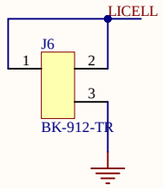
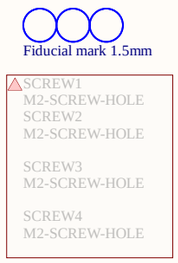
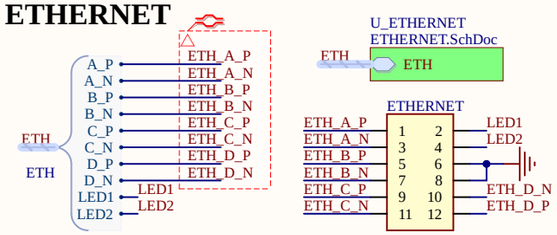
LiPo



MISC



ETHERNET



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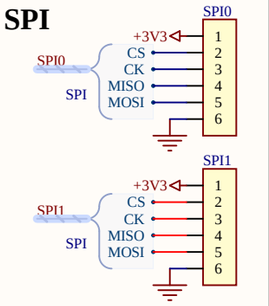
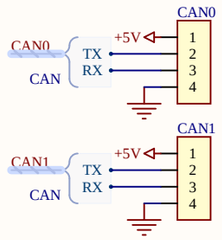
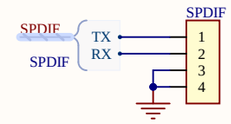


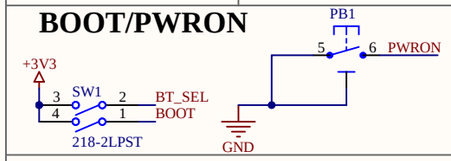
CAN



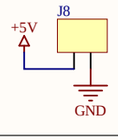
SPDIF



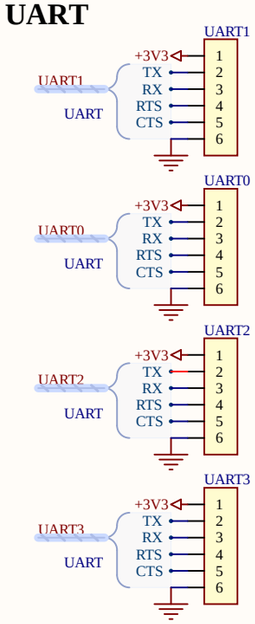
BOOT/PWRON



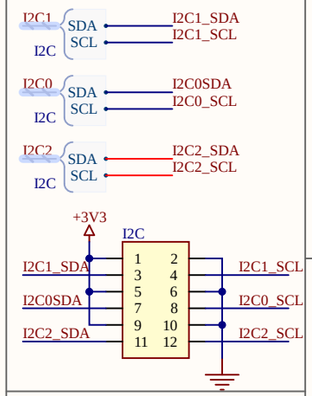
VIN



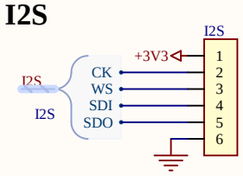
UART



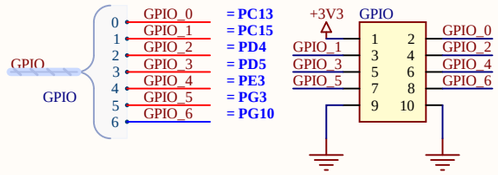
I2C



I2S



GPIO



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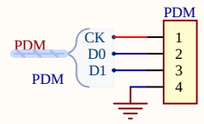
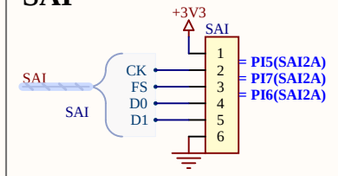
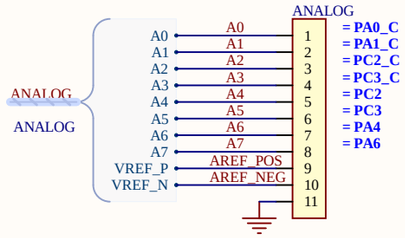


SAI



ANALOG



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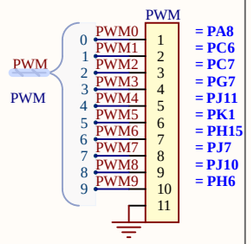

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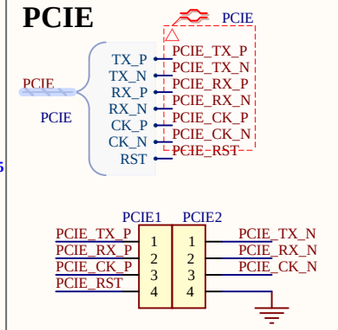

