

Cocreate an Intelligent World



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Robust Edge AIoT Platform Catalog

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About ASRock Industrial

ASRock Industrial Computer Corporation, established as an independent entity in July 2018, is a prominent industry player specializing in the development of motherboards, edge computers, and related solutions for the manufacturing, business, and retail sectors. As the world-leading provider of Industrial PC systems and motherboards, our customers base spans the globe. Previously, it had been a business unit of ASRock Inc. (est. 2002) which was set up in 2011. ASRock Industrial now operates autonomously, allowing us to devote all resources to delivering exceptional B2B solutions.

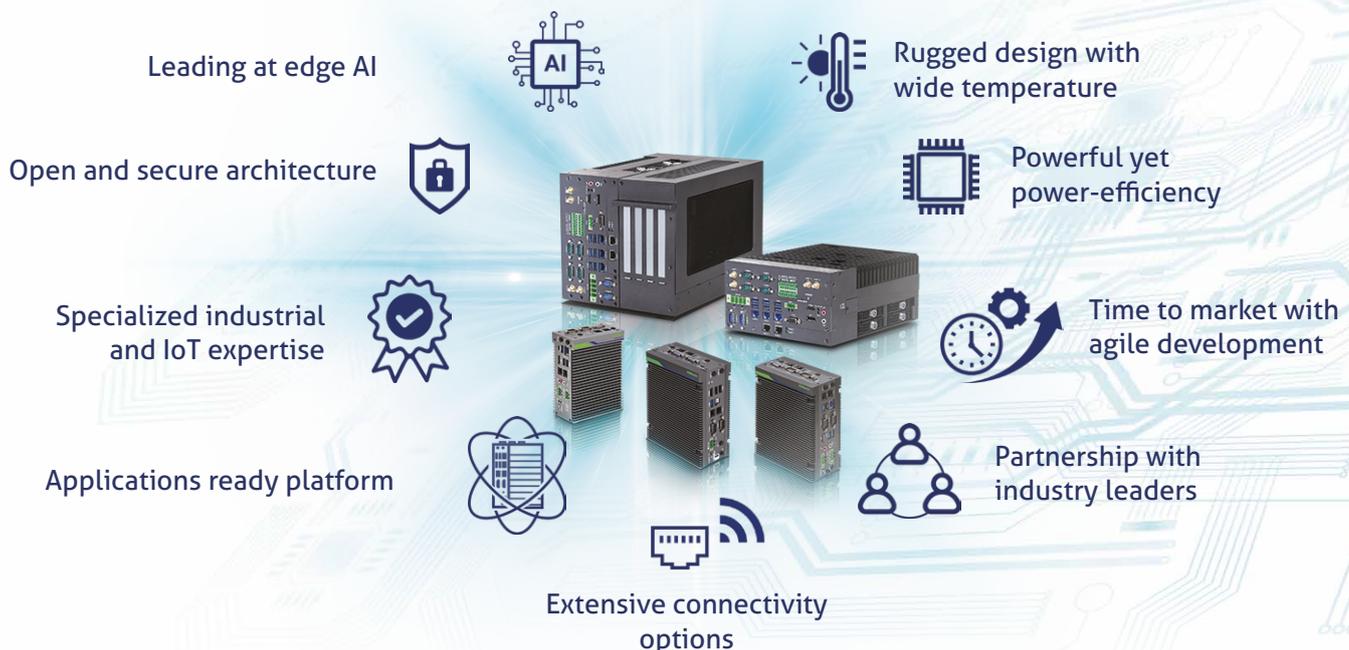
Our vision is to cocreate an intelligent world, aligning with ASRock Industrial's core dedication to CARES (Commerce/Automation/Robot/Entertainment/Security) industries. With a central R&D design team comprising nearly 58% of our total staff, ASRock Industrial has the resources and expertise to develop cutting-edge, reliable products tailored to meet your business requirements. Our product portfolio encompasses both off-the-shelf offerings and customized solutions catered to the specific needs of OEMs/ODMs.

Global Certifications

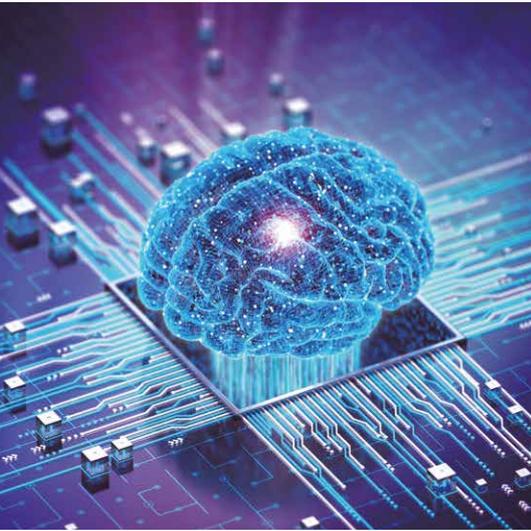
ASRock Industrial achieves globally recognized certifications and standards, reaffirming our commitment to openness, security and industry-leading innovation.



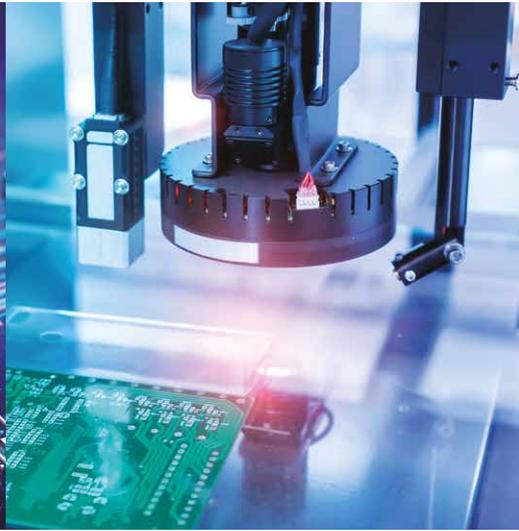
Powering Industrial AI with Robust Edge AIoT Platform



Overview of Robust



Edge AI LLM
AI System



Factory Automation
AI AOI



Robots
Robotic Control



Best for Edge AI System Applications

Expandable Edge AIoT Platform



iEPF-10000S Series
Expandable Edge AIoT Platform



iEPF-9000S Series
Expandable Edge AIoT Platform



Compact Edge AIoT Platform



iEP-9000E Series
Compact Edge AIoT Platform





Edge AIoT Platform



Process Automation
Distributed Control Node

Smart Cities
Smart Poles Edge System

Retail
AI Video Surveillance



Best for Edge AI Controller/ Gateway Applications

Industrial IoT Controller



iEP-7000E Series
Industrial IoT Controller



iEP-6010E Series
Industrial IoT Controller



iEP-5000G Series
Industrial IoT Controller





Preliminary

iEPF-1 1000S Series

Expandable Edge AIoT Platform

Front IO

USB	2 x USB 3.2 Gen1
Function	Power Button and LED, Reset Button, LAN1 LED, LAN2 LED, Storage LED, Line out

Rear I/O

Ethernet	LAN1: Intel® I226LM with 10/100/1000/2500 Mbps, supports vPro LAN2: Intel® I226V with 10/100/1000/2500 Mbps LAN3: Marvell AQC113 with 10/100/1000/2500/5000/10000 Mbps (optional)
USB	5 x USB 3.2 Gen2 1 x USB 3.2 Gen2x2 (Type-C, 5V/3A)
Audio	Realtek ALC897 HD, High Definition Audio. Line-In, Line-Out, Mic-In
Serial Port	COM3, COM4 (RS-232) COM1, COM2 (RS-232/422/485)

Internal Connector

USB	2 x USB 2.0 (1 x 2.54 pitch header) 1 x USB 2.0 (vertical con)
COM	COM5, COM6 (RS-232)
GPIO	4 x GPI, 4 x GPO

KEY FEATURES

- Supported NVIDIA GPU (1~4pcs): RTX 6000 Ada, RTX 5000 Ada, RTX A4500 Ada, RTX 4000 Ada, RTX A4000 SFF Ada, RTX 2000 Ada
- Supported Intel GPU (1~4pcs): Intel Arc Pro B60, Intel Arc Pro B50; Intel GPU (1~3pcs) Arc A770, Arc B580
- Intel® Xeon® W-3500/3400 and W-2500/2400 Series Processors with W790 chipset
- 8 x 288-pin ECC RDIMM/RDIMM-3DS DDR5 4400/4800 MHz, up to 2TB
- 1 x PCIe x16 (Gen5), 3 x PCIe x16 (Gen4), 1 x PCIe x8 (Gen4), 1 x PCIe x4 (Gen4), 1 x USB 3.2 Gen2x2, 5 x USB 3.2 Gen2, 2 x USB 3.2 Gen1, 3 x USB 2.0, 1 x M.2 Key E, 2 x M.2 Key M, 1 x M.2 Key B, 6 x COM, 8 x SATA3
- 1 x Marvell 10 Gigabit LAN (optional), 2 x Intel 2.5 Gigabit LAN
- TPM 2.0 onboard IC
- Support Intel® vPro, VMD RAID 0/1/5/10
- ATX Power Supply 1600W at 115-240V
- Eight PCIe slots chassis to support up to 4pcs dual width graphic cards or 2pcs triple width graphic cards

SPECIFICATIONS

Mechanical

Dimensions (D x W x H)	602.6 (D) x 175.0 (W) x 438.0 (H) mm. 4U tower and rackable, supports rack kit option: ear handle, slide rail, and CMA
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Processor System

CPU	Intel® Xeon® W-3500/3400 and W-2500/2400 Series Processors
Chipset	Intel® W790
Socket	LGA4677
BIOS	AMI SPI 256 Mbit

Memory

Technology	Quad Channel ECC DDR5 4400/4800 MHz* *1DPC 4800 MHz Natively for Xeon® W9, Xeon® W7 and Xeon® W5 2DPC 4400 MHz Natively for Xeon® W9, Xeon® W7 and Xeon® W5 Supports 4400 MHz Natively for Xeon® W3, W5-3423 and W5-3433 2TB
Capacity	2TB
Socket	8 x 288-pin RDIMM/RDIMM-3DS

MB Expansion Slot

PCIe	Chassis supports Eight PCIe slots. MB supports Six PCIe x16 connectors. (PCIe1 connector supports Gen5 x16 signal and dual slot width, PCIe2 connector supports Gen4 x16 signal and single slot width, PCIe3 connector supports Gen4 x8 signal and single slot width, PCIe4 connector supports Gen4 x8 signal and single slot width, PCIe5 connector supports Gen4 x4 signal and single slot width, PCIe6 connector supports Gen4 x16 signal and dual slot width. PCIe4 signal can be PCIe Gen4 x16 if PCIe3 is not occupied)
M.2	1 x M.2 (Key E, 2230) with PCIe Gen3 x1, USB 2.0 and CNVi for Wireless 1 x M.2 (Key B, 3042/3052) with PCIe Gen3 x1, USB 3.2 Gen1, USB 2.0 and SIM for 4G/5G
SIM Socket	1 x SIM socket connected to M.2 Key B

Storage

M.2	1 x M.2 (M2_M1) (Key M, 2242/2280/25110) with PCIe Gen4 x4 and SATA3 for SSD 1 x M.2 (M2_M2) (Key M, 2260/2280/25110) with PCIe Gen4 x4 for SSD
SATAIII	Default support 1*3.5" internal SATA HDD bay, or up to optional 8-Bay 2.5" SATA hot-swap module in two 5.25" area 8 x SATA3, SATA3_0 shared with M.2 Key M1
RAID	Intel® VMD RAID 0/1/5/10 ***supported by identical interface (PCIe or SATA) PCIe interface: M.2 Key B + M.2 Key M x1 or x2 SATA interface: SATA port

Security

TPM	TPM 2.0 onboard IC
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Watchdog Timer

Output Interval	From Super I/O to drag RESETCON# 256 Segments, 0, 1, 2, ...255sec
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Power Requirements

MB Input PWR	1 x 24-pin ATX PWR connector 2 x 8-pin 12V PWR connector 1 x 8-pin and 1 x (6+2)-pin 12V PWR connector for PCIe AT/ATX Supported - AT : Directly PWR on as power input ready - ATX : Press button to PWR on after power input ready
Power Supply Unit	Rated Output Power 1600W at 115-240V

Graphic Card option

NVIDIA Graphic Card	Description	QTY
RTX 6000 Ada	RTX 6000 Ada 48GB GDDR6, 300W	1~4pcs
RTX 5000 Ada	RTX 5000 Ada 32GB GDDR6, 250W	1~4pcs
RTX 4500 Ada	RTX4500 Ada 24GB GDDR6, 210W	1~4pcs
RTX 4000 Ada	RTX4000 Ada 20GB GDDR6, 130W	1~4pcs
RTX 4000 SFF Ada	RTX4000 SFF Ada 20GB GDDR6, 70W	1~4pcs
RTX 2000 Ada	RTX2000 Ada 16GB GDDR6, 70W	1~4pcs
Intel Graphic Card	Description	QTY
Arc A770	Arc A770, 16GB GDDR6, 225W	1~3pcs
Arc B580	Arc B580, 12GB GDDR6, 190W	1~3pcs
Arc Pro B60	Arc Pro B60, 24GB GDDR6, 200W	1~4pcs
Arc Pro B50	Arc Pro B50, 16GB GDDR6, 70W	1~4pcs



Preliminary

iEPF-10000S Series

Expandable Edge AIoT Platform

MB Expansion Slot

PCIe	2 x PCIe Gen5 Slots (PCIe1/PCIe4:single at x16(PCIe1); dual at x8 (PCIe1) / x8 (PCIe4)) 2 x PCIe x4 (Gen4), 3 x PCIe x1 (Gen3)
M.2	1 x M.2 (Key E, 2230) with PCIe x1, USB 2.0 and CNVi for Wireless 1 x M.2 (Key B, 3042/3052) with PCIe x1, USB3.2 Gen1, USB 2.0 and SIM for 4G/5G
SIM Socket	1 x SIM socket connected to M.2 Key B

Ethernet

Controller/ Speed	LAN1: Intel® I226V with 10/100/1000/2500 Mbps, supports PoE (IEEE 802.3at). LAN2: Intel® I226LM with 10/100/1000/2500 Mbps, supports vPro LAN3: Intel® I226V with 10/100/1000/2500 Mbps
Connector	3 x RJ-45

MB Rear I/O

HDMI	1 x HDMI 2.0b
DisplayPort	1 x DP 1.4a++
VGA	1
Ethernet	3 x 2.5 Gigabit LAN
USB	5 x USB 3.2 Gen2 1 x USB 3.2 Gen2x2 (Type-C, 5V/3A)
Audio	3 (Mic-in, Line-in, Line-out)
COM	COM1, COM2 (RS-232/422/485)

MB Internal Connector

USB	2 x USB 3.2 Gen1 (Chassis front side), 2 x USB 2.0 Type-A internal vertical connector), 2 x USB 2.0 (1 x 2.54 pitch header)
COM	COM3, COM4, COM5, COM6 (RS-232)
Parallel	1
GPIO	8 x GPI, 8 x GPO (shared with LPT header)
PS2	1 x PS2 header
Thunderbolt header	1

Storage

M.2	1 x M.2 2280 (Key M) PCIe Gen4 x4 SSD or 1 x M.2 2280 (Key M) PCIe Gen4 x4 SSD and 1 x M.2 2280 (Key M) PCIe Gen3 x4 SSD (Option)
SATAIII	2.5"/3.5" HDD bays x 5
RAID	Intel® VMD RAID 0/1/5/10 ***supported by identical interface (PCIe or SATA) PCIe interface: M.2 Key B + M.2 Key M x1 or x2 (Option) SATA interface: SATA port

Security

TPM	TPM 2.0 onboard IC
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Power Requirements

Power Supply Unit	Rated Output Power 850W(Default), Input Voltage 100-240V Rated Output Power 1000W, Input Voltage 100-240V
Power On	AT/ATX Support - AT : Directly PWR on as power input ready - ATX : Press button to PWR on after power input ready

Graphic Card option

NVIDIA Graphic Card	Description	QTY
RTX 6000 Ada	RTX 6000 Ada 48GB GDDR6, 300W	1~2pcs
RTX 5000 Ada	RTX 5000 Ada 32GB GDDR6, 250W	1~2pcs
RTX 4500 Ada	RTX4500 Ada 24GB GDDR6, 210W	1~2pcs
RTX 4000 Ada	RTX4000 Ada 20GB GDDR6, 130W	1~2pcs
RTX 4000 SFF Ada	RTX4000 SFF Ada 20GB GDDR6, 70W	1~2pcs
RTX 2000 Ada	RTX2000 Ada 16GB GDDR6, 70W	1~2pcs
Intel Graphic Card	Description	QTY
Arc A770	Arc A770, 16GB GDDR6, 225W	1~2pcs
Arc B580	Arc B580, 12GB GDDR6, 190W	1~2pcs
Arc Pro B60	Arc Pro B60, 24GB GDDR6, 200W	1~2pcs
Arc Pro B50	Arc Pro B50, 16GB GDDR6, 70W	1~2pcs

KEY FEATURES

- Supported NVIDIA GPU (1~2pcs): RTX 6000 Ada, RTX 5000 Ada, RTX A4500 Ada, RTX 4000 Ada, RTX A4000 SFF Ada, RTX 2000 Ada
- Supported Intel GPU (1~2pcs): Arc A770, Arc B580, Intel Arc Pro B60, Intel Arc Pro B50
- Intel® Core™ Processor Series 2 (Bartlett Lake-S) or Intel® 14th/13th Core™ Processor up to 125W
- 4 x 288-pin Long-DIMM DDR5, up to 192GB (48GB per DIMM)
- ATX Power Supply 850W or 1000W option
- Seven PCIe slots chassis to support up to 2pcs dual width graphic cards or 2pcs triple width graphic cards.

SPECIFICATIONS

Mechanical

Dimensions (D x W x H)	597mm (D) x 206mm (W) x 455.1mm (H)
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Processor System

CPU	Intel® Core™ Processor Series 2 (Bartlett Lake-S) or Intel® 14th/13th Core™ Processor
Chipset	Intel® Q670 or Intel® W680 (Option)
Socket	LGA1700
BIOS	AMI SPI 256 Mbit

Memory

Technology	Dual Channel DDR5 4400/5600 MHz* *Actual memory frequency depends on the CPU types and DRAM modules, for more information refer to https://www.asrock.com/en-gb/index.php?route=newsblog/faq&faq_id=90 technical FAQ *For DDR5 5600 support refer to memory support list
Capacity	ECC feature only supported by W680 192GB (48GB per DIMM)
Socket	4 x 288-pin Long-DIMM

CPU Graphics

Controller	Intel® UHD Graphics
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz
VGA	Max resolution up to 1920 x 1200@60Hz
MultiDisplay	Triple Display

Audio

Interface	Realtek ALC897, High Definition Audio. Line-in, Line-out, Mic-in (Rear Side)
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iEPF-10000S (Arrow Lake-S) Series Expandable Edge AIoT Platform



KEY FEATURES

- Supported NVIDIA GPU (1~2pcs): RTX 6000 Ada, RTX 5000 Ada, RTX A4500 Ada, RTX 4000 Ada, RTX A4000 SFF Ada, RTX 2000 Ada
- Supported Intel GPU (1~2pcs): Arc A770, Arc B580, Intel Arc Pro B60, Intel Arc Pro B50
- Intel® Core™ Ultra processor (Arrow Lake-S), up to 125W
- 4 x 288-pin Long-DIMM DDR5, up to 256GB (64GB per DIMM)
- ATX Power Supply 850W or 1000W option
- Seven PCIe slots chassis to support up to 2pcs dual width graphic cards or 2pcs triple width graphic cards.

