AR0822_MPBGA75_Demo3Head_SER

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Rev	Who	Date	Description
Rev 0.0	anahar	26MAR2020 05MAR2021 23APR2021 16FEB2023	Reference from AR0822_GCSP_DEMO3HEAD_SER Updated P20 setting as per AE feedback from 1-3 to 3-5. Added text to tune R21, R24 and R25 as per AE feedback onsemi logo updated

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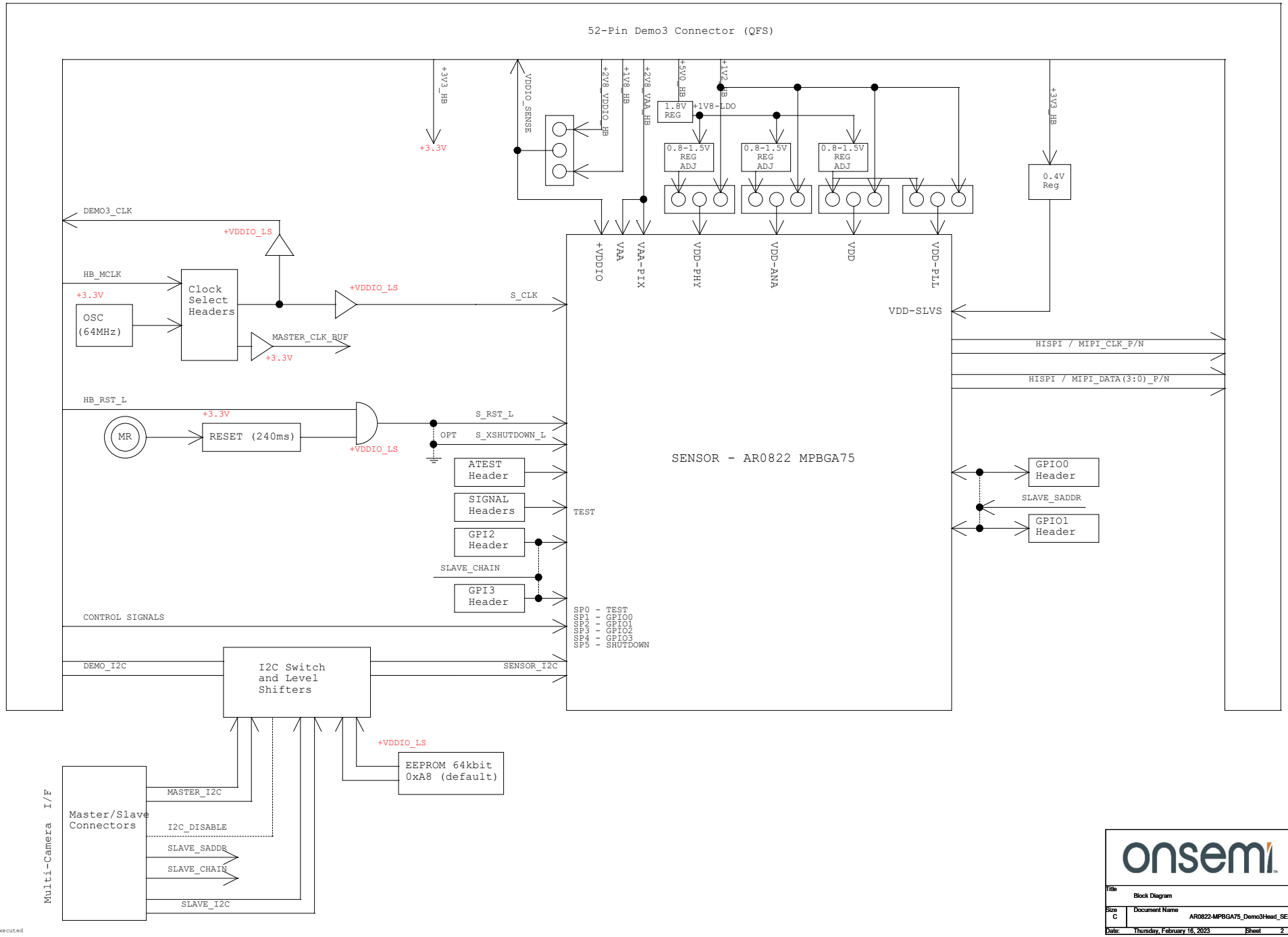
Script executed