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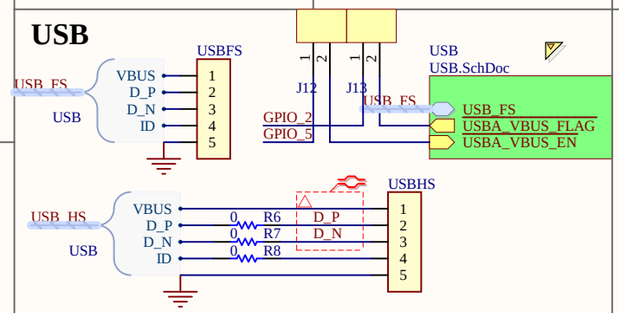
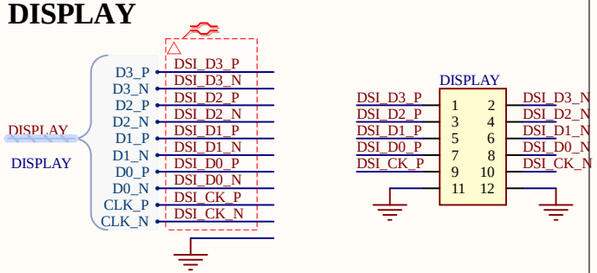
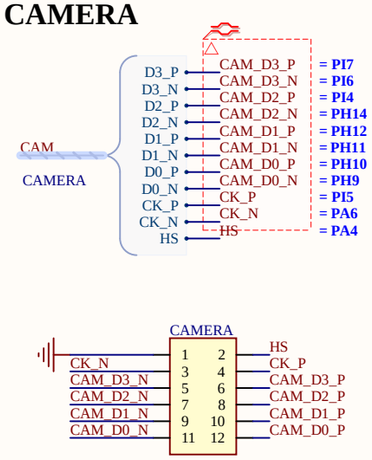


