



## Overview

Xfuse Phoenix is an HDR Image Signal Processor (ISP) optimized for the Kria™ KV260 Vision AI Starter Kit. When the Xfuse (ISP) is combined with the Xfuse image sensor module (AR0239), users can take advantage of this full featured ISP to custom develop vision and deep learning applications with real-time performance in high contrast environments with up to 120dB of dynamic range. Designed for plug-and-play performance with Kria SOM, the (AR0239) imaging module and system are ready for quick deployment in challenging environments encountered in AI, security, robotics, or consumer applications.

Click here for more information: <https://xfuse.ai/phoenix-isp-for-kria-som-3/>

## Sensor Module Specifications

KV260 Vision AI Starter Kit +  
Xfuse Image Sensor Module



Xfuse Image Sensor Module (AR0239)



Item		Parameter	
Module P/N		SMK-239-E345-1	
Sensor Type		On-Semi AR0239	
Active Array Size		1936(H) x 1188(V) (16:9)	
Power Supply	Digital Core	1.2 V	
	Analog	2.8 V	
	Digital I/O	1.8 V	
Lens Size		1/2.7"	
F. No		2.0 ±5%	
FOV(D)		128.7°	
Focal Length		2.9±5% mm	
Optical Distortion		< -48.5%	
Pixel Size		3um x 3um	
IR Filter Spec		420-630nm 650±10nm 690-700nm 700-1000nm 1000-1100nm	Tavg>92% T=50% Tmax<3% Tmax<1% Tmax<5%
Sensor Temperature Range	Operating	-30°C~+85°C (Junction)	
	Stable Image	0°C~+50°C	
Maximum Image Transfer Rate		1080P (90FPS)	
S/N Ratio (Max)		43dB	
Scan Mode		Progressive	
Power Consumption (Typical)	Linear HiSpi	218mW, 1080P (30FPS)	
	Linear MIPI	190mW, 1080P (30FPS)	
	Line-Interleaved HiSpi	264mW, 1080P (30FPS)	
	Line-Interleaved MIPI	252mW, 1080P (30FPS)	
Output Interface		4-lane HiSpi / MIPI	
Output Format		10-12bit RAW	
Color		RGB	
Connector P/N		HRS BM20B (0.8)-34DP-0.4V (51)	



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## 1. Introduction

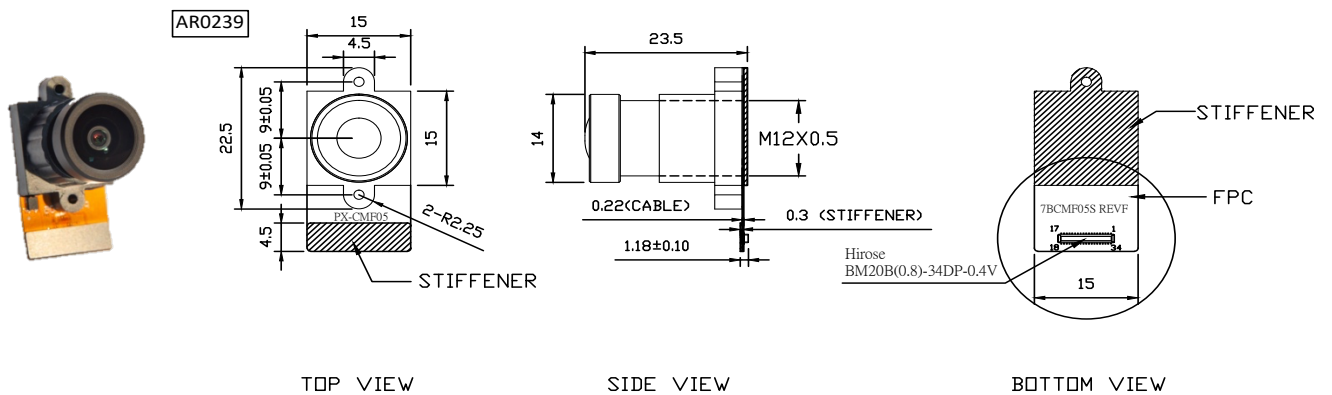
Thank-you for purchasing the Xfuse Phoenix ISP Accelerated Application. This document provides end user with step-by-step instructions to run Xfuse Phoenix ISP Accelerated Application on Kria KV260 Vision AI starter kit, enable one instance of Phoenix GStreamer application pipeline, and control of the Phoenix ISP using the Xfuse PC application.

