

MT9V114 Evaluation Board User's Manual



EVAL BOARD USER'S MANUAL

- Clock Input
 - ◆ Default – 27 MHz crystal oscillator
 - ◆ Optional Demo 2X controlled MClk
- Two Wire Serial Interface
 - ◆ Selectable base address
- Parallel Interface
- ROHS Compliant



The diagram illustrates the power and signal connections for the MT9V114 Sensor SOC390, K22D. Key components and connections include:

- Power Supplies:** A +5V Supply is connected to the system. A Power Supplies block contains Fixed (3.3V) and Adjustable Supplies (2.8V, 2.8V, 2.8V, 1.8V) sections. The 3.3V supply is connected to VDDIO, and the 2.8V supplies are connected to VAA, PLL, and VDD.
- Level Translator:** A Level Translator block is connected to the sensor's Data (10 bit), Line Valid, Frame Valid, and Pixel Clock signals. It is powered by 3.3V and VDDIO.
- MT9V114 Sensor SOC390, K22D:** The sensor is a 25 Pin BGA package. It is connected to the Level Translator and the Level Translator I2C.
- Level Translator I2C:** A Level Translator I2C block is connected to the sensor's I2C interface. It is powered by 3.3V and VDDIO.
- External Clock:** An External Clock signal is connected to the sensor's clock input. It is generated by a 27 MHz oscillator connected to a Clk In Header and a Demo2 Ext Clock.
- Demo2 I2C:** A Demo2 I2C interface is connected to the sensor's I2C interface.

