

AR0821_IBGA95_Demo3Head_SER

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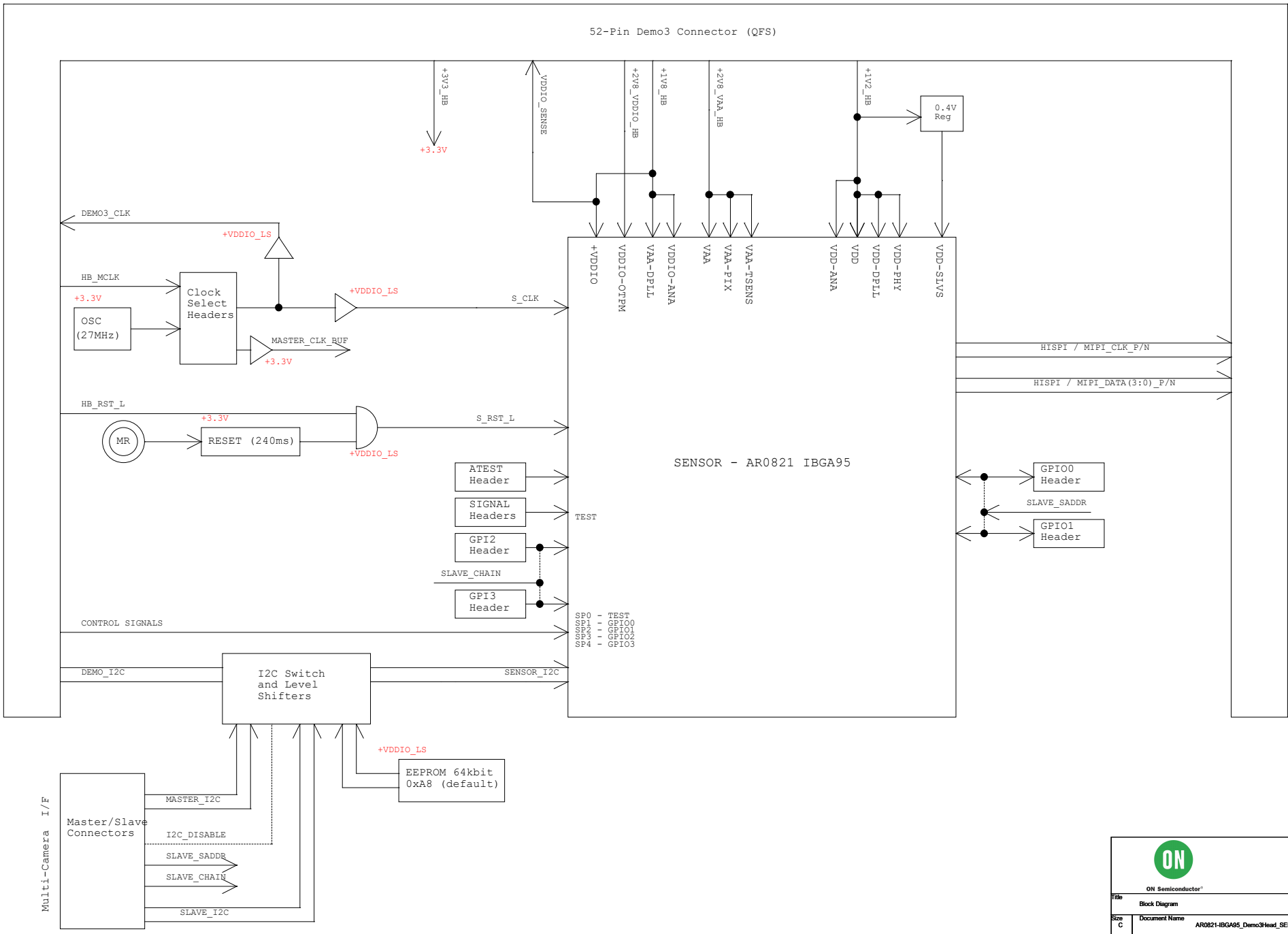
Rev	Who	Date	Description
Rev 0.0	Sesha	02Aug2019	- Initial, copy of the AR0820_IBGA95_Demo3Head_Ser design JP5 added, deleted P51, U10 regulator and associated components




