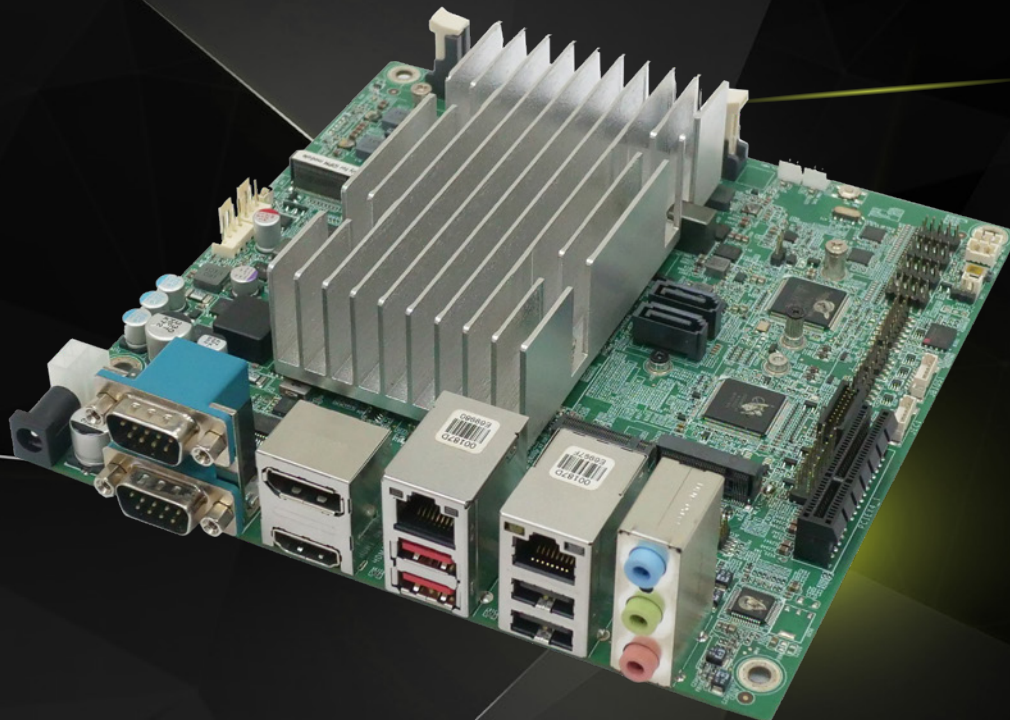


# KINO-EHL2

Mini-ITX SBC supports Intel® Elkhart Lake Celeron® J6412 on-board SoC

- One 260-pin 3200 MHz DDR4 SO-DIMM (system max.16GB)
- Support Triple independent displays via HDMI, DP, iDPM
- Dual Intel® I225-V/I226-V 2.5GbE ports
- One PCIe x4 (x1 signal) slot, M.2 A key and M.2 B key expansions
- Two USB 3.2 Gen2, six USB 2.0, four RS-232, two RS-232/422/485

