



FPC-5211-E1

Intel® 14th / 13th / 12th Gen Core™ Fanless Edge AI Computer Supporting NVIDIA® RTX 2000A w/1x PCIe expansion



Features

- Fanless design (Embedded heat pipes cooling solution)
- 14th/13th/12th Generation Core™ i9/i7/i5/i3 Processor (Raptor Lake-Refresh-S/ Raptor Lake-S/Alder Lake-S)
- Up to 60W GPU MXM module expansion
- 1 x PCIe expansion
- DP x 2 + HDMI x 1 and DVI x 1 (support 4 independent displays)
- Power on/off delay control / configurable ignition power control
- Supports TPM 2.0 and Time-Sensitive Networking (TSN)
- Two-mPCIe for optional WiFi/3G/4G/GPS or I/O expansion supported
- Front-accessible I/O support
- 1 x M.2 B-Key for storage or 5G / LTE + 1 x M.2 E-Key for WiFi / BT
- 1 x M.2 M-Key for NVMe SSD

System

CPU	Intel® 14 th / 13 th / 12 th Gen Core™ i9/i7/i5/i3 processor in LGA1700 socket (Max 35W CPU)
Memory	2 x 262-pin DDR5 SO-DIMM sockets, supporting 4800 MHz SDRAM up to 64GB (ECC/ Non-ECC)
Chipset	Intel® R680E
Graphics	Integrated Intel® HD Graphics 770
ATA	2 x Serial ATA ports with 600MB/s HDD transfer rate
LAN Chipset	1 x Intel® WGI219LM GbE controller w/ iAMT 16.0 3 x Intel® I226 2.5G GbE controllers
Watchdog Timer	1~255 levels reset
TPM	Onboard TPM 2.0

I/O

Serial Port	2 x RS-232/422/485 configurable ports via DB-9 connectors (Default RS232, Switch via BIOS)
USB Port	8 x USB 3.2(10Gbps)/ 2.0 ports
LAN	4 x RJ-45 connectors for GbE
Display	2 x DP 1.4a from MXM module or Intel Graphics (Default Intel graphics switch via BIOS) 1 x HDMI 2.0b female connector for Digital Video output 1 x DVI-I female connector for Digital/ Analog video output * Support 4 independent displays
DIO Port	1 x DB15 connector for 8 x digital input (Dry/ Wet contact) with 2KV isolation 1 x DB15 connector for 8 x digital output with 2KV isolation
Audio	Mic-in/Line-out
Expansion Bus	1 x MXM3.1 TYPE A/B GPU Slot (PCIe Gen5 x16) MXM A2000 support 2 x mPCIe Slots interconnected with SIM card sockets for optional WiFi/BT/3G/LTE/ GPS (PCIex1+USB2.0, Full Size) 1 x M.2 B key (2242/3052/2280) w/ (PCIex2+USB3.0+SATA) interconnected with SIM for 5G / LTE expansion or for storage (either one) 1 x M.2 E key (2230) with PCIex1+USB2.0+CNVi for Wireless 1 x PCIe x 8 slot expansion (via x4 Lanes)

Environmental

Operating Temp.	-20 ~ 50°C (-4 ~ 122°F), ambient w/ air flow -20 ~ 65°C (-4 ~ 149°F), ambient w/ air flow (w / External SMART FAN kit) *A2000 GPU 100% loading without throttling
Storage Temp.	-40 ~ 85°C (-40 ~ 185°F)
Operating Humidity	10 ~ 95% @ 65°C (non-condensing)
Vibration	5~500Hz 3G rms X,Y,Z axis w/SSD, according to IEC 60068-2-64
Shock	50 Grms, Half-sine 11 m sec. duration w/ SSD, according IEC60068-2-27

Qualification

Certification	CE, FCC Class A, E mark.
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Power Requirement

Power Input	DC 9~36V input (w/ 4-pin DC input terminal block) (V+, V+, V-, V-)
Ignition Switch	2-pin terminal block: IGN, GND
Power Consumption	Max. 180W