SPECIFICATIONS

Mechanical

Dimensions (D x W x H)	597mm (D) x 206mm (W) x 455.1mm (H)
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Processor System

CPU	Intel® Core™ Ultra processor (Arrow Lake-S), up to 125W
Chipset	Intel® Q870 or Intel® W880 SKU (Option)
Socket	LGA1851
BIOS	AMI SPI 256 Mbit

Memory

Technology	Dual Channel ECC/non-ECC DDR5 6400/5600 MHz ECC feature only supported by W880
Capacity	256GB (64GB per DIMM)
Socket	4 x 288-pin Long-DIMM

CPU Graphics

Controller	Intel® Xe® LPG Graphics
HDMI	HDMI 2.1 TMDS Max resolution up to 7680x4320@60Hz
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz
MultiDisplay	Quad display (Included 2 output from Type-C)

Audio

Interface	Realtek ALC897, High Definition Audio. Line-in, Line-out, Mic-in (Rear Side)
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MB Expansion Slot

PCIe	2 x PCIe Gen5 Slots (PCIe1/PCIe5: single at x16 (PCIe1); dual at x8 (PCIe1) / x8 (PCIe5)) PCIe x4 (Gen4) for Q870 SKU or 3 x PCIe x4 (Gen4) for W880 SKU 2 x PCIe x1 (Gen4)
M.2	1 x M.2 (Key E, 2230) with PCIe Gen4 x1, USB 2.0 and CNVi for Wireless 1 x M.2 (Key B, 3042/3052) with PCIe Gen4 x1, USB 2.0

Ethernet

Controller/ Speed	LAN1: Intel® I219LM with 10/100/1000 Mbps, supports vPro LAN2: Intel® I210AT with 10/100/1000 Mbps LAN3: Marvell AQc113 with 10/100/1000/2500/5000/10000 Mbps (Option for W880 SKU)
Connector	2 or 3 x RJ-45

MB Rear I/O

HDMI	2 x HDMI 2.1 TMDS
DisplayPort	1 x DP 1.4a++
Ethernet	2 x 1 Gigabit LAN 1 x 10 Gigabit LAN (Option for W880 SKU)
USB	5 x USB 3.2 Gen2 1 x USB4/Thunderbolt™4 (5V/3A, supports DP 2.1 display output) * For Thunderbolt support, please refer to support list.
Audio	3 (Mic-in, Line-in, Line-out)
COM	COM1, COM2 (RS-232/422/485)

MB Internal Connector

USB	2 x USB 3.2 Gen1 (Chassis front side) 1 x USB 3.2 Gen2 vertical Con 2 x USB 2.0 (1 x USB2 header) 1 x USB4/Thunderbolt™4 (5V/3A, supports DP 2.1 display output) * For Thunderbolt support, please refer to support list
COM	COM3 (RS-232/TTL 5V/ccTalk, switch by Jumper setting) COM4, COM5, COM6 (RS-232)
Parallel	1 (shared with GPIO)
GPIO	8 x GPI, 8 x GPO (shared with LPT header)

Storage

M.2	1 x M.2 (Key M, 2242/2280/22110/25110) with PCIe Gen5 x4 for SSD 1 x M.2 (Key M, 2242/2280) with PCIe Gen4 x4 for SSD
SATAIII	2.5"/3.5" HDD bays x 4
RAID	Intel® VMD RAID 0/1/5/10 ***supported by identical interface (PCIe or SATA) PCIe interface: 2 x M.2 Key M SATA interface: SATA port

Security

TPM	TPM 2.0 onboard IC
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Power Requirements

Power Supply Unit	Rated Output Power 850W(Default), Input Voltage 100-240V Rated Output Power 1000W, Input Voltage 100-240V
Power On	AT/ATX Support - AT : Directly PWR on as power input ready - ATX : Press button to PWR on after power input ready

Graphic Card option

NVIDIA Graphic Card	Description	QTY
RTX 6000 Ada	RTX 6000 Ada 48GB GDDR6, 300W	1~2pcs
RTX 5000 Ada	RTX 5000 Ada 32GB GDDR6, 250W	1~2pcs
RTX 4500 Ada	RTX4500 Ada 24GB GDDR6, 210W	1~2pcs
RTX 4000 Ada	RTX4000 Ada 20GB GDDR6, 130W	1~2pcs
RTX 4000 SFF Ada	RTX4000 SFF Ada 20GB GDDR6, 70W	1~2pcs
RTX 2000 Ada	RTX2000 Ada 16GB GDDR6, 70W	1~2pcs
Intel Graphic Card	Description	QTY
Arc A770	Arc A770, 16GB GDDR6, 225W	1~2pcs
Arc B580	Arc B580, 12GB GDDR6, 190W	1~2pcs
Arc Pro B60	Arc Pro B60, 24GB GDDR6, 200W	1~2pcs
Arc Pro B50	Arc Pro B50, 16GB GDDR6, 70W	1~2pcs



Preliminary

iEPF-9500S-EW7

Expandable Edge AIoT Platform

KEY FEATURES

- Intel® Core™ Processors (Series 2) with R680E Chipset
- 4 x 288-pin DDR5 U-DIMM up to 192GB (48GB per DIMM)
- 1 x PCIe x16 (PCIe Gen5) or 2 x PCIe x8 (PCIe Gen5), 1 x PCIe x 4 (PCIe Gen4), 4 x PCIe x 1 (Gen4)
- 2 x M.2 Key M, 2 x M.2 Key B, 1 x M.2 Key E
- 6 x USB 3.2 Gen2x1
- 4 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 3 x Intel 2.5G LAN (All support vPro)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA
- Powerful Edge AI acceleration enabled by the most flexible mechanical, thermal, and power design, with support for 75mm x 360 mm x 150 mm (W x D x H) max. and up to dual 600W graphic card
- Supported NVIDIA GPU: RTX 6000 Ada, RTX 5000 Ada, RTX A4500, RTX4500 Ada, RTX 4000 Ada, RTX 2000 Ada, RTX A2000, A2, RTX 5000 Series, RTX 4000 Series

SPECIFICATIONS

Processor System

CPU	Intel® Core™ Processors (Series 2)
Chipset	Intel® R680E
Socket	LGA 1700

Memory

Technology	Dual Channel DDR5 5600MHz (ECC memory supported by R680E + Selected CPU)
Capacity	192 GB (48GB per DIMM)
Socket	4 x 288-pin U-DIMM

Graphics

Controller	Intel® UHD Graphics
DisplayPort	DisplayPort 1.4a , DP++ Max resolution up to 4096x2304@60Hz
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz
VGA	Max resolution up to 1920x1200@60Hz

Audio

Interface	Realtek ALC897, High Definition Audio
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Expansion Slot

PCIe	1 x PCIe Gen5 x16 (single x16 or dual x8), 1 x PCIe Gen5 x8 (shared with dual x8) 1 x PCIe Gen4 x4 4 x PCIe Gen4 x1
RF& Antenna	8 x SMA connector hole reserved
M.2	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB 2.0 for Wi-Fi/BT module 1 x M.2 (Key B1, 2280/3042/3052) with PCIe Gen3 x1 / USB3.2 Gen1x1 and USB 2.0 for 4G / 5G 1 x M.2 (Key B2, 3042/3052) with PCIe Gen3 x1 / USB3.2 Gen1x1 and USB 2.0 for 4G / 5G
SIM Socket	2 x Nano SIM Card slots (2 connected to M.2 Key B)

Ethernet

Controller/ Speed	3 x Intel® i226-IT (With vPro Support)
Connector	3 x RJ45

Storage

M.2	1 x M.2 (Key M1, 2242/2260/2280/22110/25110) with Gen4 x4 for NVMe SSD 1 x M.2 (Key M2, 2242/2260/2280) with Gen4 x4 for NVMe SSD
SATA	4 x SATA3 (6Gb/s), support RAID 0/1/5/10 4 x 2.5" HDD/SSD Tray (Default 1 piece)

Front I/O

DisplayPort	1
HDMI	1
VGA	1
Ethernet	3 x Intel 2.5G LAN1~ LAN3 (All support vPro)
USB	6 x USB 3.2 Gen2x1
Audio	1 x Mic-in, 1 x Line-out
COM	2 x RS232, 2 x RS232/422/485
DIO	8DI/8DOs

Watchdog Timer

Output	From Super I/O to drag RESETCON#
Interval	256 Segments, 0, 1, 2, ...255sec

Power Requirements

Input PWR	9V~36V DC OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 13-mode condition.
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Environment

Operating Temperature (w/ FAN inside)	35W CPU w/ dual 600W GPU: -40°C ~ 60°C (-40°F ~ 140°F) 45W CPU w/ dual 600W GPU: - 40°C ~ 55°C (-40°F ~ 131°F) 65W CPU w/ dual 600W GPU: - 40°C ~ 50°C (-40°F ~ 122°F)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Shock	MIL-STD-810H, Method 516.8, Procedure I
Vibration	MIL-STD-810H, Method 514.8
ESD	Contact +/-4kV, Air +/-8kV
EMC	EN61000-6-4/-2, CE & FCC Class A
Safety	LVD

Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Desk Mount
Dimensions	288mm (W) x 450.3mm (D) x 250mm (H) (11.34" x 17.73" x 9.84")
Net Weight	12kg

Others

OS Support	Windows 10 & Linux
TPM	TPM 2.0
Real-Time Enablement	TSN, TCC support under YOCTO

NVIDIA GPU Card (optional)

Model Name	Description
RTX 6000 Ada	RTX 6000 Ada 48GB GDDR6, 300W
RTX 5000 Ada	RTX 5000 Ada 32GB GDDR6, 250W
RTX A4500	RTX A4500 20GB GDDR6, 200W
RTX 4500 Ada	RTX4500 Ada 24GB GDDR6, 210W
RTX 4000 Ada	RTX4000 Ada 20GB GDDR6, 130W
RTX 4000 Ada	RTX4000 Ada 8GB GDDR6, 130W
RTX 4000 SFF Ada	RTX4000 SFF Ada 20GB GDDR6, 70W
RTX 2000 Ada	RTX2000 Ada 16GB GDDR6, 70W
RTX A2000	RTX A2000 12GB GDDR6, 70W
A2	A2 Tensor 16GB GDDR6, 60W
RTX 5090	GeForce RTX™ 5090 32GB GDDR7 Triple Fan, 575W
RTX 5080	GeForce RTX™ 5080 16GB GDDR7 Triple Fan, 360W
RTX 5070 Ti	GeForce RTX™ 5070 Ti 16GB GDDR7 Triple Fan, 300W
RTX 5070	GeForce RTX™ 5070 12GB GDDR7 Triple Fan, 250W
RTX5060Ti	GeForce RTX™ 5060Ti 16GB GDDR7 Triple Fan, 180W
RTX5060Ti	GeForce RTX™ 5060Ti 8GB GDDR7 Triple Fan, 180W
RTX5060	GeForce RTX™ 5060 8GB GDDR7 Triple Fan, 145W



iEPF-9040S-EW4,
iEPF-9030S-EW4



iEPF-90X0S-EW4-L

KEY FEATURES

- iEPF-9040S-EW4: Intel® Core™ Processors (Series 2) with R680E Chipset
- iEPF-9030S-EW4: Intel® 14th Gen Core™ Processors with R680E Chipset
- iEPF-90X0S-EW4-L: Intel® Core™ Processors (Series 2) / 14th Gen Core™ with R680E Chipset
- 2 x 262-pin DDR5 SO-DIMM up to 96GB (48GB per DIMM)
- 1 x PCIe x16 (PCIe Gen5) or 2 x PCIe x8 (PCIe Gen5), 2 x PCIe x4 (PCIe Gen4)
- 2 x M.2 Key M, 2 x M.2 Key B, 1 x M.2 Key E
- 6 x USB 3.2 Gen2x1, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 5 x Intel 2.5G LAN (2 support PoE, LAN1 supports vPro)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA
- Support Wireless Time-Sensitive Networking (WTSN)
- Powerful Edge AI acceleration enabled by the most flexible mechanical, thermal, and power design, with support for 275mm x 138 mm x 60 mm (D x H x W) max, and up to single 600W GPU Card and 245mm x 138 mm x 60 mm (D x H x W) max. with optional fan kit
- iEPF-90X0S-EW4-L is able to install dual GPU Cards (up to 600W in total with support for 275mm x 138 mm x 40 mm (D x H x W) max. per GPU Card)

SPECIFICATIONS

Processor System	iEPF-9040S-EW4/ iEPF-9030S-EW4	iEPF-90X0S-EW4-L
CPU	iEPF-9040S-EW4: Intel® Core™ Processors (Series 2) iEPF-9030S-EW4: Intel® 14th Gen Core™ Processors iEPF-90X0S-EW4-L: Intel® Core™ Processors (Series 2) / 14th Gen Core™ Processors	
Chipset	Intel® R680E	
Socket	LGA 1700	
Memory		
Technology	Dual Channel DDR5 5600MHz (ECC memory supported by R680E + Selected CPU)	
Capacity	96 GB (48GB per DIMM)	
Socket	2 x 262-pin SO-DIMM	
Graphics		
Controller	Intel® UHD Graphics	
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz	
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz	
VGA	Max resolution up to 1920x1200@60Hz	
Audio		
Interface	Realtek ALC897, High Definition Audio	
Expansion Slot		
PCIe	1 x PCIe Gen5 x16 (single x16 or dual x8), PCIe x16 slot with default power cable can support up to 180W graphic card Graphic card can be up to 600W with optional VGA module 1 x PCIe Gen5 x8 (shared with dual x8) 2 x PCIe Gen4 x4	
RF Antenna	8 x SMA connector hole reserved	
M.2	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B1, 2280/3042/3052) with PCIe Gen3 x1 / USB3.2 Gen1x1 and USB2.0 for 4G / 5G 1 x M.2 (Key B2, 3042/3052) with PCIe Gen3 x1 / USB3.2 Gen1x1 and USB2.0 for 4G / 5G	
SIM Socket	2 x Nano SIM Card slots (2 connected to M.2 Key B)	
Ethernet		
Controller/ Speed	3 x Intel® i226IT (LAN1 vPro Support) 2 x Intel® i226IT (PoE Support, each port supports IEEE 802.3AT PoE, PoE output max. 30W/single port or 30W/two ports shared)	
Connector	5 x RJ45	

Preliminary

iEPF-9040S-EW4, iEPF-9030S-EW4, iEPF-90X0S-EW4-L Expandable Edge AIoT Platform

Storage	iEPF-9040S-EW4/ iEPF-9030S-EW4	iEPF-90X0S-EW4-L
M.2	1 x M.2 (Key M1, 2242/2260/2280) with Gen4 x4 for NVMe SSD 1 x M.2 (Key M2, 2242/2280/22110/25110) with Gen3 x4 for NVMe SSD	
SATA	4 x SATA3 (6Gb/s), support RAID 0/1/5/10 4 x 2.5" HDD/SSD Tray (Default 1 piece)	
CFast (Option)	1 x Type II socket (Shared with SATA3)	

Front I/O

DisplayPort	1
HDMI	1
VGA	1
Ethernet	5 x Intel 2.5G LAN
USB	6 x USB 3.2 Gen2x1, 1 x USB2.0 internal connector w/ lock function
Audio	1 x Mic-in, 1 x Line-out
COM	4 x RS232/422/485 (COM1, COM2- optional Card w/ Isolation Protection, COM5- Isolation Protection, COM6)
DIO	2 x RS232 (COM3, COM4)
	8DIs/8DOs

Watchdog Timer

Output	From Super I/O to drag RESETCON#
Interval	256 Segments, 0, 1, 2, ...255sec

Power Requirements

Input PWR	9V~36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 13-mode condition.
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Environment

Operating Temperature (with FAN inside) (w/ air flow 0.5~0.8 m/s)	35W CPU: -40°C~75°C (-40°F~167°F)	35W CPU w/ dual GPU up to 600W: -40°C~60°C (-40°F~140°F)
	45W~65W CPU: -40°C~55°C (-40°F~131°F) (without Add-on Card)	45W CPU w/ dual GPU up to 600W: -40°C~55°C (-40°F~131°F)
		65W CPU w/ dual GPU up to 600W: -40°C~50°C (-40°F~122°F)
Storage Temperature	-40°C~85°C (-40°F~185°F)	
Humidity	~95% @ 40°C (non-condensing)	
Shock	Operating: 50 G, half sine 11ms duration with SSD (More stringent than MIL-STD-810H)	
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD (More stringent than MIL-STD-810H)	
ESD	Contact +/-4kV, Air +/-8kV	
EMC	EN61000-6-4/-2, CE & FCC Class A	
Safety	LVD	

Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Desk Mount
Dimensions	iEPF-9040S-EW4, iEPF-9030S-EW4: 209.8mm(W) x 290.8mm(D) x 207.1mm(H) (8.26" x 11.45" x 7.94") iEPF-90X0S-EW4-L: 230.12 mm(W) x 290.8mm(D) x 207.1mm(H) (9.06" x 11.45" x 7.94")
Net Weight	iEPF-9040S-EW4, iEPF-9030S-EW4: 10kg iEPF-90X0S-EW4-L: 10.3kg

Others

OS Support	Windows 10 & Linux
TPM	TPM 2.0
Real-Time Enablement	TSN, TCC support under YOCTO

NVIDIA GPU Card (optional)

Model Name	Description
RTX 4000 Ada	RTX4000 Ada 20GB GDDR6, 130W
RTX 4000 Ada	RTX4000 Ada 8GB GDDR6, 130W
RTX 4000 SFF Ada	RTX4000 SFF Ada 20GB GDDR6, 70W
RTX 2000 Ada	RTX2000 Ada 16GB GDDR6, 70W
RTX A2000	RTX A2000 12GB GDDR6, 70W
A2	A2 Tensor 16GB GDDR6, 60W

