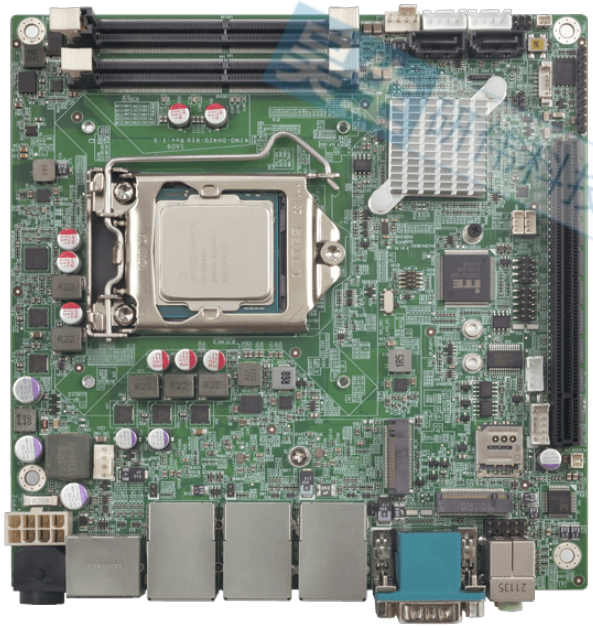
KINO-DH420

Mini-ITX SBC supports LGA1200 Intel® 10th Generation Core™ i9/i7/i5/i3/ Pentium®/Celeron® processor, DDR4, dual independent displays, triple 2.5 GbE LAN, M.2, SATA 6Gb/s, HD Audio and RoHS



Features

1. LGA1200 Intel® 10th Generation Core™ i9/i7/i5/i3, Celeron® and Pentium® processor
2. Support triple Intel® 2.5Gb Eethernet controller
3. Support HDMI, DP display output
4. Support 1 x PCIe Gen3 x16, 1 x M.2 A key, 1 x M.2 B key expansion

Specifications

Form Factor	
Form Factor	Mini-ITX Motherboard
System	
CPU	LGA1200 Intel® 10th Generation Core™ i9/i7/i5/i3, Celeron® and Pentium® processor
Chipset	Intel® H420E
Memory	Two 260-pin 2933 MHz Dual-Channel DDR4 SO-DIMMs supported up to 64GB
Memory Max.	up to 64GB
Cooling method / System Fan	1 x CPU fan connector (1x4 pin)
	2 x System fan connector (1x4 pin)
Physical Characteristics	
Dimensions (LxWxH) (mm)	170mm x 170mm
Net Weight	400g
Storage	
Storage	2 x SATA : 6Gb/s (no RAID)
	1 x M.2(NGFF) : B key (support NVME storage)
I/O Interface	
Display Output	1 x HDMI up to 4096 x 2160 @30Hz
	1 x Display Port up to 4096 x 2304 @60Hz
Ethernet	3 x LAN -
	LAN1: Intel® i225LM GbE controller (colay i225v)
	LAN2: Intel® i225v GbE controller (colay i225LM)
	LAN3: Intel® i225v GbE controller (colay i225LM)
Audio	1 x Line out
	1 x Mic
	1 x Front Audio : 2x5 pin
	1 x HD Audio : Realtek ALC888S HD codec
I/O Interface	2 x External RS-232
	1 x Internal RS-232 : 2x5 pin, P=2.00

	1 x Internal RS-422/485 : RS-485 support AFC
	2 x External USB 2.0 : Type-A
	4 x External USB 3.2 Gen1x1 : 5Gb/s(Type-A)
	2 x Internal USB 2.0 : 2x4 pin, P=2.00
	1 x DIO : 8-bit digital I/O (2x5 pin)
Expansion	1 x PCIe x16
	2 x M.2(NGFF) - 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)
Other Features	
TPM	Intel® PTT(TPM 2.0)
Power	
Power Consumption	12V@12.408A (Intel® Core™ i7-10900E CPU with two 32 GB 2933 MHz DDR4 memory, EuP/ErP mode disabled)
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
Environment	
Operating Temperature	0°C – 60°C
Storage Temperature	-30°C – 70°C
Humidity	5% ~ 95%, non-condensing
Certifications	
Safety & EMC	CE/FCC compliant

