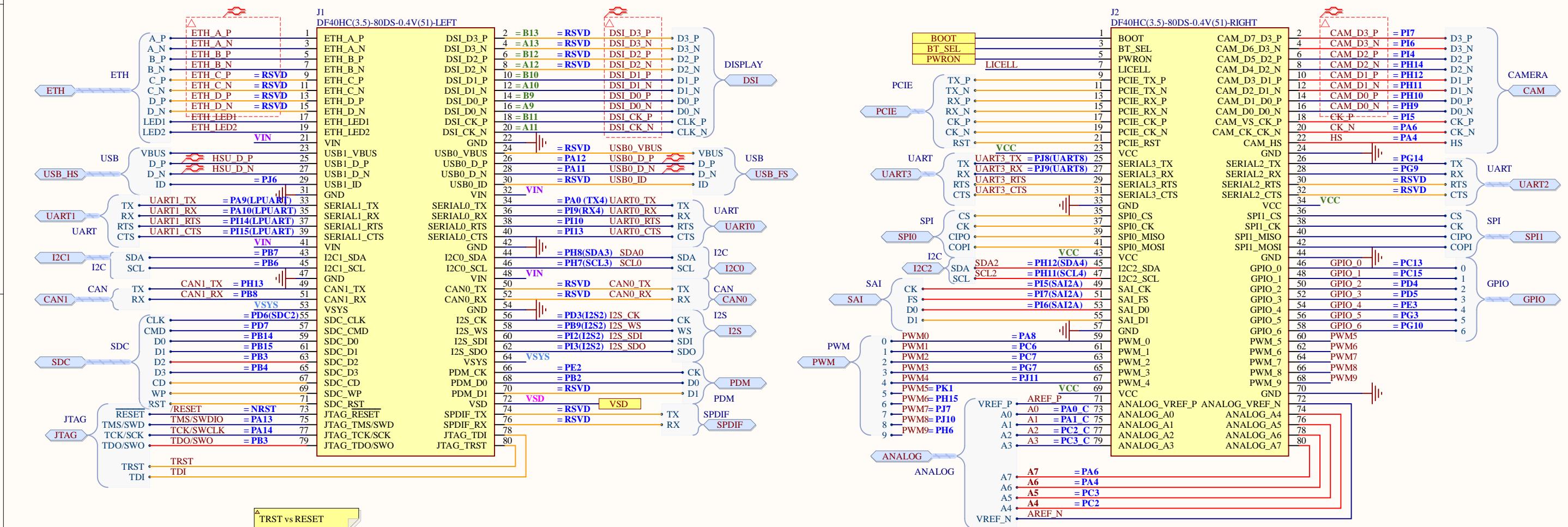
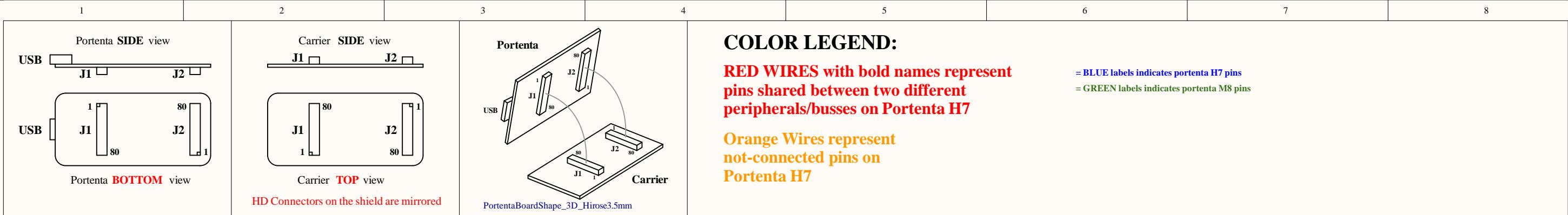


Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.  
Arduino SA may make changes to specifications 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: Portenta Breakout Carrier		
ID: ASX00031	Revision: V1.3	
Date: 05/06/2024	Time: 14:46:55	Sheet 1 of 6
File: TOP.SchDoc	Author: Ernesto Lopez	RevAuthor: Silvio Navaretti





#### SHARED PINS TABLE (RED WIRES)

NET	BUS 1	BUS 2
PB3	JTAG	SDC2
PH11	CAM	I2C4
PH12	CAM	I2C4
P15	CAM D3_N	SAI2A
P16	CAM D3_P	SAI2A
P17	CAM	ANALOG
PA4	CAM	ANALOG
PA6	ANALOG (A4)	SPI2 (D10/MISO)
PC2	ANALOG (A5)	SPI2 (D8/MOSI)
PC3		

