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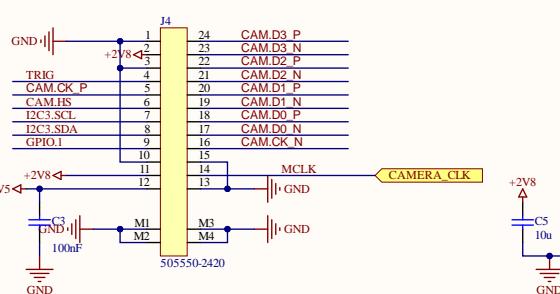
Title: Portenta Vision Shield

ID: SL-ASX00026	Revision: 4.0
Date: 1/26/2021	Time: 4:36:05 PM
File: TOPViewSchDoc	Sheet 1 of 9 Authored by Francesca Cenna Rev author *



HM01B0 (F view)

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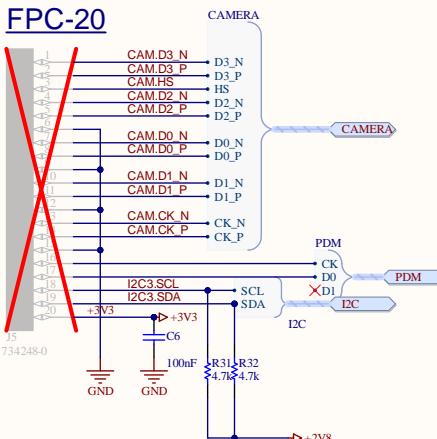
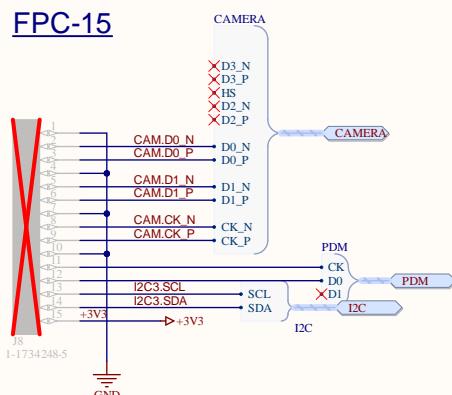
HM01B0 Pinout

Pin no.	Pin name	Type	Description
1	AGND	Ground	Analog ground.
2	AVDD28	Power	Analog power. (2.8V)
3	DGND	Ground	Digital ground.
4	TRIG	In	Frame trigger input. (Internal pull down / Active high)
5	FLVD	Out	Frame valid output.
6	LVLD	Out	Line valid output.
7	SCL	In	I2C serial clock.
8	SDA	In/Out	Serial data I/O. (Open drain)
9	INT	Out	Interrupt output. (Active high)
10	DGND	Ground	Digital ground.
11	IOVDD18	Power	IO power. (1.8V)
12	DVDD15	Power	Core digital power. (1.5V)
13	DGND	Ground	Digital ground.
14	MCLK	In	Master clock input.
15	DGND	Ground	Digital ground.
16	PCLK	Out	Pixel clock.
17	D0	Out	Data 0 output.
18	D1	Out	Data 1 output.
19	D2	Out	Data 2 output.
20	D3	Out	Data 3 output.
21	D4	Out	Data 4 output.
22	D5	Out	Data 5 output.
23	D6	Out	Data 6 output.
24	D7	Out	Data 7 output.

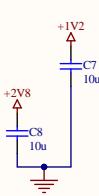
Note: (1) HM01B0 sensor default slave address: 0x24.

Table 2.1: Pin map and description of camera module

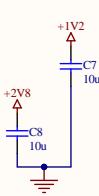
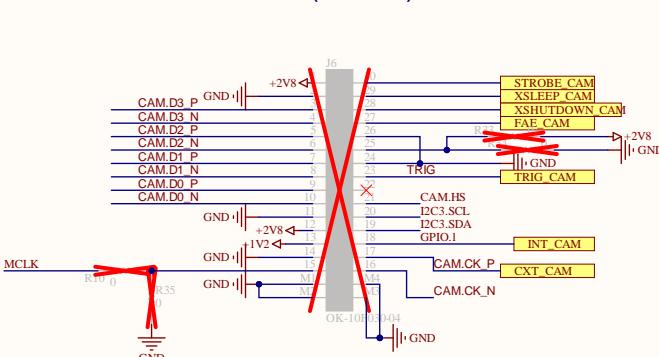
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HM0360 (F View)HM0360 Pinout

