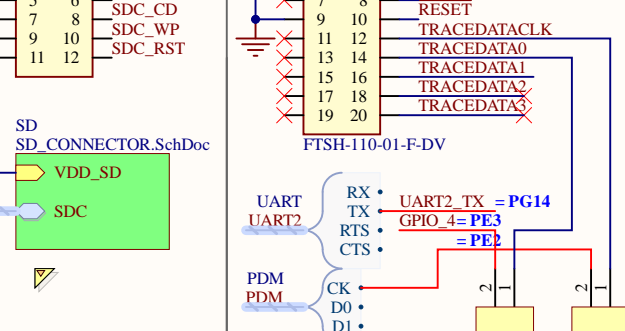
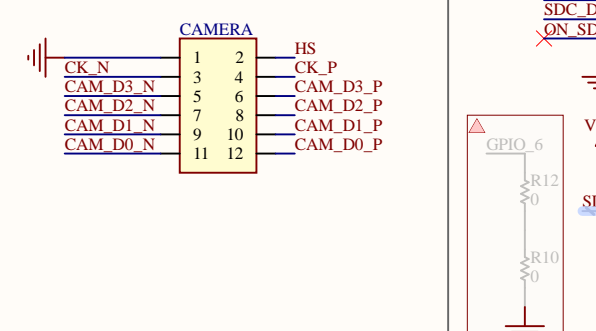
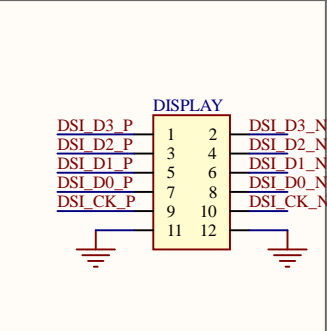
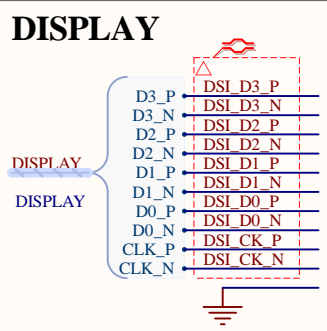
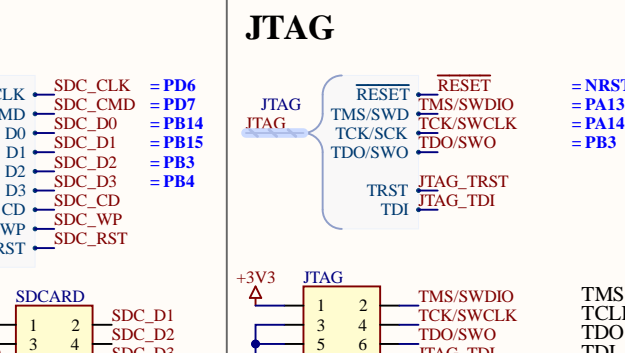
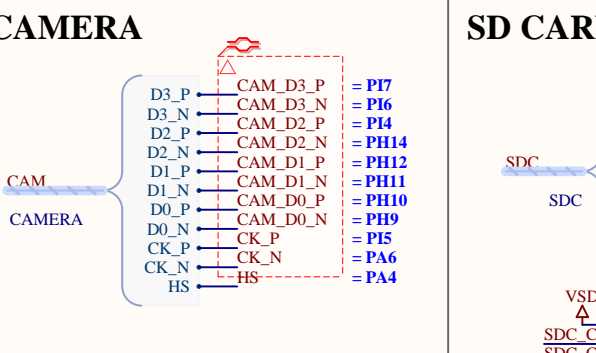
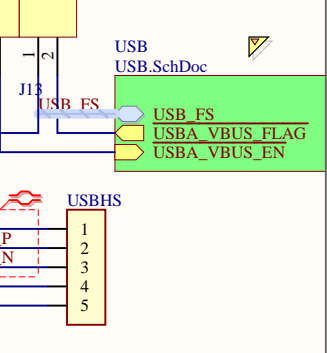