#### 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	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.

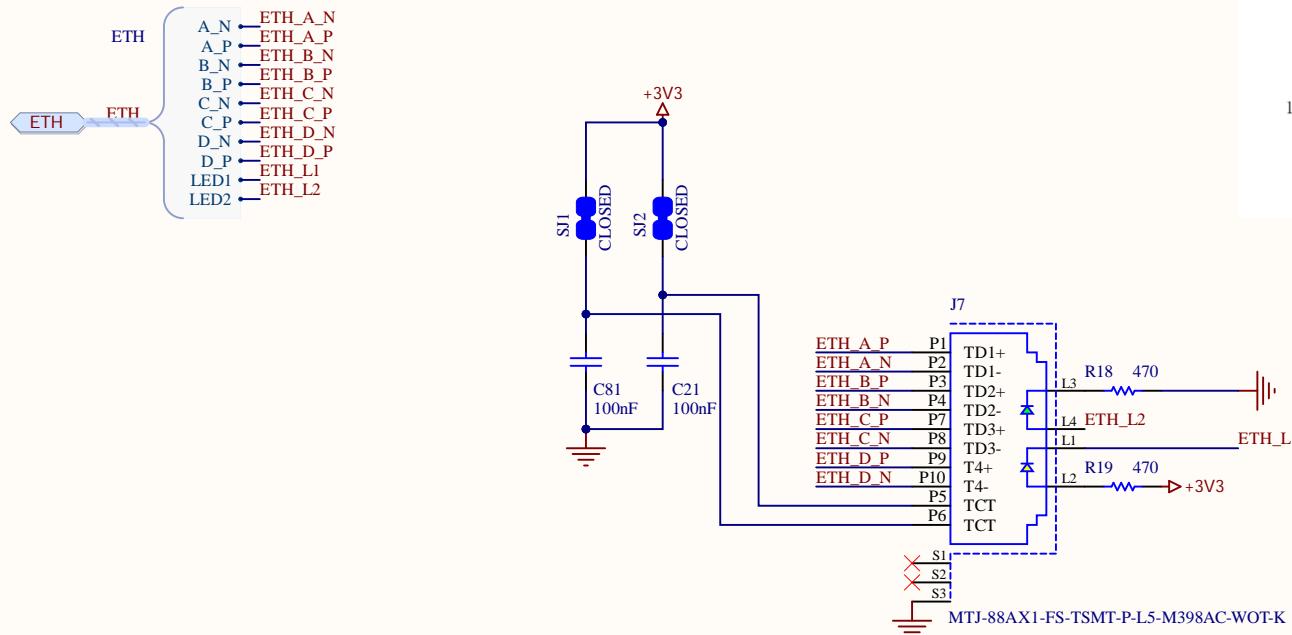
Title: Portenta Breakout Carrier

ID: ASX00031 Revision: V1.3

Date: 05/06/2024 Time: 14:46:55 Sheet 2 of 6

File: HDConn\_FEMALE.SchDoc Author: S. Navaretti





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.

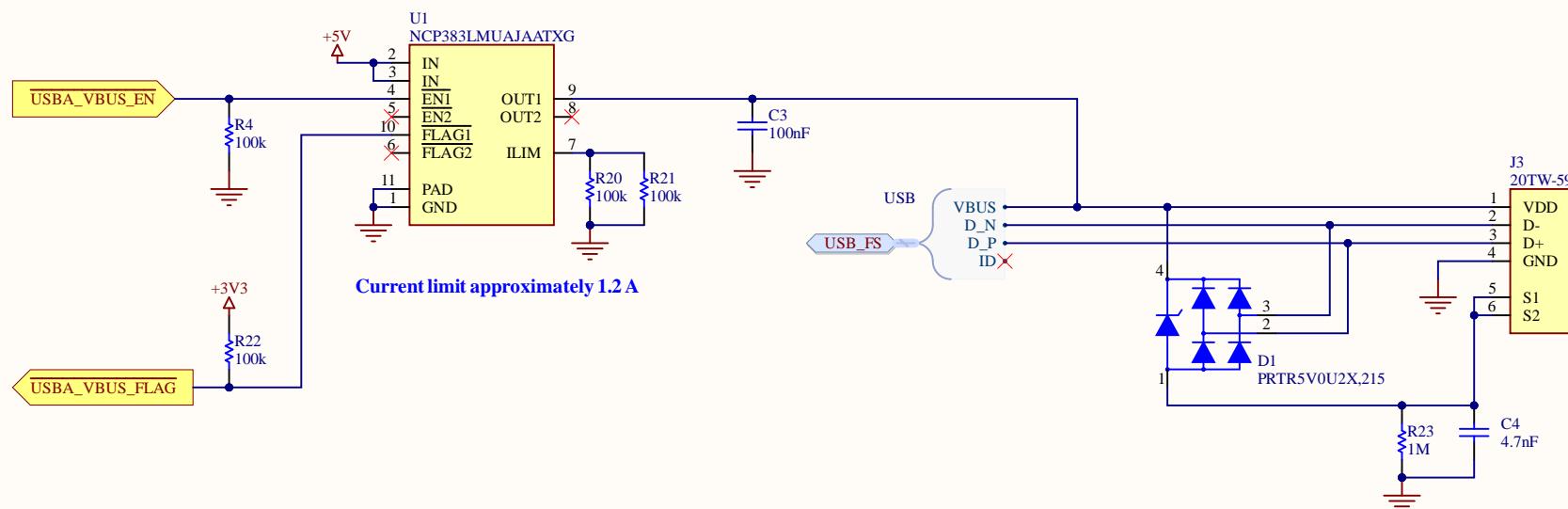
Arduino SA may make changes to specifications and product descriptions at any time, without notice. The Customer must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Arduino SA reserves these for future definition and shall have no responsibility 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.