Preliminary

iEPF-9042S-EW4

Expandable Edge AIoT Platform



KEY FEATURES

- Intel® Core™ Processors (Series 2) with H610 Chipset
- 2 x 262-pin DDR5 SO-DIMM up to 96GB (48GB per DIMM)
- 1 x M.2 Key M, 2 x M.2 Key B, 1 x M.2 Key E
- 4 x USB 3.2 Gen2x1, 2 x USB 2.0 Gen2x1, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 4 x Intel 2.5G LAN (2 support PoE)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA
- 1 x PCIe x16 (PCIe Gen5)
- Powerful Edge AI acceleration enabled by the most flexible mechanical, thermal, and power design, with support for 275mm x 138 mm x 60 mm (D x H x W) max. and up to 600W graphic card
- Supported NVIDIA GPU: RTX 4000 Ada, RTX 2000 Ada, RTX A2000, A2

SPECIFICATIONS

Processor System

CPU	Intel® Core™ Processors (Series 2)
Chipset	Intel® H610
Socket	LGA 1700

Memory

Technology	Dual Channel DDR5 5600MHz
Capacity	96 GB (48 GB per DIMM)
Socket	2 x 262-pin SO-DIMM

Graphics

Controller	Intel® UHD Graphics
DisplayPort	DisplayPort 1.4a , DP++ Max resolution up to 4096x2160@60Hz
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz
VGA	Max resolution up to 1920x1200@60Hz

Audio

Interface	Realtek ALC897, High Definition Audio
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Expansion Slot

PCIe	1 x PCIe Gen5 x16 (single x16), PCIe x16 slot with default power cable can support up to 180W graphic card (275mm x 113mm x 60mm (D x H x W), if remove the card holder, it can be limited on 275mm x 138mm x 60mm) Graphic card can be up to 600W with optional VGA module
RF& Antenna	8 x SMA connector hole reserved
M.2	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B1, 2280/3042/3052) with PCIe Gen3 x1 and USB2.0 for 4G / 5G 1 x M.2 (Key B2, 3042/3052) with PCIe Gen3 x1 and USB2.0 for 4G / 5G

SIM Socket	2 x Nano SIM Card slot (2 connected to M.2 Key B)
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Ethernet

Controller/ Speed	2 x Intel® i226IT 2 x Intel® i226IT (PoE Support, each port supports IEEE 802.3AT PoE, PoE output max.30W/single port or 30W/two ports shared)
Connector	4 x RJ45

Storage

M.2	1 x M.2 (Key M, 2242/2280/22110/25110) with Gen3 x1 for NVMe SSD
SATA	4 x SATA3 (6Gb/s) 4 x 2.5" HDD/SSD Tray (Default 1 piece)
CFast (Option)	1 x Type II socket (Shared with SATA3)

Front I/O

DisplayPort	1
HDMI	1
VGA	1
Ethernet	4 x Intel 2.5G LAN
USB	4 x USB 3.2 Gen2x1, 2 x USB 2.0 Gen2x1, 1 x USB2.0 internal connector w/ lock function
Audio	1 x Mic-in, 1 x Line-out
COM	4 x RS232/422/485 (COM1, COM2- optional Card w/ Isolation Protection, COM5- Isolation Protection , COM6)
DIO	2 x RS232 (COM3, COM4) 8DI/8DOs

Watchdog Timer

Output Interval	From Super I/O to drag RESETCON# 256 Segments, 0, 1, 2, ...255sec
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Power Requirements

Input PWR	9V~36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 1/3-mode condition condition.
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Environment

Operation Temperature (w/ air flow 0.5~0.8 m/s)	35W CPU: -40°C~75°C (-40°F~167°F) 45W~65W CPU: -40°C~55°C (-40°F~131°F) (with FAN inside, without Add-on Card)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Shock	Operating: 50 G, half sine 11ms duration with SSD (More stringent than MIL-STD-810H)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD (More stringent than MIL-STD-810H)
ESD	Contact +/-4kV, Air +/-8kV
EMC	EN61000-6-4/-2, CE & FCC Class A
Safety	LVD

Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Desk Mount
Dimensions	209.8mm (W) x 290.8mm (D) x 207.1mm (H) (8.26" x 11.45" x 7.94")
Net Weight	10kg

Others

OS Support	Windows 10 & Linux
TPM	TPM 2.0
Real-Time Enablement	TSN, TCC support under YOCTO

NVIDIA GPU Card (optional)

Model Name	Description
RTX 4000 Ada	RTX4000 Ada 20GB GDDR6, 130W
RTX 4000 Ada	RTX4000 Ada 8GB GDDR6, 130W
RTX 4000 SFF Ada	RTX4000 SFF Ada 20GB GDDR6, 70W
RTX 2000 Ada	RTX2000 Ada 16GB GDDR6, 70W
RTX A2000	RTX A2000 12GB GDDR6, 70W
A2	A2 Tensor 16GB GDDR6, 60W



iEPF-9020S-EY4



iEPF-9022S-EY4

iEPF-9020S-EY4, iEPF-9022S-EY4 Expandable Edge AIoT Platform

KEY FEATURES

iEPF-9020S-EY4:

- Intel® 13th Gen Core™ Processors with R680E Chipset
- 4 x 260-pin DDR4 SO-DIMM up to 128GB (32GB per DIMM)
- 1 x M.2 Key M, 1 x M.2 Key B, 1 x M.2 Key E, 2 x Mini PCIe
- 6 x USB 3.2 Gen2x1, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 5 x Intel 2.5G LAN (2 support PoE, LAN1 supports vPro)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA

iEPF-9022S-EY4:

- Intel® 13th Gen Core™ Processors with H610 Chipset
- 2 x 260-pin DDR4 SO-DIMM up to 64GB (32GB per DIMM)
- 1 x M.2 Key B, 1 x M.2 Key E, 2 x Mini PCIe
- 4 x USB 3.2 Gen2x1, 2 x USB 2.0, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 4 x Intel 2.5G LAN (2 support PoE)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA

iEPF-9020S-EY4 & iEPF-9022S-EY4:

- Powerful Edge AI acceleration enabled by the most flexible mechanical, thermal, and power design, with support for 275mm x 138mm x 60mm (D x H x W) max. and up to 300W graphic card
- Supported NVIDIA GPU: RTX 4000 Ada, RTX 2000 Ada, RTX A2000, A2

SPECIFICATIONS

Processor System	iEPF-9020S-EY4	iEPF-9022S-EY4
CPU	Intel® 13th Gen Core™ Processors	
Chipset	Intel® R680E	Intel® H610
Socket	LGA 1700	

Memory

Technology	Dual Channel DDR4 2933MHz (ECC memory supported by R680E + Selected CPU)	
Capacity	128 GB (32 GB per DIMM)	64 GB (32 GB per DIMM)
Socket	4 x 260-pin SO-DIMM	

Graphics

Controller	Intel® UHD Graphics	
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz	
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz	
VGA	Max resolution up to 1920x1200@60Hz	

Expansion Slot

PCIe(iEPF-9020S-EY4)	1 x PCIe Gen4 x16 (single x16 or dual x8), PCIe x16 slot with default power cable can support up to 180W graphic card (275mm x 113mm x 60mm(D x H x W), if remove the card holder, it can be limited on 275mm x 138mm x 60mm) 1 x PCIe Gen4 x8 (shared with dual x8) 2 x PCIe Gen4 x4	
PCIe(iEPF-9022S-EY4)	1 x PCIe Gen4 x16, PCIe x16 slot with default power cable can support up to 180W graphic card (275mm x 113 mm x 60 mm (D x H x W), if remove the card holder, it can be limited on 275mm x 138mm x 60 mm)	
Mini-PCIe	2 x Full size with PCIe Gen3 x1 and USB 2.0	1 x Full size with PCIe Gen3 x1 and USB 2.0 1 x Full size with PCIe Gen3 x1
RF& Antenna	8 x SMA connector hole reserved	
M.2	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B, 2280/3042/3052) with PCIe Gen3 x1 / USB3.2 Gen1x1 and USB2.0 for 4G / 5G	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B, 2280/3042/3052) with PCIe Gen3 x1 / USB2.0 for 4G / 5G
SIM Socket	2 x Nano SIM Card slots (1 connected to Mini PCIe, 1 connected to M.2 Key B)	

Audio	iEPF-9020S-EY4	iEPF-9022S-EY4
Interface	Realtek ALC897, High Definition Audio.	
Ethernet		
Controller/ Speed (iEPF-9020S-EY4)	5 x Intel 2.5G LAN (2 support PoE, each port supports IEEE 802.3AF PoE, PoE output max:15.4W/port), (LAN1 supports vPro)	
Controller/ Speed (iEPF-9022S-EY4)	4 x Intel 2.5G LAN(2 support PoE, PoE output max:15.4W/port, each port supports IEEE 802.3AF PoE)	
Connector	5 x RJ45	4 x RJ45

Storage

M.2 (iEPF-9020S-EY4 only)	1 x M.2 (Key M, 2242/2260/2280) with Gen4 x4 for NVMe SSD	
SATA (iEPF-9020S-EY4)	4 x SATA3 (6Gb/s), support RAID 0/1/5/10 4 x 2.5" HDD/SSD Tray (Default 1 piece)	
SATA (iEPF-9022S-EY4)	4 x SATA3 (6Gb/s) 4 x 2.5" HDD/SSD Tray (Default 1 piece)	
CFast (Option)	1 x Type II socket (Shared with SATA3)	

Front I/O

DisplayPort	1	
HDMI	1	
VGA	1	
Ethernet	5 x 2.5G LAN	
USB	6 x USB 3.2 Gen2x1, 1 x USB2.0 internal connector w/ lock function	4 x 2.5G LAN 4 x USB 3.2 Gen2x1, 2 x USB 2.0 (1 x USB2.0 internal connector w/ lock function)
Audio	1 x Mic-in, 1 x Line-out	
COM	4 x RS232/422/485 (COM1, COM2- optional Card w/ Isolation Protection, COM5- Isolation Protection, COM6) 2 x RS232 (COM3, COM4)	
DIO	8DI/8DOs	

Watchdog Timer

Output	From Super I/O to drag RESETCON#
Interval	256 Segments, 0, 1, 2, ...255sec

Power Requirements

Input PWR	9V~36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 13-mode condition.
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Environment

Operating Temperature	35W CPU: -40°C~75°C (-40°F~167°F) 45W~65W CPU: -40°C~55°C (-40°F~131°F) (with FAN inside, without Add-on Card) (w/ air flow 0.5~0.8 m/s)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Shock	Operating: 50 G, half sine 11ms duration with SSD (More stringent than MIL-STD-810H)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD (More stringent than MIL-STD-810H)
ESD	Contact +/-4kV, Air +/-8kV
EMC	EN61000-6-4/-2, CE & FCC Class A
Safety	LVD

Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Desk Mount
Dimensions	209.8mm (W) x 290.8mm (D) x 207.1mm (H) (8.26" x 11.45" x 7.94")
Net Weight	10kg

Others

OS Support	Windows 10 & Linux
TPM	TPM 2.0
Real-Time Enablement	TSN, TCC support under YOCTO

NVIDIA GPU Card (optional)

Model Name	Description
RTX 4000 Ada	RTX4000 Ada 20GB GDDR6, 130W
RTX 4000 Ada	RTX4000 Ada 8GB GDDR6, 130W
RTX 4000 SFF Ada	RTX4000 SFF Ada 20GB GDDR6, 70W
RTX 2000 Ada	RTX2000 Ada 16GB GDDR6, 70W
RTX A2000	RTX A2000 12GB GDDR6, 70W
A2	A2 Tensor 16GB GDDR6, 60W



iEPF-9010S-EY4, iEPF-9012S-EY4

Expandable Edge AIoT Platform



iEPF-9010S-EY4



iEPF-9012S-EY4

KEY FEATURES

iEPF-9010S-EY4:

- Intel® 12th Gen Core™ Processors with R680E Chipset
- 4 x 260-pin DDR4 SO-DIMM up to 128GB (32GB per DIMM)
- 1 x PCIe x16 (PCIe Gen4) or 2 x PCIe x8 (PCIe Gen4), 2 x PCIe x4 (PCIe Gen4)
- 1 x M.2 Key M, 1 x M.2 Key B, 1 x M.2 Key E, 2 x Mini PCIe
- 6 x USB 3.2 Gen2x1
- 5 x Intel 2.5G LAN (2 support PoE, LAN1 supports vPro)

iEPF-9012S-EY4:

- Intel® 12th Gen Core™ Processors with H610 Chipset
- 2 x 260-pin DDR4 SO-DIMM up to 64GB (32GB per DIMM)
- 1 x PCIe x16 (PCIe Gen4)
- 1 x M.2 Key B, 1 x M.2 Key E, 2 x Mini PCIe
- 4 x USB 3.2 Gen2x1, 2 x USB 2.0
- 4 x Intel 2.5G LAN (2 support PoE)

iEPF-9010S-EY4, iEPF-9012S-EY4:

- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- Powerful Edge AI acceleration enabled by the most flexible mechanical, thermal, and power design, with support for 275mm x 138mm x 60mm (D x H x W) max. and up to 300W graphic card
- Supported NVIDIA GPU: RTX 4000 Ada, RTX 2000 Ada, RTX A2000, A2

SPECIFICATIONS

Processor System	iEPF-9010S-EY4	iEPF-9012S-EY4
CPU	Intel® 12th Gen Core™, Pentium or Celeron Processors	
Chipset	Intel® R680E	Intel® H610
Socket	LGA 1700	

Memory

Technology	Dual Channel DDR4 2933MHz (ECC memory supported by R680E+ Selected CPU)	
Capacity	128 GB (32 GB per DIMM)	64 GB (32 GB per DIMM)
Socket	4 x 260-pin SO-DIMM	

Graphics

Controller	Intel® UHD Graphics	
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz	
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz	
VGA	Max resolution up to 1920x1200@60Hz	

Audio

Interface	Realtek ALC897, High Definition Audio.
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Ethernet

Controller/ Speed (iEPF-9010S-EY4)	5 x Intel 2.5G LAN (2 support PoE, each port supports IEEE 802.3AF PoE, PoE output max.15.4W/port), (LAN1 supports vPro)	
Controller/ Speed (iEPF-9012S-EY4)	4 x Intel 2.5G LAN (2 support PoE, PoE output max.15.4W/port, each port supports IEEE 802.3AF PoE)	
Connector	5 x RJ45	4 x RJ45

Expansion Slot

PCIe (iEPF-9010S-EY4)	1 x PCIe Gen4 x16 (single x16 or dual x8), 1 x PCIe Gen4 x8 (shared with dual x8) 2 x PCIe Gen4 x4
PCIe (iEPF-9012S-EY4)	1 x PCIe Gen4 x16
PCIe	- The PCIe x16 slot locates at the third one from the right hand side - PCIe x16 slot with default power cable can support up to 180W graphic card (275mm x 113 mm x 60 mm (D x H x W), if remove the card holder, it can be limited on 275mm x 138mm x 60mm)
Mini-PCIe (iEPF-9010S-EY4)	2 x Full size with PCIe Gen3 x1 and USB 2.0

Expansion Slot	iEPF-9010S-EY4	iEPF-9012S-EY4
Mini-PCIe (iEPF-9012S-EY4)	1 x Full size with PCIe Gen3 x1 and USB 2.0	
RF& Antenna	8 x SMA connector hole reserved	
M.2 (iEPF-9010S-EY4)	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B, 2280/3042/3052) with PCIe Gen3 x1 /USB3.2 Gen1x1 and USB2.0 for 4G / 5G	
M.2 (iEPF-9012S-EY4)	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B, 2280/3042/3052) with PCIe Gen3 x1 /USB2.0 for 4G / 5G	
SIM Socket	2 x Nano SIM Card slots (1 connected to Mini PCIe, 1 connected to M.2 Key B)	

Storage

M.2 (iEPF-9010S-EY4 only)	1 x M.2 (Key M, 2280) with Gen4 x4 for NVMe SSD	
SATA	4 x SATA3 (6Gb/s), support RAID 0/1/5/10	4 x SATA3 (6Gb/s)
HDD/SSD Tray	4 x 2.5" HDD/SSD Tray (Default 1 piece)	
CFAST (Option)	1 x Type II socket (Shared with SATA3)	

Front I/O

DisplayPort	1	
HDMI	1	
VGA	1	
Ethernet	5 x 2.5G LAN	4 x 2.5G LAN
USB (iEPF-9010S-EY4)	6 x USB 3.2 Gen2x1 (1 x USB2.0 internal connector w/ lock function)	
USB (iEPF-9012S-EY4)	4 x USB 3.2 Gen2x1, 2 x USB 2.0 (1 x USB2.0 internal connector w/ lock function)	
Audio	1 x Mic-in, 1 x Line-out	
COM	4 x RS232/422/485 (COM1, COM2- optional Card w/ Isolation Protection, COM5- Isolation Protection, COM6)	
	2 x RS232 (COM3, COM4)	
DIO	8DI/8DOs	

Watchdog Timer

Output Interval	From Super I/O to drag RESETCON# 256 Segments, 0, 1, 2, ...255sec
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Power Requirements

Input PWR	9V~36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 13-mode condition.
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Environment

Operating Temperature	35W CPU: -40°C~75°C (-40°F~167°F) 45W~65W CPU: -40°C~55°C (-40°F~131°F) (with FAN inside, without Add-on Card) (w/ air flow 0.5~0.8 m/s)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Shock	Operating: 50 G, half sine 11ms duration with SSD (More stringent than MIL-STD-810H)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD (More stringent than MIL-STD-810H)
ESD	Contact +/-4kV, Air +/-8kV
EMC	EN61000-6-4/-2, CE & FCC Class A
Safety	LVD

Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Desk Mount
Dimensions	209.8mm (W) x 290.8mm (D) x 207.1mm (H) (8.26" x 11.45" x 7.94")
Net Weight	10kg

Others

OS Support	Windows 10 & Linux
SW Support	ACRN (https://projectacrn.org/)
TPM	TPM 2.0
Real-Time Enablement	TSN, TCC support under YOCTO

NVIDIA GPU Card (optional)

Model Name	Description
RTX 4000 Ada	RTX4000 Ada 20GB GDDR6, 130W
RTX 4000 Ada	RTX4000 Ada 8GB GDDR6, 130W
RTX 4000 SFF Ada	RTX4000 SFF Ada 20GB GDDR6, 70W
RTX 2000 Ada	RTX2000 Ada 16GB GDDR6, 70W
RTX A2000	RTX A2000 12GB GDDR6, 70W
A2	A2 Tensor 16GB GDDR6, 60W

iEP-9040VE, iEP-9042VE

Compact Edge AIoT Platform

Coming Soon

KEY FEATURES

iEP-9040VE:

- Intel® Core™ Processors (Series 2) with R680E Chipset

iEP-9042VE:

- Intel® Core™ Processors (Series 2) with H610 Chipset

iEP-9040VE, iEP-9042VE:

- 2 x 262-pin DDR5 SO-DIMM up to 96GB (48GB per DIMM)
- 1 x M.2 Key M
- 4 x USB 3.2 Gen2x1, 2 x COM, 2 x SATA3, 4 x DI, 4 x DO
- 2 x Intel 1G LAN (LAN1 supports vPro)
- 1 x Displayport, 2 x HDMI 2.0b

