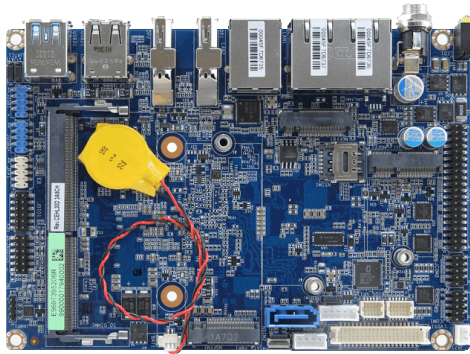




## ECM-EHL3

### Intel® Elkhart Lake 3.5" Micro Module

Bottom Layer Soldered Processor

Single DRAM Socket, Max, Up to 32GB DDR4 3: (non-ECC Supported)

Triple Display, 2 x DP++, 1 x 2CH LVDS (share v default LVDS)

Triple Expansion Slot, M.2 Key-B, M.2 Key-E, M.

Three Gigabit Ethernet, 1 x 2.5GbE, 2 x 1GbE

Wide DC-Input, +9~36Vdc

#### + Spec

#### .System Information-

##### Processor

Onboard Intel® Pentium®/Celeron®/Atom™ SoC BGA Processor (Elkhart Lake Platform 4.5~12W)- (with CPU Bottom Layer Soldered Processor)  
Intel® Celeron® J6412 Processor (1.5M Cache, up to 2.60 GHz)  
Intel® Celeron® J6413 Processor (1.5M Cache, up to 3.00 GHz)  
Intel Atom® x6413E Processor (1.5M Cache, up to 3.00 GHz)  
Intel Atom® x6425RE Processor (1.5M Cache)

##### Platform Controller Hub

Elkhart lake SoC integrated

##### System Memory

Single 260-pin DDR4 SODIMM Socket, Supports Up to 32GB DDR4 3200MTs SDRAM

##### I/O Chipset

EC ITE IT5571

##### BIOS Information

AMI BIOS, 256Mbit SPI Flash ROM

##### Watchdog Timer

H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step

##### H/W Status Monitor

CPU & system temperature monitoring Voltages monitoring

##### TPM

On board NuvoTon NPCT754AADYX support TPM 2.0

#### .Expansion

##### Expansion

1 x M.2 Key E 2230 support WiFi module (PCI-e x1 & USB 2.0 Signal)  
1 x M.2 Key B 3042/2242, standard package with 3042 to 3052 bracket + screw set (with SATA and USB3.0/USB2.0, support WWAN+GNSS or SSD)  
1 x M.2 Key M support 2260 slot, standard package with 2260 to 2242 bracket + screw set (with 1 x PCI-e x1 signal)

#### .Storage

##### Storage

1 x M.2 (Key-B)  
1 x M.2 (Key-M)  
1 x SATA III

#### .I/O

##### USB Port

2 x USB 3.1 Gen2, 2 x USB2.0 at I/O  
4 x USB2.0 by pin header

##### COM Port

2 x RS-232/422/485  
4 x RS232

##### SATA

1 x SATA III

##### DIO

1 x 8-bit GPIO

##### MIO

1 x eSPI

##### Other

3 x LAN

#### .Display

##### Graphic Chipset

Intel® UHD Graphics

##### Spec. & Resolution

DP++ Max resolution 4096x2160@60Hz  
LVDS Max resolution 1920 x 1080 Dual channel 18/24-bits  
eDP1.3 Max resolution 4096x2160@60Hz

##### Multiple Display

Triple Display

##### LVDS

1 x LVDS: 1920 x 1080 Dual channel 18/24-bits LVDS (Chrontel CH7511B-BF eDP to LVDS)share with eDP by switch

#### .Audio

##### Audio Codec

Realtek ALC888S

##### Audio Interface

Line-out, Line-in, Mic-in

##### Audio Amplifier

3W Amplifier

#### .Certifications

##### Certification Information

CE  
FCC Class B

#### .Ethernet

##### LAN Chipset

Intel® I226LM, I210AT

##### Ethernet Interface

1 x 10/100/1000/2.5G Base-Tx GbE compatible  
2x 10/100/1000 Base-Tx GbE compatible

##### LAN Port

3 x RJ-45

#### .Mechanical & Environmental



|                      |                                                                                                                                                                                                                                                                            |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage Temperature  | -40°C ~ 75°C (-40°F ~ 167°F)                                                                                                                                                                                                                                               |
| Operating Humidity   | 40°C @ 95% Relative Humidity, Non-condensing                                                                                                                                                                                                                               |
| Weight               | 0.44lbs (0.2kg)                                                                                                                                                                                                                                                            |
| Power Requirement    | DC in +9V ~ +36V                                                                                                                                                                                                                                                           |
| ACPI                 | Single power ATX Support S0,S3, S4, S5<br>ACPI 5.0 Compliant                                                                                                                                                                                                               |
| Power Mode           | AT/ATX (Default Setting: AT)                                                                                                                                                                                                                                               |
| Dimension (L x W)    | 5.7" x 4" (146mm x 101mm)                                                                                                                                                                                                                                                  |
| Software Support     |                                                                                                                                                                                                                                                                            |
| OS Information       | Win 10<br>Linux                                                                                                                                                                                                                                                            |
| Ordering Information |                                                                                                                                                                                                                                                                            |
| Ordering Information | ECM-EHL3-J6412-A1R<br>ECM-EHL3/J6412/1SATA/6COM/8USB/3LAN/A1<br><br>ECM-EHL3-J6413-A1R<br>ECM-EHL3/J6413/1SATA/6COM/8USB/3LAN/A1<br><br>ECM-EHL3-X13E-A1R<br>ECM-EHL3/X6413E/1SATA/6COM/8USB/3LAN/A1<br><br>ECM-EHL3-X25RE-A1R<br>ECM-EHL3/X6425RE/1SATA/6COM/8USB/3LAN/A1 |