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: Portenta Breakout Carrier

ID: ASX00031	Revision: V1.3		
Date: 05/06/2024	Time: 14:46:56	Sheet 3 of 6	
File: ETHERNET.SchDoc	Author: Ernesto Lopez	RevAuthor: Silvio Navaretti	

A



B

C

D

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: Portenta Breakout Carrier

ID: ASX00031

Revision: V1.3

Date: 05/06/2024 Time: 14:46:57

Sheet 4 of 6

File: USB.SchDoc

Author: Ernesto Lopez



A

B

C

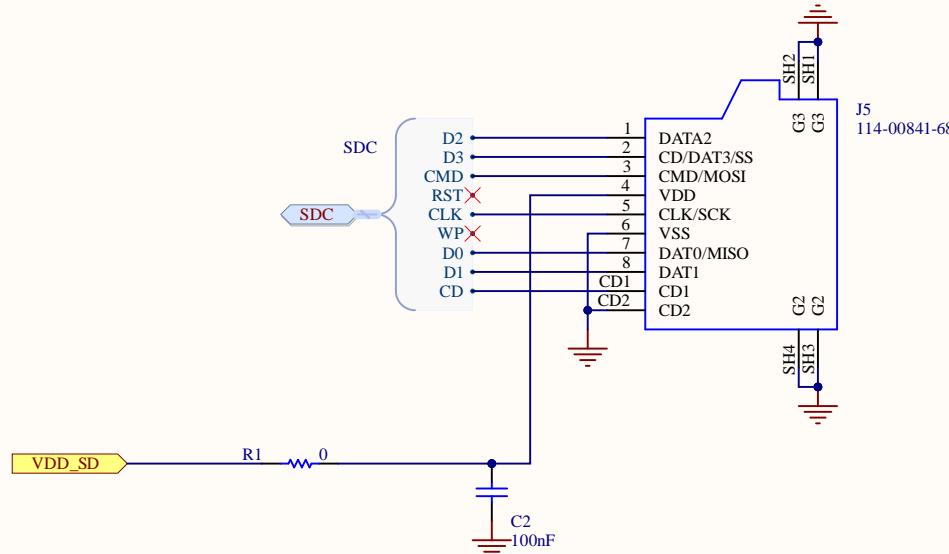
D

A

B

C

D



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: Portenta Breakout Carrier

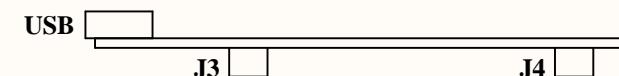
ID: ASX00031	Revision: V1.3
--------------	----------------

Date: 05/06/2024	Time: 14:46:57	Sheet 5 of 6
------------------	----------------	--------------

