EMS-EHL-6LAN

Intel® Elkhart Lake Celeron®/Atom® Processor Fanless Rugged Embedded System, w/LAN IET Module



Features

- Intel® Celeron®/Atom™ J6413/x6425E SoC BGA Processor
- 1 x 260-pin SODIMM socket Max. up to 32GB DDR4 3200MT/s
- Rich I/O, 4-USB3.2, 2-USB2.0, 1-DP, 1-HDMI, 2-COM, 6-LAN, 1-8bit GPIO
- Support 4 ports LAN Bypass function (w/ IET-6LAN Bypass)
- Support 5G (Sub-6G) module, HDMI 2.0b (4K @ 60Hz), LAN 2.5G Base-Tx GbE
- Fanless operation temperature from -40°C ~ 70°C (WT) / 0°C ~ 65°C (ST)
- CE, FCC Class B, LVD 62368-1, IP50
- Wide range DC power input from +9~36V
- Support HW TPM 2.0

Modular Design | 5G/ Wi-Fi 6E Available | Vibration/ Shock 5G/55G | ST 0~65°C WT -40~70°C | Wide-DC Input 9~36Vdc

Specifications

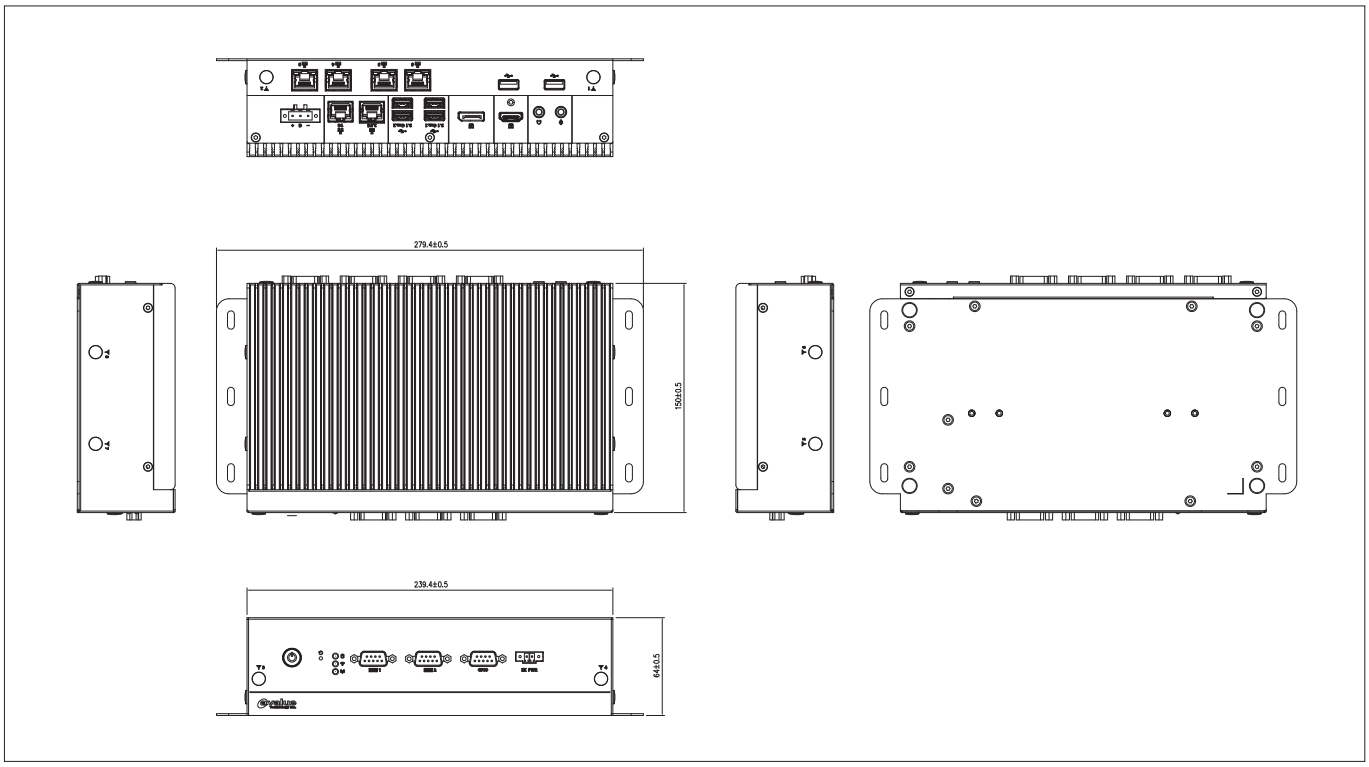
System Information	
Processor	Intel® Celeron® J Series Processor, BGA 1493 (former Elkhart Lake) Intel® Celeron® J6413 Processor, 4C4T, 1.5M Cache, 1.8GHz (3.0GHz), TDP: 10W, ST Intel® Atom® x6425E Processor, 4C4T, 1.5M Cache, 2.0GHz (3.0GHz), TDP: 12W, WT
System Memory	1 x 260-pin SODIMM socket Max. Up to 32GB DDR4 3200 MT/s
Watchdog Timer	H/W Reset, 1sec. ~ 65535sec.
H/W Status Monitor	CPU & system temperature monitoring and Voltages monitoring
TPM	TPM 2.0
Expansion	
M.2	1 x M.2 Key-B 2242/3042/3052 support SATA3/ PCIe III/ USB3.2 Gen.1 and SIM slot1 (internal), default support 3.3V, jumper setting to adjust 3.3V/ 3.8V 1 x M.2 Key-E 2230 for Wi-Fi & BT Module (USB2.0/ PCIe III)
Storage	
M.2	1 x M.2 Key-B 2242/2280, support SATA 1 x M.2 Key-B 2242, support SATA (share with expansion slot)
Front I/O	
Power Button	1 x Push Button for Power on/off
Reset Button	1 x Push Button for Reset
LED Indicator	1 x Power LED (Blue) 1 x Storage LED (Yellow)- M.2 B-key SATA 1 x LTE LED (Green)- M.2 B-key PCIe 1 x Wifi LED (Green)- M.2 E key
COM Port	2 x COM RS232/422/485 (select via BIOS, auto flow control via HW)
Digital I/O	1 x 8-bit GPIO (DB9)
Wire-Control Power On/Off	1 x 2-Pin Terminal Block for wire-control power on/off
Antenna	2 x Antenna with dust cover
Rear I/O	
USB	2 x USB 3.2 Gen.2 (10Gbp/s) 2 x USB 3.2 Gen.1 (5Gbp/s) 2 x USB 2.0
LAN Port	6 x RJ45, 4 ports support bypass function (EMS-EHL-6 LAN Bypass) 6 x RJ45 (EMS-EHL-6 LAN Normal)
Audio	1 x Mic-In, 1 x Line-Out
DP	1 x DP++
HDMI	1 x HDMI
Antenna	2 x Antenna with dust cover
AC/DC Input	1 x 3-Pin Terminal Block (V+. V-, GND)

