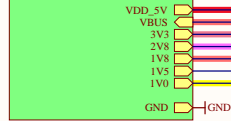


Project: DM1095
Current Revision: R0M0E0

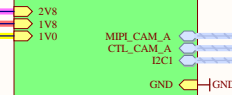
DM1095 Revision History:

Date	Revision	Reason for Change	Changes Implemented
04/22/2021	Initial release		
06/07/2021	R0M0E0 -> R1M0E1	1. USB SS port direction control issue	1. Switched CC1 CC2 on logic control chip for USB3 SS
06/07/2021	DM1098LUX-D-LITE_R1M0E1 -> DM1095_R0M0E0	1. Update the project naming convention to follow new scheme	1. Updated the project naming convention exported new fabrication documentation
10/09/2021	DM1095_R0M0E0 -> DM1095_R0M0E1	1. Update the camera information 2. Remove 1.5V power supply from assembly	1. Updated the specifications and power sequence for IMX214 and OV7251 cameras. 2. Removed the 1.5V power supply for the OV7251 camera from the Production variant 3. Generated new assembly documentation

U_DM1095_Power_Supply
DM1095_Power_Supply.SchDoc



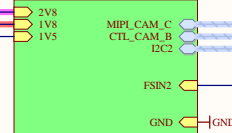
U_DM1095_IMX214
DM1095_IMX214.SchDoc



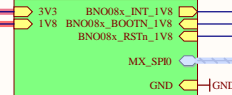
U_DM1095_LEFT_OV7251
DM1095_LEFT_OV7251.SchDoc



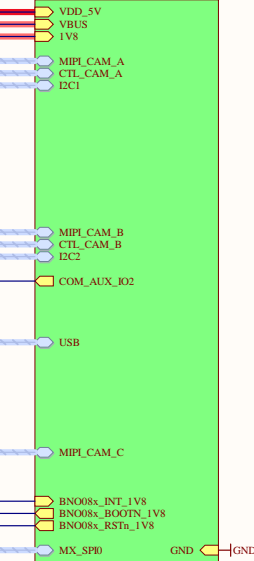
U_DM1095_RIGHT_OV7251
DM1095_RIGHT_OV7251.SchDoc



U_DM1095_IMU
DM1095_IMU.SchDoc



U_DM1095_Connector
DM1095_Connector.SchDoc



U_DM1095_USB
DM1095_USB.SchDoc



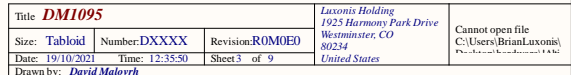
U_DM1095_Project_Information
DM1095_Project_Information.SchDoc



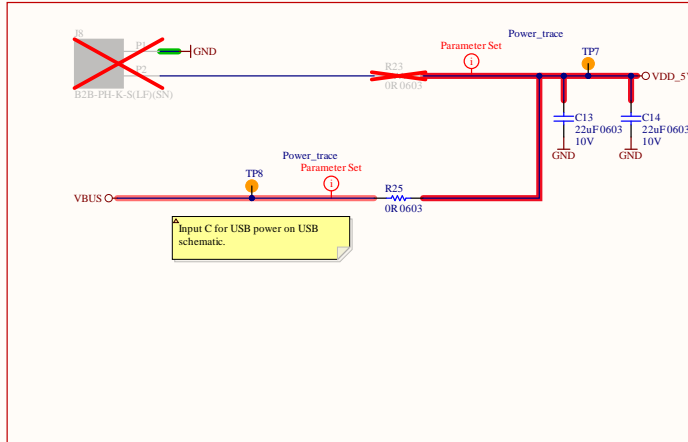
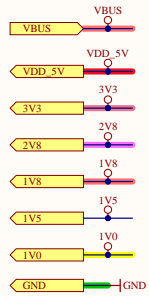
Mounting slots created on PCB
w/ primitives.



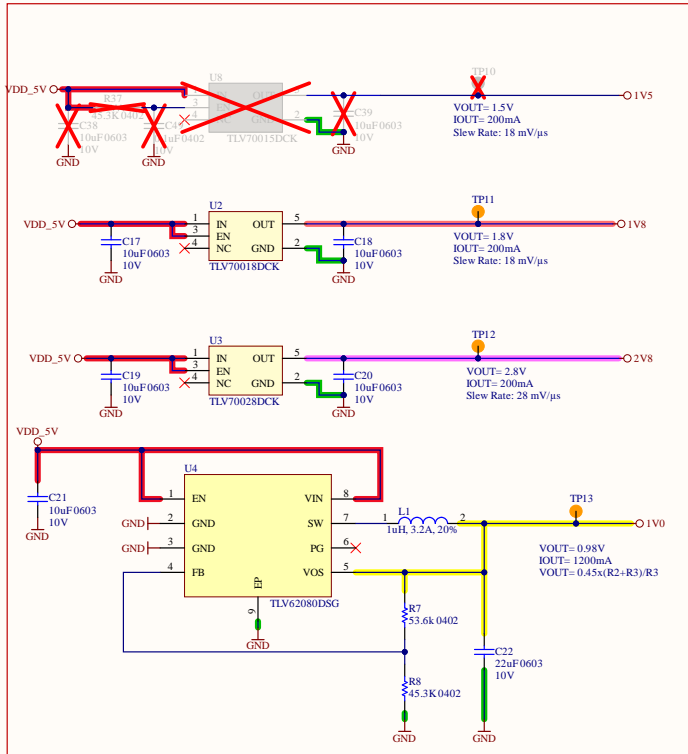
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Size: Tabloid	Number: DXXXX	Revision: ROM0ED		
Date: 19/10/2021	Time: 12:35:49	Sheet 2 of 9		
Drawn by: David Malovrh				



