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ICP Electronics Australia

IDS–310AI

- ■ *Ultra Compact Size*
- ■ *Fanless Digital Signage System*
- ■ *Intel Vision Accelerator Design for AI Deep Learning*

Features

- Intel® Celeron® J3455 1.5GHz (up to 2.3 GHz)
- Two GbE LAN ports
- Triple USB 3.2 Gen1
- M.2 A-key slot for expansion
- Pre-installed a Mustang-MPCIE-MX2 that has two Intel Myriad X VPUs for AI deep learning workload consolidation

VPU	Fanless	USB 3.2 Gen 1	Dual LAN	RS-232 /422/485	M.2
AI Accelerator card		SUPERSPEED CERTIFIED USB			

Application

The IDS-310AI is pre-installed with a Mustang-MPCIE-MX2 AI accelerator card, which includes two Intel® Movidius™ Myriad™ X VPU, to provide a flexible AI inference solution.

VPU is short for vision processing unit. It can run AI faster, and is well suited for low power consumption applications such as surveillance, retail and transportation. With the advantage of power efficiency and high performance to dedicate Deep Neural Networks (DNN) topologies, it is perfect to be implemented in AI edge computing device to reduce total power usage, providing longer duty time for the rechargeable edge computing equipment.

Surveillance

Retail

Transportation

Key Features of Intel® Movidius™ Myriad™ X VPU

- Native FP16 support
- Rapidly port and deploy neural networks in Caffe and Tensorflow formats
- End-to-End acceleration for many common deep neural networks
- Industry-leading Inferences/S/Watt performance

Ultra-compact Size

Space limitation is one of the constraints commonly seen in today's industrial environment. Under tight restrictions, the IDS-310AI not only provides palm-sized design to meet the space requirement, but also comes with adequate basic I/O interfaces for various applications.

10X Higher Performance

1 Trillion operatioms per second

1 TOPS

1 Trillion operatioms per second of dedicated neural networks compute

Movidius MA2485 Myriad X

ULTRA Low power

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Specifications

Model Name		IDS-310AI
AI Accelerator Card	Model Name	Mustang-MPCIE-MX2
	Main Chip	2 x Intel® Movidius™ Myriad™ X MA2485 VPU
	Supported Topology	AlexNet, GoogleNetV1/V2, Mobile_SSD, MobileNetV1/V2, MTCNN, Squeezenet1.0/1.1, Tiny Yolo V1 & V2, Yolo V2, ResNet-18/50/101
Chassis	Color	Brown & Silver
	Dimensions (WxDxH)(mm)	137 x 102.8 x 49.2
	System Fan	Fanless
	Chassis Construction	Extruded aluminum alloy
Motherboard	CPU	Intel® Celeron® J3455 (up to 2.3GHz, quad-core, TDP 10W)
	Chipset	SoC
	System Memory	1 x 204-pin DDR3L SO-DIMM slot, pre-installed with 8 GB memory
Storage	SATADOM	Pre-installed 128GB
	Micro SD	1 x Micro SD Slot
I/O Interfaces	USB 3.2 Gen 1 (5Gb/s)	3
	Ethernet	2 x RJ-45 PCIe GbE by RTL8111 controller
	COM Port	1 x RS-232/422/485 with AFC
	Display	3 x HDMI 1.4b (3840x2160@30Hz)[1, 2]
	Audio	1 x Line-out, 1 x Mic-in
	Wireless	1 x 802.11a/b/g/n/ac (optional)
	TPM	TPM2.0
	Others	1 x Power button, 1 x Reset button, 1 x AT/ATX switch, 1 x LED for HDD (yellow), 1 x LED for power (green)
Expansions	M.2	1 x 2230 A key (PCIe x1/ USB 2.0)
Power	Power Input	12V DC-in
	Power Consumption	12V @ 2.6A (Intel® Celeron® J3455 with 8GB memory)
Reliability	Mounting	Wall mount
	Operating Temperature	-20°C ~ 45°C with air flow, 10% ~ 95%, non-condensing
	Storage Temperature	-30°C ~ 80°C with air flow, 10% ~ 90%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis, IEC68-2-27
	Operation Vibration	MIL-STD-810G 514.6C-1
	Weight (Net/Gross)	910 g/ 1.7 kg
	Safety / EMC	CE/FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min
OS	Supported OS	Win10/Linux

