

AR0145_CSP47_Demo3Head_SER

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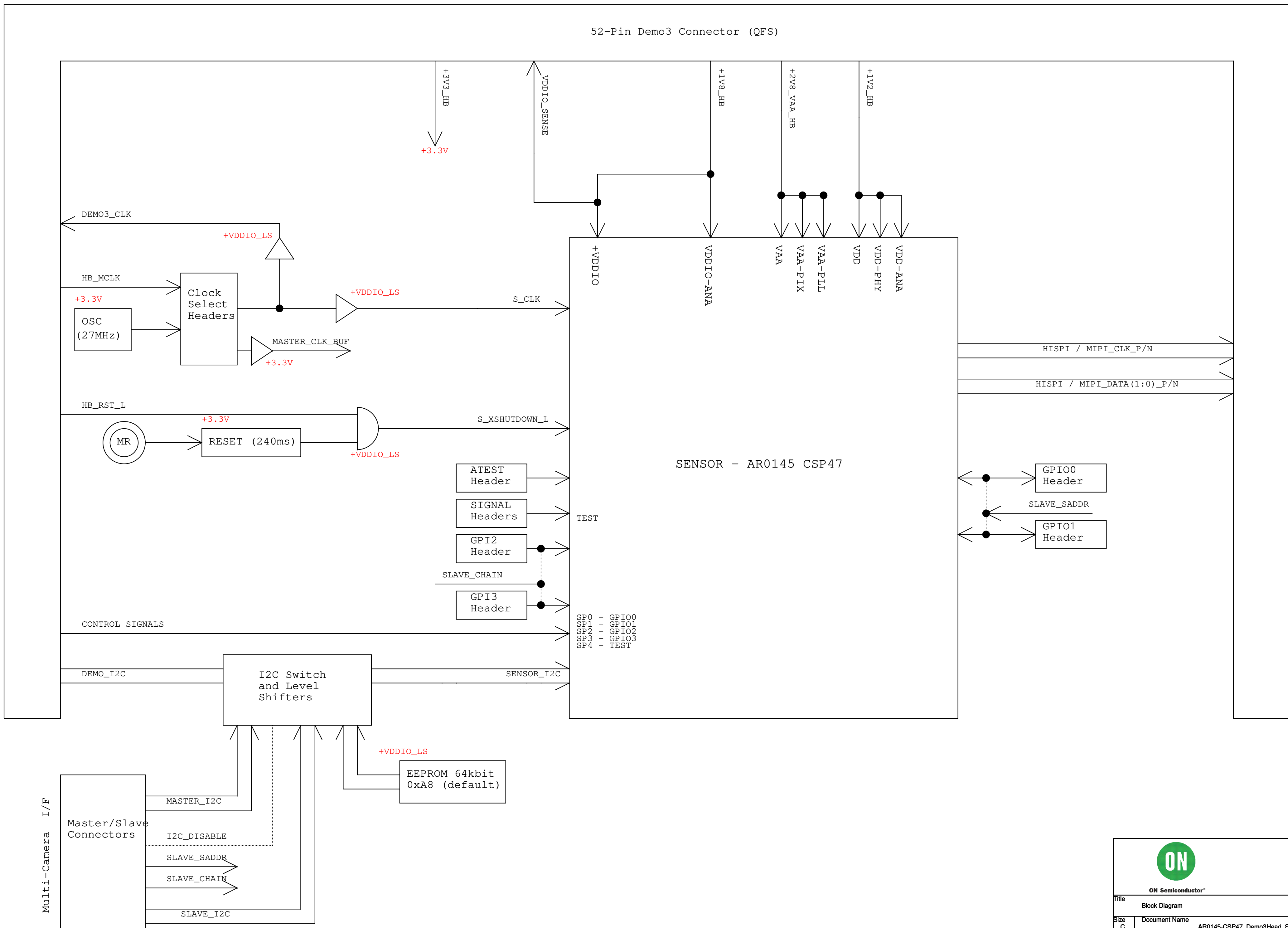
Rev	Who	Date	Description
Rev 0.0	Bharati	05DEC2020	- Initial - Based on Template
		08DEC2020	- Deleted VAA-PLL supply and connected VAA supply rail on VAA2V8 and VAA2V8-VAA2V8_PLL pins
	skumar	09DEC2020	- Deleted VDDIO-ANA supply and connected VDD-IO supply rail on VDDIO1V8 and VDDIO1V8-VDDIO1V8_ANA pins
			- Removed C86 & C39 and moved C87 & C88 to VAA net from VAA-PIX
	Bharati	18DEC2020	- Replaced I2C switch (SW2) with TS3A24157DGSR part
			- Socket symbol updated
	Bharati	24FEB2021	- Updated P13 default jumper setting



