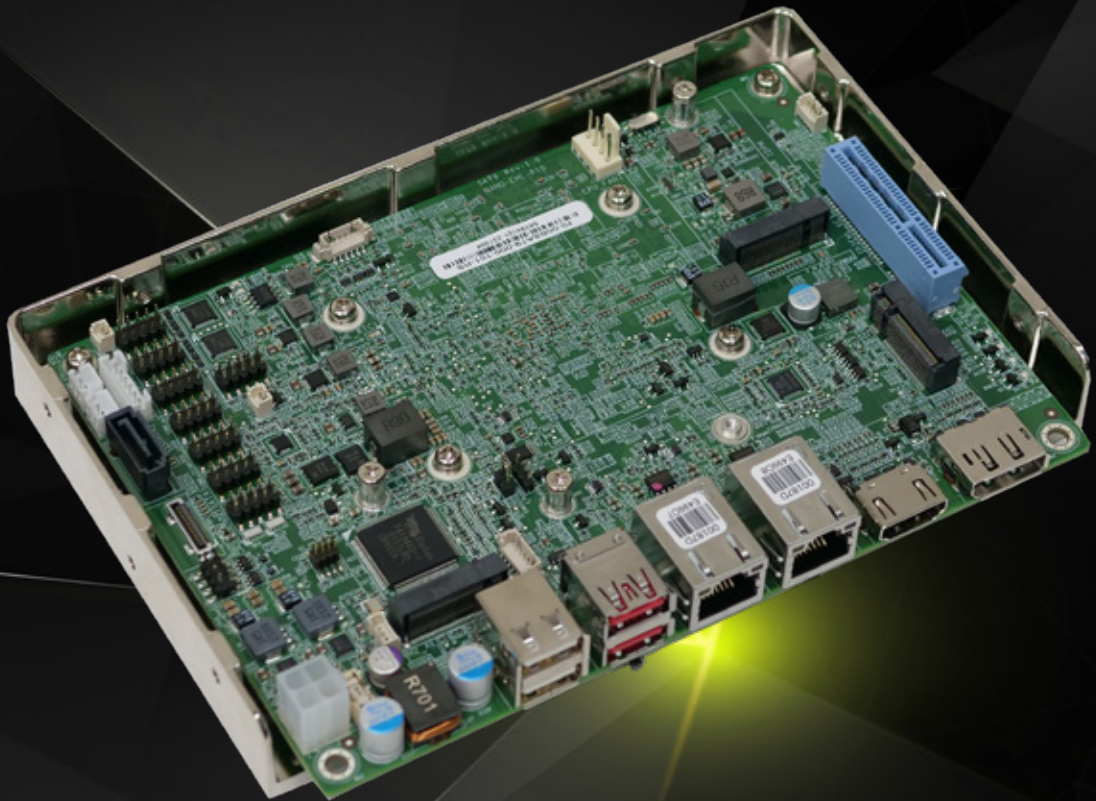


# NANO-EHL

**EPIC SBC supports Intel® Celeron® J6412 on-board SoC,  
with 8GB LPDDR4x memory on board default**

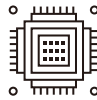
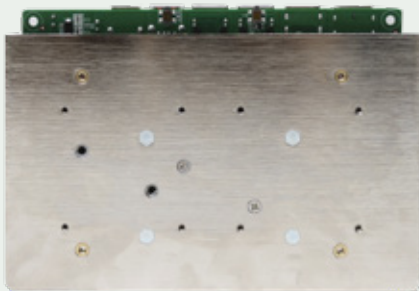
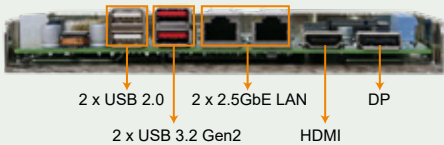
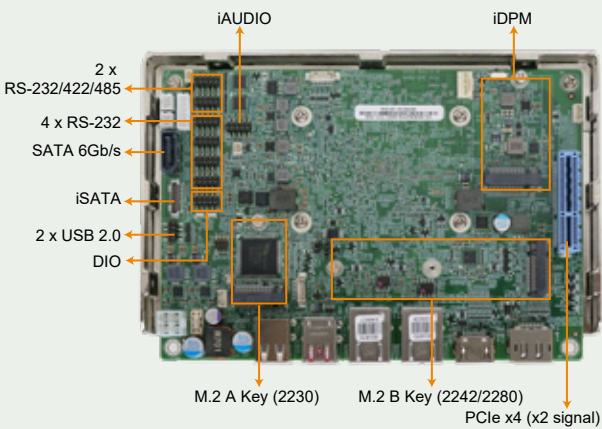
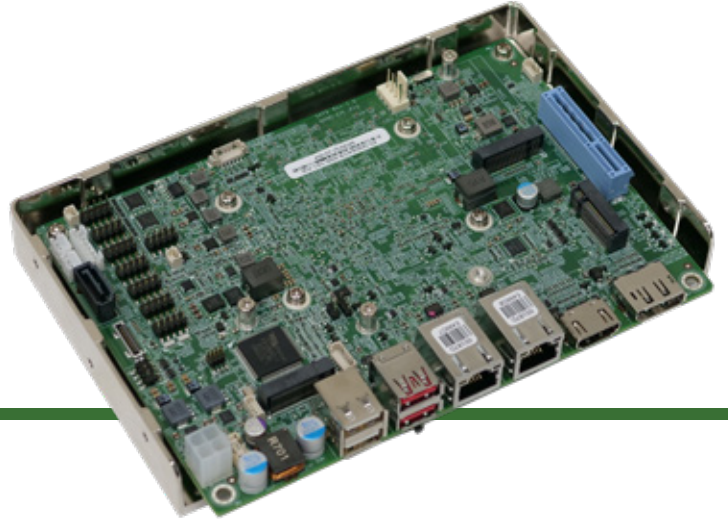
- EPIC SBC supports Intel® quad-core Celeron® J6412, on-board SoC
- Support Triple independent displays via HDMI,DP,iDPM
- Dual Intel® I226-V 2.5GbE ports
- One PCIe x4 (Gen3 x2 signal) slot,M.2 A key and M.2 B key expansions
- Two USB 3.2 Gen2,four USB 2.0,four RS-232,two RS-232/422/485



[www.ieiworld.com](http://www.ieiworld.com)

# NANO-EHL

EPIC SBC supports Intel® Celeron® J6412 on-board SoC, with 8GB LPDDR4x memory on board default



## Low-power Intel® Elkhart Lake Celeron® J6412 CPU

10nm Intel® Celeron® J6412 on-board SoC, 4 cores and 4 threads, base frequency 2.00GHz, turbo frequency up to 2.60GHz, 1.5MB cache



## Supporting Intel® I226-V 2.5GbE Controllers

Two RJ45 network interfaces are supported via Intel® I226-V 2.5GbE controllers, achieving up to 2.5GbE network transmission rate



## PCIe x4 Slot Available for Riser Card

One PCIe x4 slot (PCIe Gen3 x2 signal) is reserved on the edge of the motherboard, which can be used to connect a PCIe expansion card or a riser card designed by IEI. The riser card provides two PCIe x1 slots for multiple PCIe expansion cards.