Figure 2. Block Diagram of MT9V114EBKSTC5H-GEVB

MT9V114EBKSTC5H-GEVB

Top View

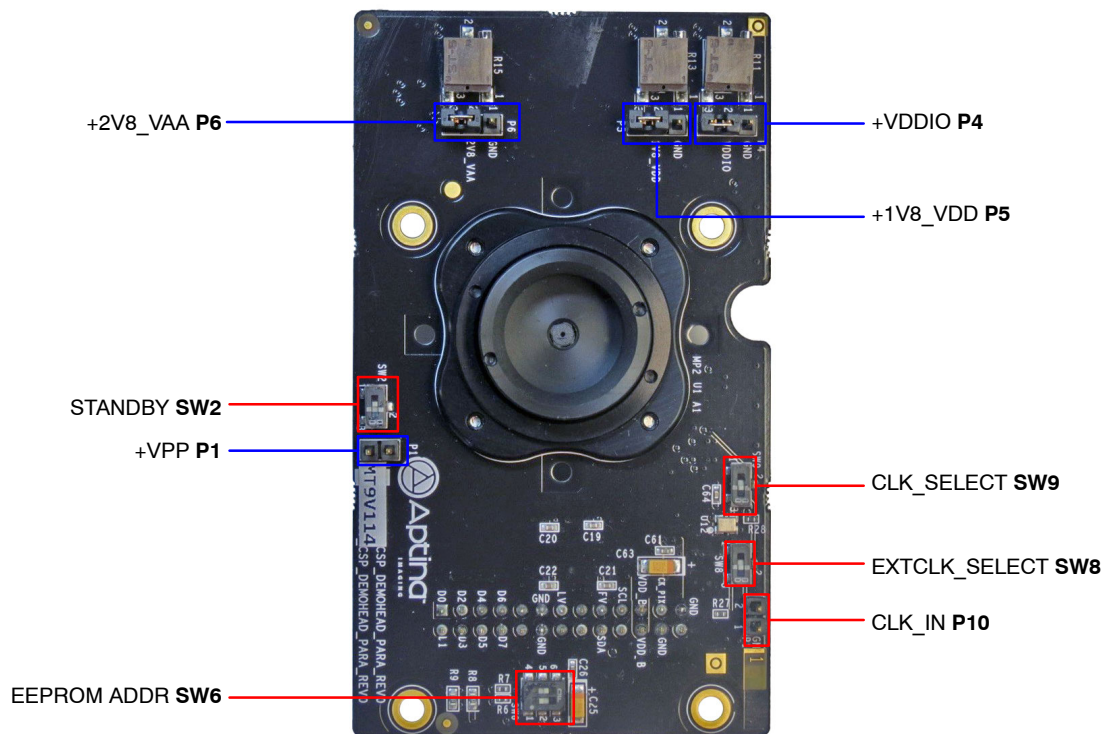


Figure 3. Top View of Evaluation Board – Default Jumpers

Bottom View

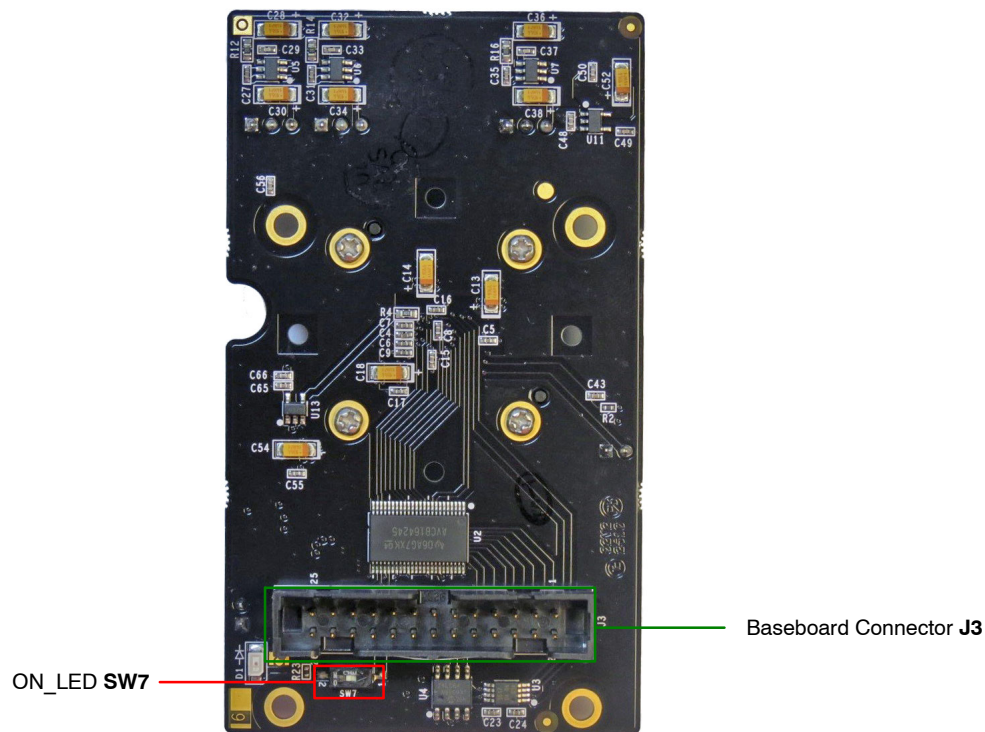


Figure 4. Bottom View of the Evaluation Board – Connector

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.

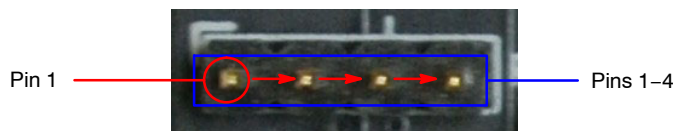


Figure 5. Pin Locations for a Single Jumper.
Pin 1 is Located at the Leftmost Side and Increases as it Moves to the Right



Figure 6. Address Switch Locations in their Default Positions.
The First Switch (ADR0) and the Second Switch (ADR1) of SW3 are Set to ON

Jumper/Header Functions & Default Positions

Table 1. JUMPERS AND HEADERS

Jumper/Header No.	Jumper/Header Name	Pins	Description
P1	+VPP	Open (Default)	Connection to external +VPP power supply for OTPM
P4	+VDDIO	2-3 (Default)	Connects to on-board +VDDIO power supply
		1-2	External power supply connection
P5	+1V8_VDD	2-3 (Default)	Connects to on-board +1V8_VDD power supply
		1-2	External power supply connection
P6	+2V8_VAA	2-3 (Default)	Connection to on-board +2V8_VAA power supply
		1-2	External power supply connection
P10	CLK_IN	Open (Default)	Connects to external clock
SW2	STANDBY	Off (Default)	Normal operation
		On	Standby mode
SW6	EEPROM ADDR	A2 On, A1 Off (Default)	EEPROM Address set to 0xA8
		A2 On, A1 On	EEPROM Address set to 0xAC
		A2 Off, A1 On	EEPROM Address set to 0xA4
		A2 Off, A1 Off	EEPROM Address set to 0xA0
SW7	ON_LED	On (Default)	Connects LED indicator to +VDD_BUS
		Off	Turn off LED indicator
SW8	EXTCLK_SELECT	On (Default)	Connects to Pin 2 of P10
		Off	Connects to clock signal from Demo 2X board

Table 1. JUMPERS AND HEADERS (continued)

Jumper/Header No.	Jumper/Header Name	Pins	Description
SW9	CLK_SELECT	Off (Default)	Connects to on-board oscillator
		On	Connects to output of SW8

Interfacing to ON Semiconductor Demo 2X Baseboard

The ON Semiconductor Demo 2X baseboard has a similar 26-pin connector which mates with J3 of the

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

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