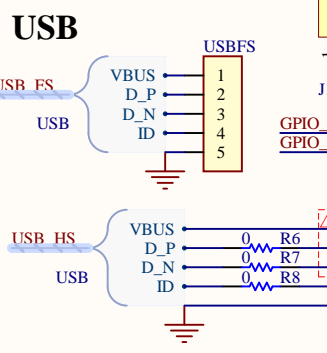
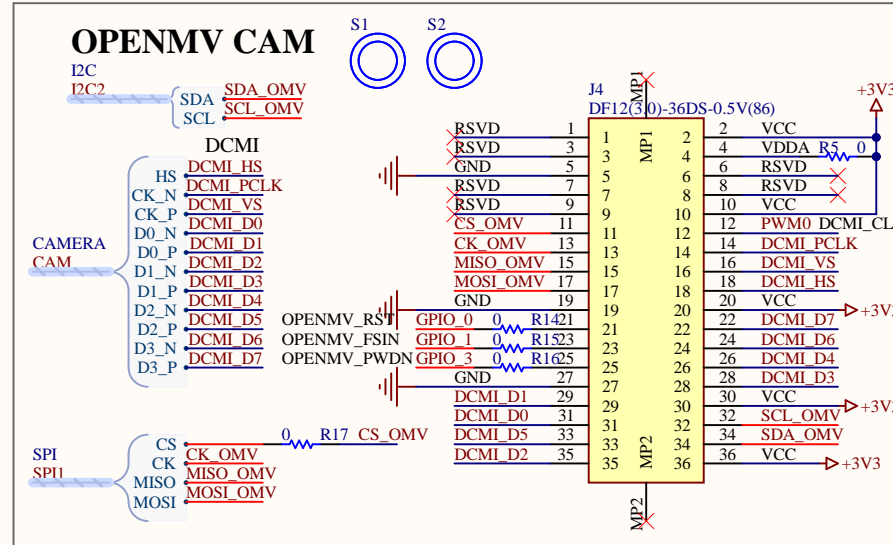
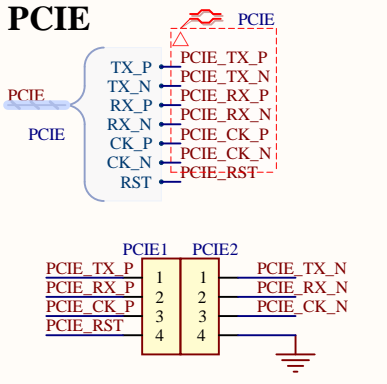
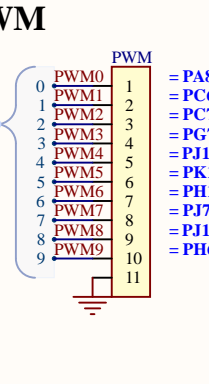
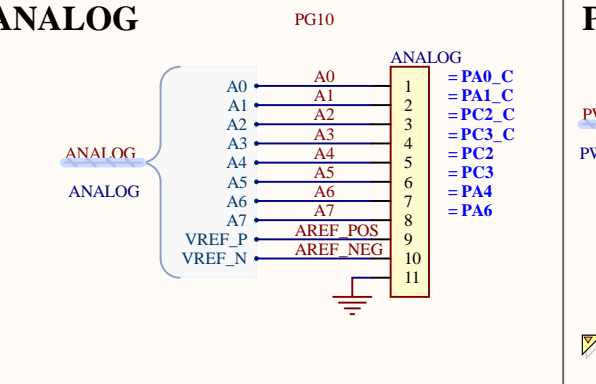
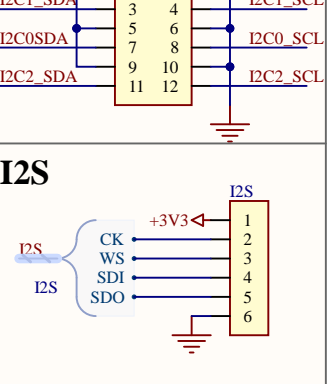