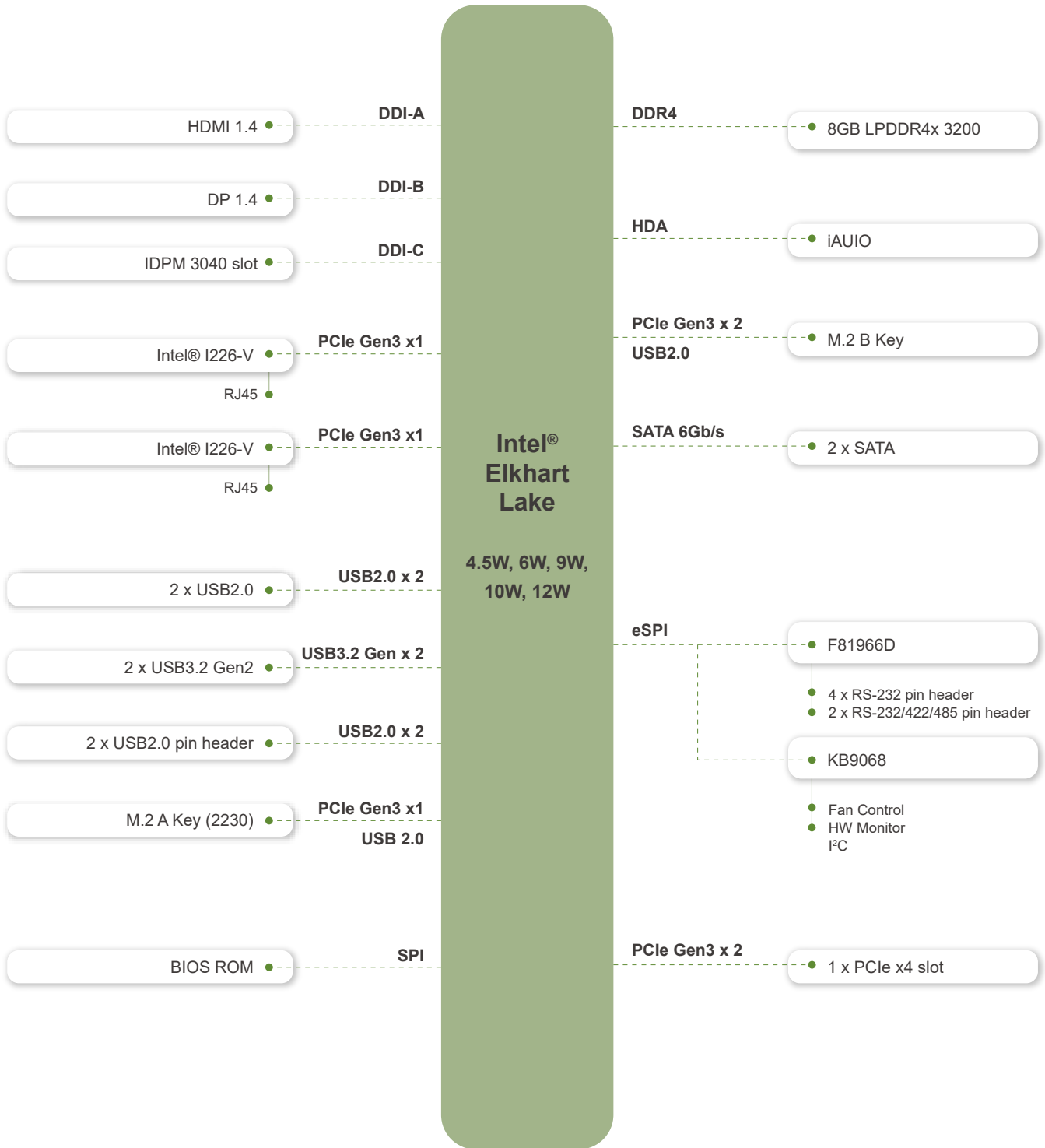


## IEI-specific iDPM Interface

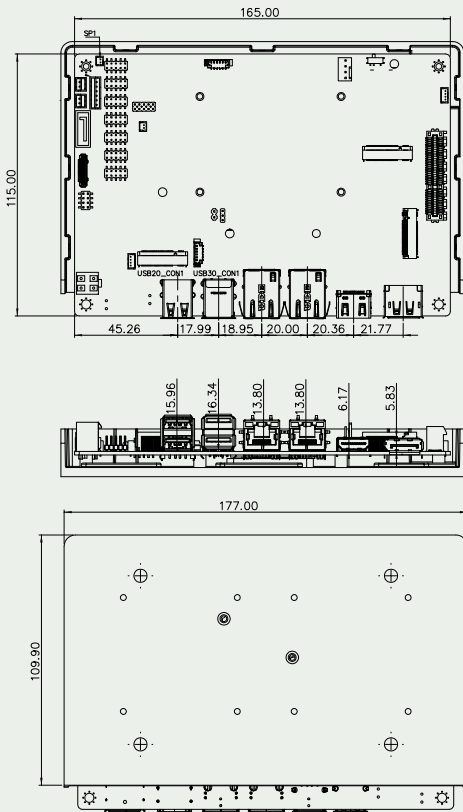
IEI uniquely designs a iDPM interface that can connect to display modules, enabling users to add LVDS/eDP/VGA display interface upon requirements.



