INTEL® VISION ACCELERATOR
DESIGN WITH INTEL®
MOVIDIUS™ VISION
PROCESSING UNIT (VPU)

Specialized processors designed to deliver high-performance machine vision at ultra-low power.

- Supports up to 16 video streams per device
- Ideal for camera and network video recorder (NVR) use cases with power, size, and cost constraints
- Supports small memory footprint networks

Buy
Overview

Deep Neural Networks
Optimized for computer vision applications built using deep neural networks for low power, low cost, and small form factors.

Power Efficiency
Ultra-low-power demands allow for integration on cameras and edge servers running on power- and size-constrained systems.

Easy to Scale
Scalable analytics with minimal software changes for single- to multiple-chip solutions.

Who Needs This Product
Information and operational technologists who:

- Are new to IoT commercial platforms and need a simple path without a steep learning curve
- Create solutions that offload deep learning and AI workloads from the CPU or GPU to dedicated accelerator products
- Need a quicker path to deployment

Use Cases
- Smart cities
- Automotive and transportation
- Healthcare
- Retail
- Digital Security

Reference Implementations
- Shopper Gaze Monitor
- Parking Lot Counter
- Restricted Zone Notifier
## Specifications

### Intel® Vision Accelerator Design

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<th>Features</th>
<th>With 1 Intel® Movidius™ VPU</th>
<th>With 2 Intel Movidius VPUs</th>
<th>With 8 Intel Movidius VPUs</th>
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<tr>
<td>VPU</td>
<td>1 - MA2485</td>
<td>2 - MA2485</td>
<td>8 - MA2485</td>
</tr>
<tr>
<td>Board dimensions</td>
<td>M.2 2230 Key E &amp; A</td>
<td>M-PCle*</td>
<td>Half-height, half-length, single-slot PCIe*</td>
</tr>
<tr>
<td></td>
<td>22 mm x 30 mm</td>
<td>30 mm x 50 mm</td>
<td>68.90 mm x 167.65 mm</td>
</tr>
<tr>
<td>VPU memory</td>
<td>4 Gb LPDDR4 POP</td>
<td>4 Gb LPDDR4 POP</td>
<td>4 Gb LPDDR4 POP</td>
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<tr>
<td>Minimum system configuration</td>
<td>Intel Atom® x7 processor E3950</td>
<td>Intel Atom x7 processor E3950</td>
<td>Intel® Core™ i5 processor 6500TE</td>
</tr>
<tr>
<td></td>
<td>8 GB LPDDR4, 64 GB eMMC</td>
<td>8 GB LPDDR4, 64 GB eMMC</td>
<td>8 GB RAM, 500 GB HDD USB 3.0</td>
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<tr>
<td></td>
<td>USB 3.0, M.2 2230 connector</td>
<td>USB 3.0, M-PCle connector</td>
<td>2 - PCIe x4 x8 x16 connectors</td>
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<tr>
<td>Typical operating system</td>
<td>Ubuntu* 16.04 LTS 64 bit</td>
<td>Ubuntu 16.04 LTS 64 bit</td>
<td>Ubuntu 16.04 LTS 64 bit</td>
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<td>Tools</td>
<td>Intel® Distribution of OpenVINO™ toolkit</td>
<td>Intel Distribution of OpenVINO toolkit</td>
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### General Specifications

#### Supported Streams

Typically supports 1 to 16 video streams per device (depends on desired frame rate and algorithm complexity)

#### Precision

Supports FP16 precision networks

#### Customization

Hardware optimized for generic cases

#### Efficiency

High efficiency
Tools

Intel® Distribution of OpenVINO™ Toolkit

- Enable deep learning inference on the edge based on convolutional neural networks
- Support for heterogeneous execution across various accelerators—CPU, GPU, Intel® Movidius™ Myriad™ X Vision Processing Unit (VPU), and FPGA—using a common API
- Speed up time to market via a library of functions and preoptimized kernels
- Preinstalled models included with release 5

Documentation | Forum

Free Download  Get Started  Training

Review the supported pretrained models for the Intel Distribution of OpenVINO toolkit. Learn More

Suppliers

Purchase or review documentation from the suppliers below.

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<td>ADLINK*</td>
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<td>EDL-mPCIe-MA2485</td>
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<td>Advantech*</td>
<td>VEGA-320</td>
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<tr>
<td>Uzel*</td>
<td>UI-AL2</td>
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<td>UI-AR8</td>
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</table>
Support

AAEON*
ADLINK*
Advantech*
IEI*
JWIPC*
NEXCOM
Uzel*

Additional Resources

Intel® Neural Compute Stick 2
Expand Data Possibilities with Intel® Vision Products

Tools

Intel® Distribution of OpenVINO™ Toolkit
Intel® Media SDK
Intel® System Studio
Intel® Software Development Kits

Training

IoT Training
Tech.Decoded
GitHub*: Intel® IoT Developer Kit
01.org
YouTube*: Intel® IoT

Related Programs

Intel® AI: In Production
Intel® Internet of Things Solutions Alliance

Additional Resources

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