SPECIFICATIONS

Processor System

CPU	Intel® Core™ Processors (Series 2)
Chipset	iEP-9040VE: Intel® R680E iEP-9042VE: Intel® H610
Socket	LGA 1700

Memory

Technology	Dual Channel DDR5 5600MHz (ECC memory supported by R680E + Selected CPU)
Capacity	96 GB (48 GB per DIMM)
Socket	2 x 262-pin SO-DIMM

Graphics

Controller	Intel® UHD Graphics
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz
VGA	Max resolution up to 1920x1200@60Hz

Audio

Interface	Realtek ALC897, High Definition Audio.
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Ethernet

Controller/ Speed	1 x Intel® i219LM (vPro Support) 1 x Intel® i210IT
Connector	2 x RJ45

Storage

M.2	1 x M.2 (Key M, 2242/2260/2280/22110/25110) with Gen4 x4 for NVMe SSD
SATA	2 x SATA3 (6Gb/s), R680E: support RAID 0/1
CFast (Option)	1 x Type II socket (Shared with SATA3)

Front I/O

DisplayPort	1
HDMI	2
Ethernet	2 x Intel 1G LAN
USB	4 x USB 3.2 Gen2x1, 1 x 2.0 internal connector
Audio	1 x Line-in, 1 x Line-out
COM	2 x RS232/422/485
DIO	4DI/4DOs

Watchdog Timer

Output	From Super I/O to drag RESETCON#
Interval	256 Segments, 0, 1, 2, ...,255sec

Power Requirements

Input PWR	9V~36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 13-mode condition.
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Environment

Operating Temperature (w/ air flow 0.5~0.8 m/s)	35W CPU: -40°C ~ 60°C (-40°F ~ 140°F) 45W CPU: -40°C ~ 55°C (-40°F ~ 131°F) 65W CPU: -40°C ~ 50°C (-40°F ~ 122°F)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Shock	MIL-STD-810H, Method 516.8, Procedure I
Vibration	MIL-STD-810H, Method 514.8
ESD	Contact +/-4kV, Air +/-8kV
EMC	EN61000-6-4/-2, CE & FCC Class A
Safety	LVD

Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Desk Mount
Dimensions	200mm (W) x 245mm (D) x 81mm (H) (7.87" x 9.65" x 3.19")
Net Weight	6kg

Others

OS Support	Windows 11 & Windows 10 & Linux
TPM	TPM 2.0
Real-Time Enablement	TSN, TCC support under YOCTO

iEP-9040E, iEP-9030E, iEP-9042E, iEP-9032E

Compact Edge AIoT Platform



iEP-9040E,
iEP-9030E

iEP-9042E,
iEP-9032E

KEY FEATURES

iEP-9040E:

- Intel® Core™ Processors (Series 2) with R680E Chipset

iEP-9030E:

- Intel® 14th Gen Core™ Processors with R680E Chipset

iEP-9042E:

- Intel® Core™ Processors (Series 2) with H610 Chipset

iEP-9032E:

- Intel® 14th Gen Core™ Processors with H610 Chipset

iEP-9040E, iEP-9030E:

- 2 x 262-pin DDR5 SO-DIMM up to 96GB (48GB per DIMM)
- 2 x M.2 Key M, 2 x M.2 Key B, 1 x M.2 Key E
- 6 x USB 3.2 Gen2x1, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 5 x Intel 2.5G LAN (2 support PoE, LAN1 supports vPro)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA
- Support Wireless Time-Sensitive Networking (WTSN)

iEP-9042E, iEP-9032E:

- 2 x 262-pin DDR5 SO-DIMM up to 96GB (48GB per DIMM)
- 1 x M.2 Key M, 2 x M.2 Key B, 1 x M.2 Key E
- 4 x USB 3.2 Gen2x1, 2 x USB 2.0, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 4 x Intel 2.5G LAN (2 support PoE)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA

SPECIFICATIONS

Processor System	iEP-9040E/ iEP-9030E	iEP-9042E/ iEP-9032E
CPU (iEP-9040E, iEP-9042E)	Intel® Core™ Processors (Series 2)	
CPU (iEP-9030E, iEP-9032E)	Intel® 14th Gen Core™ Processors	
Chipset	Intel® R680E	Intel® H610
Socket	LGA 1700	

Memory

Technology	Dual Channel DDR5 5600MHz (ECC memory supported by R680E + Selected CPU)
Capacity	96 GB (48 GB per DIMM)
Socket	2 x 262-pin SO-DIMM

Graphics

Controller	Intel® UHD Graphics
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz
VGA	Max resolution up to 1920x1200@60Hz

Audio

Interface	Realtek ALC897, High Definition Audio.
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Expansion Slot

RF& Antenna	8 x SMA connector hole reserved
M.2 (iEP-9040E, iEP-9030E)	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B1, 2280/3042/3052) with PCIe Gen3 x1 / USB3.2 Gen1x1 and USB2.0 for 4G / 5G 1 x M.2 (Key B2, 3042/3052) with PCIe Gen3 x1 / USB3.2 Gen1x1 and USB2.0 for 4G / 5G

Expansion Slot	iEP-9040E/ iEP-9030E	iEP-9042E/ iEP-9032E
M.2 (iEP-9042E, iEP-9032E)	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B1, 2280/3042/3052) with PCIe Gen3 x1 / USB2.0 for 4G / 5G 1 x M.2 (Key B2, 3042/3052) with PCIe Gen3 x1 / USB2.0 for 4G / 5G	
SIM Socket	2 x Nano SIM Card slots (2 connected to M.2 Key B)	

Ethernet

Controller/ Speed (9040E, 9030E)	3 x Intel® i226IT (LAN1 vPro Support)
Controller/ Speed (9042E, 9032E)	2 x Intel® i226IT
Controller/ Speed	2 x Intel® i226IT (PoE Support, each ports supports IEEE802.3A TPoE, PoE output max.30W/single port or 30W/two ports shared)
Connector (9040E, 9030E)	5 x RJ45
Connector (9042E, 9032E)	4 x RJ45

Storage

M.2 (9040E, 9030E)	1 x M.2 (Key M1, 2242/2260/2280) with Gen4 x4 ofr NVMe SSD 1 x M.2 (Key M2, 2242/2280/22110/25110) with Gen3 x4 ofr NVMe SSD
M.2 (9042E, 9032E)	1 x M.2 (Key M, 2242/2280/22110/25110) with Gen3 x1 for NVMe SSD
SATA (9040E, 9030E)	4 x SATA3 (6Gb/s), support RAID 0/1/5/10
SATA (9042E, 9032E)	4 x SATA3 (6Gb/s)
SATA	4 x 2.5" HDD/SSD Tray (Default 1 piece)
CFast (Option)	1 x Type II socket (Shared with SATA3)

Front I/O

DisplayPort	1
HDMI	1
VGA	1
Ethernet	5 x Intel 2.5G LAN
USB	6 x USB 3.2 Gen2x1, 1 x USB2.0 internal connector w/ lock function
Audio	1 x Mic-in, 1 x Line-out
COM	4 x RS232/422/485 (COM1, COM2- optional Card w/ Isolation Protection, COM5- Isolation Protection, COM6) 2 x RS232 (COM3, COM4)
DIO	8DI/8DOs

Watchdog Timer

Output	From Super I/O to drag RESETCON#
Interval	256 Segments, 0, 1, 2, ...255sec

Power Requirements

Input PWR	9V-36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 13-mode condition.
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Environment

Operating Temperature	35W CPU: -40°C-70°C (-40°F-158°F) 45W-65W CPU: -40°C-50°C (-40°F-122°F) (w/ air flow 0.5-0.8 m/s)
Storage Temperature	-40°C-85°C (-40°F-185°F)
Humidity	~95% @ 40°C (non-condensing)
Shock	Operating: 50G, half sine 11ms duration with SSD (More stringent than MIL-STD-810H)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD (More stringent than MIL-STD-810H)
ESD	Contact +/-4kV, Air +/-8kV
EMC	EN61000-6-4/-2, CE & FCC Class A
Safety	LVD

Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Desk Mount
Dimensions	201.7mm (W) x 244.8mm (D) x 109.5mm (H) (7.94" x 9.64" x 4.31")
Net Weight	6.5kg

Others

OS Support	Windows 10 & Linux
TPM	TPM 2.0
Real-Time Enablement	TSN, TCC support under YOCTO

iEP-9020E, iEP-9022E

Compact Edge AIoT Platform



iEP-9020E

iEP-9022E

KEY FEATURES

iEP-9020E:

- Intel® 13th Gen Core™ Processors with R680E Chipset
- 4 x 260-pin DDR4 SO-DIMM up to 128GB (32GB per DIMM)
- 1 x M.2 Key M, 1 x M.2 Key B, 1 x M.2 Key E, 2 x Mini PCIe
- 6 x USB 3.2 Gen2x1, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 5 x Intel 2.5G LAN (2 support PoE, LAN1 supports vPro)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA

iEP-9022E:

- Intel® 13th Gen Core™ Processors with H610 Chipset
- 2 x 260-pin DDR4 SO-DIMM up to 64GB (32GB per DIMM)
- 1 x M.2 Key B, 1 x M.2 Key E, 2 x Mini PCIe
- 4 x USB 3.2 Gen2x1, 2 x USB 2.0, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 4 x Intel 2.5G LAN (2 support PoE)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA

SPECIFICATIONS

Processor System	iEP-9020E	iEP-9022E
CPU	Intel® 13 th Gen Core™ Processors	
Chipset	Intel® R680E	Intel® H610
Socket	LGA 1700	

Memory		
Technology	Dual Channel DDR4 2933MHz (ECC memory supported by R680E + Selected CPU)	
Capacity	128 GB (32 GB per DIMM)	64 GB (32 GB per DIMM)
Socket	4 x 260-pin SO-DIMM	

Graphics		
Controller	Intel® UHD Graphics	
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz	
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz	
VGA	Max resolution up to 1920x1200@60Hz	

Expansion Slot		
Mini-PCIe (iEP-9020E)	2 x Full size with PCIe Gen3 x1 and USB 2.0	
Mini-PCIe (iEP-9022E)	1 x Full size with PCIe Gen3 x1 and USB 2.0 1 x Full size with PCIe Gen3 x1	
RF& Antenna	8 x SMA connector hole reserved	
M.2 (iEP-9020E)	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B, 2280/3042/3052) with PCIe Gen3 x1 / USB3.2 Gen1x1 and USB2.0 for 4G / 5G	

Expansion Slot	iEP-9020E	iEP-9022E
M.2 (iEP-9022E)	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B, 2280/3042/3052) with PCIe Gen3 x1/USB2.0 for 4G / 5G	
SIM Socket	2 x Nano SIM Card slot (1 connected to Mini PCIe, 1 connected to M.2 Key B)	

Audio		
Interface	Realtek ALC897, High Definition Audio	

Ethernet		
Controller/ Speed (iEP-9020E)	5 x Intel 2.5G LAN (2 support PoE, each port supports IEEE 802.3AF PoE, PoE output max.15.4W/port), (LAN1 supports vPro)	
Controller/ Speed (iEP-9022E)	4 x Intel 2.5G LAN (2 support PoE, PoE output max.15.4W/port, each port supports IEEE 802.3AF PoE)	
Connector	5 x RJ45	4 x RJ45

Storage		
M.2 (iEP-9020E only)	1 x M.2 (Key M, 2280) with Gen4/Gen3 x4 for NVMe SSD	
SATA (iEP-9020E)	4 x SATA3 (6Gb/s), support RAID 0/1/5/10 4 x 2.5" HDD/SSD Tray (Default 1 piece)	
SATA (iEP-9022E)	4 x SATA3 (6Gb/s) 4 x 2.5" HDD/SSD Tray (Default 1 piece)	
CFast (Option)	1 x Type II socket (Shared with SATA3)	

Front I/O		
DisplayPort	1	
HDMI	1	
VGA	1	
Ethernet	5 x 2.5G LAN	
USB	6 x USB 3.2 Gen2x1, 1 x USB2.0 internal connector w/ lock function	4 x USB 3.2 Gen2x1, 2 x USB 2.0 (1 x USB2.0 internal connector w/ lock function)
Audio	1 x Mic-in, 1 x Line-out	
COM	4 x RS232/422/485 (COM1, COM2- optional Card w/ Isolation Protection, COM5- Isolation Protection, COM6) 2 x RS232 (COM3, COM4)	
DIO	8DI/8DOs	

Watchdog Timer		
Output Interval	From Super I/O to drag RESETCON# 256 Segments, 0, 1, 2, ...255sec	

Power Requirements		
Input PWR	9V-36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 13-mode condition.	

Environment		
Operating Temperature	35W CPU: -40°C-70°C (-40°F-158°F) 45W-65W CPU: -40°C-50°C (-40°F-122°F) (w/ air flow 0.5-0.8 m/s)	
Storage Temperature	-40°C-85°C (-40°F-185°F)	
Humidity	~95% @ 40°C (non-condensing)	
Shock	Operating: 50 G, half sine 11ms duration with SSD (More stringent than MIL-STD-810H)	
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD (More stringent than MIL-STD-810H)	
ESD	Contact +/-4kV, Air +/-8kV	
EMC	EN61000-6-4/-2, CE & FCC Class A	
Safety	LVD	

Mechanical		
Construction	Aluminum heatsink + Metal chassis	
Mounting	Desk Mount	
Dimensions	201.7mm (W) x 244.8mm (D) x 109.5mm (H) (7.94" x 9.64" x 4.31")	
Net Weight	6.5kg	

Others		
OS Support	Windows 10 & Linux	
TPM	TPM 2.0	
Real-Time Enablement	TSN, TCC support under YOCTO	

iEP-9010E, iEP-9012E

Compact Edge AIoT Platform



iEP-9010E



iEP-9012E

KEY FEATURES

iEP-9010E :

- Intel® 12th Gen Core™ Processors with R680E Chipset
- 4 x 260-pin DDR4 SO-DIMM up to 128GB (32GB per DIMM)
- 1 x M.2 Key M, 1 x M.2 Key B, 1 x M.2 Key E, 2 x Mini PCIe
- 6 x USB 3.2 Gen2x1, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 5 x Intel 2.5G LAN (2 support PoE, LAN1 supports vPro)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA

iEP-9012E :

- Intel® 12th Gen Core™ Processors with H610 Chipset
- 2 x 260-pin DDR4 SO-DIMM up to 64GB (32GB per DIMM)
- 1 x M.2 Key B, 1 x M.2 Key E, 2 x Mini PCIe
- 4 x USB 3.2 Gen2x1, 2 x USB 2.0, 6 x COM, 4 x SATA3, 8 x DI, 8 x DO
- 4 x Intel 2.5G LAN (2 support PoE)
- 1 x Displayport, 1 x HDMI 2.0b, 1 x VGA

SPECIFICATIONS

Processor System	iEP-9010E	iEP-9012E
CPU	Intel® 12th Gen Core™, Pentium or Celeron Processors	
Chipset	Intel® R680E	Intel® H610
Socket	LGA 1700	

Memory

Technology	Dual Channel DDR4 2933MHz	
ECC Memory Supported	Yes	No
Capacity	128 GB (32 GB per DIMM)	64 GB (32 GB per DIMM)
Socket	4 x 260-pin SO-DIMM	

Graphics

Controller	Intel® UHD Graphics
DisplayPort	DisplayPort 1.4a, DP++ Max resolution up to 4096x2160@60Hz
HDMI	HDMI 2.0b Max resolution up to 4096x2160@60Hz
VGA	Max resolution up to 1920x1200@60Hz

Audio

Interface	Realtek ALC897, High Definition Audio.
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Ethernet

Controller/ Speed (iEP-9010E)	5 x Intel 2.5G LAN (2 support PoE, each port supports IEEE 802.3AF PoE, PoE output max.15.4W/port), (LAN1 supports vPro)	
Controller/ Speed (iEP-9012E)	4 x Intel 2.5G LAN (2 support PoE, each port supports IEEE 802.3AF PoE, PoE output max.15.4W/port)	
Connector	5 x RJ45	4 x RJ45

Expansion Slot	iEP-9010E	iEP-9012E
Mini-PCIe (iEP-9010E)	2 x Full size with PCIe Gen3 x1 and USB 2.0	
Mini-PCIe (iEP-9012E)	1 x Full size with PCIe Gen3 x1 and USB 2.0 1 x Full size with PCIe Gen3 x1	
RF & Antenna	8 x SMA connector hole reserved	
M.2 (iEP-9010E)	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB2.0 for Wi-Fi/BT module 1 x M.2 (Key B, 2280/3042/3052) with PCIe Gen3 x1 / USB3.2 Gen1x1 and USB2.0 for 4G / 5G	
M.2 (iEP-9012E)	1 x M.2 (Key E, 2230) with CNVI/PCIe Gen3 x1 and USB 2.0 for Wi-Fi/BT module 1 x M.2 (Key B, 2280/3042/3052) with PCIe Gen3 x1 / USB 2.0 for 4G / 5G	
SIM Socket	2 x Nano SIM Card slot (1 connected to Mini PCIe, 1 connected to M.2 Key B)	

Storage

M.2 (iEP-9010E)	1 x M.2 (Key M, 2280) with Gen4 x4 for NVMe SSD	
SATA (iEP-9010E)	4 x SATA3 (6Gb/s), support RAID 0/1/5/10	
SATA (iEP-9012E)	4 x SATA3 (6Gb/s)	
SATA	4 x 2.5" HDD/SSD Tray (Default 1 piece)	
CFast (Option)	1 x Type II socket (Shared with SATA3)	

Front I/O

DisplayPort	1	
HDMI	1	
VGA	1	
Ethernet	5 x 2.5G LAN	4 x 2.5G LAN
USB	6 x USB 3.2 Gen2x1 (1 x USB 2.0 internal connector w/ lock function)	4 x USB 3.2 Gen2x1, 2 x USB 2.0 (1 x USB2.0 internal connector w/ lock function)
Audio	1 x Mic-in, 1 x Line-out	
COM	4 x RS232/422/485 (COM1, COM2- optional Card w/ Isolation Protection, COM5- Isolation Protection, COM6) 2 x RS232 (COM3, COM4)	
DIO	8DIs/8DOs	

Watchdog Timer

Output Interval	From Super I/O to drag RESETCON# 256 Segments, 0, 1, 2, ...255sec
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Power Requirements

Input PWR	9V-36V VDC with Ignition control and remote power on/off switch. 80V Surge Protection, OVP, UVP, OCP and reverse protection for MB Power Input. Ignition Power Input w/ 13-mode condition.
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Environment

Operating Temperature	35W CPU: -40°C-70°C (-40°F-158°F) 45W-65W CPU: -40°C-50°C (-40°F-122°F) (w/ air flow 0.5-0.8 m/s)
Storage Temperature	-40°C-85°C (-40°F-185°F)
Humidity	~95% @ 40°C (non-condensing)
Shock	Operating: 50 G, half sine 11ms duration with SSD (More stringent than MIL-STD-810H)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD (More stringent than MIL-STD-810H)
ESD	Contact +/-4kV, Air +/-8kV
EMC	EN61000-6-4/-2, CE & FCC Class A
Safety	LVD