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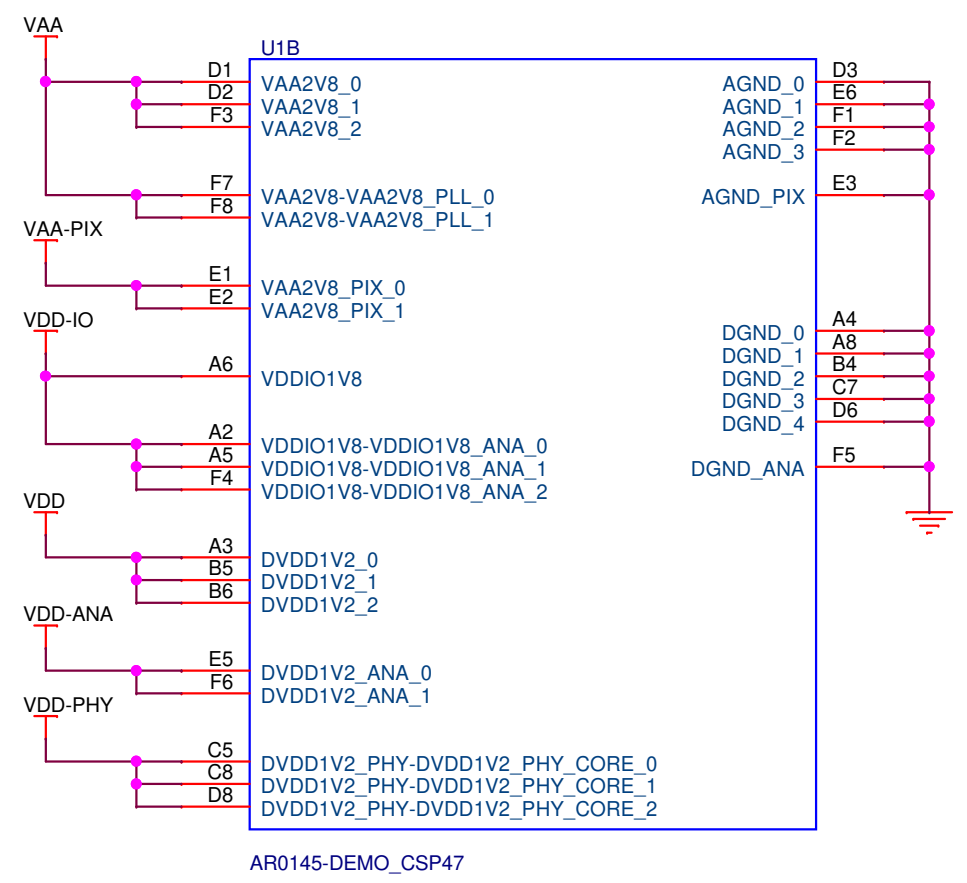
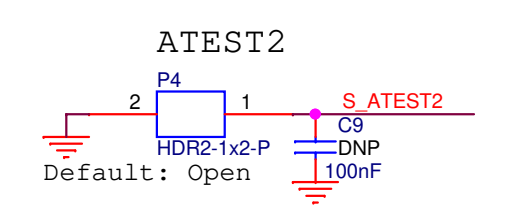
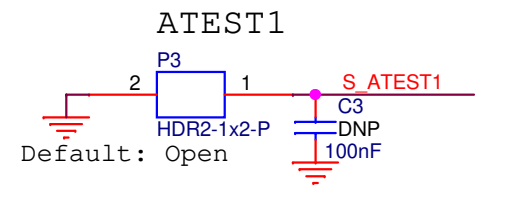
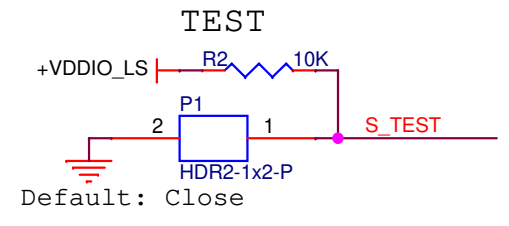
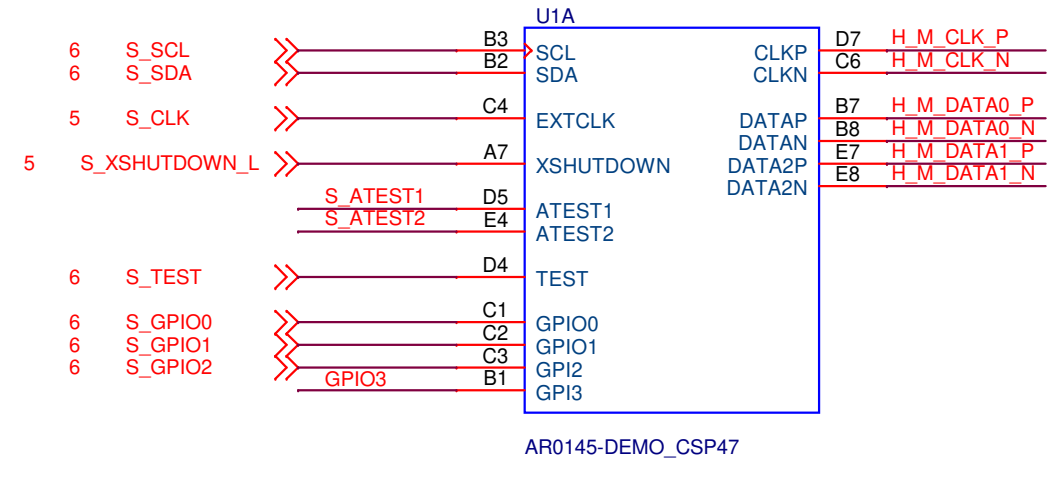
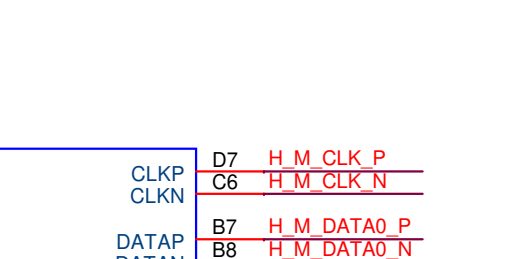
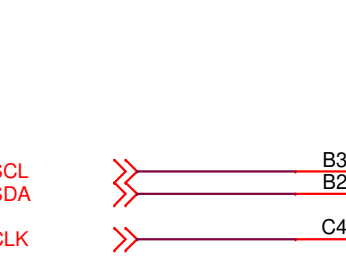
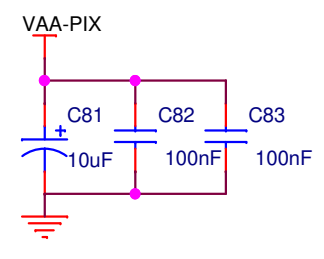
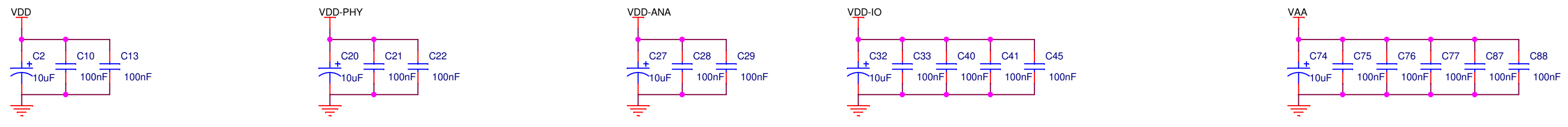
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Block Diagram

