

# FAQ Guide

## Frequently Asked Questions

Ver. 1.2.2

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## Hardware

Q1. Which products feature Edge AI Suites?

Ans. Advantech's AIR series products come with Edge AI Suites built-in for immediate use. Other systems require VEGA-300 series modules.

Q2. Why can't my system detect a VEGA-300 series module?

Ans. For VEGA-320/330: The M.2 or Mini PCIe sockets must support PCIe and USB 2.0 signals to function.

For VEGA-340: Users must disable the PCIe ASPM function, and then set the PCIe speed to Gen 2 in the BIOS menu.

	VEGA-320	VEGA-330
SoC	One Myraid X MA2485	Two Myraid X MA2485
Form Factor	M.2 2230 (Key A+E)	Full size miniPCIe
Dimensions	22mm x 30mm x 3.7mm	30mm x 50.95mm x 4.8mm
Signal Interface	PCIex1, USB 2.0	PCIex1, USB 2.0
Host Platform	X86 host platform, Intel 6 <sup>th</sup> gen. Core I platform or latest	
Operating Temp.	0~45°C	0~45°C
Power Consumption	3.8W	TBD
Driver Support	Windows 10 Enterprise 64bit, Ubuntu 16.04.1/Kernel 4.4.0 64bit	
OpenVINO	OpenVINO R4.2 or latest	
Framework Support	TensorFlow, Caffe	

Q3. Can the VEGA-300 series modules be plugged into any computer system and function normally?

Ans. Yes. But, ensure the signal interface, thermal solution, and operating system match the requirements. Advantech's AIR systems come ready-to-use, and support all functions out of the box.

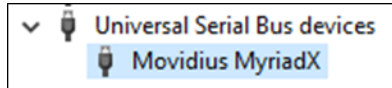
Q4. Does the VEGA-300 series support H.265?

Ans. The VPU video encoder supports H.265. The following description comes from the Intel® VPU datasheet: The multi-format video encoder is a single-core real-time multi-format hardware encoder engine supporting H.264/AVC, H.265/HEVC and JPEG standards. The engine's HW resources are shared between the listed codecs, supporting resolutions of up to UHD/4K (for H.264/AVC and H.265/HEVC) and up to 16Kx8K for JPEG. The video encoder is controlled by dedicated SW (Control SW) running on the multimedia Sub-System CPU.

## Software/Firmware

Q1. Where can I find VEGA-300 series module drivers?

Ans. VEGA-300 series modules use Microsoft Windows' generic drivers for Windows 10. Windows 10 will find Movidius MyriadX information in the device manager.



Windows 10 Device Manager

Solutions that leverage Linux require the OpenVINO Toolkit with VPU driver. Use a “dmesg” command to find Movidius MyriadX device information. Install OpenVINO by reference:

[https://docs.openvino toolkit.org/latest/openvino\\_docs\\_install\\_guides\\_installing\\_openvino\\_linux.html](https://docs.openvino toolkit.org/latest/openvino_docs_install_guides_installing_openvino_linux.html)

```
seven@seven-Default-string:~$ dmesg | grep usb
[ 1.647009] usb 7-2: New USB device found, idVendor=03e7, idProduct=2485, bcdDevice= 0.01
[ 1.647010] usb 7-2: New USB device strings: Mfr=1, Product=2, SerialNumber=3
[ 1.647011] usb 7-2: Product: Movidius MyriadX
[ 1.647011] usb 7-2: Manufacturer: Movidius Ltd.
```

Linux (Ubuntu) with “dmesg” command

Q2. Where can users download the Edge AI Suite?

Ans. There are two Edge AI Suite downloading methods.

1. There is a VEGA instruction card in the product box. Scan the QR code to download the Edge AI Suite.
2. Or, click this link: <http://adv.t.ch/edge-ai-suite>

Q3. What is the difference between the Edge AI Suite and OpenVINO toolkit?

Ans. Advantech's Edge AI Suite combines OpenVINO toolkit with an open source model. This demonstrates OpenVINO toolkit functions, including its inference engine and VPU resource monitoring, quickly.

Q4. Can users record facial recognition data using the Edge AI Suite?

Ans. No, Advantech's Edge AI Suite does not support this function. This function can be developed using the OpenVINO inference engine.

[https://docs.openvino toolkit.org/latest/openvino\\_docs\\_IE\\_DG\\_Integrate\\_with\\_customer\\_application\\_new\\_API.html](https://docs.openvino toolkit.org/latest/openvino_docs_IE_DG_Integrate_with_customer_application_new_API.html)

Q5. Why can't users select the camera button in the Edge AI Suite?

Ans. The camera should be set up before the software is running; otherwise, the Edge AI Suite will not recognize it.

## Integration

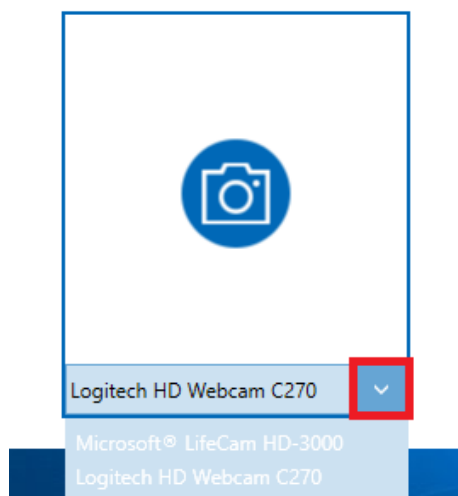
Q1. Does Advantech's Edge AI Suite support IP camera input for inference?