Pin no.	Pin name	Type	Description
1	AVDD	Power	Analog power. (2.8V)
2	GND	Ground	Ground.
3	D7	Out	Data 7 output.
4	D6	Out	Data 6 output.
5	D5	Out	Data 5 output.
6	D4	Out	Data 4 output.
7	D3	Out	Data 3 output.
8	D2	Out	Data 2 output.
9	D1	Out	Data 1 output.
10	D0	Out	Data 0 output.
11	GND	Ground	Ground.
12	IOVDD	Power	IO power. (1.8V / 2.8V)
13	DVDD	Power	Digital power. (1.2V)
14	GND	Ground	Ground.
15	MCLK	In	Master clock input. (Connected to DGND when using internal oscillator)
16	PCLK	Out	Pixel clock / Serial clock output.
17	CXT_SEL	In	Context switching selection. (Internal pull low)
18	INT	Out	Interrupt output. (Active high)
19	SDA	In/Out	Serial Data I/O. (Open drain)
20	SCL	In	I2C serial clock.
21	HLVD	Out	Line valid output.
22	FLVD	Out	Frame valid output.
23	TRIGGER	In	Frame trigger input. (Internal pull low / Active high)
24	GND	Ground	Ground.
25	CLK_SEL	In	Clock source select. (Internal pull low. Low: Oscillator, High: MCLK, connect to ground for oscillator mode)
26	RTC	In	Real time clock source input. (Must not be left floating, connected to DGND without RTC clock input)
27	FAE	In	Exposure meter enable pin. (Internal pull low / Active high)
28	XSHUTDOWN	In	Reset and power down control pin. (Active low)
29	XSLEEP	In	Low power sleep mode. (Active low)
30	STROBE	Out	Strobe output.

Note: (1) HM0360 sensor default slave address: 0x24.

Table 2.1: Pin map and description of camera module

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Title: Portenta Vision Shield

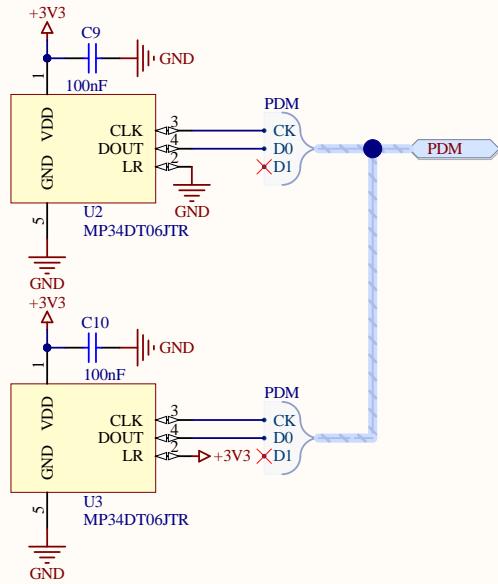
ID: *	Revision: 4.0
Date: 1/26/2021	Time: 4:36:06 PM
File: Camera SchDoc	Sheet 3 of 9 Authored by Francesca Cenna Rev author *



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Title: Portenta Vision Shield

ID: *

Revision 4.0

Date: 1/26/2021

Time: 4:36:07 PM

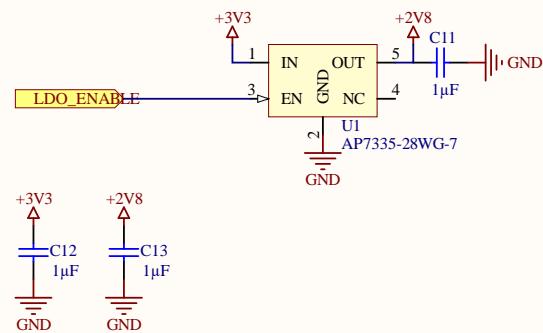
Sheet 1 of 9

File: Mics.SchDoc

Author: Francesca Cenna



A LDOs



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Title: Portenta Vision Shield