研祥科技 15323776600

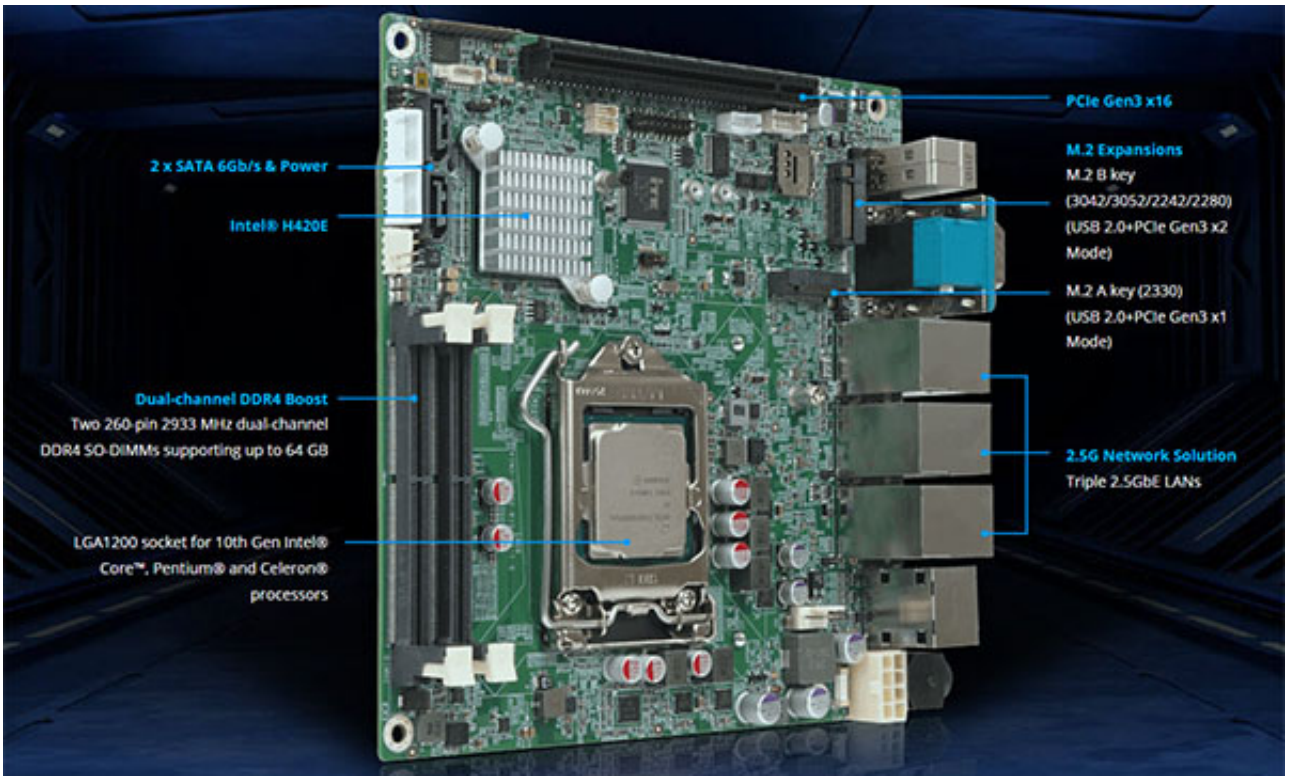
Ordering Information

KINO-DH420-R10	Mini-ITX SBC supports LGA1200 Intel® 10th Generation Core™ i9/i7/i5/i3, Celeron® and Pentium® processor, DDR4, dual independent displays, triple 2.5GbE LAN, M.2, SATA 6Gb/s, HD Audio and RoHS