Mechanical

Construction	Aluminum heatsink + Metal chassis
Mounting	Desk Mount
Dimensions	201.7mm(W) x 244.8mm(D) x 109.5mm(H) (7.94" x 9.64" x 4.31")
Net Weight	6.5kg

Others

OS Support	Windows 10 & Linux
SW Support	ACRN (https://projectacrn.org/) No
TPM	TPM 2.0
Real-Time Enablement	TSN, TCC support under YOCTO

iEP-7040E Series Industrial IoT Controller



Basic SKU PoE SKU
5LAN-WiFi SKU
5LAN-5G SKU 5G-WiFi SKU 8DIO SKU

KEY FEATURES

- Intel® Core™ Processors (Series 2) (Arrow Lake-H)
- High-Performance Intel® Arc™ Graphics
- Integrated NPU for Dedicated AI Acceleration
- Fan-less and Rugged Design
- Operating Temperature: -25°C to 50°C
- Dual 9V/19V to 36V Wide-Range DC Power Input
- 3 x Intel® i226-IT LAN
- 2 x Intel® i210-AT LAN, Supports IEEE 802.3af for PoE SKU
- 8DIs/8DOs with sink/source isolation 36V for 8DIO SKU
- Supports Intel® In-Band ECC

SPECIFICATIONS

System Core

Processor (iEP-7040E Series)	Intel® Core™ Ultra 7 255H, 16C, 2.00GHz, 28W
Processor (iEP-7041E Series)	Intel® Core™ Ultra 5 225H, 14C, 1.70GHz, 28W
Video	1 x HDMI 2.0b 1 x VGA
Memory	2 x DDR5 5600MHz SO-DIMM, up to 96GB (Support In-Band ECC)

I/O Interface

Ethernet	3 x Intel I226-IT (RJ45 connector) 2 x Intel I210-AT for PoE SKU/5LAN SKU (RJ45 connector)
PoE (Option)	2 x Intel® I210-AT (RJ45 connector), PoE output max.15.4W/port, each port supports IEEE 802.3AF PoE. (For PoE SKU)
Serial Port	3 x RS232/422/485
USB	3 x USB 3.2 Gen2x1 1 x USB 2.0
Digital I/O	- 4DIs/4DOs, 9-pin D-sub connector, for all SKU - 8DIs/8DOs with sink/source isolation 3kV, 2x10-pin connector, for 8DIO SKU
Audio	1 x Line Out, 1 x Mic In

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	7 x SMA connector hole reserved, support for Basic/5G SKU 5 x SMA connector hole reserved, support for PoE/5LAN/8DIO SKU
M.2 Socket	1 x M.2 3042/3052 Key B (PCIe Gen3x1/USB 3.2 mode) - Support 4G LTE/5G module 1 x M.2 2230/2260 Key E (CNVi / PCIe Gen3x1 / USB 2.0 mode) - Support Wifi/BT module

Manageability / Security

Manageability	WDT, Intel® In-Band Manageability
Security	TPM2.0

Power Requirements

DC Input	For Basic/5LAN/5G/8DIO SKU : - 2 x 3-pin phoenix type for 9 to 36V DC input For PoE SKU : - 2 x 3-pin phoenix type for 19 to 36V DC input OVP, UVP, OCP, plus 80V surge protection
AC to DC Adapter (Option)	Adapter 120W for Basic/5LAN/5G/8DIO SKU AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A, Adapter 330W for PoE SKU only - AC input 100-240Vac, 4.2A 50-60Hz, DC output 24V, 13.75A

Storage Device

SD Slot	1 x Micro SD card slot (Support SD specification v3.0 UHS-I: SDR25/SDR50)
M.2 Socket	1 x M.2 2280 Key M (PCIe Gen4x4)

Mechanical

Dimensions	For Basic/8DIO SKU : 55(W) x 170(H) x 134(D) mm For PoE/5LAN/5G SKU : 68(W) x 170(H) x 134(D) mm
Indicator	1 x Storage LED 1 x UD LED (User Define) 2 x Diagnostic LED 2 x DC-IN LED
Function	1 x Power Button with LED
Net Weight	TBD
Mounting	For Basic/8DIO SKU : Wall mount, VESA mount, DIN-Rail For PoE/5LAN/5G SKU : Wall mount, Din Rail

Environmental

Operating Temperature	-25°C~50°C (-13°F~122°F) (w/ airflow 0.5~0.8m/s)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD
ESD	Contact +/-8 KV, Air +/-15 KV
Shock	Operating: 100G (half sine 11ms duration with SSD)
EMC	CE, FCC Class A (EN61000-6-4/-2)
Safety	LVD

Add-on Feature / OS Support

OS Support	Windows 11 & Linux
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Order Information	SKU	Processor	WiFi	4G LTE/5G	LAN	PoE	Digital
iEP-7040E-020	Basic SKU	255H	Support	Not Support	3	Not Support	4DI/4DO
iEP-7041E-020		225H					
iEP-7040E-021	PoE SKU	255H	Support	Not Support	5	Support	4DI/4DO
iEP-7041E-021		225H					
iEP-7040E-022	5LAN-WiFi SKU	255H	Support	Not Support	5	Not Support	4DI/4DO
iEP-7041E-022		225H					
iEP-7040E-023	5LAN-5G SKU	255H	Not Support	Support	5	Not Support	4DI/4DO
iEP-7041E-023		225H					
iEP-7040E-024	5G-WiFi SKU	255H	Support	Support	3	Not Support	4DI/4DO
iEP-7041E-024		225H					
iEP-7040E-025	8DIO SKU	255H	Support	Not Support	3	Not Support	8DI/8DO
iEP-7041E-025		225H					

*The Wi-Fi, 4G LTE and 5G module kits are purchased separately



Preliminary

iEP-7030E Series Industrial IoT Controller



Basic SKU PoE SKU
5LAN-WiFi SKU
5LAN-5G SKU 5G-WiFi SKU 8DIO SKU

KEY FEATURES

- Intel® 14th Gen Core™ Ultra Processor (Meteor Lake-H)
- High-Performance Intel® Arc™ Graphics
- Integrated NPU for Dedicated AI Acceleration
- Fan-less and Rugged Design
- Operating Temperature: -25°C to 50°C
- Dual 9V/19V to 36V Wide-Range DC Power Input
- 3 x Intel® i226-IT LAN
- 2 x Intel® i210-AT LAN, Supports IEEE 802.3af for PoE SKU
- 8DI/8DOs with sink/source isolation 36V for 8DIO SKU
- Supports Intel® In-Band ECC

SPECIFICATIONS

System Core

Processor (iEP-7030E Series)	Intel® Core™ Ultra 7 155H, 16C, 1.40GHz, 28W
Processor (iEP-7031E Series)	Intel® Core™ Ultra 5 125H, 14C, 1.20GHz, 28W
Video	1 x HDMI 2.0b 1 x VGA
Memory	2 x DDR5 5600MHz SO-DIMM, up to 96GB (Support In-Band ECC)

I/O Interface

Ethernet	3 x Intel I226-IT (RJ45 connector) 2 x Intel I210-AT for PoE SKU/5LAN SKU (RJ45 connector)
PoE (Option)	2 x Intel® I210-AT (RJ45 connector), PoE output max.15.4W/port, each port supports IEEE 802.3AF PoE. (For PoE SKU)
Serial Port	3 x RS232/422/485
USB	3 x USB 3.2 Gen2x1 1 x USB 2.0
Digital I/O	- 4DI/4DOs, 9-pin D-sub connector, for all SKU - 8DI/8DOs with sink/source isolation 3KV, 2x10-pin connector, for 8DIO SKU
Audio	1 x Line Out, 1 x Mic In

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	7 x SMA connector hole reserved, support for Basic/5G SKU 5 x SMA connector hole reserved, support for PoE/5LAN/8DIO SKU
M.2 Socket	1 x M.2 3042/3052 Key B (PCIe Gen3x1/USB 3.2 mode) - Support 4G LTE/5G module 1 x M.2 2230/2260 Key E (CNVi / PCIe Gen3x1 / USB 2.0 mode) - Support Wifi/BT module

Manageability / Security

Manageability	WDT, Intel® In-Band Manageability
Security	TPM2.0

Power Requirements

DC Input	For Basic/5LAN/5G/8DIO SKU : - 2 x 3-pin phoenix type for 9 to 36V DC input For PoE SKU : - 2 x 3-pin phoenix type for 19 to 36V DC input OVP, UVP, OCP, plus 80V surge protection
AC to DC Adapter (Option)	Adapter 120W for Basic/5LAN/5G/8DIO SKU AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A, Adapter 330W for PoE SKU only - AC input 100-240Vac, 4.2A 50-60Hz, DC output 24V, 13.75A

Storage Device

SD Slot	1 x Micro SD card slot (Support SD specification v3.0 UHS-I: SDR25/SDR50)
M.2 Socket	1 x M.2 2280 Key M (PCIe Gen4x4)

Mechanical

Dimensions	For Basic/8DIO SKU : 55(W) x 170(H) x 134(D) mm For PoE/5LAN/5G SKU : 68(W) x 170(H) x 134(D) mm
Indicator	1 x Storage LED 1 x UD LED (User Define) 2 x Diagnostic LED 2 x DC-IN LED
Function	1 x Power Button with LED
Net Weight	TBD
Mounting	For Basic/8DIO SKU : Wall mount, VESA mount, DIN-Rail For PoE/5LAN/5G SKU : Wall mount, Din Rail

Environmental

Operating Temperature	-25°C~50°C (-13°F~122°F) (w/ airflow 0.5~0.8m/s)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD
ESD	Contact +/-8 KV, Air +/-15 KV
Shock	Operating: 100G (half sine 11ms duration with SSD)
EMC	CE, FCC Class A (EN61000-6-4/-2)
Safety	LVD

Add-on Feature / OS Support

OS Support	Windows 11 & Linux
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Order Information	SKU	Processor	WiFi*	4G LTE/5G*	LAN	PoE	DIO
iEP-7030E-020	Basic SKU	155H	Support	Not Support	3	Not Support	4DI/4DO
iEP-7031E-020		125H					
iEP-7030E-021	PoE SKU	155H	Support	Not Support	5	Support	4DI/4DO
iEP-7031E-021		125H					
iEP-7030E-022	5LAN-WiFi SKU	155H	Support	Not Support	5	Not Support	4DI/4DO
iEP-7031E-022		125H					
iEP-7030E-023	5LAN-5G SKU	155H	Not Support	Support	5	Not Support	4DI/4DO
iEP-7031E-023		125H					
iEP-7030E-024	5G-WiFi SKU	155H	Support	Support	3	Not Support	4DI/4DO
iEP-7031E-024		125H					
iEP-7030E-025	8DIO SKU	155H	Support	Not Support	3	Not Support	8DI/8DO
iEP-7031E-025		125H					

*The Wi-Fi, 4G LTE and 5G module kits are purchased separately



Basic SKU PoE SKU 5G SKU CANBus SKU 6USB SKU

5LAN-WiFi SKU
5LAN-5G SKU

KEY FEATURES

- Intel® 13th Gen Core™ Embedded & Industrial Processors
- Scalable power and performance in BGA for edge controller
- High performance Intel® Iris Xe Graphics architecture
- Fan-less and Rugged Design
- -40°C to 50°C/70°C Wide Operating Temp
- 9/19 to 36VDC Wide Range Power Inputs
- Intel® TCC and TSN Support for Real-Time Computing
- 3 x Intel i226-IT LAN (One support vPro)
- 2 x Intel i210-AT LAN (Support IEEE 802.3AF PoE) for PoE SKU only
- 2 x Intel i210-AT LAN for 5LAN SKU only
- 2 CANBus for CANBus SKU only
- Support Intel® IN-Band ECC
- Support Wireless Time-Sensitive Networking (WTSN)

SPECIFICATIONS

System Core

Processor	Intel® 13th Gen Core™ i7/i5 Industrial Processor - [iEP-7020E Series] Intel® Core™ i7-1365URE, 10C, 1.70GHz, 15W - [iEP-7021E Series] Intel® Core™ i5-1345URE, 10C, 1.40GHz, 15W - [iEP-7022E Series] Intel® Core™ i7-1370PRE, 14C, 1.90GHz, 28W - [iEP-7023E Series] Intel® Core™ i5-1350PRE, 12C, 1.80GHz, 28W
Video	2 x DP++ 1.4a
Memory	2 x DDR4 3200MHz SO-DIMM, up to 64GB (Support In-Band ECC)

IO Interface

CANBus	2 (9-pin D-sub connector)
Ethernet	3 x Intel® I226-IT, LAN1 support vPro (RJ45 8P8C) 2 x Intel® I210-AT for PoE SKU/5LAN SKU (RJ45 8P8C)
PoE (Option)	2 x Intel® I210-AT (RJ45 8P8C), PoE output max.15.4W/port, each port supports IEEE 802.3AF PoE. (For PoE SKU)
Serial Port	4 x RS232/422/485
USB	3 x USB 3.2 Gen2x1 1 x USB 2.0 for all SKU 3 x USB 2.0 for 6USB SKU
Proprietary IO	1 x 4DIs/4DOs, Power on and Reset (15-pin D-sub connector)
Audio	1 x Line Out, 1 x Mic In

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	7 x SMA connector hole reserved, support for Basic/5G SKU 5 x SMA connector hole reserved, support for PoE/5LAN/CANBus SKU 3 x SMA connector hole reserved, support for 6USB SKU
M.2 Socket	1 x M.2 3042/3052/2280 Key B (PCIe Gen3x1/USB3.2 mode) - Support 4G LTE/5G module - Support SATA3 SSD storage for Basic SKU 1 x M.2 2230 Key E (CNVi/PCIe Gen3x1/USB2.0 mode) - Support Wifi/BT module

Manageability / Security

Manageability	WDT, Intel® In-Band Manageability
Security	TPM2.0

Power Requirements

DC Input	For Basic/5LAN/5G/CANBus/6USB SKU: - 1 x 3-pin phoenix type for 9 to 36V DC input For PoE SKU : - 1 x 3-pin phoenix type for 19 to 36V DC input OVP, UVP, OCP, plus 80V surge protection
AC to DC Adaptor (Option)	Adapter 120W for Basic/5LAN/5G/CANBus/6USB SKU: - AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A, Adapter 330W for PoE SKU only - AC input 100-240Vac, 4.2A 50-60Hz, DC output 24V, 13.75A

Preliminary

iEP-7020E Series

Industrial IoT Controller



Storage Device

SD Slot	1 x Micro SD card slot (Support SD specification v3.0 UHS-I: SDR25/SDR50)
SATA	1 x 2.5" 9.5mm SATA3 SSD for Basic SKU series only
M.2 Socket	1 x M.2 2280 Key M (PCIe Gen4 x4)

Mechanical

Dimensions	For Basic/CANBus/6USB SKU : 55(W) x 170(H) x 134(D) mm For PoE/5LAN/5G SKU : 68(W) x 170(H) x 134(D) mm
Indicator	1 x Storage LED 1 x UD LED (User Define)
Function	2 x Diagnostic LED 1 x Power Button with LED
Net Weight	Basic SKU : 1.57 kg PoE SKU : 2.37kg 5LAN SKU : 2.27kg 5G SKU : 2.15kg
Mounting	For Basic SKU : Wall mount, VESA mount, DIN-Rail For PoE/5LAN/5G SKU : Wall mount, Din Rail

Environmental

Operating Temperature	15W CPU: For Basic/5LAN-WIFI/CANBus/6USB SKU: SKU: -40°C-70°C (-40°F-158°F) For 5G/5LAN-5G SKU with 4G LTE module: -40°C-60°C (-40°F-140°F) For 5G/5LAN-5G SKU with 5G module: -40°C-55°C (-40°F-131°F) For PoE SKU : -40°C-50°C (-40°F-122°F) 28W CPU: For all SKU : -40°C-50°C (-40°F-122°F) (w/ airflow 0.5-0.8m/s)
Storage Temperature	-40°C-85°C (-40°F-185°F)
Humidity	~95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD
ESD	Contact +/-8 KV, Air +/-15 KV
Shock	Operating: 100G (half sine 11ms duration with SSD)
EMC	CE, FCC Class A (EN61000-6-4/-2)
Safety	LVD

Add-on Feature / OS Support

Real-Time Enablement	TSN, TCC support under Linux
OS Support	Windows 10 & Ubuntu 22.04 LTS

Order Information	SKU	Processor	2.5 Storage	WiFi*	4G LTE/ 5G*	LAN	PoE	USB	CANBus
iEP-7020E-010	Basic SKU	i7-1365URE	Support	Support	Not Support	3	Not Support	3 x USB3 1 x USB2	Not Support
iEP-7021E-010		i5-1345URE							
iEP-7022E-010		i7-1370PRE							
iEP-7023E-010	i5-1350PRE								
iEP-7020E-011	PoE SKU	i7-1365URE	Not Support	Support	Not Support	5	Support	3 x USB3 1 x USB2	Not Support
iEP-7021E-011		i5-1345URE							
iEP-7022E-011		i7-1370PRE							
iEP-7023E-011	i5-1350PRE								
iEP-7020E-012	5LAN-WIFI SKU	i7-1365URE	Not Support	Support	Not Support	5	Not Support	3 x USB3 1 x USB2	Not Support
iEP-7021E-012		i5-1345URE							
iEP-7022E-012		i7-1370PRE							
iEP-7023E-012	i5-1350PRE								
iEP-7020E-013	5LAN-5G SKU	i7-1365URE	Not Support	Not Support	Support	5	Not Support	3 x USB3 1 x USB2	Not Support
iEP-7021E-013		i5-1345URE							
iEP-7022E-013		i7-1370PRE							
iEP-7023E-013	i5-1350PRE								
iEP-7020E-014	5G-WIFI SKU	i7-1365URE	Not Support	Support	Support	3	Not Support	3 x USB3 1 x USB2	Not Support
iEP-7021E-014		i5-1345URE							
iEP-7022E-014		i7-1370PRE							
iEP-7023E-014	i5-1350PRE								
iEP-7020E-015	CANBus SKU	i7-1365URE	Not Support	Support	Not Support	3	Not Support	3 x USB3 1 x USB2	2
iEP-7021E-015		i5-1345URE							
iEP-7022E-015		i7-1370PRE							
iEP-7023E-015	i5-1350PRE								
iEP-7020E-016	6USB SKU	i7-1365URE	Not Support	Support	Not Support	3	Not Support	3 x USB3 3 x USB2	Not Support
iEP-7021E-016		i5-1345URE							
iEP-7022E-016		i7-1370PRE							
iEP-7023E-016	i5-1350PRE								