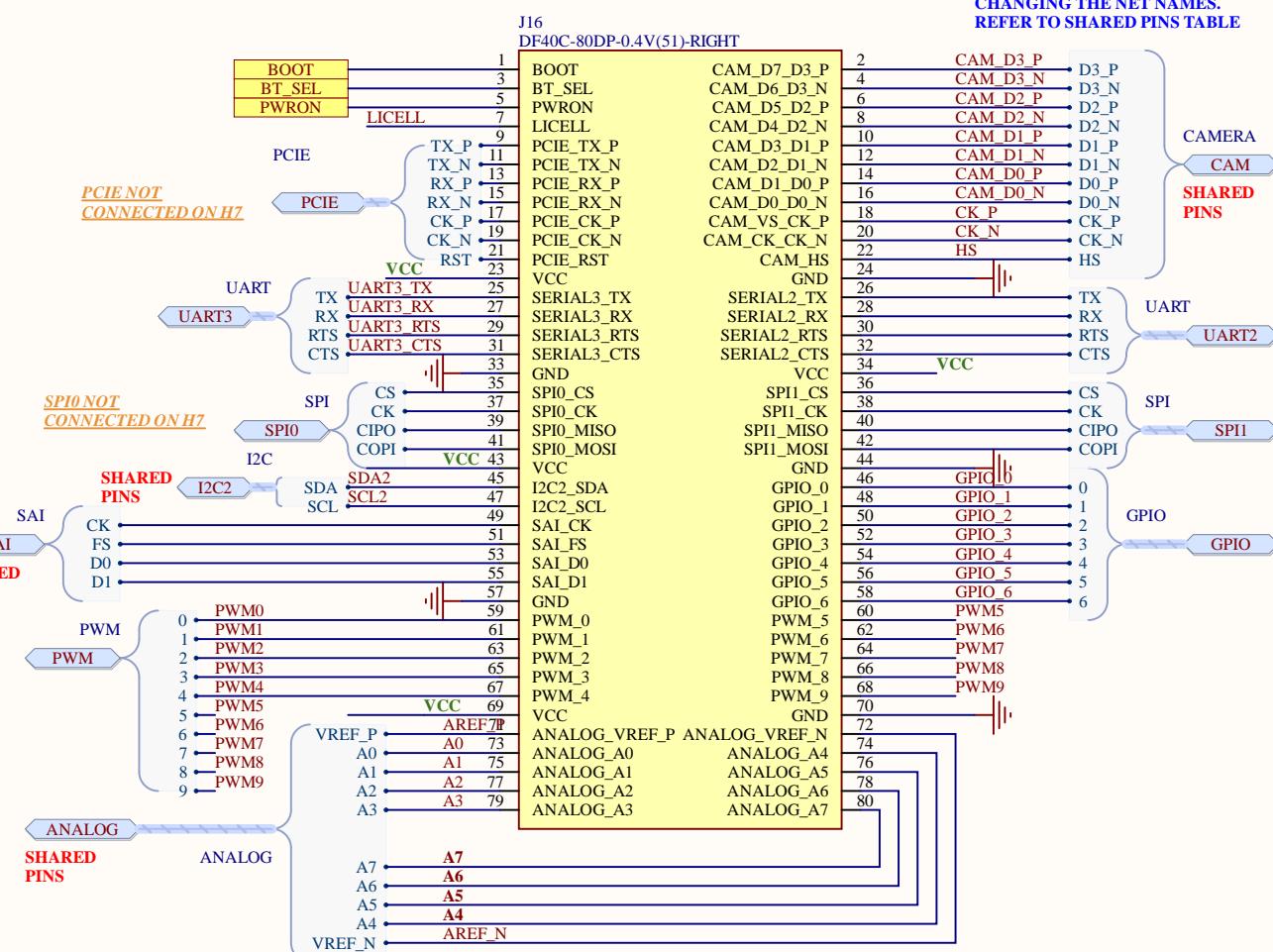
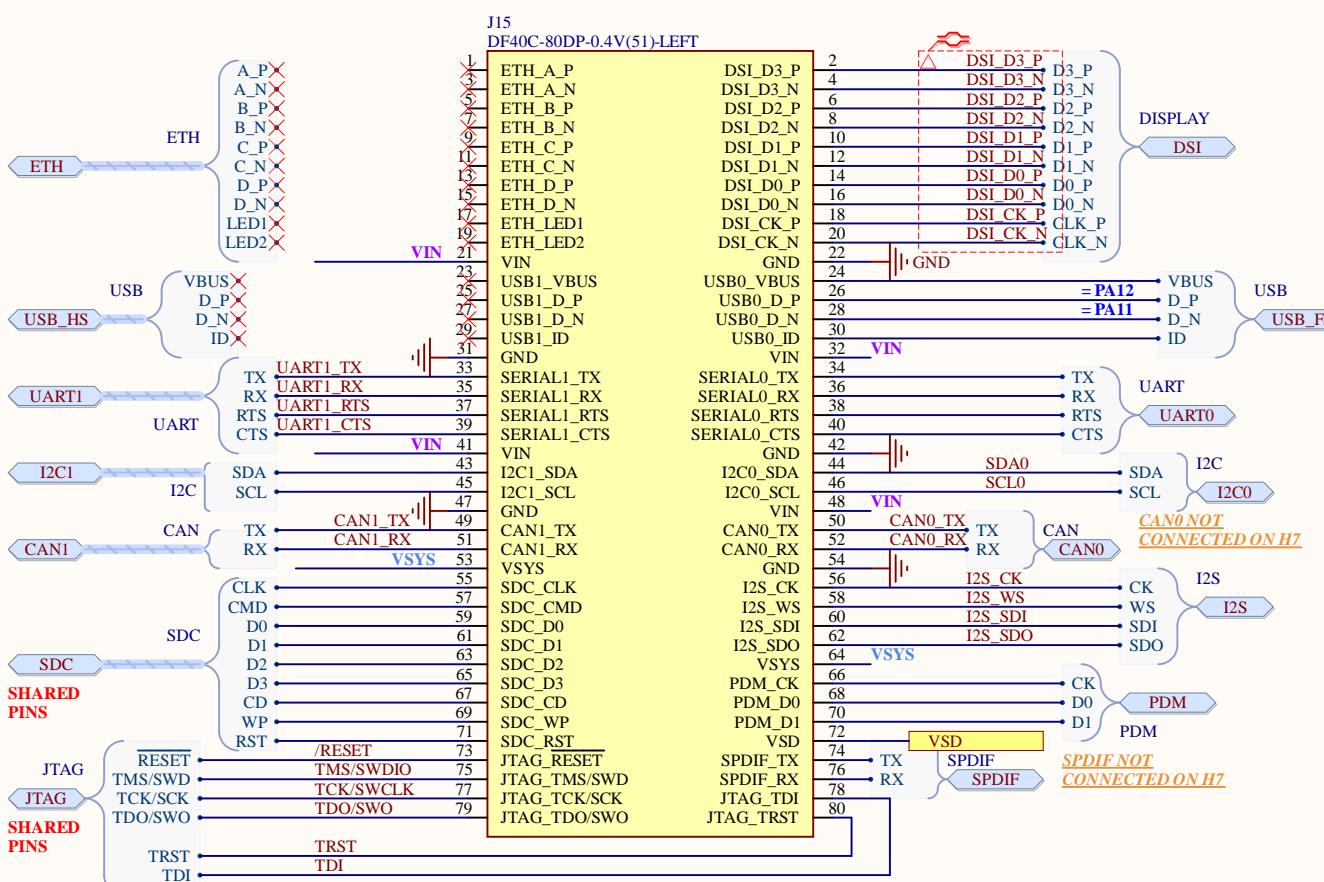
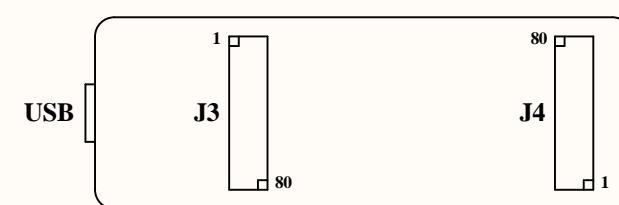
File: SD_CONNECTOR.SchDoc	Author: Ernesto Lopez	RevAuthor: Silvio Navaretti
---------------------------	-----------------------	-----------------------------



### **Board side view**



Board BOTTOM view



## 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	<b>PORTEENTA INPUT</b>	4.1V to 6V.	Default 3.3V, PMIC (U10) programmable output.
 VCC	<b>PORTEENTA OUTPUT</b>	1.1V to 3.3V in steps, max 1A.	Default 3.3V, PMIC (U10) programmable output.
 VSYS	<b>PORTEENTA RESERVED OUTPUT</b>	<b>RESERVED, DO NOT USE</b> 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	<b>PORTEENTA INPUT</b>	Coin cell max 3.6V, max 46uA.	Max 4uA with PMIC (U10) in coin cell mode, max 46uA with PMIC in standby/suspend mode.

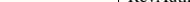
Reference Designs ARE PROVIDED "AS IS" AND "WITH ALL FAULTS. Arduino SA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING PRODUCTS, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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 those 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.

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.

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: Portenta Breakout Carrier

<b>ID:</b> ASX00031	Revision: V1.3		
Date: 05/06/2024	Time: 14:46:58	Sheet 6 of 6	
File: HDConn_MALE.SchDoc	Author: S. Navaretti	RevAuthor: Silvio Navaretti	