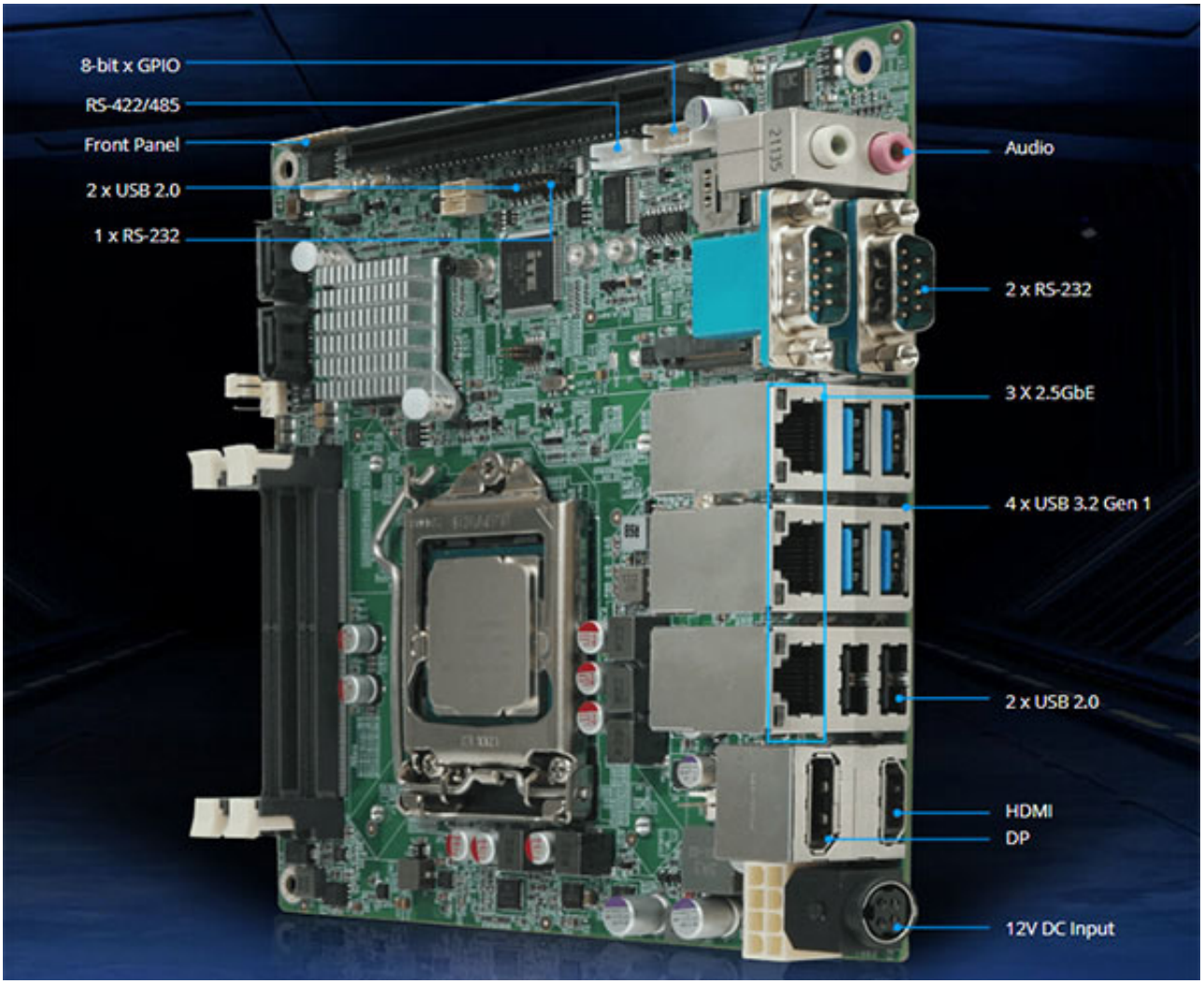
Packing List

1 x KINO-DH420 single board computer	1 x SATA cable
1 x I/O shielding	1 x QIG

High-speed Transmission and Expansions

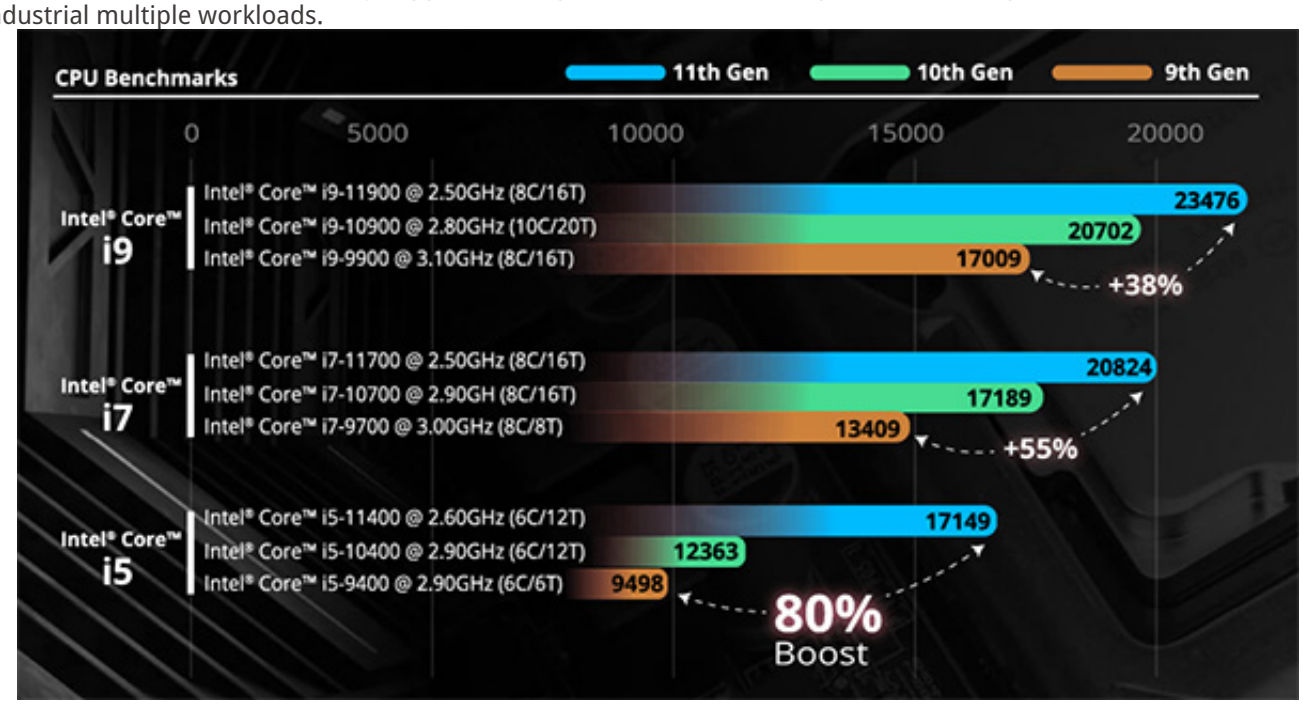


Connectivity



Enhanced Performance

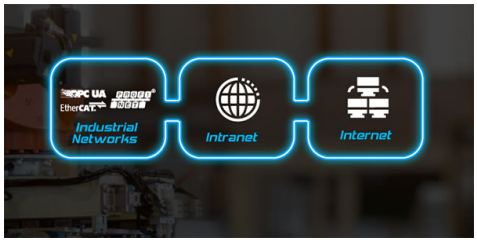
The performance boosts up to 80% better than previous generation on i5 processor. The 10th Gen Intel® Core platform supports up to 10 cores and improved