

AR2020_MPBGA78_Demo3Head_SER

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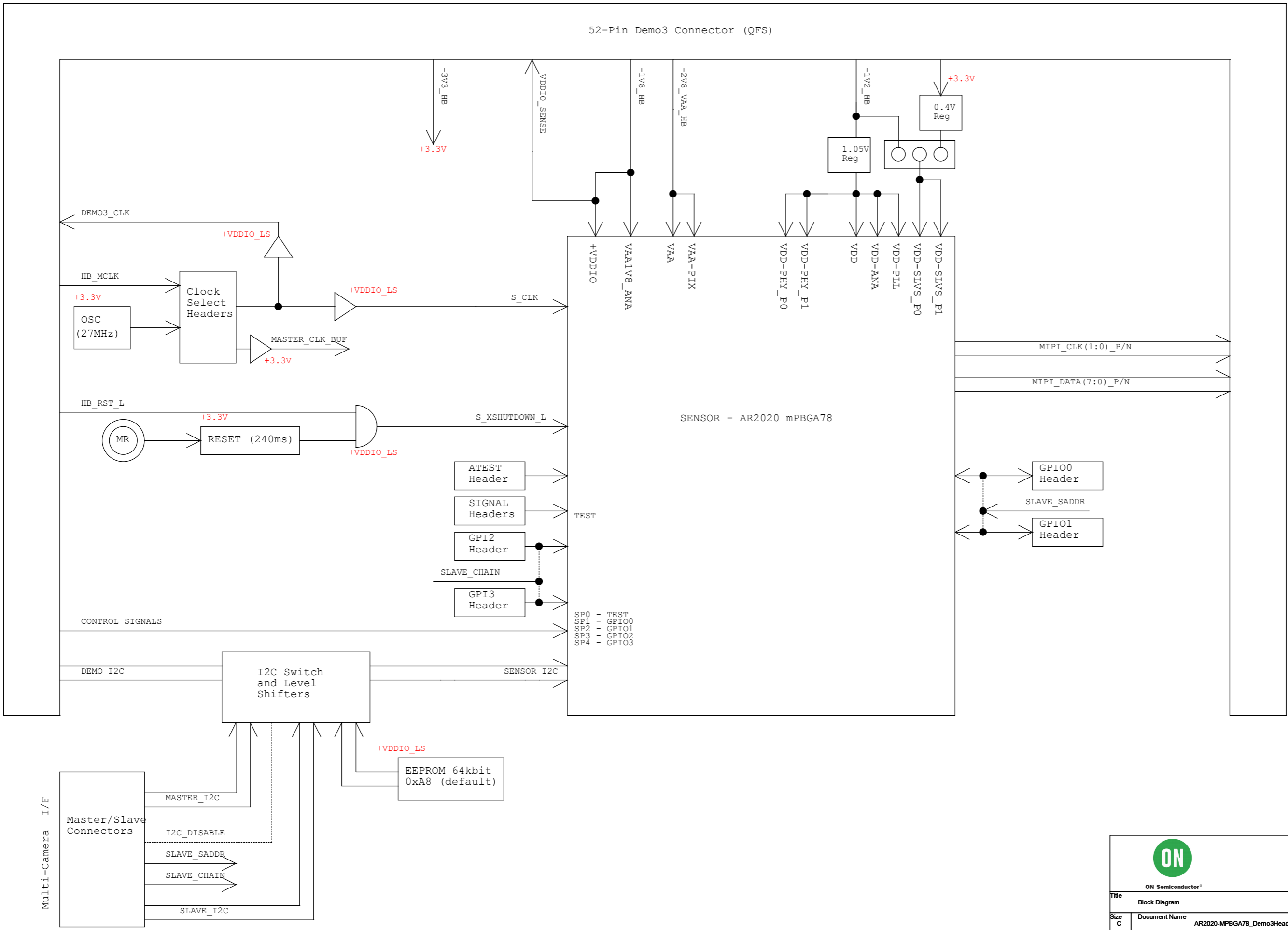
Rev	Who	Date	Description
Rev 0.0	anahar	5JUL2021	Initial - Based on Template (Aug 13, 2019) Added connections to support dual MIPI U10 added to support 1.05V
		23JUL2021	Updated MP2 part. No impact on Layout
Rev 0.1	anahar	17NOV2021	Updated Y1 to 24MHz part from 27MHz part as per AE feedback
Rev 0.2	anahar	11JAN2022	Updated Y1 to 27MHz part from 24MHz part as per AE feedback. Updated P20 setting as 3-5.




