

MT9V115 Evaluation Board User's Manual



EVAL BOARD USER'S MANUAL

The evaluation boards are designed to demonstrate the features of ON Semiconductor's image sensors products. This headboard is intended to plug directly into the Demo 2X system. Test points and jumpers on the board provide access to the clock, I/Os, and other miscellaneous signals.

- Clock Input
 - ◆ Default – 27 MHz Crystal Oscillator
 - ◆ Optional Demo 2X Controlled MClk
- Two Wire Serial Interface
 - ◆ Selectable Base Address
- Parallel Interface
- MIPI Interface
- ROHS Compliant



The diagram illustrates the MT9V115 Sensor interface. Key components and connections include:

- Power Supplies:** A block containing Fixed (3.3V) and Adjustable Supplies (2.8V/1.8V, 2.8V, 2.8V, 1.8V). It provides VDDIO_LG, VDDIO_LS, and VDDIO to the sensor.
- Level Shifter:** Receives DOUT[7:0]/FV/LV/PIXCLK from the sensor and outputs DOUT[7:6]/FV/LV and DOUT[5:0]/PIXCLK to the 4x Jumps block.
- 4x Jumps:** A block that outputs DN/DP/CLKN/CLKP to the sensor.
- Level translator I2C:** Receives 3.3V and VDDIO_LG and outputs I2C to the sensor.
- MIPI RJ45:** Receives Single MIPI from the sensor and outputs I2C to the sensor.
- External Clock:** A 22 MHz clock source connected to the sensor via a 22 MHz oscillator and a 3.3V supply.
- CLK In Header:** A header for the external clock signal.
- Demio2 I2C:** An I2C interface connected to the sensor.

