

# ITG-100AI

- Ultra Compact Size
- Fanless DIN-Rail Embedded System
- Intel Vision Accelerator Design for AI Deep Learning



## Features

- Intel® Atom™ x5-E3930 1.3GHz (up to 1.8 GHz)
- Two GbE LAN ports
- Two RS-232/422/485
- 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



## Application

The ITG-100AI 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 ITG-100AI 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 operations per second

1 TOPS  
1 Trillion operations per second of dedicated neural networks compute

Movidius MA2485 Myriad X

ULTRA Low power



## Specifications

Model Name	ITG-100AI	
AI Accelerator Card	Model Name	Mustang-MPCI-E-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	Blue & Silver
	Dimensions (WxDxH)(mm)	137 x 102.8 x 49.4
	System Fan	Fanless
Chassis Construction	Extruded aluminum alloy	
Motherboard	CPU	Intel® Atom™ x5-E3930 1.3 GHz (up to 1.8GHz, dual-core, TDP=6.5W)
	Chipset	SoC
	System Memory	1 x 204-pin DDR3L SO-DIMM slot, pre-installed with 8 GB memory
Storage	SATADOM	Pre-installed 128GB
	eMMC	1 x eMMC 5.0 support (up to 32GB optional)
	Micro SD	1 x Micro SD Slot
I/O Interfaces	USB 3.2 Gen 1 (5Gb/s)	2
	Ethernet	2 x RJ-45 PCIe GbE by Intel® I211-AT controller
	COM Port	2 x RS-232/422/485 (DB-9/RJ-45)
	Display	1 x VGA
	Resolution	Up to 1920x1080@60Hz
	Wireless	1 x 802.11a/b/g/n/ac (optional)
	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	2-pin terminal block: 9 ~ 36V DC-in
	Power Consumption	12V @ 1.2A (Intel® Atom™ E3930 with 8GB memory)
Reliability	Mounting	DIN-rail
	Operating Temperature	-20°C ~ 50°C with air flow, 10% ~ 95%, non-condensing
	Storage Temperature	-20°C ~ 70°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)	895 g/ 1.7 kg
	Safety / EMC	CE/FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min
OS	Supported OS	Win10/Linux Ubuntu 16.04 LTS

## Ordering Information

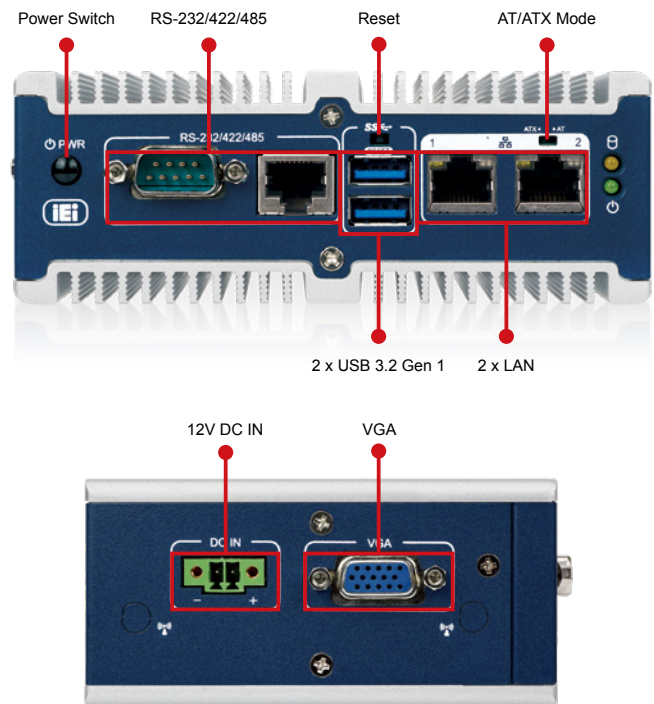
Part No.	Description
ITG-100AI-E1/8GB/S-R10	Fanless embedded system, Intel® Apollo Lake x5-E3930 1.3GHz (up to 1.8GHz, dual core), 8GB DDR3L pre-installed memory, VGA, M.2, COM, 9-36V DC, Mustang-MPCI-E-MX2 and RoHS

## Options

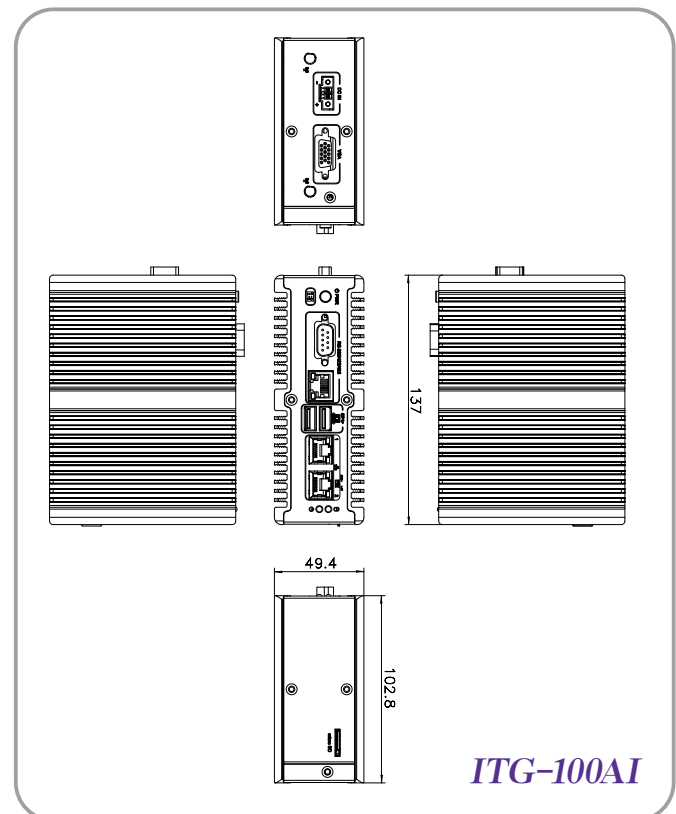
Item	Part No.	Description
Wi-Fi Module	27319-000009-RS*	Wireless Lan Module; Wireless LAN & Bluetooth M.2 Module; Sparklan; R9701810011; IEEE802.11a/b/g/n/ac; 2.412 GHz~2.4835GHz, 5.15GHz~5.85GHz; M.2 2230; ; 3.3V; 22*30*2.15mm; QCNFA364A; QCA6174A-5; 2x2 MIMO; Dual Band; WCBN808A-Q2; CCL; CCL; RoHS
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



## Dimensions (Unit: mm)



## Packing List

1 x Screw kit	1 x 36V power adapter
1 x Din-rail mounting bracket	1 x Power cable
1 x RJ-45 to DB-9 COM port cable	1 x Power Cord