[1] Due to chipset limitation, audio is not supported over the HDMI3 connector.
[2] Fully support of triple 4K display output may vary in different system environment setting. Contact an IEI sales representative for detailed information.
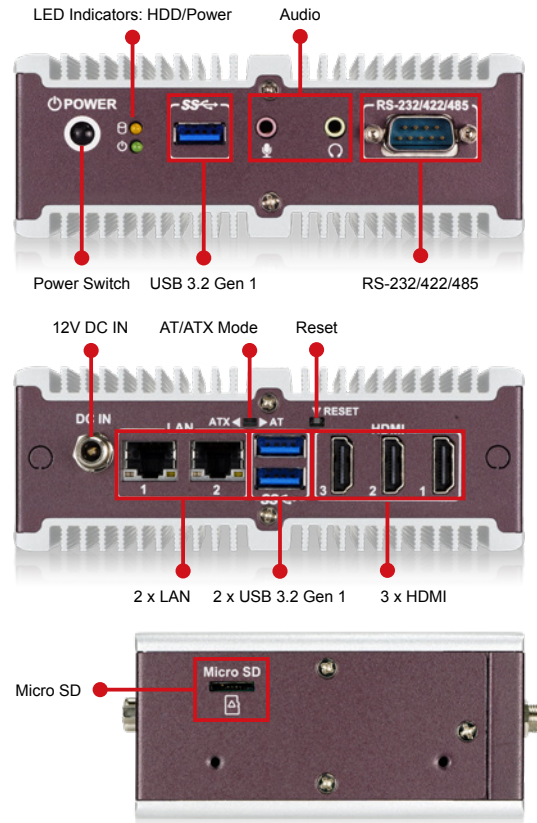
Ordering Information

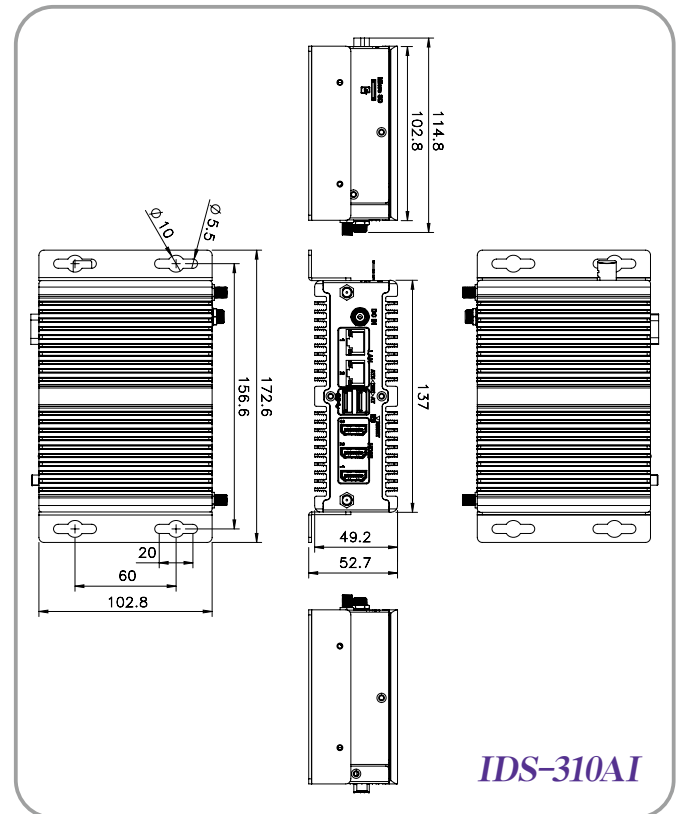| Part No.	Description
IDS-310AI-AL-J1/8GB-R10	Fanless embedded system with Intel® Celeron® J3455 1.5GHz (up to 2.3GHz, quad dore, TDP 10W), pre-installed 8GB DDR3L memory, triple HDMI display, 12V DC, 128G SATADOM, Mustang-MPCIE-MX2 and RoHS

Options

Item	Part No.	Description
Wi-Fi Module	27319-000009-RS*	Wireless Lan Module;Wireless LAN & Bluetooth M.2 Module;Sparklan;R9701810011;IEEE802.11a/b/g/n/ac;2.412GHz~2.4835GHz, 5.15GHz~5.85GHz;M.2 2230;.;3.3V;22*30*2.15mm;QCNFA364A;QC A6174A-5;2x2 MIMO;Dual Band;WCBN808A-Q2;CCL;CCL;RoHS
Antenna	32505-000900-100-RS*	External Antenna;WLAN;RG 178;108MM;TANK-700-QM67-R10;PEAK GAIN 2.0DBI;Exceltek;2.4-2.5GHz/5.15-5.85GHz;REVERSE SMA PLUG;RoHS
RF Cable	32501-004000-100-RS*	RF;RF CABLE;LINE DIAMETER:0.81mm;250MM ;;;50Ω;Sparklan;0-6GHz;VSWR≤1.3;I-PEX MHF-4 Plug;REVERSE SMA JACK;NUT*1;WASHER*1;;RoHS

* Each Wi-Fi module needs two antennas and two RF cables to fully support Wi-Fi function.

Fully Integrated I/O

LED Indicators: HDD/Power   Audio

Power Switch   USB 3.2 Gen 1   RS-232/422/485

12V DC IN   AT/ATX Mode   Reset

2 x LAN   2 x USB 3.2 Gen 1   3 x HDMI

Micro SD

Dimensions (Unit: mm)

IDS-310AI

Packing List

1 x Screw kit	1 x 36W power adapter
1 x Wall mounting bracket	1 x Power Cord