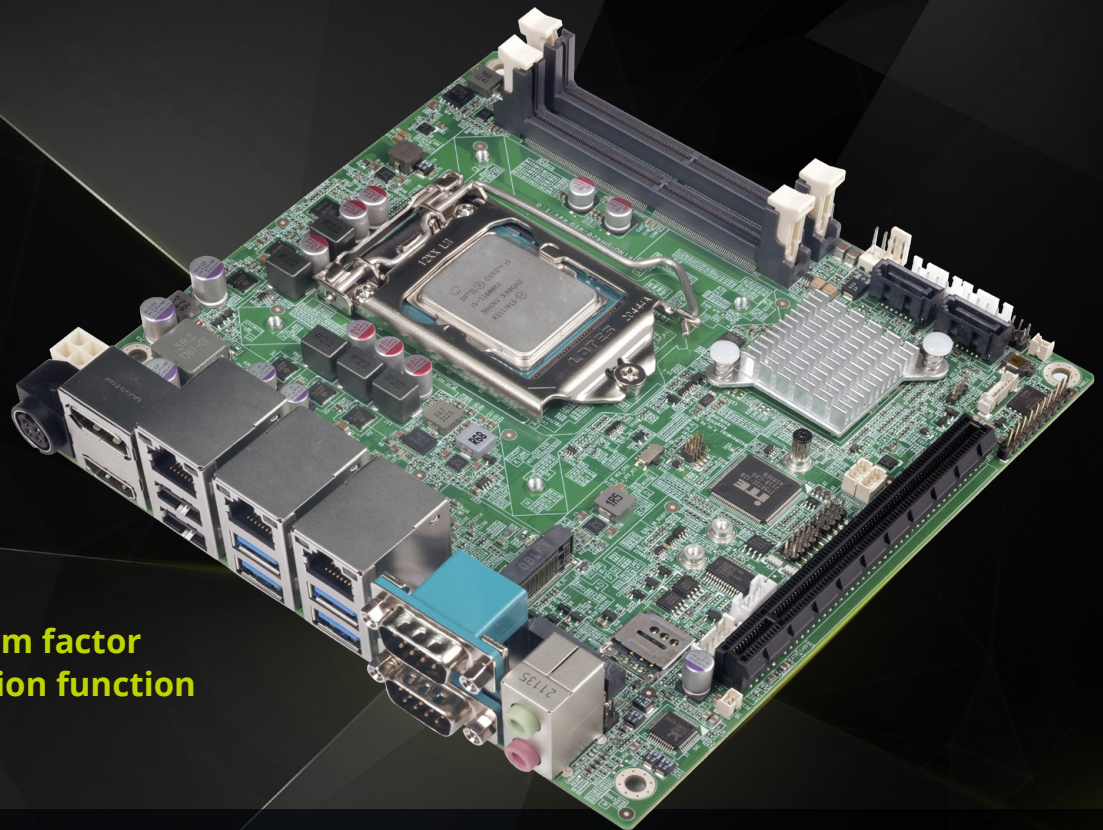


# KINO-DH420

Industry mini-ITX support Intel® 10th Gen Core™ i9/i7/i5/i3 processor motherboard

- Support HDMI and DP dual independent display output
- Support triple Intel® 2.5Gb Ethernet controller
- Support 1 x PCIe Gen3 x16, 1 x M.2 A key, 1 x M.2 B key expansion
- Support 4 x USB 2.0, 4 x USB 3.2 Gen1, transfer rate up to 5Gb/s
- Support 3 x RS-232, 1 x RS-422/485, 2 x SATA 6Gb/s connector