performance over Coffee Lake-Refresh. With increased I/O capacity and the latest DDR4-2933 memory support, these processors deliver the performance required to consolidate industrial multiple workloads.



High Speed Transmission

Multi-tasking

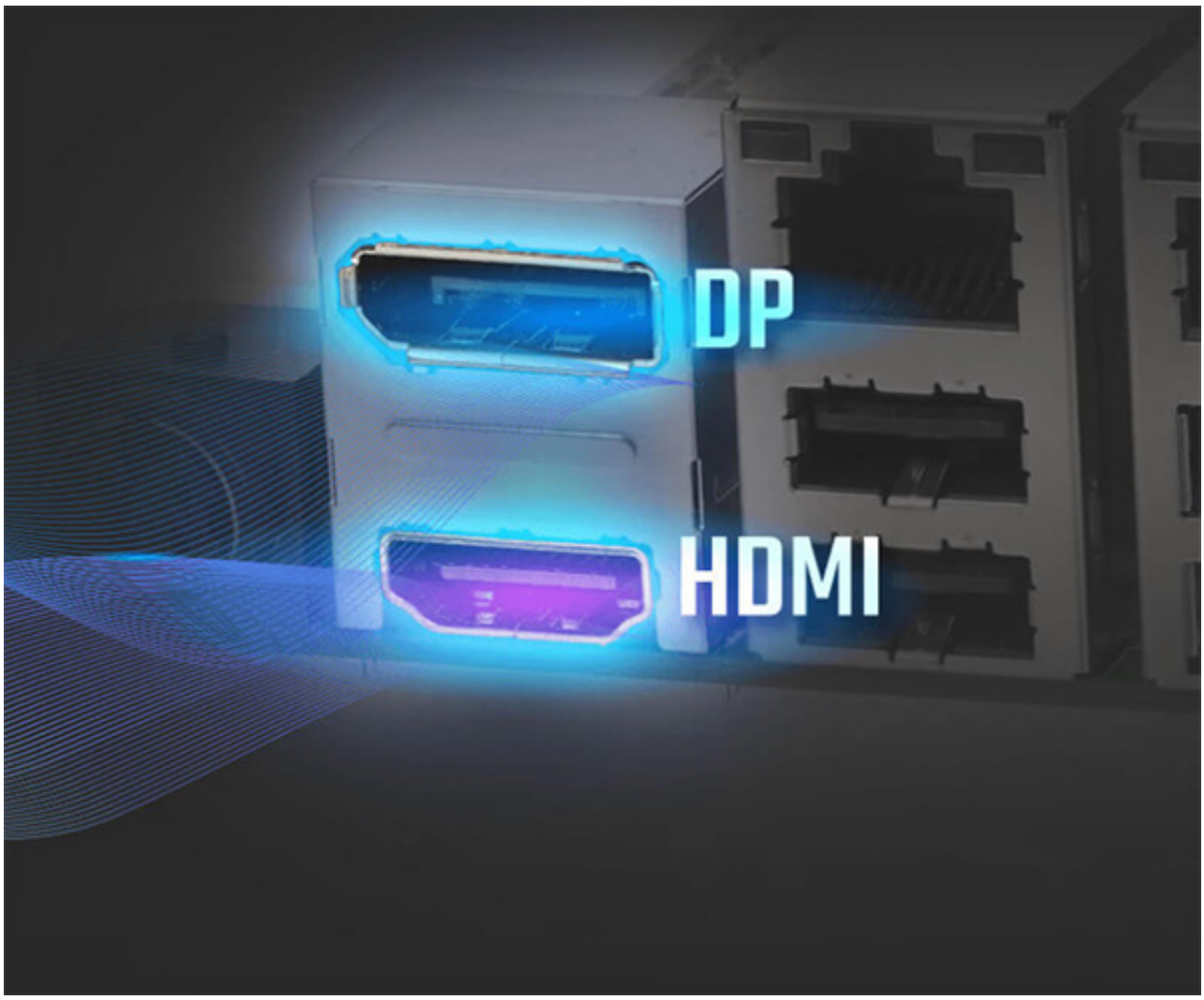
IEI KINO-DH420 features unprecedented network connectivity with three rear 2.5 Gigabit LAN ports, and it is small enough to fit into any space confined situations.