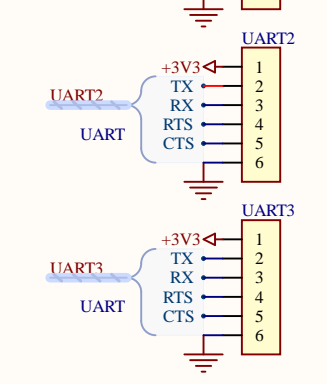
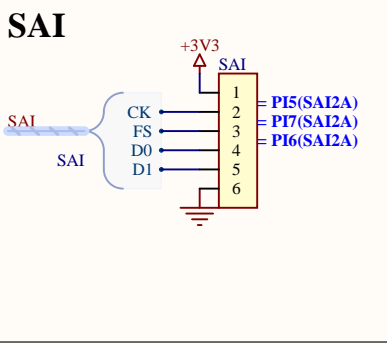
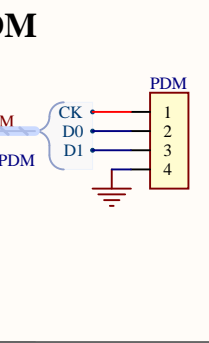
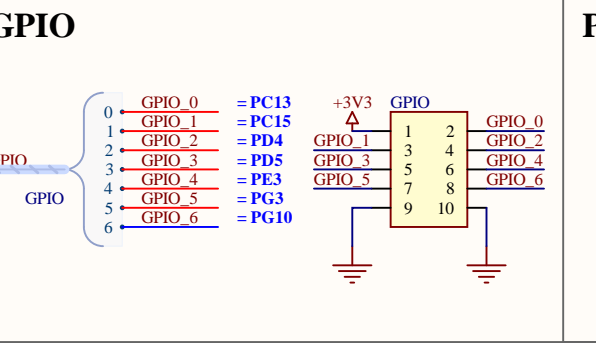
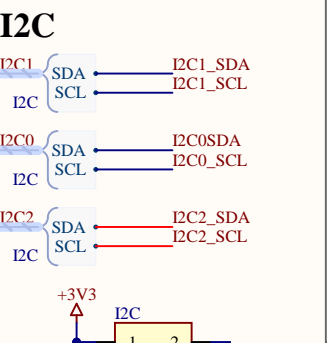
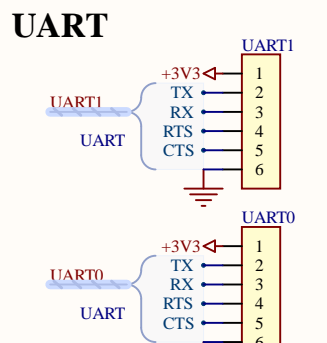
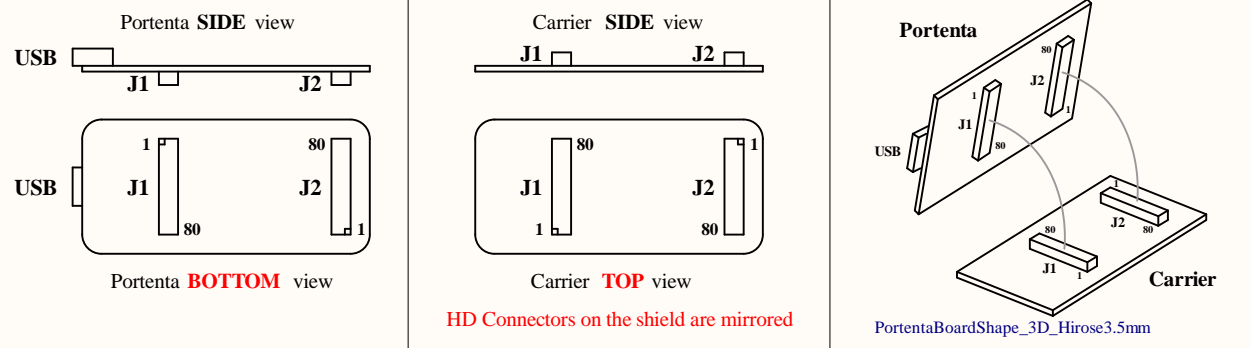