Should issues arise or require support for this application, please contact us via the Xilinx Kria partner application forums. [Forums -> Kria SOMs]

## 2. Hardware Requirements

1. Kria KV260 Vision AI starter Kit board (target)
2. Windows machine (host)
3. 16GB microSD card
4. USB-A to micro-B cable
5. RJ45 Ethernet cable
6. Display Port or HDMI Cable
7. 1080p capable DisplayPort or HDMI monitor
8. Xfuse Sensor Module (AR0239) – see specification below

### Xfuse Sensor Module (AR0239)



Definition	Symbols	Min	Max	Unit
Analog Voltage	VAA_MAX	-0.3	4	V
Pixel Supply Voltage	VAA_PIX	-0.3	4	V
I/O Digital Voltage	VDD_IO_MAX	-0.3	4	V
Power to MIPI	VDD_IO_PHY	-0.3	4	V
Core Digital Voltage	VDD_MAX	-0.3	2.4	V
HiSPi I/O Digital Voltage	VDD_SLVS_MAX	-0.3	2.4	V
Storage Temperature	tST	-40	125	°C

### 3. Starter Kit microSD Card Preparation

The first step is to prepare a microSD for use with the Starter Kit. The Starter Kit has a primary and secondary boot device, isolating the boot firmware from the run-time OS and application. This is to focus on developing and updating your application code within the application image on the secondary boot device, without having to touch the boot firmware. The primary boot device is a QSPI memory located on the SOM, which is pre-programmed (pre-loaded QSPI image) at the factory. The secondary boot device is a microSD card interface on the carrier card.

For setting up the microSD card, download the latest SD card image and then write it using an Image Flashing tool.

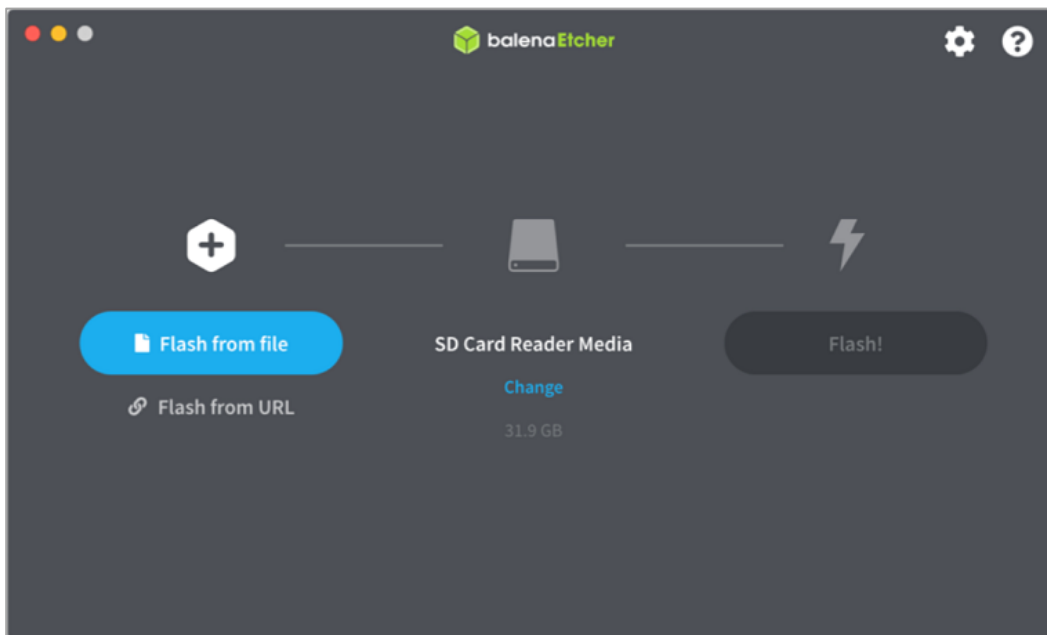
Follow the steps below to image a microSD card for use with the KV260 Starter Kit:

1. Download the SD Card Image,

<https://www.xilinx.com/member/forms/download/xef.html?filename=petalinux-sdimage.wic.gz>  
([petalinux-sdimage.wic.gz](#))

***This image and app support petalinux 2020.2 only***

2. Unzip the file you downloaded and save it on your computer (petalinux-sdimage.wic)
3. Insert the microSD card into an available slot on your PC
4. Use the Balena Etcher tool, which supports Windows, Linux, and macOS, to flash a suitable microSD card