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Block Diagram

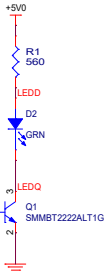
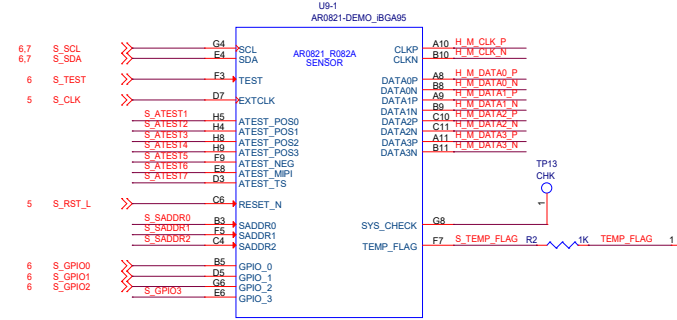
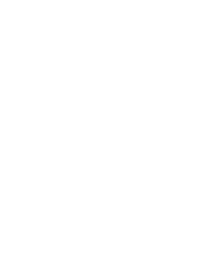
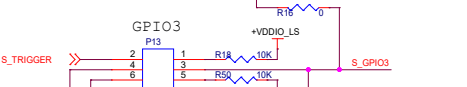
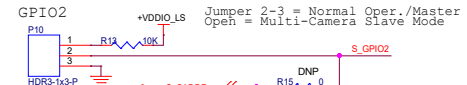
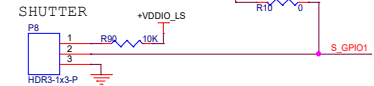
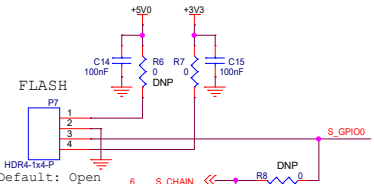
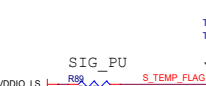
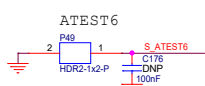
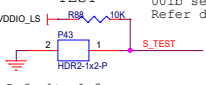
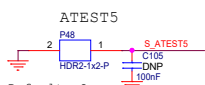
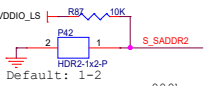
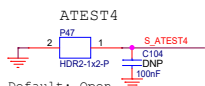
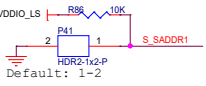
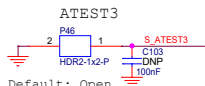
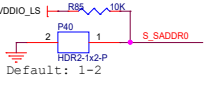
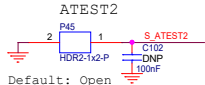
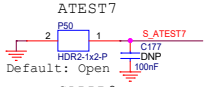
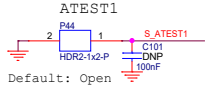
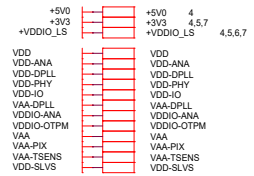
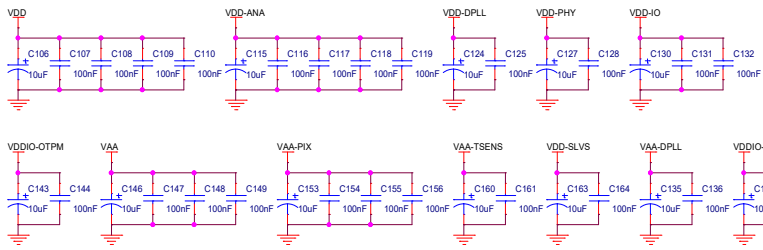




