



## EMS-EHL

### Intel® Celeron®/Atom™ SoC Processor J6413/x6425E Fanless Rugged Embedded System

- > On board 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, 1-DP, 1-HDMI, 2-COM, 2-LAN, 1-8bit GPIO.
- > 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
- > Support IET modules

**Spec**

System Information	
<b>Processor</b>	Intel® Celeron® Processor J6413 (1.5M Cache, up to 3.00Ghz), ST, Tj=105°C Intel® Atom® Processor x6425E(1.5M Cache, up to 3.00Ghz), WT, Tj=-40°C ~105°C
<b>System Memory</b>	1 x 260-pin SODIMM socket Max. Up to 32GB DDR4 3200 MT/s
<b>Watchdog Timer</b>	H/W Reset, 1sec. ~ 65535sec.
<b>H/W Status Monitor</b>	CPU & system temperature monitoring and Voltages monitoring
<b>TPM</b>	TPM 2.0
<b>SBC</b>	EBM-EHLS
-Expansion-	
<b>M.2</b>	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)
<b>IET</b>	1 x IET interface (1 x DDI, 4x PCIeIII x1, 3 x USB2.0, 1 x Line-Out(R/L), 1 x SMBus, LPC)
-Storage-	
<b>M.2</b>	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-	
<b>COM Port</b>	2 x COM RS232/422/485 (select via BIOS, auto flow control via HW)
<b>Power Button</b>	1 x Push Button for Power on/off
<b>Reset Button</b>	1 x Push Button for Reset
<b>Wire-Control Power On/Off</b>	1 x 2-Pin Terminal Block for wire-control power on/off
<b>LED Indicator</b>	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
<b>Digital I/O</b>	1 x 8-bit GPIO (DB9)
<b>Antenna</b>	2 x Antenna with dust cover
-Rear I/O-	
<b>USB Port</b>	2 x USB 3.1 Gen.2 (10Gbp/s) 2 x USB 3.1 Gen.1 (5Gbp/s), via USB Hub
<b>HDMI</b>	1 x HDMI 2.0b
<b>DP</b>	1 x DP 1.4
<b>Audio</b>	1 x Mic-In, 1 x Line-Out
<b>RJ-45</b>	2 x RJ45
<b>Antenna</b>	2 x Antenna with dust cover
-Right I/O-	
<b>Antenna</b>	2 x Antenna with dust cover
-Left I/O-	
<b>Antenna</b>	2 x Antenna with dust cover
-Display-	
<b>Graphic Chipset</b>	Intel® UHD Graphics for 10th Gen Intel® Processors
<b>Resolution</b>	DP++ 1.4: 4096x2304 @ 60Hz HDMI 2.0b : Max. resolution 4096x2304 @ 60Hz
-Audio-	
<b>Audio Codec</b>	Realtek ALC888S (co-lay with ALC897) HD codec
-Ethernet-	
<b>LAN Chipset</b>	2 x Intel I226-IT
<b>Specification</b>	2x 10/100/1000/2.5G Base-Tx GbE compatible
-Power Requirement-	
<b>DC Input Voltage</b>	DC in typical 12/24V (+9V ~ +36V), wide voltage single power input TVS component for surge protection Reverse current/voltage protection (Max. Currency: 13A)



<b>DC Input Connector</b>	3-Pin Terminal Block (V+, V-, GND)
<b>ACPI</b>	Single power ATX Support S0,S3, S4, S5 ACPI 5.0 Compliant
<b>Power Mode</b>	AT/ATX (ATX is default setting)
<b>-Software Support-</b>	
<b>OS Information</b>	Win 10 64bit / Win 11 64 bit/ Linux
<b>-Certification-</b>	
<b>Certification Information</b>	CE, FCC Class B, LVD 62368-1
<b>Mechanical &amp; Environmental</b>	
<b>Operating Temperature</b>	-40°C ~ 70°C (w/SSD) ambient w/ 0.5 air flow, WT sku, x6425E -40°C ~ 60°C (w/SSD) ambient w/ 0.2 air flow, WT sku, x6425E 0°C ~ 65°C (w/SSD) ambient w/ 0.5 air flow, ST sku, J6413 0°C ~ 55°C (w/SSD) ambient w/ 0.2 air flow, ST sku, J6413
<b>Storage Temperature</b>	-30°C ~ 70°C (-22°F ~ 158°F)
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Dimension (W x L x H)</b>	240mm x 150mm x 43 mm (Standard) 240mm x 150mm x 64 mm (w/ IET module)
<b>Weight</b>	1.9 kg (System) 2.7 kg (w/ Package)
<b>Vibration Test</b>	With SSD : 5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
<b>Shock Test</b>	With SSD : 55Grms, IEC 60068-2-27, Half Sine, 11ms
<b>IP Rating</b>	IP 50
<b>Mounting Kit</b>	Wall mount kit (standard) DIN RAIL (optional)
<b>Ordering Information</b>	
<b>Ordering Information</b>	EMS-EHL-J64-A1-1R Intel® Celeron® SoC Processor J6413 Fanless Rugged Embedded System  EMS-EHL-X64-A1-1R Intel® Atom™ SoC Processor x6425E Fanless Rugged Embedded System

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