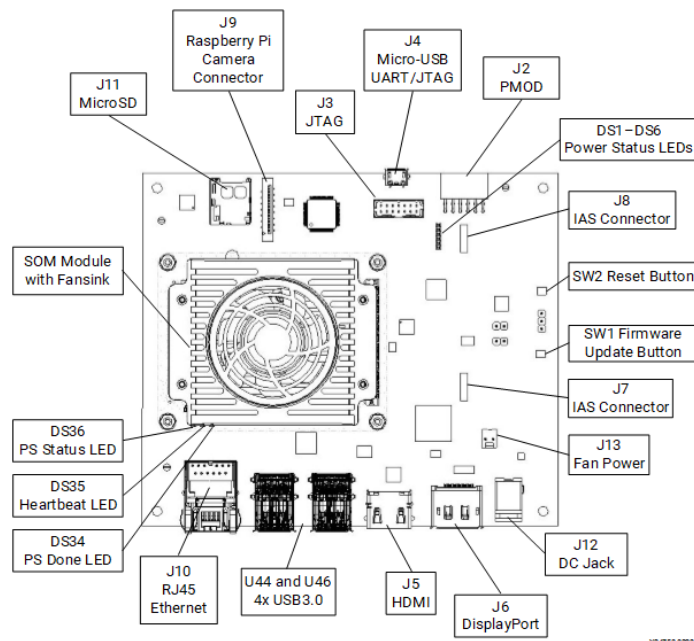
5. Follow the Etcher prompts to select the \*.wic image file and flash it to the microSD card as illustrated in the image below. When this process is complete, eject the card from your computer

## 4. Starter Kit Hardware Setup

Next, prepare the KV260 Starter Kit to run the application.

The basic steps are encapsulated below:

1. Insert the microSD card into the slot on the KV260 carrier card (J11)
2. Connect a micro-USB cable to J4 on the KV260 carrier card. This USB serial interface will be leveraged to interact with the application and view boot time messages
3. Connect an Ethernet cable from J10 on the KV260 carrier card to your local network
4. Connect a DisplayPort cable and DisplayPort monitor to J6 (or HDMI to J5) on the KV260 carrier card
5. Connect the Xfuse AR0239 IAS sensor module to IAS1 (J8) on the KV260 carrier card
6. Power on the board



### Warning!

#### Sensor Module Connection

Misorientation of the connector can lead to bad performance or even permanent damage!

Never connect an FSM directly (without FSA) to an FPA, or a carrier that was not designed explicitly for this purpose.

#### Handling ESD Sensitive Components

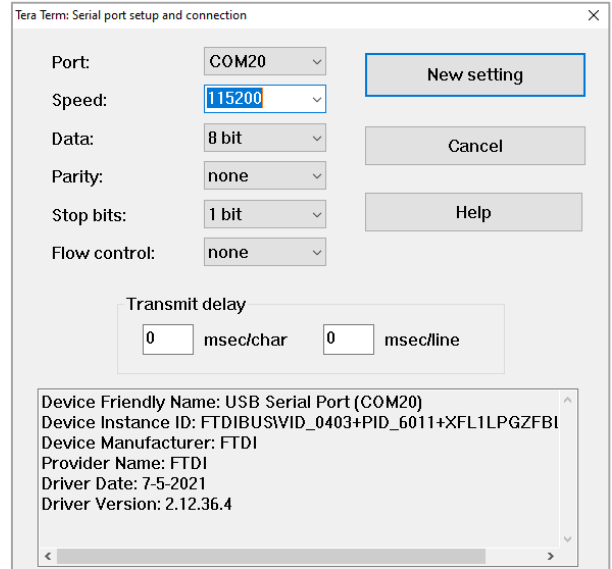
The electronic components like Printed Circuit Boards (PCB) described in this document are sensitive to Electrostatic Discharge (ESD) and need to be handled with high care in static controlled environments. It is strongly recommended to follow the general handling practices for ESD sensitive parts



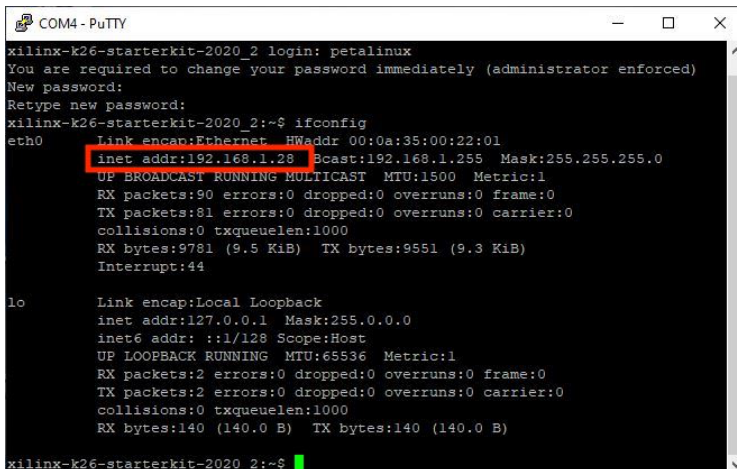
### 5. Connecting the KV260

Connect to the KV260 Starter Kit and bring up the Xfuse Phoenix application.