Block Diagram



Script executed

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Title: Block Diagram		
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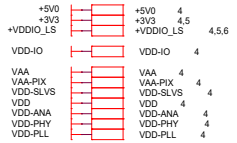
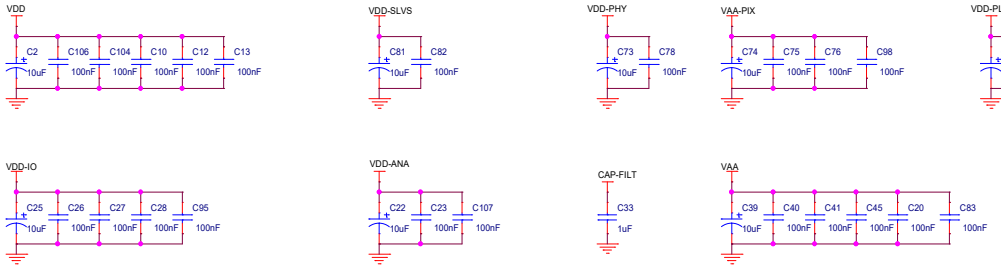
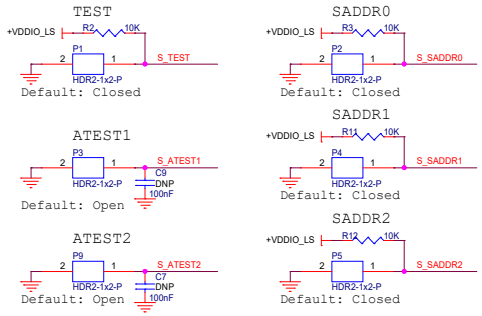
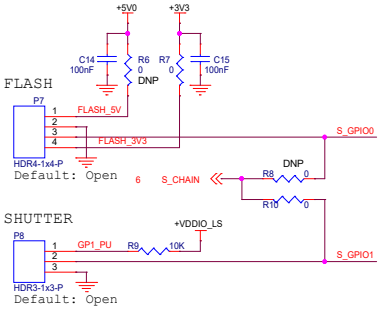
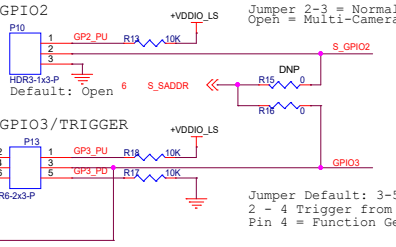
Sensor