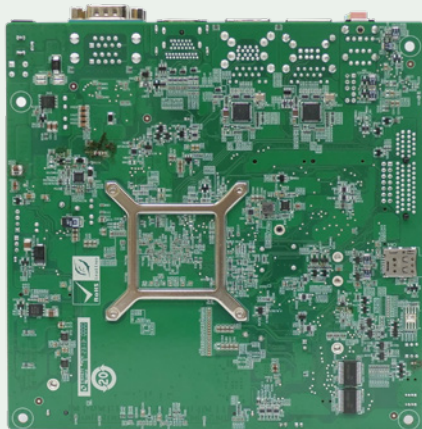
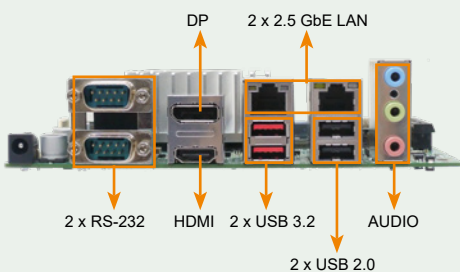
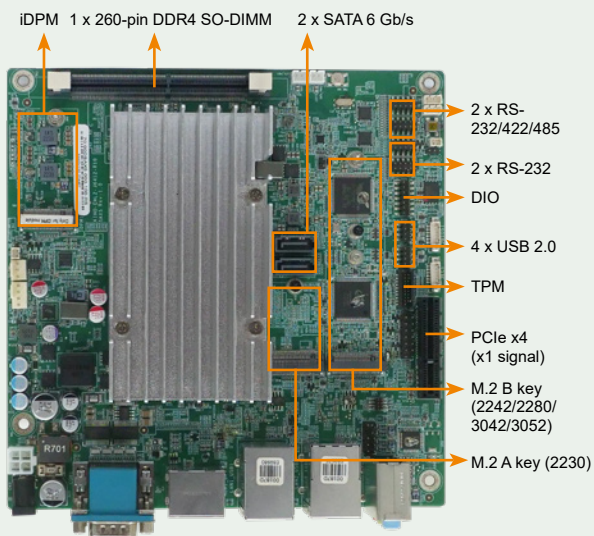
**17\*17 mini ITX form factor**  
**With multiple expansion function**



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

# KINO-EHL2

Mini-ITX SBC supports Intel® Elkhart Lake Celeron® J6412 on-board SoC with Triple Independent Display, HDMI, DP, iDPM, SATA 6Gb/s, Dual 2.5GbE, USB 3.2, M.2, 12~28V DC input and RoHS



## 10W Low-power Intel® Elkhart Lake Celeron® J6412 CPU

Intel® 10nm 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® I225-V/I226-V 2.5GbE Controllers

Two RJ45 network interfaces are supported via Intel® I225-V/I226-V 2.5GbE controllers, achieving up to 2.5GbE network transmission rate.



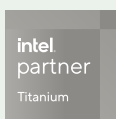
## Dual BIOS for boot and recovery

By default, BIOS1 is used, and customers can modify the BIOS. If the system cannot be powered on normally, the DIP switch can be dialed to BIOS2 to reprogram BIOS1.

