MX1-10FEP-D

Embedded System for GPU Computing Supports Intel® Coffee Lake Xeon / Core-i Powerful Processor

Introduction

MiTAC's MX1-10FEP-D embedded system is the next generation embedded system with Intel® Coffee Lake C246 workstation chipset which can support Xeon and Core-i LGA1151 socket type processor. The excellent performance, powerful processor, OCP/OVP power protection, and expandable design provide the solution for every complicated task and most types of application.

The MX1-10FEP-D's 8.5 liter chassis design and Xpandable module design give it the possibility to implement the complicated tasks and for every workspace and environment. Flexibilities also mean a rich array of I/O ports (including 2 x Ethernet RJ45, 8 x USB, 1 x HDMI, 1 x DVI-I, 1 x DisplayPort, 2 x COM, PCIe X16 + X1 slots, 3-pin Terminal Block Power Input, and 3 x Expansion doors) to add a variety of peripherals. Storage expandability is supported for 3 x high-density hard drives in 2.5" HDD bracket design. The reserved space for dual PCIe slots can be used for 1 x GFX Card installation. Two mPCIe (shared with mSATA) slots provide the support of SSD and wireless interfaces which allow effortless connection to Wi-Fi and Bluetooth networks, and 4Gconnectivity. DIO/COM/LAN/PoE/Power Ignitoin expansion modules extend the capability and possibility to be used in more applications.

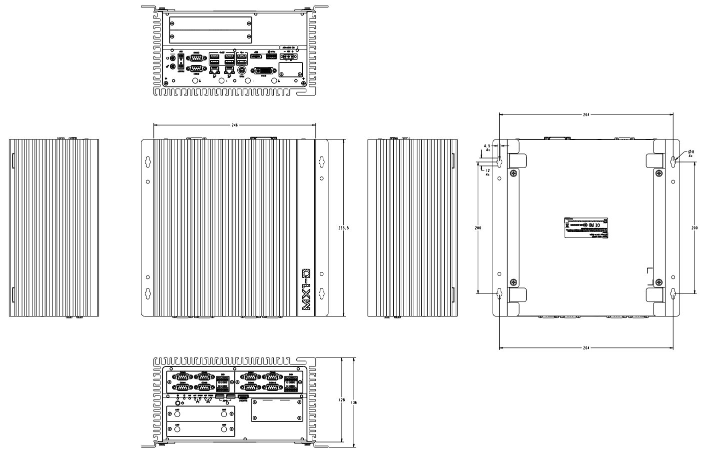
Isolation I/O

Power Ignition

8KV/15KV
High ESD protection

5G/50Grms
High shock & vibration protection

Dimension (mm)



Optional Peripheral

Model Number	Description
MS-48CDN-DT10 	Xpansion Module with 4 x RS232 / 422 / 485, 8-bit Isolated DIDO (4 x DI, 4 x DO)
MS-04LAN-R10 	Xpansion Module with 4 x Intel i210-IT Giga LAN, RJ45 Port
MS-04LAN-M10 	Xpansion Module with 4 x Intel i210-IT Giga LAN, M12 Port
MS-04POE-R10 	Xpansion Module with 4 x PoE+, Intel i210-IT Giga LAN, RJ45 Port
MS-04POE-M10 	Xpansion Module with 4 x PoE+, Intel i210-IT Giga LAN, M12 Port
ME-02POE-R10 	Xpansion Module with 2 x PoE +, Intel i210-IT Giga LAN, RJ45 Port
MS-01IGN-S10 	Vehicle Power Ignition Card, 12V/24V and Power ON/OFF Timing Selectable
220W Power Adapter	AC to DC, DC24V / 9.2A, 220W*
300W Power Adapter	AC to DC, DC24V / 12.5A, 300W*

* Safety Operating: 0~40°C, parctical Operating: -30~60°C (Over 40°C need derating by 2.5%/°C).
* AC to DC Accessory for industrial application. Not for railay application

MX1-10FEP-D Embedded System for GPU Computing

MITAC COMPUTING TECHNOLOGY CORP.