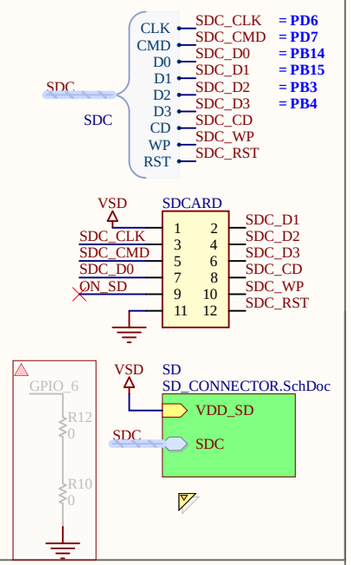
DISPLAY



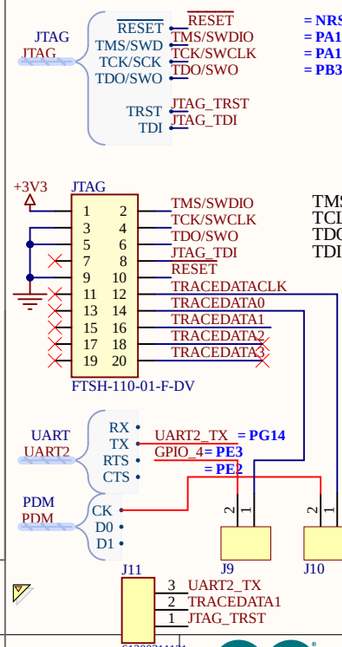
CAMERA



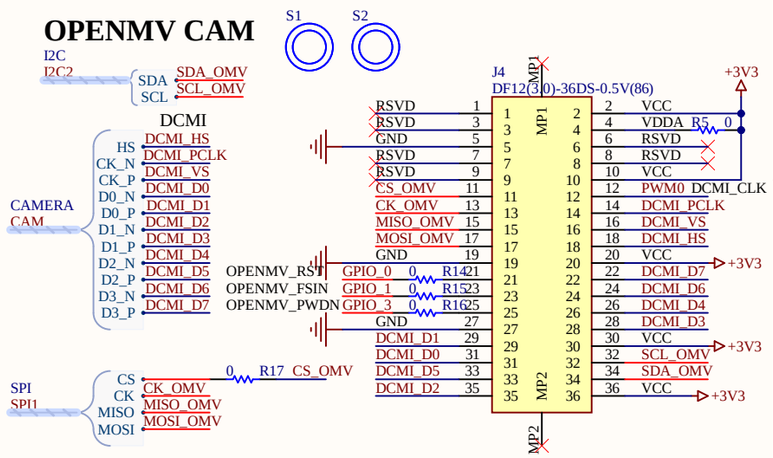
SD CARD



JTAG



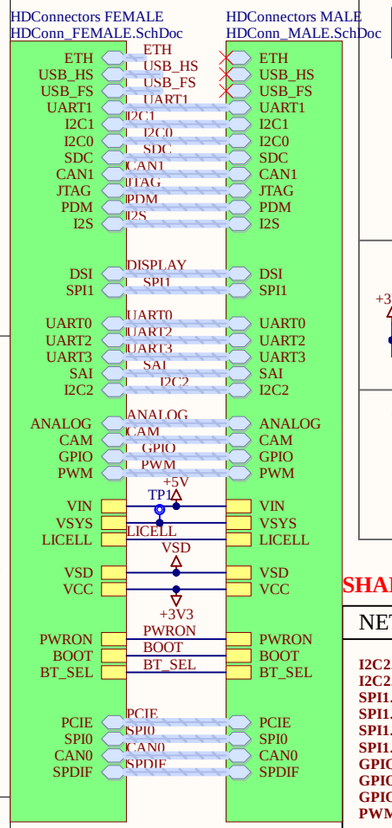
OPENMV CAM



SHARED PINS TABLE (RED WIRES)

NET	BUS 1	BUS 2
I2C2.SCL	I2C CONN	OPENMV_CAM_SCL
I2C2.SDA	I2C CONN	OPENMV_CAM_SDA
SPI1.CK	SPI1	OPENMV_CAM_SCK
SPI1.MISO	SPI1	OPENMV_CAM_MISO
SPI1.MOSI	SPI1	OPENMV_CAM_MOSI
SPI1.CS	SPI1	OPENMV_CAM_CS
GPIO_0	GPIO_CONN	OPENMV_CAM_RST
GPIO_1	GPIO_CONN	OPENMV_CAM_FSIN
GPIO_3	GPIO_CONN	OPENMV_CAM_PWDN
PWM0	PWM	OPENMV_CAM_CLK
GPIO_4	GPIO_CONN	TRACEDATA0 (JTAG)
UART2_TX	UART2	TRACEDATA1(JTAG)
PDM_CK	PDM	TRACEDATACLK(JTAG
GPIO_2		
GPIO_5		

HDConnectors FEMALE / HDConnectors MALE



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ID: *		Revision: *
Date: 3/2/2021	Time: 2:30:31 PM	Sheet 1 of 6
File: TOP.SchDoc		Author: * RevAuthor: *

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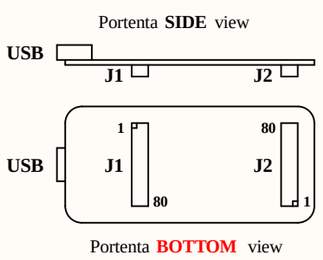
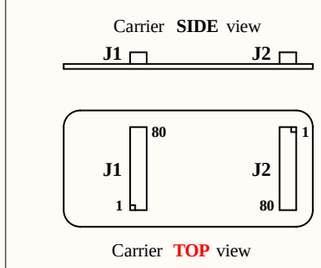
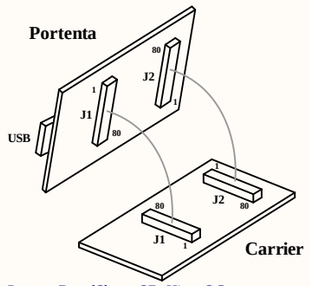