Dual Independent Display

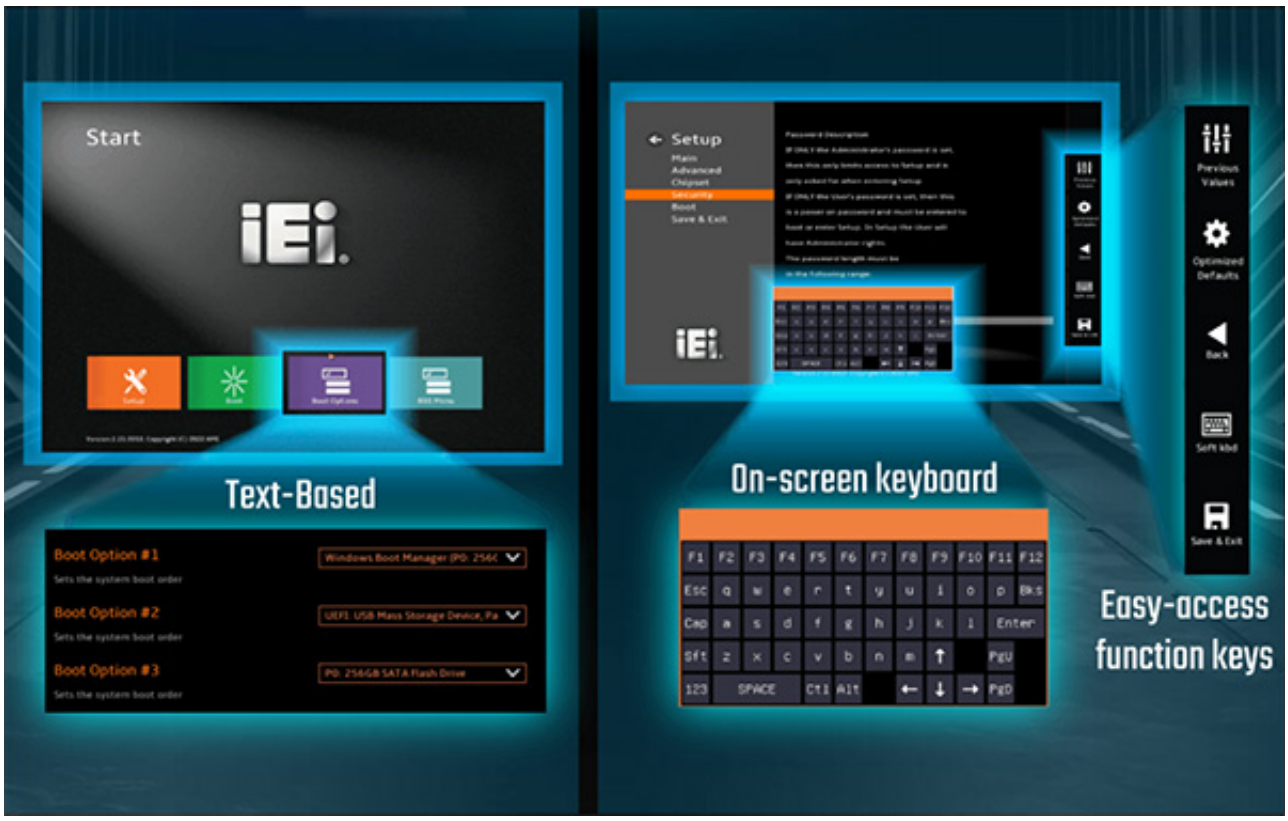
Delivers HDMI+DP 4K Resolution for Real-time Monitoring

Running with Intel® UHD Graphics of 11th Gen processor at 800 MHz allows the system to display videos and images in stunning 4K resolution via HDMI 1.4b and DP 1.4 dual independent display. The enhanced visual quality responses the demand of high precision display.