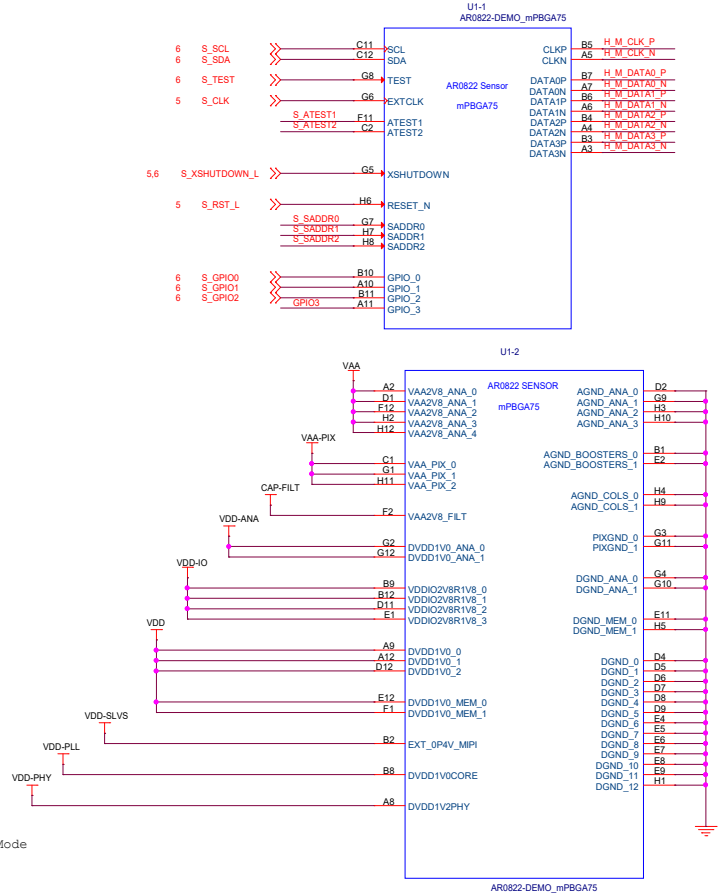




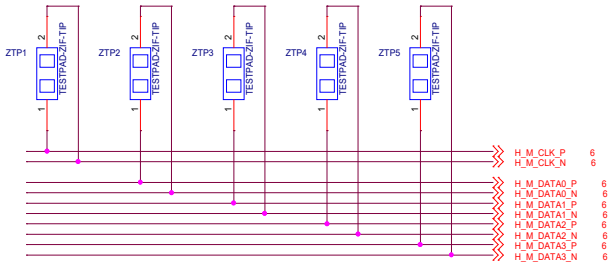
Jumper 2-3 = Normal Oper./Master Mode
Open = Multi-Camera Slave Mode

Jumper Default: 3-5
2 - 4 Trigger from Demo3
Pin 4 = Function Generator Input

Script executed



(Note for layout: - Place these testpads near the Demo3 I/F connector at the top side of PCB)



SIGNAL	GPIO FUNCTION OPTIONS
GPIO0	a. Flash output (default) b. All options in GPI2 (if use as input)
GPIO1	a. Shutter output (default) b. 3D daisy chain communication output c. All options in GPI2 (if use as input)
GPIO2	a. SADDR, second I2C device address b. Trigger signal for Slave Mode c. Standby
GPIO3	a. 3D daisy chain communication input b. All options in GPI2

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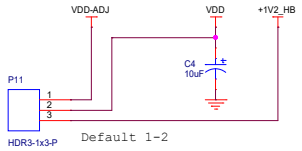
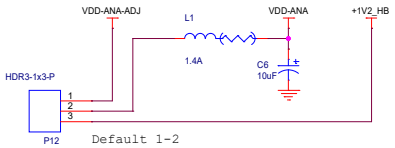
Power

Debug Headers: Cut away the shorted trace and mount header for power debugging

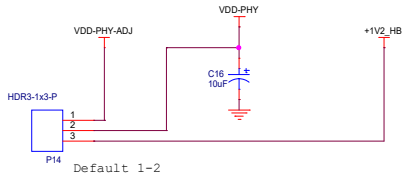
VDD SUPPLY



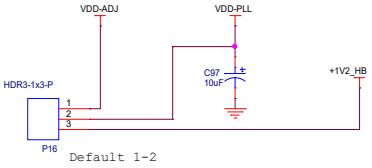
VDD-ANA SUPPLY



VDD-PHY SUPPLY



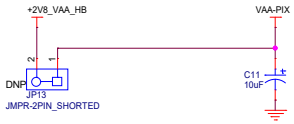
VDD-PLL 1.2V SUPPLY



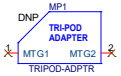
Note :- Voltage of VDD, VDD-ANA, VDD-PHY and VDD-PLL need to be tuned to 1.1V for Rev. 2.0 silicon and 1.05V for Rev. 2.1 silicon.

VAA 2.8V SUPPLY

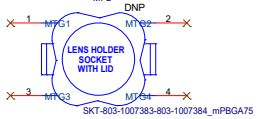
VAA-PIX 2.8V SUPPLY



Tripod Mount



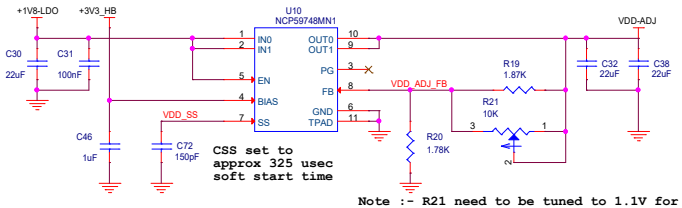
Socket/Lens Mount



Script executed

VDD ADJ

VDD 0.8V - 1.5V SUPPLY

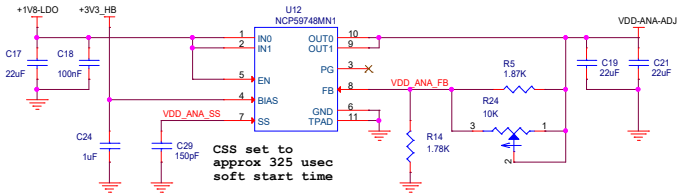


CSS set to approx 325 usec soft start time

Note :- R21 need to be tuned to 1.1V for Rev. 2.0 silicon and 1.05V for Rev. 2.1 silicon.