Right I/O	
Antenna	2 x Antenna with dust cover
Left I/O	
Antenna	2 x Antenna with dust cover
Display	
Graphic Chipset	Intel® UHD Graphics for 10th Gen Intel® Processors
Resolution	DP++ : Max. resolution 4096x2304 @ 60Hz HDMI : Max. resolution 4096x2304 @ 60Hz
Audio	
Audio Codec	Realtek ALC888S (co-lay with ALC897) HD codec
Ethernet	
LAN Chipset	2 x Intel I226-IT, 4 x Intel® I210-IT(WT) or I210-AT (ST)
Specification	2 x 10/100/1000/2.5G Base-Tx GbE compatible 4 x 10/100/1000Base-Tx GbE compatible
Power Requirement	
Voltage Input Spec.	DC in 12/24V (+9V ~ +36V), wide voltage single power input TVS component for surge protection Reverse current/voltage protection (Max. Currency: 13A)
Voltage Input Connector	3-Pin Terminal Block (V+. V-, GND)
ACPI	Single power ATX Support S0,S3, S4, S5 ACPI 5.0 Compliant
Power Mode	AT/ATX (ATX is default setting)
Software Support	
OS	Win 10 64bit / Win 11 64 bit/ Linux
Certification	
Certification Information	CE, FCC Class B, LVD 62368-1
Mechanical & Environmental	
Operating Temp.	-40°C ~ 70°C (w/SSD) ambient w/ 0.5 air flow, WT sku, x6425E 0°C ~ 65°C (w/SSD) ambient w/ 0.5 air flow, ST sku, J6413
Storage Temp.	-30°C ~ 70°C (-22°F ~ 158°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Dimension (W x L x H)	240mm x 150mm x 64 mm (w/ IET module)
Weight	1.9 kg (System), 2.7 kg (w_Package)
Vibration Test	With SSD : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 0.5hr/axis
Shock Test	With SSD : 55Grms, IEC 60068-2-27, Half Sine, 11ms
IP Rating	IP 50
Mounting Kit	Wall mount kit (standard), DIN RAIL (optional)

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Mechanical Drawing



Ordering Information

P/N	Processor	Chipset	Memory	Storage	Adapter/ PSU	Mounting Kit	Temp.
EMS-EHL-J64-A1-BR (Support 4 Ports Bypass)	Intel® Celeron® J6413 Processor	N/A	4GB DDR4 (Up to 32G Optional)	(Optional)	60W Adapter (Optional)	Wall Mount (Din Rail Optional)	0°C ~ 65°C
EMS-EHL-J64-A1-CR	Intel® Celeron® J6413 Processor	N/A	4GB DDR4 (Up to 32G Optional)	(Optional)	60W Adapter (Optional)	Wall Mount (Din Rail Optional)	0°C ~ 65°C
EMS-EHL-X64-A1-BR (Support 4 Ports Bypass)	Intel® Atom® x6425E Processor	N/A	4GB DDR4 (Up to 32G Optional)	(Optional)	60W Adapter (Optional)	Wall Mount (Din Rail Optional)	-40°C ~ 70°C
EMS-EHL-X64-A1-CR	Intel® Atom® x6425E Processor	N/A	4GB DDR4 (Up to 32G Optional)	(Optional)	60W Adapter (Optional)	Wall Mount (Din Rail Optional)	-40°C ~ 70°C

Packing List

Item	Quantity
EMS-EHL Intel® Elkhart Lake Celeron®/Atom® Processor Fanless Rugged Embedded System, w/LAN IET Module	1
Terminal block to lockable DC Jack cable	1
DP to VGA Converter	1
Wire tie for HDMI	1
Screw driver for chassis	1
Screw Kits for Peripheral	1

Optional Items

Item	P/N
AC/DC adapter 12V/5A 90 Screw Type	ACC-ADP-060N-14R ACC-ADP-060N-08R
Power Cord 3P(F)-3P(M) 183cm, USA type	E1702031833R
Power Cord SL-6+SL-3 183cm, EU type	E1702031000R
Power Cord 3P(F)-3P(M) 183cm, Japan w/PSE type	E1702031834R
Power Cord QP-026+SL-3 183cm, UK type	E170P060380R
Power Cord 3P(F)-3P(M) 183cm, Australia type	E1702031831R
Din Rail Kit	-

I/O Overview