HD Connectors on the shield are mirrored



PortentaBoardShape_3D_Hirose3.5mm

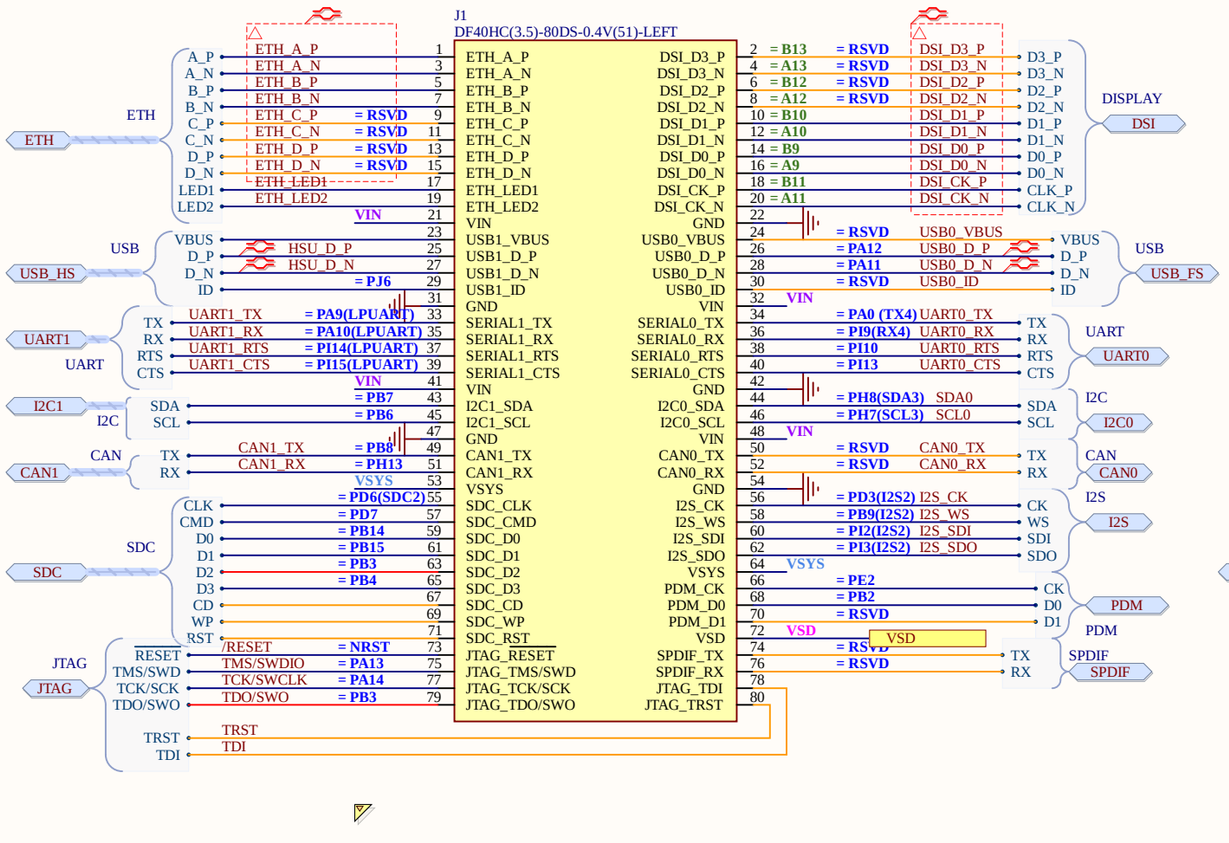
COLOR LEGEND:

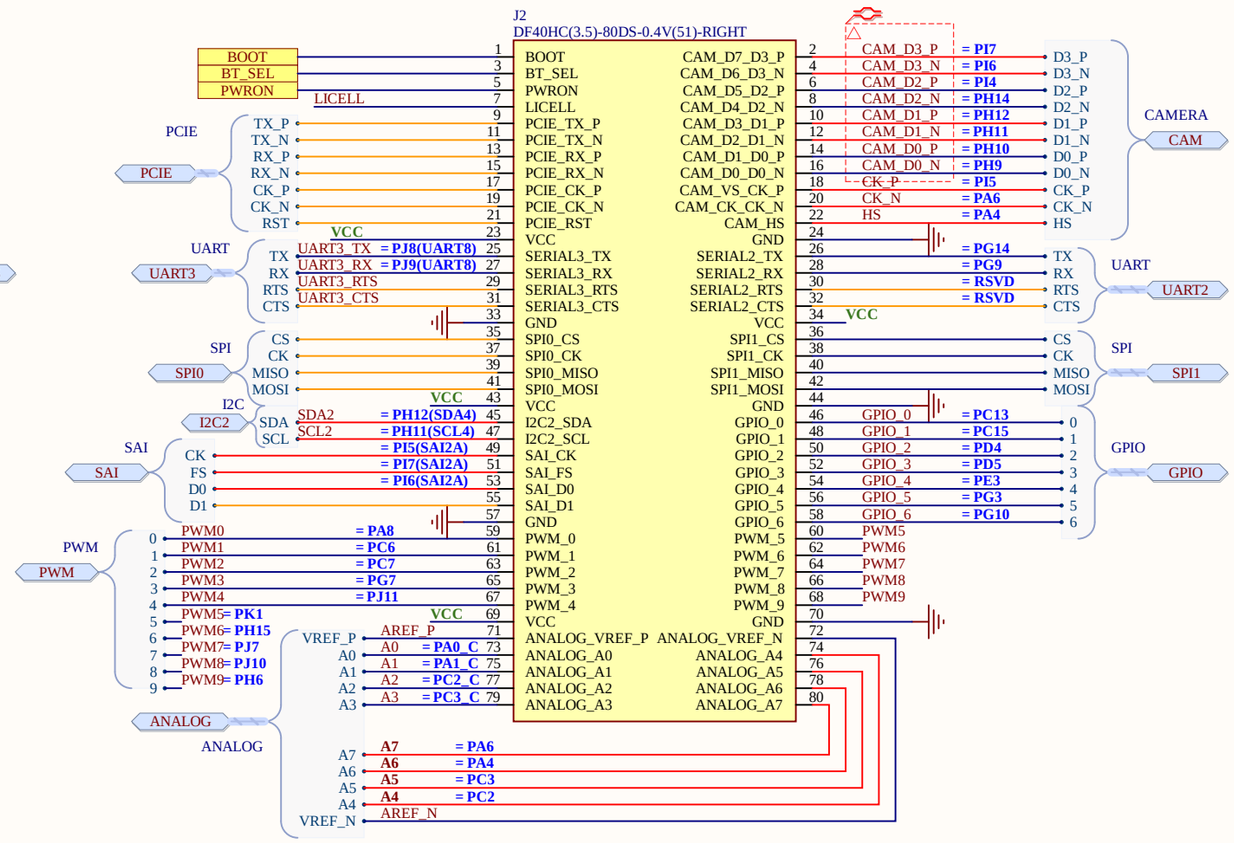
RED WIRES with bold names represent pins shared between two different peripherals/busses on Portenta H7