VDD-ANA ADJ

VDD_ANA 0.8V - 1.5V SUPPLY

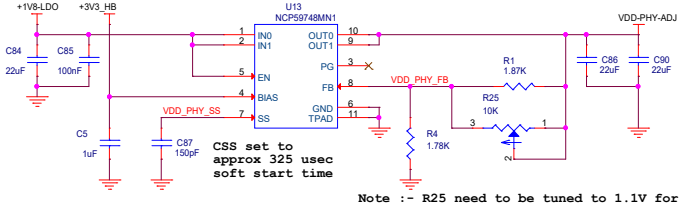


CSS set to approx 325 usec soft start time

Note :- R24 need to be tuned to 1.1V for Rev. 2.0 silicon and 1.05V for Rev. 2.1 silicon.

VDD-PHY ADJ

VDD_PHY_ADJ 0.8V - 1.5V SUPPLY

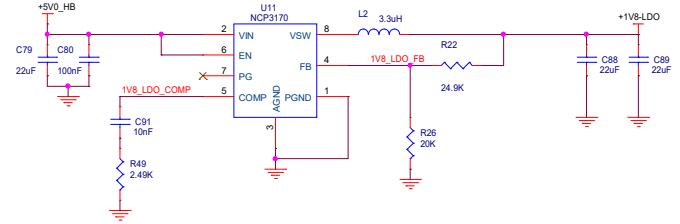


CSS set to approx 325 usec soft start time

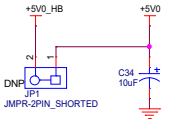
Note :- R25 need to be tuned to 1.1V for Rev. 2.0 silicon and 1.05V for Rev. 2.1 silicon.