1. The KV260 Starter Kit uses an FTDI USB to COM port device that requires the FTDI virtual COM (VCOM) port driver be installed on your machine. Set-up your USB-based UART connection via the J4 carrier card interface with the configuration 115200, N, 8, 1, No Flow Control using a terminal program (e.g., TeraTerm, PuTTY, Minicom). The Linux UART is enumerated as the lower of two VCOM ports.
2. After powering on the SOM, it should automatically boot to Linux. The green LED's active and observe the Linux UART response on the terminal program interface. If the LED's active but no UART response, verify that the machine has the FTDI driver installed and that the terminal program is connected to the correct COM port.
3. At initial log-in, the platform requires a password. The default username is petalinux. Make note of the password for future use. The petalinux user does not have root privileges. Most commands used in subsequent tutorials must be run using sudo and may be prompted to enter a password.



If the Kria SOM is connected to a network that supports DHCP, it can determine the local IP address by



issuing the command “ifconfig” via the serial terminal application:

It is also possible to manually assign an IP address via the command “sudo ifconfig eth0 xxx.xxx.xxx.xxx”, replacing xxx.xxx.xxx.xxx with the target IP address. This will be required if the network does not support DHCP, or if using a direct connection from the Kria SOM to the designated PC.

**Kria SOM IP address will be needed later, please make a note.**



## 6. Install the Xfuse Phoenix ISP application package

AMD/Xilinx provides the Phoenix underlying dependency package feeds in runtime package management (RPM) format for the users to dynamically load it on top of running Xilinx SOM Starter Linux image using dnf package manager utility command “dnf install”.

First, execute the below commands to perform a system update. ‘dnf clean all’ command cleans the cached RPMs and metadata that dnf stores, and dnf update command pulls the latest Xilinx package feed updates.

### 6.1 sudo dnf clean all --refresh

### 6.2 sudo dnf update --refresh

When prompted, press “y” to install the packages:

```

COM4 - PuTTY
libcomxil-lic          aarch64      0.9.3-r0.0    16 k
--repo-sswreleases-rel-v2020.2.2-generic-rpm-aarch64
python3-pycairo-lic   aarch64      1.18.1-r0.0   15 k
--repo-sswreleases-rel-v2020.2.2-generic-rpm-aarch64
python3-pyobject-lic  aarch64      3.34.0-r0.0   25 k
--repo-sswreleases-rel-v2020.2.2-generic-rpm-aarch64
v4l-utils-lic         aarch64      1.16.5-r0.0   16 k
--repo-sswreleases-rel-v2020.2.2-generic-rpm-aarch64
gststreamer1.0-omx-lic zynqmp       1.16.1+git0+f3061fb074-r0.0 19 k
--repo-sswreleases-rel-v2020.2.2-generic-rpm-zynqmp
                                                               17 k

Transaction Summary
-----
Install 69 Packages

Total download size: 6.5 M
Installed size: 25 M
Is this ok [y/N]:

```

The below screenshot is a snippet of dnf update command for reference:

```

COM4 - PuTTY
Verifying      : kv260-dp-1.0-r0.0.k26      26/28
Verifying      : kv260-dp-lic-1.0-r0.3.k26  27/28
Verifying      : kv260-dp-lic-1.0-r0.0.k26  28/28

Upgraded:
packagegroup-petalinux-python-modules-1.0-r0.1.noarch
packagegroup-petalinux-python-modules-lic-1.0-r0.1.noarch
accelize-repo-1.0-r0.1.aarch64
accelize-repo-lic-1.0-r0.1.aarch64
image-update-1.0-r0.1.aarch64
image-update-lic-1.0-r0.1.aarch64
platformstats-1.0-r0.1.aarch64
platformstats-lic-1.0-r0.1.aarch64
som-pwrctl-1.0-r0.1.aarch64
som-pwrctl-lic-1.0-r0.1.aarch64
kv260-dp-1.0-r0.3.k26
kv260-dp-lic-1.0-r0.3.k26

Installed:
hdf5-lic-1.8.19-r0.0.aarch64      python3-h5py-lic-2.9.0-r0.0.aarch64
hdf5-1.8.19-r0.0.aarch64         python3-h5py-2.9.0-r0.0.aarch64

Complete!
xilinx-k26-starterkit-2020_2:-$

```

Expected output: User can observe “Complete!” print message at the end of dnf update command console logs.

Download Phoenix Kria App archive direct to Kria board:

### 6.3 wget [https://xfuse.ai/wp-content/uploads/2021/05/xfuse-phoenix-ar0239-1.1-1.pl2020\\_2\\_2.zip](https://xfuse.ai/wp-content/uploads/2021/05/xfuse-phoenix-ar0239-1.1-1.pl2020_2_2.zip)