Orange Wires represent not-connected pins on Portenta H7

= BLUE labels indicates portenta H7 pins

= GREEN labels indicates portenta M8 pins





SHARED PINS TABLE (RED WIRES)

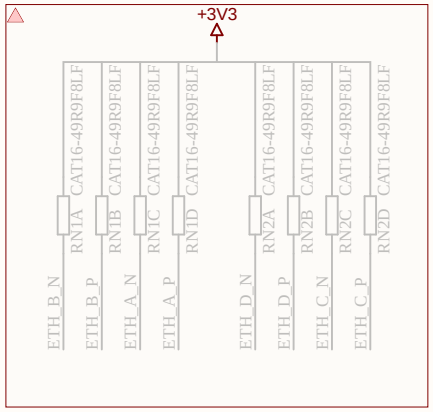
NET	BUS 1	BUS 2
PB3	JTAG	SDC2
PH11	CAM	I2C4
PH12	CAM	I2C4
PI5	CAM	SAI2A
PI6	CAM D3_N	SAI2A
PI7	CAM D3_P	SAI2A
PA4	CAM	ANALOG
PA6	CAM	ANALOG
PC2	ANALOG (A4)	SPI2 (D10/MISO)
PC3	ANALOG (A5)	SPI2 (D8/MOSI)

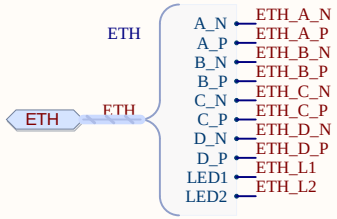
POWER NETS TABLE

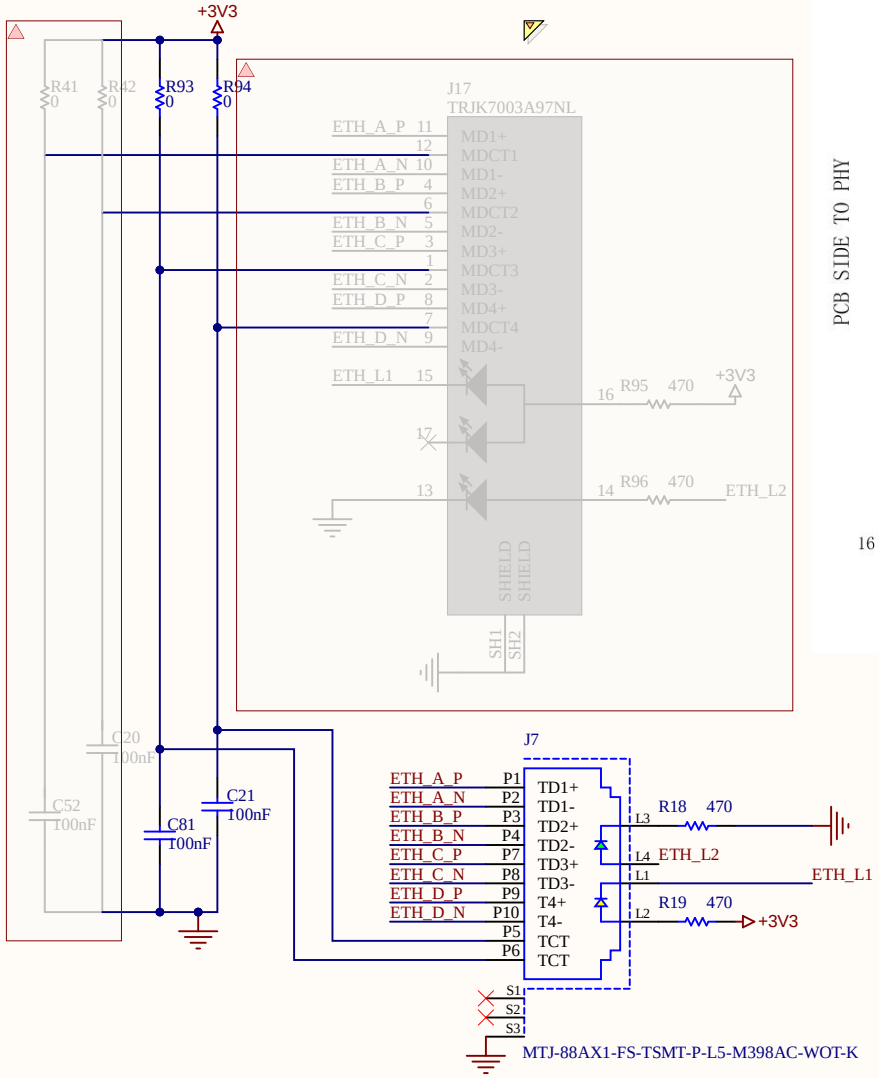
NET	TYPE	RANGES	DESCRIPTION
VIN	**PORTENTA INPUT**	4.1V to 6V.	Default 3.3V, PMIC (U10) programmable output.
VCC	***PORTENTA OUTPUT***	1.1V to 3.3V in steps, max 1A.	Default 3.3V, PMIC (U10) programmable output.
VSYS	***PORTENTA RESERVED OUTPUT***	**RESERVED, DO NOT USE** 3.5V to 4.2V, max 600mA.	Default 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.

