## MityCAM-35MMFHDXS Evaluation Kit Quick Start Guide

## Purpose:

This document provides instructions on the setup and capture of images using the MityCAM-35MMFHDXS Evaluation Kit (EVK) with Critical Link GenTL Viewer software.

## Required Hardware/Software:

- Windows 10 64 bit PC with USB 3.0 port available
- GenTL Viewer Software (provided)
- MityCAM-35MMFHDXS Camera Head (provided)
- Camera Power Supply (provided)
- USB 3.0 Cable (provided)
- GPIO/Serial Cable (provided)

### **Camera Back Panel Annotation**

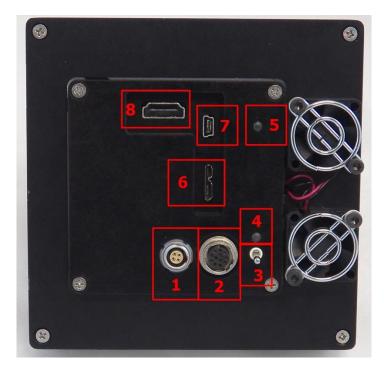


Figure 1

- 1. Power Input Connector Keyed
- 2. GPIO and Serial Connector Keyed
- 3. Power Switch
- 4. Power Good Indicator LED
- 5. Status LED
  - a. Green Ready to Capture Images
  - b. Blinking Blue Capturing Images
  - c. Red Error State
- 6. USB 3.0 Connector PC Image Capture Interface
- 7. USB 2.0 Connector Network connection
- 8. Monitor Connector Not Utilized

### Setup and Initial Image Capture

- 1. Install software (from website or USB stick).
- 2. Connect USB 3.0 cable to camera and PC (Figure 1 Find #6).
- 3. Connect Power (Figure 1 Find # 1).
- 4. Power the camera on with the switch (Figure 1 Find #3).
  - a. The power good LED (Figure 1 Find #4) should light immediately.
  - b. Within 30 seconds the camera status LED (Figure 1 Find #5) should be solid green.
- 5. Launch the GenTL Viewer software on the PC. A screen similar to Figure 2 should be shown.

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Figure 2 GenTL Viewer

6. File->Open Device

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	Interface Simulated V U3V	Model	Serial Number		
	1EF80000FF98	MityCAM-35MMFHDXS	65432		
			ОК	Cano	cel

#### Figure 3 Open Dialog

7. Select the "MityCAM-35MMFHDXS" camera from the list and press OK

- a. It may take approximately 5 seconds for the camera to connect with the GenTL Viewer software.
- 8. To do a multi-image capture, live video, perform the following steps:
  - a. Select one of the "Pixel Formats", each of these controls the bit-depth of the image and how the pixel data will be converted to color/greyscale.
     Available options are:

Mono8	for 35MMFHDXSBM, data is scaled to 8 bits per pixel
Mono12p	for 35MMFHDXSBM, data is scaled to 12 bits per pixel
Mono16	for 35MMFHDXSBM, data is scaled to 16 bits per pixel
BayerRG8	for 35MMFHDXSBC, data is scaled to 8 bits per pixel color image
BayerRG12p	for 35MMFHDXSBC, data is scaled to 12 bits per pixel color image

- b. The Exposure and Frame Rate can be changed.
- c. Acquisition Mode needs to be set to Continuous for live video or Multi-frame for burst captures.

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Keep Aspect Ratio 1:1 None Zoom Show Zoom Pixel area   ROI	Video Settings Camera Settings ROI [ 2160 x 1280 Sensor ]
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	Y Offset 0 € Height 1280 €
	Presets 1920x1080 V Apply
	Set to Full
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	Image Control Pixel Format Mono8
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	Frame Rate [Hz] 60.038 🗘
	Number of Frames 16 \$
No Image	Display Brightness
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	Display Gamma
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d. Press the play button to start captures.

- Figure 4: Camera Opened
- 9. To capture a single image:
  - a. Press the camera button; this will configure the camera in SingleFrame Acquisition mode.
  - b. A single frame will be sent.

- 10. The GenTL Viewer software can read (peek) and write (poke) registers of the camera sensor.
  - a. Select "Controls" drop down menu and select "Command Console".
  - b. Run the HELP command to see the available commands.
  - c. To read a value: In the "Commands" field, Enter "PEEK 0x4d", and hit the "Do it" button.i. The value read will be shown in the text box below in decimal format.
  - d. To write a value: In the "Commands" field, Enter "POKE 0x4d 4096" and hit the "Do it" button.
    - a. The response should report OK if the write was successful.

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HELP	~
Commands	
POKE 0x4d 4096	
REC SAVE [filename] REC PREFIX [prefix] REC DIR [direcotry] REC FMT [format] Valid formats are: tiff,png,dng,raw	^
SLEEP  SLEEP - Used to delay script for Nms. SLEEP <sleep_time_in_ms></sleep_time_in_ms>	
PEEK 0x100 = 0 PEEK 0x4d = 4097 POKE 0x4d 4096 = OK	~
repeat None 🖨 Do i	it

Figure 5: Command Console

11. The GenICam camera registers can be viewed by opening the Camera Settings tab.

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p Aspect Ratio 1:1 None Zoom Show Zoom Pixel area 🔻 ROI	Video Settings Camera Settings		Ca
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	DeviceVendorName	Critical Link LLC	
	DeviceModelName	MityCAM-35MMFHDXS	Set
	DeviceManufacturerInfo		
	DeviceVersion	1.0	tin
	DeviceSerialNumber	65432	
	DeviceFirmwareVersion	CANON_35MM_EVK-10	gs
	DeviceSFNCVersionMajor		Tak
	DeviceSFNCVersionMinor DeviceSFNCVersionSub		Idi
	SoftwareBuildDate	0 13:13:59 on May 19 2020	
	FpgaVersion Fx3Version	281485152471914 1.0.1.0 Jul 23 2018 12:48:24	
	VoltageSelect	VI08	
	VoltageSelect	2,4957265853881836	0
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switch on the rear of the camera, Figure 1 (Find #3).

Reference the GenTLViewer Manual for additional features.

# **Quick Start Revision History**

Date	Rev	Comments
5/06/2020	1	Initial Release