### 6.4 sudo unzip xfuse-phoenix-ar0239-1.1-1.pl2020\_2\_2.zip

### 6.5 sudo chmod u+x install.sh



### 6.6 *sudo ./install.sh*

The output log of this command should appear as follows. Indicator should be a “Complete!” message at the end of dnf install command console log.

```
COM4 - PuTTY
libomxil-0.9.3-r0.0.aarch64
liborc-0.4-0-0.4.29-r0.0.aarch64
libv4l-1.16.5-r0.0.aarch64
libxll-rcbi-1:1.6.8-r0.0.aarch64
media-ctl-1.16.5-r0.0.aarch64
python3-pycairo-1.18.1-r0.0.aarch64
python3-pyobject-3.34.0-r0.0.aarch64
v4l-utils-1.16.5-r0.0.aarch64
gststreamer1.0-cmx-1.16.1+git0+f3061fb074-r0.0.zynqmp
libcairo-gobject2-1.16.0-r0.0.zynqmp_ev
libgstallocators-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstapp-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstaudio-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstgl-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstpbutils-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttriff-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgststrp-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgststrsp-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstsd-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttag-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstvideo-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
Complete!
xilinx-k26-starterkit-2020_2:~$
```





## 7. Load the ISP application firmware

Prior to executing the installed Phoenix application, its firmware (PL bitstream + Device tree overlay + PL drivers) needs to be loaded using xmutil utility commands. Follow the below steps to load Phoenix application firmware on the KV260 Vision AI starter kit.

Run the below command to list the existing application installed on Vision AI starter kit.

### 7.1 sudo xmutil listapps

```

COM4 - PuTTY
python3-pycairo-1.18.1-r0.0.aarch64
python3-pyobject-3.34.0-r0.0.aarch64
v4l-utils-1.16.5-r0.0.aarch64
gstreamer1.0-omx-1.16.1+git0+f3061fb074-r0.0.zynqmp
libcairo-gobject2-1.16.0-r0.0.zynqmp_ev
libgstallocators-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstapp-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstaudio-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstgl-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstpbutils-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttriff-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttrtp-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttrtp-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstsd-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttag-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstvideo-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev

Complete!
xilinx-k26-starterkit-2020_2:~$ sudo xmutil listapps
      Accelerator      Type      Active
      kv260-dp         XRT_FLAT      1
      base             XRT_FLAT      0
      xfuse-phoenix-ar0239 XRT_FLAT      0
xilinx-k26-starterkit-2020_2:~$

```

If any apps are active, you must unload them before loading the Phoenix application. Unload any active apps with the following command:

### 7.2 sudo xmutil unloadapp

```

COM4 - PuTTY
gstreamer1.0-omx-1.16.1+git0+f3061fb074-r0.0.zynqmp
libcairo-gobject2-1.16.0-r0.0.zynqmp_ev
libgstallocators-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstapp-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstaudio-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstgl-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstpbutils-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttriff-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttrtp-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttrtp-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstsd-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgsttag-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev
libgstvideo-1.0-0-1.16.1+git0+a46ce57c6d-r0.0.zynqmp_ev

Complete!
xilinx-k26-starterkit-2020_2:~$ sudo xmutil listapps
      Accelerator      Type      Active
      kv260-dp         XRT_FLAT      1
      base             XRT_FLAT      0
      xfuse-phoenix-ar0239 XRT_FLAT      0
xilinx-k26-starterkit-2020_2:~$ sudo xmutil unloadapp
Password:
Removing accel /lib/firmware/xilinx/kv260-dp
xilinx-k26-starterkit-2020_2:~$

```

Now that no apps are active, we can load the Phoenix application using the following command:



### 7.4 sudo xmutil loadapp xfuse-phoenix-ar0239

Ignore the overlay warnings. At the bottom, see that xfuse-phoenix-ar0239 has been loaded successfully.

```

COM4 - PuTTY
[ 9136.080163] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/misc_clk_2
[ 9136.090160] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/overlay8
[ 9136.099987] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/axi_iic_0
[ 9136.109898] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/i2c_mux
[ 9136.119638] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/ar0239
[ 9136.129289] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/pi_hdr0
[ 9136.139031] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/v_frbuf_wr_0
[ 9136.149297] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/vid_capture_dummy_src_0
[ 9136.160426] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/dummy_src_out
[ 9136.170685] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/vcap_in
[ 9136.194122] OF: graph: no port node found in /amba/zynqmp-display@fd4a0000
DFX-MGRD> Loaded xfuse-phoenix-ar0239 successfully

```

Check to ensure that the Phoenix app is active by issuing the following command:

### 7.5 sudo xmutil listapps

```

COM4 - PuTTY
property: /_symbols_/axi_iic_0
[ 9136.109898] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/i2c_mux
[ 9136.119638] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/ar0239
[ 9136.129289] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/pi_hdr0
[ 9136.139031] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/v_frbuf_wr_0
[ 9136.149297] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/vid_capture_dummy_src_0
[ 9136.160426] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/dummy_src_out
[ 9136.170685] OF: overlay: WARNING: memory leak will occur if overlay removed,
property: /_symbols_/vcap_in
[ 9136.194122] OF: graph: no port node found in /amba/zynqmp-display@fd4a0000
DFX-MGRD> Loaded xfuse-phoenix-ar0239 successfully

sudo xmutil listapps
Accelerator      Type  Active
kv260-dp        XRT_FLAT  0
base            XRT_FLAT  0
xfuse-phoenix-ar0239 XRT_FLAT  1
xilinx-k26-starterkit-2020_2:~$

```

The application was successfully loaded and is now the active application on the Kria KV260 Starter Kit.