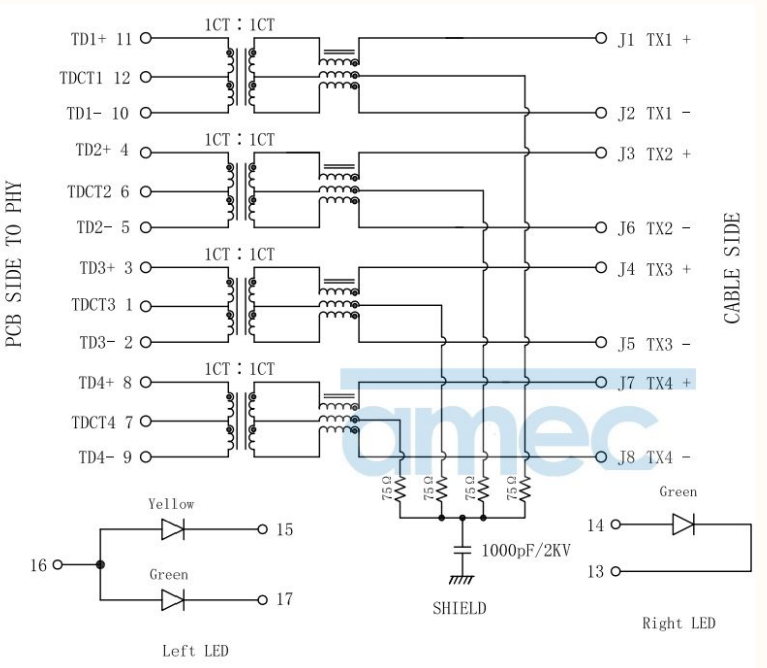
Title: **HD Connectors female**		
ID: ASX00027	Revision: V0.1	
Date: 3/2/2021 Time: 2:30:32 PM	Sheet 2 of 6	
File: HDConn_FEMALE.SchDoc	Author: S. Navaretti	RevAuthor: *