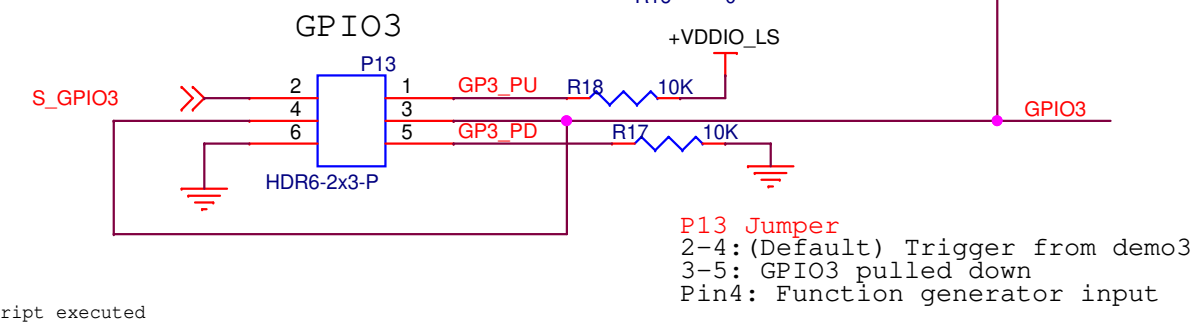
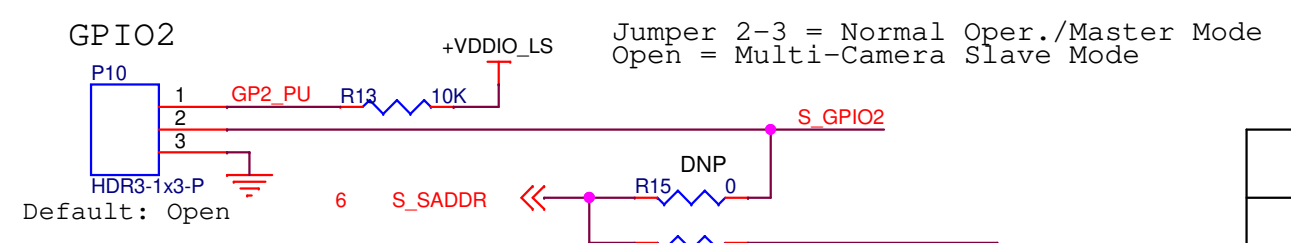
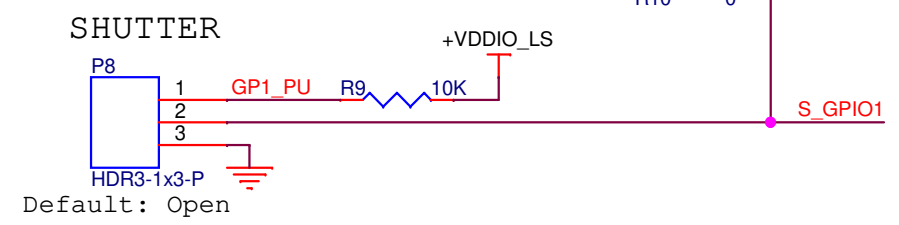
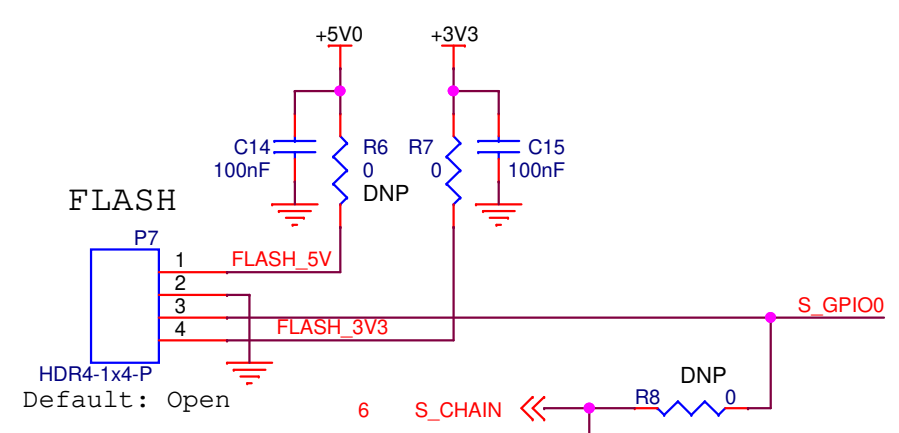
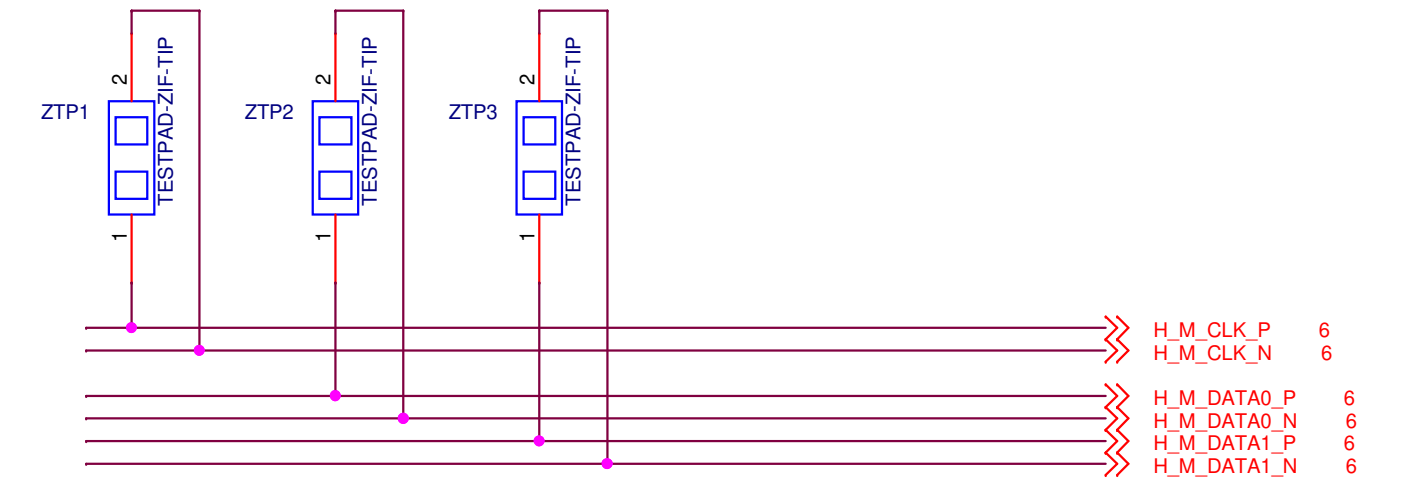