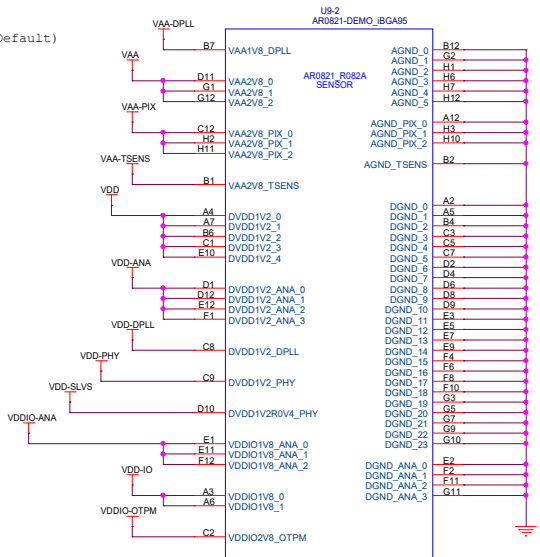
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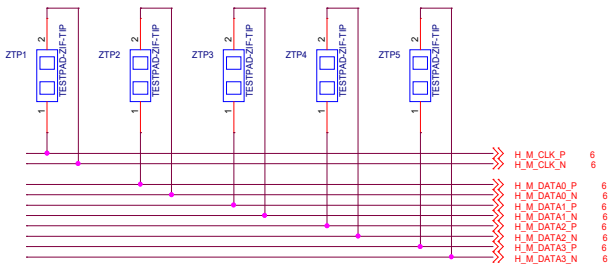
Sensor



SADDR Address
000b sets the address to 0x20/0x21. (Default)
001b sets the address to 0x30/0x31.
Refer datasheet for more details



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



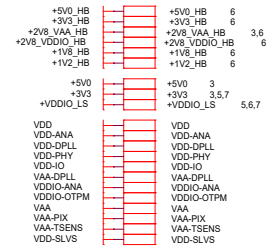
SIGNAL	GPIO FUNCTION OPTIONS
GPIO0	a. Flash output (default) b. All options in GPIO2 (if use as input)
GPIO1	a. Shutter output (default) b. All options in GPIO2 (if use as input)
GPIO2	a. SADDR, second I2C device address b. Trigger signal for Slave Mode c. Standby
GPIO3	a. All options in GPIO2

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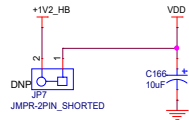
Sensor		
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Debug Headers: Cut away the shorted trace and mount header for power debugging

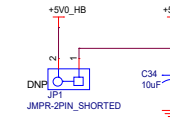
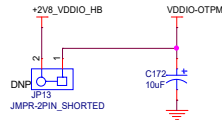
Power