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Block Diagram



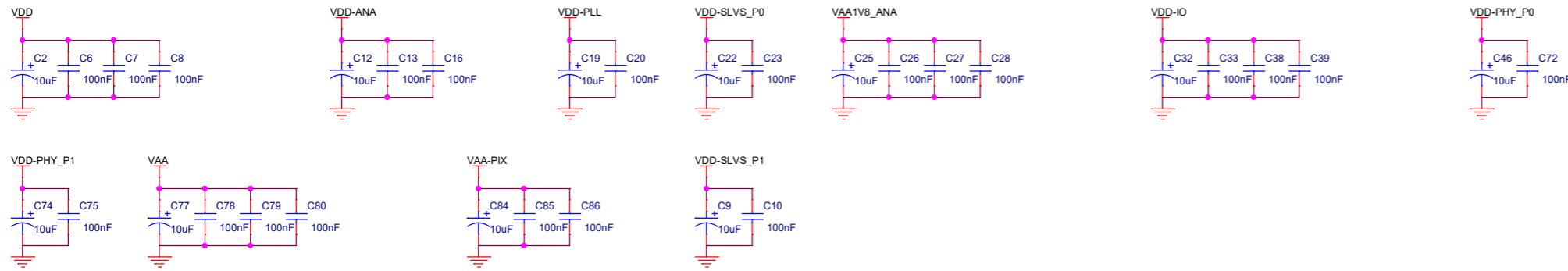


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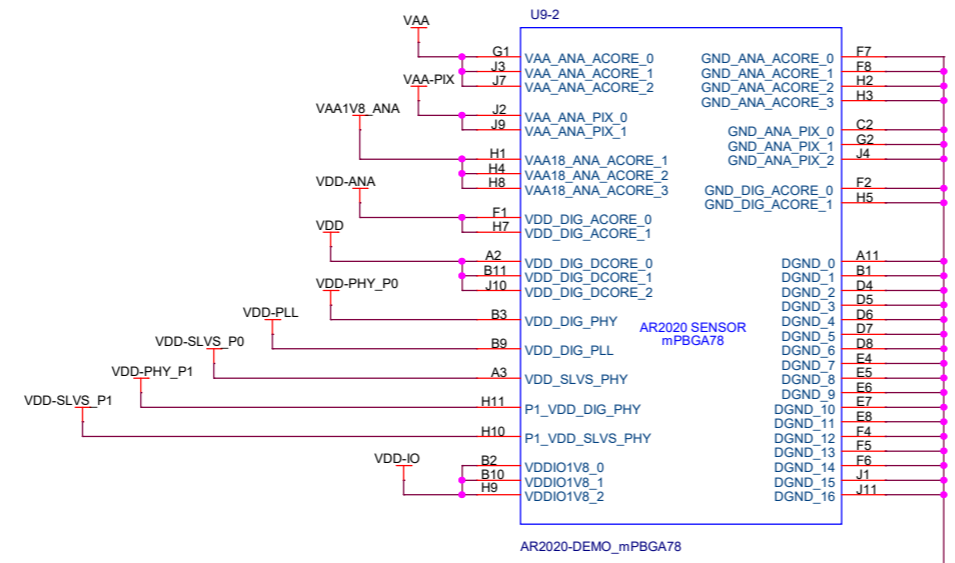
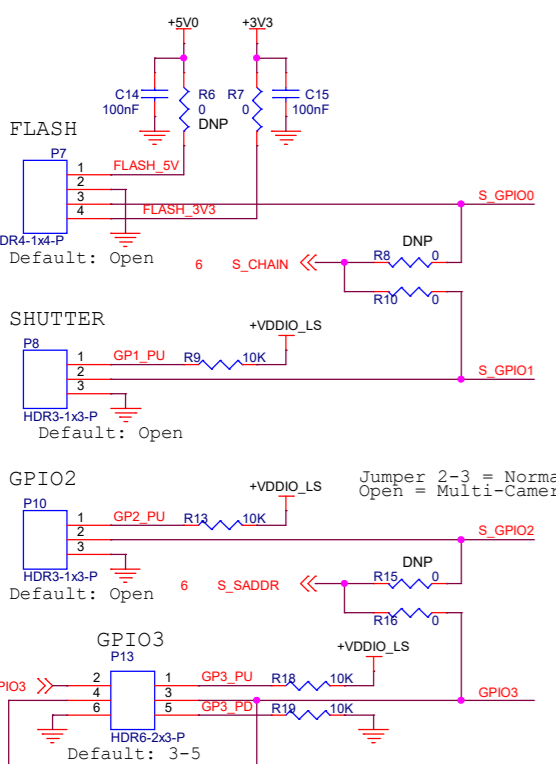