SHARED PINS TABLE (RED WIRES)

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
GPIO_0	SPI1	OPENMV_CAM_CS
GPIO_1	GPIO_CONN	OPENMV_CAM_RST
GPIO_3	GPIO_CONN	OPENMV_CAM_FSIN
GPIO_2	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_5		



Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
 Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined".
 Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.
 Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

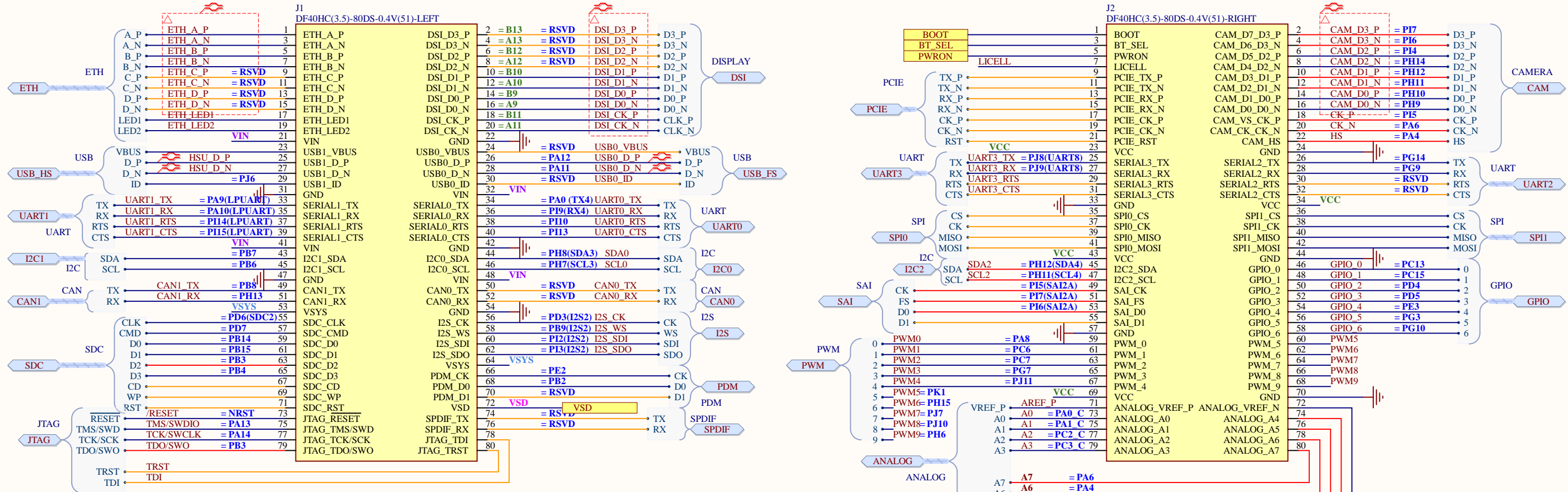


COLOR LEGEND:

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)

