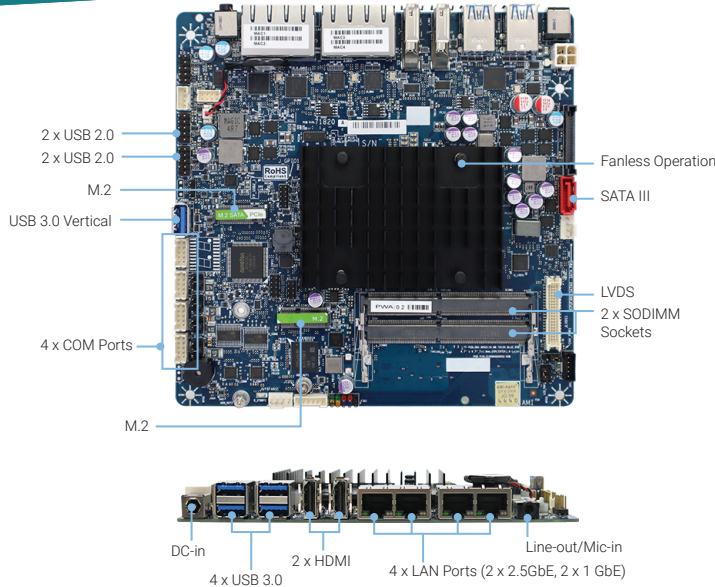




# MX6412J

Intel® Celeron J6412 SoC Fanless Thin Mini-ITX  
Motherboard supports 4 LAN, M.2 NVMe SSD



## Features

- Intel® Celeron J6412 Quad Core SoC up to 2.6GHz Burst Frequency, Elkhart Lake Platform
- 4 x RJ45 LAN Ports: 2 x 2.5GbE, 2 x 1GbE
- Supports Three Independent Displays
- 5 x USB 3.0 and 4 x USB 2.0
- 1 x M.2 E-Key, 1 x M.2 NVMe
- 4 x COM Ports, 1 x SATA III, GPIO, I<sup>2</sup>C
- TPM 2.0
- Fanless Operation
- 12-24V DC-in

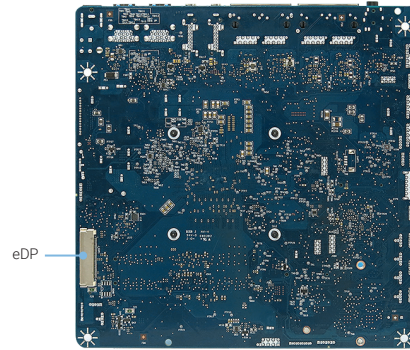
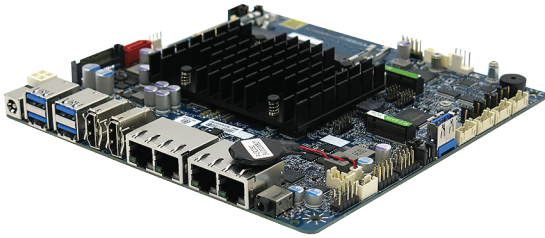
## SPECIFICATIONS

System	
Processor	Intel® Celeron J6412 Quad Core SoC, 1.2 GHz up to 2.6GHz Burst Frequency, Elkhart Lake Platform Cooling: Passive Heatsink
Memory	2 x 260-pin SODIMM DDR4 Memory Slots, support up to 32GB
BIOS	AMI® 256Mb SPI BIOS
Audio	Realtek HD Audio
Expansion	1 x M.2 E-Key 2230 (with PCIe x1 & USB 2.0 Signal) 1 x M.2 M-Key 2280/2242 (with PCIe x2 & SATA III Signal)
Storage	Onboard eMMC (Optional)
TPM	TPM 2.0
Watchdog Timer	1 Sec ~ 255 Sec
H/W Status Monitor	Monitoring System Temperature and Voltage with Auto Throttling Control
Supported OS	Windows 10 64-bit Linux Ubuntu
Graphics	
Integrated Graphics	Intel® UHD Graphics for 10th Gen Intel® Processors
Resolution	2 x HDMI: Max. Resolution 4096x2160, 4K @ 30Hz
LVDS	18/24 bits Dual Channel LVDS
Multi-Display	Supports Three Independent Display
Ethernet / LAN	
Controller	2 x Intel® Ethernet Controller I225-LM/I226-LM (2.5GbE) 1 x Intel® Ethernet Controller I210-AT (1GbE) 1 x Intel® Ethernet Controller I210-AT (1GbE)
Connector	4 x RJ45 LAN