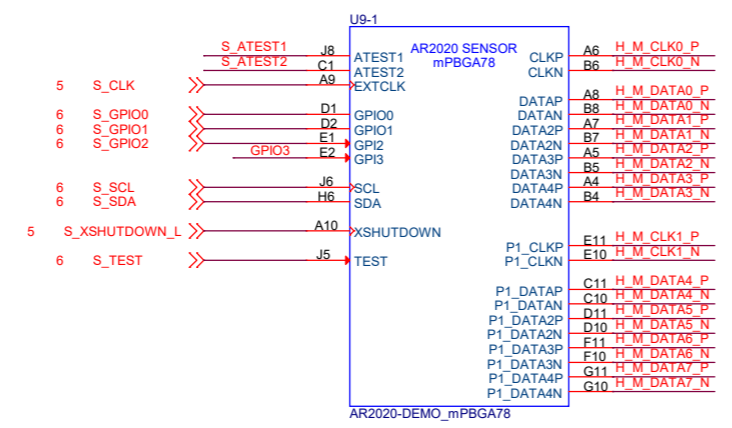
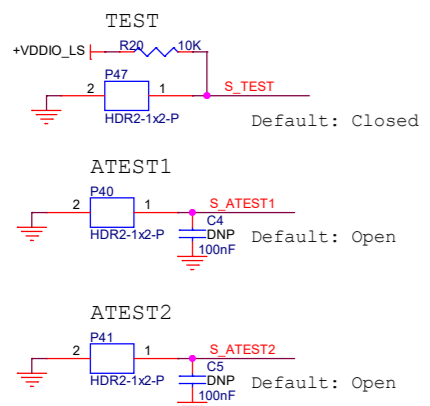
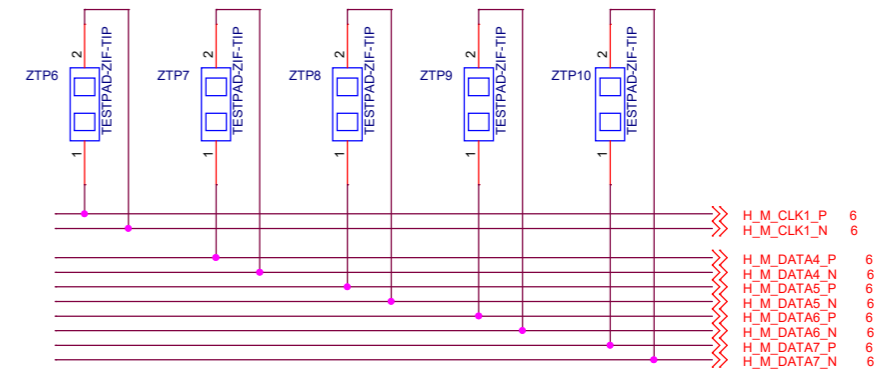
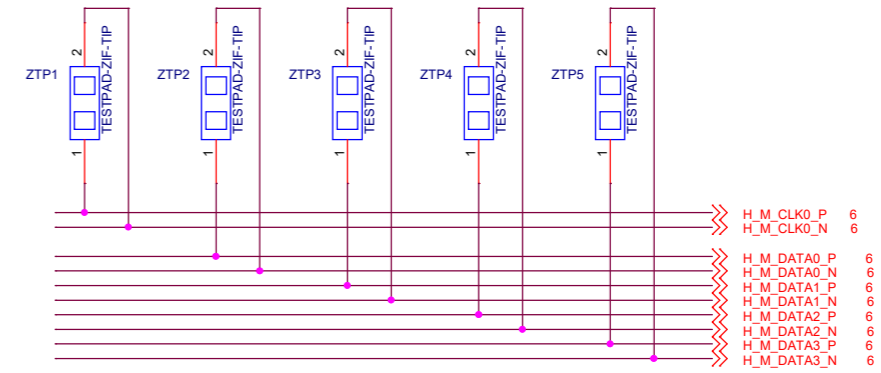
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Sensor