Sensor

+5V0	4
+3V3	4,5
+VDDIO_LS	4,5,6
VDD	4
VDD-PHY	4
VDD-ANA	4
VDD-IO	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

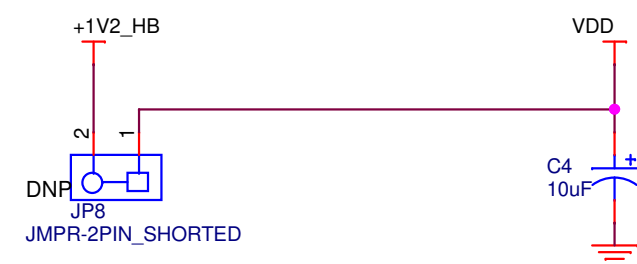
Size C Document Name: AR0145-CSP47_Demo3Head_SER Rev: 0.0

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

Power

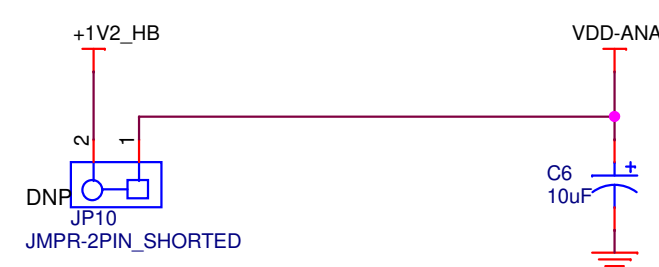
VDD 1.2V SUPPLY



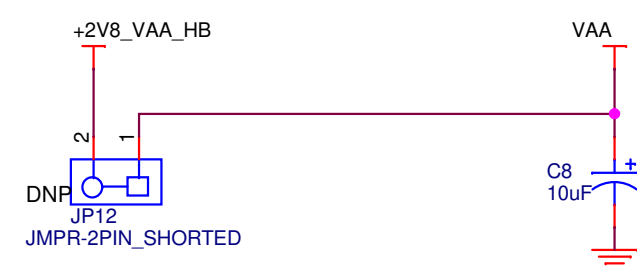
VDD-PHY 1.2V SUPPLY



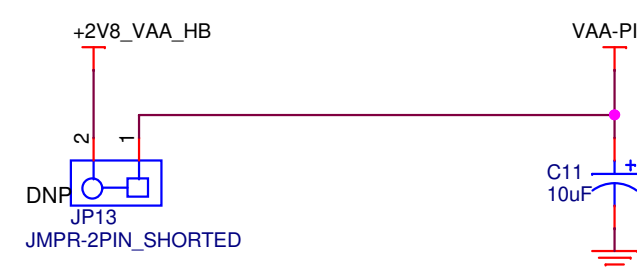
VDD-ANA 1.2V SUPPLY



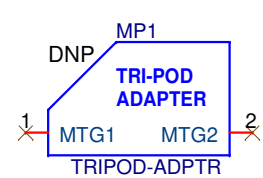
VAA 2.8V SUPPLY



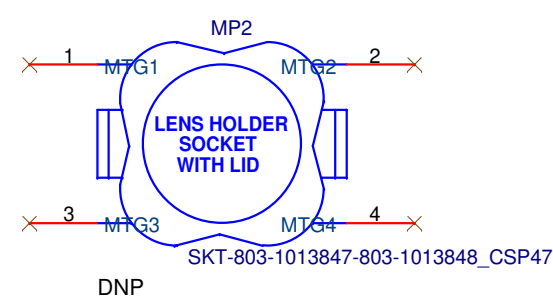
VAA-PIX 2.8V SUPPLY



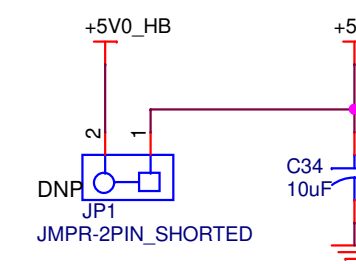
Tripod Mount



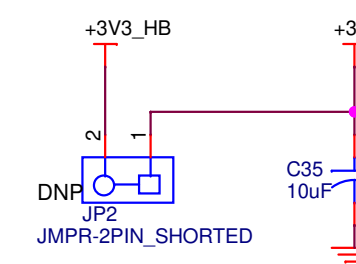
Socket/Lens Mount



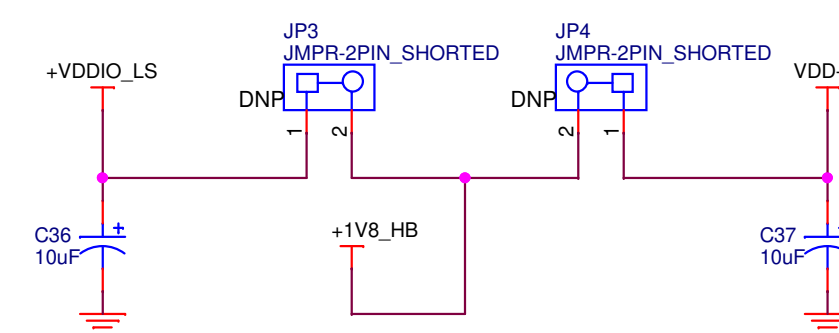
+5V0_HB	+5V0_HB	6
+3V3_HB	+3V3_HB	6
+2V8_VAA_HB	+2V8_VAA_HB	6
+2V8_VDDIO_HB	+2V8_VDDIO_HB	6
+1V8_HB	+1V8_HB	6
+1V2_HB	+1V2_HB	6
+5V0	+5V0	3
+3V3	+3V3	3,5
+VDDIO_LS	+VDDIO_LS	3,5,6
VDD	VDD	3
VDD-PHY	VDD-PHY	3
VDD-ANA	VDD-ANA	3
VDD-IO	VDD-IO	3
VAA	VAA	3
VAA-PIX	VAA-PIX	3