*The WI-FI, 4G LTE and 5G module kits are purchased separately

iEP-5020G Series

Industrial IoT Controller



Basic SKU

PoE SKU
5LAN SKU

8DIO SKU

KEY FEATURES

- Latest and Powerful Intel® Atom® x7433RE Processor (Amston Lake)
- Fan-less and Rugged Design
- -40°C to 70°C Wide Operating Temp. for Basic/5LAN/8DIO SKU
- -40°C to 50°C Wide Operating Temp. for PoE SKU
- 6-36VDC Wide Range Power Inputs for Basic/5LAN/8DIO SKU
- 19-36VDC Wide Range Power Inputs for PoE SKU
- Most Flexible IOs and Expansion for Industrial Applications
- Intel® TCC and TSN Support for Real-Time Computing
- DIN Rail or Wall Mount Options
- 4 x Intel 1G LAN (2 Support IEEE 802.3AF PoE Ports)
- 1 x Intel 2.5G LAN
- Support Intel® IN-Band ECC

SPECIFICATIONS

System Core

Processor	Intel® Atom® x7000RE Processor (Amston Lake Platform) - Intel® Atom® x7433RE, 4C, 1.5GHz, 9W
Video	1 x DisplayPort 1.4a, DP++ 1 x VGA
Memory	1 x DDR5 4800MHz SO-DIMM, up to 16GB (In-Band ECC)

I/O Interface

Ethernet	2 x Intel® I210-IT (RJ45 connector) 1 x Intel® I226-IT (RJ45 connector) 2 x Intel® I210-AT for PoE SKU/5LAN SKU (RJ45 connector)
Ethernet/PoE (Option)	2 x Intel® I210-AT (RJ45 connector), PoE output max.15.4W/ port, each port supports IEEE 802.3AF PoE. (For PoE SKU)
Serial Port	2 x RS-232/422/485 (9-pin D-sub connector)
USB	2 x USB 3.2 Gen2 1 x USB2.0 1 x Type-C USB3.2 Gen2
Digital I/O	8DI/8DOs with sink/source isolation 36V for 8DIO SKU
Audio	1 x Mic in 1 x Line out

Expansion

SIM RF& Antenna (Option)	1 x Nano SIM Card slot M.2 Wi-Fi 6E module supports IEEE 802.11 a/b/g/n/ac/ax + BT 5.2 - 3 x 4G LTE antenna and 2 x Wi-Fi antenna - 4 x 5G antenna and 2 x Wi-Fi antenna
M.2 Socket	1 x M.2 3042/3052 Key B (PCIe Gen3x1 / USB3.2 Gen1x1 mode) - Support 4G LTE/5G module 1 x M.2 2230/2260 Key E (PCIe Gen3x1 / USB2.0 mode) - Support Wifi/BT module

Manageability / Security

Manageability	WDT, Intel® In-Band Manageability
Security	TPM2.0

Power Supply

DC Input	2 x 3-pin terminal block (Phoenix type) for 6 to 36V DC input (For Basic/5LAN/8DIO SKU) 2 x 3-pin terminal block (Phoenix type) for 19 to 36V DC input (For PoE SKU) - OVP, UVP, OCP, plus 80V surge protection
AC to DC Adapter (Option)	AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A, 120W Adapter

Storage Device

SD Slot	1 x Micro SD card slot (SD Card specification version 3.01)
M.2 Socket	1 x M.2 2280 Key M (PCIe Gen3x2)

Mechanical

Dimensions	58mm (W) x 125mm (D) x 157mm (H)
Indicator	1 x NVMe Storage LED 1 x Wi-Fi / BT LED 2 x Diagnostic LED 2 x Power LED
Function	Power on Button with LED
Net Weight	Basic SKU 1.25kg PoE SKU 1.39kg 5LAN-WIFI SKU 1.30kg 5LAN-5G SKU 1.30kg 8DIO SKU 1.35kg
Mounting (Option)	DIN-Rail or Wall mounting

Environmental

Operating Temperature	For Basic/5LAN/8DIO SKU: -40°C ~ 70°C (-40°F~158°F) (w/ airflow 0.5~0.8m/s) For PoE SKU : -40°C ~ 50°C (-40°F~122°F) (w/ airflow 0.5~0.8m/s)
Storage Temperature	-40°C ~ 85°C (-40°F~185°F)
Humidity	-95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD
ESD	Contact +/-8 KV, Air +/-15 KV
Shock	Operating 100G, half sine 11 ms duration with SSD
EMC	CE (EN61000-6-4/-2) and FCC Class A
Safety	LVD

Add-on Feature / OS Support

Real-Time Enablement	TSN, TCC support under Ubuntu (only LAN1)
OS Support	Windows 11 & Linux

Order Information	SKU	Processor	Storage	Wi-Fi*	4G LTE/5G*	LAN	PoE	DI/DIO
iEP-5020G-020	Basic SKU	x7433RE	M.2 Key M	Support	Support	3	Not Support	Not Support
iEP-5020G-021	PoE SKU			Support	Not Support	5	Support	Not Support
iEP-5020G-022	5LAN-WIFI			Support	Not Support	5	Not Support	Not Support
iEP-5020G-023	5LAN-5G			Not Support	Support	5	Not Support	Not Support
iEP-5020G-024	8DIO SKU			Support	Not Support	3	Not Support	Support

*The Wi-Fi, 4G LTE and 5G module kits are purchased separately.

iEP-5010G-CTG

Industrial IoT Controller



KEY FEATURES

- Latest and Powerful Intel® Atom® x6425RE Processor (Elkhart Lake)
- Fan-less and Rugged Design
- -40°C to 70°C Wide Operating Temp.
- 6-36VDC Wide Range Power Inputs
- Most Flexible IOs and Expansion for Industrial Applications
- Intel® TCC and TSN Support for Real-Time Computing
- DIN Rail or Wall Mount Options
- 4 x Intel 1G LAN
- 1 x Intel 2.5G LAN
- Support Intel® IN-Band ECC

SPECIFICATIONS

System Core

Processor	Intel Atom® x6425RE, 4C, 1.9GHz, 12W (Elkhart Lake Platform)
Video	1 x HDMI 2.0b
Memory	2 x DDR4 3200MHz SO-DIMM, 32GB (In-Band ECC)

I/O Interface

Ethernet	2 x Intel® I210-IT (RJ45 8P8C) 1 x Intel® I226-IT, Support TSN (RJ45 8P8C) 2 x Intel® I210-AT
Serial Port	2 x RS-232/422/485 (9-pin D-sub connector)
USB	2 x USB 3.2 Gen2

Manageability / Security

Manageability	WDT, Intel® In-Band Manageability
Security	TPM2.0

Power Supply

DC Input	1 x 3-pin pluggable terminal block (Phoenix type) for 6 to 36V DC input - OVP, UVP, OCP, plus 80V surge protection
AC to DC Adaptor (Option)	AC input 100-240Vac, 1.5A 50-60Hz, DC output 19V, 3.42A, 65W Adaptor

Storage Device

M.2 Socket	1 x M.2 2280 NVMe SSD, Key M, PCIe Gen3 x2, 128GB
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Mechanical

Dimensions	58mm (W) x 125mm (D) x 157mm (H)
Indicator	1 x SATA / NVMe Storage LED, 1 x Wi-Fi / BT LED 2 x Diagnostic LED
Function	Power on Button with LED, Clear CMOS Button
Net Weight	1.3 kg
Mounting (Option)	DIN-Rail or Wall mounting

Environmental

Operating Temperature	-40°C ~ 70°C (-40°F~158°F) (w/ airflow 0.8m/s)
Storage Temperature	-40°C ~ 85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD
ESD	Contact +/-6 KV, Air +/-15 KV
Shock	Operating 100G, half sine 11 ms duration with SSD
Altitude	+3000m
EMC	CE (EN 61000-6-4, EN 61000-6-2) FCC Class A
Safety	UL/cUL 610101-1, UL/cUL 61010-2-201 CB IEC 610101-1, IEC 61010-2-201 IECEX UL C1D2 ATEX Zone 2
Environmental protection	EIA-364-65A, Class IIIA (with G3 conformal coating)

Add-on Feature / OS Support

Real-Time Enablement	TSN, TCC support under Ubuntu (only LAN1)
OS Support	Windows 10, Ubuntu 22.04 LTS

iEP-5010G Series

Industrial IoT Controller



Basic SKU

PoE SKU
5LAN-WIFI SKU
5LAN-5G SKU

KEY FEATURES

- Latest and Powerful Intel® Atom® x6000RE Processor (Elkhart Lake)
- Fan-less and Rugged Design
- -40°C to 70°C Wide Operating Temp. for Basic SKU
- -40°C to 50°C Wide Operating Temp. for PoE SKU
- 6-36VDC Wide Range Power Inputs for Basic/5LAN/5G SKU
- 19-36VDC Wide Range Power Inputs for PoE SKU
- Most Flexible IOs and Expansion for Industrial Applications
- Intel® TCC and TSN Support for Real-Time Computing
- DIN Rail or Wall Mount Options
- 4 x Intel 1G LAN (2 Support IEEE 802.3AF PoE Ports)
- 1 x Intel 2.5G LAN
- Support Intel® IN-Band ECC
- Support Wireless Time-Sensitive Networking (WTSN)

SPECIFICATIONS

System Core

Processor	Intel® Atom® x6000RE Processor (Elkhart Lake Platform) - iEP-5010G: Intel Atom® x6425RE, 4C, 1.9GHz, 12W - iEP-5011G: Intel Atom® x6214RE, 2C, 1.4GHz, 6W
Video	1 x HDMI 2.0b, 1 x VGA
Memory	2 x DDR4 3200MHz SO-DIMM, up to 32GB (In-Band ECC)

I/O Interface

Ethernet	2 x Intel® I210-IT (RJ45 8P8C) 1 x Intel® I226-IT, Support TSN (RJ45 8P8C) 2 x Intel® I210-AT for PoE SKU/5LAN SKU (RJ45 8P8C)
Ethernet/PoE (Option)	2 x Intel® I210-AT (RJ45 8P8C), PoE output max.15.4W/port, each port supports IEEE 802.3AF PoE. (For PoE SKU)
Serial Port	3 x RS-232/422/485 (9-pin D-sub connector)
USB	2 x USB 3.2 Gen1x1 2 x USB 2.0
Digital I/O	4DIs/4DOs (9-pin D-sub connector)
Audio	1 x Mic in 1 x Line out

Expansion

SIM	1 x Nano SIM Card slot
RF Antenna (Option)	M.2 Wi-Fi 6E module supports IEEE 802.11 a/b/g/n/ac/ax + BT 5.2 - 3 x 4G LTE antenna and 2 x Wi-Fi antenna - 4 x 5G antenna and 2 x Wi-Fi antenna
M.2 Socket	1 x M.2 3042/3052 Key B (PCIe Gen3x1 / USB3.2 Gen1x1 mode) - Support 4G LTE/5G module 1 x M.2 2230 Key E (PCIe Gen3x1 / USB2.0 mode) - Support Wifi/BT module

Manageability / Security

Manageability	WDT, Intel® In-Band Manageability
Security	TPM2.0

Power Supply

DC Input	1 x 3-pin pluggable terminal block (Phoenix type) for 6 to 36V DC input (For Basic/5LAN SKU) 1 x 3-pin pluggable terminal block (Phoenix type) for 19 to 36V DC input (For PoE SKU) - OVP, UVP, OCP, plus 80V surge protection
AC to DC Adaptor (Option)	AC input 100-240Vac, 1.5A 50-60Hz, DC output 19V, 3.42A, 65W Adaptor (For Basic/5LAN SKU) AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A, 120W Adaptor (For PoE SKU)

Storage Device

SD Slot	1 x Micro SD card slot(SD Card specification version 3.01)
SATA(Optional)	1 x 2.5" 9.5mm SATA3 SSD (For Basic SKU only)
M.2 Socket	1 x M.2 2280 Key M (PCIe Gen3 / SATA3 mode)

Mechanical

Dimensions	58mm (W) x 125mm (D) x 157mm (H)
Indicator	1 x SATA / NVMe Storage LED, 1 x Wi-Fi / BT LED
Function	Power on Button with LED, Clear CMOS Button
Net Weight	Basic SKU : 1.43kg PoE SKU : 1.75kg 5LAN SKU : 1.65kg
Mounting (Option)	DIN-Rail or Wall mounting

Environmental

Operating Temperature	For Basic/5LAN SKU: -40°C ~ 70°C (-40°F~158°F) (w/ airflow 0.5-0.8m/s) For PoE SKU : -40°C ~ 50°C (-40°F~122°F) (w/ airflow 0.5-0.8m/s)
Storage Temperature	-40°C ~ 85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD
ESD	Contact +/-8 KV, Air +/-15 KV
Shock	Operating 100G, half sine 11 ms duration with SSD
EMC	CE and FCC Class A (EN61000-6-4/-2)
Safety	LVD

Add-on Feature / OS Support

Industrial Cybersecurity	IEC 62443-4-1, IEC 62443-4-2
Real-Time Enablement	TSN, TCC support under Ubuntu (only LAN1)
OS Support	Windows 10 & Linux

Order Information	SKU	Processor	2.5 Storage	WiFi*	4G LTE/5G*	LAN	PoE
iEP-5010G-010	Basic SKU	X6425RE	Support by additional kits	Support	Support	3	Not Support
iEP-5011G-010		X6214RE					
iEP-5010G-011	PoE SKU	X6425RE	Not Support	Support	Not Support	5	Support
iEP-5011G-011		X6214RE					
iEP-5010G-012	5LAN-WIFI	X6425RE	Not Support	Support	Not Support	5	Not Support
iEP-5011G-012		X6214RE					
iEP-5010G-013	5LAN-5G	X6425RE	Not Support	Not Support	Support	5	Not Support
iEP-5011G-013		X6214RE					

*The Wi-Fi, 4G LTE and 5G module kits are purchased separately

iEP-5000G Series Industrial IoT Controller



Basic SKU

PoE SKU
5LAN-WIFI SKU
5LAN-5G SKU

KEY FEATURES

- Latest and Powerful Intel® Atom® x6000E Processor
- Fan-less and Rugged Design, Wide Temperature Operating (-40 °C to 70 °C)
- 6-36VDC Wide Range Power Inputs
- Most Flexible IOs and Expansion for Industrial Applications
- Intel® TCC and TSN Support for Real-Time Computing
- DIN Rail or Wall Mount Options
- 5 x Intel® 1G LAN (2 Support IEEE 802.3AF PoE Ports)
- Support Intel® IN-Band ECC
- Support Wireless Time-Sensitive Networking (WTSN)

SPECIFICATIONS

System Core

Processor	Intel® Atom® x6000E Processor - Intel® Atom® x6425RE, 4C, 1.9GHz, 12W
Video	1 x HDMI 2.0b, 1 x VGA
Memory	2 x DDR4 3200MHz SO-DIMM, up to 32GB (In-Band ECC)

I/O Interface

Ethernet	3 x Maxlinear GPY215 (RJ45 8P8C) 2 x Intel® I210-AT for PoE SKU/5LAN SKU (RJ45 8P8C)
PoE (Option)	2 x Intel® I210-AT (RJ45 8P8C), PoE output max.15.4W/port, each port supports IEEE 802.3AF PoE. (For PoE SKU)
Serial Port	3 x RS-232/422/485 (9-pin D-sub connector)
USB	2 x USB 3.2 Gen1x1 2 x USB 2.0
Digital I/O	4DI/4DOs (9-pin D-sub connector)
Audio	1 x Mic in 1 x Line out

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	M.2 Wi-Fi 6E module supports IEEE 802.11 a/b/g/n/ac/ax + BT 5.2 - 3 x 4G LTE antenna and 2 x Wi-Fi antenna - 4 x 5G antenna and 2 x Wi-Fi antenna
M.2 Socket	1 x M.2 3042/3052 Key B (PCIe Gen3x1 / USB3.2 Gen1x1 mode) - Support 4G LTE/5G module 1 x M.2 2230 Key E (PCIe Gen3x1 / USB2.0 mode) - Support Wifi/BT module

Manageability / Security

Manageability	WDT, Intel® In-Band Manageability
Security	TPM2.0

Power Supply

DC Input	1 x 3-pin pluggable terminal block (Phoenix type) for 6 to 36V DC input (iEP-5000G-010/012/013) 1 x 3-pin pluggable terminal block (Phoenix type) for 19 to 36V DC input (For iEP-5000G-011 only) - OVP, LVP, OCP, plus 80V surge protection
AC to DC Adaptor (Option)	AC input 100-240Vac, 1.5A 50-60Hz, DC output 19V, 3.42A, 65W Adaptor (For Basic/5LAN SKU) AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A, 120W Adaptor (For PoE SKU)

Storage Device

SD Slot	1 x Micro SD card slot(SD Card specification version 3.01)
SATA(Optional)	1 x 2.5" 9.5mm SATA3 SSD for Basic SKU only
M.2 Socket	1 x M.2 2280 Key M (PCIe Gen3 / SATA3 mode)

Mechanical

Dimensions	58mm (W) x 125mm (D) x 157mm (H)
Indicator	1 x SATA / NVMe Storage LED, 1 x Wi-Fi / BT LED
Function	Power on Button with LED, Clear CMOS Button
Net Weight	Basic SKU : 1.43kg PoE SKU : 1.75kg 5LAN SKU : 1.65kg
Mounting (Option)	DIN-Rail or Wall mounting

Environmental

Operating Temperature	For Basic/5LAN SKU : -40°C ~ 70°C (-40°F~158°F) (w/ airflow 0.5-0.8m/s) For PoE SKU : -40°C ~ 50°C (-40°F~122°F) (w/ airflow 0.5-0.8m/s)
Storage Temperature	-40°C ~ 85°C (-40°F~185°F)
Humidity	~95% @ 40°C (non-condensing)
Vibration	Operating: 5 Grms, 5-500 Hz, 3 axes with SSD
ESD	Contact +/-8 KV, Air +/-15 KV
Shock	Operating 100 G, half sine 11 ms duration with SSD
EMC	CE and FCC Class A (EN61000-6-4/-2)
Safety	LVD

Add-on Feature / OS Support

Real-Time Enablement	TSN, TCC support under Linux
OS Support	Windows 10 & Linux

Order Information	SKU	Processor	2.5 Storage	WiFi*	4G LTE/5G*	LAN	PoE	DC-IN Type
iEP-5000G-000	Basic SKU	X6425RE	Support by additional kits	Support	Support	3	Not Support	DC Jack Phoenix
iEP-5000G-010								
iEP-5000G-011	PoE SKU		Not Support	Support	Not Support	5	Support	Phoenix
iEP-5000G-012	5LAN-WIFI		Not Support	Support	Not Support	5	Not Support	Phoenix
iEP-5000G-013	5LAN-5G	Not Support	Not Support	Support	5	Not Support	Phoenix	