## 8. Starting the Phoenix Application

Now it is time to start the Xfuse Phoenix ISP Application. Ensure that the DisplayPort (or HDMI) connector is plugged into the designated monitor. Ensure that the IP address of the Kria SOM board, this is required to control the camera.

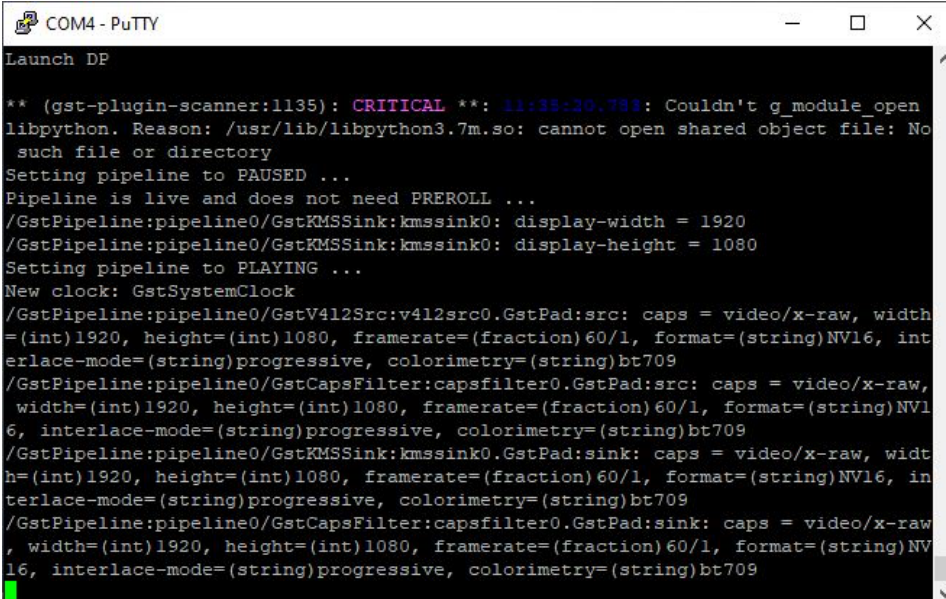
From the KV260 command prompt, execute the following commands. The camera must enumerate to /dev/media0, if there are other cameras connected, please check this.

**8.1 `cd /opt/xfuse/bin/`**

**8.2 `sudo ./phoenixcamstart.sh`**

It is possible to specify the frame rate as shown below. The resolution is set at 1920x1080, the frame rate can be 30 or 60. Default is 60.