ID: *

Revision: 4.0

Date: 1/26/2021

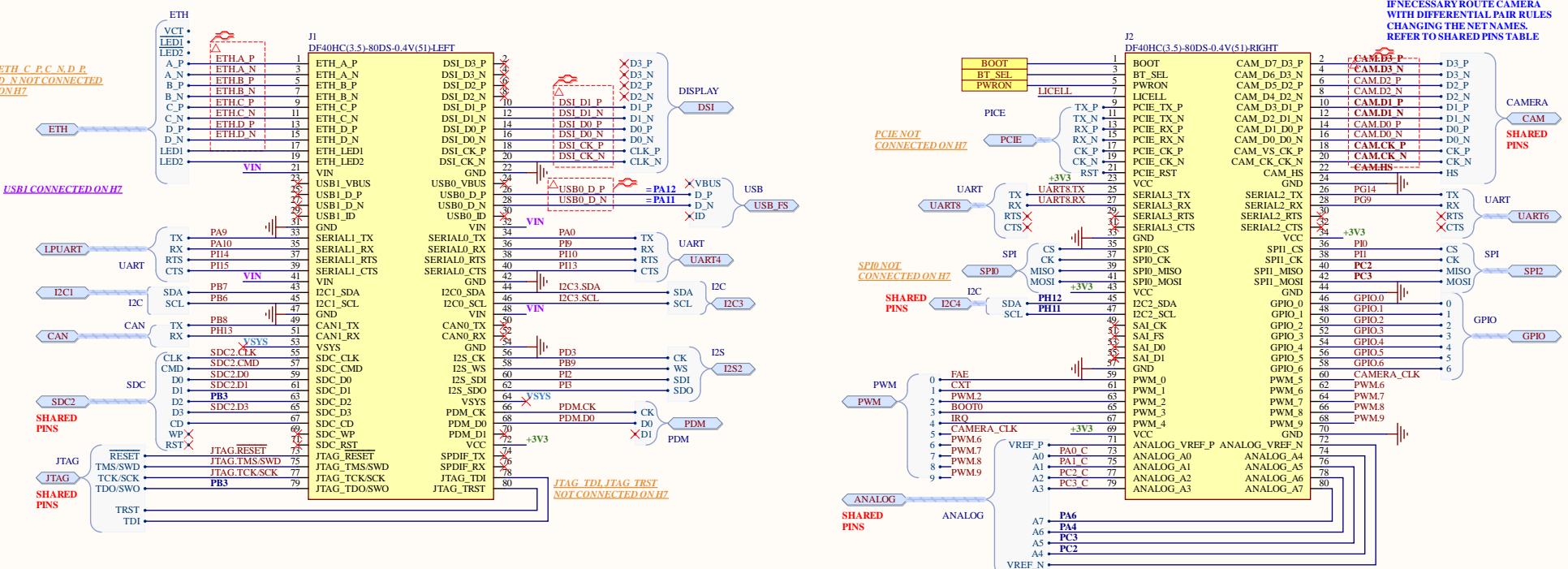
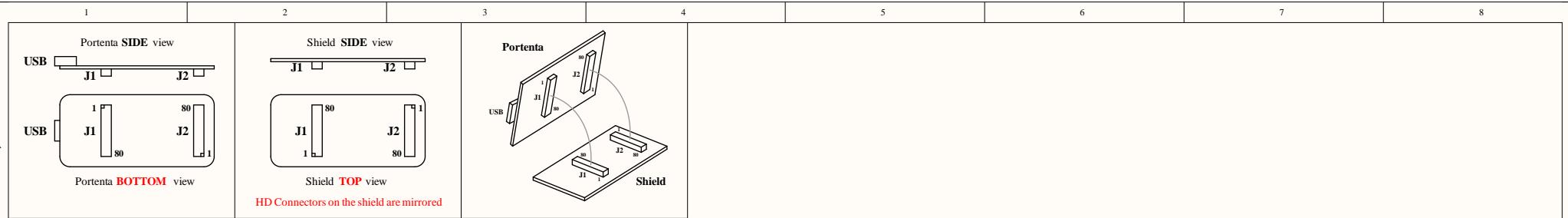
Time: 4:36:08 PM

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File: LDOs.SchDoc

Author: Francesca Cenna





SHARED PINS TABLE

NET	BUS 1	BUS 2
PB3	JTAG	SDC2
CAM_DL_N	CAM	I2C4
CAM_DL_P	CAM	I2C4
CAM_CK_P	CAM	SAI2A
CAM_DL_N	CAM	SAI2A
CAM_DL_P	CAM	SAI2A
CAMHS	CAM	ANALOG
CAMCK_N	CAM	ANALOG
PC2	ANALOG	SP12
PC3	ANALOG	SP12