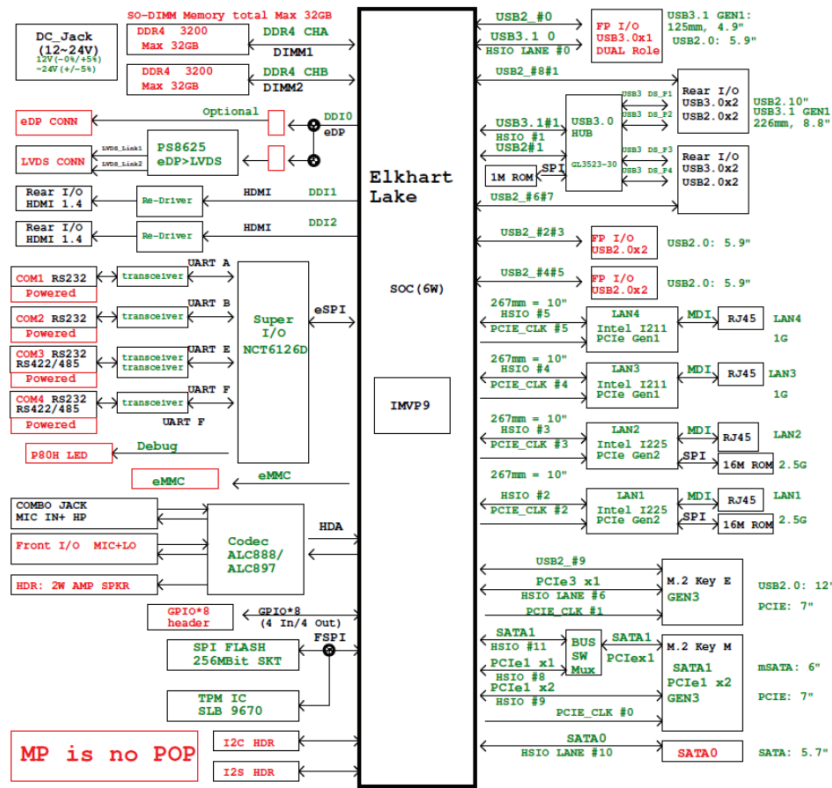
External I/O Ports	
Display	2 x HDMI
USB	4 x USB 3.0
LAN	4 x RJ45
Audio	Line-out/Mic-in
DC-in	1 x Barrel Type DC-In Connector
Internal I/O Connectors	
Display	1 x LVDS/eDP Header, 1 x Backlight Header
USB	2 x USB 2.0 Header (4 x USB 2.0 Ports) 1 x Dual Mode USB 3.0 Vertical Type A Connector
COM/Serial Port	2 x RS-232/422/485 Header 2 x RS-232 Header
SATA	1 x SATA III Connector (Red) 1 x 15-pin SATA Power Connector
I <sup>2</sup> C	1 x I <sup>2</sup> C Header
GPIO	1 x 8-bits GPIO Header (4 In/4 Out)
DC-in	1 x 4-Pin DC-In Connector
Other	1 x SPI Header, 1 x eSPI Header, Front Audio, Front Panel, 1 x Amplifier Locking Type Header, CMOS Battery
Mechanical, Power, and Environment	
Power Requirement	12V – 24V Wide Range DC-In
Operating Temp.	0°C to 60°C (32°F ~ 140°F)
Storage Temp.	-10°C to 60°C (-14°F ~ 140°F)
OP Humidity	5% to 85% Non-condensing
Form Factor	Mini-ITX
Dimensions	6.7" x 6.7" (170mm x 170mm)
Certification	FCC Class B/CE, RoHS Compliant
Weight	0.88 lbs

\* All product specifications and images are subject to change without notice. Last update: 04/03/2026

# SPECIFICATIONS / ADDITIONAL PRODUCT PHOTOS



## BLOCK DIAGRAM



## ORDERING INFORMATION

Model Name	CPU/CPU Socket	Memory / Storage	LAN	Low Profile I/O	Power Input
MX6412J	Intel J6412 Onboard	2 x SO-DIMM sockets	4 x LAN	Yes	DC-in 12-24V
Model Name	Description				
18300000006	2.00mm pitch 12" length Serial cable				
182437200040	2.54mm pitch 14" length Dual port USB cable w/ full height bracket				

## PACKING LIST

- ✓ 1 x MX6412J Motherboard
- ✓ 1 x SATA Power Cable
- ✓ 1 x Full Size I/O Shield
- ✓ 1 x Half Size I/O Shield



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