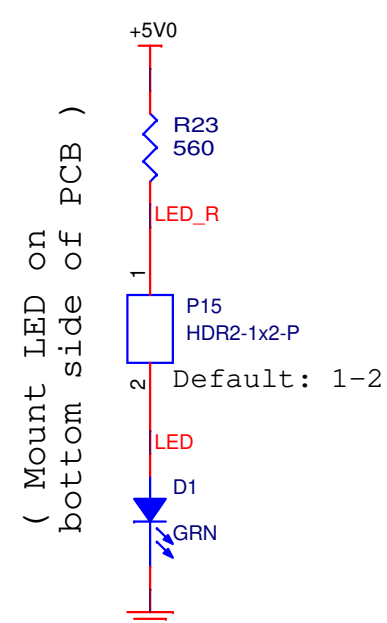
PERIPHERAL 3.3V SUPPLY



VDDIO & VDDIO_LS 1.8V SUPPLY



5V LED

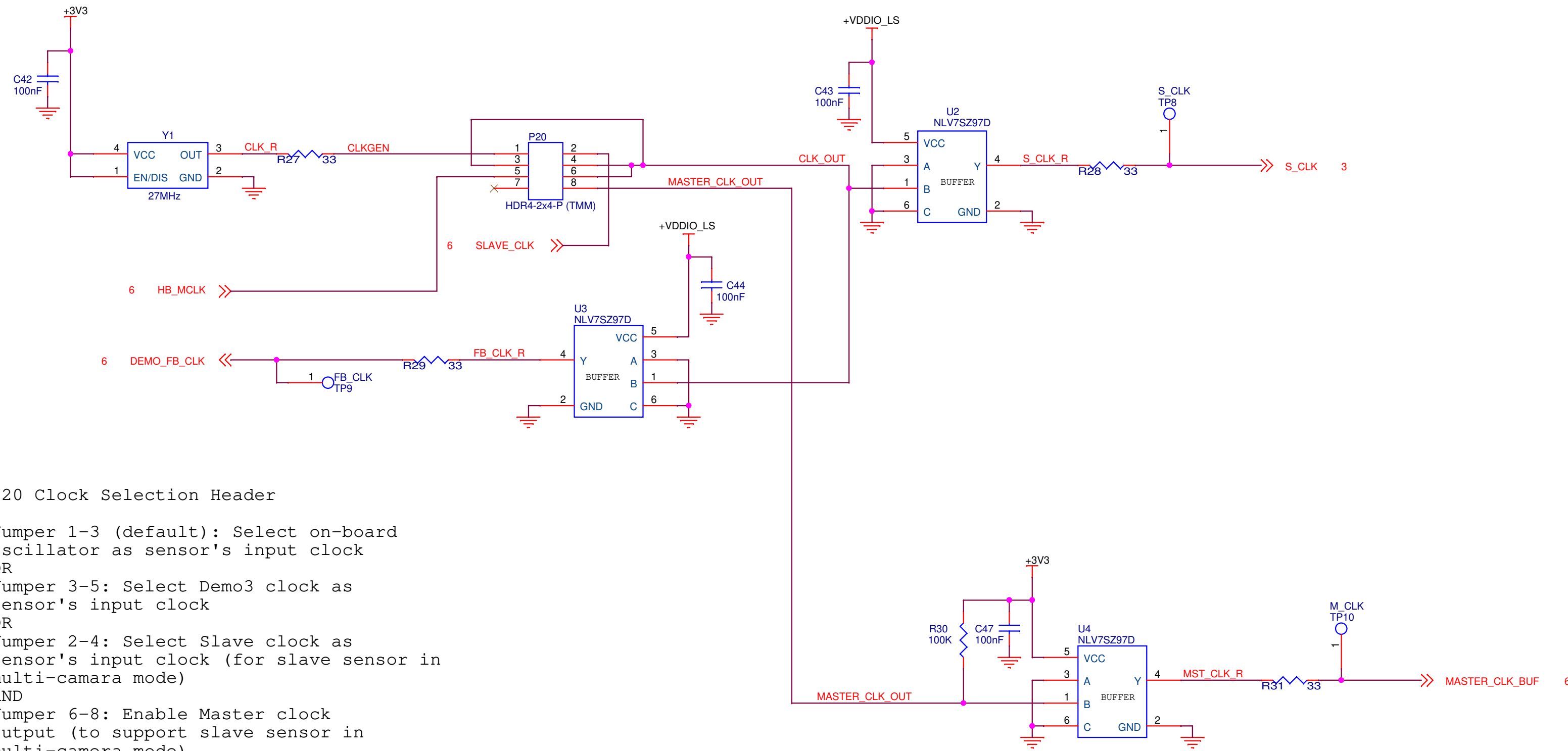


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Clock and Reset

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

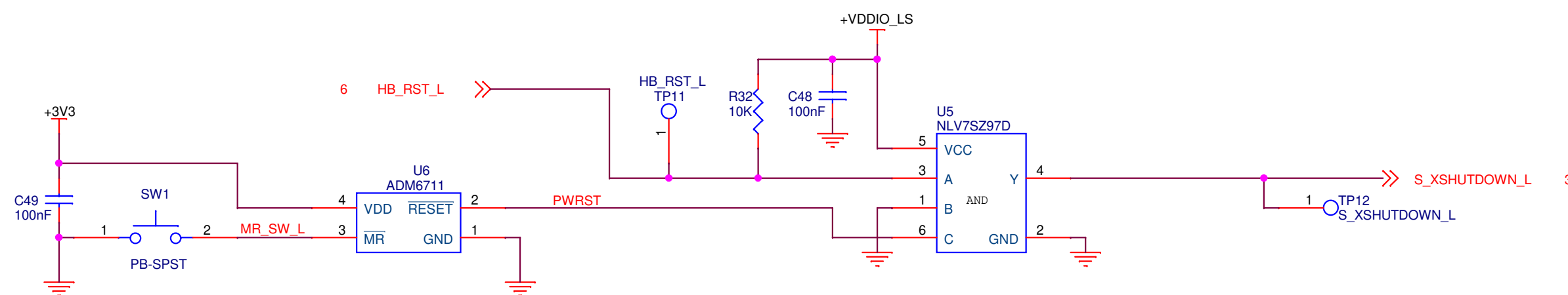
CLOCK CIRCUIT



P20 Clock Selection Header

- Jumper 1-3 (default): Select on-board oscillator as sensor's input clock
- OR
- Jumper 3-5: 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