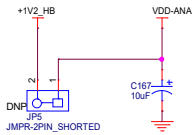
VDD 1.2V SUPPLY



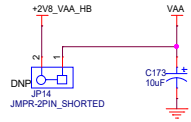
VDDIO-OTPM 2.8V SUPPLY



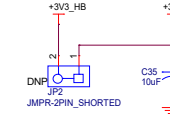
VDD-ANA 1.2V SUPPLY



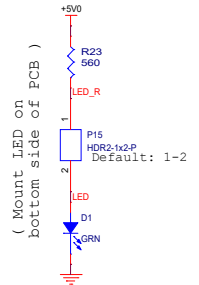
VAA 2.8V SUPPLY



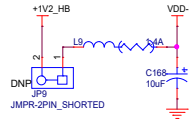
PERIPHERAL 3.3V SUPPLY



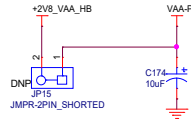
5V LED



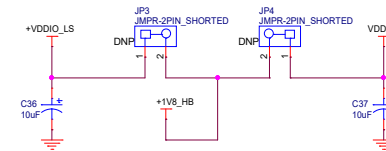
VDD-DPLL 1.2V SUPPLY



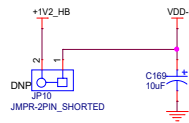
VAA-PIX 2.8V SUPPLY



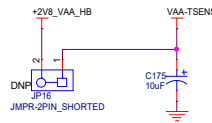
VDDIO & VDDIO_LS 1.8V SUPPLY



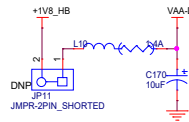
VDD-PHY 1.2V SUPPLY



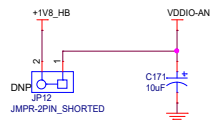
VAA-TSENS 2.8V SUPPLY



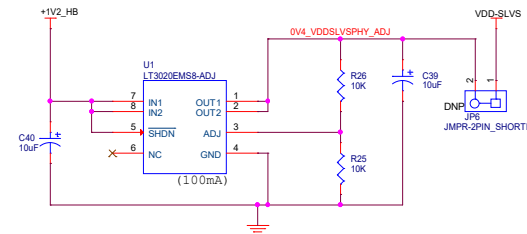
VAA-DPLL 1.8V SUPPLY



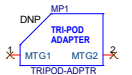
VDDIO-ANA 1.8V SUPPLY



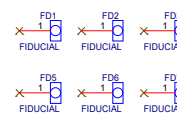
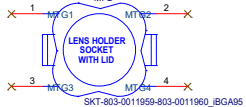
VDDSLVSPHY 0.4V SUPPLY



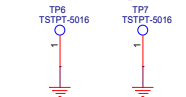
Tripod Mount



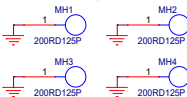
Socket/Lens Mount



Ground Testpoints



Mounting Holes



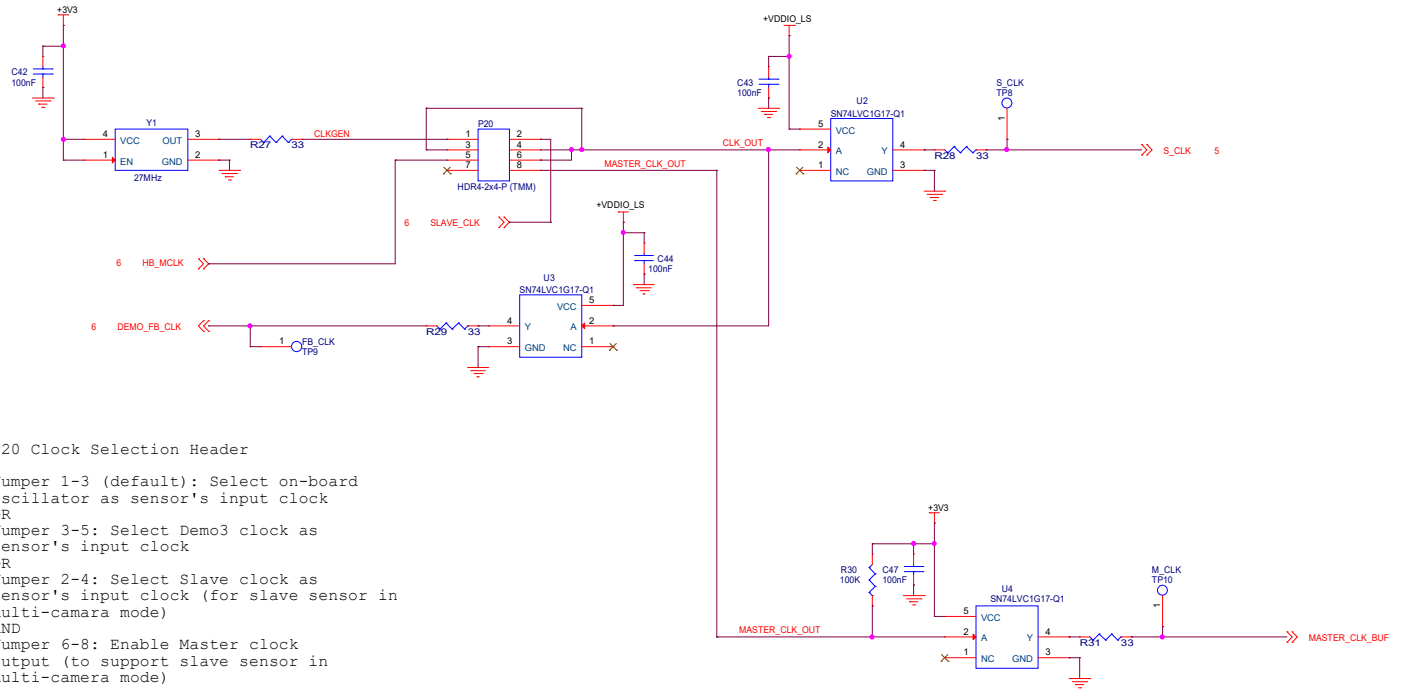
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Clock and Reset