**8.3 `sudo ./phoenixcamstart.sh 1920 1080 60` or `sudo ./phoenixcamstart.sh 1920 1080 30`**



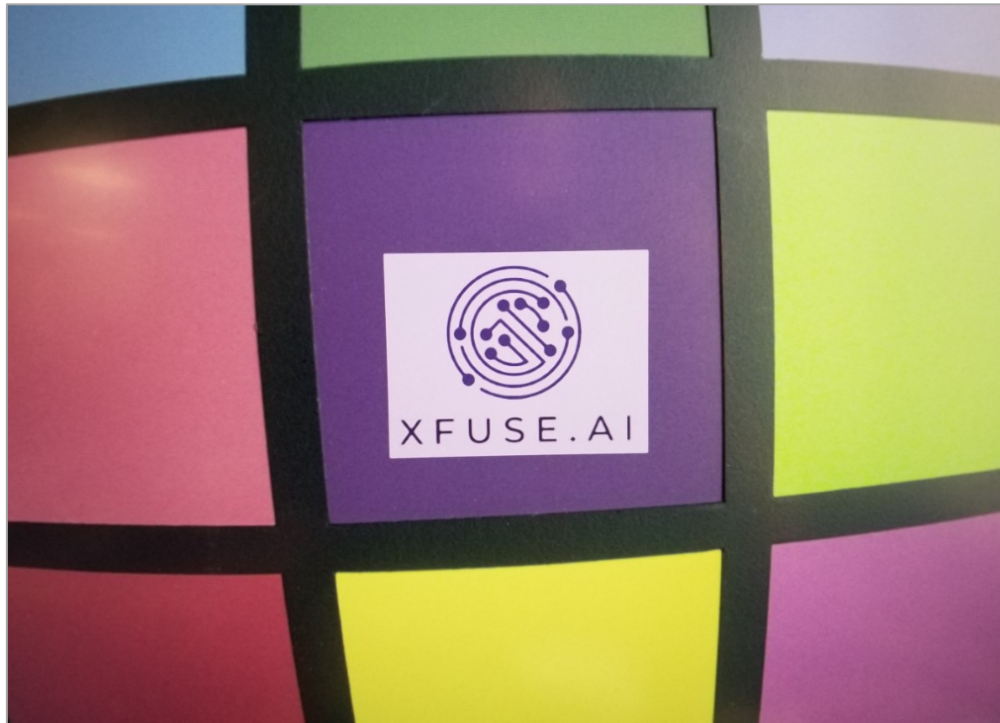
```

COM4 - PuTTY
Launch DP
** (gst-plugin-scanner:1135): CRITICAL **: 11:38:30.731: Couldn't g_module_open
libpython. Reason: /usr/lib/libpython3.7m.so: cannot open shared object file: No
such file or directory
Setting pipeline to PAUSED ...
Pipeline is live and does not need PREROLL ...
/GstPipeline:pipeline0/GstKMSSink:kmssink0: display-width = 1920
/GstPipeline:pipeline0/GstKMSSink:kmssink0: display-height = 1080
Setting pipeline to PLAYING ...
New clock: GstSystemClock
/GstPipeline:pipeline0/GstV4l2Src:v4l2src0.GstPad:src: caps = video/x-raw, width
=(int)1920, height=(int)1080, framerate=(fraction)60/1, format=(string)NV16, in
terlace-mode=(string)progressive, colorimetry=(string)bt709
/GstPipeline:pipeline0/GstCapsFilter:capsfilter0.GstPad:src: caps = video/x-raw,
width=(int)1920, height=(int)1080, framerate=(fraction)60/1, format=(string)NV1
6, interlace-mode=(string)progressive, colorimetry=(string)bt709
/GstPipeline:pipeline0/GstKMSSink:kmssink0.GstPad:sink: caps = video/x-raw, widt
h=(int)1920, height=(int)1080, framerate=(fraction)60/1, format=(string)NV16, in
terlace-mode=(string)progressive, colorimetry=(string)bt709
/GstPipeline:pipeline0/GstCapsFilter:capsfilter0.GstPad:sink: caps = video/x-raw
, width=(int)1920, height=(int)1080, framerate=(fraction)60/1, format=(string)NV
16, interlace-mode=(string)progressive, colorimetry=(string)bt709
  
```

The above messages should appear, and video will appear on the designated monitor. The Kria IP address in the terminal window should be visible.

**Note this IP address for the next section.**

The video on your display will appear with a Xfuse watermark in the center as shown below.



This version of the ISP is provided as a free fully functional unlimited trial with the embedded watermark. The watermark will be removed when a paid/licensed version of the ISP is installed.

The AR0239 IAS Sensor Module uses an M12 lens mount. The focus point of the lens can be adjusted by rotating the lens clockwise or counterclockwise until the subject is fully in focus. If the video on the screen seems out of focus when initially displayed, please adjust the lens until it comes in to focus.



**Please be careful to keep the lens clean of fingerprints, dust, or dirt.**

**Wipe the lens with a clean, soft cloth if necessary.**

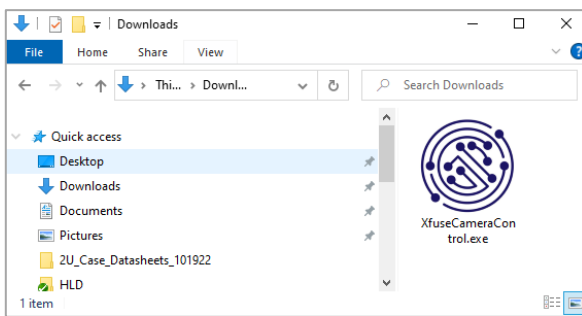
## 9. Connecting Kria SOM to the Xfuse Camera Control Software

Evaluation of the Kria SOM Phoenix ISP Application is supported by Xfuse’s Camera Control Software package which is available for Windows platforms. This document does not provide an in-depth perspective on the Camera Control Software. Refer to the latest Camera Control Software User’s Guide, which is included with the download, for additional information.

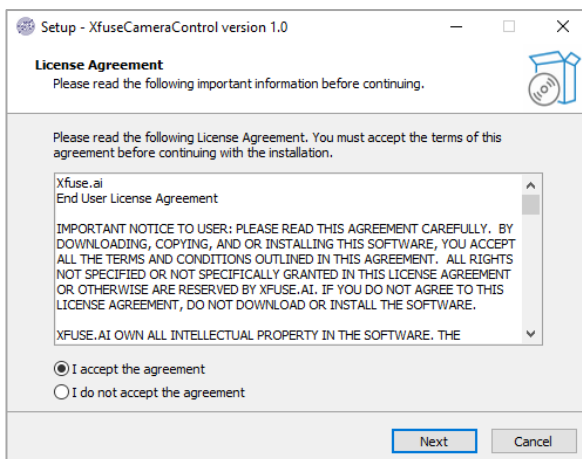
**Important:** At this point, it may be necessary to disable the firewall and/or VPN to ensure that the Xfuse Camera Control Software can communicate with the Kria SOM. Please check this prior to continuing.