POWER NETS TABLE

NET	TYPE	RANGES	DESCRIPTION
VIN +3V3 VSYS LICELL	PORTENTA INPUT PORTENTA OUTPUT PORTENTA RESERVED OUTPUT PORTENTA INPUT	4.1V to 6V. 1.1V to 3.3V in steps, max 1A. RESERVED, DO NOT USE 3.5V to 4.2V, max 600mA. Coint cell max 3.6V, max 46uA.	Default 3.3V, PMIC (U10) programmable output. Default 3.3V, PMIC (U10) programmable output. Default 4.2V, PMIC (U10) programmable output which is also the input voltage of the buck inside the PMIC itself. Max 4uA with PMIC (U10) in coin cell mode, max 46uA with PMIC in standby/suspend mode.

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Title: Portenta Vision Shield				
ID: *		Revision: 4.0		
Date: 1/26/2021	Time: 4:36:09 PM	Sheet * of 9		
File: HDCComsShdDoc		Author: *		Rev.Author:

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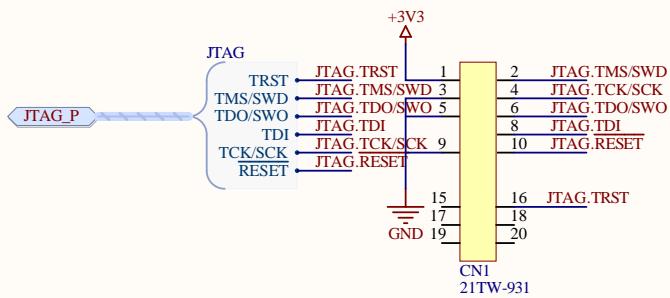
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Title: Portenta Vision Shield