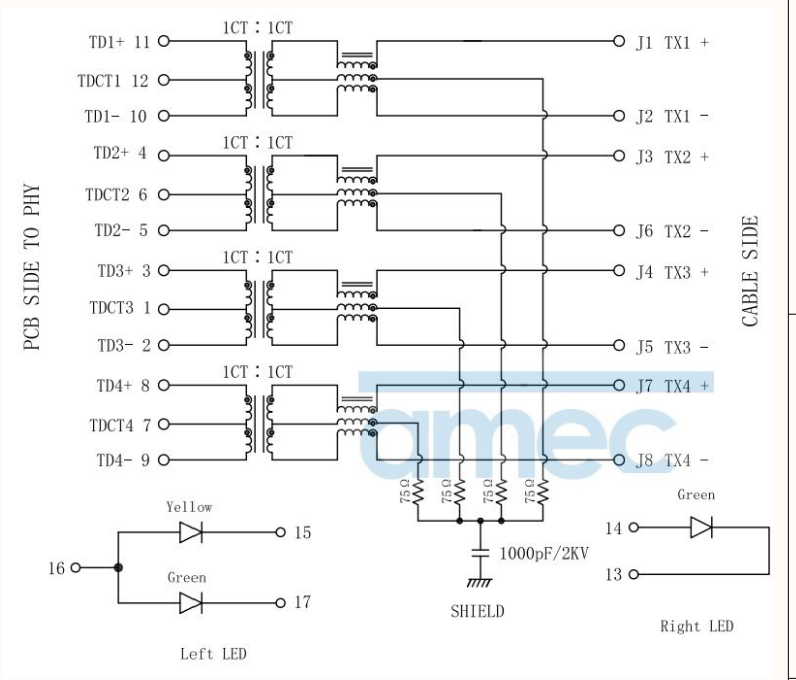
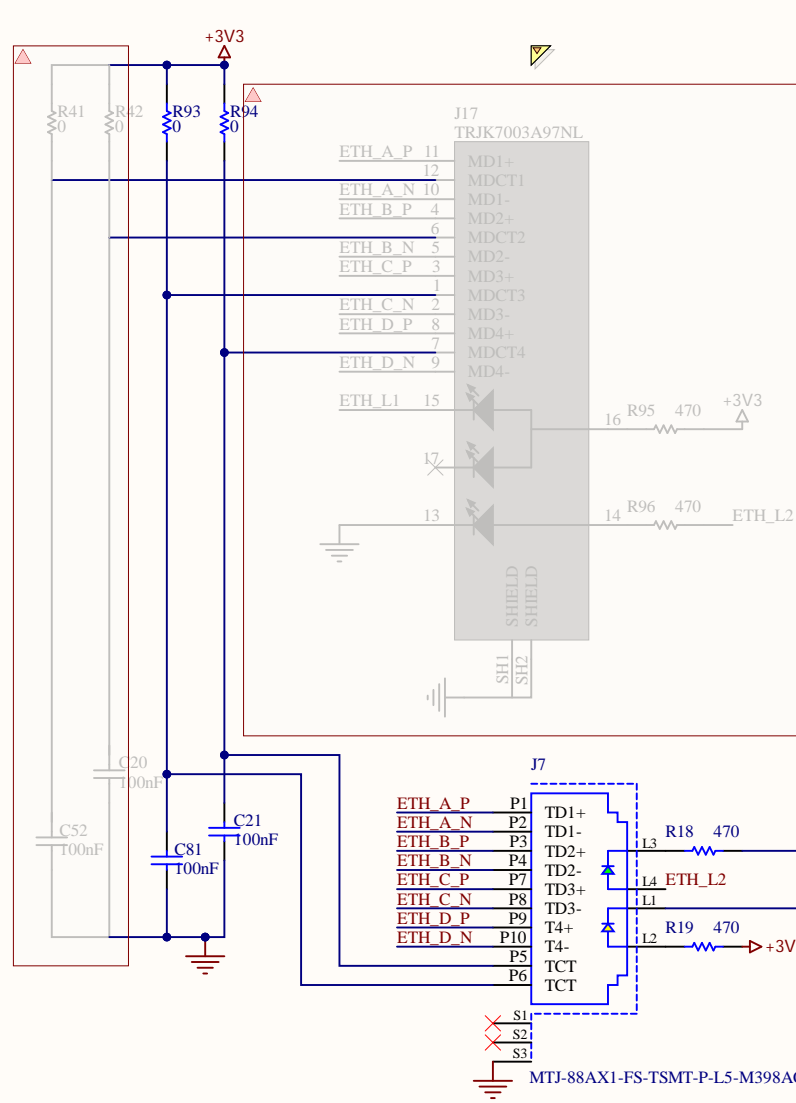
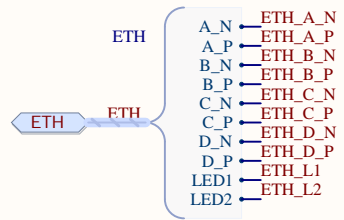
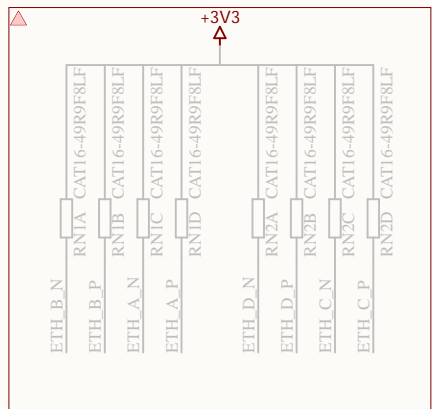
NET	BUS 1	BUS 2
PB3	JTAG	SDC2
PH11	CAM	I2C4
PH12	CAM	I2C4
PI5	CAM	SAI2A
PI6	CAM D3_N	SAI2A
PI7	CAM D3_P	SAI2A
PA4	CAM	ANALOG
PA6	CAM	ANALOG
PC2	ANALOG (A4)	SPI2 (D10/MISO)
PC3	ANALOG (A5)	SPI2 (D8/MOSI)