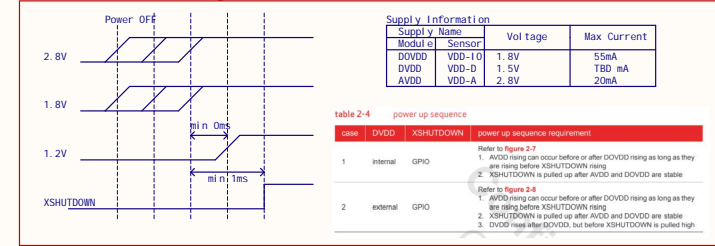
POWER INPUT



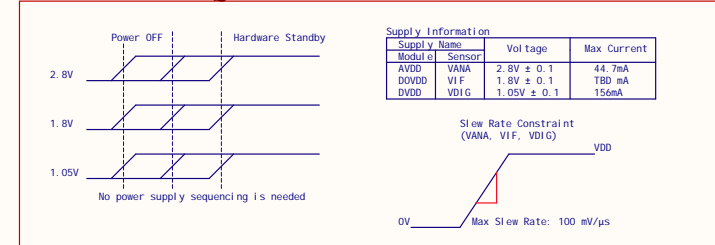
POWER SUPPLIES FOR CAMERA MODULES



OV7251 POWER REQUIREMENTS



IMX214 POWER REQUIREMENTS

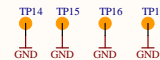
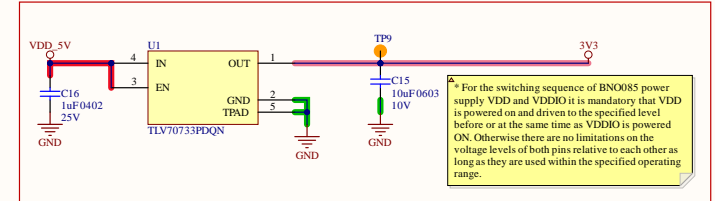


POWER SEQUENCING REQUIREMENTS:

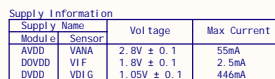
The BW1099 module handles its own power sequencing on-board.

The camera modules have their own power sequencing requirements. The OV7251 have requirements for sequencing, and the IMX214 has a max slew rate requirement. See above.

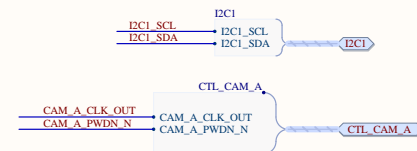
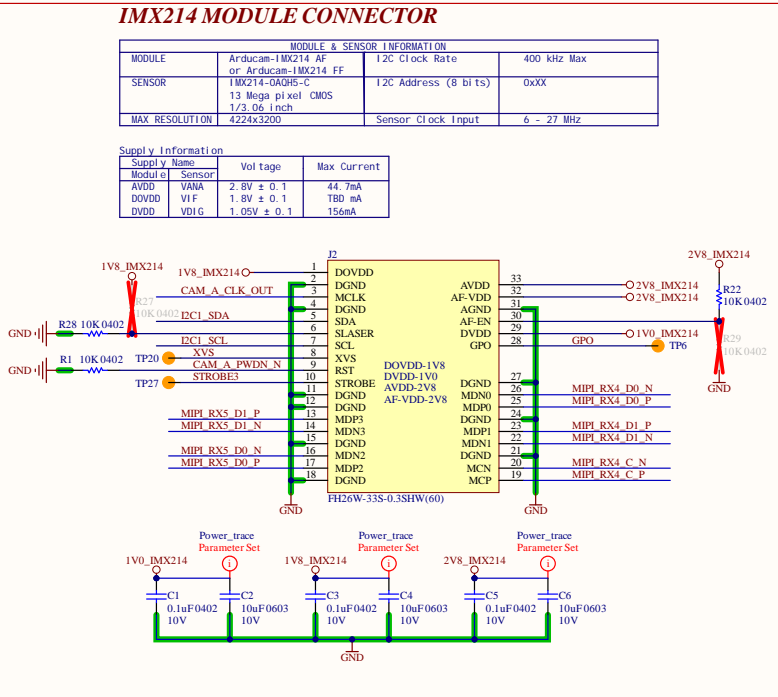
3.3V USB SW POWER



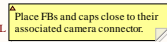
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Date: 19/10/2021	Time: 12:35:50	Sheet 4 of 9			
Drawn by: David Malovrh					