Ans. Advantech's Edge AI Suite supports USB cameras only, not IP cameras. Use advanced extensions to support IP cameras. Add the IP camera video stream URL as input parameter when executing. Example: add additional argument: `-i https://username:password@ipaddress:port/video_stream`.

```
seven@seven-Default-string:~/onx_demos_build/intel64/Release$ ./object_detection_demo_yolov3_async
-m /opt/intel/opencv_2021.2.185/deployment_tools/open_model_zoo/tools/downloader/public/yolo-v3
-tiny-tf/FP32/yolo-v3-tiny-tf.xml -d HDDL -i https://admin:password@172.22.213.56:8080/video
InferenceEngine:      API version ..... 2.1
Build ..... 2021.2.0-1877-176bdf51370-releases/2021/2
```

Q2. How many cameras can the Edge AI Suite support simultaneously?

Ans. Advantech's Edge AI Suite supports only one camera at a time. If the system is connected to multiple webcams, users can only choose one for inference.



Q3. Is there camera resolution support or a suggestion AVL (Approved Vendor List)?

Ans. There are no resolution limitations, but using full HD resolution will yield better results. We recommend using a Microsoft camera.

Q4. How can users check the VEGA-300 series' status?

Ans. There is a system-monitoring page in the Edge AI Suite where users can acquire usage and the temperature information.



Q5. Can Advantech’s Edge AI Suite assign different models for different hardware?

(For example: Running model 1 on the CPU, running model 2 on the VPU)

Ans. Advantech’s Edge AI Suite cannot assign models for different hardware. However, OpenVINO demos support this function. It can assign face detection models for operation on the VEGA-300 series module, and age detection models on the CPU. Reference:

[https://docs.openvino toolkit.org/latest/omz\\_demos\\_interactive\\_face\\_detection\\_demo\\_README.html](https://docs.openvino toolkit.org/latest/omz_demos_interactive_face_detection_demo_README.html)

Q6. Does Advantech’s Edge AI Suite support other pre-trained models not on this list?

Ans. At present, there are many models for the Edge AI Suite in the Advanced Extensions page. If the model has been converted to IR format, and if the inference engine supports the pre-trained model framework, running pre-trained models is possible. Reference:

[https://docs.openvino toolkit.org/latest/openvino\\_docs\\_MO\\_DG\\_prepare\\_model\\_Supported\\_Frameworks\\_Layers.html](https://docs.openvino toolkit.org/latest/openvino_docs_MO_DG_prepare_model_Supported_Frameworks_Layers.html)

Q7. Can we insert and use multiple VEGA modules?

Ans. Yes, the Edge AI Suite supports the simultaneous use of multiple VEGA modules at the same time to improve performance. Note: the maximum number of supported VPUs is 64.

## Limitations

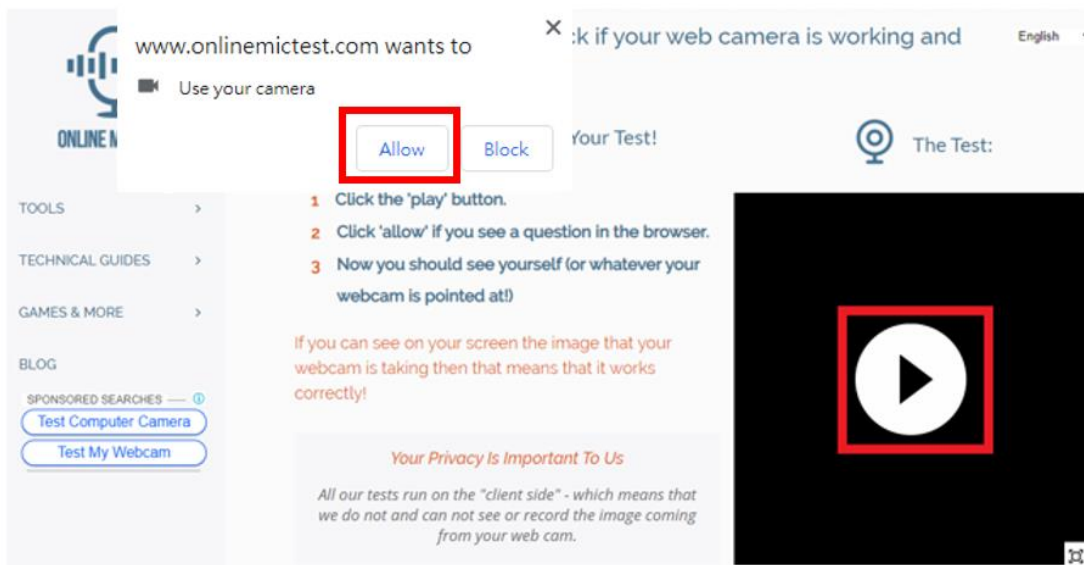
Q1. Can Edge AI Suite use NVIDIA or AMD GPUs?

Ans. No. The Edge AI Suite supports Intel's all-in-one SOC internal graphics card or Intel's external graphics chip exclusively.

Q2. My camera is taking too long to initialize. Is there any solution?

Ans. Yes! Follow the steps below to increase your camera's speed.

1. Open the site: <https://www.onlinemictest.com/webcam-test/>
2. Click the **play** icon on the right side.
3. Then click the pop-up "**Allow**" button.
4. The video will appear when the testing process is complete.



Q3. Does Advantech's Edge AI Suite support full-screen mode?

Ans. No, it doesn't.

Q4. What languages does Edge AI Suite support?

Ans. Advantech's Edge AI suite only supports English.