*The Wi-Fi, 4G LTE and 5G module kits are purchased separately

Preliminary

iEP-6020E Series Industrial IoT Controller



Basic SKU POE SKU 5G SKU 4POE SKU

KEY FEATURES

- NVIDIA Jetson Orin NX 16GB SOM Super Mode support, up to 157 SPARSE (78 DENSE) INT8 TOPS
- NVIDIA Jetson Orin NX 8GB SOM Super Mode support, up to 117 SPARSE (58 DENSE) INT8 TOPS
- NVIDIA Jetson Orin Nano 8GB SOM Super Mode support, up to 67 SPARSE (33 DENSE) INT8 TOPS
- NVIDIA Jetson Orin Nano 4GB SOM Super Mode support, up to 34 SPARSE (17 DENSE) INT8 TOPS
- POE SKU integrates 2x POE ports. Each port supports IEEE 802.3AF
- 4POE SKU integrates 4x POE ports. Each port supports IEEE 802.3AF
- Anti Shock and Vibration
- Wide Range Operating Temperature
- 12-36V Phoenix type DC IN support
- Wall Mount or DIN-Rail for Vertical IPC Installation (All SKU)
- Wall Mount or VESA Mount for Horizontal IPC Installation (BASIC SKU only)
- Carrier board reserved 2pcs Four Lane MIPI-CSI2 connectors (Option)*

SPECIFICATIONS

Processor System

System on Module	<ul style="list-style-type: none"> - NVIDIA Jetson Orin NX SOM 16GB support (Basic SKU iEP-6020E-000, PoE SKU iEP-6020E-001, 4PoE SKU iEP-6020E-002, 5G SKU iEP-6020E-003) - NVIDIA Jetson Orin NX SOM 8GB support (Basic SKU iEP-6021E-000) - NVIDIA Jetson Orin Nano SOM 8GB support (Basic SKU iEP-6022E-000, PoE SKU iEP-6022E-001, 4PoE SKU iEP-6022E-002, 5G SKU iEP-6022E-003) - NVIDIA Jetson Orin Nano SOM 4GB support (Basic sku iEP-6023E-000)
Video	1 x HDMI 2.0 (Orin NX)/ 1.4 (Orin Nano)
Memory	16GB 128-bit LPDDR5 (Jetson Orin NX 16GB) 8GB 128-bit LPDDR5 (Jetson Orin NX 8GB) 8GB 128-bit LPDDR5 (Jetson Orin Nano 8GB) 4GB 64-bit LPDDR5 (Jetson Orin Nano 4GB)
TPM	TPM2.0

I/O Interface

Ethernet	2x 1G LAN (LAN1 from SOM, LAN2 from Intel I210AT)
PoE (Option)	2x Intel I210AT ports, each port supports IEEE 802.3AF PoE (Orin NX SOM 16GB PoE SKU iEP-6020E-001, Orin Nano SOM 8GB PoE SKU iEP-6022E-001) 4x Intel I210IT ports, each port supports IEEE 802.3AF PoE (Orin NX SOM 16GB 4PoE SKU iEP-6020E-002, Orin Nano SOM 8GB 4PoE SKU iEP-6022E-002)
Serial Port	1 x RS-232, 1 x RS-232/422/485 (Pin9 default is N/A, +5V or +12V/1A software programmable)
USB	2 x USB 3.2 Gen 2x1 (one with Locking) 2 x USB 2.0, 1 x Micro USB 2.0 (Device mode only, for OS Flash)
Proprietary IO	DPR connector: 1 x DB15 for 4 ⁺ DI, 4 ⁺ DO, GND, Power Pin (Default is N/A, +5V/1A software programmable), PowerOn, LED+, LED-, GND, Reset ISC connector: 1 x DB15 for Power Pin(Default is N/A, +3V/1A software programmable), 5 x GND, 1 x I2C, 1 x SPI, 1 x CANBUS

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	up to 4 x 5G/4G LTE antenna + 2 x Wi-Fi antenna for 5G SKU
M.2 Socket	1 x M.2 (Key B, 3042/3052/2280) -For PCIe Gen3 x1 / USB3.2 Gen2x1 5G module (Option) (5G SKU Only, Orin NX SOM 16GB 5G SKU iEP-6020E-003, Orin Nano SOM 8GB 5G SKU iEP-6022E-003) -For PCIe Gen3 x1 / USB3.2 Gen2x1 4G LTE module (Option) (5G SKU Only, Orin NX SOM 16GB 5G SKU iEP-6020E-003, Orin Nano SOM 8GB 5G SKU iEP-6022E-003) -For PCIe Gen3 x1 M.2 B Key 2280 SSD module (Option, Basic SKU Only, Orin NX SOM 16GB Basic SKU iEP-6020E-000, Orin NX SOM 8GB Basic SKU iEP-6021E-000, Orin Nano SOM 8GB Basic SKU iEP-6022E-000, Orin Nano SOM 4GB Basic SKU iEP-6023E-000) 1 x M.2 (Key E, 2230) for PCIe Gen3 x1 Wi-Fi and USB2.0 Bluetooth module (Option) (For all SKU except 4POE SKU Orin NX SOM 16GB 4POE SKU iEP-6020E-002, Orin Nano SOM 8GB 4POE SKU iEP-6022E-002)

Power Requirements

DC Input	DC IN source: 12V-36V DC input, 80V Surge Protection. OVP, UVP, OCP, Reverse Protection, Phoenix type connector
AC to DC Adaptor (Option)	For Basic SKU: 120W Adapter, AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A For POE/4POE/5G SKU: 330W Adapter, AC input 100-240Vac, 4.2A 50-60Hz, DC output 24V, 13.75A

Storage Device

M.2 Socket	For Orin NX 16GB/8GB SOM Super Mode 1xM2 (Key M, 2280) for wide temperature PCIe Gen3x4 or PCIe Gen4x4 For Orin Nano 8GB/4GB SOM Super Mode 1 x M.2 (Key M, 2280) for wide temperature PCIe Gen3 x 4
Micro SD Card slot	1 x Micro SD Card Slot (UHS-I/SDR-50)

Mechanical

Dimensions	Basic SKU : 59(W) x 170(H) x 134(D) mm POE/5G SKU : 72(W) x 170(H) x 134(D) mm
Indicator	1 x Storage LED
Function	Power on button with LED, OS Flash Button, Reset Tact Switch Enable/Disable Auto power on Switch
Net Weight	TBD
Mounting (Option)	Horizontal Wall mounting or - VESA mounting bracket (Basic SKU only) - Vertical Wall mounting or Din Rail mounting bracket (All SKU)

Environmental

Operating Temperature	For Orin NX 16GB/8GB SOM Super Mode Operating temperature is -25° C~50° C (w/ air flow 0.5~0.8m/s) for Basic/PoE/5G sku(with 4G LTE or 5G module), SSD PCIe Gen3x4 or PCIe Gen4x4. 4POE SKU TBD For Orin Nano 8GB/4GB SOM Super Mode Operating temperature is -25° C~60° C (w/ air flow 0.5~0.8m/s) for Basic/PoE /5G sku(with 4G LTE module), SSD PCIe Gen3x4. 4POE SKU TBD Operating temperature is -25° C~55° C (w/ air flow 0.5~0.8m/s) for 5G sku(with 5G module), SSD PCIe Gen3x4
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	~90% @ 45°C (non-condensing)
EMC	CE, FCC Class A (EN61000-6-4/-2)
Safety	LVD(TBD)
Shock	IEC 60068-2-27, Operating Shock 100G with 11 ms duration, half sine wave
Vibration	IEC 60068-2-64, Operating Random Vibration 5 Grms, 5-500 Hz, 3 axes, 30 min/axisaaaaava

Add-on Feature / OS Support

Carrier board feature	Carrier board reserved 2pcs Four Lane MIPI-CSI2 connectors (Option)*
OS Support	NVIDIA JetPack 6.2

*MIPI-CSI2 camera need to be turned off before system going to sleep mode. It is current NVIDIA JetPack limitation.

iEP-6010E Series Industrial IoT Controller



Basic SKU

POE SKU

5G SKU

KEY FEATURES

- NVIDIA Jetson Orin NX SOM support, up to 100 SPARSE (50 DENSE) INT8 TOPS
- NVIDIA Jetson Orin Nano SOM support, up to 40 SPARSE (20 DENSE) INT8 TOPS
- POE SKU integrates 2x POE ports. Each port supports IEEE 802.3AF
- Anti Shock and Vibration
- Wide Range Operating Temperature (-25 to 60°C)
- 12-36V Phoenix type DC IN support
- 2nd DC IN Interface (PD3.0 20V USB Type-C with Locking feature) for Mobile device application or Redundant power source
- Wall Mount or DIN-Rail for Vertical IPC Installation (All SKU).
Wall Mount or VESA Mount for Horizontal IPC Installation (BASIC SKU only)
- Carrier board reserved 2pcs Four Lane MIPI-CSI2 connectors (Option)*

SPECIFICATIONS

Processor System

System on Module	<ul style="list-style-type: none"> - NVIDIA Jetson Orin NX SOM 16GB support (Basic SKU iEP-6010E-000, PoE SKU iEP-6010E-001, 5G SKU iEP-6010E-003) - NVIDIA Jetson Orin NX SOM 8GB support (Basic SKU iEP-6011E-000) - NVIDIA Jetson Orin Nano SOM 8GB support (Basic SKU iEP-6012E-000, PoE SKU iEP-6012E-001, 5G SKU iEP-6012E-003) - NVIDIA Jetson Orin Nano SOM 4GB support (Basic sku iEP-6013E-000)
Video	1 x HDMI 2.0 (Orin NX)/ 1.4 (Orin Nano)
Memory	16GB 128-bit LPDDR5 (Jetson Orin NX 16GB) 8GB 128-bit LPDDR5 (Jetson Orin NX 8GB) 8GB 128-bit LPDDR5 (Jetson Orin Nano 8GB) 4GB 64-bit LPDDR5 (Jetson Orin Nano 4GB)
TPM	TPM2.0

I/O Interface

Ethernet	2x 1G LAN (LAN1 from SOM, LAN2 from Intel I210AT)
PoE (Option)	2x Intel I210AT ports, each port supports IEEE 802.3AF PoE (Orin NX SOM 16GB PoE SKU iEP-6010E-001, Orin Nano SOM 8GB PoE SKU iEP-6012E-001)
Serial Port	1 x RS-232, 1 x RS-232/422/485 (Pin9 default is N/A, +5V or +12V/1A software programmable)
USB	2 x USB 3.2 Gen 2x1 (one with Locking) 2 x USB 2.0, 1 x Micro USB 2.0 (Device mode only, for OS Flash)
Proprietary IO	DPR connector: 1 x DB15 for 4*DI, 4*DO, GND, Power Pin (Default is N/A, +5V/1A software programmable), PowerOn, LED+, LED-, GND, Reset ISC connector: 1 x DB15 for Power Pin (Default is N/A, +3V/1A software programmable), 5 x GND, 1 x I2C, 1 x SPI, 1 x CANBUS

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	up to 4 x 5G/4G LTE antenna + 2 x Wi-Fi antenna for 5G SKU

Expansion

M.2 Socket	1 x M.2 (Key B, 3042/3052/2280) -For PCIe Gen3 x1 / USB3.2 Gen2x1 5G module (Option) (5G SKU Only, Orin NX SOM 16GB 5G SKU iEP-6010E-003, Orin Nano SOM 8GB 5G SKU iEP-6012E-003) -For PCIe Gen3 x1 / USB3.2 Gen2x1 4G LTE module (Option) (5G SKU Only, Orin NX SOM 16GB 5G SKU iEP-6010E-003, Orin Nano SOM 8GB 5G SKU iEP-6012E-003) -For PCIe Gen3 x1 M.2 B Key 2280 SSD module (Option, Basic SKU Only) 1 x M.2 (Key E, 2230) for PCIe Gen3 x1 Wi-Fi and USB2.0 Bluetooth module
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Power Requirements

DC Input	1 st DC IN source: 12V~36V DC input, 80V Surge Protection. OVP, UVP, OCP, Reverse Protection, Phoenix type connector 2 nd DC IN source: PD3.0 20V USB Type-C power adaptor interface (Locking feature), It can be backup DC input when 1st DC IN is 21V~36V
AC to DC Adaptor (Option)	For Basic SKU: 120W Adapter, AC input 100-240Vac, 1.8A 50~60Hz, DC output 19V, 6.32A For POE/5G SKU: 330W Adapter, AC input 100-240Vac, 4.2A 50~60Hz, DC output 24V, 13.75A

Storage Device

M.2 Socket	1 x M.2 (Key M, 2280) for wide temperature PCIe Gen3 x4 NVMe SSD module (System Operating temperature -25°C~60°C) 1 x M.2 (Key M, 2280) for wide temperature PCIe Gen4 x4 NVMe SSD module (System Operating temperature -25°C~55°C) PCIe Gen4 x4 SSD only supported by Orin NX SOM
Micro SD Card slot	1 x Micro SD Card Slot (UHS-I/SDR-50)

Mechanical

Dimensions	Basic SKU : 55(W) x 170(H) x 134(D) mm POE/5G SKU : 68(W) x 170(H) x 134(D) mm
Indicator	1 x Storage LED 1 x DC-IN LED
Function	Power on button with LED, OS Flash Button, Reset Tact Switch Enable/Disable Auto power on Switch
Net Weight	Basic SKU: 1.3kg, 5G/POE SKU: 1.6kg
Mounting (Option)	- Horizontal Wall mounting or VESA mounting bracket (Basic SKU only) - Vertical Wall mounting or Din Rail mounting bracket (All SKU)

Environmental

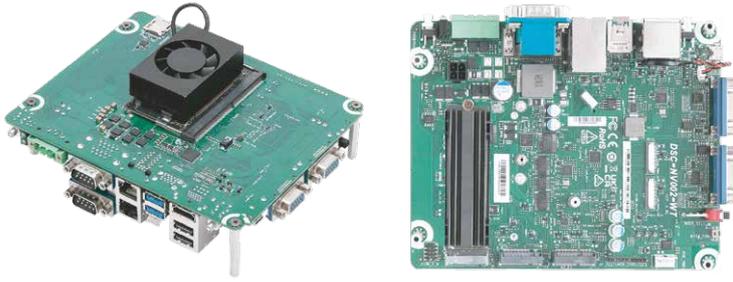
Operating Temperature	-25~60° C (-13~140°F) for Basic sku, PoE sku, or 5G sku w/ 4G LTE Module when installed with WT SSD Gen3 x 4 -25~55° C (-13~131°F) for Basic sku, PoE sku, or 5G sku w/ 4G LTE Module when installed with WT SSD Gen4 x 4 -25~55° C (-13~131°F) for 5G sku w/ 5G Module when installed with WT SSD Gen4 x 4 or WT SSD Gen3 x 4 (w/ air flow 0.5~0.8m/s)
Storage Temperature	-40°C~85°C (-40°F~185°F)
Humidity	-90% @ 45°C (non-condensing)
EMC	CE, FCC Class A (EN61000-6-4/-2)
Safety	LVD
Shock	IEC 60068-2-27, Operating Shock 100G with 11 ms duration, half sine wave
Vibration	IEC 60068-2-64, Operating Random Vibration 5 Grms, 5-500 Hz, 3 axes, 30 min/axis

Add-on Feature / OS Support

2 nd DC IN Interface	PD3.0 20V USB Type-C power adaptor interface (Locking feature), It can be backup DC input when 1 st DC IN is 21V~36V
Carrier board feature	Carrier board reserved 2pcs Four Lane MIPI-CSI2 connectors (Option)*
OS Support	NVIDIA JetPack 5.1.2

*MIPI-CSI2 camera need to be turned off before system going to sleep mode. It is current NVIDIA JetPack limitation.

NVIDIA Jetson Orin NX/ Nano Developer Kit



KEY FEATURES

- NVIDIA Jetson Orin NX 16GB SOM Super Mode support, up to 157 SPARSE (78 DENSE) INT8 TOPS
- NVIDIA Jetson Orin NX 8GB SOM Super Mode support, up to 117 SPARSE (58 DENSE) INT8 TOPS
- NVIDIA Jetson Orin Nano 8GB SOM Super Mode support, up to 67 SPARSE (33 DENSE) INT8 TOPS
- NVIDIA Jetson Orin Nano 4GB SOM Super Mode support, up to 34 SPARSE (17 DENSE) INT8 TOPS
- POE SKU integrates 2x POE ports. Each port supports IEEE 802.3AF
- Wide Range Operating Temperature
- 12-36V Phoenix type DC IN support
- Carrier board reserved 2pcs Four Lane MIPI-CSI2 connectors (Option)*

SPECIFICATIONS

Processor System

System on Module	- NVIDIA Jetson Orin NX SOM 16GB support - NVIDIA Jetson Orin NX SOM 8GB support - NVIDIA Jetson Orin Nano SOM 8GB support - NVIDIA Jetson Orin Nano SOM 4GB support
Video	1 x HDMI 2.0 (Orin NX)/ 1.4 (Orin Nano)
Memory	16GB 128-bit LPDDR5 (Jetson Orin NX 16GB) 8GB 128-bit LPDDR5 (Jetson Orin NX 8GB) 8GB 128-bit LPDDR5 (Jetson Orin Nano 8GB) 4GB 64-bit LPDDR5 (Jetson Orin Nano 4GB)
TPM	TPM2.0

I/O Interface

Ethernet	2x 1G LAN (LAN1 from SOM, LAN2 from Intel I210AT)
PoE (Option)	2x Intel I210AT ports, each port supports IEEE 802.3AF PoE
Serial Port	1 x RS-232, 1 x RS-232/422/485 (Pin9 default is N/A, +5V or +12V/1A software programmable)
USB	2 x USB 3.2 Gen 2x1 (one with Locking) 2 x USB 2.0, 1 x Micro USB 2.0 (Device mode only, for OS Flash)
Proprietary IO	DPR connector: 1 x DB15 for 4*DI, 4*DO, GND, Power Pin (Default is N/A, +5V/1A software programmable), PowerOn, LED+, LED-, GND, Reset ISC connector: 1 x DB15 for Power Pin (Default is N/A, +3V/1A software programmable), 5 x GND, 1 x I2C, 1 x SPI, 1 x CANBUS

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	up to 4 x 5G/4G LTE antenna + 2 x Wi-Fi antenna
M.2 Socket	1 x M.2 (Key B, 3042/3052/2280) -For PCIe Gen3 x1 / USB3.2 Gen2x1 5G module (Option) -For PCIe Gen3 x1 / USB3.2 Gen2x1 4G LTE module (Option) -For PCIe Gen3 x1 M.2 B Key POE modules (Option) -For PCIe Gen3 x1 M.2 B Key 2280 SSD module (Option) 1 x M.2 (Key E, 2230) for PCIe Gen3 x1 Wi-Fi and USB2.0 Bluetooth module (Option)

Power Requirements

DC Input	DC IN source: 12V-36V DC input, 80V Surge Protection. OVP, UVP, OCP, Reverse Protection, Phoenix type connector
AC to DC Adaptor (Option)	120W Adaptor, AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A

Storage Device

M.2 Socket	For Orin NX 16GB/8GB SOM Super Mode 1 x M.2 (Key M, 2280) for wide temperature PCIe Gen3 x4 or PCIe Gen4 x4 For Orin Nano 8GB/4GB SOM Super Mode 1 x M.2 (Key M, 2280) for wide temperature PCIe Gen3 x4 Default is PCIe Gen3 x4 256GB WT SSD
Micro SD Card slot	1 x Micro SD Card Slot (UHS-I/SDR-50)

Mechanical

Dimensions	140(W) x 70(H) x 175(D) mm
Indicator	1 x Storage LED
Function	Power on button with LED, OS Flash Button, Reset Tact Switch Enable/Disable Auto power on Switch
Net Weight	1kg

Environmental

Operating Temperature	For Orin NX 16GB/8GB SOM Super Mode Operating temperature is -10°C-30°C (w/ air flow 0.5-0.8m/s), SSD PCIe Gen3x4 or PCIe Gen4x4 (w/ air flow 0.5-0.8m/s) For Orin Nano 8GB/4GB SOM Super Mode Operating temperature is -10°C-45°C (w/ air flow 0.5-0.8m/s), PCIe Gen3x4 (w/ air flow 0.5-0.8m/s)
Storage Temperature	-40°C-85°C (-40°F-185°F)
Humidity	~90% @ 45°C (non-condensing)
EMC	CE, FCC Class A (EN61000-6-4/-2)

Add-on Feature / OS Support

Carrier board feature	Carrier board reserved 2pcs Four Lane MIPI-CSI2 connectors (Option)*
OS Support	NVIDIA JetPack 6.2

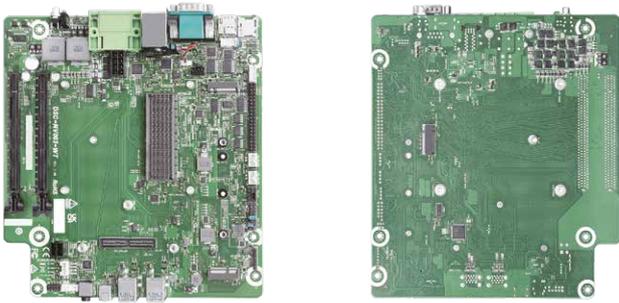
*MIPI-CSI2 camera need to be turned off before system going to sleep mode.
It is current NVIDIA JetPack limitation.