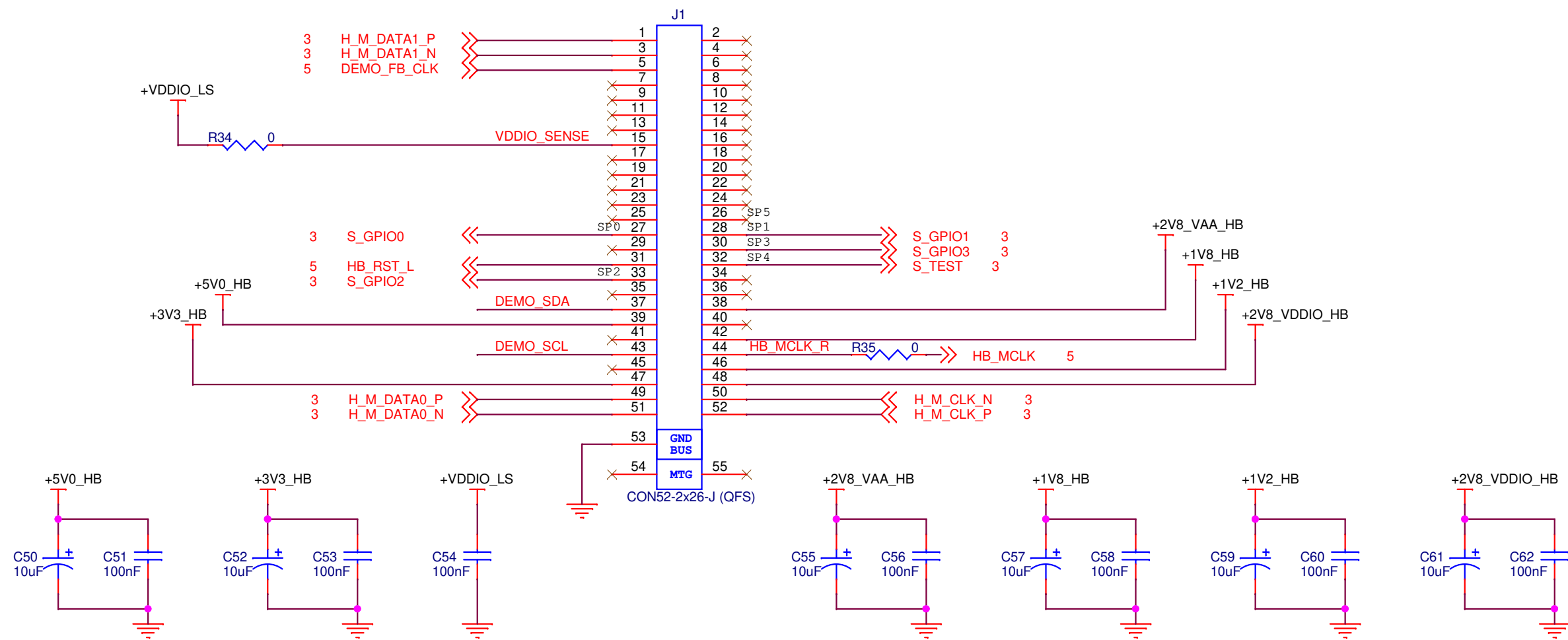
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Title		
Clock and Reset		
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External Interface

+5V0_HB	4	+5V0_HB	4
+3V3_HB	4	+3V3_HB	4
+2V8_VAA_HB	4	+2V8_VAA_HB	4
+2V8_VDDIO_HB	4	+2V8_VDDIO_HB	4
+1V8_HB	4	+1V8_HB	4
+1V2_HB	4	+1V2_HB	4
+3V3_VDDIO_LS	3,4,5	+3V3_VDDIO_LS	3,4,5