ARDUINO









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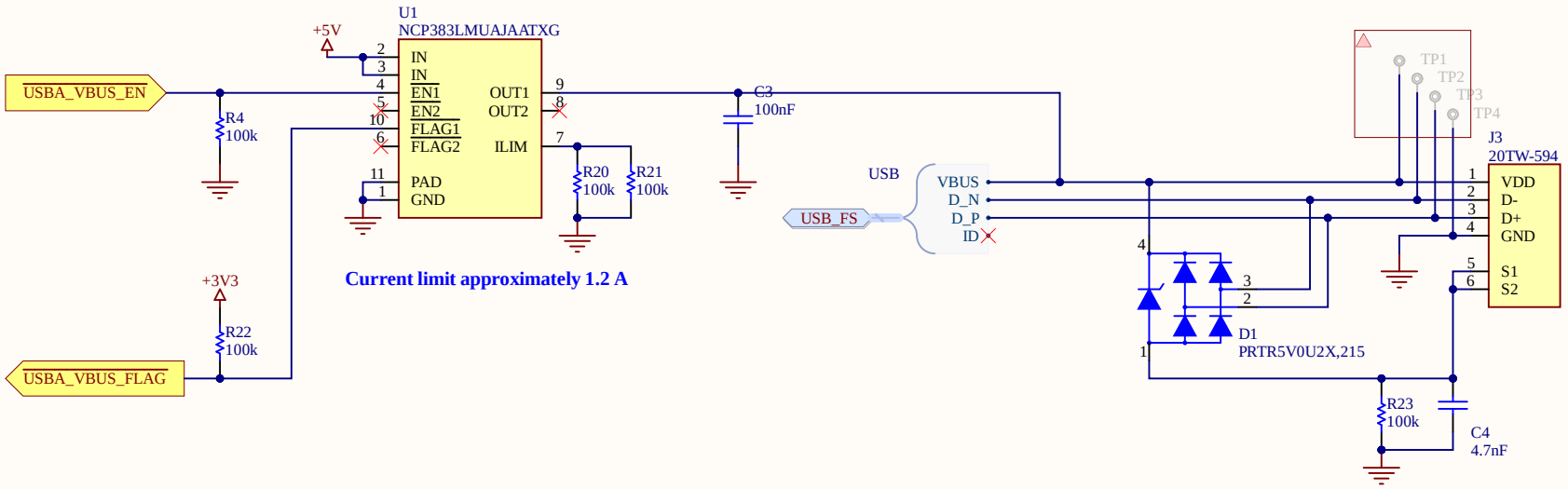
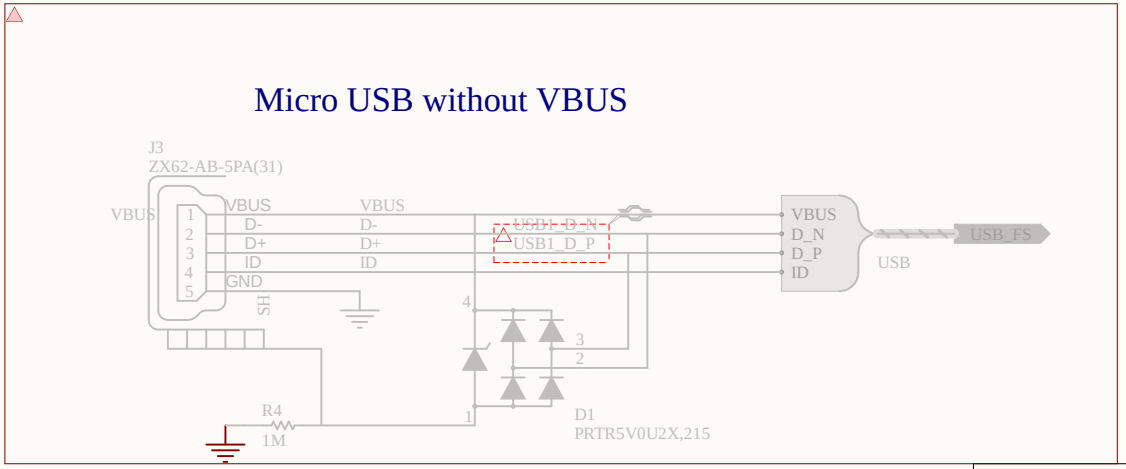
Date: 3/2/2021	Time: 2:30:33 PM	Sheet 3 of 6	
File: ETHERNET.SchDoc		Author: *	RevAuthor: *

ARDUINO

Micro USB without VBUS





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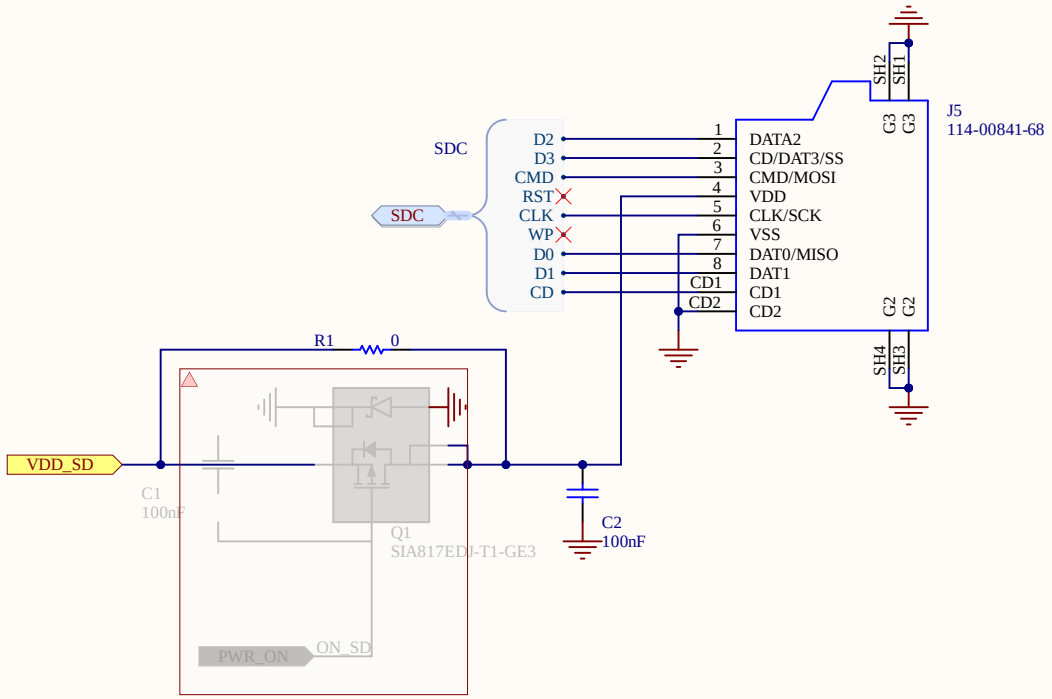
File: USB.SchDoc		Author: *	RevAuthor: *