1.8V LDO Supply

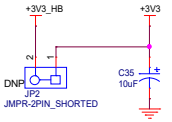
1.8V LDO SUPPLY

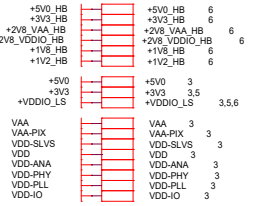


PERIPHERAL 5.0V SUPPLY

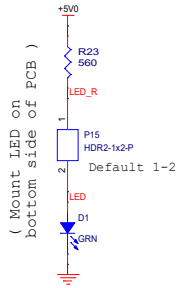


PERIPHERAL 3.3V SUPPLY

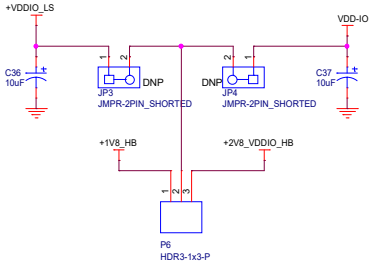




5V LED

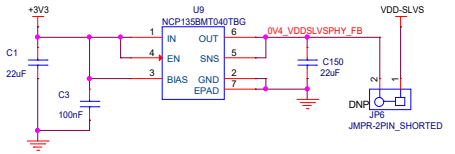


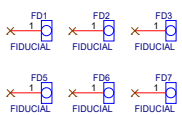
VDD-IO & VDDIO_LS 2.8V SUPPLY



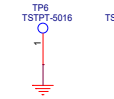
0V4 VDDPHY

VDDSLVSPHY 0.4V SUPPLY

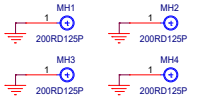




Ground Testpoints



Mounting Holes



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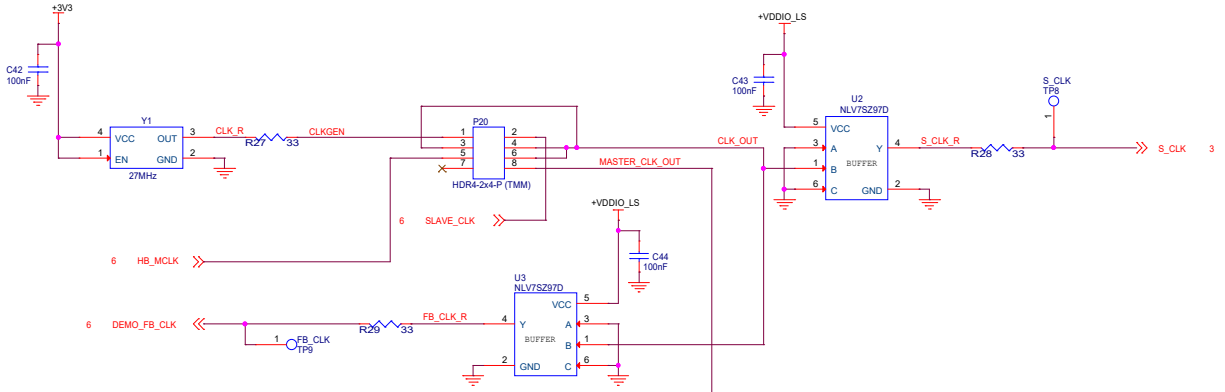
Clock and Reset

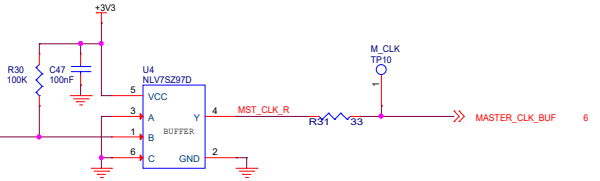
+5V0 3,4
+3V3 3,4
+VDDIO_LS 3,4,6

CLOCK CIRCUIT

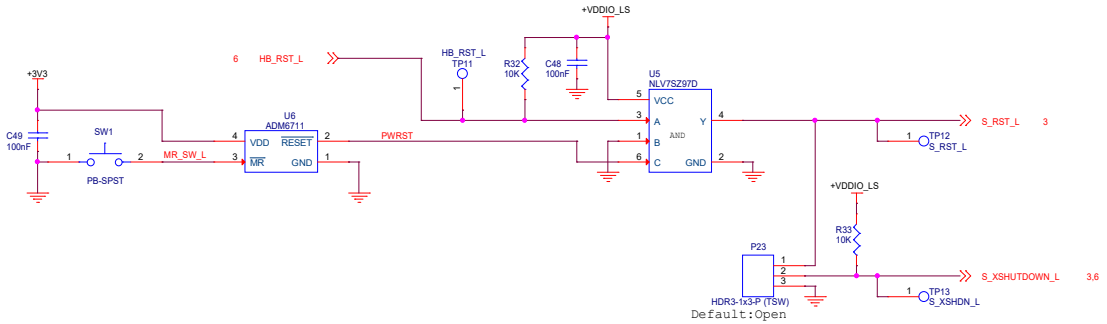


P20 Clock Selection Header

Jumper 1-3: Select on-board
oscillator as sensor's input clock
OR
Jumper 3-5 (default): Select Demo3 clock as
sensor's input clock
OR
Jumper 2-4: Select Slave clock as
sensor's input clock (for slave sensor in
multi-camara mode)
AND
Jumper 6-8: Enable Master clock
output (to support slave sensor in
multi-camera mode)



RESET CIRCUIT



Title	Clock and Reset	
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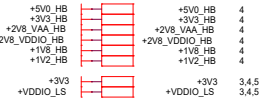
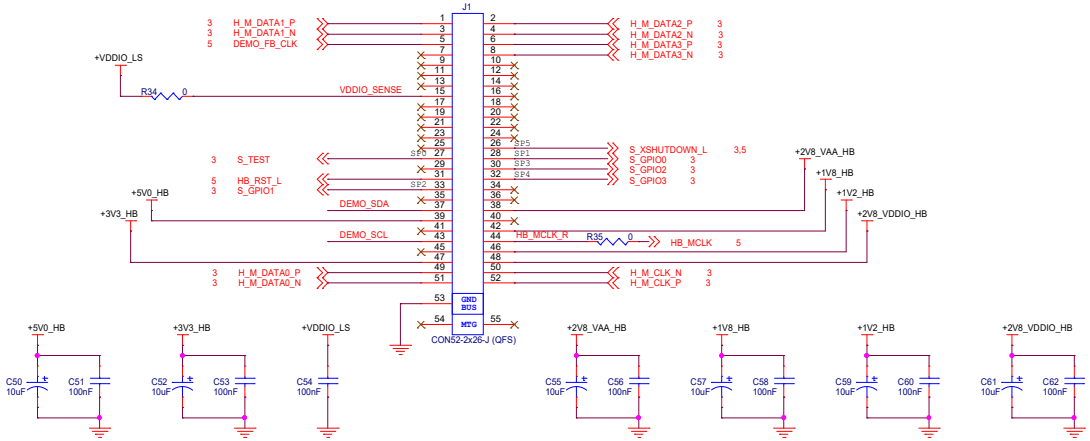
Script executed