DEMO3 BASEBOARD I/F

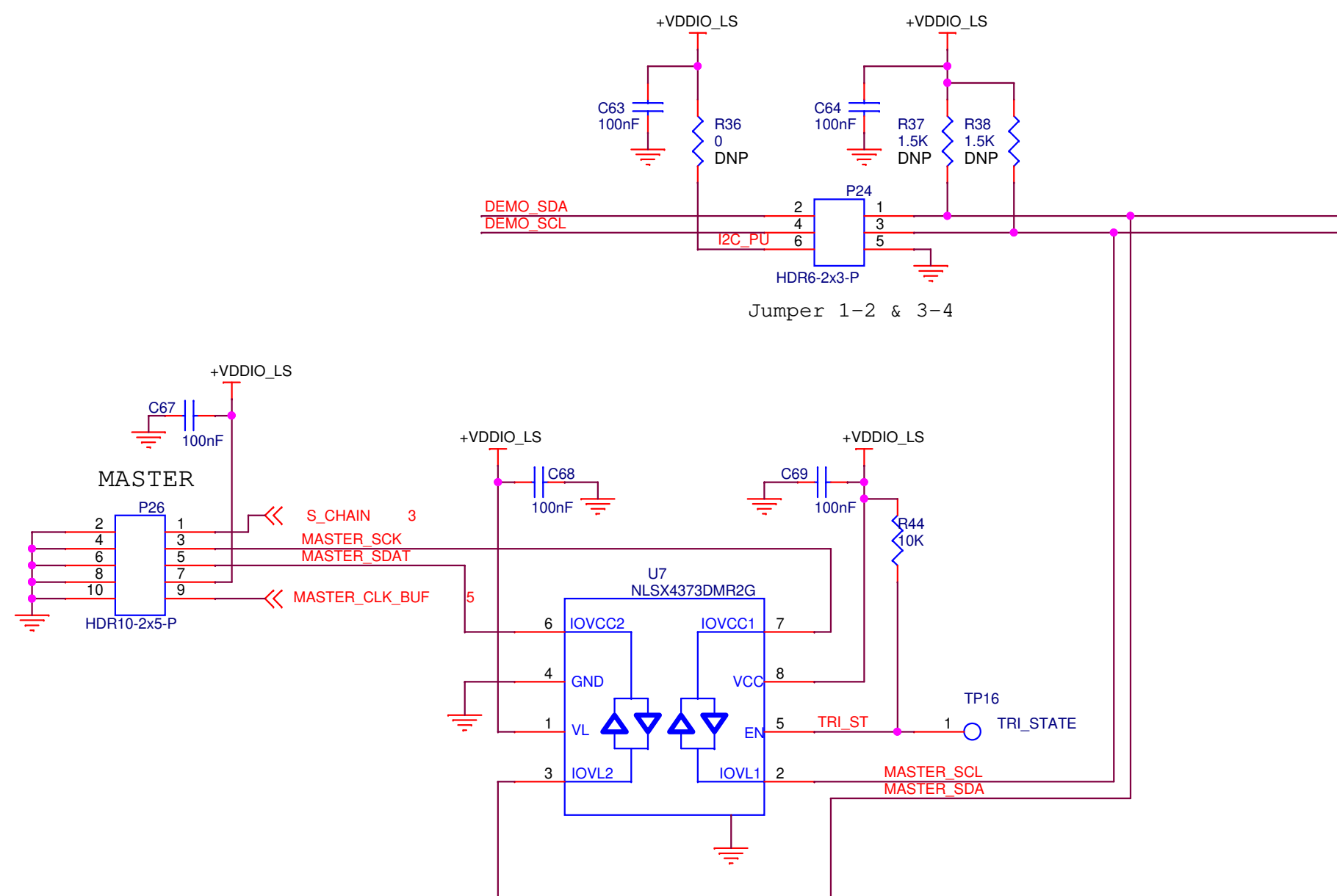


MULTI-CAMERA INTERFACE

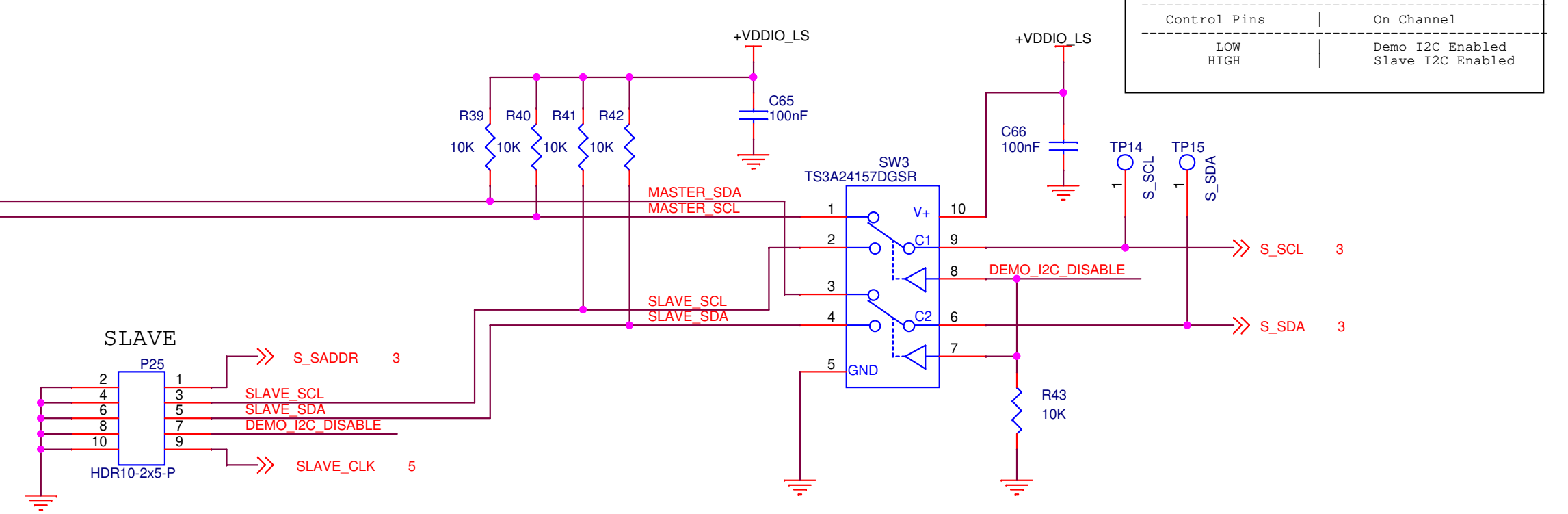
MASTER / SLAVE Connection in Multi-Camera Mode:

- 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

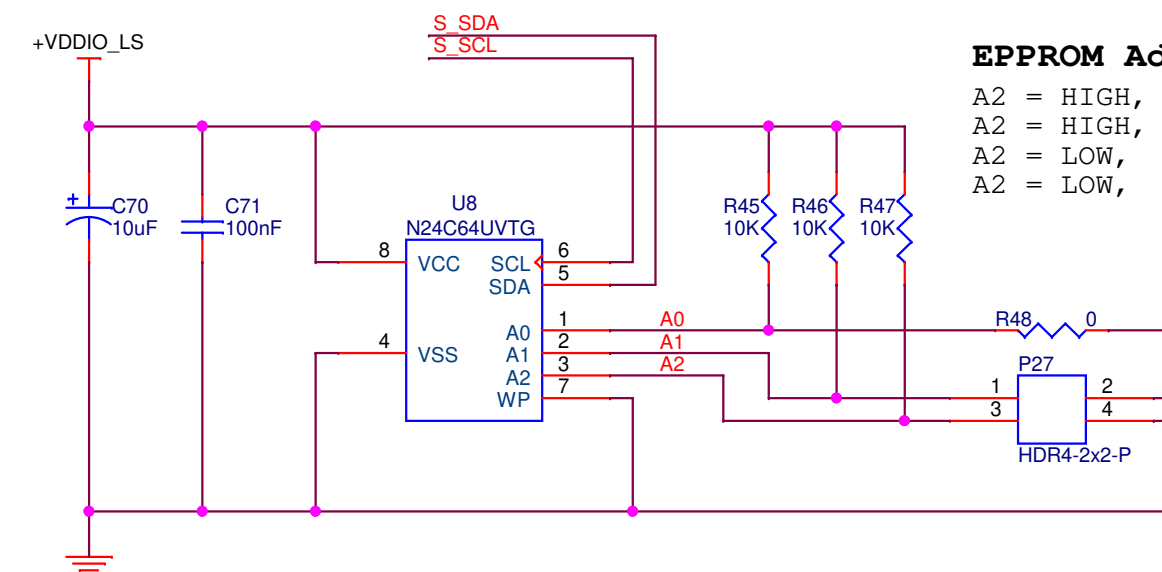


I2C SWITCH



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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