POWER NETS TABLE

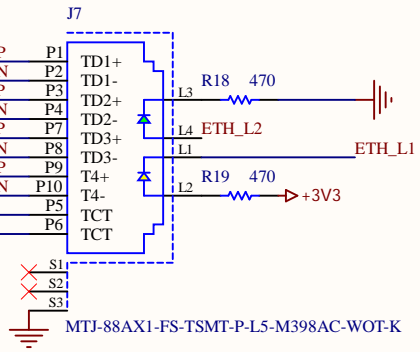
NET	TYPE	RANGES	DESCRIPTION
VIN	PORTENTA INPUT	4.1V to 6V.	Default 3.3V, PMIC (U10) programmable output.
VCC	PORTENTA OUTPUT	1.1V to 3.3V in steps, max 1A.	Default 3.3V, PMIC (U10) programmable output.
VSYS	PORTENTA RESERVED OUTPUT	RESERVED, DO NOT USE	Default 4.2V, PMIC (U10) programmable output which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

Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.
 Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined".
 Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice.
 Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

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



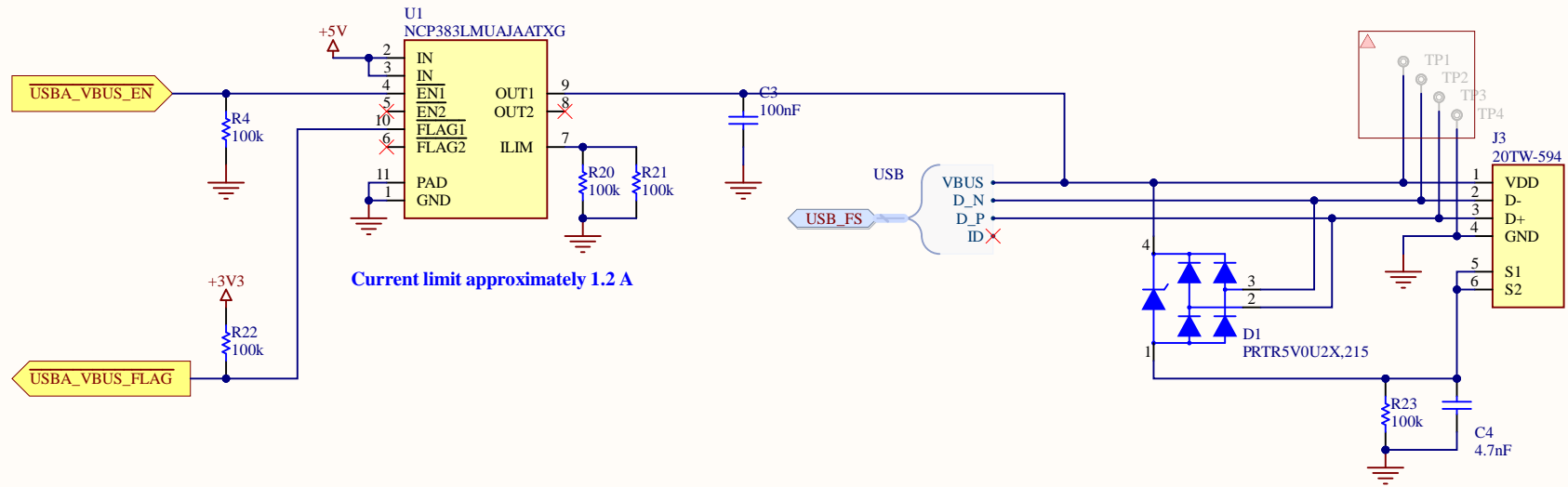
Cannot open file F:\ARUINO\ETH2.png



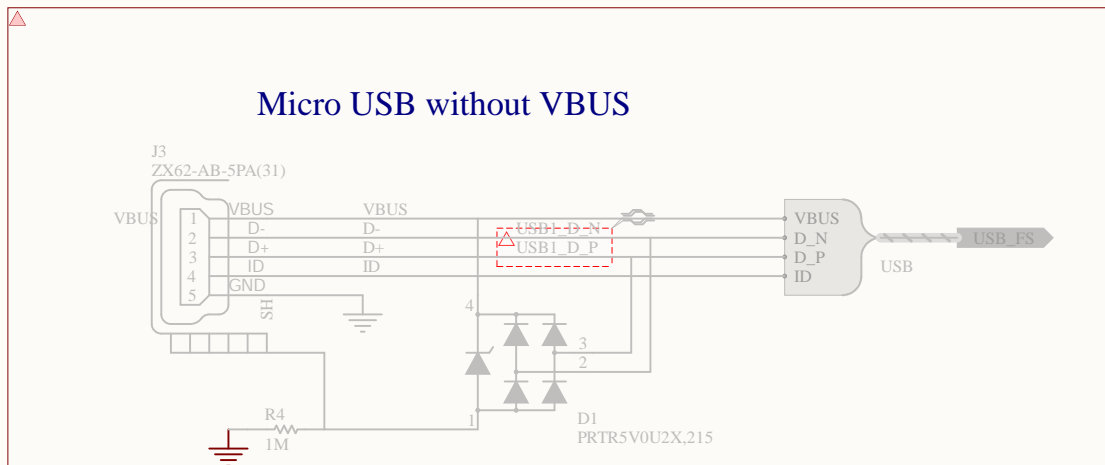
Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the We b Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

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

Micro USB without VBUS



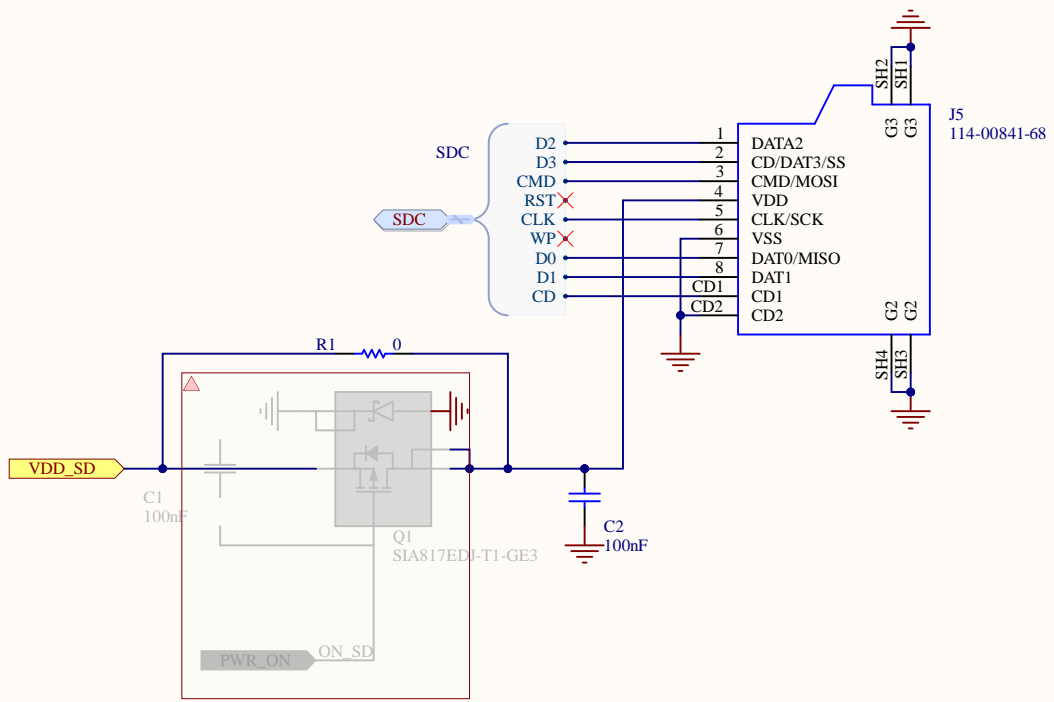
Micro USB without VBUS





Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

Title: *		Revision: *	
ID: *	Date: 3/2/2021	Time: 2:30:34 PM	Sheet 4 of 6
File: USB.SchDoc	Author: *		RevAuthor: *

