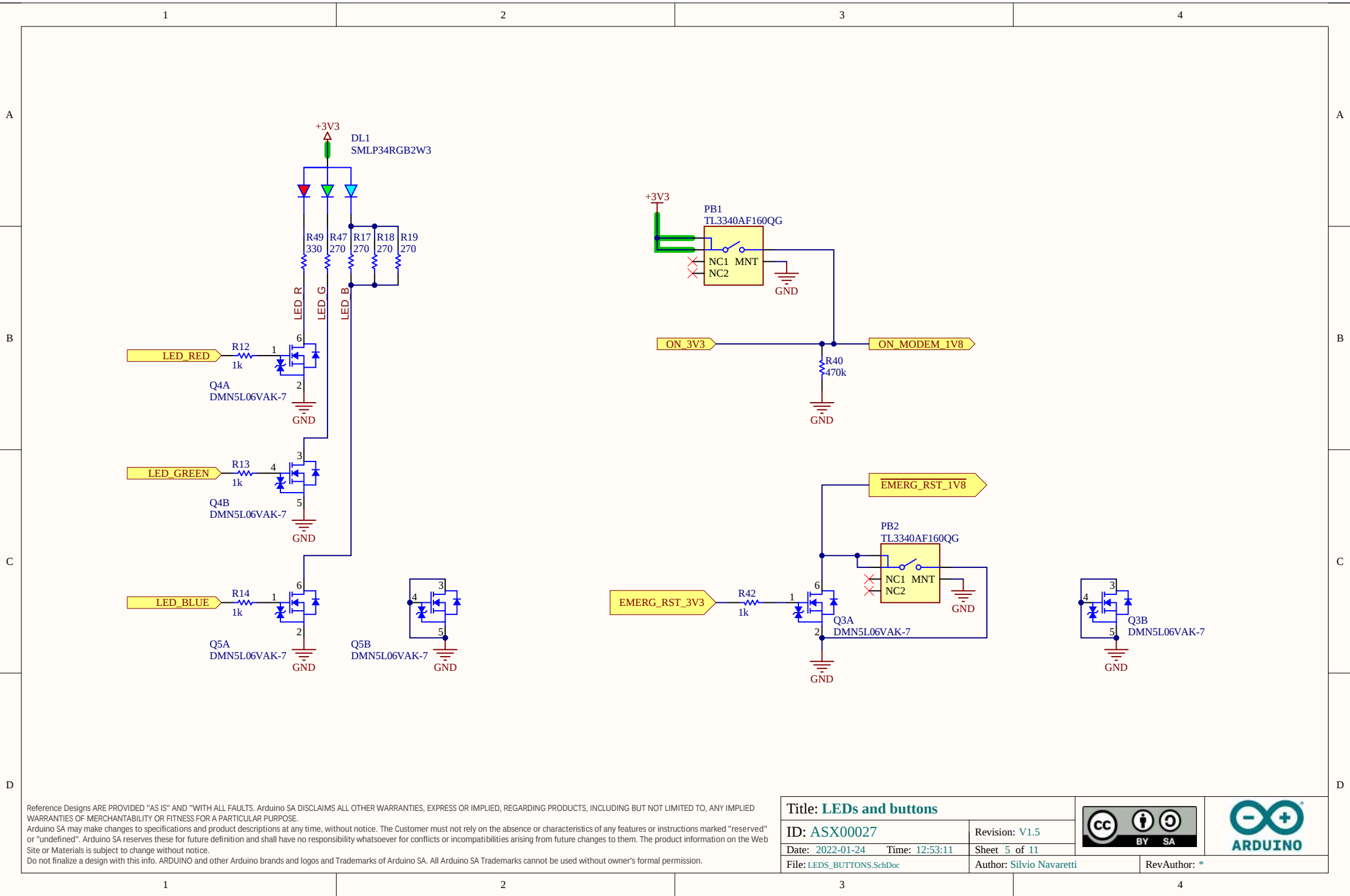
A LOW on DIR allows transmission from nB to nA.