+5V0	4
+3V3	4,5
+VDDIO_LS	4,5,6
VDD	4
VDD-ANA	4
VDD-PLL	4
VDD-SLVS	4
VAA1V8_ANA	4
VDD-IO	4
VDD-PHY_P0	4
VDD-PHY_P1	4
VAA	4
VAA-PIX	4



(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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Title: Sensor

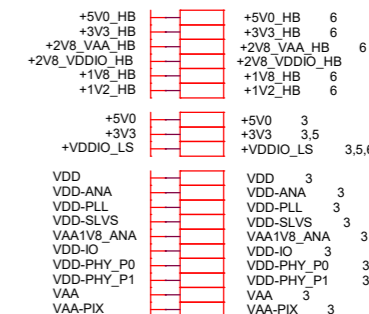
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Script executed
Jumper Default: 3-5
2 - 4 Trigger from Demo3
Pin 4 = Function Generator Input

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

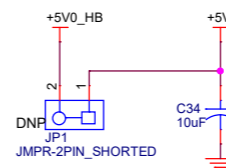
Power



VDD 1.05V SUPPLY



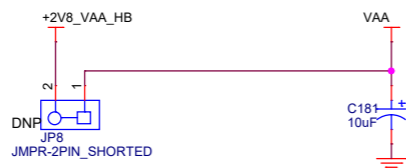
VDD-PHY_P1 1.05V SUPPLY



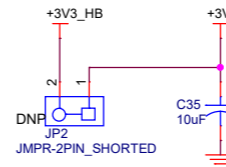
VDD-ANA 1.05V SUPPLY



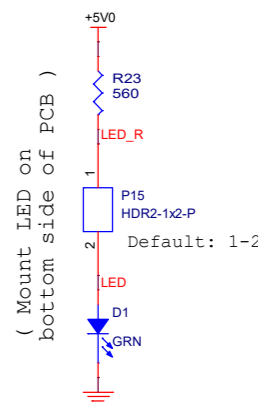
VAA 2.8V SUPPLY



PERIPHERAL 3.3V SUPPLY



5V LED



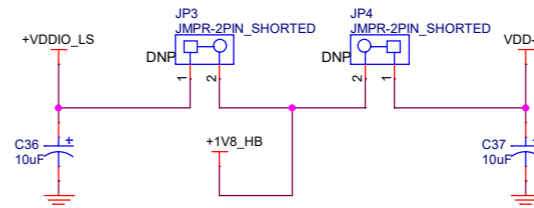
VDD-PLL 1.05V SUPPLY



VAA-PIX 2.8V SUPPLY



VDDIO & VDDIO_LS 1.8V SUPPLY



VDD-SLVS 1.2V SUPPLY



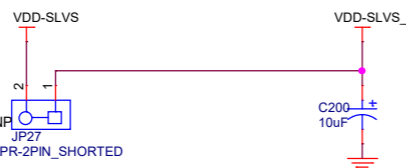
VDD-SLVS_P0 SUPPLY



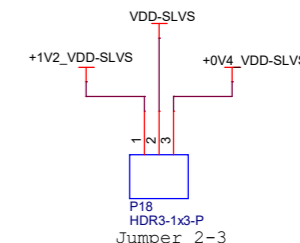
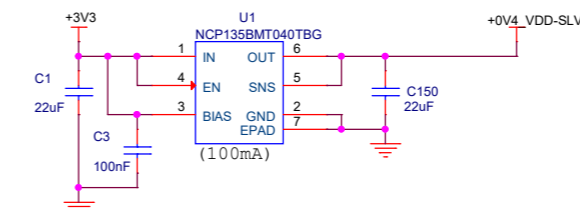
VAA1V8_ANA 1.8V SUPPLY