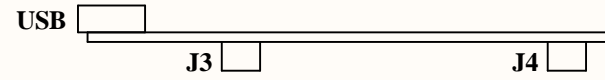




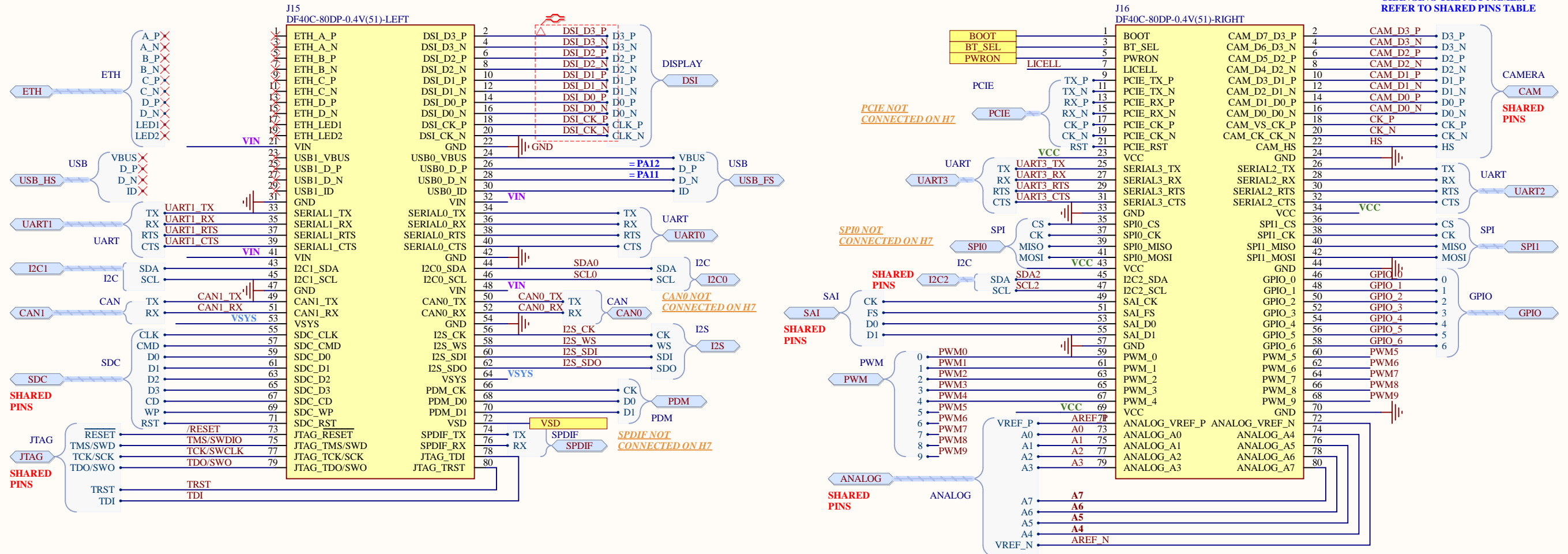
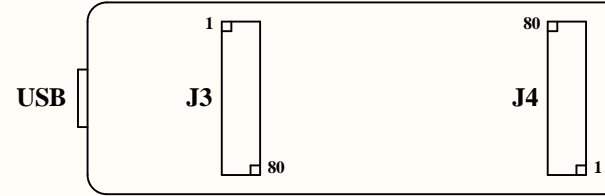
Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the We b Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

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

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	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	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.

Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The product information on the Web Site or Materials is subject to change without notice. Do not finalize a design with this info. ARDUINO and other Arduino brands and logos and Trademarks of Arduino SA. All Arduino SA Trademarks cannot be used without owner's formal permission.

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:	