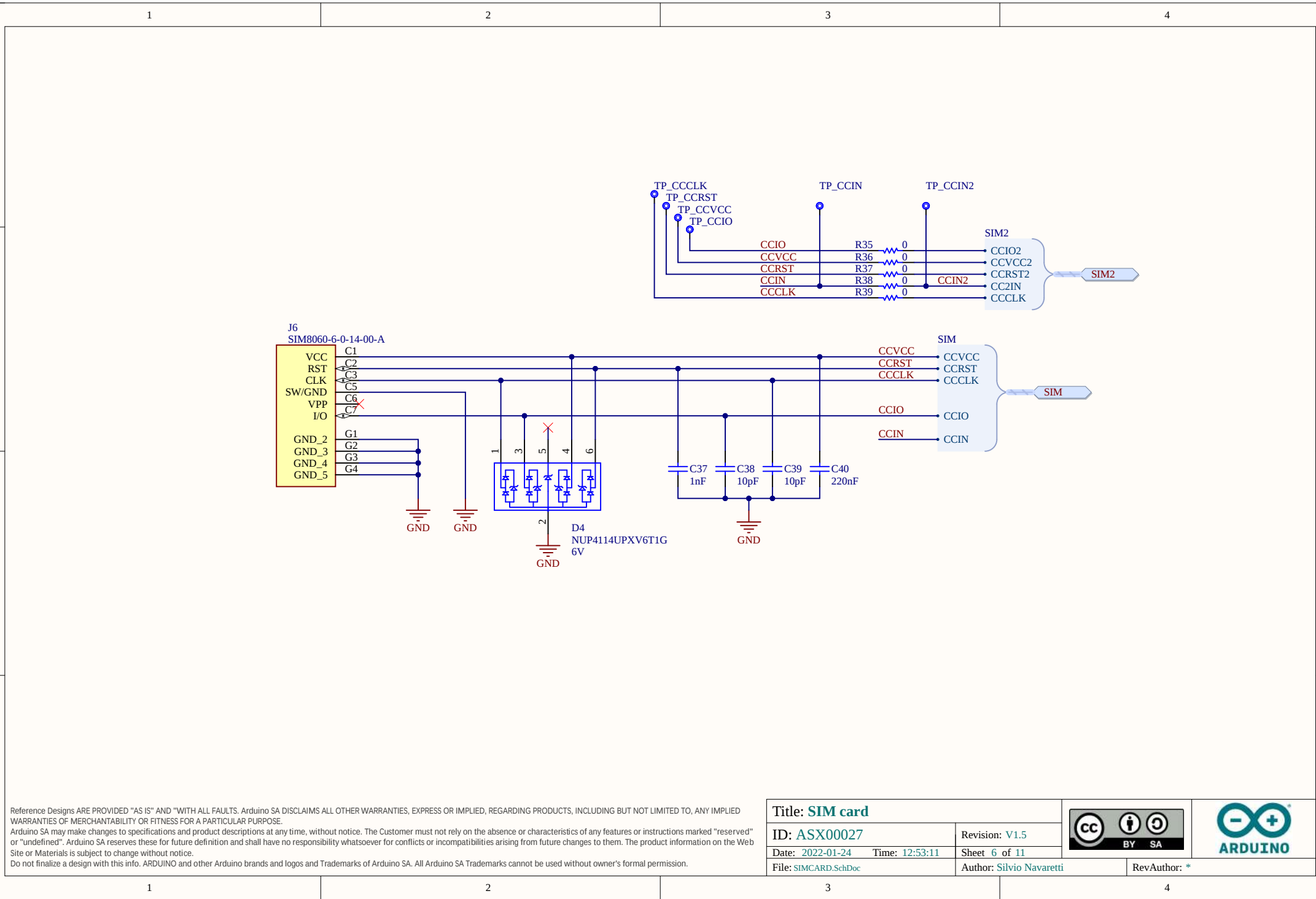


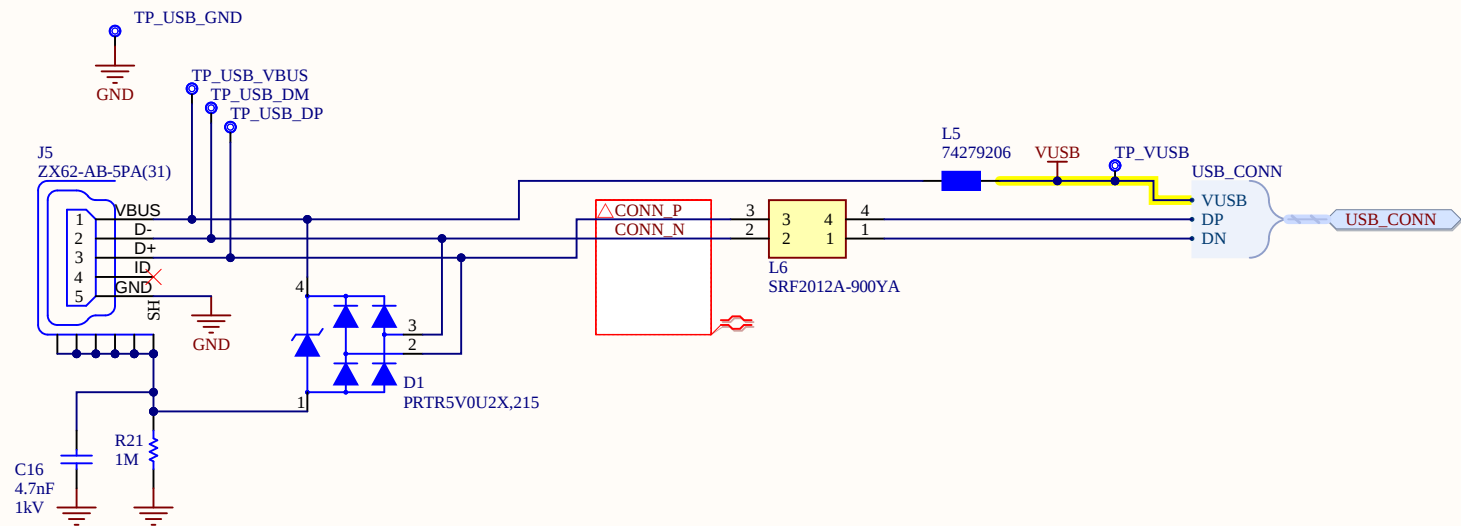
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Title: Level shifters		Revision: V1.5	
ID: ASX00027	Date: 2022-01-24	Time: 12:53:10	Sheet 3 of 11
File: LEVEL_SHIFTER.SchDoc		Author: Silvio Navaretti	RevAuthor:







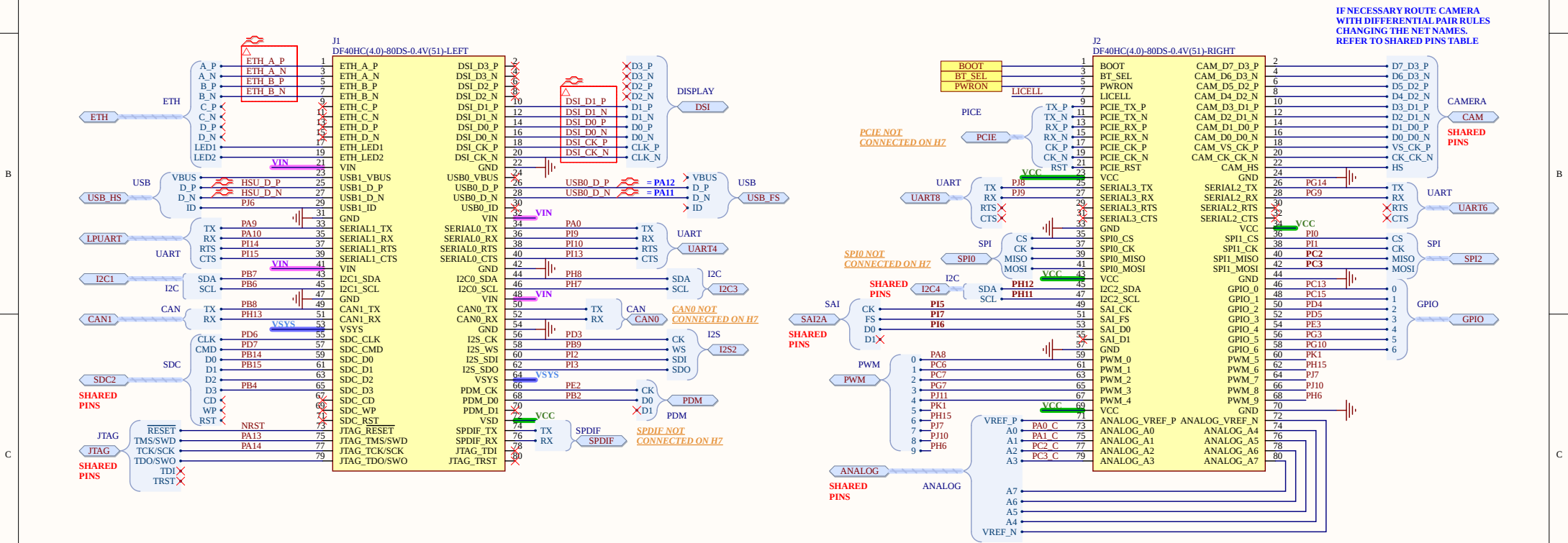
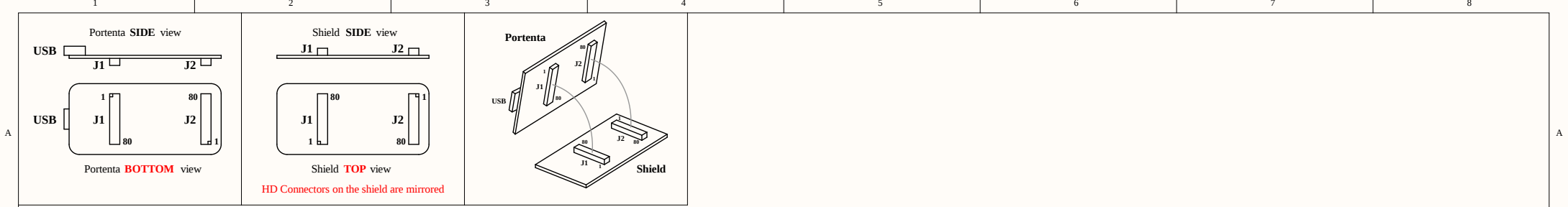