Part Number	Product Name	Specification
90PCA1E0-04320010	ORIN NX 16GB DEV KIT/AI	ONX16G,256GB
90PCA1E0-14320010	ORIN NX 8GB DEV KIT/AI	ONX8G,256GB
90PCA1E0-24320010	ORIN NANO 8GB DEV KIT/AI	ONANO8G,256GB
90PCA1E0-34320010	ORIN NANO 4GB DEV KIT/AI	ONANO4G,256GB

Packing List		
Item	Description	Qty
1	NV Jetson Orin NX 16GB, Orin NX 8GB, Orin Nano 8GB, or Orin Nano 4GB SOM	1 pcs
2	DSC-NV002-WT R1.03	1 pcs
3	SOM Cooler	1 pcs
4	Stand	4 pcs
5	Screw for Stand	4 pcs
6	DC in Phoenix Type Mating Connector	1 pcs
7	M.2 Screw	3 pcs
8	Screw for Locking SOM 2 pcs	2 pcs
9	M.2 Key M PCIe Gen3x4 SSD WT 256GB	1 pcs
10	120W Adaptor	1 pcs
11	Optional Power Cord	1 pcs
12	Optional AX210 Wifi Module	1 pcs
13	Optional Wifi Cable	2 pcs
14	Optional Wifi Antenna	2 pcs
15	Optional 4G LTE M.2 Key B Module	1 pcs
16	Optional 4G LTE Cable	2 pcs
17	Optional 4G LTE Antenna	2 pcs
18	Optional 5G M.2 Key B Module	1 pcs
19	Optional 5G Cable	4 pcs
20	Optional 5G Antenna	4 pcs

Preliminary

NVIDIA Jetson AGX Orin Developer Kit



I/O Interface

Proprietary IO -1 x 40-Pin Expansion Header: 2x20, 2.54mm pitch -1 x Automation Header: 2x6, 2.54mm pitch	The 40-pin expansion connector includes -Audio: I2S, Digital Mic, Clock and Control -I2C (2x), SPI, UART, CAN(2x), and PWM (2x) -GPIO Automation Header includes: -Force Recovery Strap -System Reset -Power Button On -Auto-Power-On -Carrier board sleep -System Overcurrent indicator -Ground
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KEY FEATURES

- NVIDIA Jetson AGX Orin Industrial (JAOi) SOM support, up to 248 TOPs (INT8)
- NVIDIA Jetson AGX Orin 64GB (JAO 64GB) SOM support, up to 275 TOPs (INT8)
- NVIDIA Jetson AGX Orin 32GB (JAO 32GB) SOM support, up to 200 TOPs (INT8)
- Wide Range Operating Temperature
(-10°C to 45°C for WO/PoE SKU) (-10°C to 35°C for W/PoE SKU)
- 12-48V Phoenix type DC IN support
- Carrier board MIPI 120-pin connector support up to 4 × 4 lane MIPI cameras or up to 4 × 4 lane GMSLII cameras via FARKA connectors
- 2 x PCIe Gen4 x8 signal on 2 x PCIe x16 Connectors
- 1 x M.2 Key M 2280 (PCIe Gen4x4) and 1x Micro SD card for Storage
- 1 x M.2 Key B 3042/3052 (USB3.2 Gen2/ USB2.0 x1 / PCIe Gen3x1) w/ Nano SIM Socket for 4G LTE, 5G or POE
- 1 x M.2 Key E Type 2230/2260 (PCIe Gen3x1 + USB2.0) for Wifi/BT or POE, PCIe signal share with LAN2 I226IT
- Up to 12*POE support via M.2 E Key and B Key module, and PCIE-2.5GPOE-4P add on cards. (each port supports up to IEEE 802.3af based on 12V-36V)
- 1 x SPEAKER-OUT-L/R Wafer with 2W/2W design and 1 x MIC IN
- 1 x 40 pin expansion header for I2S/I2C/SPI/UART/CAN/PWM/GPIO

SPECIFICATIONS

Processor System

System on Module	-Jetson AGX Orin Industrial (JAOi):Ampere GPU + Arm Cortex-A78AE CPU + 64GB LPDDR5 (+ECC) + 64GB eMMC 5.1 -Jetson AGX Orin 64GB (JAO 64GB):Ampere GPU + Arm Cortex-A78AE CPU + 64GB LPDDR5 + 64GB eMMC 5.1 -Jetson AGX Orin 32GB (JAO 32GB):Ampere GPU + Arm Cortex-A78AE CPU + 32GB LPDDR5 + 64GB eMMC 5.1
Video	1 x HDMI 2.0
Memory	-JAOi: 64GB 256-bit LPDDR5 DRAM with ECC Support -JAO 64GB: 64GB 256-bit LPDDR5 DRAM -JAO 32GB: 32GB 256-bit LPDDR5 DRAM
TPM	TPM2.0

I/O Interface

Ethernet	2 x RJ-45 connector -LAN1: Marvell 88E1512-A0-NNP2C000 Gigabit Ethernet PHY -LAN2: I226IT(PCIe Ethernet Controller)
PoE (Option)	Up to 12*POE support via M.2 E Key and B Key module, and PCIE-2.5GPOE-4P add on cards. (each port supports up to IEEE 802.3af based on 12V-36V)
Serial Port	2 x RS-232/422/485 (1*DB9 connector, 1*on board wafer)
USB	4 x USB3.2 Gen2x1 Type A (options:2 x USB3.2 Gen2x1 Type A with lock and 2 x USB3.2 Gen2x1 Type A without lock), 1x Type C USB 2.0 (Device mode only, for OS Flash)
Audio	1 x MIC IN connector 1x SPEAKER-OUT-L+SPEAKER-OUT-R Wafer: 2W+2W output 1x audio panel header reserved for MIC IN/LINE OUT
MIPI (Option)	120-pin (2 × 60, 0.5 mm pitch) camera expansion connector

Expansion

SIM	1 x Nano SIM Card slot
RF& Antenna (Option)	up to 4 x 5G/4G LTE antenna + 2 x Wi-Fi antenna
M.2 Socket	1 x M.2 (Key B, 3042/3052) -For PCIe Gen3 x1 / USB3.2 Gen2x1 5G module (Option) -For PCIe Gen3 x1 / USB3.2 Gen2x1 4G LTE module (Option) -For PCIe Gen3 x1 M.2 B Key 3052 POE module (Option) 1 x M.2 (Key E, 2230) for PCIe Gen3 x1 and USB2.0 WiFi/BT module (Option) or 1 x M.2 (Key E, 2260) for PCIe Gen3 x1 POE module (Option)
PCIe x16 slots	2xPCIe Gen4 x8 signal on 2xPCIe x16 Connectors
MIPI	Carrier board MIPI 120-pin connector supports up to 4 × 4 lane MIPI cameras or up to 4 × 4 lane GMSLII cameras via FARKA connectors

Power Requirements

DC Input	12V-48V DC input, 80V Surge Protection, OVP, UVP, OCP, Reverse Protection, Phoenix type connector
AC to DC Adaptor (Option)	120W Adaptor, AC input 100-240Vac, 1.8A 50-60Hz, DC output 19V, 6.32A For POE/5G SKU: 330W Adaptor, AC input 100-240Vac, 4.2A 50-60Hz, DC output 24V, 13.75A

Storage Device

M.2 Socket	1 x M.2 (Key M, 2280) for wide temperature PCIe Gen3 x4 or PCIe Gen4 x4 NVMe SSD module
Micro SD Card slot	1 x Micro SD Card Slot (UHS-I/SDR-50)

Mechanical

Dimensions	190.32 (W) x 210.31(D) mm
Indicator	1 x Storage LED 1 x User Define LED
Function	Power on button with LED, OS Flash Button, Reset Tact Switch Enable/Disable Auto power on jumper
Net Weight	TBD

Environmental

Operating Temperature	-10°C to 45°C for WO/PoE SKU, -10°C to 35°C for W/PoE SKU (w/ air flow 0.5-0.8m/s)
Storage Temperature	-25°C to 80°C (-13°F-176°F)
Humidity	Operating humidity 5% to 85% RH Storage humidity 30% to 70% RH

OS Support

OS Support	NVIDIA JetPack 6.2
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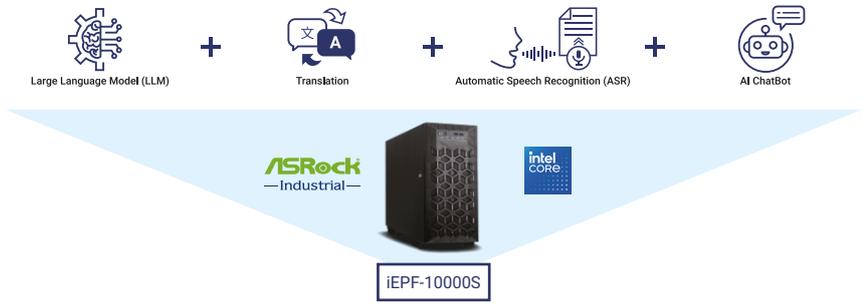


Smart Metro Customer Service

iEPF-10000S Expandable Edge AloT Platform

Solution

The progression of intelligent MRT customer service demands a shift towards unmanned technology. Introducing the AI voice and visual customer service system, this innovative solution integrates dynamic displays featuring virtual characters/ avatars that closely emulate real-life interactions, providing an interactive approach to answering passenger inquiries regarding basic station information, ticketing, surrounding transportation, and attractions. ASRock Industrial's iEPF-10000S Series Robust Edge AloT Platform functions as an AI edge system equipped with Intel's 14th/13th Gen CPU and NVIDIA GeForce RTX® 4090 graphics card, featuring high-performance CPU, GPU and AI computing power at the edge.



Results

- Effective communication with customers globally
- Multi-lingual AI ChatBot brings about a reduction in labor costs
- Efficient real-time and offline operation of AI LLMs



Semiconductor IC Substrate Inspection

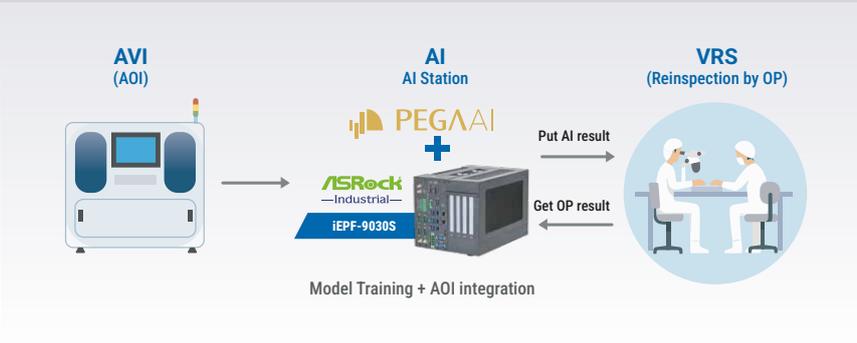
iEPF-9030S Expandable Edge AloT Platform

Solution

A global semiconductor packaging leader deployed a cutting-edge inspection solution by integrating PEGATRON's PEGAAI platform with ASRock Industrial's iEPF-9030S Robust Edge AloT Platform. Positioned between AVI (AOI) and VRS re-inspection by OP stages, this AI-powered second screening classifies and filters positives in real-time, reducing unnecessary manual re-inspection. The iEPF-9030S, equipped with Intel® 14th Gen Core™ CPUs and NVIDIA RTA 5000 ADA GPUs, delivers high performance AI training and inference directly at the edge. The system also features Auto MLOps workflows and feedback-based model optimization for scalable, accurate and continuously improving defect inspection.

Results

- Reduced manual re-inspection workload by 50-70%
- Improved defect detection accuracy and yield stability
- Enabled real-time AI inference and on-site retraining
- Scaled to 400-500 sites across 13+ PEGATRON factories





Solution

Elementary adopted ASRock Industrial's iEP-7020E Series Industrial IoT Controller to build a lightweight AI vision inspection system designed for simpler use cases with up to two cameras. Powered by 13th Gen Intel® Core™ processors with integrated GPU, the iEP-7020E enabled low latency anomaly detection without requiring discrete GPUs or additional PCIe PoE cards. Its compact, fanless, and DIN-rail mountable design fit seamlessly into space restricted industrial cabinets, while reducing system complexity, power consumption, and cost.

Results

Reduced system footprint by over 75%

Lower total cost for compact inspection system deployment

Maintained real-time AI performance with lower power draw and thermal output



Solution

ASRock Industrial partnered with Aimirim to implement an AI agent powered automation framework for British American Tobacco (BAT), a leading global tobacco manufacturer. Leveraging the iEP-6010E Edge AI system with NVIDIA® Jetson Orin™ NX, combined with Aimirim Shaman platform, the solution enabled real-time AI-driven process control, predictive maintenance, and end-to-end process automation. By structuring machine sensor data and logs, the system delivers LLM-based intelligent recommendations, reducing dependency on operator expertise and improving process stability. Edge AI inference supports low latency response, while the open automation framework based on IEC 61499 ensures long-term scalability and seamless AI integration.

Results

Improved product quality and consistency through AI driven diagnostics

5% raw material waste and 4% energy consumption reduction, cutting 31 ton of CO2 emission

Operator training time reduced from 1 year to 3 months



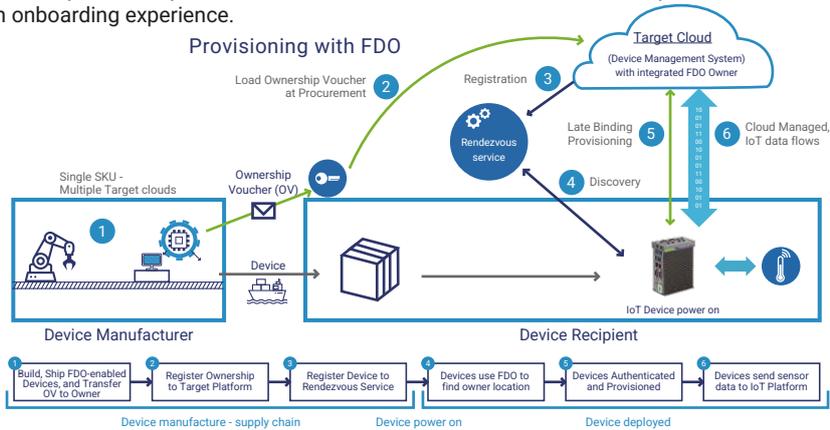


FDO-enabled Devices

iEP-5000G Industrial IoT Controller

Solution

ASRock Industrial and Intel® jointly develop FIDO Device Onboarding (FDO)-enabled devices - the iEP-5000G for automated system onboarding. It addresses the existing challenges of slow, expensive, and insecure manual onboarding processes in the IoT domain, empowering users to harness the full potential of improved IoT security and enhanced efficiency through seamless automated onboarding capabilities. In streamlined steps, the Ownership Voucher (OV) is registered for the target platform, and the device is sent to a retailer or customer. Once powered up and connected to the network, the device auto-provisions itself, enabling a zero-touch onboarding experience.



Results

Zero-touch onboarding past power-ON

Fast and secure with lower onboarding costs

Hardware flexibility – ASRock Industrial provides various FDO-enabled devices based on customer needs

Late binding of the device to cloud greatly reduces number of SKUs vs. other zero-touch offerings



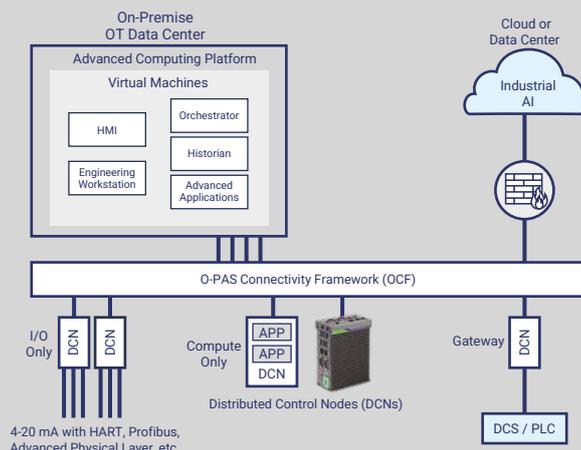
DCN in Open Process Automation System

iEP-5000G Industrial IoT Controller



Solution

ASRock Industrial collaborates with our eco-system partners to unveil the first open-industrial control systems based on O-PAS™, aiming to accelerate the implementation of Industry 4.0 through open platforms. Our iEP-5000G Industrial IoT Controller is integrated into the open-industrial control systems as distributed control nodes (DCN) to enable advanced control strategies for open process automation.



Results

Increased the competitiveness of manufacturing companies

Open platform avoided vendor lock-in for higher flexibility

Accelerated Industry 4.0 through open platforms