Follow these steps to get started with the Xfuse Camera Control software:

1. Request the software from <https://xfuse.ai/isptools/> downloads page. After entering a username and email address, look to receive an email containing a download link for the software
  - Please check appropriate junk email for the link if it does not send within 5 minutes
2. Download the software installer and launch the XfuseCameracontrol.exe



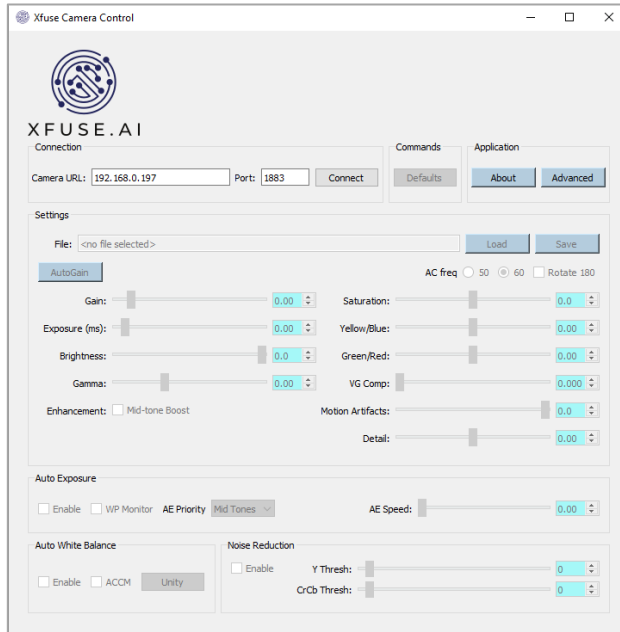
3. Follow the instructions in the installer and accept the End User License Agreement (EULA)



4. After the installation is complete, Shortcuts to the application and user guide will be placed on the desktop
5. Open the Xfuse Quick Start Guide for future reference. It was extracted to Windows (C) > Program Files > Xfuse.AI Xfuse > Xfuse Camera Control > doc

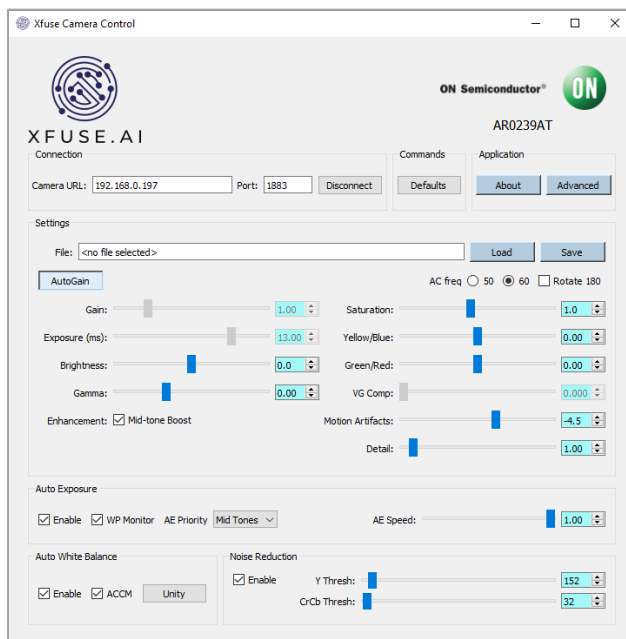
- To launch the software, double-click the installed desktop shortcut, select it from the Windows Programs Menu or go to Windows (C) > Program Files > Xfuse.AI > Xfuse Camera Control > XfuseCameraControl.exe

Most items are grayed out until the application is connected. Enter the Kria SOM IP address in the



Camera URL:Port window. Leave the port value as default. Then press connect.

Once connected, the dialog boxes and sliders are now active. It is not possible to control some of camera features such as exposure, gain, and color correction.



**Please refer to the “Users Guide” for additional details on the use of the Xfuse Camera Control application.**

## 10. Questions / Feedback

We value feedback and appreciate any input to make the system features and functions better. Please take a moment to share experiences, questions, and feedback with the Xfuse team via the Xilinx Kria Partner forum. Enjoy!

## 11. Next Steps

For pricing and licensing information, please contact Xfuse directly at [info@xfuse.ai](mailto:info@xfuse.ai) or inquire on our website at <https://xfuse.ai/contact-us/>.