VDD-SLVS_P1 SUPPLY



VDDSLVSPHY 0.4V SUPPLY

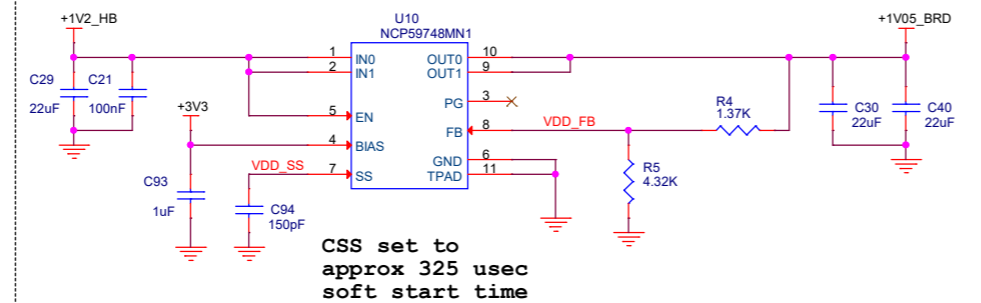


Selection of 0.4V or 1.2V for VDDSLVSPHY supply

VDD-PHY_P0 1.05V SUPPLY

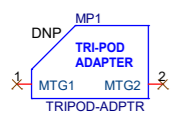


ONBOARD 1.05V SUPPLY

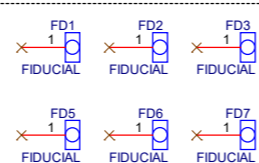
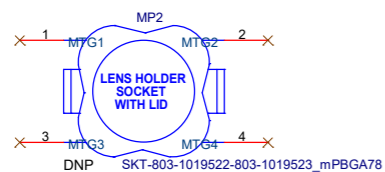


CSS set to approx 325 usec soft start time

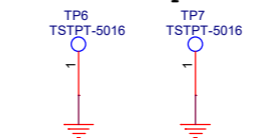
Tripod Mount



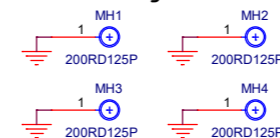
Socket/Lens Mount



Ground Testpoints



Mounting Holes

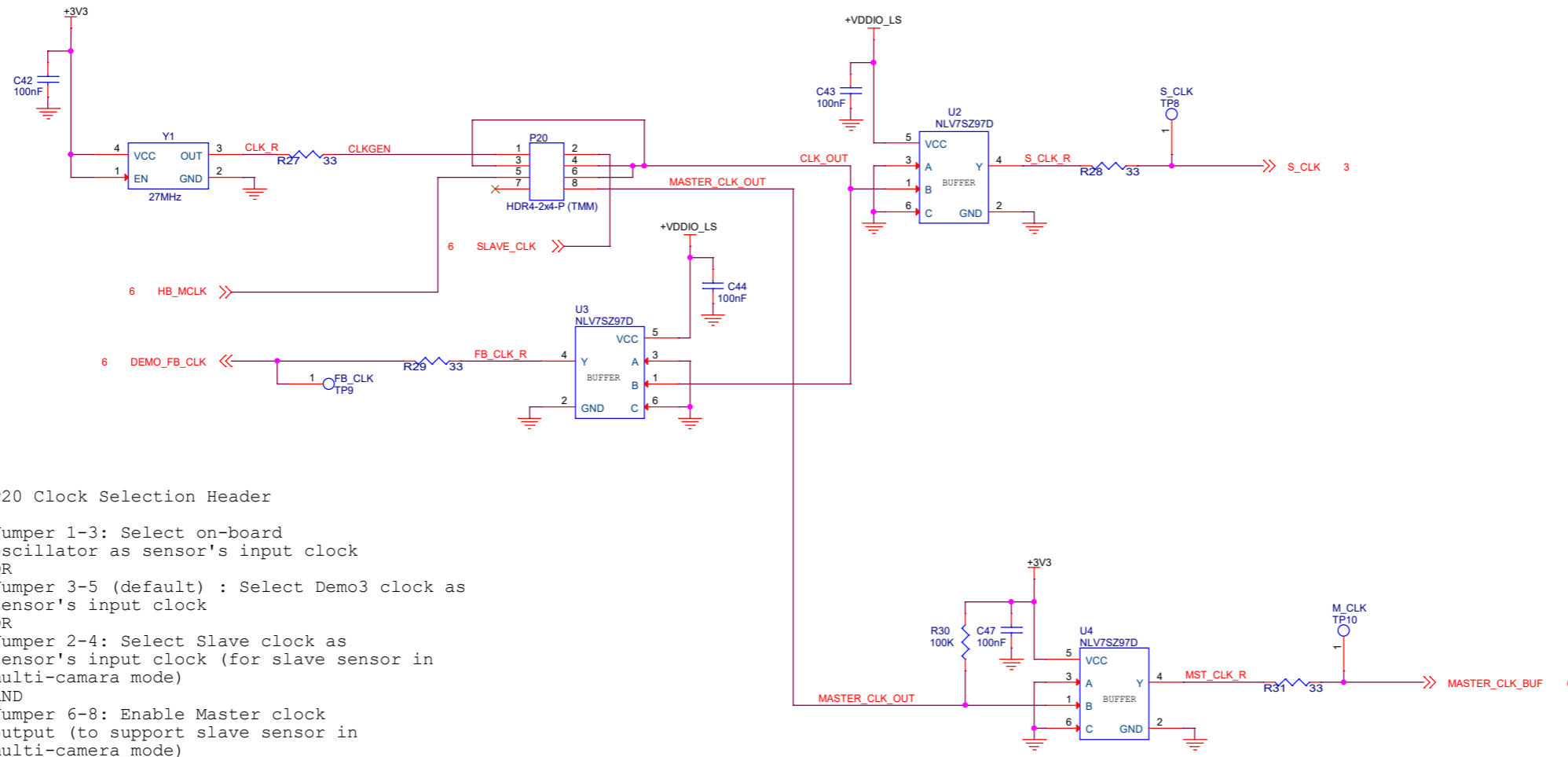


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Clock and Reset

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

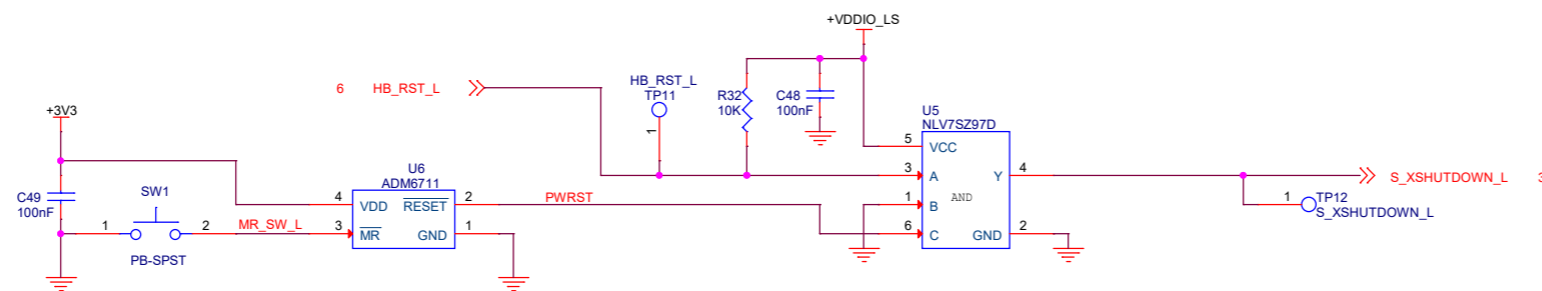
CLOCK CIRCUIT



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-camera mode)
 AND
 Jumper 6-8: Enable Master clock output (to support slave sensor in multi-camera mode)