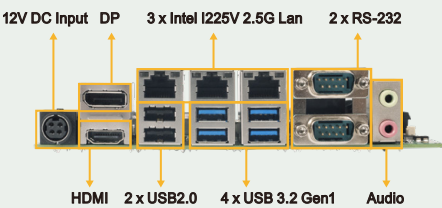
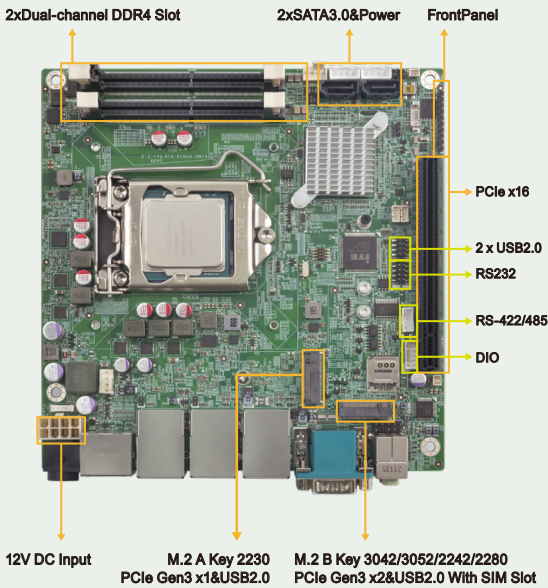
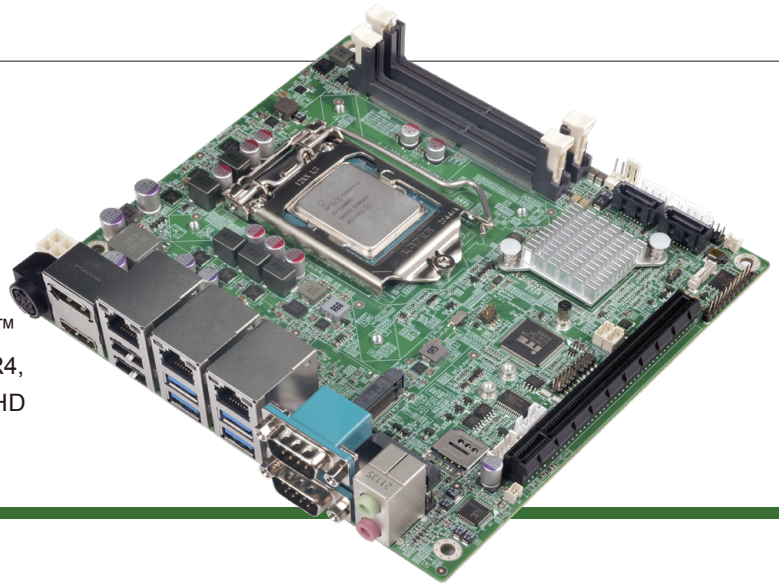
**17\*17 mini ITX form factor**  
**With multiple expansion function**



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# KINO-DH420

Mini-ITX SBC supports LGA1200 Intel® 10th Generation Core™ i9/i7/i5/i3/ Pentium® and Celeron® CPU per Intel® H420E, DDR4, dual independent display, triple GbE LAN, M.2, SATA 6Gb/s, HD Audio and RoHS



## Support 10th Gen Intel® Processor

Equipped with 10th Gen. Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processors, the KINO-DH420 features superior performance, and can handle multitasking efficiently.



## Support Intel® I225V 2.5GbE Controller

Support triple RJ45 network interfaces based on Intel® I225V/I225LM 2.5GbE network controller to achieve up to 2.5GbE network transmission rate.



