



EMS-EHL

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

On board Intel® Celeron®/Atom™ J6413/x6425E 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, 2-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 (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

Processor

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

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

SBC

EBM-EHLS

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/ 3.8V

1 x M.2 Key-E 2230 for Wi-Fi & BT Module (USB2.0/ PCIe III)

IET

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-

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-

COM Port

2 x COM RS232/422/485 (select via BIOS, auto flow control via HW)

Power Button

1 x Push Button for Power on/off

Reset Button

1 x Push Button for Reset

Wire-Control Power On/Off

1 x 2-Pin Terminal Block for wire-control power on/off

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

Digital I/O

1 x 8-bit GPIO (DB9)

Antenna

2 x Antenna with dust cover

Rear I/O-

USB Port

2 x USB 3.1 Gen.2 (10Gbp/s)
2 x USB 3.1 Gen.1 (5Gbp/s), via USB Hub

HDMI

1 x HDMI 2.0b

DP

1 x DP 1.4

Audio

1 x Mic-In, 1 x Line-Out

RJ-45

2 x RJ45

Antenna

2 x Antenna with dust cover

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++ 1.4: 4096x2304 @ 60Hz
HDMI 2.0b : Max. resolution 4096x2304 @ 60Hz

.-Audio-

Audio Codec Realtek ALC888S (co-lay with ALC897) HD codec

.-Ethernet-

LAN Chipset 2 x Intel I226-IT
Specification 2x 10/100/1000/2.5G Base-Tx GbE compatible

.-Power Requirement-

DC Input Voltage DC in typical 12/24V (+9V ~ +36V), wide voltage single power input
 TVS component for surge protection
 Reverse current/voltage protection
 (Max. Currency: 13A)

W



DC 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 Information Win 10 64bit / Win 11 64 bit/ Linux

.-Certification-

Certification Information CE, FCC Class B, LVD 62368-1

.-Mechanical & Environmental

Operating Temperature -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

Storage Temperature -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 43 mm (Standard)
 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, 1hr/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)

.-Ordering Information

Ordering Information EMS-EHL-J64-A1-1R
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