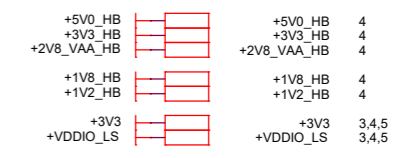
RESET CIRCUIT



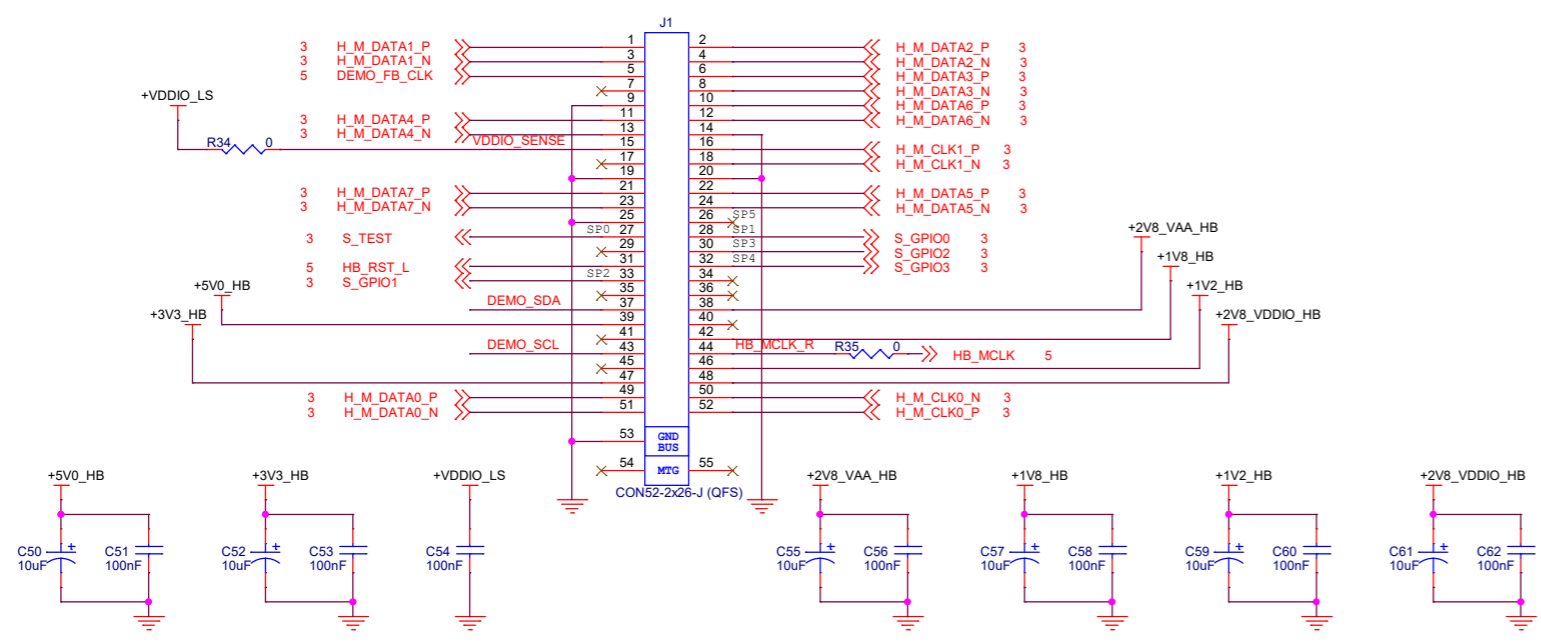
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External Interface