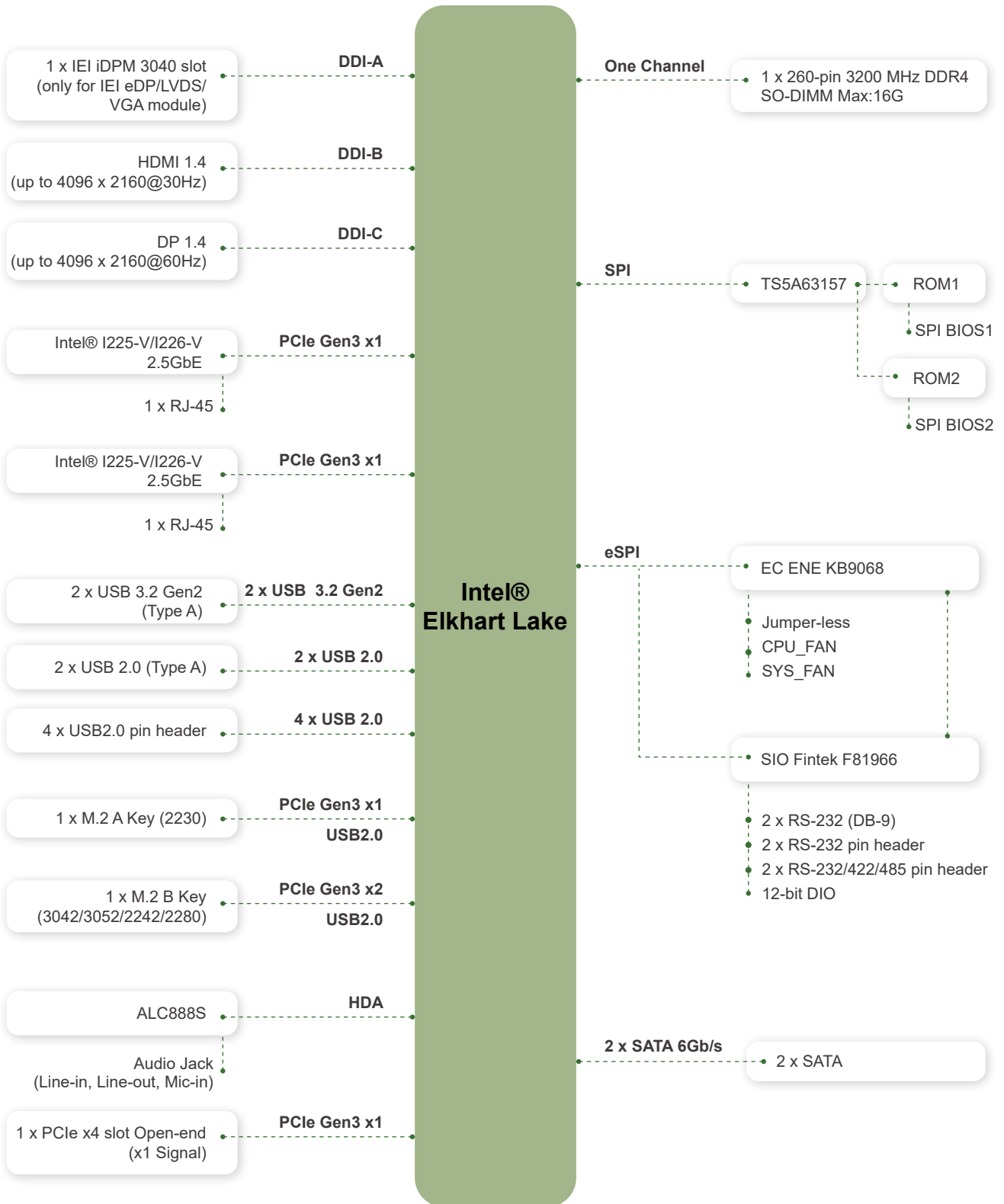


## IEI-specific iDPM interface

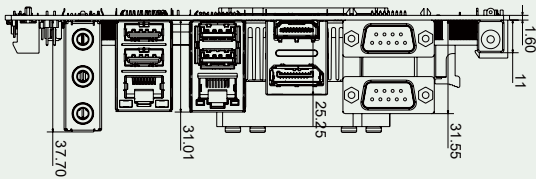
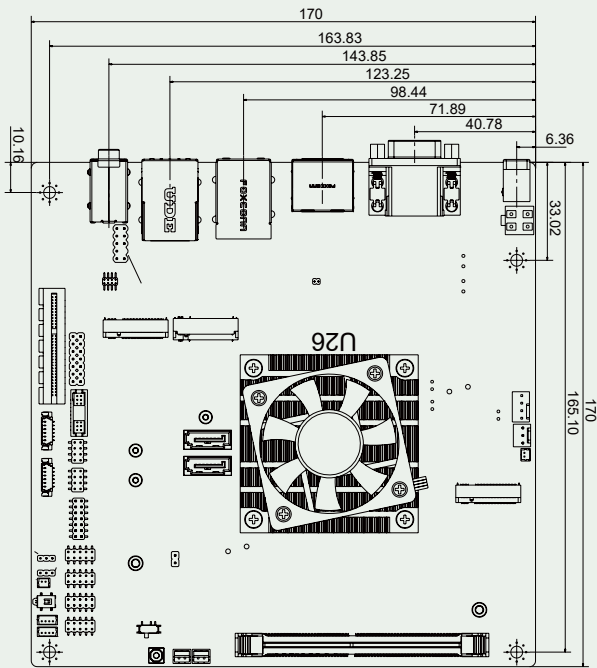
IEI uniquely designs iDPM interface, which can be connected to module cards, and can freely choose to add LVDS/eDP/VGA display interface