Touch-enabled BIOS

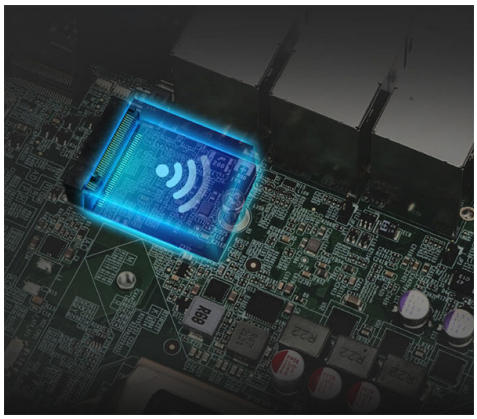
IEI's tBIOS allows users to navigate with finger on a touch-enabled monitor to make BIOS configuration easily.



Multiple Expansion Capabilities

M.2 2230 A Key for Wi-Fi / Bluetooth

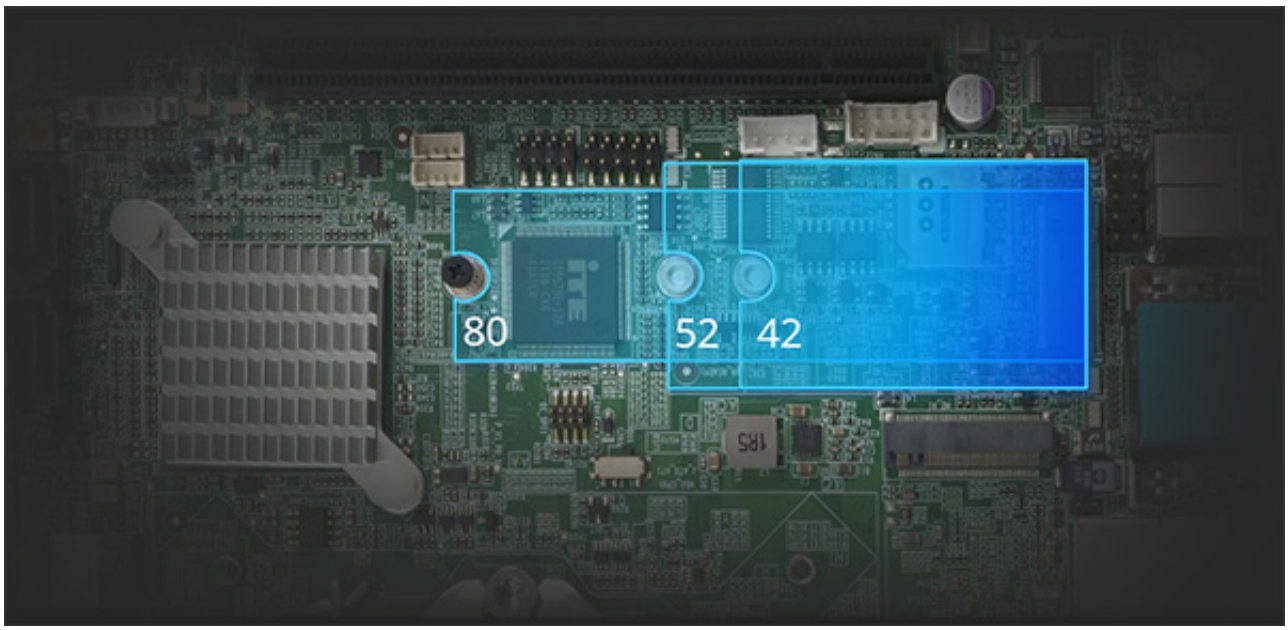
The M.2 2230 A key slot carrying with PCIe Gen3 x1 and USB 2.0 signals allows it to adopt the latest Wi-Fi 6E technology. Wi-Fi 6E enhances low latency and supports service levels that are equivalent to 5G networks.