DEMO3 BASEBOARD I/F

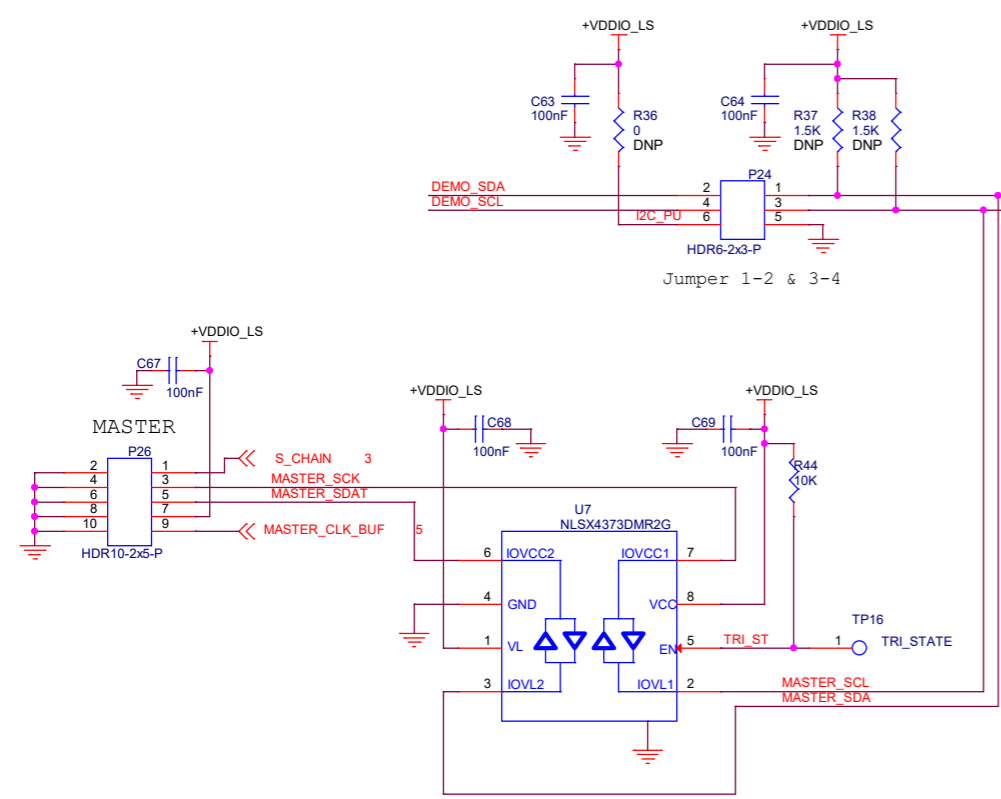


MULTI-CAMERA INTERFACE

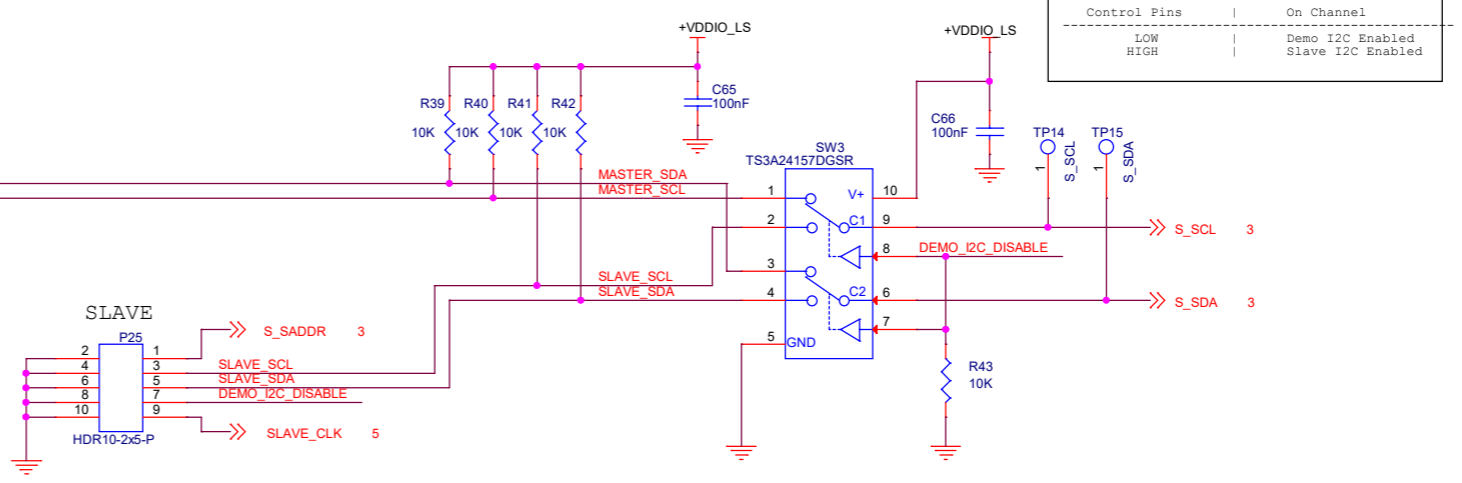
MASTER / SLAVE Connection in Multi-Camera Mode:

- 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

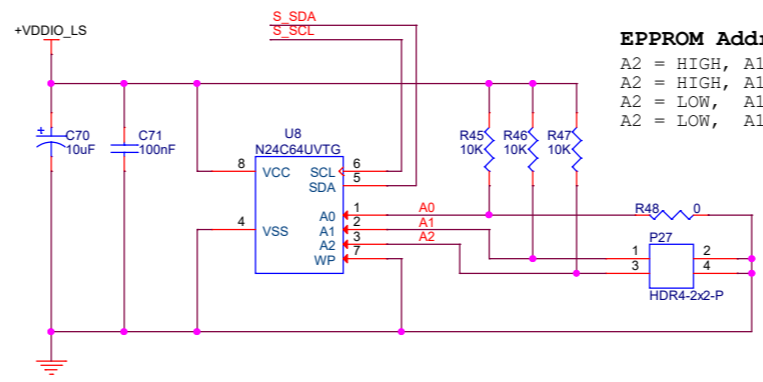


I2C SWITCH



SW3 Function Table	
Control Pins	On Channel
LOW	Demo I2C Enabled
HIGH	Slave I2C Enabled

LENS CORRECTION EEPROM



EEPROM 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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