# NANO-EHL Block Diagram



### Dimensions



### Optional accessories



### Specifications

Model	NANO-EHL
SoC	Intel® Elkhart Lake Processor Intel® Celeron® J6412 on-board SoC (up to 2.6GHz, quad-core, 1.5M Cache, TDP=10W)
BIOS	AMI UEFI BIOS
Memory	Onboard Dual channel LPDDR4x 8GB (up to 16GB)
Graphics Engine	Intel® UHD Graphics (Gen11)
Display Output	Triple Independent Display 1 x HDMI 1.4 (up to 4096 x 2160@30Hz) 1 x DP 1.4 (up to 4096 x 2160 @60Hz) 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)
Ethernet	LAN1: Intel® I226-V 2.5GbE controller LAN2: Intel® I226-V 2.5GbE controller
External I/O Interface	2 x USB 3.2 Gen2 2 x USB 2.0
Internal I/O Interface	1 x SATA 6Gb/s with 5V SATA power connector 1 x iSATA 2 x USB 2.0 (2x4 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0) 2 x RS-232/422/485 (2x5 pin, P=2.0)
SMBus	1 x SMBus (1x4 pin)
I2C	1 x I2C (1x4 pin)
Audio	1 x iAUDIO(2 x 5 pin, support IEI AC-KIT-888HD Module)
Front Panel	1 x Power LED & HDD LED (1x6 pin) 1 x Power Connector (1x2 pin) 1 x Reset button
LAN LED	2 x LAN LED (1x2 pin)
Expansion	1 x M.2 B Key 2242/2280 (PCIe Gen3 x2 & USB2.0) 1 x M.2 A Key 2230 (PCIe Gen3 x1 & USB2.0) 1 x PCIe x4 slot (PCIe Gen3 x2 signal) (x2 or x1+x1)
Digital I/O	1 x 12-bit digital I/O (2x7 pin)
FAN connector	1 x Smart fan connector (1x4 pin)
Power supply	1 x Internal power connector (2x2 pin) Support AT/ATX mode
Watchdog Timer	Software Programmable support 1~255 sec. System reset
Power Consumption	12V@2.75A (Intel® Celeron® J6412 CPU with 8 GB 3200 MHz LPDDR4x memory, max. loading, EuP mode disabled)
Operating Temperature	-10°C ~ 60°C
Storage Temperature	-20°C ~ 70°C
Operating Humidity	5% ~95%, non-condensing
Dimension	115mm x 165mm
Weight	GW:850g / NW:350g
Certification	CE/FCC Compliant

### Packing List

1 x NANO-EHL single board computer with Cooler Module	1 x SATA cable
1 x QIG	1 x iSATA cable
1 x Power cable	

### Ordering Information

NANO-EHL-J6412C-R11	EPIC SBC supports Intel® quad-core Celeron® J6412 2.0GHz on-board SoC, with 8GB LPDDR4x memory on board default, with DP,HDMI,iDPM,M.2 A key, M.2 B key, USB 3.1, SATA 6Gb/s, COM, iAUDIO, PCIe x4(x2 signal) for riser card and RoHS
---------------------	---

### Optional Accessories

CB-USB02A-RS	Dual port USB cable with bracket, 300mm, P=2.00
AC-KIT-888S-R10	Realtek ALC888S 7.1 Channel HD Audio peripheral board, RoHS
32102-000100-200-RS	SATA power cable, MOLEX 5264-4P to SATA15P
32205-002700-200-RS	RS-232 cable, 200 mm, p=2.0 mm
NWR-L2S-N-R10	PCIe x2 to two PCIe x1 riser card for NANO on the left side
NWR-R2S-N-R10	PCIe x2 to two PCIe x1 riser card for NANO on the right side
iDPM-eDP-R10	eDP to eDP DisplayPort converter board (for IEI iDPM connector)
iDPM-LVDS-R10	eDP to LVDS DisplayPort converter board (for IEI iDPM connector)
iDPM-VGA-R10	eDP to VGA Connector converter board (For IEI Display Module)
iDPM-DP-R10	eDP to DP DisplayPort converter board (for IEI iDPM connector)
CM-WAFER-WF-R10	Cooler Module (W/FAN); Mechanical; for WAFER/NANO series; RoHS
CM-WAFER-WOF-R10	Cooler Module (W/O FAN); Mechanical; for WAFER/NANO series; RoHS