Multi-functional M.2 B Key Slot

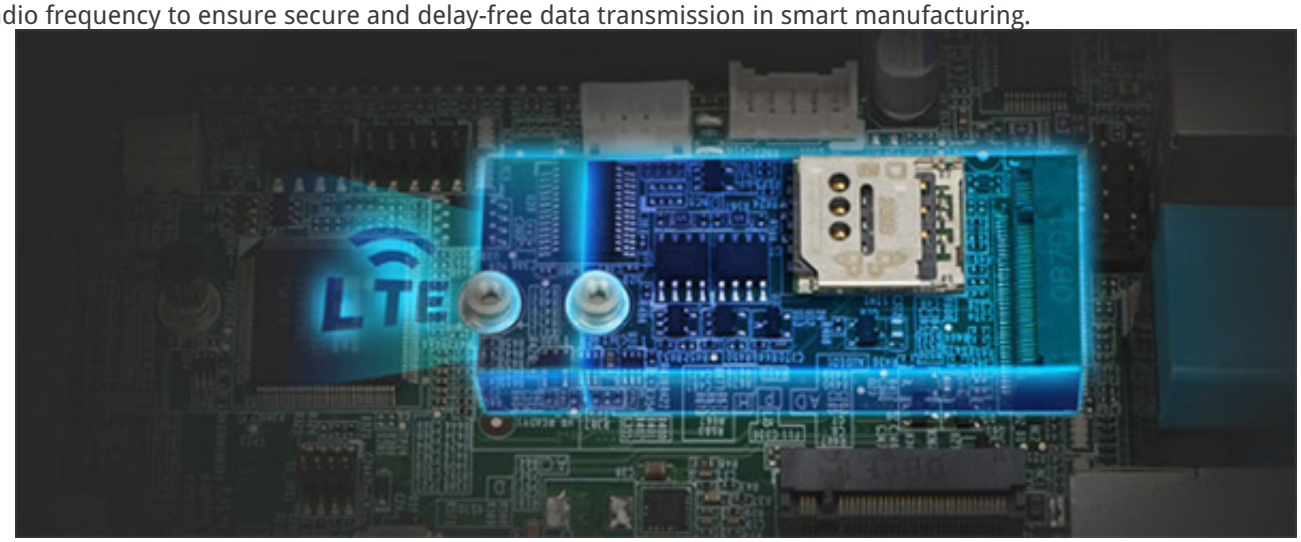
The KINO-DH420 also offers one M.2 3042/3052/2242/2280 B key socket supporting AI accelerator / NVMe SSD as well as SIM card slot for LTE deployment.

*Among the following three options (A, B & C), only one function can be adopted.



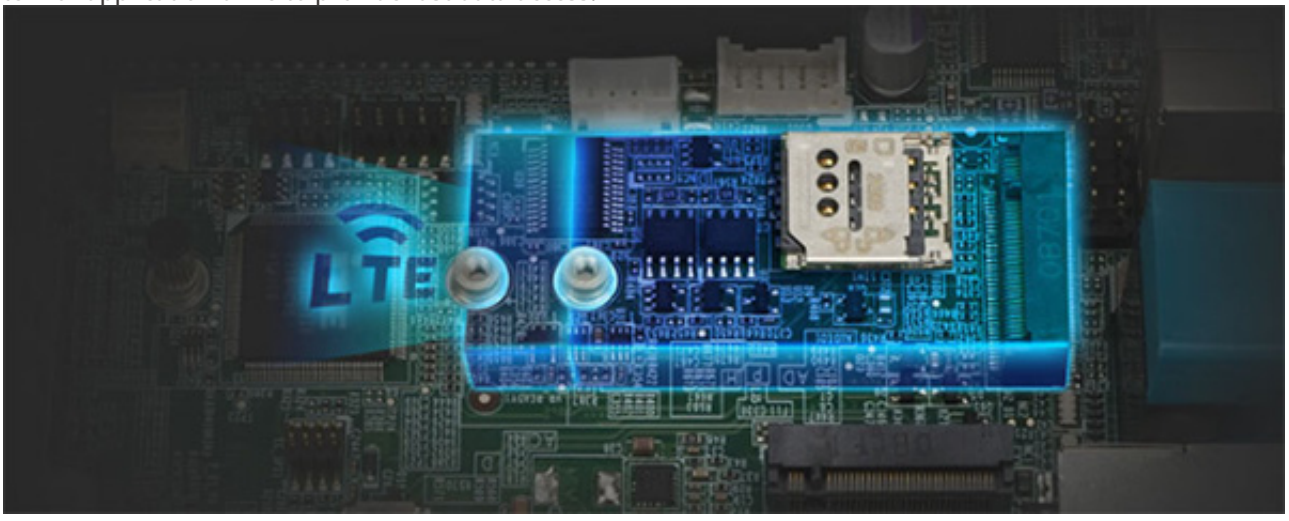
M.2 B Key (3042/3052) with SIM Slot for LTE Communications

The M.2 B key (3042/3052) socket supporting PCIe Gen3 x2 and USB 2.0 signals allows you to use a dedicated LTE radio frequency to ensure secure and delay-free data transmission in smart manufacturing.