SYSTEM	
CPU	9th & 8th Gen Intel® Coffee Lake Xeon LGA1151 Socket Processor, 6-core TDP Max. 80W 9th & 8th Gen Intel® Coffee Lake LGA1151 Socket Processor, Core i7/i5/i3 6-core TDP Max. 65W, Core i9 8-core TDP Max 35W
Chipset	Intel® C246
System Memory	DDR4 2666MHz, 2 x 260-pin SO-DIMM, Max. 32GB (Xeon: ECC; Core-i: Non-ECC)
Graphics	Intel® HD Graphics
Display Interface	HDMI, DisplayPort, DVI-I
Storage Slot	3 x 2.5 HDD / SSD (1 w/ Removable HDD Bay, 2 w/ Internal HDD Bracket) 2 x mSATA
Ethernet	Intel® I219-LM Giga LAN + I210-IT Giga LAN
Audio	Realtek® ALC662
I/O Chipset	Nuvoton NCT6116D
TPM	Nuvoton NPCT750AAAYX
Expansion Slot	Storage: M.2 2242 / 2260 / 2280 M key (PCIe X4 / SATA) Storage/LTE/Wireless: 2 x Mini PCIe Full / Half size (USB / PCIe / SATA), w/ SIM Card Holder Wireless: M.2 2230 E key (PCIe / USB) PCIe 3.0 X16, PCIe 3.0 X1 (Option: 2 x PCIe 3.0 X8)
Indicator	Power LED, HDD LED, DIO LED, LAN1 & 2 ACT / SPEED
FRONT I/O	2 x USB 3.0 1 x HDMI 1.4 2 x SIM Card Slot w/ Cover 1 x 2.5" SATAIII HDD / SSD Bay
REAR I/O	4 x USB 3.1 Gen 2 (Gbps), 2 x USB 2.0, 2 x RJ-45 , 1 x DisplayPort 1.2, 1 x DVI-I, 1 x PS/2 2 x RS232 / 422 / 485 (Support Power 5V / 12V), 1 x Mic-in, 1 x Line-out 1 x 2-pin Terminal Block Remote Power on / off 1 x 2-pin Terminal Block Remote Power reset 1 x 4-pin Terminal Block External Fan Connector 1 x 3-pin Terminal Block Power Input 4 x SMA Antenna (Optional for WiFi/LTE function)
POWER REQUIREMENT	
Power Input	9~48V Wide Rage DC Input w/ Terminal Block Connectivity
MECHANICAL	
Thermal Design	a. Fanless w/o Venting Holes b. With 2 x Internal System Fan (Supporting NVIDIA P4/T4/GTX1650/GTX1660 GPU Cards)
Mounting / Material	Wallmount / Top cover: Aluminum Alloy , Bezel and chassis: Steel
Dimension	10.6" x 9.7" x 5.0" (268 mm x 246 mm x 128 mm)
ENVIRONMENTAL	
Operating Temperature	35W TDP Processor: -40°C to 70°C 51~65W TDP Processor: -40°C to 50°C 71~80W TDP Processor: -40°C to 40°C *The operating temperature is based on fanless design w/o GPU card installation. **with 0.7m/s Air Flow and Wide Temperature Memory/Storage
Operating Humidity	10%~90% R/H (Non-condensing)
Vibration Resistance	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
Shock Resistance	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
Certification	EMC: CE & FCC Safety: compliant with LVD,EN60950-1 / EN62368-1 Compliant with EN50155/EN50121/E-mark
OS	
OS Support	Windows® 10 64-bit, Linux (support by request)

Ordering Information

Model Number	PCIe Slot	Thermal	Power	AC Adaptor
MX1-10FEP-D-C246-FL	X16 + X1	Fanless	9~48V Wide Rage DC Input w/ Terminal Block Connectivity	None
MX1-10FEP-D-C246-FL-AC300	X16 + X1	Fanless	9~48V Wide Rage DC Input w/ Terminal Block Connectivity	300W AC to DC Adaptor
MX1-10FEP-D-C246-IF-AC300	X16 + X1	2 x Internal System Fan	9~48V Wide Rage DC Input w/ Terminal Block Connectivity	300W AC to DC Adaptor
MX1-10FEP-D-C246-IEF-AC300	X16 + X1	2 x Internal System Fan 1 x External System Fan	9~48V Wide Rage DC Input w/ Terminal Block Connectivity	300W AC to DC Adaptor

Packing List

Packing

- 1 x MX1-10FEP-D
- 1 x CPU Cooler (passive)
- 1 x Screw Pack (For HDD)
- 1 x 3-pin Terminal Block Connector
- 1 x DVI to VGA converter
- 2 x 2-pin Terminal Block Connector
- 1 x 4-pin Terminal Block Connector
- 1 x Wall Mount Bracket
- 1 x Driver CD