ID: *

Revision 4.0

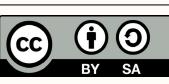
Date: 1/26/2021

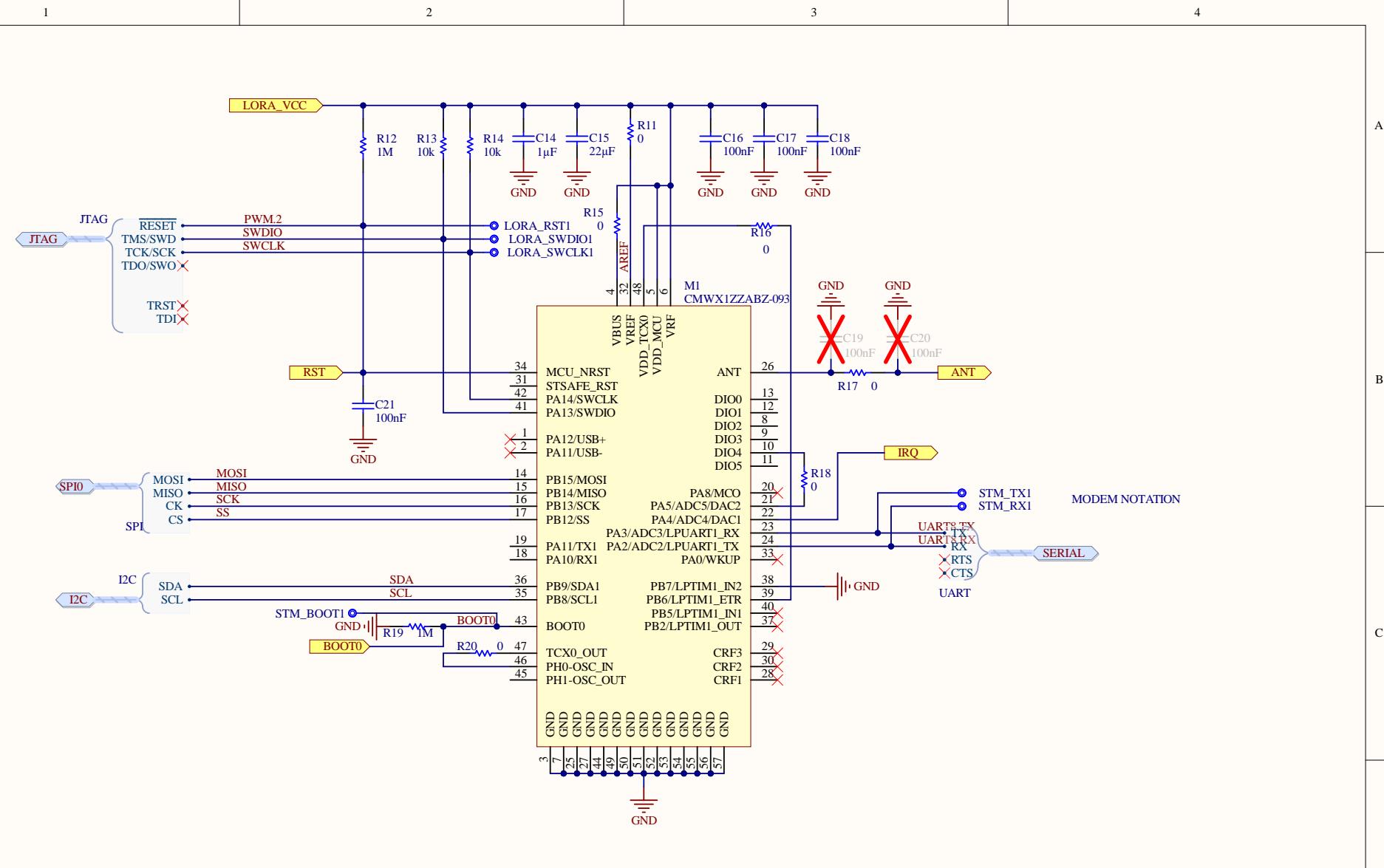
Time: 4:36:11 PM

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File: JTAG.SchDoc

Author: Francesca Cenna





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Title LORA MODULE

Size:	Number: * .	Revision: *
Date: 1/26/2021	Time: 4:36:12 PM	Sheet * of 9
File: SCH-00004-7.ann.SchDoc	Author *	Rev author



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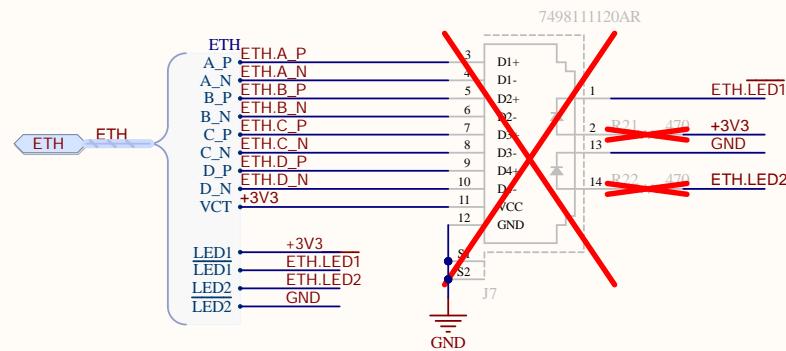
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Title: Ethernet 7498111120AR

ID: *

Revision: *

Date: 1/26/2021 Time: 4:36:13 PM Sheet: 9 of 9

File: SCH-00005-6_ann.SchDoc Author: *



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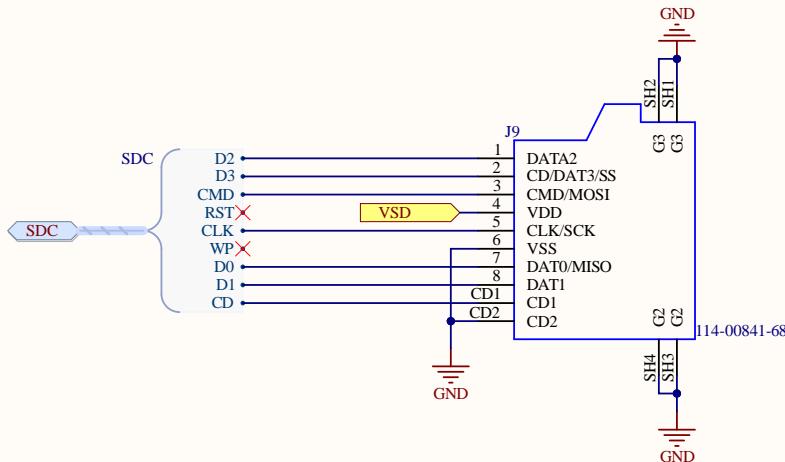
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Title: CameraShield

ID: *

Revision: *

Date: 1/26/2021 Time: 4:36:14 PM

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File: SCH-00009-2_anno.SchDoc Author: Francesca Cenna

