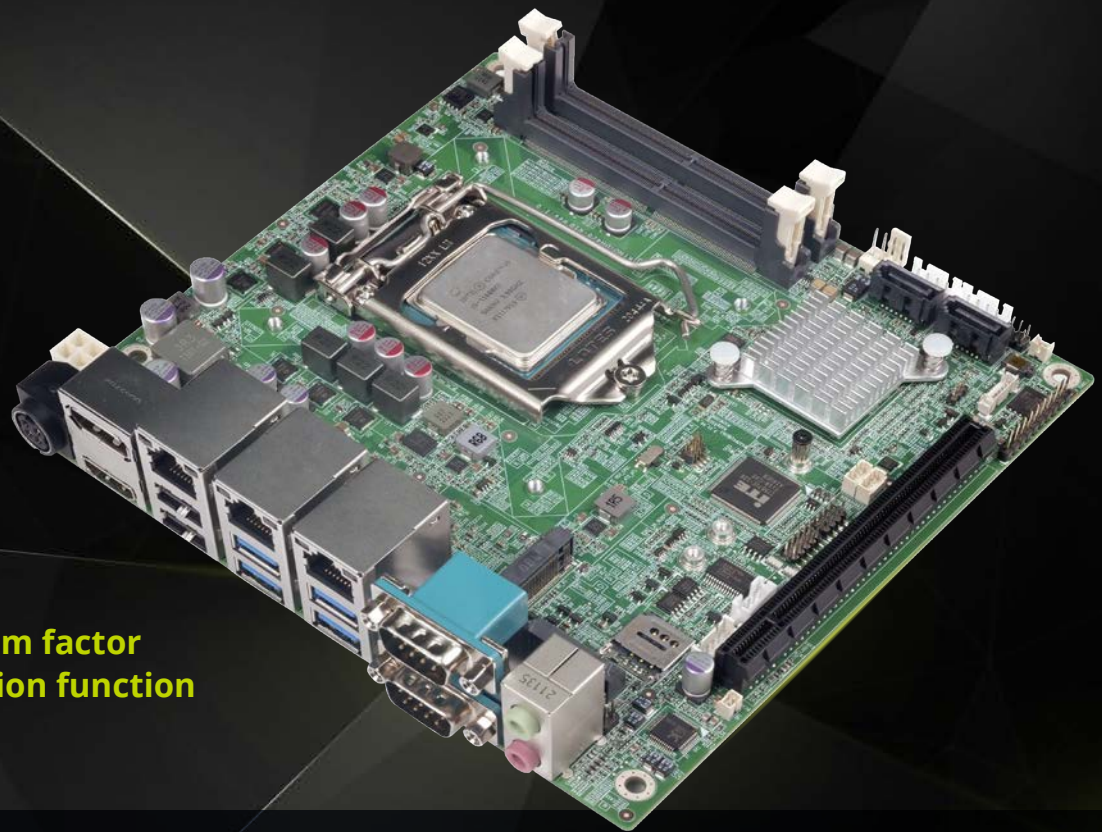


# KINO-DH420

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

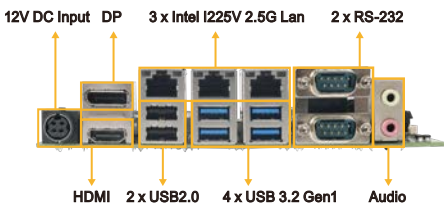
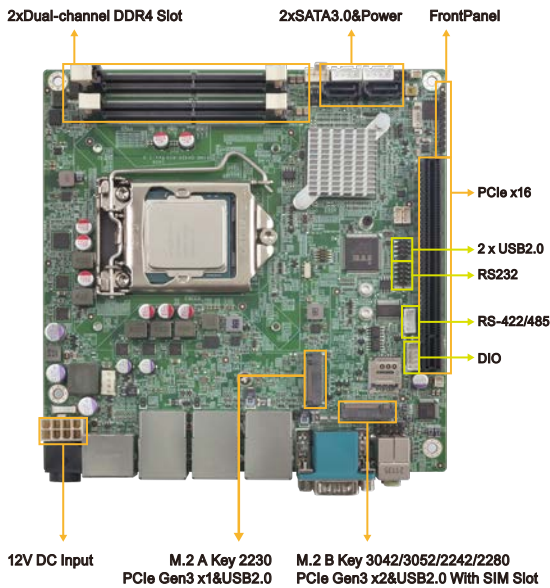
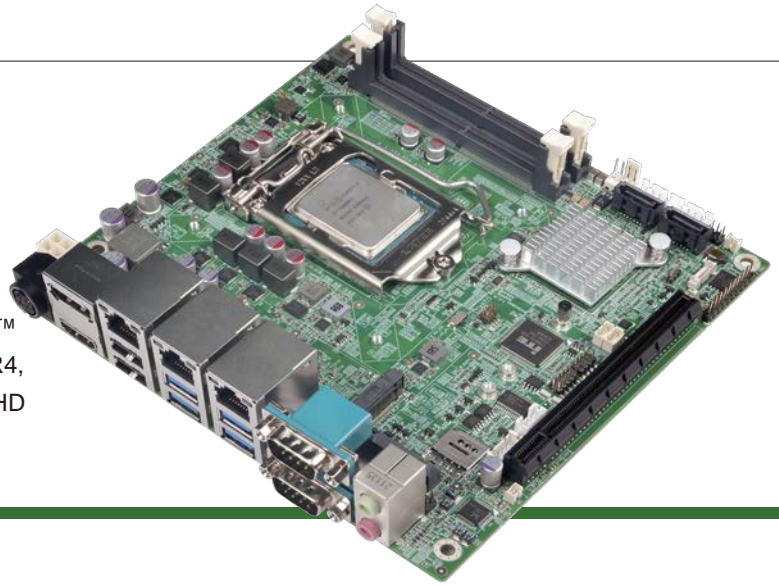
- Support HDMI and DP dual independent display output
- Support triple Intel® 2.5Gb Ethernet controller
- Support 1 x PCIe Gen3 x16, 1 x M.2 A key, 1 x M.2 B key expansion
- Support 4 x USB 2.0, 4 x USB 3.2 Gen1, transfer rate up to 5Gb/s
