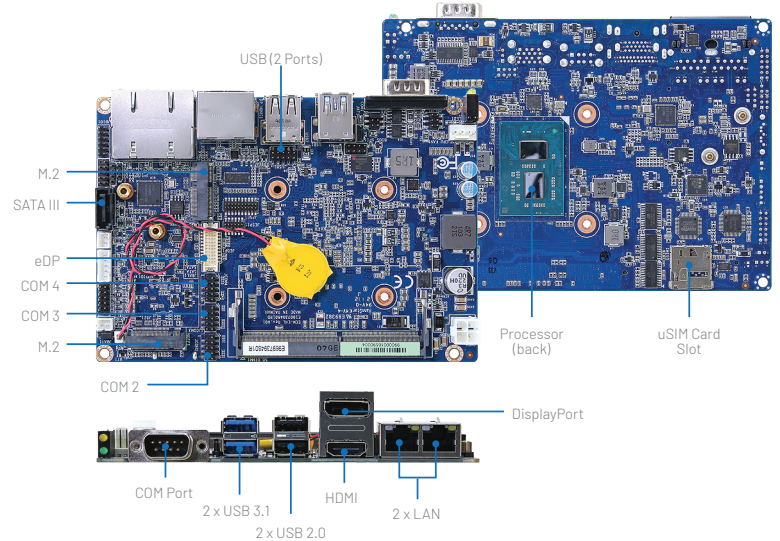


Features

- Intel® Celeron®/Atom™ Elkhart Lake SoC BGA Processor
- Bottom Layer Soldered Processor
- 1 x SODIMM socket supports up to 32GB DDR4 3200MTs SDRAM
- Supports 3 Independent Displays
- M.2 B-Key, M.2 E-Key, uSIM Card Slot
- 4 x COM Ports
- 2 x USB 3.1 Gen 2 (10Gbps), 4 x USB 2.0
- 2 x Intel® I226-LM 2.5GbE Ethernet Controllers
- Select SKU supports Extended Temperature -40°C ~ 85°C
- +9~36V Wide Range DC Input

Specifications

System	
Processor	Intel® Pentium®/Celeron®/Atom™ SoC BGA Processor (Elkhart Lake Platform 4.5~12W)- (with CPU Bottom Mounted) Intel® Celeron® J6413 Processor (1.8M Cache, up to 3.00 GHz) Intel Atom® x6413E Processor (1.5M Cache, up to 3.00 GHz) Intel Atom® x6425RE Processor (1.9M Cache, up to 1.90 GHz)
System Chipset	Intel® Elkhart Lake SoC Integrated
System Memory	1 x 260-pin DDR4 SODIMM Socket, supports up to 32GB DDR4 3200MTs SDRAM
I/O Chip	EC ITE IT5571
BIOS	AMI BIOS, 256Mbit SPI Flash ROM
Expansion	1 x M.2 (B Key, 2242/3042, PCIe x2, or (PCIe x1 + USB 3.1 GEN 2), or (SATA III + USB 3.1 GEN 2), USB 2.0, uSIM Slot for SSD/LTE/IO Cards) *Default is PCIe x1/SATA III + USB 3.1 GEN 2 1 x M.2 (E Key, 2230, PCIe x1, USB 2.0)
Storage	via 1 x M.2 (B Key, 2242), 1 x SATA III
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec and 1sec. or 1min./step
TPM	Nuvoton_NPCT750AAAYX/ Infineon_SLB9670VQ02.0 TPM 2.0
Supported OS	Win 10, Linux
Display	
Chipset	Intel® UHD Gen 11 LP
Resolution	HDMI 2.0b Max resolution 4096x2160@60Hz DP 1.4a Max resolution 4096x2160@60Hz eDP1.3 Max resolution 4096x2160@60Hz
Display Output	Supports Three Independent Display
Audio	
Chipset	Realtek HD Audio
Interface	Mic-in, Line-in, Line-out in Pin Header
Ethernet	
Chipset	2 x Intel® I226-LM/IT Ethernet Controllers
Interface	2 x 10/100/1000/2500 Base-Tx GbE Compatible
LAN Port	2 x RJ45



I/O	
Display	1 x HDMI, 1 x DisplayPort
USB	2 x USB 3.1(Gen2 10Gbps), 4 x USB 2.0
COM Port	1 x RS-422/485, 3 x RS-232
LAN Port	2 x RJ45
SATA	1 x SATA III
DIO	1 x 2x6-Pin Header (2.0mm) for 8-bit GPIO, SMBUS, +5V,GND
MIO	1 x eSPI

Mechanical & Environment	
Power Requirement	Typical 12/24Vdc (+9~ 36Vdc)
ACPI	Single power ATX Support S0,S3, S4, S5 ACPI 5.0 Compliant
Power Type	AT/ATX (Default Setting: AT)
Operating Temperature	Standard Temperature: 0°C ~ 60°C with 0.2m/s air flow Wide Temperature: -40°C ~ 85°C with 0.5m/s air flow
Storage Temp	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Form Factor	3.5" Single Board Computer (SBC)
Dimension	5.7" x 4" (146mm x 101mm)
Weight	0.44lbs (0.2kg)
Vibration Test	1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/Axis, 3 Axis
Shock Test	10G, IEC 60068-2-27, Half Sine, 11ms, Z Axis
Drop Test	ISTA 2A, IEC-60068-2-32 Test : Ed, 1 Corner, 3 Edges, 6 Faces
Certification Information	CE FCC Class B

Ordering Info	
ECM-EHL-J6412	Intel® Celeron J6412 2.0GHz Quad Core Micro Module, Fan-less, 2 x LAN, 4 x COM, 6 x USB, 8-GPIO, +9V~+36V, 0~60C
ECM-EHL-J6413	Intel® Celeron J6413 1.8GHz Quad Core Micro Module, Fan-less, 2 x LAN, 4 x COM, 6 x USB, 8-GPIO, +9V~+36V, 0~60C
ECM-EHL-x6413E	Intel® Celeron J6413 1.8GHz Quad Core Micro Module, Fan-less, 2 x LAN, 4 x COM, 6 x USB, 8-GPIO, +9V~+36V, 0~60C
ECM-EHL-x6425RE	Intel® ATOM x6425RE 1.9GHz Quad Core Micro Module, Fan-less, 2 x LAN, 4 x COM, 6 x USB, 8-GPIO, +9V~+36V, -40~85C

* All product specifications and images are subject to change without notice. Last update: 02/17/2023



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