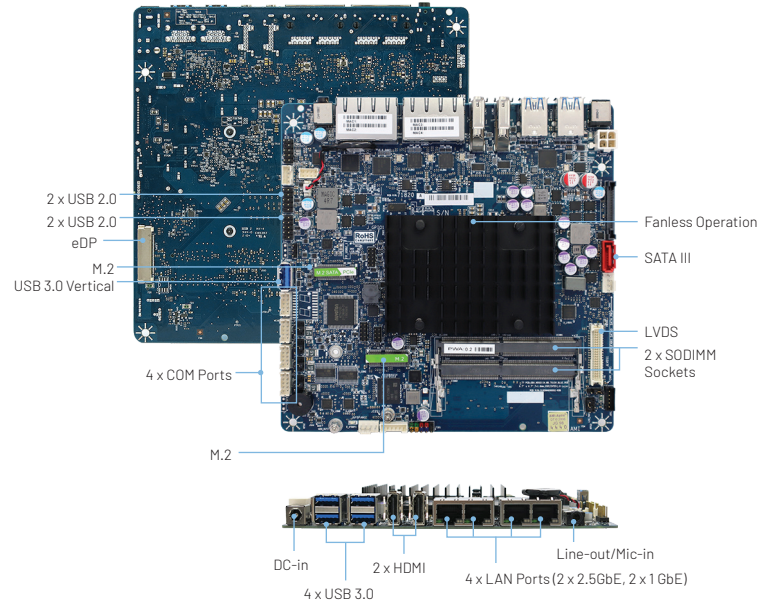


## Features

- Four (4) LAN/Ethernet Ports onboard
- 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	
<b>CPU</b>	Intel® Celeron J6412 Quad Core SoC, 1.2 GHz up to 2.6GHz Burst Frequency, Elkhart Lake Platform
<b>System Memory</b>	2 x 260-pin SODIMM DDR4 Memory Slots, support up to 32GB
<b>BIOS</b>	AMI® 256Mb SPI BIOS
<b>Super I/O</b>	Nuvoton® NCT6126D
<b>Ethernet</b>	LAN 1: Intel® I225-LM (2.5GbE) Ethernet Controller LAN 2: Intel® I225-LM (2.5GbE) Ethernet Controller LAN 3: Intel® I210-AT (1GbE) Ethernet Controller LAN 4: Intel® I210-AT (1GbE) Ethernet Controller
<b>Audio</b>	Realtek HD Audio
<b>Expansion</b>	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)
<b>Storage</b>	Onboard eMMC (Optional)
<b>TPM</b>	TPM 2.0
<b>Watchdog Timer</b>	1 Sec ~ 255 Sec
<b>H/W Status Monitor</b>	Monitoring System Temperature and Voltage with Auto Throttling Control
<b>Supported OS</b>	Windows 10 64-bit Linux Ubuntu 20.04
Display	
<b>Integrated Graphics</b>	Intel® UHD Graphics for 10th Gen Intel® Processors
<b>Resolution</b>	2 x HDMI: Max. Resolution 4096x2160, 4K @ 30Hz
<b>LVDS</b>	18/24 bits Dual Channel LVDS
<b>Multi-Display</b>	Supports Three Independent Display

External I/O	
<b>Display</b>	2 x HDMI
<b>USB</b>	4 x USB 3.0
<b>LAN</b>	4 x RJ45
<b>Audio</b>	Line-out/Mic-in
<b>DC-in</b>	1 x Barrel Type DC-In Connector
Internal I/O	
<b>Display</b>	2 x RS-232/422/485 Header 2 x RS-232 Header
<b>USB</b>	2 x USB 2.0 Header (4 x USB 2.0 Ports) 1 x Dual Mode USB 3.0 Vertical Type A Connector
<b>I<sup>2</sup>C</b>	1 x I <sup>2</sup> C Header
<b>LVDS/eDP</b>	1 x LVDS/eDP Header, 1 x Backlight Header
<b>GPIO</b>	1 x 8-bits GPIO Header (4 In/4 Out)
<b>SATA</b>	1 x SATA III Connector (Red) 1 x 15-pin SATA Power Connector
<b>DC-in</b>	1 x 4-Pin DC-In Connector
<b>Other</b>	1 x SPI Header, 1 x eSPI Header, Front Audio, Front Panel, 1 x Amplifier Locking Type Header, CMOS Battery

#### Mechanical & Environment

<b>Power Requirement</b>	12V – 24V Wide Range DC-In
<b>Operating Temp</b>	0°C to 60°C (32°F ~ 140°F)
<b>Storage Temp</b>	-10°C to 60°C (-14°F ~ 140°F)
<b>Operating Humidity</b>	5% to 85% Non-condensing
<b>Form Factor</b>	Mini-ITX
<b>Dimensions</b>	6.7" x 6.7" (170mm x 170mm)
<b>Certification Information</b>	FCC Class B/CE/UL/CB, RoHS
<b>Weight</b>	0.88 lbs
<b>Certification</b>	FCC Class B/CE, RoHS Compliant

#### Ordering Info

MX6412J	Intel Celeron J6412 Quad Core Mini-ITX Motherboard
Accessories	1 x SATA Signal Cable 1 x SATA Power Cable 1 x Full Size I/O Shield 1 x Half Size I/O Shield
18300000006	2.00mm pitch 12" length Serial cable
182437200040	2.54mm pitch 14" length Dual port USB cable w/ full height bracket

\* All product specifications and images are subject to change without notice. Last update: 10/16/2023



**BCM Advanced Research**

11 Chrysler, Irvine, CA 92618 USA  
An Industry Leader in Industrial Motherboards  
& Embedded Computing

**www.bcmcom.com**

BCMSales@bcmcom.com  
(949) 470-1888