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Title: USB		 	
ID: ASX00027	Revision: V1.5		
Date: 2022-01-24	Time: 12:53:11	Sheet 7 of 11	RevAuthor:
File: USB.SchDoc		Author: Silvio Navaretti	



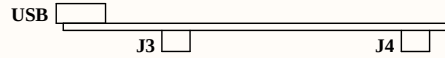
SHARED PINS TABLE

NET	BUS 1	BUS 2
✗ PB3	JTAG	SDC2
✗ PH11	CAM	I2C4
✗ PH12	CAM	I2C4
✗ PI2	CAM	SAI2A
✗ PI6	CAM	SAI2A
✗ PI7	CAM	SAI2A
✗ PA4	CAM	ANALOG
✗ PA6	CAM	ANALOG
✗ PC2	ANALOG	SPI2
✗ PC3	ANALOG	SPI2

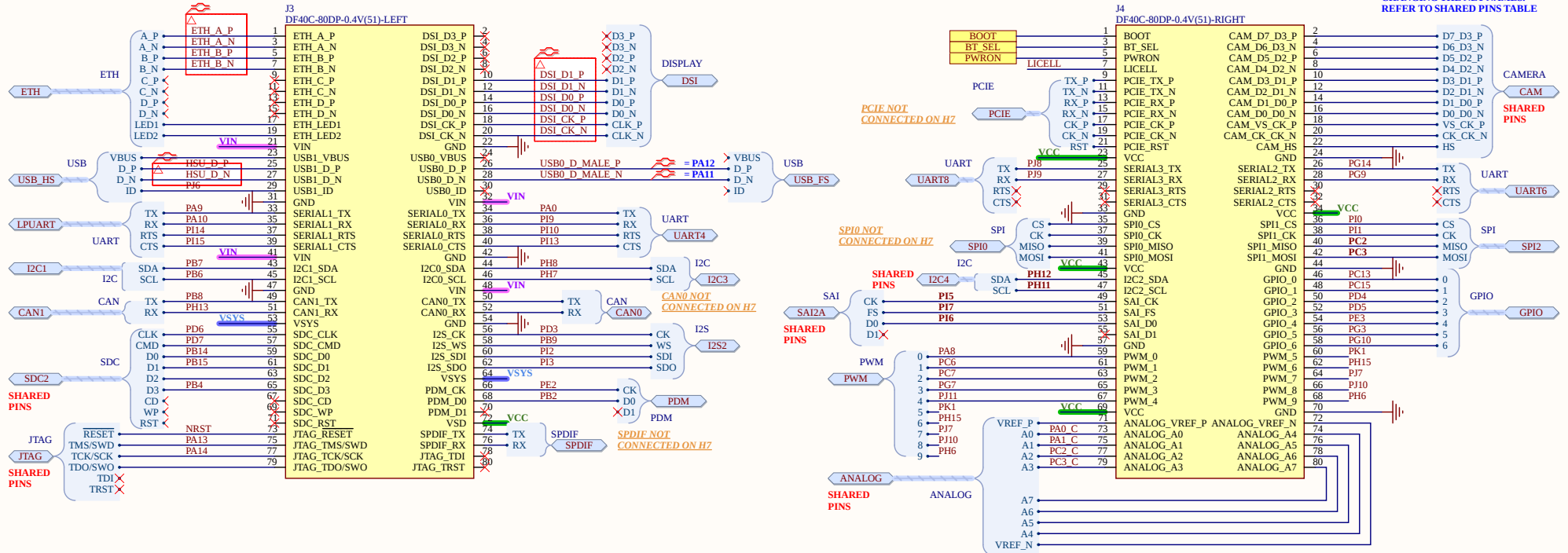
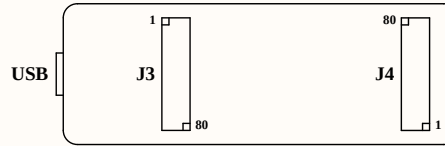
POWER NETS TABLE

NET	TYPE	RANGES	DESCRIPTION
VIN	PORTENTA INPUT	4.1V to 6V.	Default 3.3V, PMIC (U10) programmable output.
VCC	PORTENTA OUTPUT	1.1V to 3.3V in steps, max 1A.	Default 3.3V, PMIC (U10) programmable output.
VSYS	PORTENTA RESERVED OUTPUT	RESERVED, DO NOT USE 3.5V to 4.2V, max 600mA.	Default 4.2V, PMIC (U10) programmable output which is also the input voltage of the bucks inside the PMIC itself.
LICELL	PORTENTA INPUT	Coinc cell max 3.6V, max 46uA.	Max 4uA with PMIC (U10) in coin cell mode, max 46uA with PMIC in standby/suspend mode.

Board side view:



Board BOTTOM view:



IF NECESSARY ROUTE CAMERA WITH DIFFERENTIAL PAIR RULES CHANGING THE NET NAMES. REFER TO SHARED PINS TABLE

SHARED PINS TABLE

NET	BUS 1	BUS 2
PB3	JTAG	SDC2
PH11	CAM	I2C4
PH12	CAM	I2C4
PH15	CAM	SAI2A
PH16	CAM	SAI2A
PH17	CAM	SAI2A
PA4	CAM	ANALOG
PA6	CAM	ANALOG
PC2	ANALOG	SPI2
PC3	ANALOG	SPI2

POWER NETS TABLE

NET	TYPE	RANGES	DESCRIPTION
VIN	PORTENTA INPUT	4.1V to 6V.	Default 3.3V, PMIC (U10) programmable output.
VCC	PORTENTA OUTPUT	1.1V to 3.3V in steps, max 1A.	Default 3.3V, PMIC (U10) programmable output.
VSYS	PORTENTA RESERVED OUTPUT	RESERVED, DO NOT USE 3.5V to 4.2V, max 600mA.	Default 4.2V, PMIC (U10) programmable output which is also the input voltage of the bucks inside the PMIC itself.
LICELL	PORTENTA INPUT	Coinc cell max 3.6V, max 46uA.	Max 4uA with PMIC (U10) in coin cell mode, max 46uA with PMIC in standby/suspend mode.