M.2 2242/2280 B Key for NVMe SSD

The M.2 2242/80 B key socket with PCI Gen3 x2 bandwidth supports up to 16Gbps data-transfer speeds. The sequential read/write speed is 2.5 times faster than SATA 6Gb/s. It's the perfect choice for installing an operating system or application drive to provide fast data access.

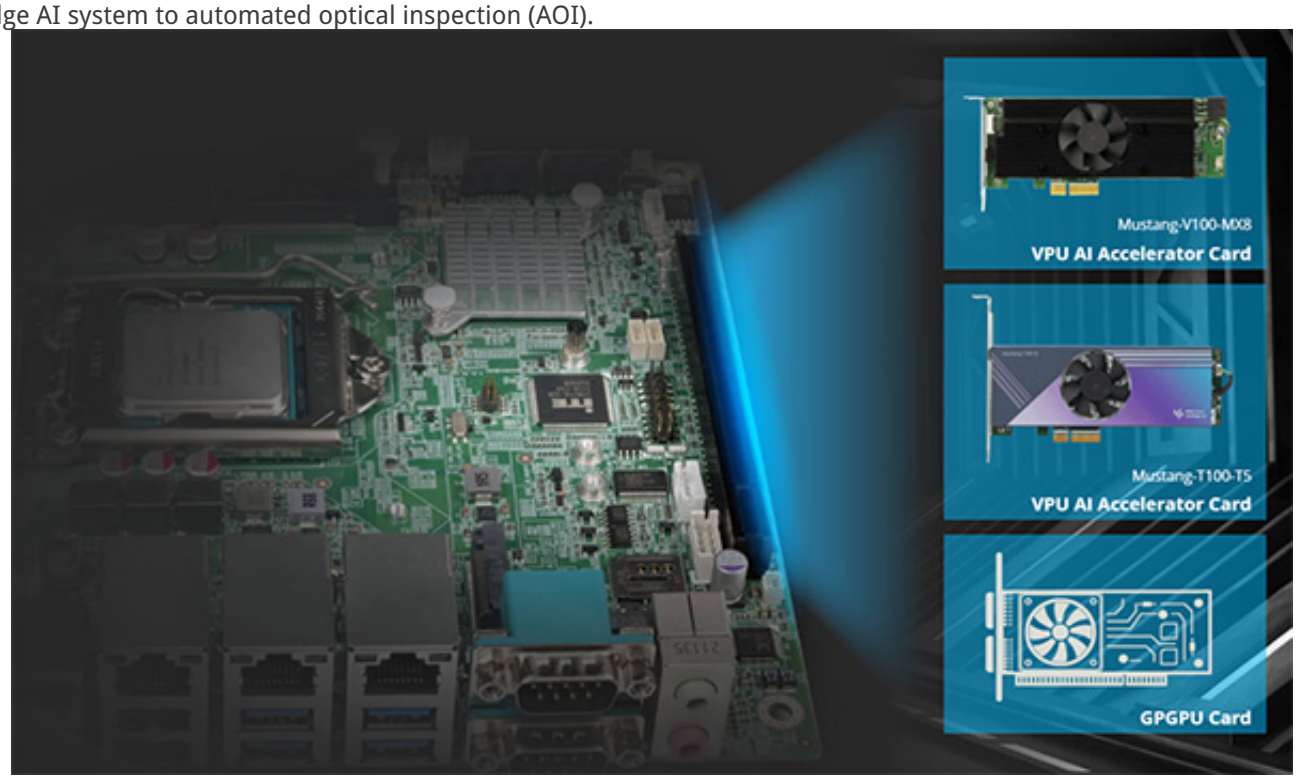


M.2 2280 B Key Accelerates AI Deployment

With the M.2 2280 B-key socket and PCI Express® 3.0 x2 signals, system integrators could choose from IEI's Mustang-M2BM-MX2, AI accelerator card featuring the Intel® Movidius™ Myriad™ X VPU (Vision Processing Unit), and enhance all vision inference applications such as facial recognition, vehicle registration plate recognition, and many other machine vision applications.

One PCIe Gen3 x16 Slot Easily Adds on GPGPU, AI Accelerator, Frame Grabber and More

The KINO-DH420 brings high performance industrial Edge with one PCIe x16 slot. This provides a greater range of support for GPGPU, frame grabber card and AI accelerators. It is designed for the most intensive applications from Edge AI system to automated optical inspection (AOI).



Quality Assurance

With years of experience, IEI is continuously improving the design and production quality and aiming to achieve customer satisfaction.

X-Ray CT Inspection
Side Fill Technology
-20°C~60°C Aging Test
CE/FCC Compliance