iEPF-9040S-EW4

Expandable Edge AIoT Platform

Preliminary

KEY FEATURES

- Intel® Core™ Processors (Series 2) 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 x 4 (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
- Supported NVIDIA GPU: RTX 4000 Ada, RTX 2000 Ada, RTX A2000, A2

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	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

Storage

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) 2 x RS232 (COM3, COM4)
DIO	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.

Environment

Operating Temperature (with FAN inside) (w/ air flow 0.5~0.8 m/s)	45W~65W CPU: -40°C~55°C (-40°F~131°F) (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)x290.8mm(D)x207.1mm(H)(8.26"x11.45"x7.94")
Net Weight	10kg

Others

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

NVIDA 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

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