- Support 3 x RS-232, 1 x RS-422/485, 2 x SATA 6Gb/s connector



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

# 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

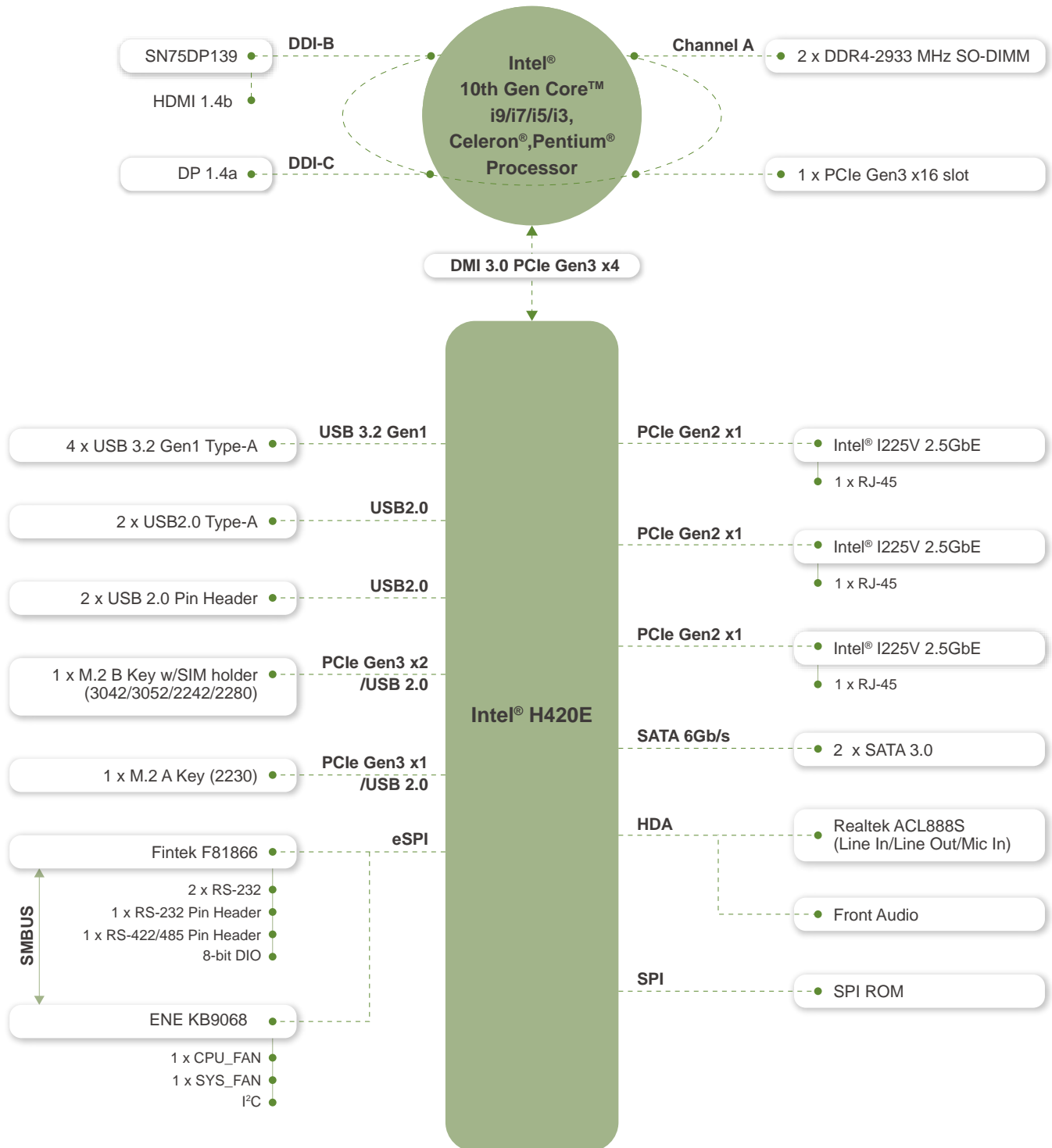
Support one PCIe Gen3 x16 slot that can enable PCIe function expansion, M.2 A key that can be used for Wi-Fi modules or Bluetooth modules, and M.2 B key with SIM card that can be used for 5G module and NVME storage expansion.