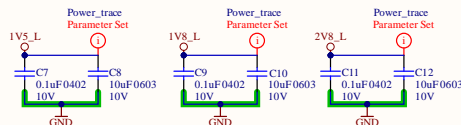
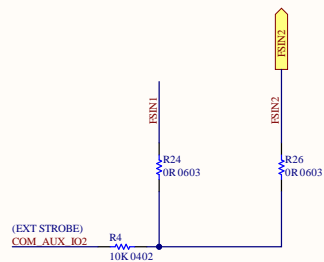
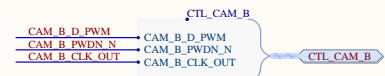
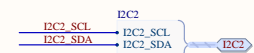
Note: It is still a limitation that the clock source for the cameras must be shared between CAMA/C and CAMB/D.



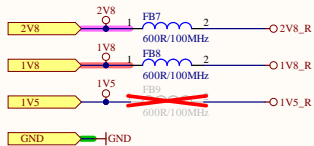
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Drawn by: <i>David Malahy</i>				



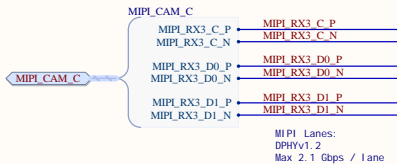
Supply Name		Voltage	Max Current
Module	Sensor		
DOVDD	VDD-I/O	1.8V	55mA
DVDD	VDD-D	1.5V	TBD mA
AVDD	VDD-A	2.8V	20mA



Title DM1095			Luxonis Holding 1925 Harmony Park Drive Westminster, CO 80234 United States	Cannot open file C:\Users\Brian.Luxonis\Documents\Luxonis\1095
Size: Tabloid	Number: DXXXX	Revision: R0M0E0		
Date: 19/10/2021	Time: 12:35:50	Sheet 6 of 9		
Drawn by: David Malorch				

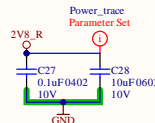
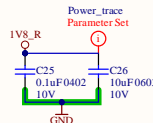
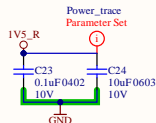
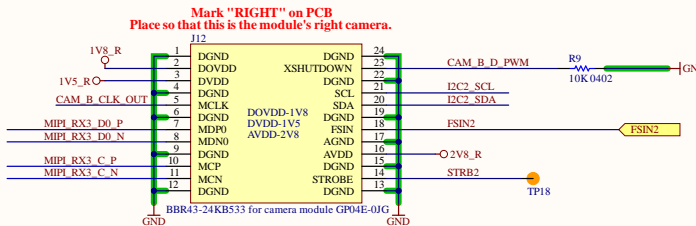


Place FBs and caps close to their associated camera connector.



MODULE & SENSOR INFORMATION			
MODULE	Arducam-0V7251	I2C Clock Rate	400 kHz Max
SENSOR	OV07251-G04A-1G B&W 0.3 Mega pixel CMOS 1/7.5 inch	I2C Address (8 bits)	0xC0(W) 0xC1(R)
MAX RESOLUTION	640x480	Sensor Clock Input	6 ~ 27 MHz (24 MHz typ.)

Supply Information		
Supply Name	Voltage	Max Current
Module Sensor		
DOVDD	VDD-I/O 1.8V	55mA
DVDD	VDD-D 1.5V	TBD mA
AVDD	VDD-A 2.8V	20mA



Because the stereo pair of OV9282 modules hard wired to CAM_B (below) no additional reset circuitry is required to account for different conditions. This means that "CAM1" (Left) is reset via CAM_PWDN, and "CAM2" (Right), is reset via CAM_PWM. This also means that the signal CAM_AUX_I01 is no longer required here, as that was only possible if the stereo pair were connected to CAM_C or CAM_D.

OV9282 sensor I2C address may be changed via I2C protocol. Therefore, in order to assign different I2C address to the sensors on the same I2C bus, one needs to hold the reset of all sensors except one and assign a unique I2C address to the active sensor. This routine should be applied for all sensors in the initialization routine.

CAMERA CONNECTOR RESET CONNECTION TABLE				
CAM NO	CAM_A	CAM_B	CAM_C	CAM_D
CAM 1	CAM_PWDN	CAM_PWDN	CAM_PWDN	CAM_PWDN
CAM 2	CAM_PWM	CAM_PWM	CAM_AUX_I01	CAM_AUX_I01

Title DM1095			Luxonis Holding 1925 Harmony Park Drive Westminster, CO 80234 United States		Cannot open file C:\Users\Brian\Documents\...
Size: Tabloid	Number: DXXXX	Revision: ROM0E0	Date: 19/10/2021	Time: 12:35:50	Sheet 7 of 9
Drawn by: David Malovrh					

inrush current limiter

Title DM1095			Luxonis Holding 1925 Harmony Park Drive Westminster, CO 80234 United States		Cannot open file C:\Users\Brian\Luxonis\Projects\DM1095\DM1095.kicad_pcb
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Date: 19/10/2021	Time: 12:35:50	Sheet 8 of 9			
Drawn by: David Malovrh					