Storage

Type	2 x 2.5" outside accessible drive bays 1 x M.2 B key (2242/2280) w/ (PCIex2+USB+ SATA) for storage or LTE expansion (either one) 1 x M.2 2280 M key supports 2242, 2280 devices (PCIe x4 & SATA signal, support boot up function)
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Mechanical

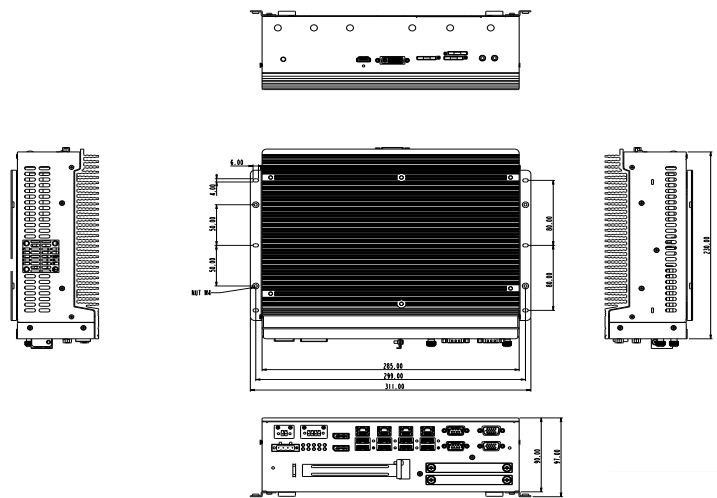
Construction	Aluminum alloy
Mounting	Wall-mount
Weight	5.83 Kg (12.85lb)
Dimensions (W x D x H)	285 x 230 x 90mm (11.22" x9.06" x 3.54"), Fanless 285 x 230 x 110mm (11.22" x9.06" x 4.33"), w/ FAN

OS Support

Windows 10 IoT Enterprise 64-bit / Windows 11 IoT Enterprise 64-bit Linux (Ubuntu 20.04)

Ordering Information

FPC-5211-E1	Edge AI GPU Computer Bare Bone, w/ 1x PCIe expansion
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Unit: mm

Optional Accessories

WMK-5210	Wall-mount kit for FPC-521x Series	
PAC-280W6C-MW	280W AC/DC adapter kit w/ 2-pin/3-pin/4-pin block	

Optional Configuration (CTOS* Kit)

MM-5C-8G/16G/32G	DDR5-4800 8GB/16GB/32G SDRAM DIMM module	
MXM-A2000-8G	MXM 3.1 Type A NVIDIA® Quadro® Embedded A2000_8GB (GDDR6 60W TGP)	
MXM-2000A-8G	MXM 3.1 Type A NVIDIA® Quadro® Embedded 2000Ada_8GB (GDDR6 60W TGP)	
WIFI-IN2550	Intel® AX200NGW M.2 Wi-Fi 6 module w/ 2 x 30cm internal wires	
ANT-H11	1 x 2dBi HSUPA antenna	
ANT-D11	1 x Wi-Fi dual-band 2.4G/5G antenna	
Core™ i9-14900T	Intel® 14 th Gen. Core™ i9-14900T processor, L3/36M, 1.1G	
Core™ i7-14700T	Intel® 14 th Gen. Core™ i7-14700T processor, L3/33M, 1.3G	
Core™ i5-14500T	Intel® 14 th Gen. Core™ i5-14500T processor, L3/24M, 1.7G	
Core™ i3-14100T	Intel® 14 th Gen. Core™ i3-14100T processor, L3/12M, 2.7G	
Core™ i9-13900TE	Intel® 13 th Gen. Core™ i9-13900TE processor, L3/36M, 1.0G	
Core™ i7-13700TE	Intel® 13 th Gen. Core™ i7-13700TE processor, L3/30M, 1.1G	
Core™ i5-13500TE	Intel® 13 th Gen. Core™ i5-13500TE processor, L3/24M, 1.3G	
Core™ i3-13100TE	Intel® 13 th Gen. Core™ i3-13100TE processor, L3/12M, 2.4G	
EXFAN-8015	External SAMRT Fan kit (80 x 80 x 15mm, 4 pin Terminal Block Plug, Mounting Bracket, support Smart Fan Function)	

*CTOS means Configure-to-Order Service.