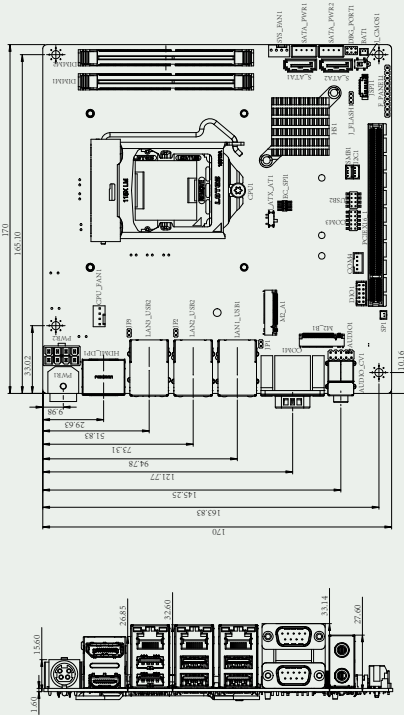
## Support Dual Independent Display

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 1 x DP (up to 4096 x 2304 @60Hz) 1 x HDMI (up to 4096 x 2160 @30Hz)
Ethernet	LAN1: Intel® i225LM GbE controller LAN2: Intel® i225V GbE controller LAN3: Intel® i225V GbE controller
External I/O Interface	2 x RS-232 2 x USB 2.0 4 x USB 3.2 Gen 1(5Gb/s)
Internal I/O Interface	1 x RS-232 (2x5 pin, P=2.0) 1 x RS-422/485 (1x4 pin, P=2.0) 2 x SATA 6Gb/s (No RAID) 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 2 x Audio Jack (Lin-out, Mic-in) 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 1 x M.2 A key (2230) (PCIe Gen 3 x1/USB 2.0) 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) 1 x System fan connector (1x4 pin)
Power Supply	DC 12V input 1 x ATX power connector (2x4 pin) 1 x DIN 4-pin DC Jack Support AT/ATX mode ErP/EuP Compliant
Watchdog Timer	Software Programmable support 1~255 sec. System reset
Power Consumption	TBD
Operating Temperature	0°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Operating Humidity	5% ~95%, non-condensing
Diemension	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
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### 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