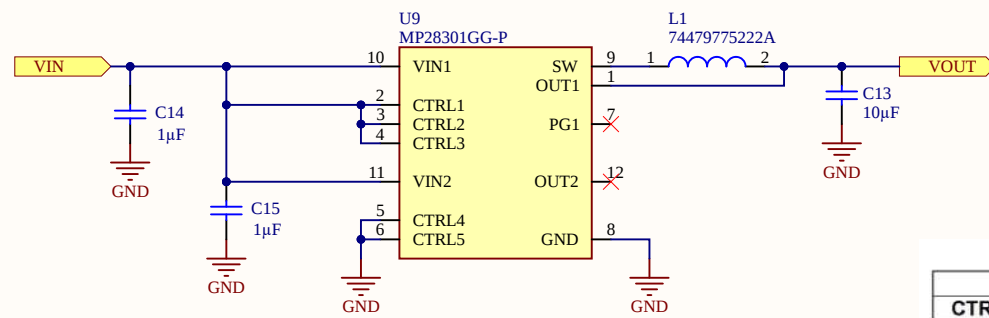


Table 1: CTRL vs. Output Voltages			
Step-Down Switcher			
CTRL3	CTRL2	CTRL1	OUT1
0	0	0	Disabled
0	0	1	0.8V
0	1	0	1.0V
0	1	1	1.2V
1	0	0	1.5V
1	0	1	1.8V
1	1	0	2.5V
1	1	1	3.3V
LDO			
CTRL5		CTRL4	OUT2
0		0	Disabled
0		1	1.2V
1		0	2.5V
1		1	3.0V

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Title: **BUCK 3V3**

ID: **ASX00027**

Date: **2022-01-24** Time: **12:53:12**

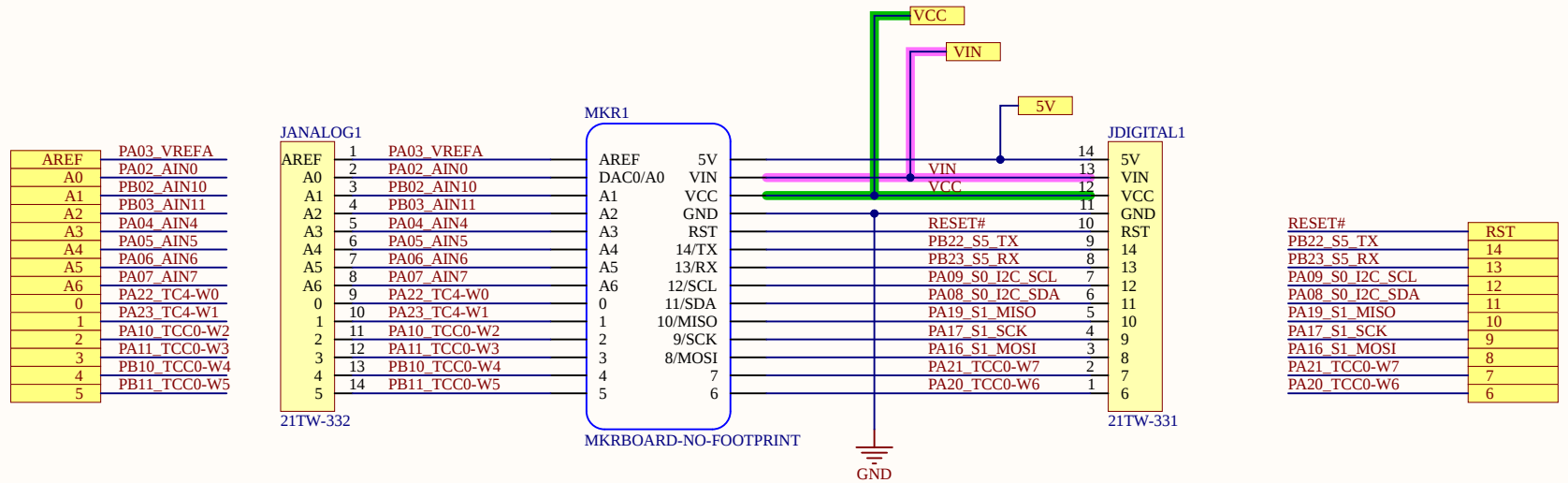
File: **Buck3V3.SchDoc**

Revision: **V1.5**

Sheet **10** of **11**

Author: **Silvio Navaretti**

RevAuthor: *****



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Title: *				
ID: *	Revision: *			
Date: 2022-01-24	Time: 12:53:12	Sheet * of *		
File: SCH-00014-8.SchDoc			Author: *	RevAuthor: *