## Support Multiple Expansion Slots

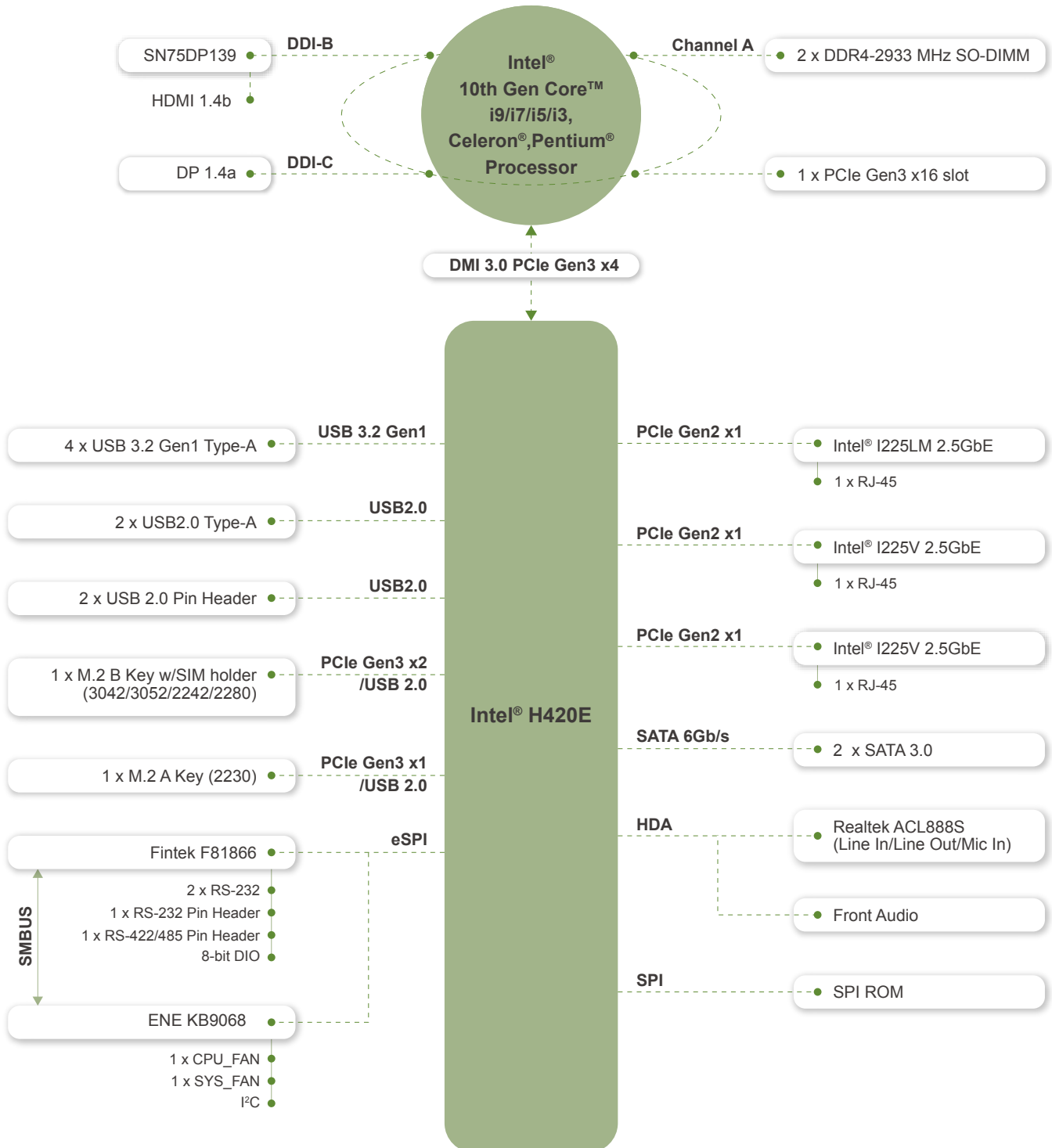
Support one PCIe Gen3 x16 slot that can enable PCIe function expansion, M.2 A key that can be used for Wi-Fi modules or Bluetooth modules, and M.2 B key with SIM card that can be used for 5G module and NVME storage expansion.



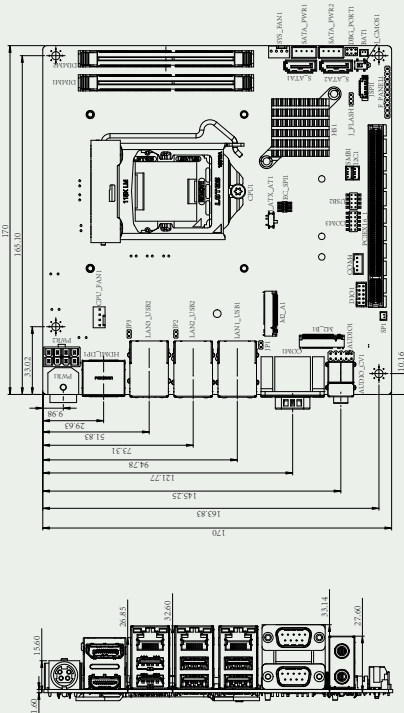
## Support Dual Independent Display

Support dual independent display outputs: one DP (resolution up to 4096 x 2304 @60Hz) and one HDMI (resolution up to 4096 x 2160@30Hz).