+5V0 3,4
 +3V3 3,4,7
 +VDDIO_LS 4,6,7

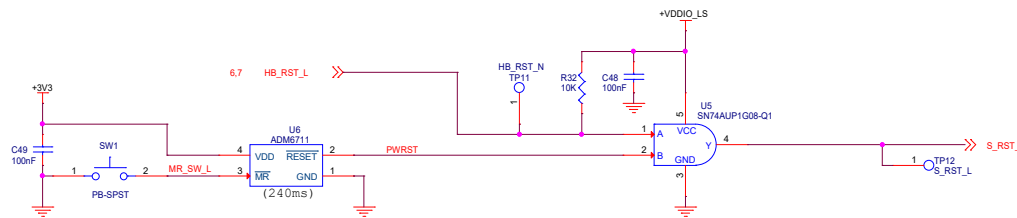
CLOCK CIRCUIT



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



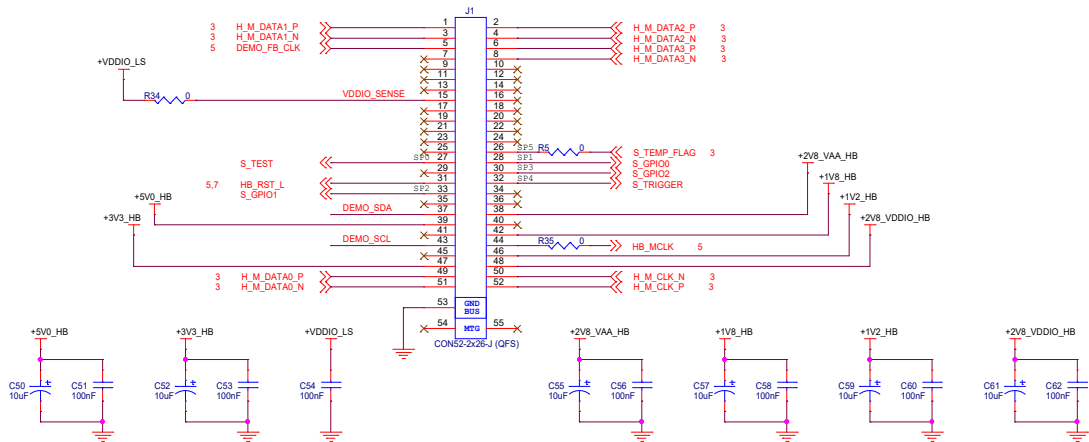
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External Interface