# Block Diagram



### Dimensions



### Specifications

Model	KINO-EHL2
CPU	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 Dual BIOS for Boot & Recovery
Memory	1 x 260-pin 3200 MHz DDR4 SO-DIMM (system max. 16GB)
Graphics Engine	Intel® UHD Graphics
Display Output	Triple Independent Displays 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® I225-V/I226-V 2.5GbE controller LAN2: Intel® I225-V/I226-V 2.5GbE controller
External I/O Interface	2 x USB 3.2 Gen2(10Gb/s) (USB Type A) 2 x USB 2.0 (USB Type A) 2 x RS-232
Internal I/O Interface	2 x SATA 6Gb/s 4 x USB 2.0 (2x4 pin, P=2.0) 2 X RS-232/422/485 (2x5 pin,P=2.0) 2 X RS-232 (2x5 pin,P=2.0)
SMBus	1 x SMBus (1x4 pin,P=1.25)
I2C	1 x I2C (1x4 pin,P=1.25)
Audio	Realtek ALC888S HD Audio codec 3 x Audio Jack (Line-in, Line-out, Mic-in) 1 x Analog audio (2x5 pin)
Front Panel	1 x Front Panel (2x7 pin,P=2.54,power LED, HDD LED,power button, reset button)
Expansion	1 x PCIe x4 Slot Open-ended (PCIe Gen3 x1 signal) 1 x M.2 A key 2230 (PCIe Gen3 x1 & USB 2.0) 1 x M.2 B key 3042/3052//2280 (PCIe Gen3 x2 & USB 2.0) 1 x On-board SIM card socket (hinge type) for M.2 B key
Digital I/O	1 x 12bit-DIO (2x7 pin,P=2.0)
TPM	Intel® PTT
FAN connector	1 x CPU fan connector (1x4 pin) 1 x System fan connector (1x3 pin)
Power supply	12~28V DC input 1 x Internal power connector (2x2 pin) 1 x External DC power jack (Ø2.5mm) ErP/EuP Compliant
Watchdog Timer	Software Programmable support 1~255 sec. System reset
Power Consumption	12V@3.23A, 19V@2.15A, 24V@1.74A, 28V@1.53A (Intel® Celeron® J6412 2.0GHz with 32GB 3200MHz DDR4 memory and EUP enabled)
Operating Temperature	-10°C ~ 65°C
Storage Temperature	-30°C ~ 70°C
Operating Humidity	5% ~95%, non-condensing
Dimension	170 mm x 170 mm
Weight	GW:900g / NW:400g
Certification	CE/FCC Compliant

### Optional Accessories

<b>CB-USB02A-RS</b>	<b>32102-000100-200-RS</b>
<b>19800-000300-100-RS</b>	<b>iDPM-eDP-R10</b>
<b>iDPM-LVDS-R10</b>	<b>iDPM-VGA-R10</b>
<b>iDPM-DP-R10</b>	

### Packing List

1 x KINO-EHL2 single board computer with Cooler Module	1 x I/O shielding
1 x SATA cable	1 x QIG

### Ordering Informaiton

KINO-EHL2-J6412-R10	Mini-ITX SBC supports Intel® Elkhart Lake Celeron® J6412 on-board SoC with Triple Independent Display, HDMI, DP,iDPM, SATA 6Gb/s, Dual 2.5GbE, USB 3.2, M.2, 12~28V DC input and RoHS
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### Optional Accessories

CB-USB02A-RS	Dual port USB cable with bracket, 300mm, P=2.00
32102-000100-200-RS	SATA power cable, MOLEX 5264-4P to SATA15P
19800-000300-100-RS	RS-232/422/485, 200mm, 2*5 pin, P=2.0
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 Connetor converter board (For IEI Display Module)
iDPM-DP-R10	eDP to DP DisplayPort converter board (for IEI iDPM connector)