Figure 2. Block Diagram of MT9V115EBKSTCD-GEVB

MT9V115EBKSTCD-GEVB

Top View

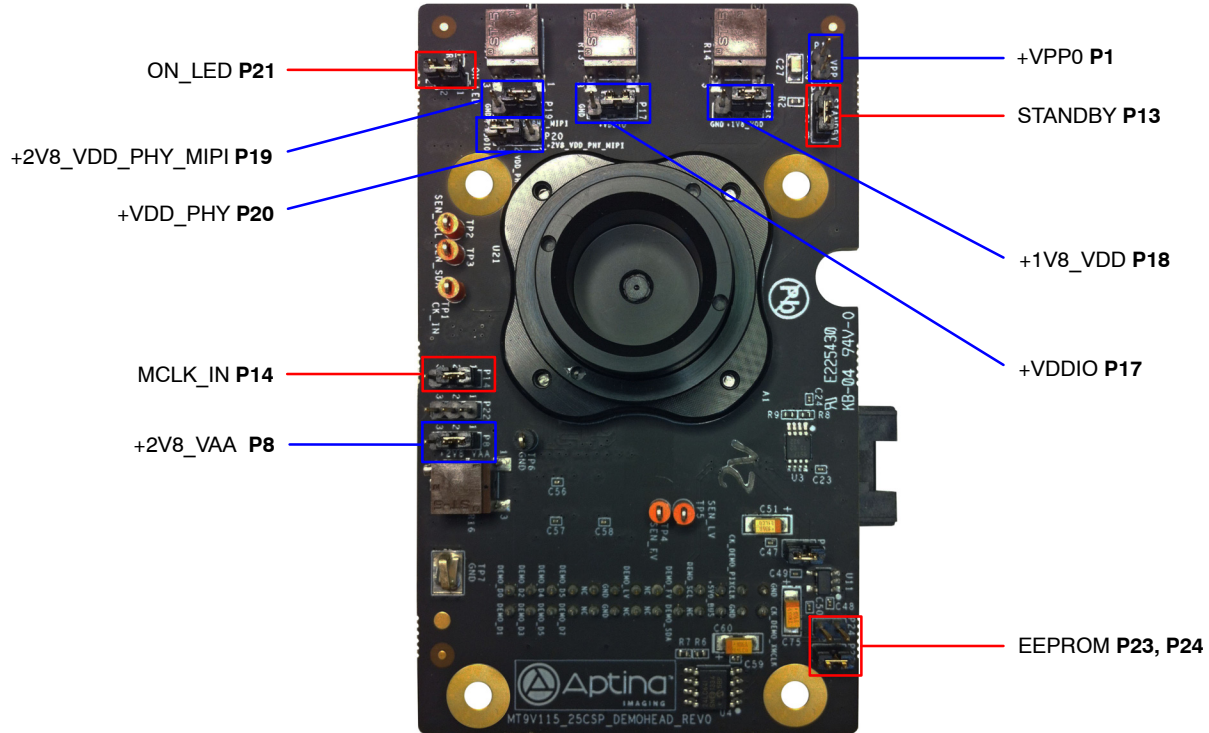


Figure 3. Top View of Evaluation Board – Jumpers

Bottom View

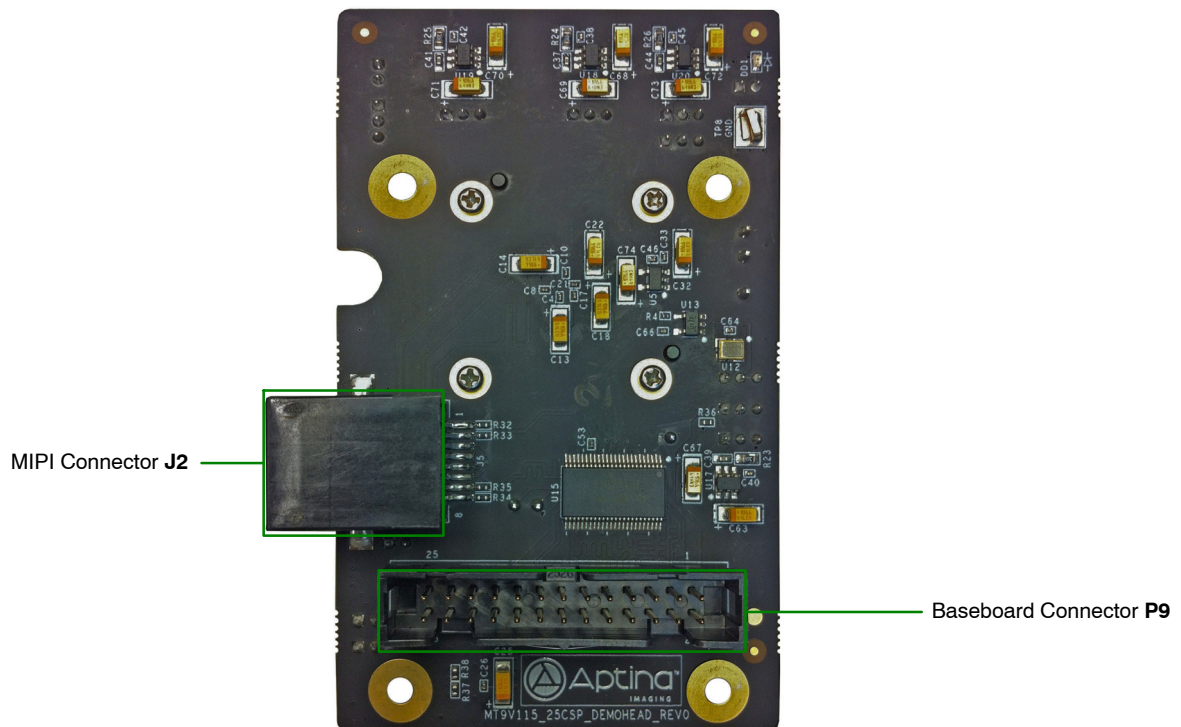


Figure 4. Bottom View of the Evaluation Board – Connectors

Jumper Pin Locations

The jumpers on headboards start with Pin 1 on the leftmost side of the pin. Grouped jumpers increase in pin size with each jumper added.

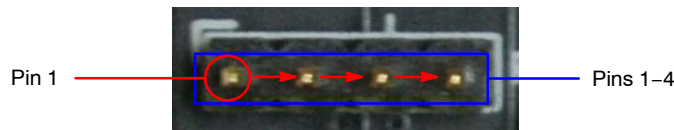


Figure 5. Pin Locations for a Single Jumper. Pin 1 is Located at the Leftmost Side and Increases as it Moves to the Right

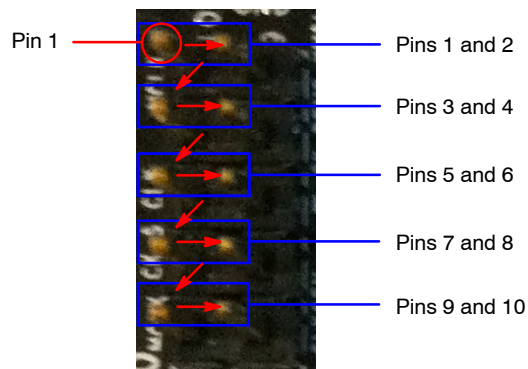


Figure 6. Pin Locations and Assignments of Grouped Jumpers. Pin 1 is Located at the Top-Left Corner and Increases in a Zigzag Fashion Shown in the Picture

Jumper/Header Functions & Default Positions

Table 1. JUMPERS AND HEADERS

Jumper/Header No.	Jumper/Header Name	Pins	Description
P1	+VPP0	Open (Default)	For connection to external 8.5 V +VPP0 power supply for OTPM
P8	+2V8_VAA	1-2 (Default)	Connects to on-board +2V8_VAA power supply
		2-3	External power supply connection
P13	STANDBY	2-3 (Default)	Normal mode
		1-2	Standby mode
P14	MCLK_IN	2-3 (Default)	Connects to on-board oscillator
		2-3	Connects to XMCLK with P22
P17	+VDDIO	1-2 (Default)	Connects to on-board +VDDIO power supply
		2-3	External power supply connection
P18	+1V8_VDD	1-2 (Default)	Connects to on-board +1V8_VDD power supply
		2-3	External power supply connection
P19	+2V8_VDD_PHY_MIPI	1-2 (Default)	Connects to pin 1 of P20
		2-3	External power supply connection
P20	+VDD_PHY	1-2 (Default)	MIPI output mode
		2-3	Parallel output mode

MT9V115EBKSTCD-GEVB


Table 1. JUMPERS AND HEADERS (continued)

Jumper/Header No.	Jumper/Header Name	Pins	Description
P21	ON_LED	Closed (Default)	Turn on +5 V0 bus LED indicator
		Open	Turn off +5 V0 bus LED indicator
P23, P24	EEPROM Address	P23 Closed, P24 Open (Default)	EEPROM Address set to 0xA8
		P23 Open, P24 Open	EEPROM Address set to 0xAC
		P23 Open, P24 Closed	EEPROM Address set to 0xA4
		P23 Closed, P24 Closed	EEPROM Address set to 0xA0

Interfacing to ON Semiconductor Demo 2X Baseboard

The ON Semiconductor Demo 2X baseboard has a similar 26-pin connector which mates with P15 of the

headboard. The four mounting holes secure the baseboard and the headboard with spacers and screws.

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