+5V0_HB	4
+3V3_HB	4
+2V8_VAA_HB	3.4
+2V8_VDDIO_HB	4
+1V8_HB	4
+1V2_HB	4
+3V3	3.4,5.7
+VDDIO_LS	4.5.7

DEMO3 BASEBOARD I/F

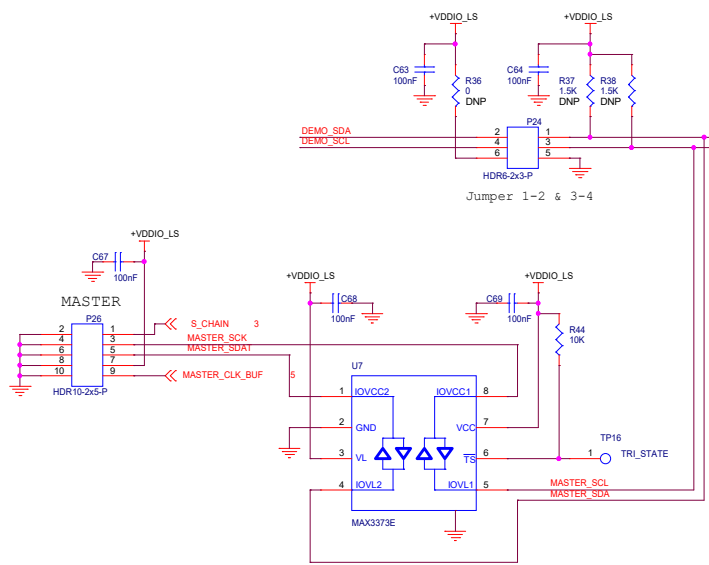


MULTI-CAMERA INTERFACE

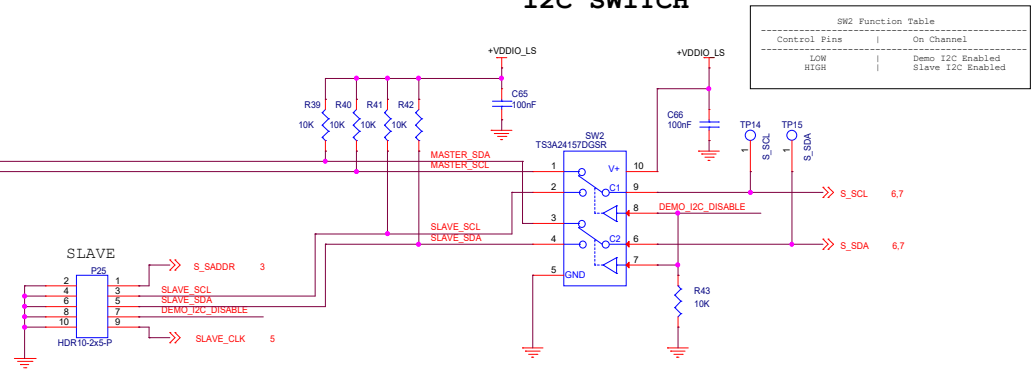
MASTER / SLAVE Connection in Multi-Camera Mode:

- 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

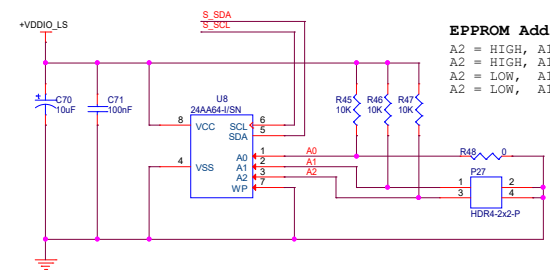
I2C DEBUG



I2C SWITCH




LENS CORRECTION EEPROM



NOTE: EEPROM I2C speed:
400KHz: VDD-IO >= 2.5V
100KHz: VDD-IO < 2.5V

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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Title External Interface		
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