# KINO-DH420 Block Diagram



## Dimensions



## Optional accessories



## Specifications

| Model                  | Description   |
|------------------------|---|
| CPU                    | LGA1200 socket supports 10th Generation Core™ i9/i7/i5/i3, Celeron® and Pentium® processor  |
| Chipset                | Intel® H420E  |
| BIOS                   | AMI UEFI BIOS   |
| Memory                 | Two 260-pin 2933 MHz dual-channel DDR4 SO-DIMMs (system max. 64GB)  |
| Graphics Engine        | Intel® HD Graphics Gen9 Engines with 16 low-power execution units, supporting DX11.3/12, OpenGL 4.3/4.4/4.5 and OpenCL 1.2/2.0/2.1              |
| Display Output         | Dual independent display<br>1 x DP (up to 4096 x 2304 @60Hz)<br>1 x HDMI (up to 4096 x 2160@30Hz)   |
| Ethernet               | LAN1: Intel® i225LM GbE controller<br>LAN2: Intel® i225V GbE controller<br>LAN3: Intel® i225V GbE controller                                    |
| External I/O Interface | 2 x RS-232<br>2 x USB 2.0<br>4 x USB 3.2 Gen 1(5Gb/s)   |
| Internal I/O Interface | 1 x RS-232 (2x5 pin, P=2.0)<br>1 x RS-422/485 (1x4 pin, P=2.0)<br>2 x SATA 6Gb/s (No RAID)<br>2 x USB 2.0 (2x4 pin, P=2.0)                      |
| I²C                    | 1 x I²C (1x4 pin)   |
| SMBus                  | 1 x SMBus (1x4 pin)   |
| Audio                  | Realtek ALC888S HD codec<br>2 x Audio Jack (Lin-out, Mic-in)<br>1 x Front audio (2x5 pin, P=2.54)   |
| Front Panel            | 1 x Front Panel (1 x 10 pin, Power LED, HDD LED, Power Button, Reset Button)  |
| LAN LED                | 3 x LAN LED (1x2 pin)   |
| Expansion              | 1 x PCIe Gen3 x16<br>1 x M.2 A key (2230) (PCIe Gen 3 x1/USB 2.0)<br>1 x M.2 B key (3042/3052/2242/2280) w/ SIM holder (PCIe Gen 3 x2 /USB 2.0) |
| Digital I/O            | 1 x 8-bit digital I/O connector(2x5 pin)  |
| TPM                    | Intel® PTT (TPM 2.0)  |
| Fan Connector          | 1 x CPU fan connector (1x4 pin)<br>1 x System fan connector (1x4 pin)   |
| Power Supply           | DC 12V input<br>1 x ATX power connector (2x4 pin)<br>1 x DIN 4-pin DC Jack<br>Support AT/ATX mode<br>ErP/EuP Compliant                          |
| Watchdog Timer         | Software Programmable support 1~255 sec. System reset   |
| Power Consumption      | 12W@12.408A (Intel® Core™ i9-10900E CPU with two 32 GB 2933 MHz DDR4 memory, EuP/ErP mode disabled)   |
| Operating Temperature  | 0°C ~ 60°C  |
| Storage Temperature    | -30°C ~ 70°C  |
| Operating Humidity     | 5% ~95%, non-condensing   |
| Dimension              | 170mm x 170mm   |
| Weight                 | GW:900g / NW:400g   |

## Packing List

|                                      |                   |
|--------------------------------------|-------------------|
| 1 x KINO-DH420 single board computer | 1 x I/O Shielding |
| 1 x SATA Cable                       | 1 x QIG           |

## Ordering Information

|                |   |
|----------------|---|
| KINO-DH420-R10 | Mini-ITX SBC supports LGA1200 10th Generation Intel® Core™ i9/i7/i5/i3/ Pentium®/Celeron® CPU per Intel® H420E, DDR4, dual independent displays, triple GbE LAN, M.2, SATA 6Gb/s, HD Audio and RoHS |
|----------------|---|

## Optional Accessories

|                     |   |
|---------------------|---|
| 19800-000300-100-RS | RS-232 cable with bracket, 300mm, P=2.0                     |
| 32205-003800-300-RS | RS-422/485 cable, 200mm, P=2.0                              |
| 32801-000703-500-RS | SATA cable, 500mm   |
| CF-115XA-R10        | LGA1155/1156/1200 cooler kit, 1U chassis compatible, 73W    |
| CF-1156C-R20        | LGA1155/LGA1156/1200 cooler kit, 1U chassis compatible, 45W |
| CF-1156D-R30        | LGA1155/LGA1156 /1200cooler kit, 1U chassis compatible, 65W |
| CF-115XE-R10        | High-performance LGA1155/1156/1200 cooler kit, 95W          |

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[KINO-DH420-R10](#)