External Interface



DEMO3 BASEBOARD I/F



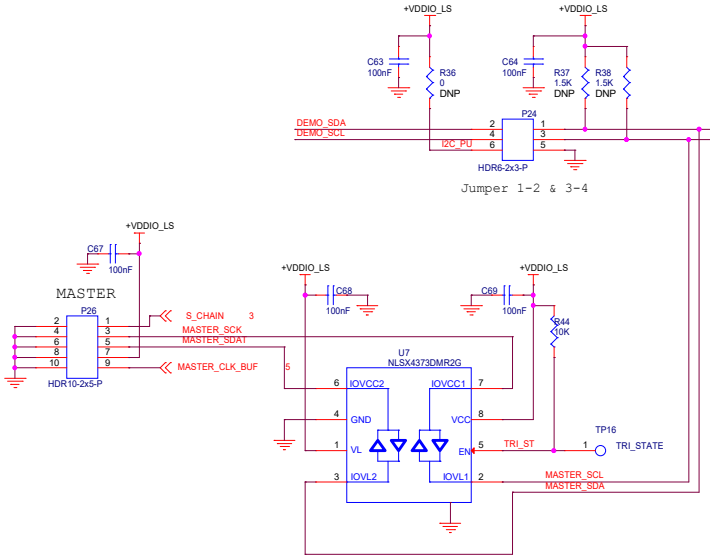
MULTI-CAMERA INTERFACE

MASTER / SLAVE Connection in Multi-Camera Mode:

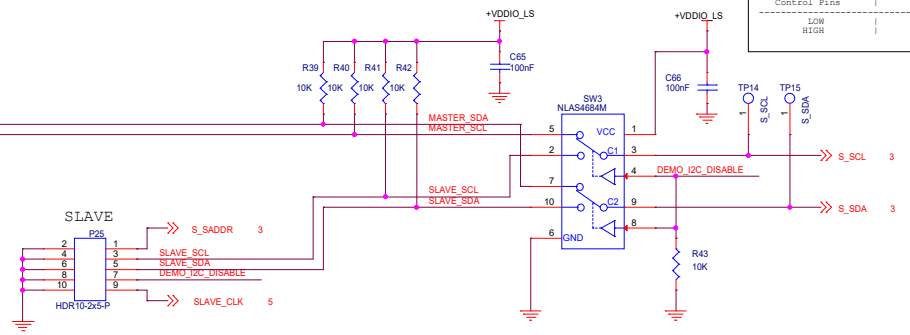
- Connect a multi-camera interface cable from the MASTER connector on the Master headboard to the SLAVE connector on the Slave headboard

- If there is a further Slave headboard down the chain, connect another multi-camera interface cable from the MASTER connector on the 1st Slave headboard to the SLAVE connector on the 2nd Slave headboard

I2C DEBUG



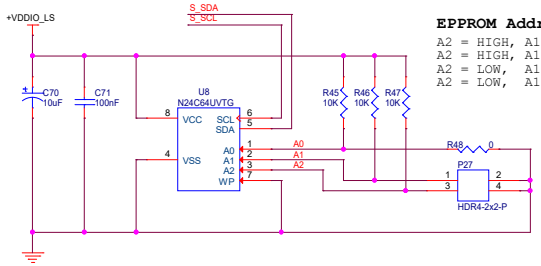
I2C SWITCH



SW3 Function Table

Control Pins	On Channel
LOW	Demo I2C Enabled
HIGH	Slave I2C Enabled

LENS CORRECTION EEPROM



EPPROM Address Switch Settings:

A2 = HIGH, A1 = LOW, A0 = LOW; Address => 0xA8 (default)
A2 = HIGH, A1 = HIGH, A0 = LOW; Address => 0xAC
A2 = LOW, A1 = HIGH, A0 = LOW; Address => 0xA4
A2 = LOW, A1 = LOW, A0 = LOW; Address => 0xA0

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Script executed