ARDUINO



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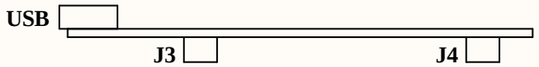
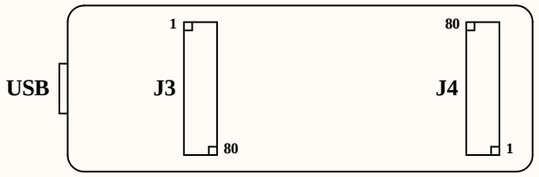
ID:		Revision:	
Date: 3/2/2021	Time: 2:30:35 PM	Sheet 5 of 6	
File: SD_CONNECTOR.SchDoc		Author: *	RevAuthor:

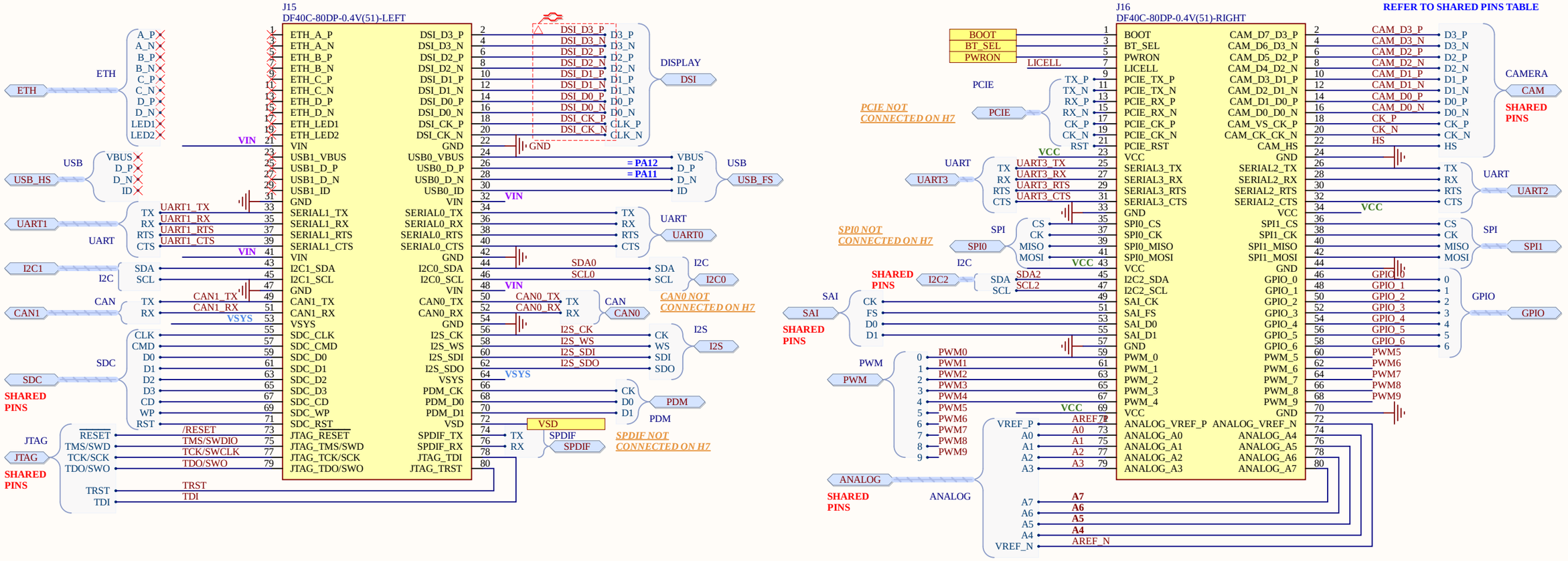
Board side view:



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
	JTAG	SDC2
	CAM	I2C4
	CAM	I2C4
	CAM	SAI2A
	CAM	SAI2A
	CAM	SAI2A
	CAM	ANALOG
	CAM	ANALOG
	ANALOG	SPI2
	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.

Title: **HD Connectors male**		
ID: ASX00027	Revision: V0.1	
Date: 3/2/2021 Time: 2:30:36 PM	Sheet 6 of 6	
File: HDConn_MALE.SchDoc	Author: S. Navaretti	RevAuthor: