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Embedded Industrial Motherboard Catalog



Innovative COMLAC Modular Computer Expert





Becoming the Global Leading IPC&HMI System Platform Manufacturer

NODKA, established in 2001 and headquartered in Suzhou, China, operates three major research and development centers in Suzhou, Kunshan, and Shenzhen. The company is dedicated to the research, innovation, manufacturing, and sales of industrial PC and HMI system platform products. It also offers OEM/ODM customization services to meet the needs of customers for small quantities, diverse varieties, and large-scale production. NODKA provides comprehensive products and solutions for clients in the fields of automation, measurement, and communication. With 29 sales offices in key cities across the country, the company is able to offer customers convenient and efficient technical support and services. Its products are sold to over 30 countries, successfully serving more than 5,000 global customers and establishing long-term cooperative relationships.

NODKA possesses two manufacturing bases in Suzhou and Anhui, with production facilities spanning over 50,000 square meters. They have established a full-process intelligent manufacturing center that includes system assembly, SMT/DIP, precision sheet metal, CNC machining, painting, and anodizing surface treatment. The manufacturing processes and controls of the factories are all in compliance with ISO9001 and ISO14001 certification standards.

One-stop IPC, Panel PC and HMI Design and Manufacturing

Nodka is a top-tier industrial computer manufacturer specializing in the design and manufacture of panel PCs, HMI, industrial PCs and automation computers tailored for the industrial automation, robotics, machine vision, smart manufacturing, self-service, edge IoT and many other industrial computer markets. Nodka was established in Shanghai in 2001 and has since grown to include offices in China, the Netherlands, and the United States, serving products and services to over 5,000 customers in 30+ countries. We offer OEM/ODM services, customizable and compatible solutions that ensure seamless integration with existing and future technologies, backed by our global support.

24

Years in Business

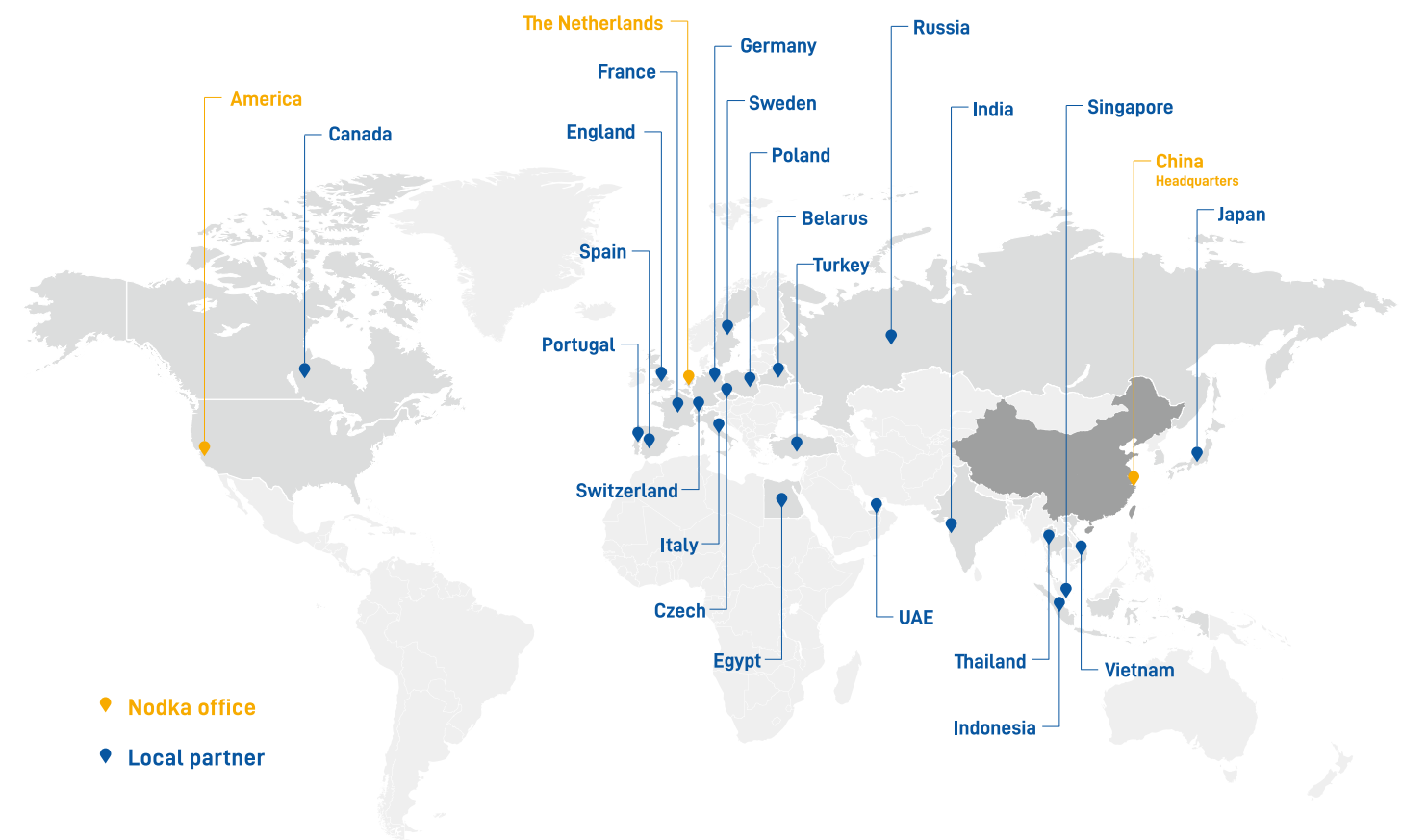
30+

Countries Served

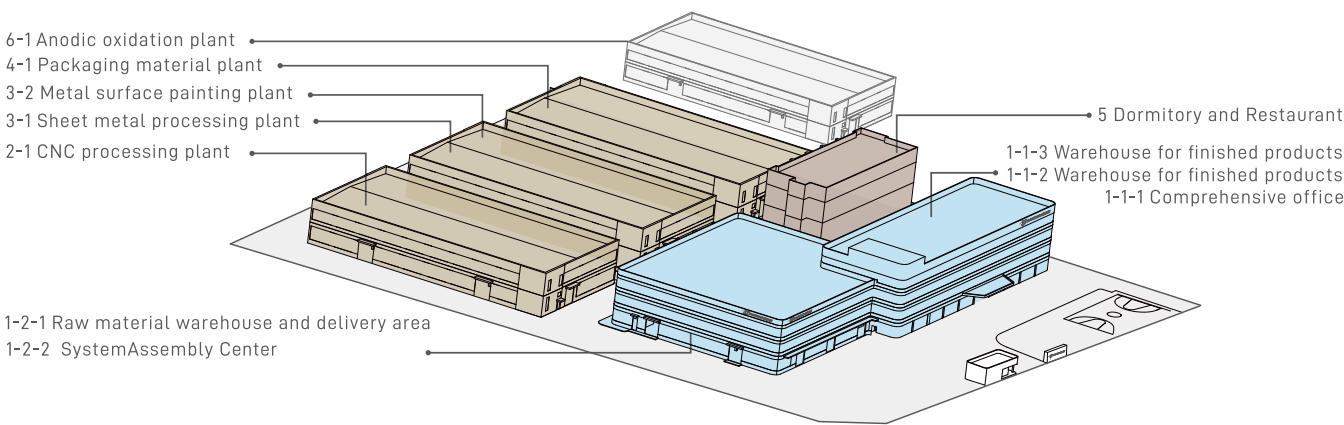
5000+

Happy Customers

Based in China, Service all over the world



CONTENTS



Guangde manufacturing center layout

SMT Center

Pick-and-Place Machine, DIP, PCBA conformal coating, AOI, one stop service for SMT manufacturing.



System Assembly Center

Scalable, flexible and one-stop production model to meet mass production, small batch orders requirement.



Anodizing plant

With capabilities in different surface treatment technology, quick response for customer-specific requests.



Metal Surface treatment

Spray coating, Printing, Anodizing, Laser carving technology.



CNC processing plant

24/7 production mode, equipped with multi-axis and efficient machining capabilities.



Metal shell processing

50 units equipment involve Laser cutting, Stamping, Bending, 3/4 axis Machine



COMLAC CPU Modules

NK-L312-J1900	07
NK-L313-J3455	09
NK-L314-5005U/5300U/5500U	11
NK-L315-3855U/6200U/7200U/7600U	13
NK-L316-4205U/8145U/8265U	15
NK-L317-J6412	17
NK-L318-N305/N97	19
NK-L3-EB01	21
NK-L510-H110	23
NK-L520-H510	25
NK-L530-H610	27
NK-L5-EB01	29

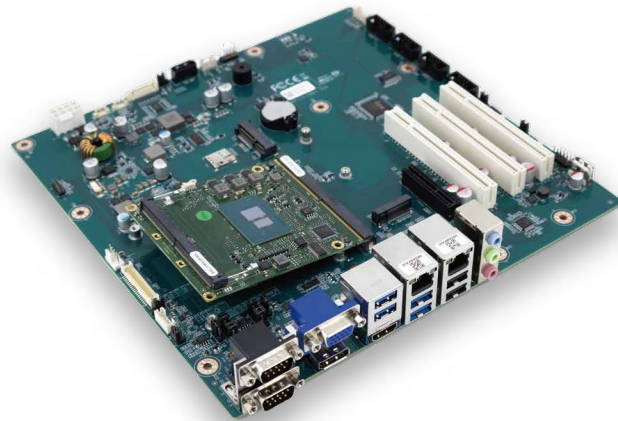
Embedded Industrial Motherboard

NK-6120	33
NK-6121	35
NK-6170	37
NK-6171	39
NK-6172	41
NK-6183	43
NK-6A10	45
NK-6A12	47
NK-6A13	49
NK-6A22	51
NK-6A23	53

ATX/Micro-ATX Motherboard

NK-7106	57
NK-7107	59
NK-7208	61
NK-7205	63
NK-7306	65
NK-7305	67
NK-5105	69

COMLAC CPU Modules



About COMLAC

COMLAC CPU modules choose low-power x86 soc, and is designed with low power range between 10W~ 30W and smalsize of 82 *95 mm. COMLAC"PU modules can offer the powerful computing performance based on intel's latest Core - platform, are suitable for applications that require low power but high performance, so that it is typically used in portable devices and fixed embedded systems, CPU core and supported circuits (including memory, I/Os, power timing control, CPU power supply, Ethernet, etc.) are all integrated on the CPU module. The COMLAC CPU module will be integrated with the carrier board, which is with specific functions required by application, such as VGA / DV / HDMI / LCD interface, audio codec, touch controller, wireless, interface protection, and customer designed circuits, etc. Such modular design can provide a lot of advantages to customers, such as flexibility of product upgrade, fast time to market, diversification, lower cost and power consumption as well as smaller physical size.

About COMLAC Connector

The COMLAC standard uses a high-speed MXM-II connector. The MXM connector is known for its high-speed signal transmission, and is typically used as a transmission interface for PCI Express image acquisition cards in notebooks. It is also widely applied for military and industrial computer core modules (such as Qseven and SMARC) because of its advantage of compact physical structure, high-speed transmission, impact resistance, and vibration resistance. NODKA CPU core module is with same connector and with dimension of 82 mm*95 mm, which is based on the latest Intel Core- platform. The MXM connector selected by NODKA COMLAC standard provides 314 electrical contacts, and supports third-generation PCIe transfer rate, and wide temperature range of -55°C to + 85°C.

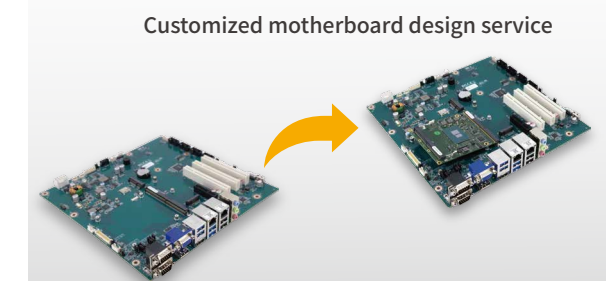
Features of COMLAC modules:

- The designer of carrier board could decide the physical structure of carrier board and equipment bring no restriction to form factor (such as ATX, Mini-ITX, 3.5 inch or 5.25 inch).
- Through the compatibility design, the same carrier board can be compatible with different CPU core modules, which brings advantage of flexibility for platform exchange and upgrade, as well as the better cost control.
- Modularize the most complex part of motherboard, help reduce R&D cost and accelerate time to market process.
- Can reduce current and future design risks.
- Fast implementation of own hardware circuit design to Carrier board, help reduce the connection cables and add-on cards around device, improve product integration and reliability.
- Enable customer to import new technology quickly, reserve possibility of the further development.

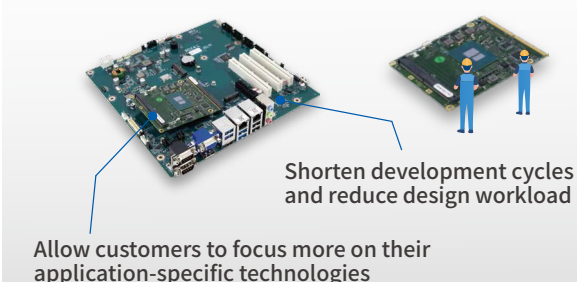
Fast product launch



Meet flexible demands



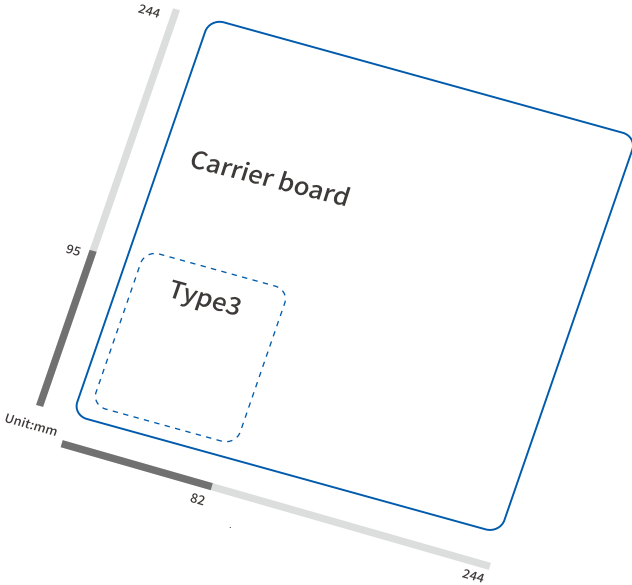
Reduce development costs



Protect core technologies



X86 Type3 Standard



- Universal X86 core components
- MXM3.0 high-speed connection
- Optional Type 3 specifications
- COMLAC development support

Type3 Standard Revision 1.0

MXM Connector

One Gigabit Ethernet Port

LPC Interface

Two Serial ATA Port

High-definition Audio

Four USB3.0 Ports

Eight USB2.0 Ports

Four PCI express lanes x 1

One PCI express lanes x 4

One eDP interface

Two DDI interface

MXM Connector

Four GPIO Pins

Keyboard & Mouse

+5V Primary Power Two Six Serial Port

External SMBus

External I²C bus

Power Control

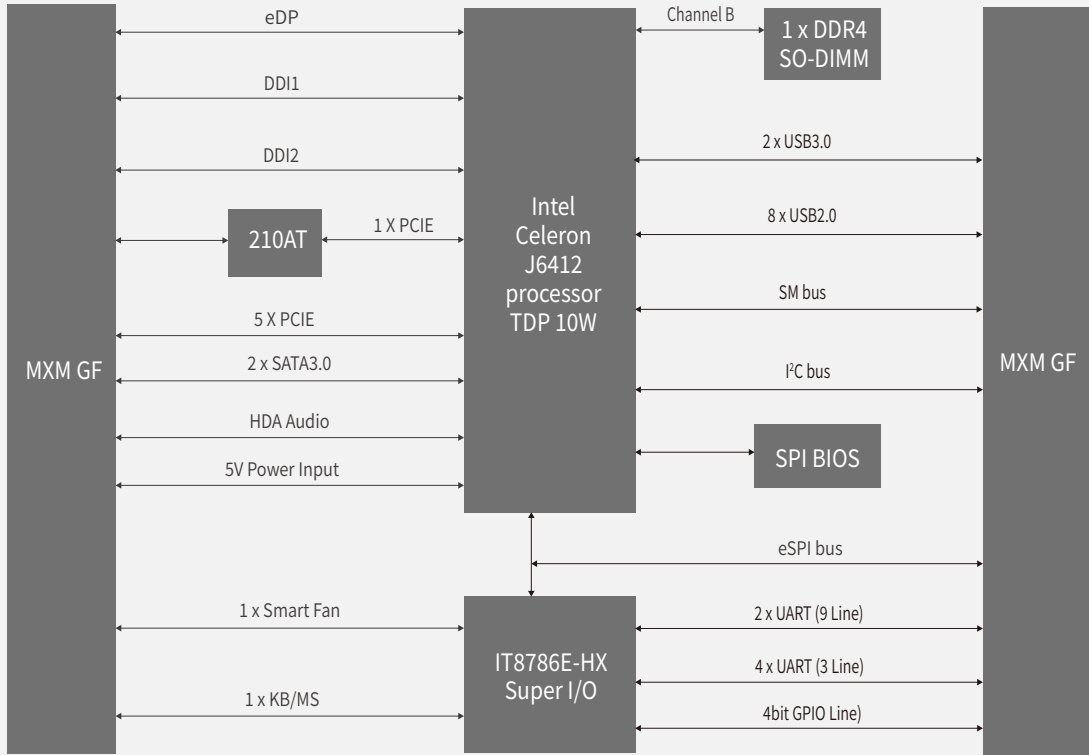
Front Panel Signal

Smart FAN Control

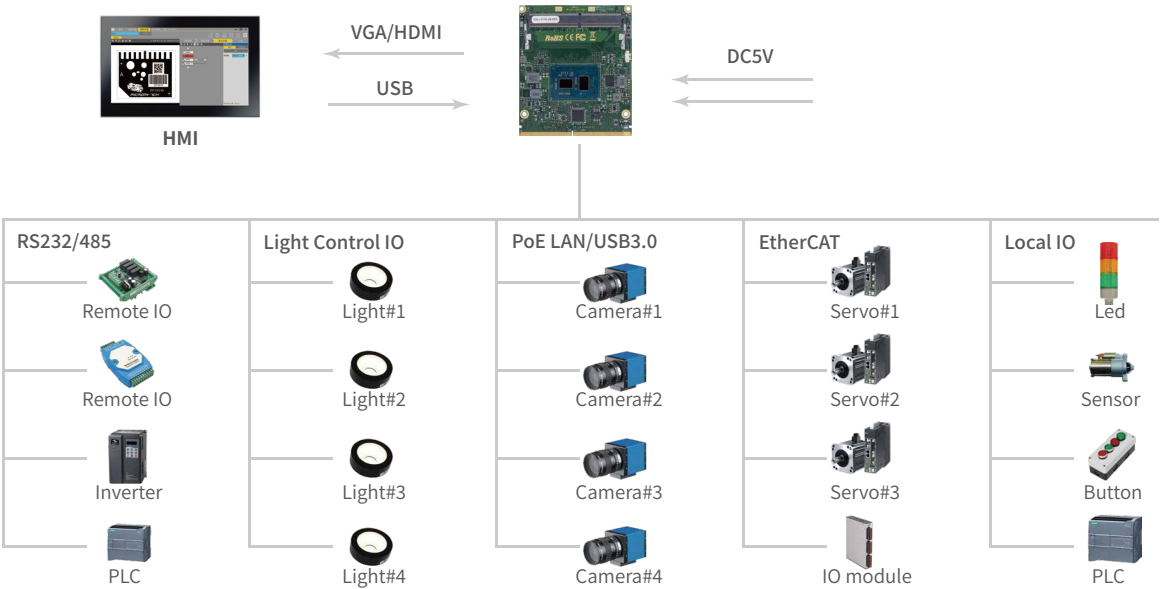
SDIO Interface

Six Serial Port

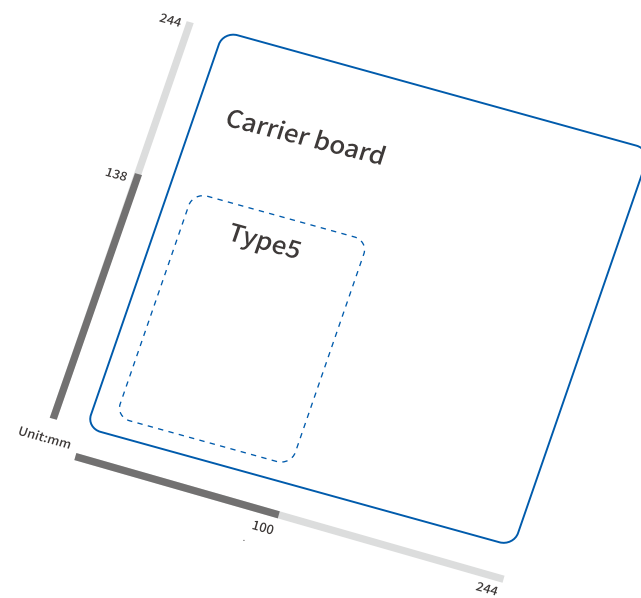
Type3 Diagram Functional



Lithium Battery Defect Detection Industry Solution

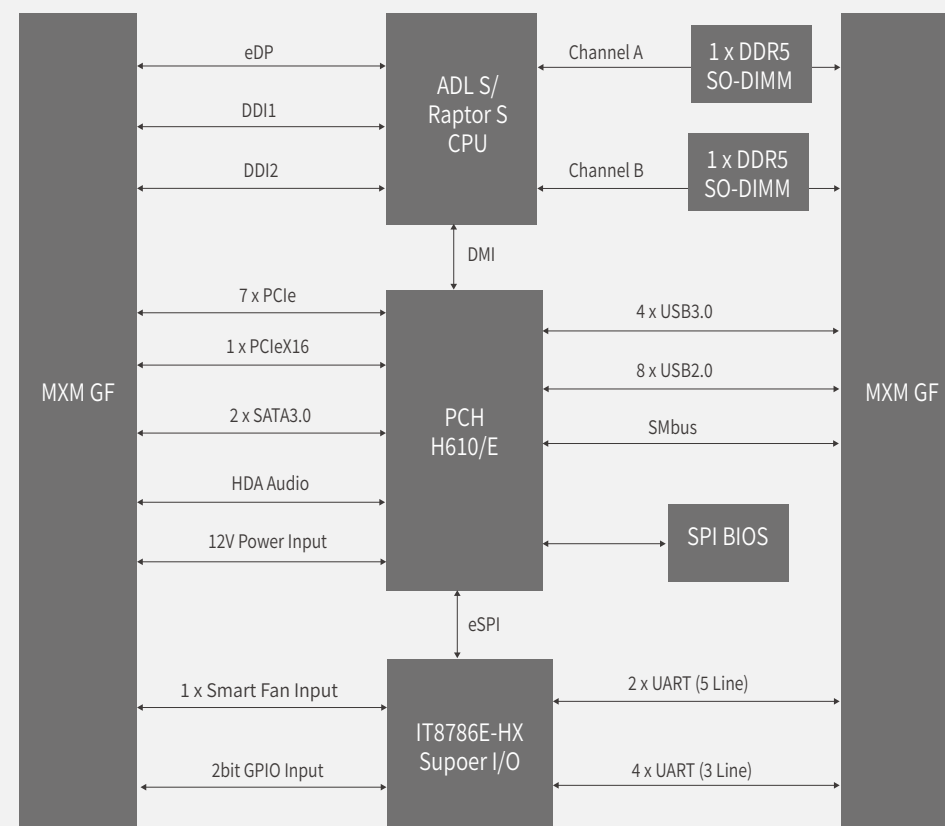


X86 Type5 Standard

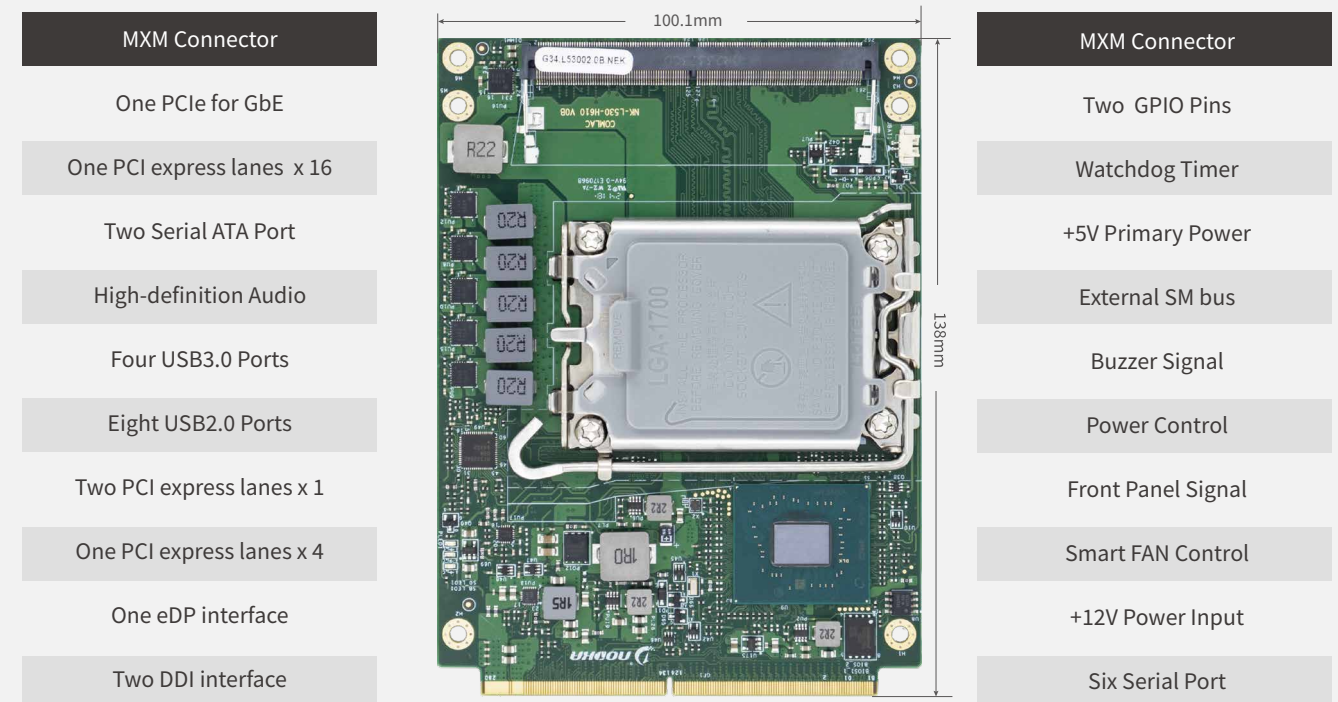


-  Universal X86 core components
-  MXM3.0 high-speed connection
-  Optional Type 5 specifications
-  COMLAC development support

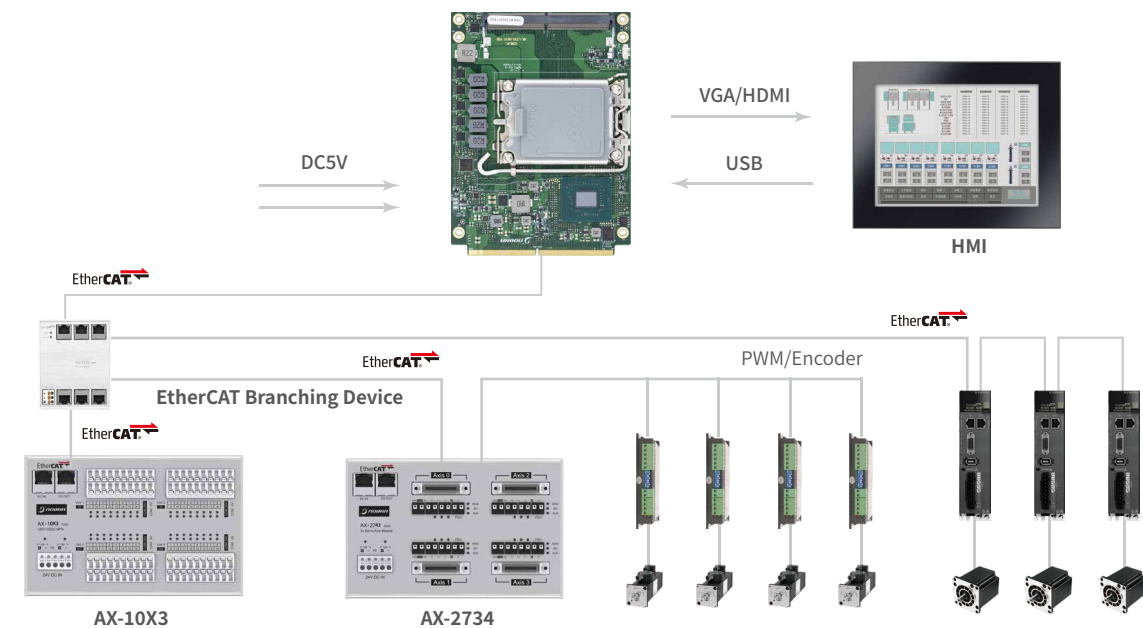
Type5 Diagram Functional



Type5 Standard Revision 1.0

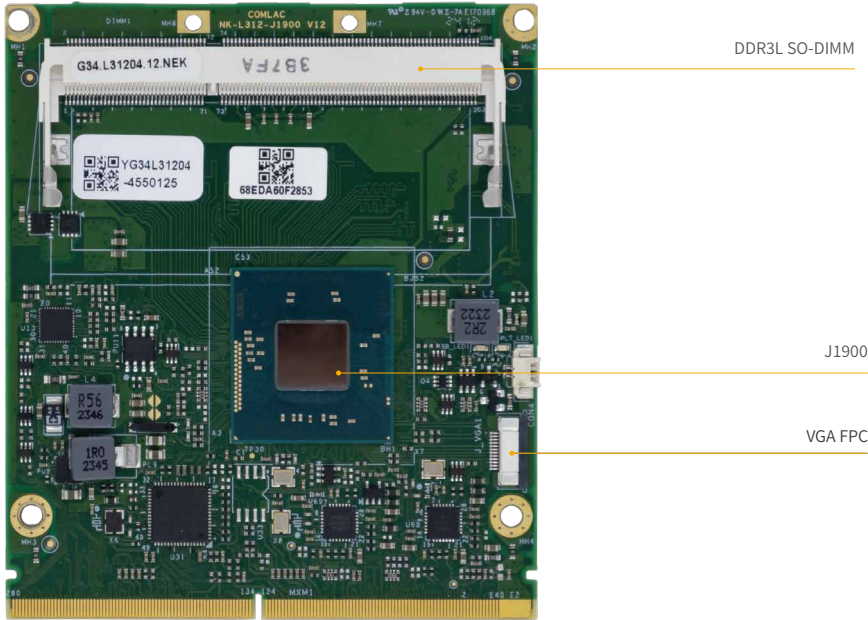


Automated Control System Solution



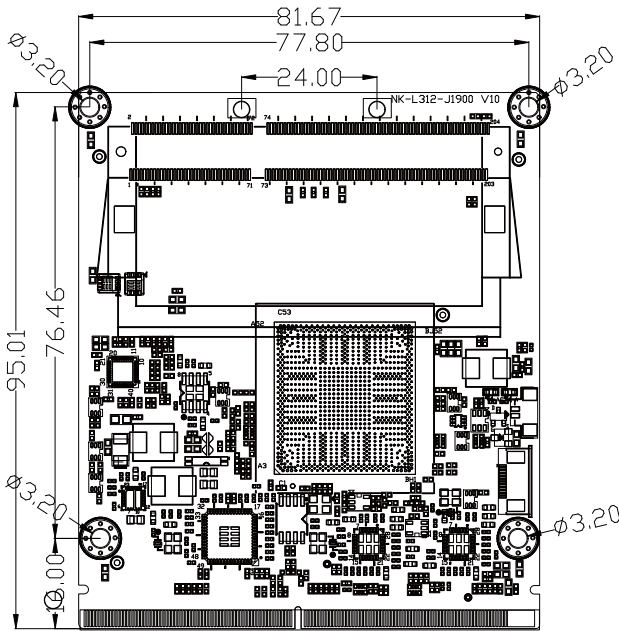
NK-L312-J1900

Intel® Celeron® J1900 processor, Quad-core, base frequency 2.0GHz, TDP 10W



- Intel® Celeron® J1900 processor, Quad-core, base frequency 2.0GHz, TDP 10W
- Support 1 x DDR3L-1333MHz SO-DIMM slot, up to 8GB
- Support 1 x VGA FPC Connector,2 x DDI dual display
- Type3 Interface Signals with MXM3.0 Gold Finger

Size(Unit:mm)

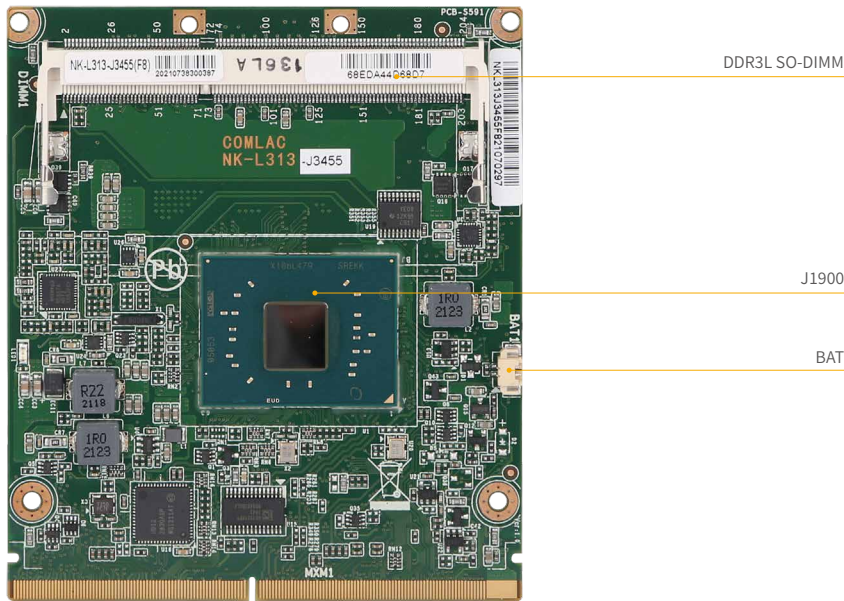


Specification

Project		NK-L312-J1900
Processor System	CPU	Intel® Celeron® J1900 processor 2.0GHz,TDP 10W
	Chipset	Intel® SoC integrated
	BIOS	AMI 64Mb UEFI BIOS
Memory	Technology	Single Channel(Non-ECC) DDR3L-1333MHz, up to 8GB
	Slot	1 x DDR3L 240-pin SO-DIMM slot
Graphic	Controller	Intel HD graphics integrated
Expansion Signals	Display	2 x DDI,1 x VGA FPC Connector
	Serial Port	2 x Uart(9line),4 x Uart(3line)
	USB	1 x USB 3.0,8 x USB2.0
	SATA	2 x SATA 2.0
	PCIe	3 port 3 lanes(3 X1)
	GPIO	1 x 4bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart Fan
	Ethernet	Intel i210AT controller
	others	1 x I²C,1 x SMBus,1 x LPC,1 x Buzzer,1 x KB/MS
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Power input	5V
OS Support	MS Windows	Windows 7/8/10
	Linux	Linux
Mechanism	Dimensions	(L)95mm x (W)82mm
	Gross Weight	0.04kg
Environment	Temperature	Operating:0°C~60°C with SSD;Storage:-40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

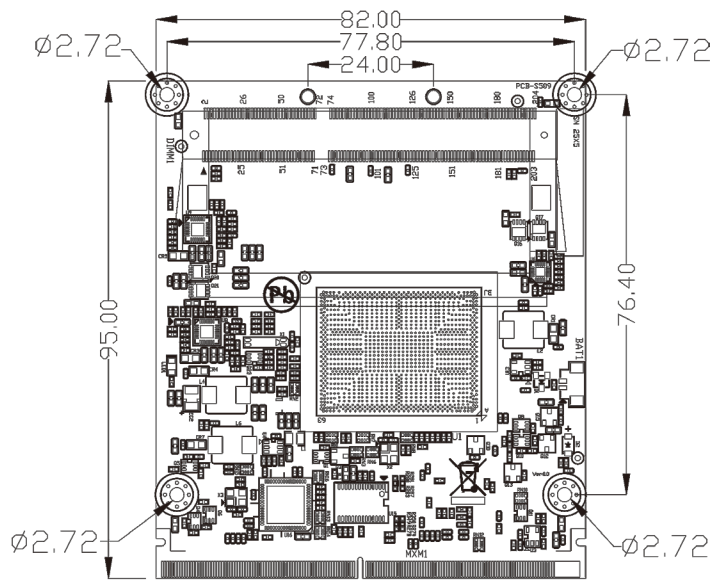
NK-L313-J3455

Intel® Celeron® J3455 processor, Quad-core, base frequency 1.5GHz up to 2.3GHz, TDP 10W



- Intel® Celeron® J3455 processor, Quad-core, base frequency 1.5GHz up to 2.3GHz, TDP 10W
- Support 1x DDR3L-1866MHz SO-DIMM slot, up to 8GB
- Support 2 x DDI, 1 x eDP, Dual-display
- Type3 Interface Signals with MXM3.0 Gold Finger

Size(Unit:mm)

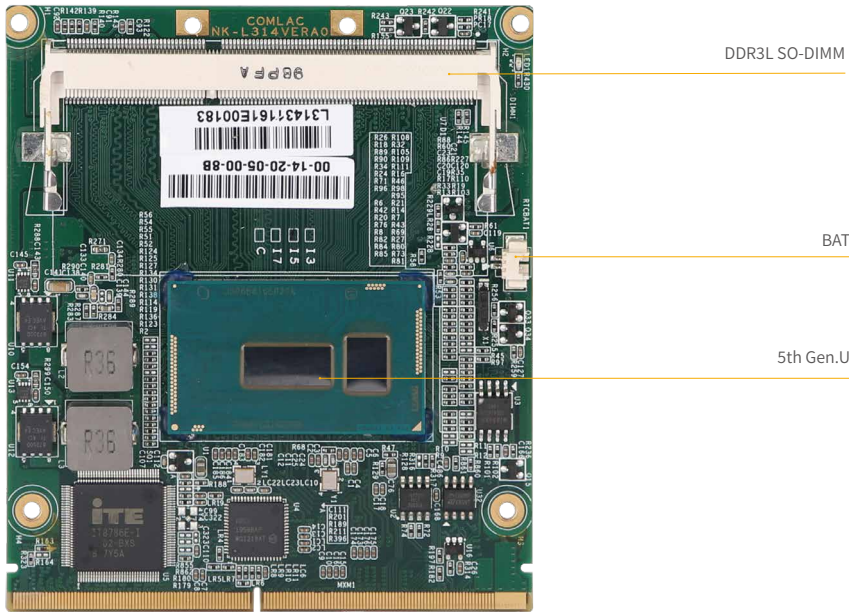


Specification

Project		NK-L313-J3455
Processor System	CPU	Intel® Celeron® J3455 processor 1.5GHz up to 2.3GHz,TDP 10W
	Chipset	Intel® SoC integrated
	BIOS	AMI 128Mb UEFI BIOS
Memory	Technology	Single Channel(Non-ECC) DDR3L-1866MHz, up to 8GB
	Slot	1 x DDR3L 240-pin SO-DIMM slot
Graphic	Controller	Intel HD graphics integrated
Expansion Signals	Display	2 x DDI,1 x eDP
	Serial Port	2 x Uart(9line),4 x Uart(3line)
	USB	2 x USB 3.0,8 x USB2.0
	SATA	2 x SATA 3.0
	PCIe	5 port 5 lanes(1 X2 ,3 X1)
	GPIO	1 x 4bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart Fan
	Ethernet	Intel i210AT controller
	others	1 x I²C,1 x SMBus,1 x LPC,1 x Buzzer, 1 x KB/MS
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Power input	5V
OS Support	MS Windows	Windows 7/10
	Linux	Linux
Mechanism	Dimensions	(L)95mm x (W)82mm
	Gross Weight	0.04kg
Environment	Temperature	Operating :0°C~60°C with SSD;Storage : -40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

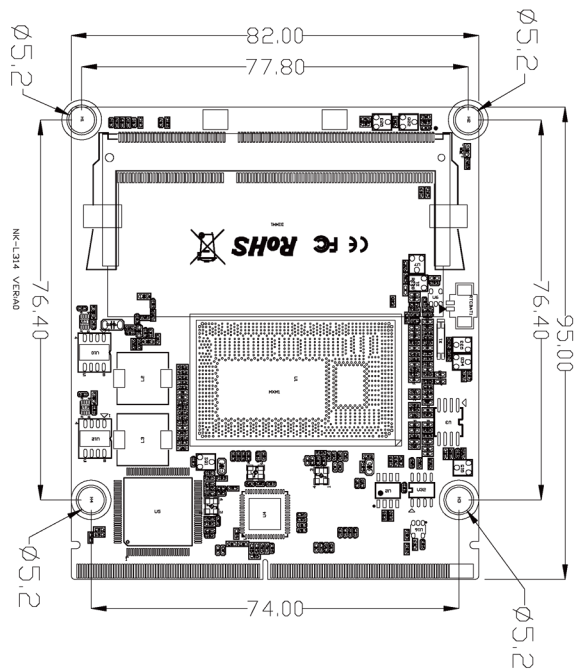
NK-L314-5005U/5300U/5500U

Intel® 5th Gen. U Core Processors, TDP 15W



- Intel® 5th Gen. U Dual Core Processors i3-5005U ,base Frequency 2.0GHz up to 2.9GHz),TDP 15W
- Intel® 5th Gen. U Dual Core Processors i5-5300U ,base Frequency 2.3GHz up to 2.9GHz),TDP 15W
- Intel® 5th Gen. U Dual Core Processors i7-5500U ,base Frequency 2.4GHz up to. 3.0GHz),TDP 15W
- Support 1 x DDR3L-1333/1600MHz SO-DIMM slot, up to 8GB
- Support 1 x eDP,2 x DDI Tri-display
- Type3 Interface Signals with MXM3.0 Gold Finger

Size(Unit:mm)

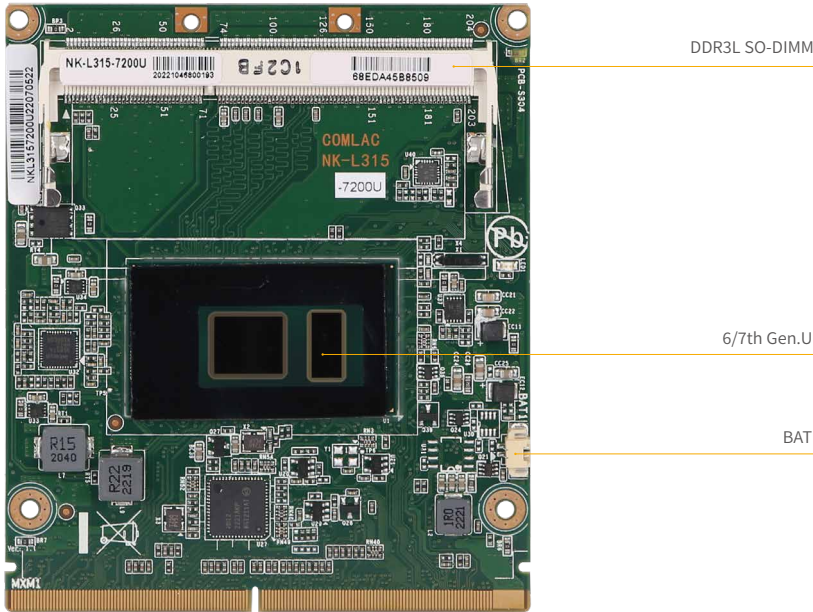


Specification

Project		NK-L314-5005U/5300U/5500U
Processor System	CPU	Intel® 5th Gen. U Core Processors, TDP 15W
	Chipset	Intel® SoC integrated
	BIOS	AMI 128Mb UEFI BIOS
Memory	Technology	Single Channel(Non-ECC) DDR3L-1333/1600MHz, up to 8GB
	Slot	1 x DDR3L 240-pin SO-DIMM slot
Graphic	Controller	Intel HD graphics integrated
Expansion Signals	Display	2 x DDI,1 x eDP
	Serial Port	2 x Uart(9line),4 x Uart(3line)
	USB	2 x USB3.0,8 x USB2.0
	SATA	2 x SATA 3.0
	PCIe	5 port 8 lanes(1 X4,4 X1)
	GPIO	1 x 4bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart Fan
	Ethernet	Intel i210AT controller
	others	1 x I²C,1 x SMBus,1 x LPC,1 x Buzzer, 1 x KB/MS
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Power input	5V
OS Support	MS Windows	Windows 7/10
	Linux	Linux
Mechanism	Dimensions	(L)95mm x (W)82mm
	Gross Weight	0.04kg
Environment	Temperature	Operating: 0°C~60°C with SSD;Storage: -40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

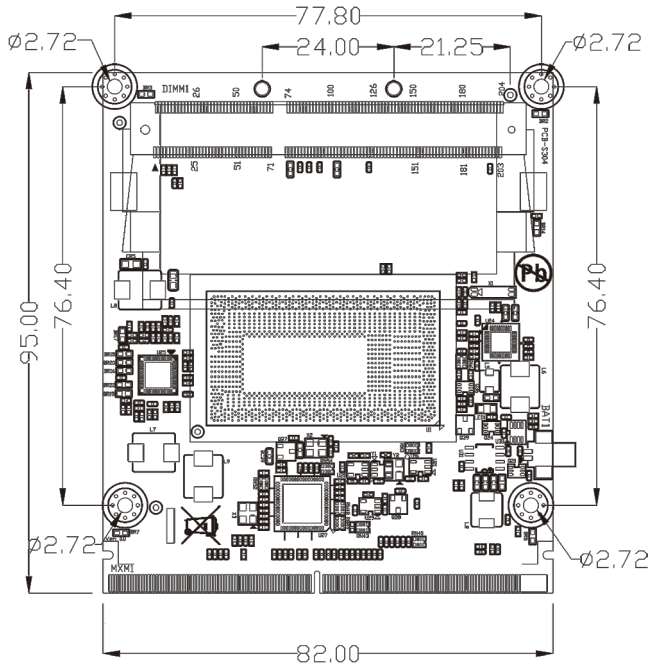
NK-L315-3855U/6200U/7200U/7600U

Intel® 6/7th Gen.U Celeron Core processor, TDP 15W



- Intel® Celeron® 3855U processor, Dual-core, base frequency 1.6GHz , TDP 15W
- Intel® Core™ i5-6200U processor, Dual-core, base frequency 2.3GHz up to 2.8GHz , TDP 15W
- Intel® Core™ i7-7600U processor, Dual-core, base frequency 2.8GHz up to 3.9GHz , TDP 15W
- Intel® Core™ i5-7200U processor, Dual-core, base frequency 2.5tGHz up to 3.1tGHz , TDP 15W
- Support 1 xDDR3L-1600MHz SO-DIMM slot, up to 8GB
- Support 1 xeDP,2 x DDI Tri-display
- Type3 Interface Signals with MXM3.0 Gold Finger

Size(Unit:mm)

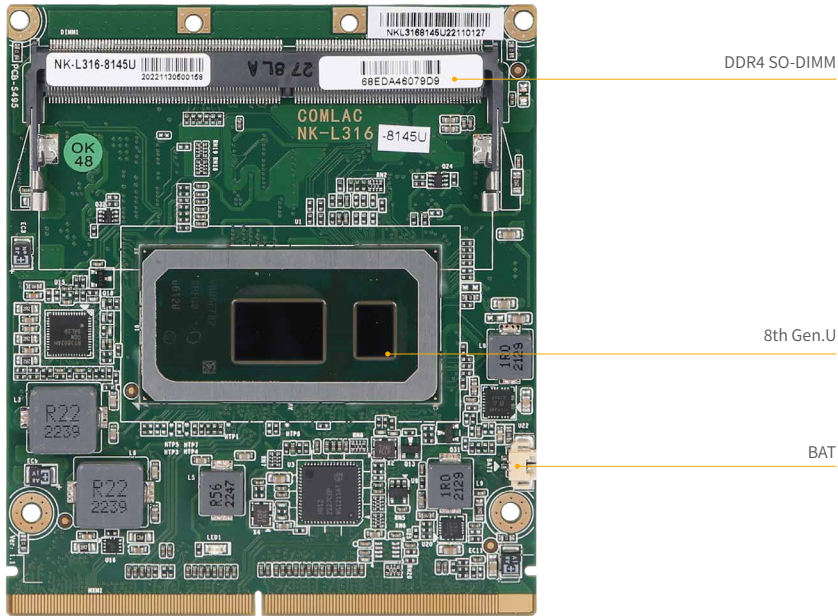


Specification

Project		NK-L315-3855U/6200U/7200U/7600U
Processor System	CPU	Intel® 6/7th Gen.U Celeron Core processor, TDP 15W
	Chipset	Intel® SoC integrated
	BIOS	AMI 128Mb UEFI BIOS
Memory	Technology	Single Channel(Non-ECC) DDR3L-1600MHz, up to 8GB
	Slot	1 x DDR3L 240-pin SO-DIMM slot
Graphic	Controller	Intel HD graphics integrated
Expansion Signals	Display	2 x DDI,1 x eDP
	Serial Port	2 x Uart(9line),4 x Uart(3line)
	USB	4 x USB3.0 ,8x USB2.0
	SATA	2 x SATA 3.0
	PCIe	5 port 8 lanes (1 X4,1 X2,2 X1)
	GPIO	1 x 4bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart Fan
	Ethernet	Intel i210AT controller
	others	1 x I²C,1 x SMbus,1 x LPC,1 x Buzzer,1 x KB/MS
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Power input	5V
OS Support	MS Windows	Windows 7(Only support with Intel 6th Gen. CPU),Windows 10
	Linux	Linux
Mechanism	Dimensions	(L)95mm x (W)82mm
	Gross Weight	0.04kg
Environment	Temperature	Operating:0°C~60°C with SSD;Storage: -40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

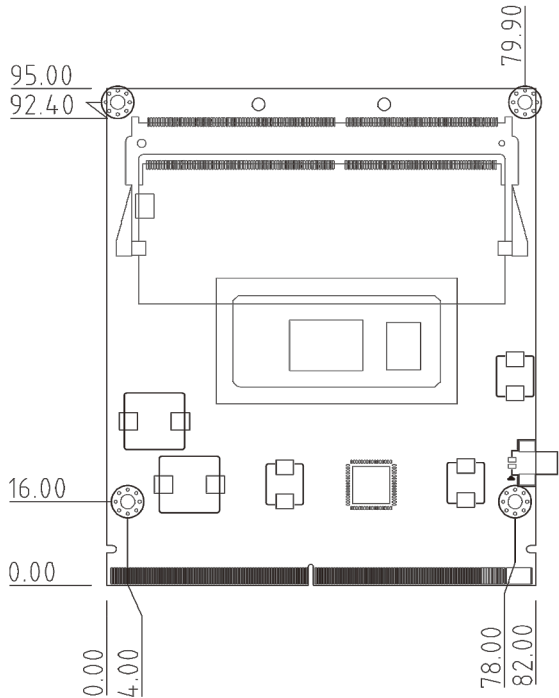
NK-L316-4205U/8145U/8265U

Intel® 8th Gen. U processor, TDP 15W



- Intel® Celeron®. 4205U processor, Dual-core, base frequency 1.8GHz , TDP 15W
- Intel® Core™. i3-8145U processor, Dual-core, base frequency 2.1GHz up to 3.9GHz , TDP 15W
- Intel® Core™. i5-8265Uprocessor, Quad-core, base frequency 1.6GHz up to 3.9GHz , TDP 15W
- Support 1 x DDR4-2400MHz SO-DIMM slot, up to 32GB
- Support 1 XeDP,2 x DDI Tri-display
- Type3 Interface Signals with MXM3.0 Gold Finger

Size(Unit:mm)

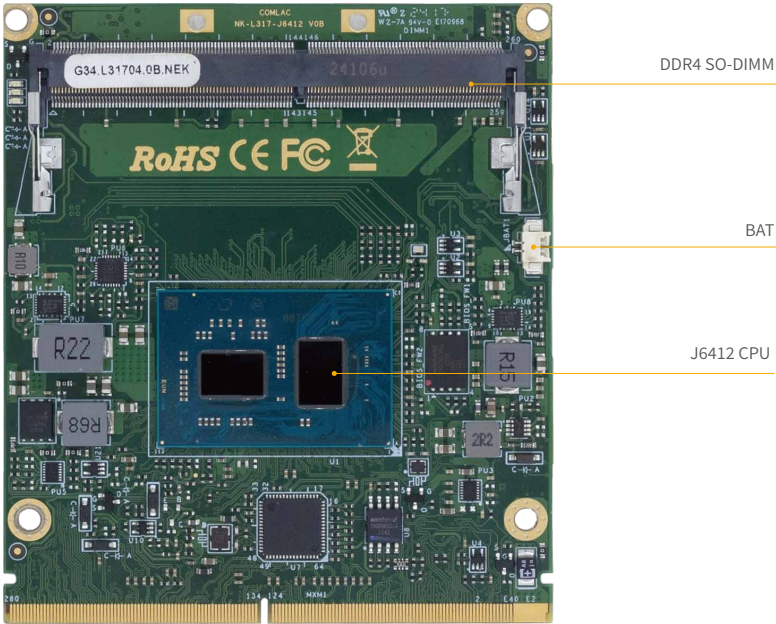


Specification

Project		NK-L316-4205U/8145U/8265U
Processor System	CPU	Intel® 8th Gen. U processor, TDP 15W
	Chipset	Intel® SoC integrated
	BIOS	AMI 128Mb UEFI BIOS
Memory	Technology	Single Channel(Non-ECC) DDR4-2400MHz, up to 32GB
	Slot	1 x DDR4 260-pin SO-DIMM slot
Graphic	Controller	Intel HD graphics integrated
Expansion Signals	Display	2 x DDI,1 x eDP
	Serial Port	2 x Uart(9line),4 x Uart(3line)
	USB	4x USB3.0,8x USB2.0
	SATA	2 x SATA 3.0
	PCIe	5port 8 lanes (1 X4,1 X2,2 X1)
	GPIO	1 x 4bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart Fan
	Ethernet	Intel i210AT controller
	others	1 x I²C,1 x SMBus,1 x LPC,1 x Buzzer,1 x KB/MS
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Power input	5V
	OS Support	MS Windows Windows 10/11 Linux Linux
Mechanism	Dimensions	(L)95mm x (W)82mm
	Gross Weight	0.05kg
Environment	Temperature	Operating:0°C~60°C with SSD;Storage: -40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

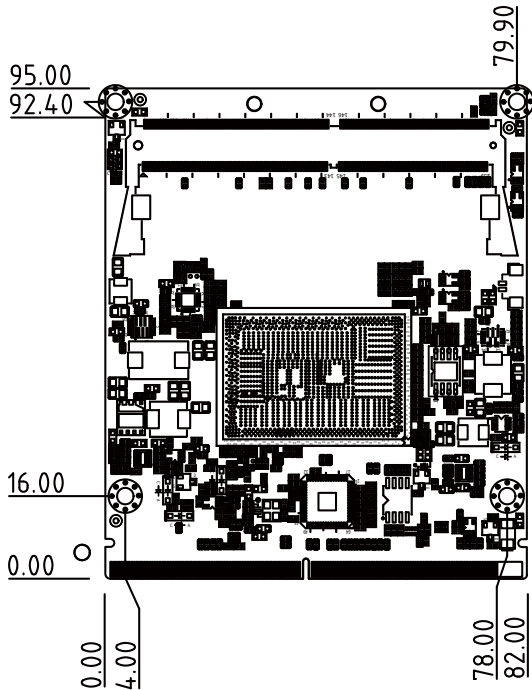
NK-L317-J6412

Intel® Celeron® J6412 processor, Quad-core, base frequency 2.0GHz up to 2.6GHz , TDP 10W



- Intel® Celeron® J6412 processor, Quad-core, base frequency 2.0GHz up to 2.6GHz , TDP 10W
- Support 1 x DDR4-3200MHz SO-DIMM slot, up to 32GB
- Support 2 x DDI,1 x eDP, Tri-Display
- Type3 Interface Signals with MXM3.0 Gold Finger

Size(Unit:mm)

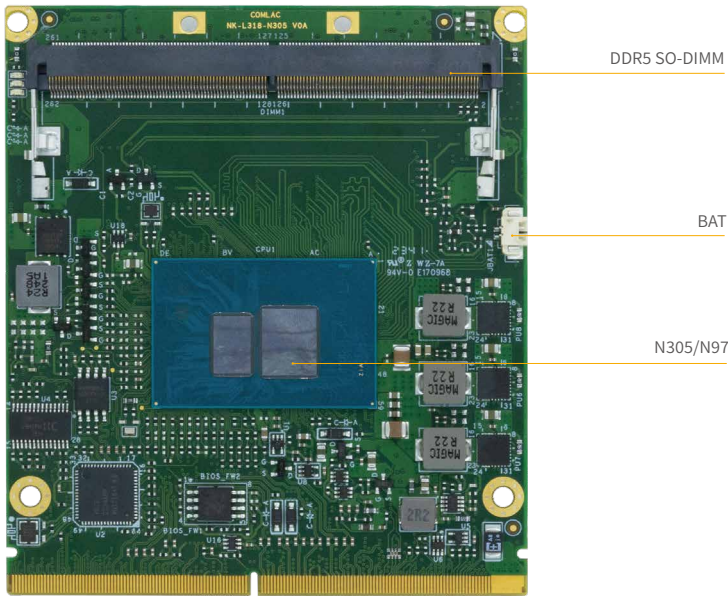


Specification

Project		NK-L317-J6412
Processor System	CPU	Intel® Celeron® J6412 processor, Quad-core, base frequency 2.0GHz up to 2.6GHz , TDP 10W
	Chipset	Intel® SoC integrated
	BIOS	AMI 256Mb UEFI BIOS
Memory	Technology	Single Channel(Non-ECC) DDR4-3200MHz, up to 32GB
	Slot	1 x DDR4 260-pin SO-DIMM slot
Graphic	Controller	Intel HD graphics integrated
Expansion Signals	Display	2 x DDI,1 x eDP
	Serial Port	2 x Uart(9 line),4 x Uart(3 line)
	USB	2 x USB3.0 ,8x USB2.0
	SATA	2 x SATA 3.0
	PCIe	5 port 5lanes (1 X2,3 X1)
	GPIO	1 x 4bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart Fan
	Ethernet	Intel i210AT controller
	others	1 x eSPI,1 x I²C,1 x SMBus,1 x Buzzer,1 x KB/MS
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Power input	5V
OS Support	MS Windows	Windows 10/11
	Linux	Linux
Mechanism	Dimensions	(L)95mm x (W)82mm
	Gross Weight	0.04kg
Environment	Temperature	Operating :0°C~60°C with SSD;Storage : -40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

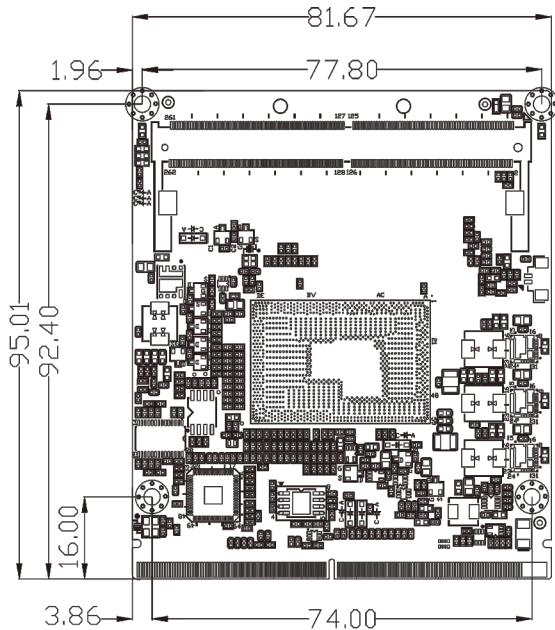
NK-L318-N305/N97

Intel® i3-N305/N97 Alder lake N processor,TDP 15W



- Intel® Core i3-N305 processor, Octa-core, Max frequency 3.8GHz , TDP 15W
- Intel® N-series N97 processor, Quad-core, Max frequency 3.6GHz , TDP 15W
- Support 1 x DDR5-4800MHz SO-DIMM slot, up to 16GB
- Support 2 x DDI,1 x eDP, Tri-Display
- Type3 Interface Signals with MXM3.0 Gold Finger

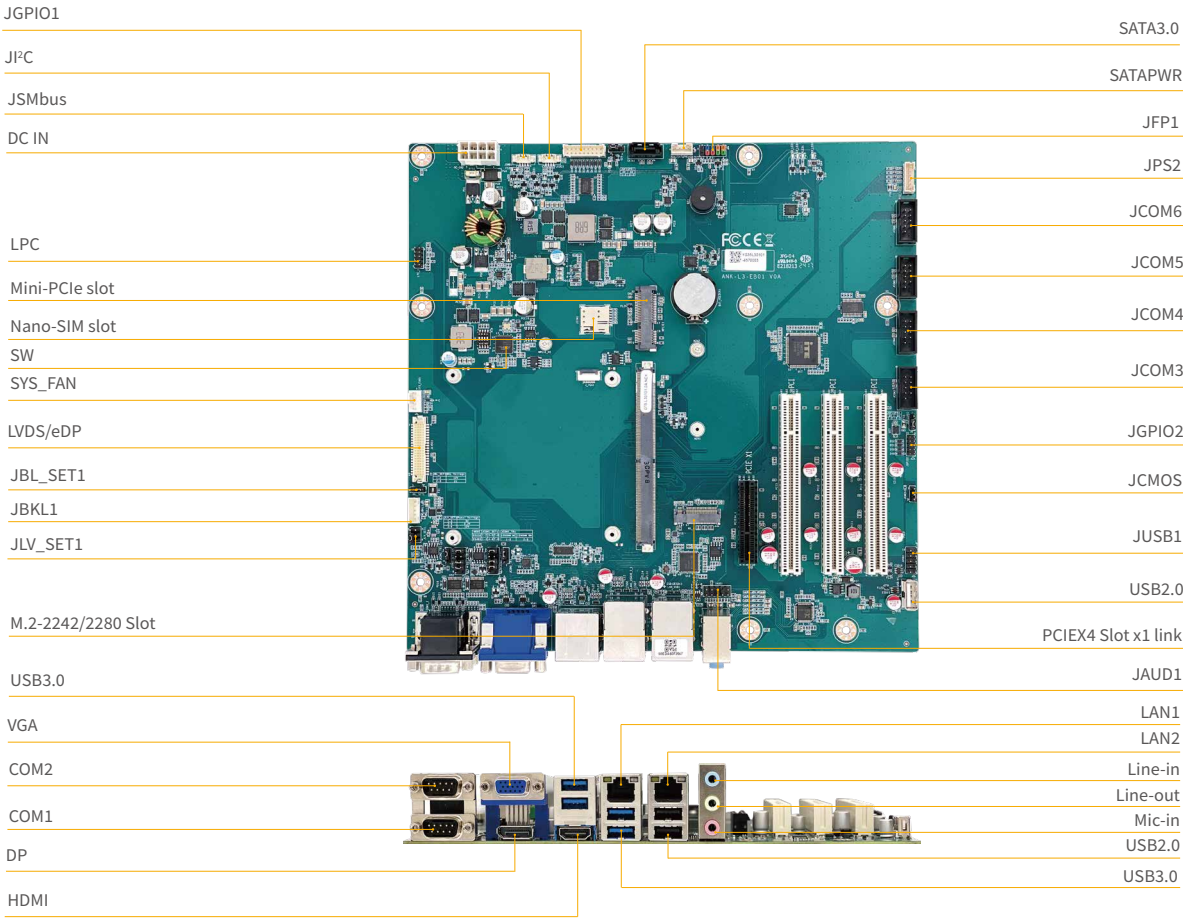
Size(Unit:mm)



Specification

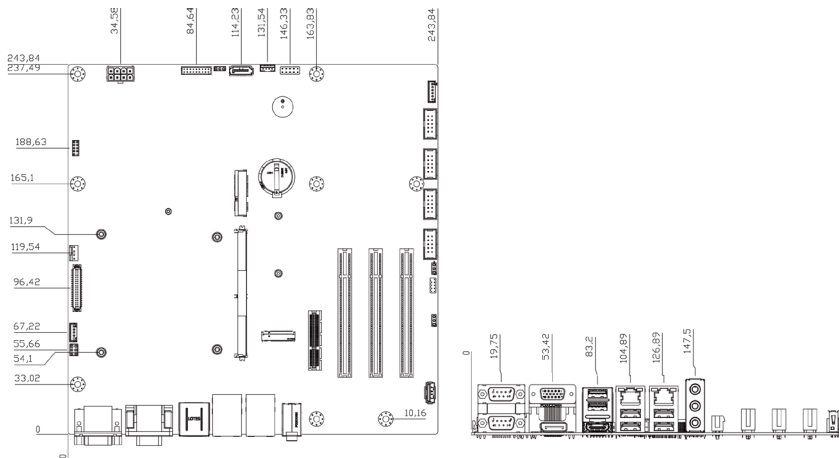
Project		NK-L318-N305/N97
Processor System	CPU	Intel® i3-N305/N97 Alder lake N processor, TDP 15W
	Chipset	Intel® SoC integrated
	BIOS	AMI 256Mb UEFI BIOS
Memory	Technology	Signal Channel(Non-ECC) DDR5-4800MHz, up to 16GB
	Slot	1 x DDR5 262-pin SO-DIMM slot
Graphic	Controller	Intel® UHD Graphics integrated
Expansion Signals	Display	2 x DDI, 1 x eDP
	Serial Port	2 x Uart (9 line) , 4 x Uart (3 line)
	USB	2 x USB3.0 , 8 x USB2.0
	SATA	2 x SATA 3.0
	PCIe	4 port 4 lanes(1 X2, 2 X1)
	GPIO	1 x 4bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart FAN
	Ethernet	Intel I210AT controller
	others	1 x I²C, 1 x Smbus, 1 x Buzzer, 1 x eSPI, 1 x KB/MS
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Power input	5V
OS Support	MS Windows	Windows 10/11
	Linux	Linux
Mechanism	Dimensions	(L)95mm x (W)82mm
	Gross Weight	0.04kg
Environment	Temperature	Operating :0°C ~60°C with SSD ;Storage : -40°C ~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

NK-L3-EB01



- Intel® Celeron® J6412 processor, Dual-core, base frequency 2.0GHz up to 2.6GHz, TDP 10W
- Support 1 x DDR4-3200MHz SO-DIMM slot, up to 32GB
- Support HDMI, VGA Dual-Display
- 6x Giga-bit Ethernet
- 2 x USB3.0 ports, 2 x USB2.0 ports
- 2 x SATA, 1 x Mini-PCIe slot with nano-SIM card socket
- 12~36V power input, lockable DC-IN phoenix terminal block

Size(Unit: mm)

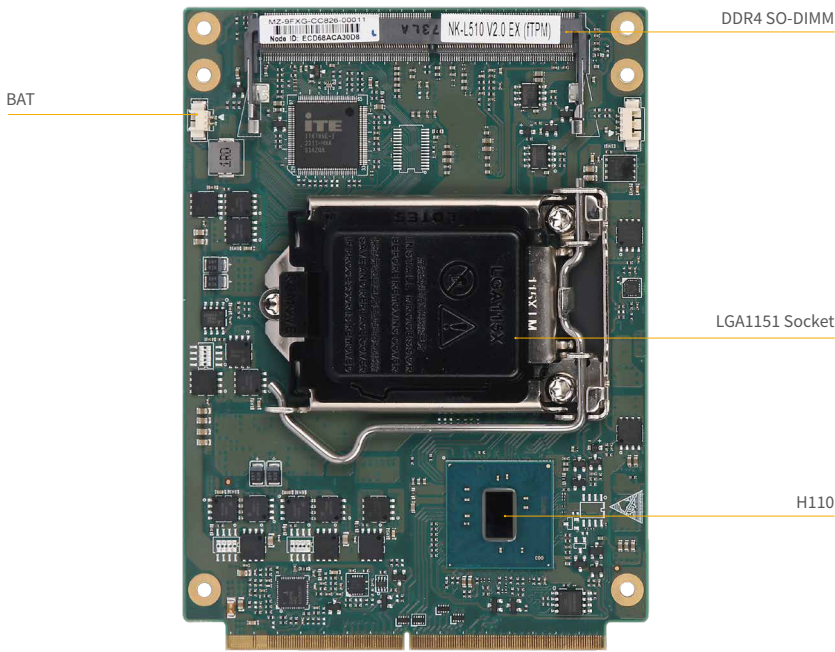


Specification

Project		NK-L3-EB01
Comlac Board	NK-L312-J1900	Bay Trail J1900 Comlac Board
		DDR3L-1333MHz, 1 x SO-DIMM slot, up to 8GB
	NK-L317-J6412	Elkhart Lake J6412 Comlac Board
Storage		DDR4-3200MHz, 1x SO-DIMM slot, up to 32GB
	NK-L318-N305_N97	Alder lake N Comlac Board
		DDR5-4800MHz, 1x SO-DIMM slot, up to 16GB
Storage	M.2 slot	1 x M.2-2242/2280 M Key SSD slot(SATA 3.0)
	SATA	1 x SATA 3.0
Rear I/O	Display	1 x VGA, resolution up to 1920x1200@60Hz
		1 x DP, resolution up to 4096x2160@60Hz
		1 x HDMI, resolution up to 4096x2160@30Hz
	Ethernet	2 x GbE(RJ45), Including 1 onboard PHY 1 PCIe interface conversion , Intel i210AT controller
	USB	4 x USB3.0, 2 x USB2.0
	Serial Port	2 x RS485/232(9Line)
Internal I/O	Audio	1 x Line-out, 1 x Mic-in, 1 x Line-in, Realtek ALC897 codec
	Display	1 x LVDS, dual channel 18/24bit, resolution up to 1920x1200@60Hz
		1 x eDP1.3, resolution up to 4096x2160@60Hz(share connector with LVDS)
	Audio	1 x Audio header(Mic-in/Line-out, 2*5pin)
	USB	2 x USB2.0 Wafer(2*5pin)
		1 x vertical USB2.0 type-A connect
	Serial Port	4 x RS232 Wafer(3Line)
	Fan	1 x Smart Fan
	SMbus	1 x SMbus wafer(1*4pin)
	GPIO	1 x 16bit GPIO wafer(2*9pin)
		1 x 4bit GPIO wafer(2*5pin)
	FrontPanel	1 x Front panel header(2*5pin)(Power LED, HDD LED, Power button, Reset button)
Expansion Slots	LPC	1 x LPC header(2*5pin) for debug
	Others	1 x KB/MS, 1 x I2C, 1 x Buzzer, 1 x SATAPWR (1*4pin)
	Mini-PCIe slot	1 x Mini-PCIe slot with Nano-SIM socket (USB 2.0/PCIe signal)
	PCIe X4 slot	1 x PCIeX4(x1link)
	PCI slot	3 x PCI
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 sec
Power	Power input	9-36V DC input, +/-10% tolerance
	Interface	8 PIN ATX Interface
O.S Support	MS Windows	Windows 10 /11
		Bay trail CPU module: Windows7/8/10
	Linux	Linux
Mechanism	Dimensions	(L)244mm x(W) 244mm
	Gross Weight	0.5kg
Environment	Temperature	Operating: 0°C ~ 60°C; Storage: -40°C ~ 85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3.0Grms Non-operation

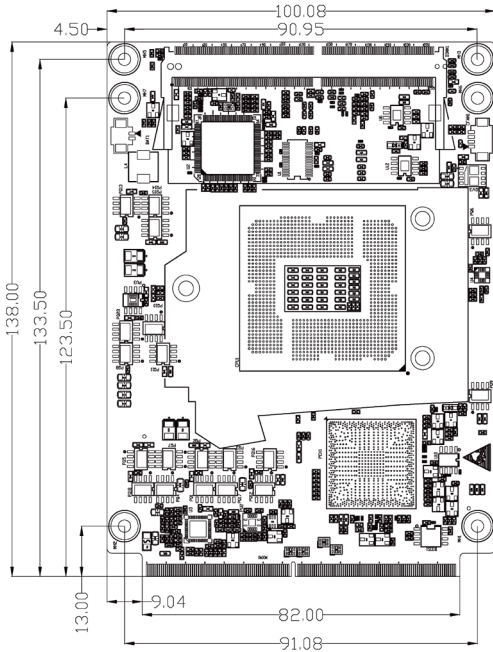
NK-L510-H110

Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series LGA1151 processor,TDP up to 65W



- Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series LGA1151 processor,TDP up to 65W
- Support dual channel(Non-ECC) DDR4--1866/2133/2400/2666MHz SO-DIMM slot, up to 64GB
- Support 2 x DDI, 1 x eDP,Dual-display
- Type5 Interface Signals with MXM3.0 Gold Finger

Size(Unit:mm)

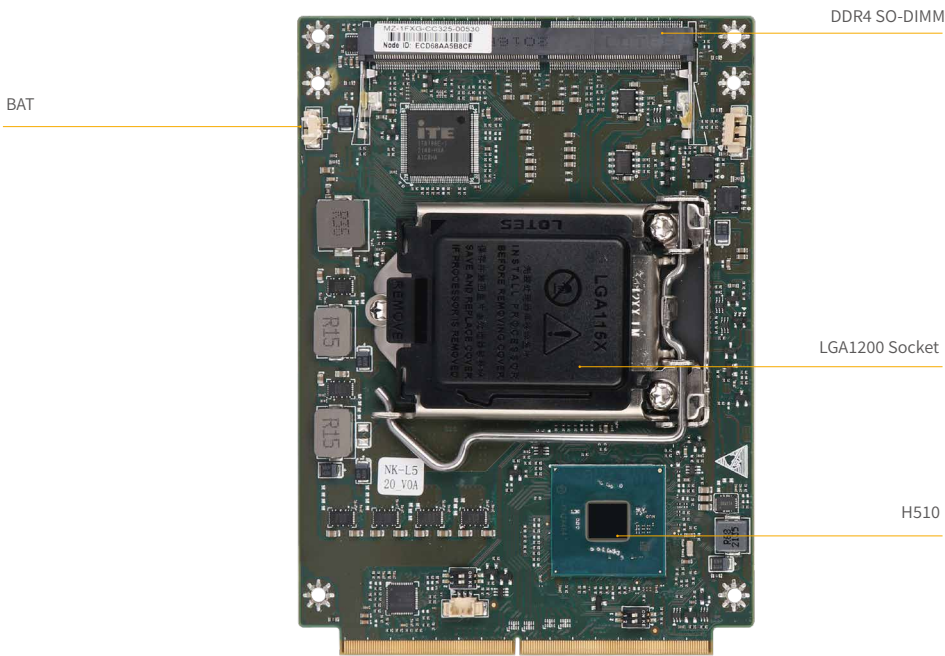


Specification

Project		NK-L510-H110
Processor System	CPU	Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series LGA1151 processor,TDP up to 65W
	Chipset	Intel® SoC integrated
	BIOS	AMI 128Mb UEFI BIOS
Memory	Technology	Dual Channel(Non-ECC) DDR4-1866/2133/2400/2666MHz, up to 64GB
	Slot	2 x DDR4 260-pin SO-DIMM slot
Graphic	Controller	Intel HD graphics integrated
Expansion Signals	Display	2 x DDI, 1 x eDP
	Serial Port	2 x Uart(5line),4 x Uart(3line)
	USB	4 x USB3.0 ,8 x USB2.0
	SATA	2 x SATA 3.0
	PCIe	7 port 7 lanes (1 x4,2 X1,1xGBE (Only support Intel i219-V controller))
	PClex16	1 x PCIe X16
	GPIO	1 x 2bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart Fan
	others	1 x I²C,1 x SMbus,1 x LPC,1 x Buzzer
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Power input	12V
OS Support	MS Windows	Windows 7 (Only support with Intel 6th Gen. CPU), Windows 10/11
	Linux	Linux
Mechanism	Dimensions	(L)138mm x (W)100.1mm
	Gross Weight	0.15kg
Environment	Temperature	Operating:0°C~60°C with SSD ; ;Storage: -40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

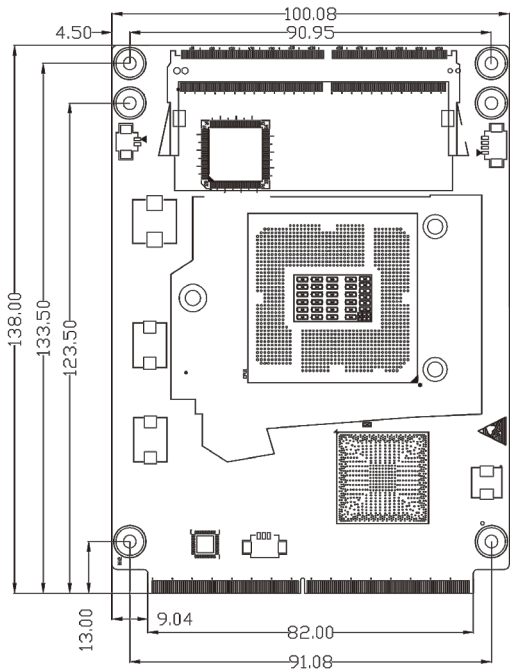
NK-L520-H510

Intel® 10/11 th Generation Celeron/Pentium/Core-I series LGA1200 processor,TDP up to 65W



- Intel® 10/11 th Generation Celeron/Pentium/Core-I series LGA1200 processor,TDP up to 65W
- Support dual channel(Non-ECC) DDR4-3200MHz SO-DIMM slot, up to 64GB
- Support 2 x DDI, 1 x eDP,Dual-display
- Type5 Interface Signals with MXM3.0 Gold Finger

Size(Unit:mm)

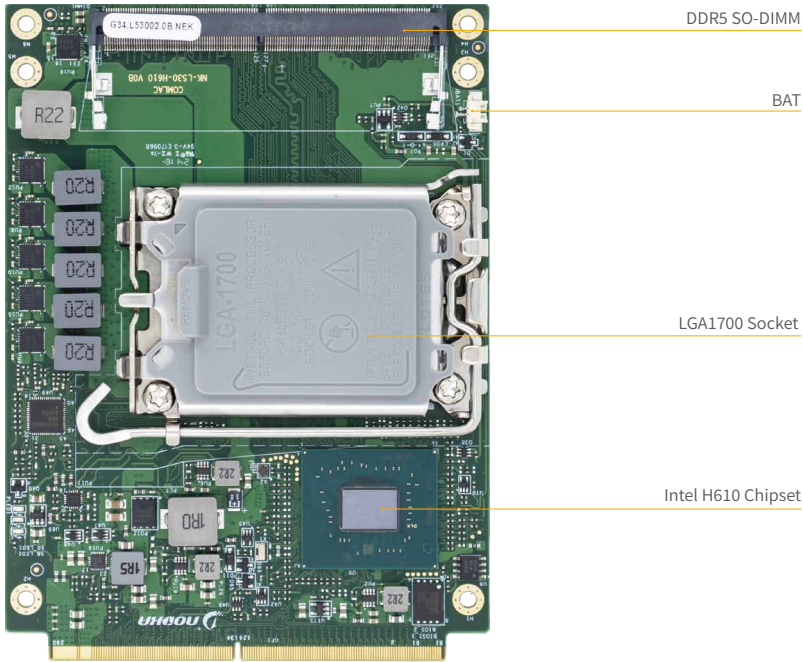


Specification

Project		NK-L520-H510
Processor System	CPU	Intel® 10/11 th Generation Celeron/Pentium/Core-I series LGA1200 processor,TDP up to 65W
	Chipset	Intel® SoC integrated
	BIOS	AMI 256Mb UEFI BIOS
Memory	Technology	Dual Channel(Non-ECC) DDR4-3200MHz, up to 64GB
	Slot	2 x DDR4 260-pin SO-DIMM slot
Graphic	Controller	Intel HD graphics integrated
Expansion Signals	Display	2 x DDI, 1 x eDP
	Serial Port	2 x Uart(5line),4 x Uart(3line)
	USB	4 x USB3.0,8 x USB2.0
	SATA	2 x SATA 3.0
	PCIe	6 port 6 lanes(1 X4,2 X1)
	PClex16	1 x PCIe x 16
	GPIO	1 x 2bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart Fan
	others	1 x I²C,1 x SMBus,1 x LPC,1 x Buzzer
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Power input	12V
OS Support	MS Windows	Windows 10/11
	Linux	Linux
Mechanism	Dimensions	(L)138mm x (W)100.1mm
	Gross Weight	0.16kg
Environment	Temperature	Operating:0°C~60°C with SSD
		Storage:-40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

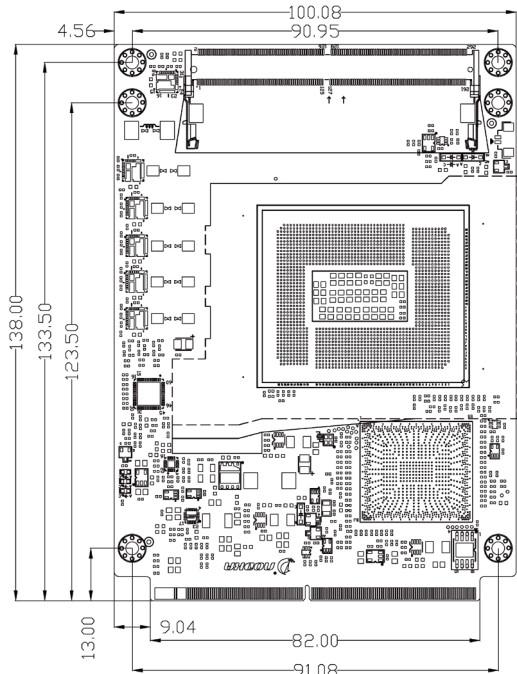
NK-L530-H610

Intel® 12/13 th Generation Celeron/Pentium/Core-I series LGA1700 processor,TDP up to 65W



- Intel® 12/13 th Generation Celeron/Pentium/Core-I series LGA1700 processor,TDP up to 65W
- Support dual channel(Non-ECC) DDR5-4800MHz SO-DIMM slot, up to 64GB
- Support 2 x DDI, 1 x eDP,Tri-display
- Type5 Interface Signals with MXM3.0 Gold Finger

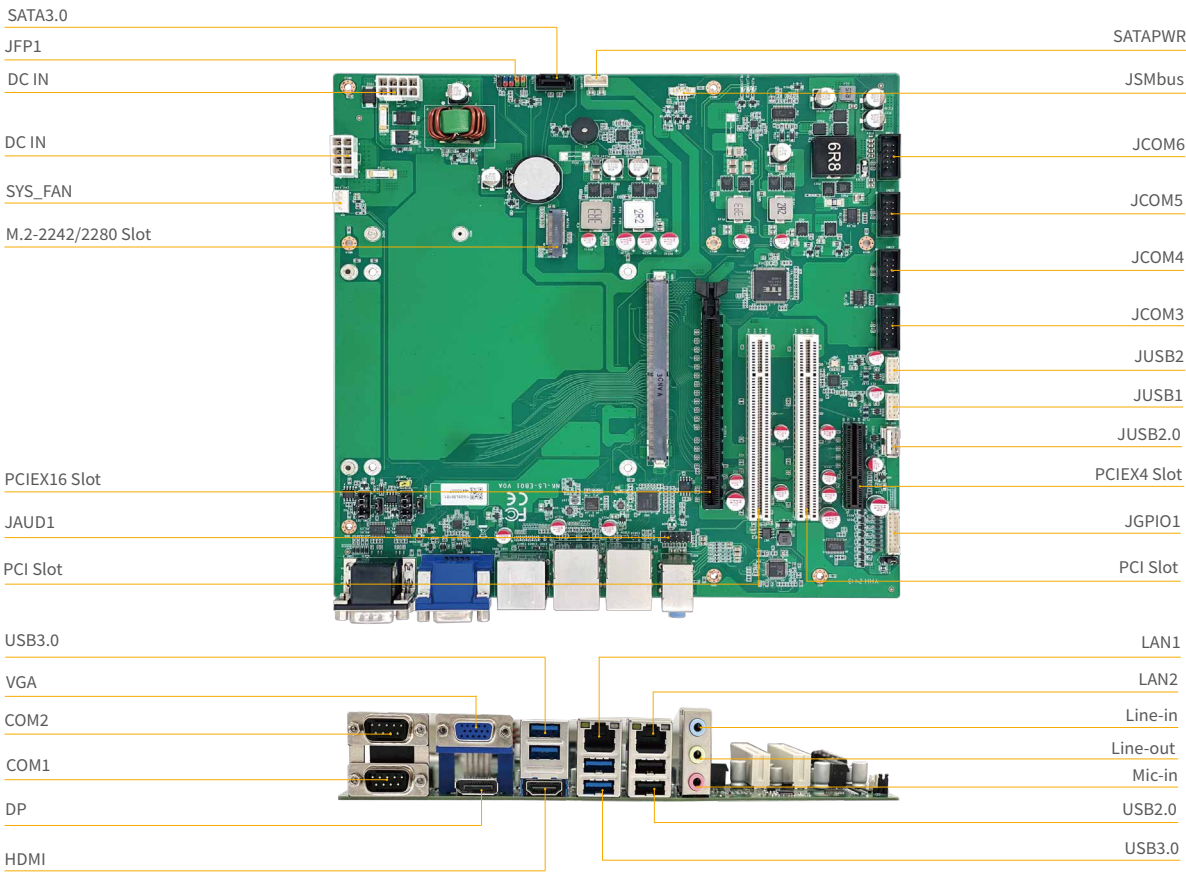
Size(Unit:mm)



Specification

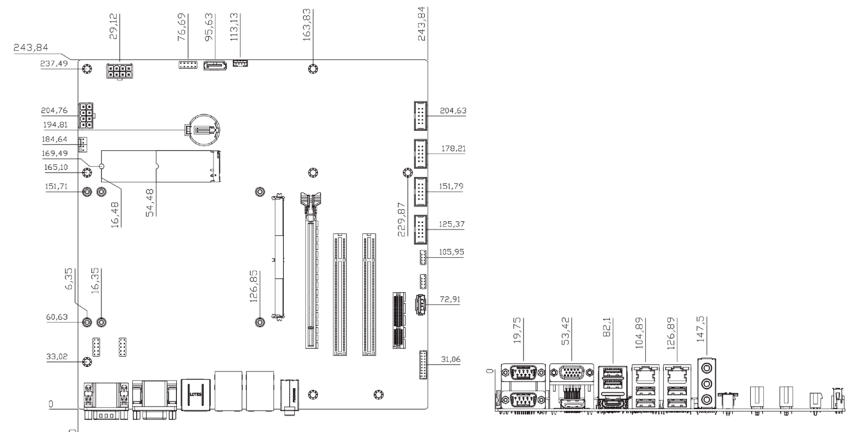
Project		NK-L530-H610
Processor System	CPU	Intel® 12/13th Generation Celeron/Pentium/Core-I series processor, TDP up to 65W
	Socket	LGA1700
	Chipset	Intel H610/H610E
	BIOS	AMI 256Mb UEFI BIOS
Memory	Technology	Dual Channel(Non-ECC) DDR5-4800MHz, up to 64GB
Graphic	Slot	2 x DDR5 262-pin SO-DIMM slot
Expansion Signals	Controller	Intel® UHD Graphics integrated
	Display	2 x DDI, 1 x eDP
	Serial Port	2 x UART(5 line), 4 x UART(3 line)
	USB	4 x USB3.0, 8 x USB2.0
	SATA	2 x SATA 3.0
	PCIE	6 port 7 lanes (1 X4,2 X1, 1xGBE (Only support Intel i219-V controller))
	PCIE X16	1 x PCIeX16
	GPIO	1 x 2bit GPIO
	Audio	1 x Intel HDA Audio codec
	Fan	1 x Smart Fan
Watchdog Timer	Output&Interval	1 x I ² C,1 x SMBus,1 x LPC,1 x Buzzer
	System reset, programmable from 1~255 seconds	
Power	Power input	12V
OS Support	MS Windows	Windows10/11
	Linux	Linux
Mechanism	Dimensions	(L)138mm x (W)100.1mm
	Gross Weight	0.18kg
Environment	Temperature	Operating: 0°C~60°C with SSD;Storage: -40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

NK-L5-EB01



- Flexibly configurable X86-Based Compact Type5 standard core module
- 1 x VGA, 1 x HDMI, 1 x DP
- 2 x Gigabit Ethernet ports:LAN1: Intel I219-V Controller; LAN2: Intel i210AT Controller
- 2 x RS232/485 ports, 4 x RS232 ports
- 4 x USB 3.0 ports, 7 x USB 2.0 ports
- 1 x M.2-2242/2280 M Key slot (SATA 3.0), 1 x SATA3.0
- 1 x PCIe X16 (Gen4) slot; 1 x PCIe X4 (Gen4) slot; 2 x PCI slots
- 9-36V Power Input

Size(Unit:mm)

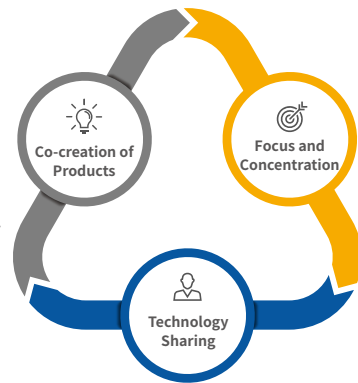


Specification

Project		NK-L5-EB01
Comlac Board	NK-L510-H110	Skylake/Kably-S H110 Comlac Board (Non-ECC) DDR4-1866/2133/2400/2666MHz, 2 x SO-DIMM slot, up to 64GB
	NK-L520-H510	Rocket Lake-S H510 Comlac Board (Non-ECC) DDR4-3200MHz, 2 x SO-DIMM slot, up to 64GB
	NK-L530-H610	Skylake/Kably-S H610 Comlac Board (Non-ECC) DDR5-4800MHz, 2 x SO-DIMM slot, up to 64GB
Storage	M.2 slot	1 x M.2-2242/2280 M Key SSD slot(SATA 3.0)
	SATA	1 x SATA 3.0
Rear I/O	Display	1 x VGA, resolution up to 1920x1200@60Hz
		1 x DP, resolution up to 4096x2160@60Hz
		1 x HDMI, resolution up to 4096x2160@30Hz
	Ethernet	2x GbE(RJ45), LAN1:Intel I219-V Controller,LAN2:Intel i210AT controller
	USB	4 x USB3.0,2 x USB2.0
	Serial Port	2 x RS485/232(5Line)
Internal I/O	Audio	1 x Line-out, 1 x Mic-in, 1 x Line-in,Realtek ALC897 codec
	Audio	1 x Audio wafer(Mic-in/Line-out, 2*5pin)
	USB	4 x USB2.0(2 x 2*5pin) header
		1xVertical USB2.0 type-A connect (BOM Optional share signal with 1*USB2.0 header,optional type-A)
	Serial Port	4 x RS232 Wafer(3Line)
	Fan	1 x Smart Fan
	SMbus	1 x SMbus wafer(1*4pin)
	GPIO	1 x 16bit GPIO wafer(2*9pin)
	FrontPanel	1 x Front panel wafer(2*5pin)(Power LED, HDD LED, Power button, Reset button)
	Others	1 x Buzzer, 1 x SATAPWR (1*4pin)
Expansion Slots	PCIe X16 slot	1 x PCIeX16
	PCIe X4 slot	1 x PCIeX4
	PCI slot	2 x PCI
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 sec
Power	Power input	9-36V DC input, +/-10% tolerance
	Interface	12V DC output
O.S Support	MS Windows	Windows 7 (Only support with Intel 6th Gen. CPU), Windows 10/11
	Linux	Linux
Mechanism	Dimensions	(L)244mm x(W) 244mm
	Gross Weight	0.55kg
Environment	Temperature	Operating:0°C ~ 60°C
	Humidity	Storage:-40°C ~ 85°C
	Vibration	5~95% (Non-condensing)
		5~500Hz, 3.0Grms Non-operation

Kunshan X86 Motherboard and ODM

- X86/ARM Domestic Motherboard R&D
- ODM Product Development
- Keeping up with X86/ARM Technological Roadmaps and Trends



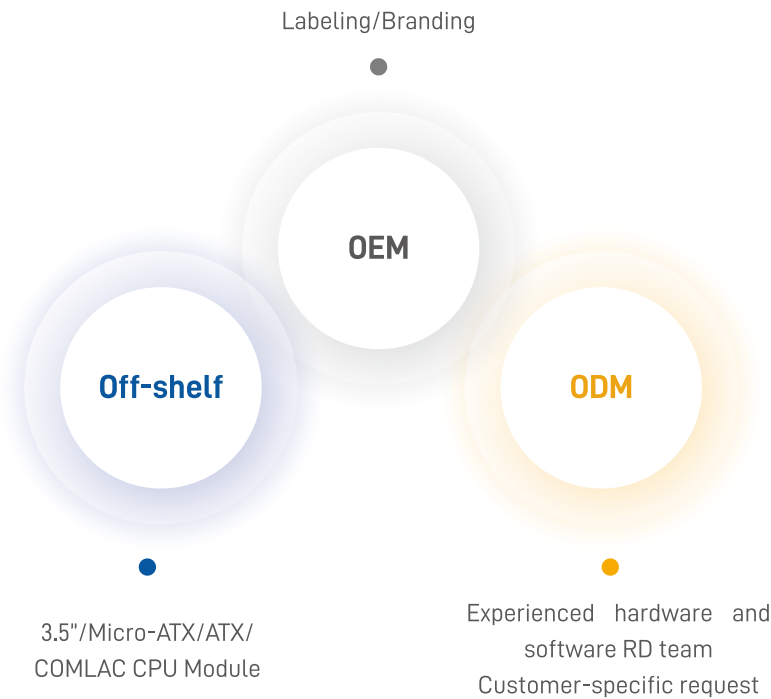
Suzhou System and Application Development

- Complete System, Board-level, and IO Application Development
- Focus on System-level Application Development
- Accumulate Rich Industry and Field Experience

Shenzhen Software Research and Development Center

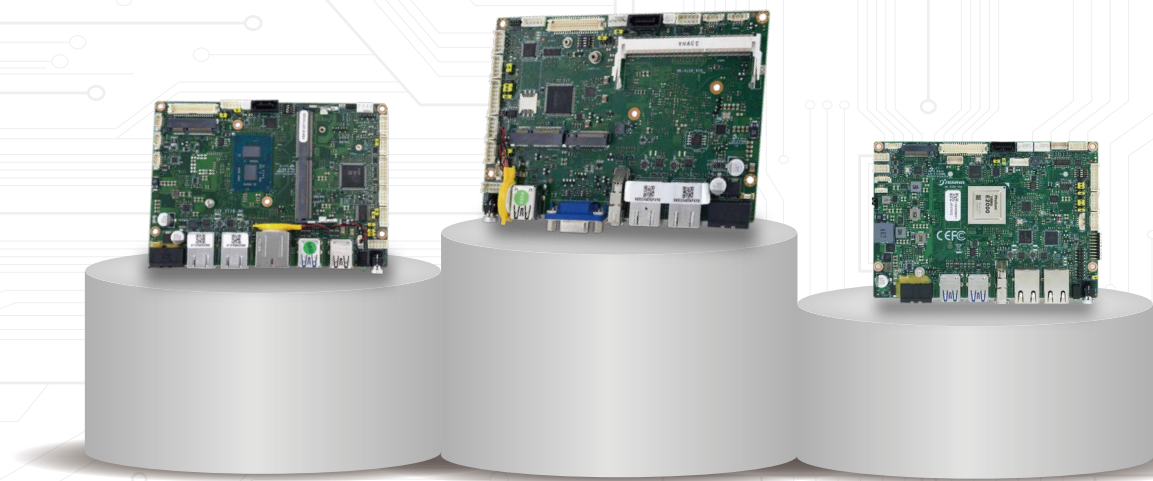
- Android/Linux Application Development

**Advantages in SMT manufacturing, Quick response
Small-batch but diversified customization**



Embedded Industrial Motherboard

3.5-inch embedded industrial motherboard, comprehensively covering low-power consumption and domestic CPU platforms, aimed at meeting the needs of different vertical market segments, focusing on automation, robot control, AGV, etc., for industry applications with high requirements for product size.



Comprehensive CPU performance coverage

- High reliability and low power consumption
- Domestic chip
- System integration design



Reliable design

- Optional support for -10~60°C wide temperature operation
- 12-24V wide voltage DC-IN power supply input
- Optimized heat dissipation solution



Customization and design integration services

- Certification testing/solution verification
- Heat dissipation solutions and I/O expansion solutions



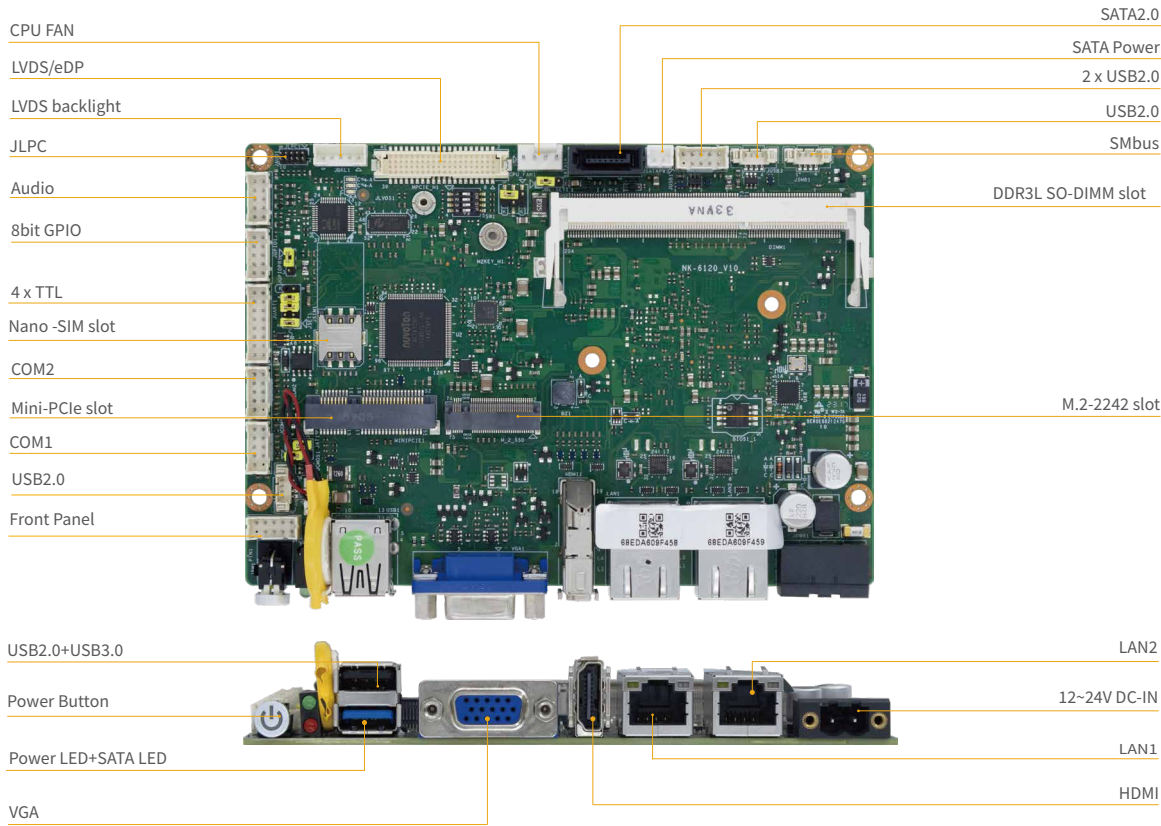
Scalable design

- Rich I/O interfaces
- Flexible selection of various expansion modules



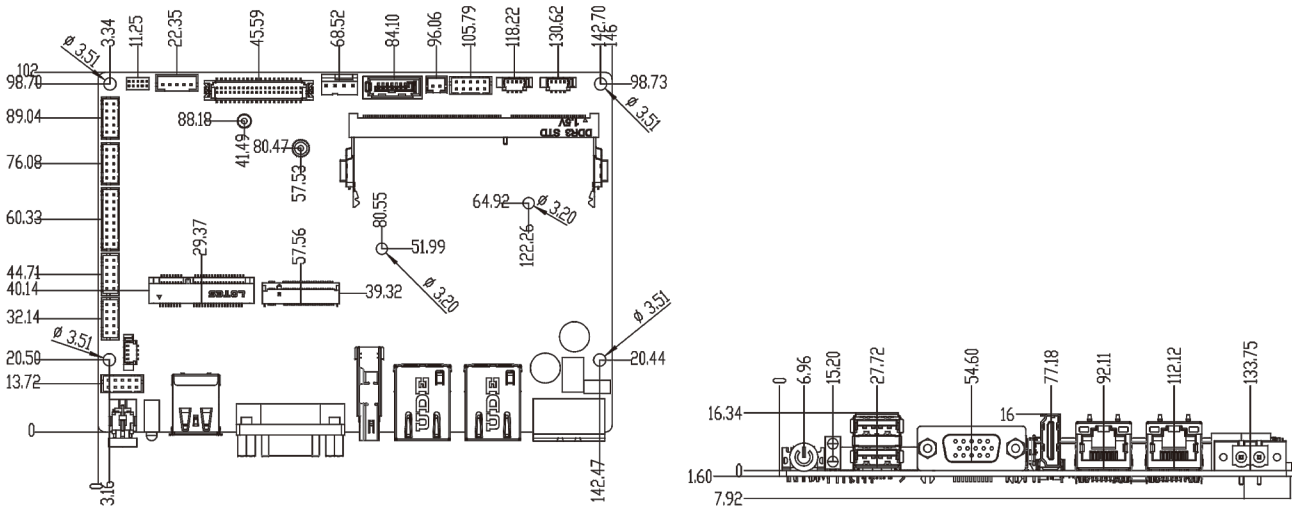
NK-6120

Intel® Celeron® J1900 processor, Quad-core, base frequency 2.0GHz, TDP 10W



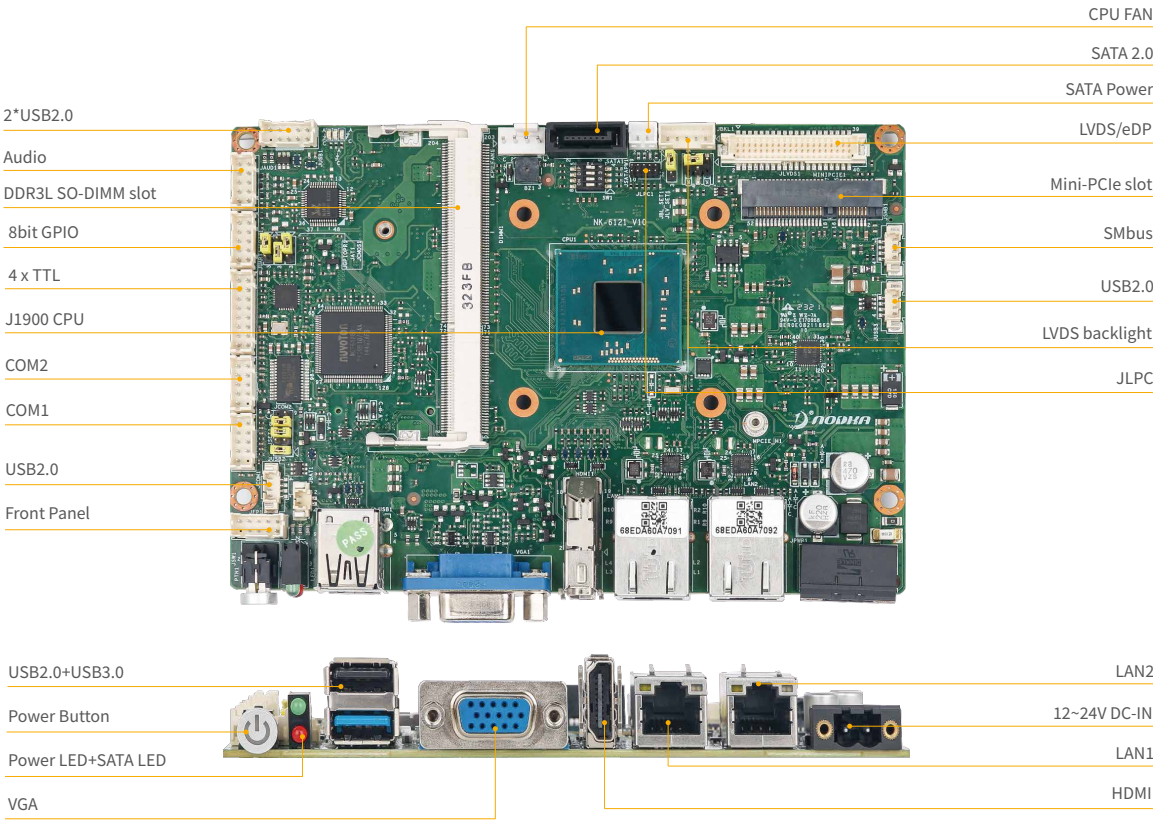
- Intel® Celeron® J1900 processor, Quad-core, base frequency 2.0GHz, up to 2.42GHz, TDP 10W
- Support 1x DDR3L-1333MHz SO-DIMM slot, up to 8GB
- Support VGA, HDMI, LVDS/eDP Dual-display
- 2 x Giga-bit Ethernet
- 1 x USB3.0 port, 5 x USB2.0 ports
- 1 x RS232/485, 1 x RS232, 4 x TTL
- 1 x M.2-2242, 1 x Mini-PCIe slot with nano-SIM card socket
- 12~24V power input, lockable DC-IN phoenix terminal block

Size(Unit: mm)



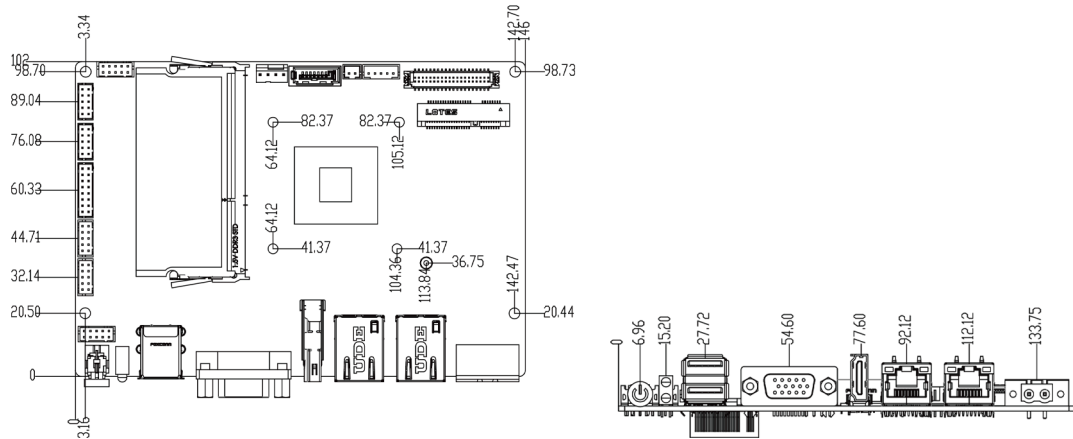
NK-6121

Intel® Celeron® J1900 processor, Quad-core, base frequency 2.0GHz, up to 2.42GHz, TDP 10W



- Intel® Celeron® J1900 processor, Quad-core, base frequency 2.0GHz, up to 2.42GHz, TDP 10W
- Support 1xDDR3L-1333MHz SO-DIMM slot, up to 8GB
- Support VGA, HDMI, LVDS/eDP Dual-display
- 2xGiga-bit Ethernet
- 1xUSB3.0 port, 5xUSB2.0 ports
- 1xRS232/485, 1xRS232, 4xTTL
- 1 x M.2-2242 and 1 x Mini-PCle slot with nano-SIM card socket
- 12~24V power input, lockable DC-IN phoenix terminal block

Size(Unit: mm)

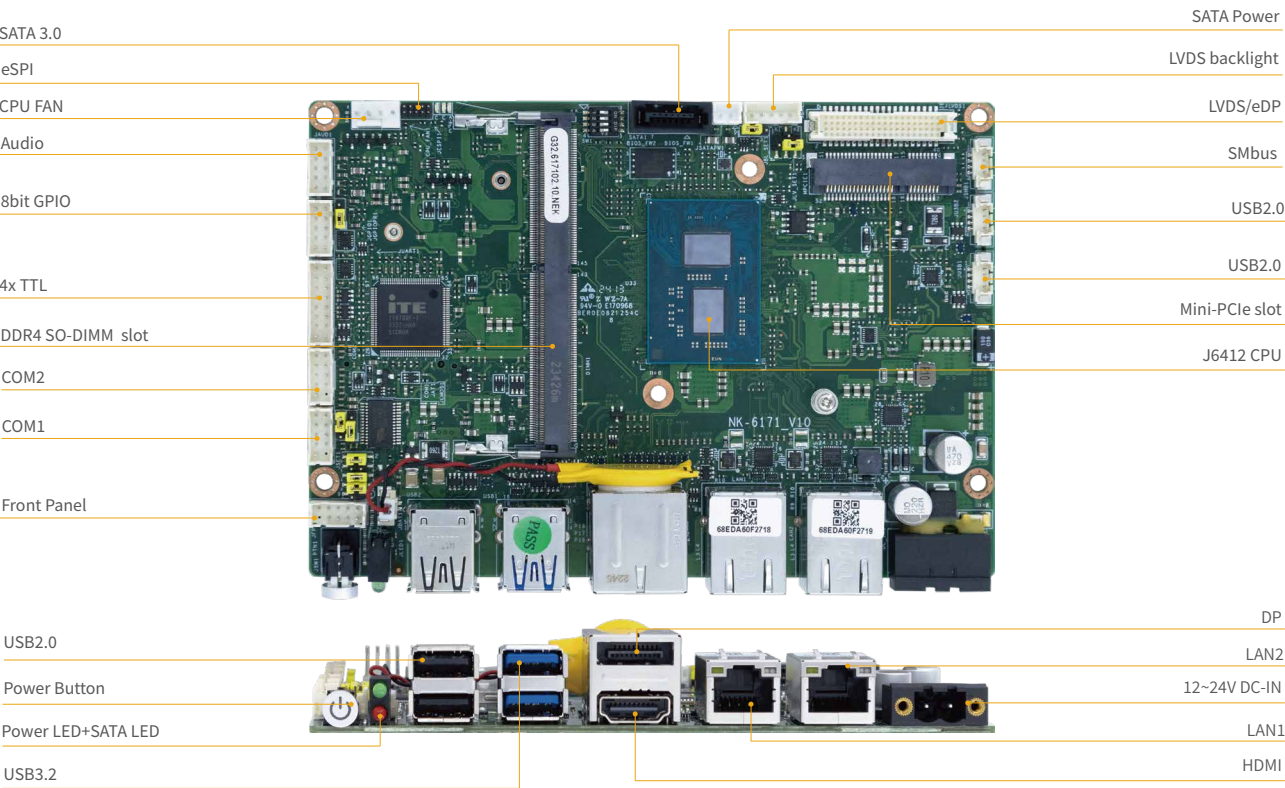


Specification

Project		NK-6121
Processor System	CPU	Intel® Celeron® J1900 processor, Quad-core, base frequency 2.0GHz, up to 2.42GHz, TDP 10W
	Chipset	Intel® SoC integrated
	BIOS	AMI 64Mb UEFI BIOS
Memory	Technology	Single Channel(Non-ECC) DDR3L-1333MHz, up to 8GB
	Slot	1 x DDR3L SO-DIMM slot
Storage	SATA	1 x SATA2.0 port
	M.2	1 x M.2-2242 M Key SSD slot(SATA2.0)
Graphic	Controller	Intel HD graphics integrated
Audio	Codec	Realtek ALC897 codec
Rear I/O	Display	1 x VGA, resolution up to 2560x1600@60Hz
		1 x HDMI, resolution to 1920x1080@60Hz
	Ethernet	2 x GbE(RJ45), Realtek 8111H controller
	USB	1 x USB3.0(5Gbps), 1 x USB2.0(480Mbps)
	Button	1 x Power Button(White for power on,Blink for sleep mode,Off for power off)
	Indicators	1 x SATA LED(Red), 1 x Power LED(Green)
Internal I/O	Display	1 x LVDS, dual channel 18/24bit, resolution up to 1920x1200@60Hz
		1 x eDP1.3, max resolution up to 3840x2160@60Hz(share connector with LVDS)
	Audio	1 x Audio wafer(Mic-in/Line-out, 2*5pin)
	USB	2 x USB2.0 wafer(1*4pin), 2 x USB2.0 wafer(1 x 2*5pin)
	Serial Port	1 x RS232/RS485 wafer(2*5pin), 1 x RS232 wafer(2*5pin),4 x TTL wafer(2*8pin)
	Fan	1 x Smart Fan wafer(1*4pin)
	SMBus	1 x SMBus wafer(1*4pin)
	LPC	1 x LPC header for debug
	GPIO	1 x 8bit GPIO(2*5pin)
	Others	1 x Front panel wafer(2*5pin)(Power LED, HDD LED, Power button, Reset button)
Expansion Slots	Mini-PCle slot	1 x Mini-PCle slot with Nano-SIM socket(PCIe/USB2.0)
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Type	12~24V DC input, +/-10% tolerance
	Interface	1 x 2-pin phoenix terminal block
	Power Consumption	16.3W(Idle mode), 17.5W(Typical mode)
O.S Support	MS Windows	Windows7/10
	Linux	Linux
Mechanism	Dimensions	(L)146mm x (W)102mm
	Gross Weight	0.13kg
Environment	Temperature	Operating: -10°C~60°C with SSD;Storage: -40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz,3Grms operating

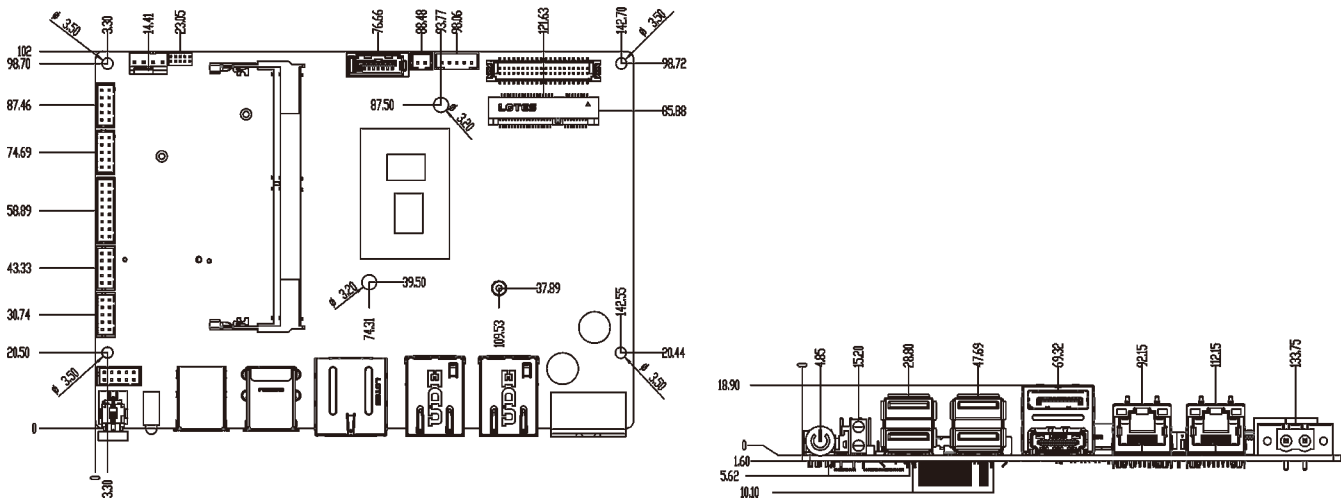
NK-6171

Intel® Celeron® J6412 processor, Quad-core, base frequency 2.0GHz, up to 2.6 GHz, TDP 10W



- Intel® Celeron® J6412 processor, Quad-core, base frequency 2.0GHz, up to 2.6 GHz, TDP 10W
- Support 1x DDR4-3200MHz SO-DIMM slot, up to 32GB
- Support DP, HDMI, LVDS/eDP Tri-display
- 2 x Giga-bit Ethernet
- 2 x USB3.2 ports, 4 x USB2.0 ports
- 1 x RS232/485, 1 x RS232, 4 x TTL
- 1 x M.2-2242, 1 x M.2-2230, 1 x Mini-PCle slot with nano-SIM card socket
- 12~24V power input, lockable DC-IN phoenix terminal block

Size(Unit: mm)

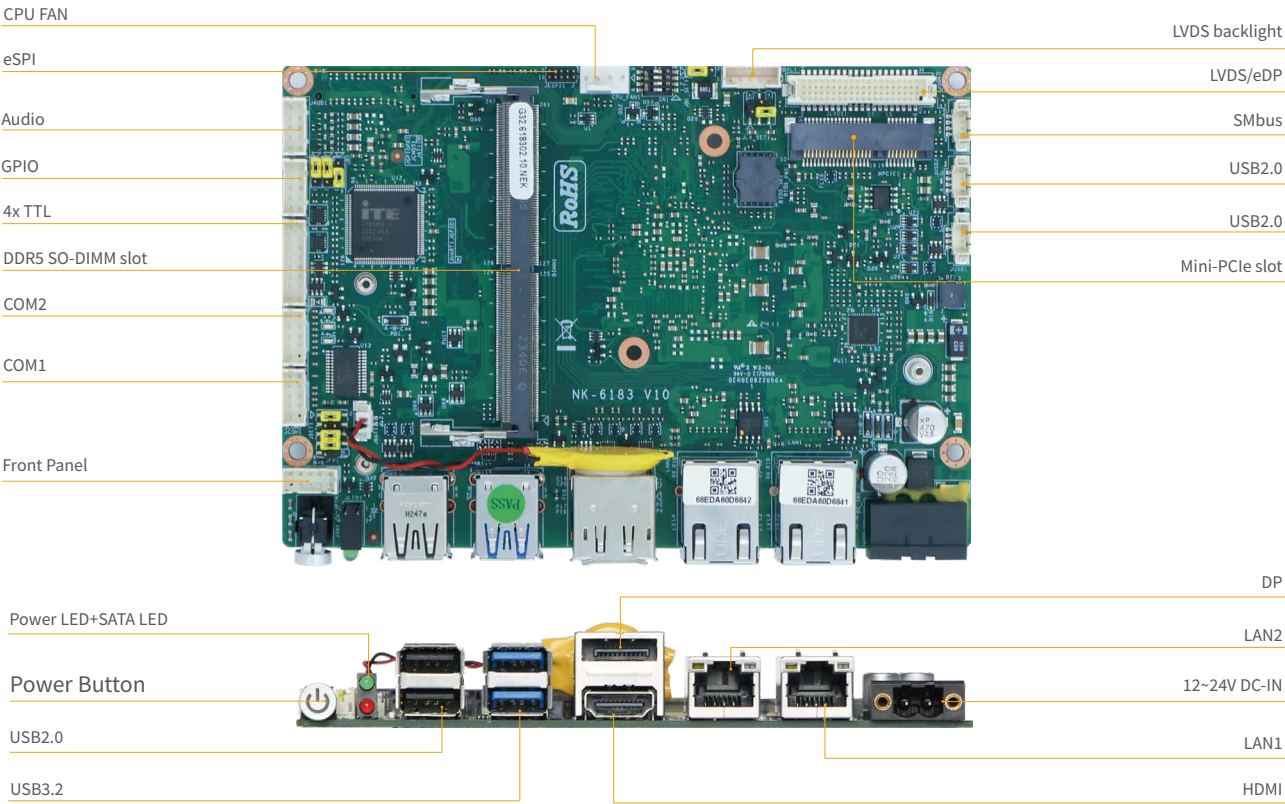


Specification

Project		NK-6171
Processor System	CPU	Intel® Celeron® J6412 processor, Quad-core, base frequency 2.0GHz up to 2.6GHz, TDP 10W
	Chipset	Intel® SoC integrated
	BIOS	AMI 256Mb UEFI BIOS
Memory	Technology	Single Channel(Non-ECC) DDR4 3200MHz, up to 32GB
	Slot	1 x DDR4 SO-DIMM slot
Storage	SATA	1 x SATA3.0 port
	M.2	1 x M.2-2242 M Key SSD slot(SATA3.0)
Graphic	Controller	Intel® UHD graphics integrated
Audio	Codec	Realtek ALC897 codec
Rear I/O	Display	1 x DP1.4, resolution up to 4096x2160@60Hz 1 x HDMI, resolution to 4096x2160@30Hz
	Ethernet	2 x GbE(RJ45), Realtek 8111H controller
	USB	2 x USB3.2(10Gbps), 2 x USB2.0(480Mbps)
	Button	1 x Power Button(White for power on,Blink for sleep mode,Off for power off)
	Indicators	1 x SATA LED(Red), 1 x Power LED(Green)
Internal I/O	Display	1 x LVDS, dual channel 18/24bit, resolution up to 1920x1200@60Hz 1 x eDP1.3, resolution up to 4096x2160@60Hz(share connector with LVDS)
	Audio	1 x Audio wafer(Mic-in/Line-out, 2*5pin)
	USB	2 x USB2.0 wafer(1*4pin)
	Serial Port	1 x RS232/485 wafer(2*5pin), 1 x RS232 wafer(2*5pin), 4 x TTL wafer(2*8pin)
	Fan	1 x Smart Fan wafer(1*4pin)
	SMBus	1 x SMBus wafer(1*4pin)
	GPIO	1 x 8bit GPIO(2*5pin)
	eSPI	1 x eSPI header for debug
	Others	1 x Front panel wafer(2*5pin)(Power LED, HDD LED, Power button, Reset button)
Expansion Slots	M.2 slot	1 x M.2-2230 E key slot for wifi module(PCIe/USB2.0)
	Mini-PCle slot	1 x Mini-PCle slot with Nano-SIM socket(PCIe/USB2.0)
Security	TPM	fTPM2.0 supported
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
	Type	12~24V DC input, +/-10% tolerance
Power	Interface	1 x 2-pin phoenix terminal block
	Power Consumption	16.3W(Idle mode), 17.5W(Typical mode)
O.S Support	MS Windows	Windows10/11
	Linux	Linux
Mechanism	Dimensions	(L)146mm x (W)102mm
	Gross Weight	0.14kg
Environment	Temperature	Operating:-10°C~60°C with SSD Storage:-40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

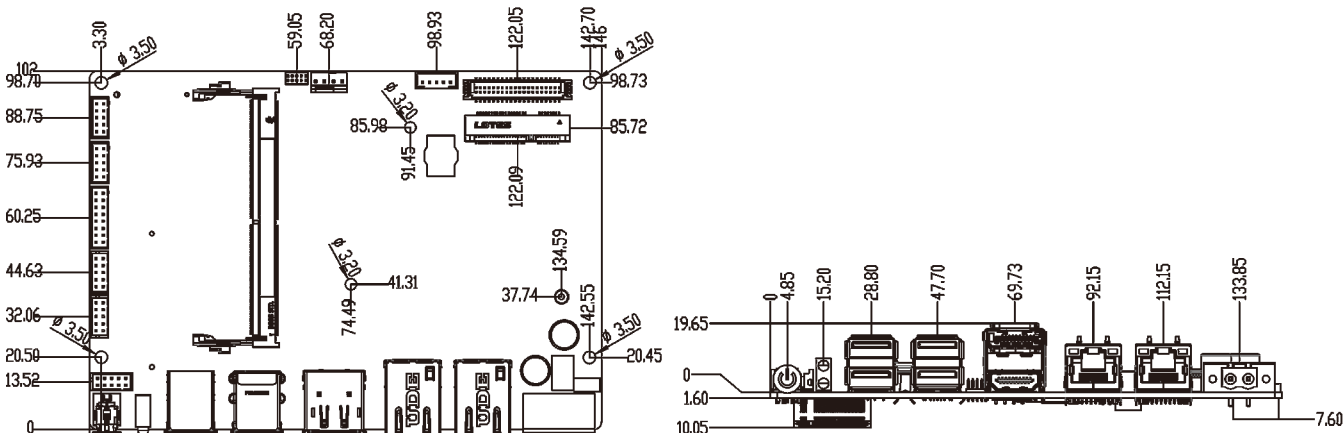
NK-6183

Intel® Core™ i3-N305/N97 processor GHz, up to 3.8GHz,TDP 15W



- Intel® N-series N97, Quad-core, base frequency 2.0GHz up to 3.6GHz,TDP 12W
- Intel® Core™ i3-N305 processor, Octa-core, base frequency 1.8GHz up to 3.8GHz, TDP 15W
- Support 1 x DDR5-4800MHz SO-DIMM slot, up to 16GB
- Support DP, HDMI, LVDS/eDP Tri-display
- 2 x Giga-bit Ethernet
- 2 x USB3.2 ports, 4 x USB2.0 ports
- 1 x RS232/485, 1 x RS232, 4 x TTL
- 1 x M.2-2242/2280(SATA3.0/NVME),1 x Mini-PCle slot with nano-SIM card socket
- 12~24V power input, lockable DC-IN phoenix terminal block

Size(Unit: mm)

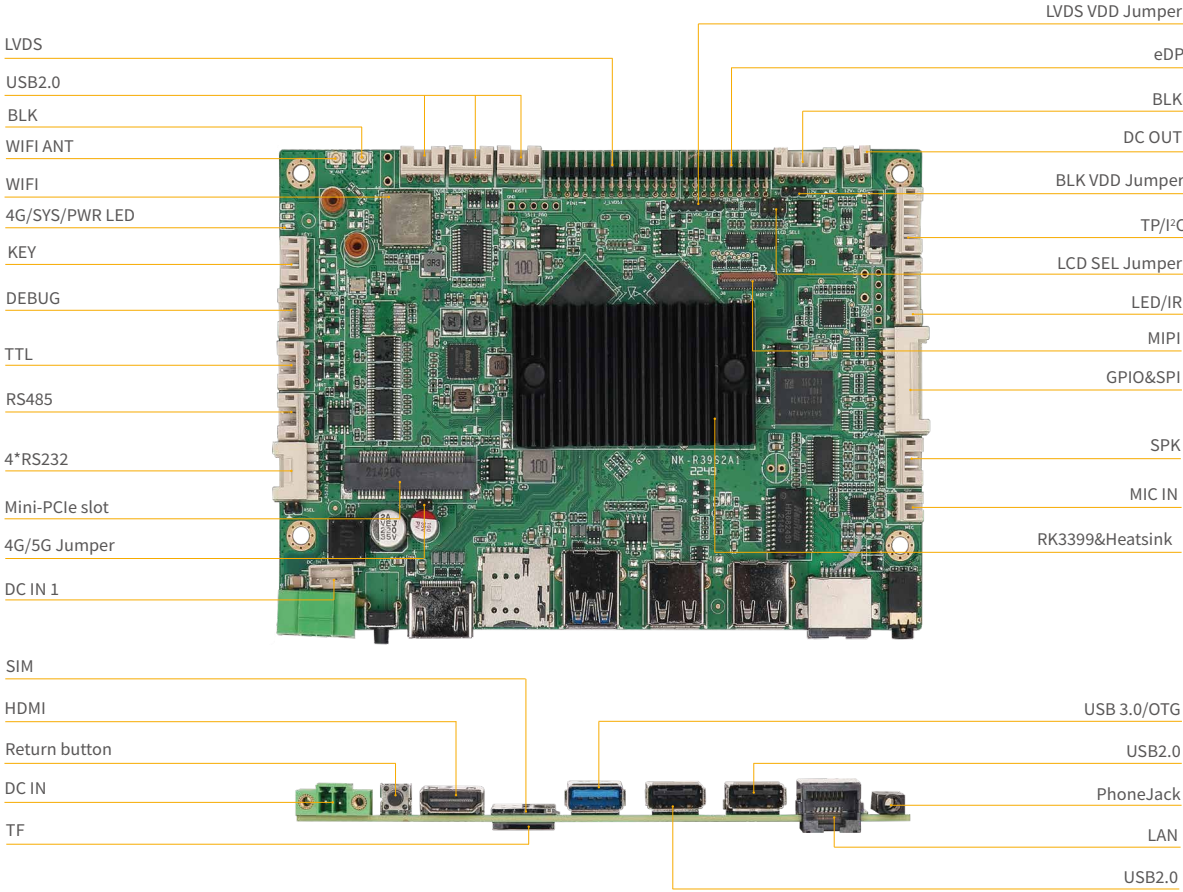


Specification

Project		NK-6183
Processor System	CPU	Intel® Core™ i3-N305/N97 processor GHz, up to 3.8GHz,TDP 15W
	Chipset	Intel® SoC integrated
	BIOS	AMI 256Mb UEFI BIOS
Memory	Technology	Single Channel(Non-ECC) DDR5-4800MHz, up to 16GB
	Slot	1 x DDR5 SO-DIMM slot
Storage	M.2	1 x M.2-2242/2280 M Key SSD slot(SATA3.0/NVME)
Graphic	Controller	Intel® UHD graphics integrated
Audio	Codec	Realtek ALC897 codec
Rear I/O	Display	1 x DP1.4, resolution up to 4096x2160@60Hz
		1 x HDMI, resolution to 4096 x 2160@30Hz
	Ethernet	2 x 2.5GBE, Intel i226-V controller
	USB	2 x USB3.2(10Gbps), 2 x USB2.0(480Mbps)
	Button	1 x Power Button(White for power on,Blink for sleep mode,Off for power off)
	Indicators	1 x SATA LED(Red),1 x Power LED(Green)
Internal I/O	Display	1 x LVDS, dual channel 18/24bit, resolution up to 1920x1200@60Hz
		1 x eDP1.3, resolution up to 4096x2160@60Hz(share connector with LVDS)
	Audio	1 x Audio wafer(Mic-in/Line-out, 2*5pin)
	USB	2 x USB2.0 wafer(1*4pin)
	Serial Port	1 x RS232/485 wafer(2*5pin), 1 x RS232 wafer(2*5pin), 4 x TTL wafer(2*8pin)
	Fan	1 x Smart Fan wafer(1*4pin)
	SMBus	1 x SMBus wafer(1*4pin)
	GPIO	1 x8bit GPIO wafer(2*5pin)
	eSPI	1 x eSPI header for debug
	Others	1 x Front panel wafer(2*5pin)(Power LED, HDD LED, Power button, Reset button)
Expansion Slots	Mini-PCle slot	1 x Mini-PCle slot with Nano-SIM socket(PCle/USB2.0)
Security	TPM	fTPM2.0
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 seconds
Power	Type	12~24V DC input, +/-10% tolerance
	Interface	1 x 2-pin phoenix terminal block
	Power Consumption	TBD
O.S Support	MS Windows	Windows10/11
	Linux	Linux
Mechanism	Dimensions	(L)146mm x (W)102mm
	Gross Weight	0.15kg
Environment	Temperature	Operating: -10°C~60°C with SSD;Storage: -40°C~85°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

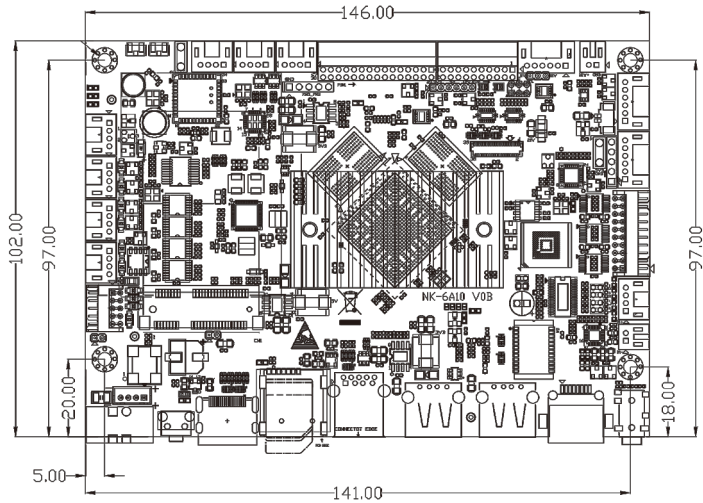
NK-6A10

Rockchip ARM Cortex-A72 RK3399 3.5"SBC



- Rockchip RK3399 ARM Dual Cortex-A72 and Quad Cortex-A53 1.8 GHz
- Onboard 2/4GB LPDDR4 memory and 16/32/64GB eMMC
- Supports 1 x HDMI 2.0 4K, 1 x LVDS,1 x MIPI-DSI, and 1 x eDP
- Provides 1 x GbE,1 x USB3.0(OTG),5 x USB2.0,5 x Serial,1 x TTL,1 x I²C, 2 x SPI, 8 x GPIO,1 x PhoneJack
- Provides a MINI-PCIE with USB 3.0 signal for LTE/5G Modules
- Provides a Onboard 2.4G/5G WIFI, Support bluetooth5.0
- Provides a Onboard GPS
- Supports Linux and Android OS

Size(Unit:mm)

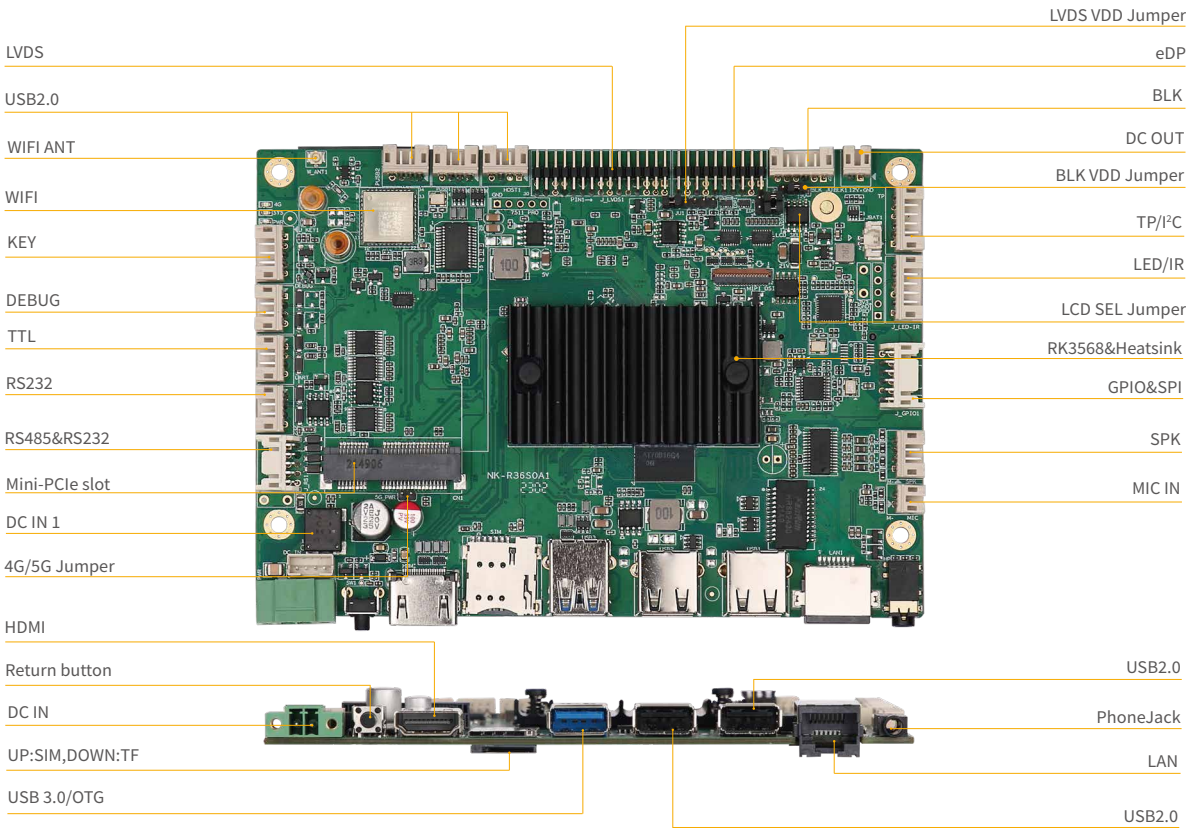


Specification

Project		NK-6A10
Processor System	CPU	Rockchip RK3399 ARM Dual Cortex-A72 and Quad Cortex-A53 1.8 GHz
	GPU	Mali-T860 MP4 GPU,OpenGL ES 1.1/2.0/3.1,OpenCL 1.1, DirectX 11
Memory	Memory	Onboard 2/4GB LPDDR4
	eMMC	Onboard 16/32/64GB eMMC
Storage	TF Socket	1 x TF card Socket,Support 128G TF card
	Display	1 x HDMI 2.0, up to 3840x2160@60Hz
Rear I/O	Ethernet	1 x GbE (10/100/1000 Mbps)
		1 x Onboard WIFI, Support 2.4G/5G WIFI, Support WiFi 802.11b/g/n protocol, Support BT5.0 (2.4G/5G option)
	USB	1 x USB3.0, OTG Colay,2 x USB2.0
	DC IN	12~24V power input, 2-pin lockable DC-IN phoenix terminal block
	Button	1 x Return Button
	PhoneJack	1 x Ø3.5 PhoneJack
		1 x LVDS
Internal I/O	Display	1 x eDP,up to 1920×1080@60Hz
		1 x Mipi-DSI,up to 1920x1080@60Hz
	DEBUG	1 x DEBUG for debug
	KEY	1 x KEY ,Supports power on,reset,recovery
	Serial Port	1 x RS485, 4*RS232, 1 x TTL
	USB	3 x USB2.0 pin header
	DC IN 1	1 x DC IN pin header ,12V~24V Power In put
	DC OUT	1 x DC 12V Power Out put
	TP/I²C	1xTP/I2C
	LED/IR	1xLED/IR
	GPIO&SPI	8 x GPIO, 2 x SPI
	AUDIO	1 x MIC in,and Speaker out via pin header
Expansion Slots	GPS	GPS/BD module,Support GPS+ Beidou Function
	Mini-PCIe slot	1 x MINI-PCIE with USB 3.0 signal for LTE/5G Modules, 1 x SIM card socket
Power	Type	12~24V power input
	Interface	1 x 2-pin phoenix terminal block
	Power Consumption	Boost 15W@12V
O.S Support	OS	Android11,Debian10
Mechanism	Dimensions	(L)146mm x (W)102mm
	Gross Weight	0.6Kg
Environment	Operating	-20°C~60°C
	Storage	-30°C~80°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

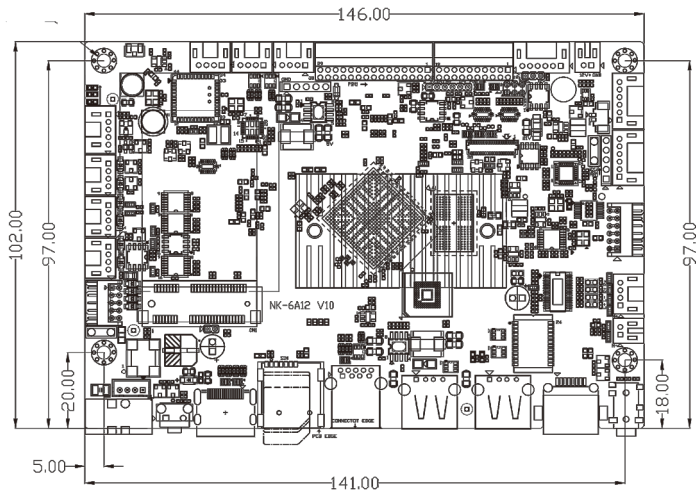
NK-6A12

Rockchip ARM Cortex-A55 RK3568 3.5"SBC



- Rockchip RK3568 ARM Quad Cortex-A55 up to 2.0GHz
- Built-in NPU with processing performance of up to 1.0 TOPS
- Onboard 4/8GB LPDDR4 memory and 32/64GB eMMC
- Supports 1 x HDMI 2.0 4K, 1 x LVDS,1 x MIPI-DSI, and 1 x eDP
- Provides 2 x GbE,1 x USB3.0(OTG),4 x USB2.0,5 x Serial (option),1 x TP/I²C,2 x CAN,12 x GPIO,1 x MIPI-CSI,
- 1x MINI-PCIE with USB 2.0 signal for LTE/ Wi-Fi 6 Modules or PCIE 2.1 signal for Dual LAN Card(Optional),1 x M.2-B Key with USB 3.0 signal for 5G Modules
- Provides a 2.4G/5G dual-channel WiFi,Support bluetooth 5.0
- Supports Linux and Android OS

Size(Unit:mm)

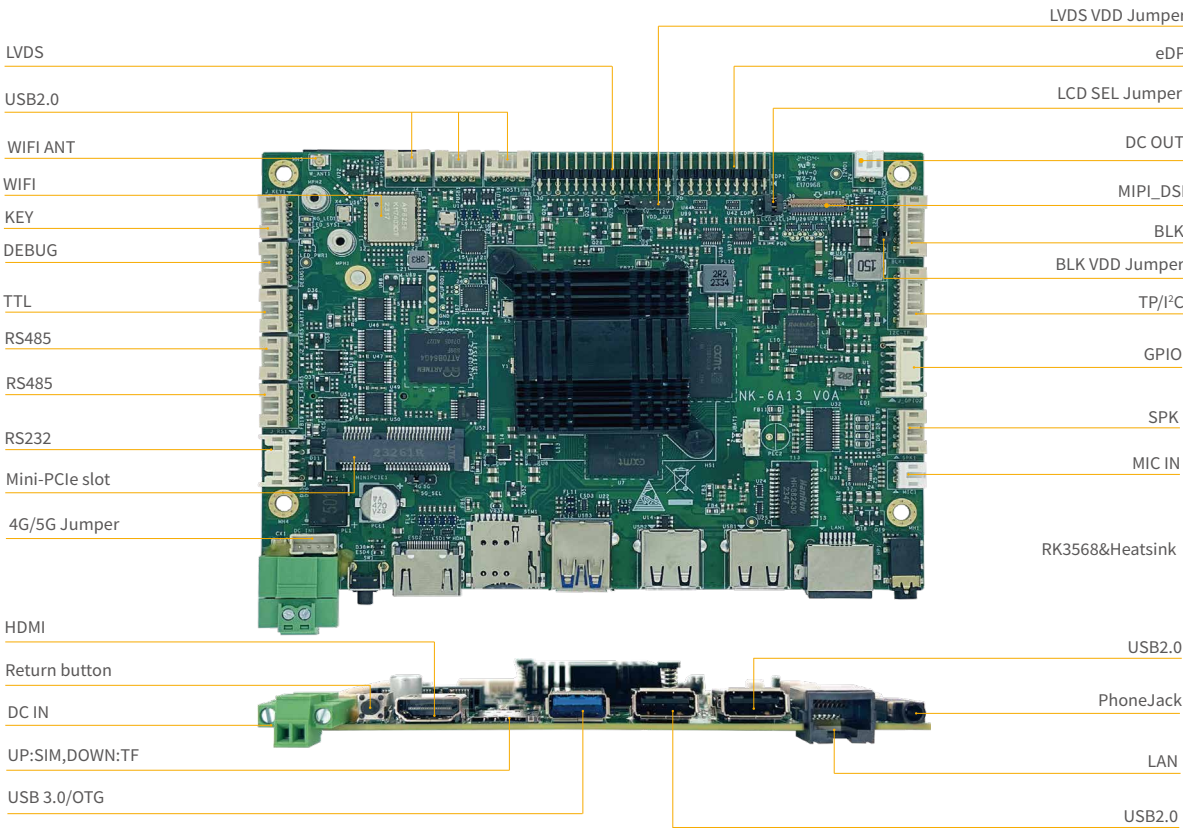


Specification

Project		NK-6A12
Processor System	CPU	Rockchip RK3568 ARM Quad Cortex-A55 up to 2.0GHz
	GPU	Mali-G52 support OpenGL ES 1.1/2.0/3.2, Vulkan 1.0/1.1, OpenCL 2.0
	NPU	Up to 1.0 Tops.Supports INT8/INT16 hybrid operation
Memory	Memory	Onboard 2/4/8GB LPDDR4
Storage	eMMC	Onboard 16/32/64GB eMMC
	TF Socket	1 x TF card Socket,Support 128G TF card
Rear I/O	Display	1 x HDMI 2.0, upto 4096x2304@60Hz
	Ethernet	1 x GbE (10/100/1000 Mbps)
		1 x Onboard AW-NM372 IC, Support 2.4G WiFi,support WiFi 802.11b/g/n protocol, Support BT5.0 (2.4G option)
	USB	1 x USB3.0, OTG Colay,2 x USB2.0
	DC IN	12~24V power input, 2-pin lockable DC-IN phoenix terminal block
	Button	1 x Return Button
	PhoneJack	1 x Ø3.5 PhoneJack
Internal I/O	Display	1 x LVDS
		1 x eDP,upto 2560x1600@60Hz
		1 x Mipi-DSI,upto 1920x1080@60Hz
	DEBUG	1 x DEBUG for debug
	KEY	1 x KEY ,Supports power on,reset,recovery
	Serial Port	2 x RS485, 3*RS232, 1 x TTL
	USB	3 x USB2.0 pin header
	DC IN 1	1 x DC IN pin header ,12V~24V Power In put
	DC OUT	1 x DC 12V Power Out put
	TP/I2C	1xTP/I2C
	LED/IR	1xLED/IR
	GPIO&SPI	4 x GPIO, 1 x SPI
Expansion Slots	Mini-PCIe slot	1 x MINI-PCIE with USB 3.0 signal for LTE/5G Modules, 1 x SIM card socket
	M.2	1 x M.2 E Key with PCIE 3.0/PCIE 2.0/USB 2.0 signal for Wi-Fi 5/6 (option)
Power	Type	12~24V power input
	Interface	1 x 2-pin phoenix terminal block
	Power Consumption	Boost 13W
O.S Support	OS	Android11,Debian10/11, Ubuntu20.04
Mechanism	Dimensions	(L)146mm x (W)102mm
	Gross Weight	0.6Kg
Environment	Operating	-20°C~60°C
	Storage	-30°C~80°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

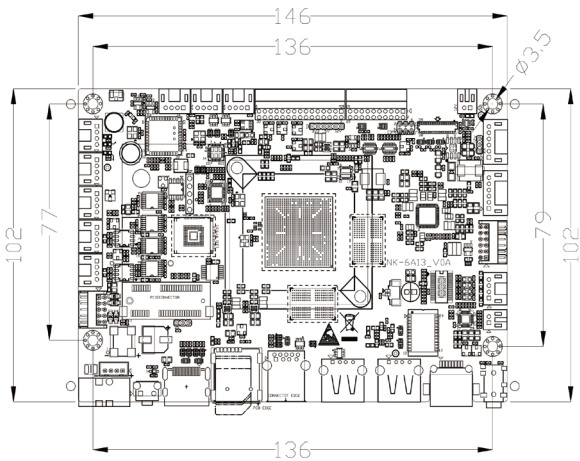
NK-6A13

Rockchip ARM RK3588 3.5"SBC



- Rockchip RK3588 8nm process, quad-core Cortex-A76 + quad-core Cortex-A55
- Built-in NPU with processing performance of up to 6.0 TOPS ,enable various AI applications
- Mali-G610 MC4 GPU, embedded high performance 2D image acceleration module
- Onboard 4/8GB LPDDR4 memory and 32/64GB eMMC
- Rich display interface with eDP/ HDMI2.1/LVDS/MIPI,support multiple display engine max to 8K@60fps
- Provides 1 x GbE,1 x USB3.0(OTG),5 x USB2.0, 6 x Serial(option),1 x TTL,1 x I2C,8 x GPIO,1 x MIPI-CSI,1 x PhoneJack
- Provides a M.2 E Key with PCIE 3.0/PCIE 2.0/USB 2.0 signal for Wi-Fi 5/6(option)and a MINI-PCIE with USB 3.0 signal for LTE/5G Modules
- Provides a Onboard Dual-WIFI,Support bluetooth5.0
- Supports Linux and Android OS

Size(Unit:mm)

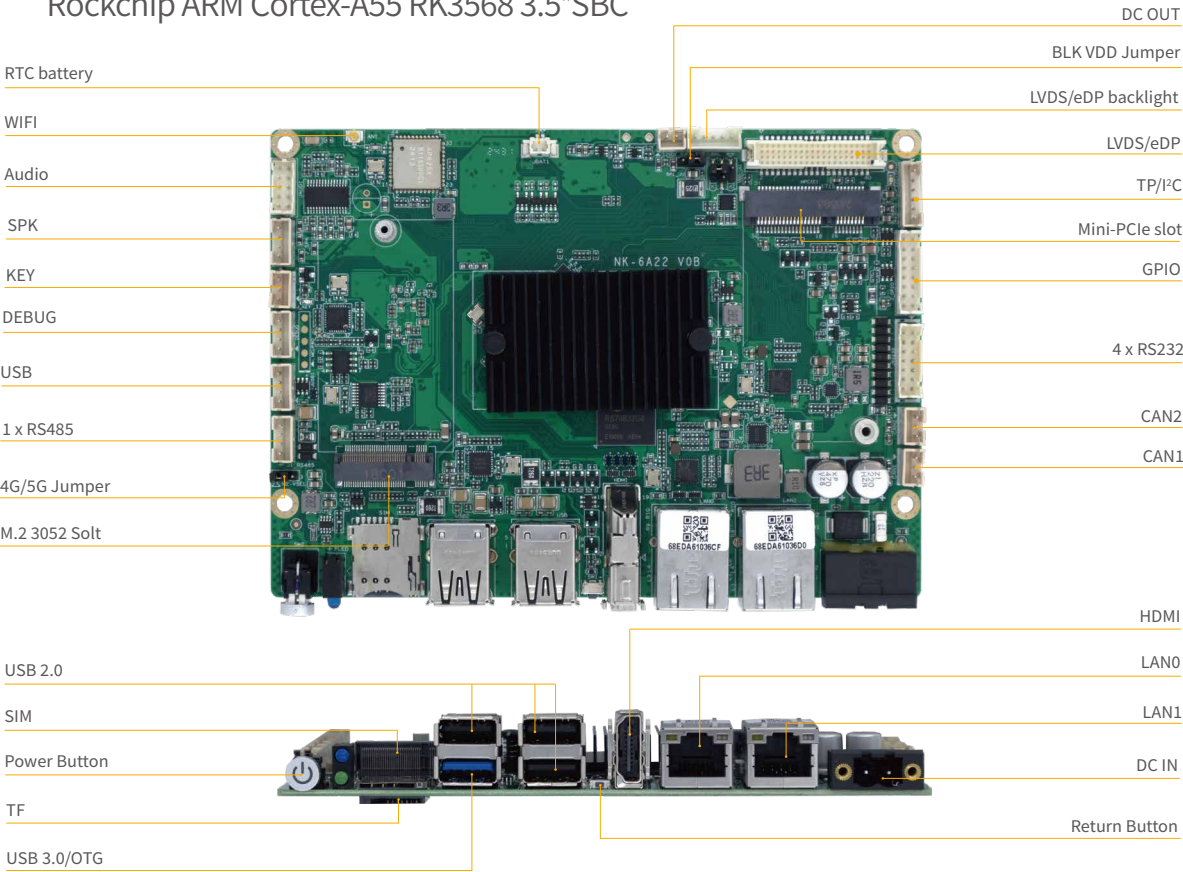


Specification

Project		NK-6A13
Processor System	CPU	Rockchip RK3588 Quad core Cortex-A76@2.4GHz + Quad-core Cortex-A55@1.8GHz
	GPU	Mali-G610 MC4 OpenGL ES 1.1/2.0/3.1/3.2,Vulkan 1.1, 1.2,OpenCL 1.1,1.2,2.0
	NPS	Up to 6TOPS NPU,Support int4/int8/int16/FP16/BF16/TF32
Memory	Memory	Onboard 4/8GB LPDDR4
Storage	eMMC	Onboard 32/64GB eMMC
	TF Socket	1 x TF card Socket,Support 256GB TF card
Rear I/O	Display	1 x HDMI 2.1, support multiple display engine max to 8K@60fps
	Ethernet	1 x GbE (10/100/1000 Mbps)
		1 x Onboard AP6256 IC, Support 2.4G/5G dual-channel WiFi,support WiFi 802.11b/g/n protocol, Support BT5.0
	USB	1 x USB3.0, OTG Colay,2 x USB2.0
	DC IN	12~24V power input, 2-pin lockable DC-IN phoenix terminal block
	Button	1 x Return Button
	PhoneJack	1 x Ø3.5 PhoneJack
Internal I/O	Display	1 x LVDS
		1 x eDP 1.3,upto 4K@60Hz
		1 x Mipi-DSI,upto 2K@60Hz
	DEBUG	1 x DEBUG for debug
	KEY	1 x KEY ,Supports power on,reset,recovery
	Serial Port	2 x RS485, 4 x RS232, 1 x TTL
	USB	3 x USB2.0 pin header
		1 x DC IN pin header ,12V~24V Power In put
	DC OUT	1 x DC 12V Power Out put
	TP/I2C	1 x TP/I2C
	GPI	8 x GPIO
Expansion Slots	AUDIO	1 x MIC in,and Speaker out via pin header
	MIPI_CSI	1 x MIPI_CSI,Support MIPI dual-channel camera
	Mini-PCIe slot	1 x MINI-PCIE with USB 3.0 signal for LTE/5G Modules, 1 x SIM card socket
	M.2 slot	1 x M.2 E Key with PCIE 3.0/PCIE 2.0/USB 2.0 signal for Wi-Fi 6
Power	Type	12~24V power input
	Interface	1 x 2-pin phoenix terminal block
O.S Support	Power Consumption	Boost 13W
	OS	Android13,Debian11,Ununtu20.04
Mechanism	Dimensions	(L)146mmx(W)102mm
	Gross Weight	0.7Kg
Environment	Operating	-20°C~60°C
	Storage	-30°C~80°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

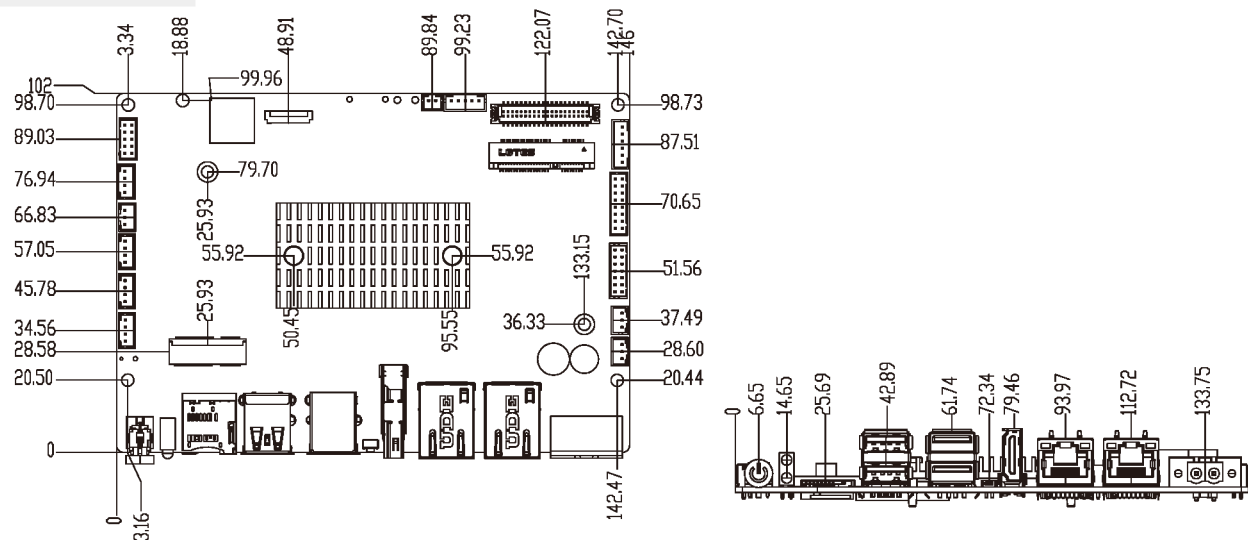
NK-6A22

Rockchip ARM Cortex-A55 RK3568 3.5"SBC



- Rockchip RK3568 ARM Quad Cortex-A55 up to 2.0GHz
- Built-in NPU with processing performance of up to 1.0 TOPS
- Onboard 4/8GB LPDDR4 memory and 32/64GB eMMC
- Supports 1 x HDMI 2.0 4K, 1 x LVDS and 1 x eDP
- Provides 2 x GbE,1 x USB3.0(OTG),4 x USB2.0,5 x Serial (option),1 x TP/I²C,2 x CAN,12 x GPIO,1 x MIPI-CSI,
- 1 x MINI-PCIE with USB 2.0 signal for LTE/ Wi-Fi 6 Modules or PCIE 2.1 signal for Dual LAN Card(Option),1 x M.2-B Key with USB 3.0 signal for 5G Modules
- Provides a 2.4G/5G dual-channel WiFi,Support bluetooth 5.0
- Supports Linux and Android OS

Size(Unit:mm)

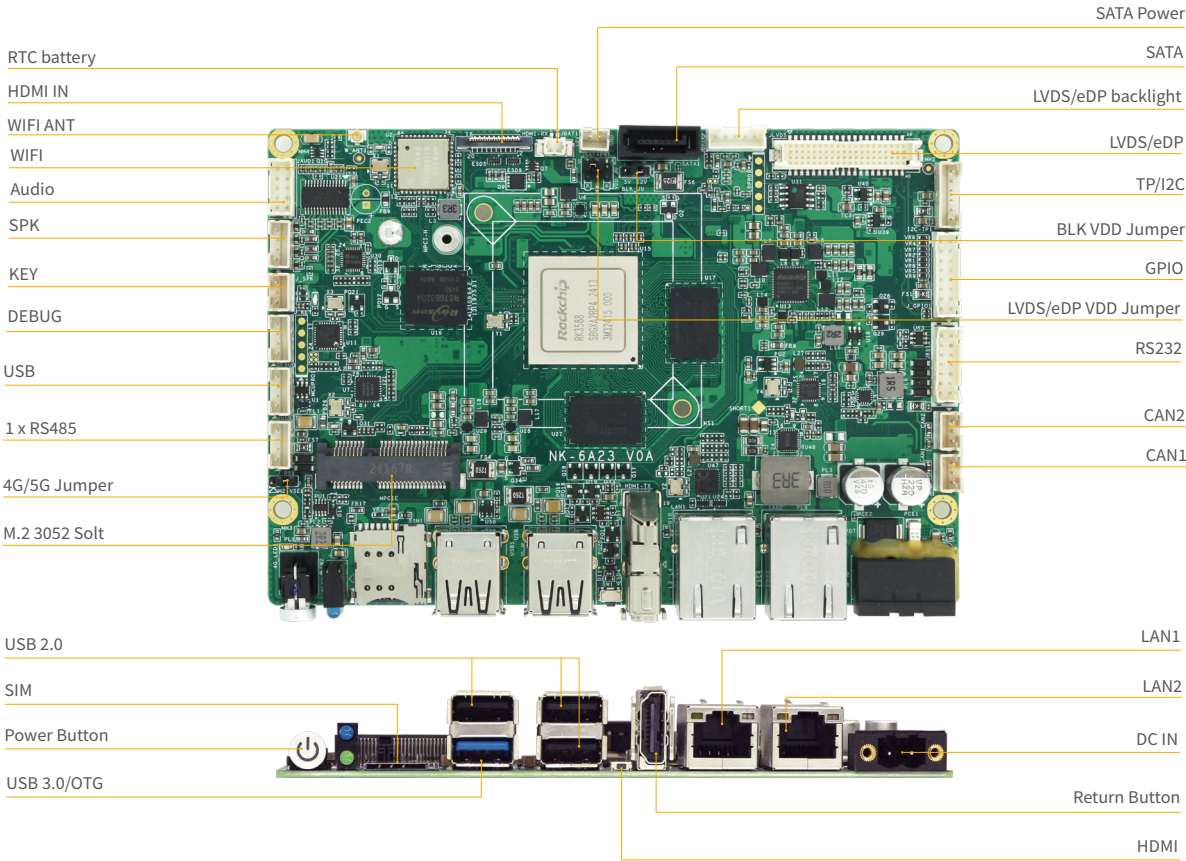


Specification

Project		NK-6A22
Processor System	CPU	Rockchip RK3568 ARM Quad Cortex-A55 up to 2.0GHz
	GPU	Mali-G52 support OpenGL ES 1.1/2.0/3.2, Vulkan 1.0/1.1, OpenCL 2.0
	NPS	Up to 1.0 Tops.Supports INT8/INT16 hybrid operation32
Memory	Memory	Onboard 4/8GB LPDDR4
	eMMC	Onboard 32/64GB eMMC
	mSATA	1 x SATA3.0 port(Option)
Storage	TF Socket	1 x TF card Socket,Support 128GB TF card
	Display	1 x HDMI 2.0, upto 4096x2304@60Hz
	Ethernet	2 x GbE(RJ45),Realtek8211F controller 1 x Onboard AP6256 IC, Support 2.4G/5G dual-channel WiFi,support WiFi 802.11b/g/n protocol, Support BT5.0
Rear I/O	USB	1 x USB3.0, OTG Colay,3 x USB2.0
	DC IN	12~24V power input, 1 x 2-pin lockable DC-IN phoenix terminal block
	Button	1 x Power Button, 1 x Return Button
	Indicators	1 x System LED(Blue),1 x Power LED(Green)
	Display	1 x LVDS 1 x eDP,upto 2560x1600@60Hz(share connector with LVDS)
	DEBUG	1 x DEBUG for debug
Internal I/O	KEY	1 x KEY ,Supports power on,reset,recovery
	Serial Port	1 x RS485, 4 x RS232
	USB	1 x USB2.0 wafer(1*4pin)
	DC OUT	1 x DC 12V Power Out put
	TP/I2C	1 x TP/I2C
	CAN	2 x CAN
	GPIO	12 x GPIO
	AUDIO	1 x Audio(Min-in/HeadPhone) and Speaker out via pin header
	MIPI_CSI	1 x MIPI_CSI,Support MIPI dual-channel camera
Expansion Slots	Mini-PCle slot&SIM USI	1xMINI-PCIE with USB 2.0 signal for LTE/ Wi-Fi 6 Modules or PCIE 2.1 signal for Dual LAN Card(Option), 1 x SIM card socket
	M.2 slot	1 x M.2 B Key with USB 3.0 signal for 5G Modules
Power	Type	12~24V power input
	Interface	1 x 2-pin phoenix terminal block
O.S Support	Power Consumption	TBD
	OS	Android11,Debian11
Mechanism	Dimensions	146mmx102mm
	Gross Weight	0.7Kg
Environment	Operating	-20°C~60°C
	Storage	-30°C~80°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz, 3Grms operating

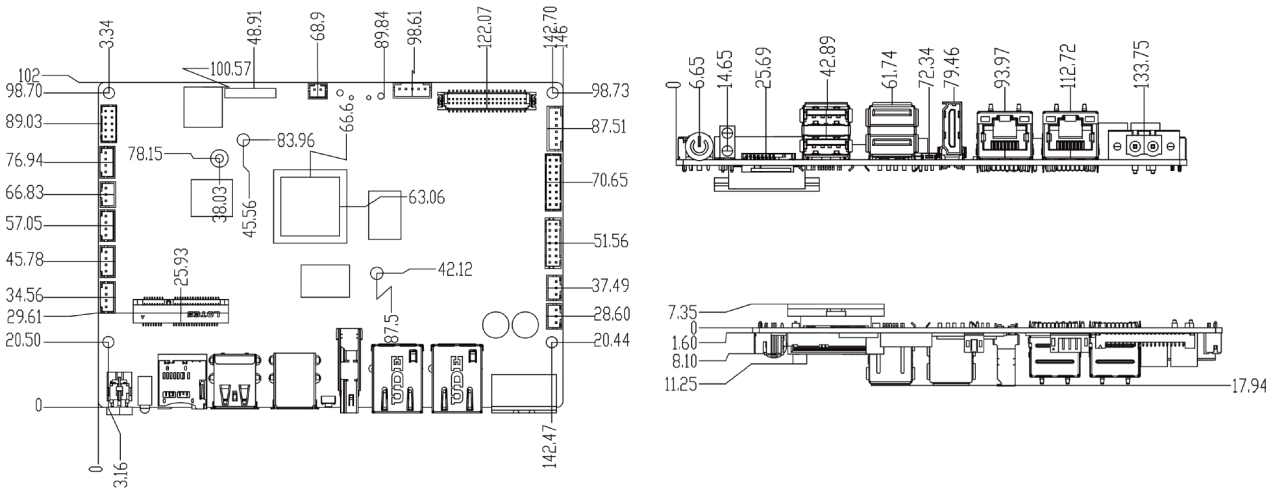
NK-6A23

Rockchip ARM Cortex-A55 RK3588 3.5"SBC



- Rockchip RK3588 8nm process,quad-core Cortex-A76 + quad-core Cortex-A55
- Built-in NPU with processing performance of up to 6.0 TOPS,enable various AI applications
- Mali-G610 MC4 GPU,embedded high performance 2D image acceleration module
- Onboard 4/8GB LPDDR4 memory and 32/64GB eMMC
- Supports 1 x HDMI Out 2.1@8K,1 x HDMI In 2.0@4K 1 x LVDS and 1 x eDP
- Provides 2 x GbE,1 x SATA3.0,1 x USB3.0(OTG),4 x USB2.0,5 x Serial(option),1 x TP/I2C,2 x CAN,12 x GPIO
- 1xMINI-PCIE with USB 2.0 signal for LTE/ Wi-Fi 6 Modules or PCIE 2.1 signal for Dual LAN Card(Option),1 x M.2-B Key with USB 3.0 signal for 5G Modules
- Provides a 2.4G/5G dual-channel WiFi,Support bluetooth 5.0
- Supports Linux and Android OS

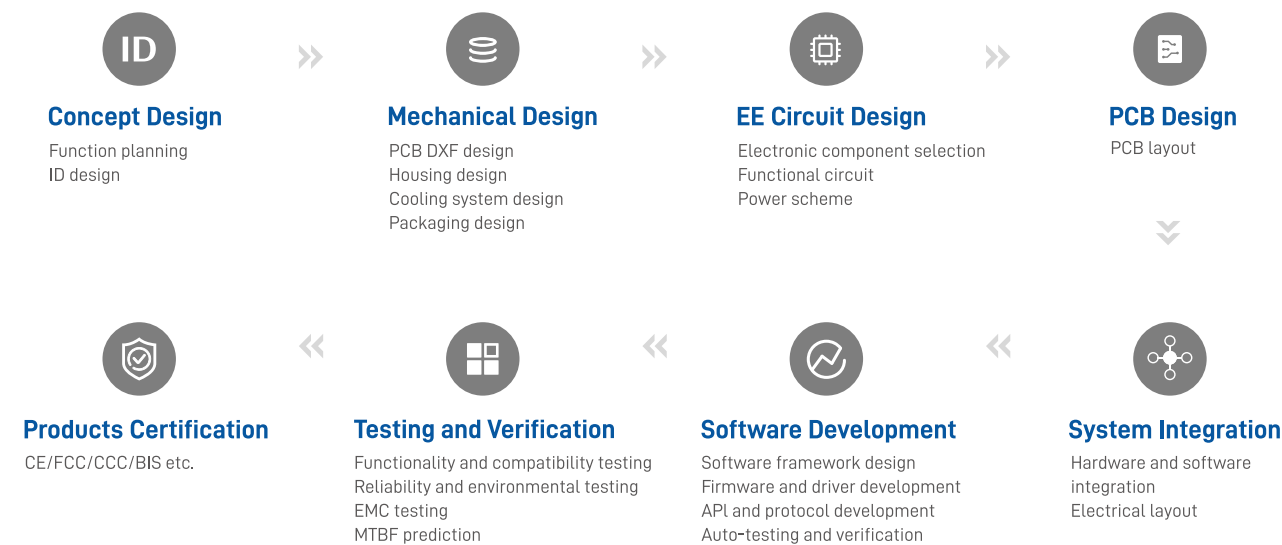
Size(Unit:mm)



Specification

Project		NK-6A23
Processor System	CPU	Rockchip RK3588 Quad core Cortex-A76@2.4GHz + Quad-core Cortex-A55@1.8GHz
	GPU	Mali-G52 support OpenGL ES 1.1/2.0/3.2,Vulkan 1.0/1.1,OpenCL 2.0
	NPS	Up to 6 Tops.Supports int4/int8/int16/FP16/BF16/TF32
Memory	Memory	Onboard 4/8GB LPDDR4
	eMMC	Onboard 32/64GB eMMC
Storage	SATA	1 x SATA3.0 port(Option)
	TF Socket	1 x TF card Socket,Support 256GB TF card
Rear I/O	Display	1 x HDMI Out 2.1,support multiple display engine max to 8K@60fps,1 x HDMI In 2.0,max to 4K@60fps
	Ethernet	2 x GbE(RJ45),Realtek8211F controller 1 x Onboard AP6256 IC,Support 2.4G/5G dual-channel WiFi,support WiFi 802.11b/g/n protocol,Support BT5.0
	USB	1 x USB3.0, OTG Colay,3 x USB2.0
	DC IN	12~24V power input,1 x 2-pin lockable DC-IN phoenix terminal block
	Button	1 x Power Button,1 x Return Button
	Indicators	1 x System LED(Blue),1 x Power LED(Green)
	Display	1 x LVDS
Internal I/O	Display	1 x eDP,upto 2560x1600@60Hz(share connector with LVDS)
	DEBUG	1 x DEBUG for debug
	KEY	1 x KEY,Supports power on,reset,recovery
	Serial Port	1 x RS485,2 x RS232, 2 x UART
	USB	1 x USB2.0 wafer(1*4pin)
	DC OUT	1 x DC 12V Power Out put
	TP/I2C	1 x TP/I2C
	CAN	2 x CAN
	GPIO	12 x GPIO
Expansion Slots	AUDIO	1 x Audio(Min-in/HeadPhone) and Speaker out via pin header
	Mini-PCle slot&SIM USI	1 x MINI-PCIE with USB 2.0 signal for LTE/ Wi-Fi 6 Modules or PCIE 2.1 signal for Dual LAN Card(Option),1 x SIM card socket
Power	M.2 slot	1 x M.2 B Key with USB 3.0 signal for 5G Modules
	Type	12~24V power input
	Interface	1 x 2-pin phoenix terminal block
O.S Support	Power Consumption	Boost 13W
	OS	Android13,Debian11,Ununtu20.04
Mechanism	Dimensions	146mmx102mm
	Gross Weight	0.7Kg
Environment	Operating	-20°C~60°C
	Storage	-30°C~80°C
	Humidity	5~95% (Non-condensing)
	Vibration	5~500Hz,3Grms operating

Product R&D Capabilities



ATX/Micro-ATX Motherboard

Rich computing platform options



Equipped with various Intel® chipsets and 12th/13th generation Intel® Core™ i9/i7/i5/i3/Pentium®/Celeron® processors, with a TDP of up to 125W, suitable for various IoT industries requiring excellent computing power and graphics processing capabilities.

Scalable and highly flexible



Abundant PCIe/PCI slots and a rational arrangement of slot positions provide customers with more expandability and flexibility.

Rich I/O interfaces



Designed with multiple COM, USB, LAN, and audio interfaces, facilitating direct use with various peripherals and expansions, VGA/HDMI/DP++ support for three independent displays, with support for up to 4K resolution.

Laptop memory design



High vibration resistance and dust protection, internal thermal circulation design to enhance heat dissipation performance, supports DDR4/5-SO-DIMM memory slots, up to 64GB, meeting the needs for larger capacity data transfer, storage, and processing.

Stable power supply design



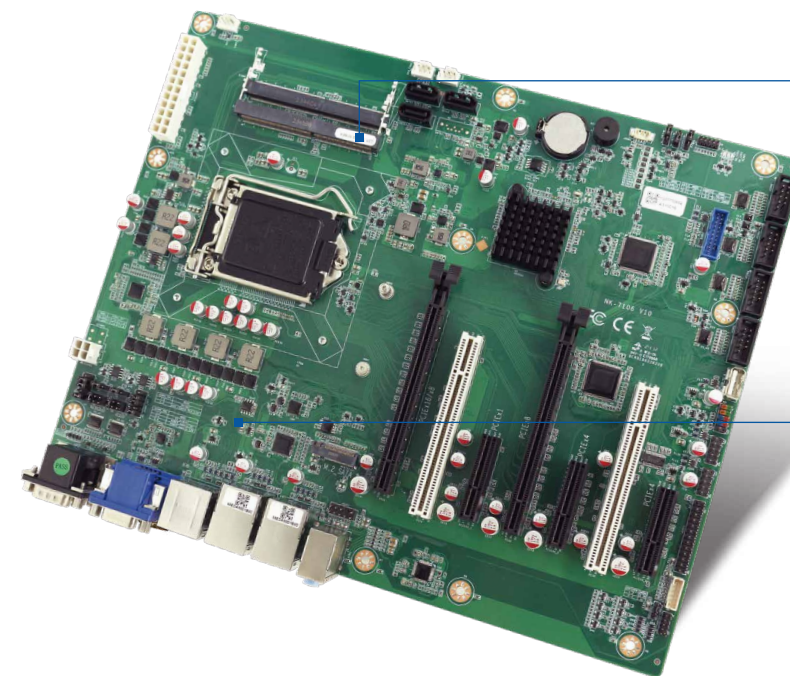
Standard ATX power supply, with 8-phase core power supply and 4-phase integrated graphics power supply providing higher current, supporting up to 125W TDP, while also being backward compatible with 35W.

Industrial standards, safe and stable



Rigorously selected and designed according to industrial standards to ensure stable output and efficient operation.

5 YEARS WARRANTY



SO-DIMM RAM slot design

PCBA conformal coating

Innovative design of ATX industrial motherboards applies SODIMM memory with a latch-style slot to prevent memory loosening and detachment caused by vibration or dropping. Horizontal installation prevents dust accumulation inside the memory slots, allowing for a smoother CPU cooling airflow, perfectly addressing pain points in multiple industries.



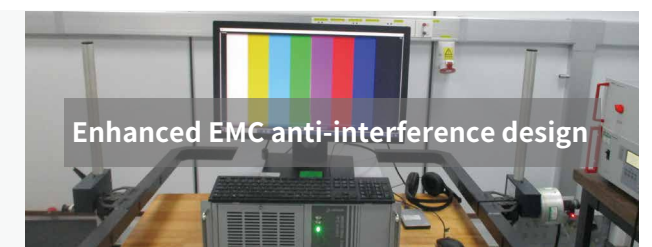
Memory shock and dust protection solutions



Enhanced dust protection treatment significantly improves reliability and lifespan

The motherboard surface is treated with a triple anti-coating process, preventing conductive, corrosive, and high-humidity dust from damaging the circuit board. Key connectors are designed with dust-proof sealing covers to ensure long-term stable operation of industrial control computers under various complex conditions.

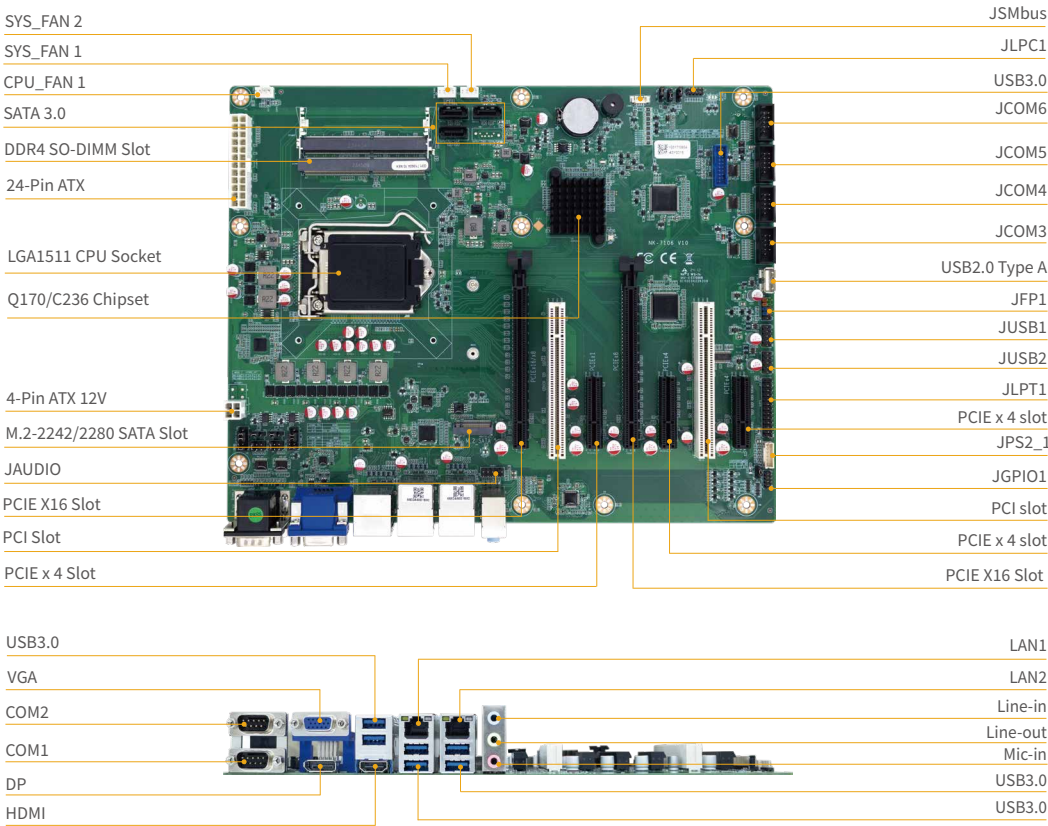
The EMC anti-interference design surpasses the industry's third-tier standards, significantly reducing the sporadic failures such as system crashes, reboots, blue screens, and communication packet losses caused by various complex electrical environment interferences. The company also employs specialized EMC engineers who can assist clients in troubleshooting and resolving on-site issues.



Enhanced EMC anti-interference design

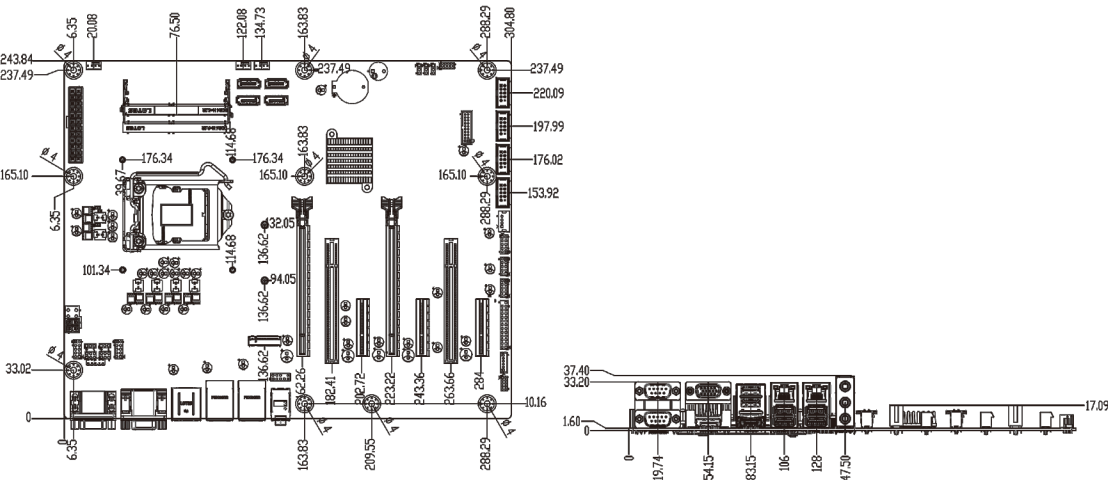
NK-7106

Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series LGA 1151 processor,TDP 95W



- Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series LGA 1151 processor,TDP up to 95W
- Support dual channel(Non-ECC) DDR4-1866/2133/2400/2666MHz SO-DIMM slot , up to 64GB
- Support VGA,HDMI,DP Tri-display
- 2 x Giga-bit Ethernet
- 8 x USB3.0 ports,5 x USB2.0 ports
- 2 x RS232/485, 4 x RS232
- 4 x SATA3.0 support software RAID 0,1,5,10, 1x SATA M.2-2242/2280 Slot
- 2 x PCIEX16(1x 16 or 2x 8 link), 2x PCIEX4, 1x PCIEX4(x1link), 2x PCI slots

Size(Unit: mm)

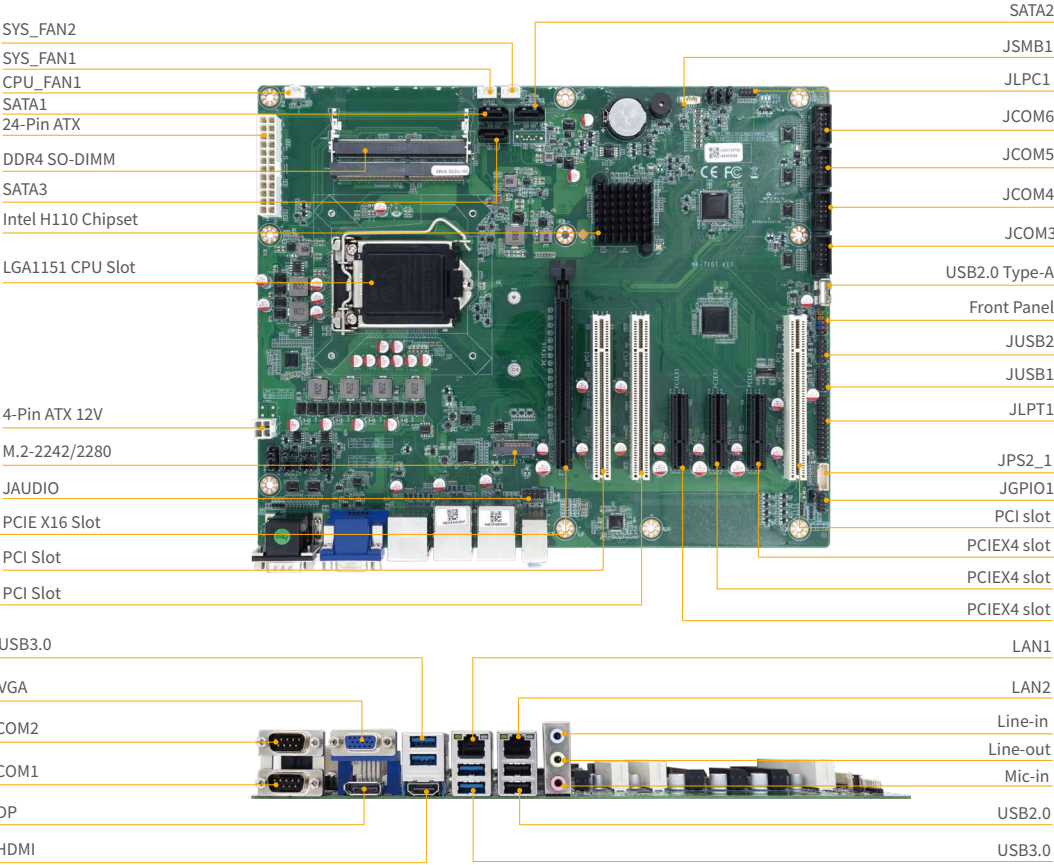


Specification

Project		NK-7106
Processor System	CPU	Intel® 6/7/8/9th generation Celeron/Pentium/Core-I series processor, TDP up to 95W
	Socket	LGA1151
	Chipset	Intel Q170/C236
	BIOS	AMI 128Mb UEFI BIOS
Memory	Technology	Dual Channel(Non-ECC) DDR4 1866/2133/2400/2666MHz, up to 64GB
	Slots	2 x DDR4 SO-DIMM slots
Storage	M.2	1 x M.2-2242/2280 Key M slot (SATA3.0 Signal)
	SATA	4 x SATA3.0 (up to 6Gb/s), support RAID 0/1/5/10
Graphics	Controller	Intel HD graphics integrated
Audio	Codec	Realtek ALC 897 codec
Rear I/O	Display	1 x VGA, resolution up to 1920x1200@60Hz
		1 x DP, resolution up to 4096x2160@60Hz
		1 x HDMI, resolution up to 4096 x 2160@30Hz
	Ethernet	2 x GbE(RJ45), LAN1: Intel i219-V, LAN2 :Intel I210AT
	USB	6 x USB3.0(5Gpbs)
	Serial	2 x RS232/485
Internal I/O	Audio	1 x Line-out, 1 x Mic-in, 1 x Line-in
	USB	2xUSB3.0 Pin header(1x2*5pin),4xUSB2.0 Pin header,(2x2*5pin),1 x vertical USB2.0 type-A connector
	Serial	4 x RS232 wafer(2*5pin)
	PS/2	1 x PS/2 wafer(1*6pin)
	LPT	1 x LPT header(2*13pin)
	LPC	1 x LPC header(2*5pin)
	SMbus	1 x SMbus wafer(2*5pin)
	GPIO	1 x 8bit GPIO(2*5pin)
	FP	1 x FP(Power LED, HDD LED, Power button, Reset button)(2*5pin)
	FAN	2 x System FAN (1*4pin),1 x CPU FAN (1*4pin)
Expansion Slots	PCle X 16	2 x PCIeX16(Gen3) slots (1 x 16 or 2 x 8 link (default))
	PCle X 4	2 x PCIeX4(Gen3) slots, 1 x PCIeX4(Gen3, x 1 link) slot
	PCI	2 x PCI slots
Watchdog Timer	Output & Interval	System reset, programmable from 1~255 sec
Security	TPM	fTPM2.0
Power	Type	ATX Power Input: 24-Pin ATX + 4-Pin ATX 12V
OS Support	Microsoft Windows	Windows 7/8.1(Only support with Intel 6th Gen. CPU), Windows 10
	Linux	Linux
Mechanism	Dimensions	(L)305mm x (W)244mm
	Gross Weight	0.63kg
Environment	Operating	0°C ~ 60°C
	Storage	-40°C ~ 85°C
	Humidity	5~95% (Non-condensing)

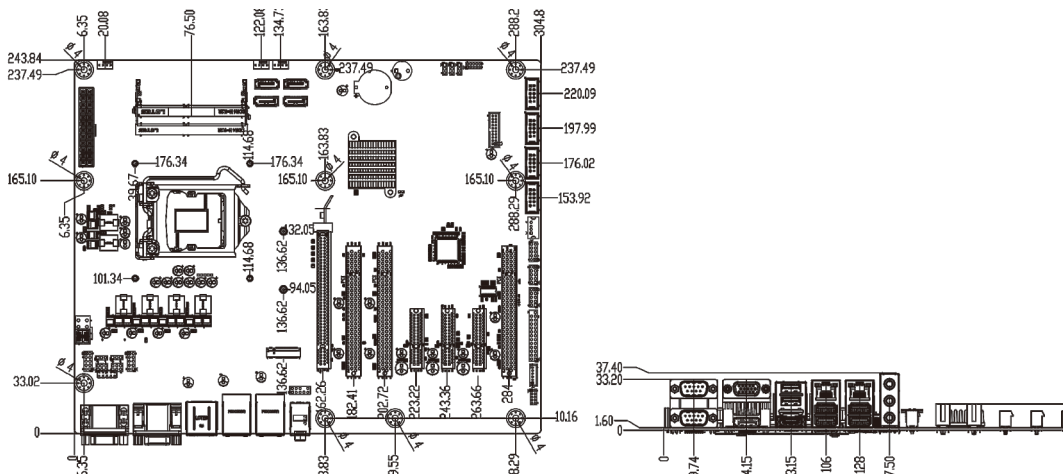
NK-7107

Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series LGA 1151 processor,TDP up to 95W



- Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series LGA 1151 processor,TDP up to 95W
- Support dual channel(Non-ECC) DDR4-1866/2133/2400/2666MHz SO-DIMM slot up to 64GB
- Support VGA,HDMI,DP Dual-display
- 2 x Giga-bit Ethernet,
- 4x USB3.0 ports, 6 x USB2.0 ports
- 2 x RS232/485, 4 x RS232
- 3x SATA3.0, 1x SATA M.2-2242/2280 Slot
- 1x PCIeX16, 1x PCIeX4(x2link), 2x PCIeX4(x1link), 3x PCI slots

Size(Unit: mm)

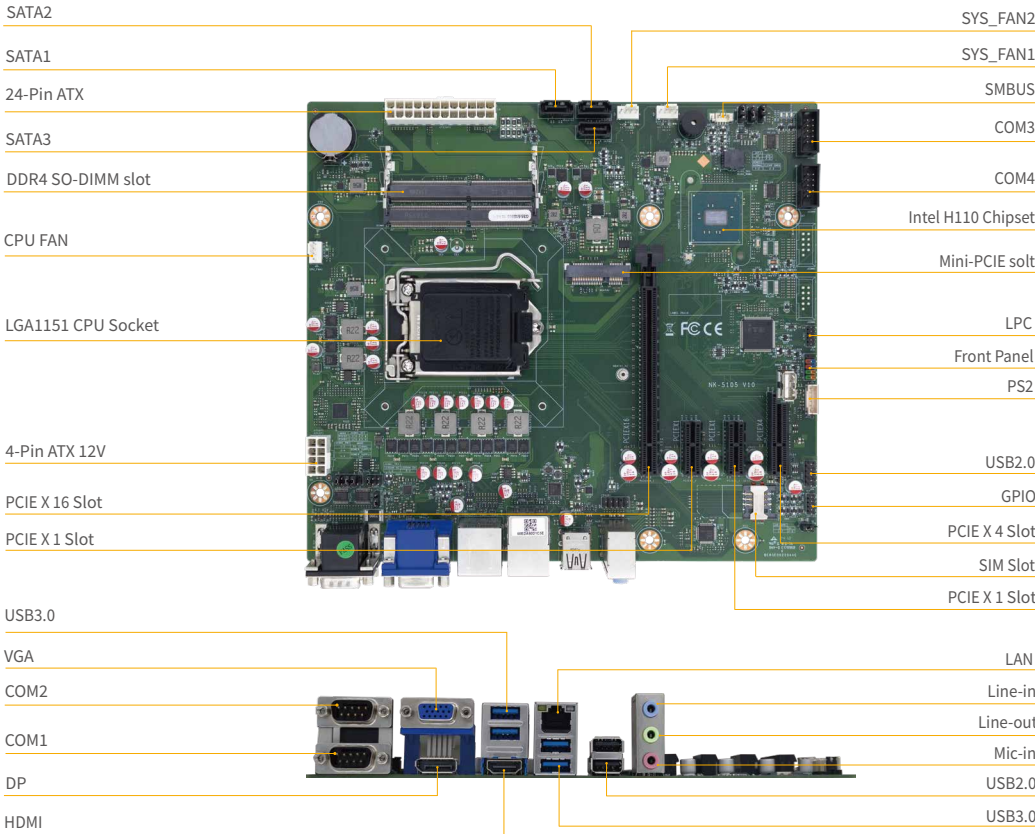


Specification

Project		NK-7107
Processor System	CPU	Intel® 6/7/8/9th generation Celeron/Pentium/Core-I series processor, TDP up to 95W
	Socket	LGA1151
	Chipset	Intel H110
	BIOS	AMI 128Mb UEFI BIOS
Memory	Technology	Dual Channel(Non-ECC) DDR4 1866/2133/2400/2666MHz, up to64GB
	Slots	2 x DDR4 SO-DIMM slots
Storage	M.2	1 x M.2-2242/2280 Key M slot(SATA3.0 Signal)
	SATA	3 x SATA3.0 (up to 6Gb/s)
Graphics	Controller	Intel HD graphics integrated
Audio	Codec	Realtek ALC 897 codec
Rear I/O	Display	1 x VGA, resolution up to 1920x1200@60Hz
		1 x DP, resolution up to 4096x2160@60Hz
		1 x HDMI, resolution up to 4096 x 2160@30Hz
	Ethernet	2 x GbE(RJ45), LAN1: Intel i219-V controller, LAN2:Intel i210AT controller
	USB	4 x USB3.0(5Gbps), 2 x USB2.0(480Mbps)
	Serial	2 x RS232/485
	Audio	1 x Line-out, 1 x Mic-in, 1 x Line-in
	USB	3 x USB2.0 pin header (2 x 2*5pin) , 1 x Vertical USB2.0 type-A connector
	Serial	4 x RS232 wafer(2*5pin)
	PS/2	1 x PS/2 wafer(1*6pin)
Internal I/O	LPT	1 x LPT header(2*13pin)
	LPC	1 x LPC header(2*5pin)
	SMBus	1 x SMBus wafer(2*5pin)
	GPIO	1 x 8bit GPIO(2*5pin)
	FP	1 x FP(Power LED, HDD LED, Power button, Reset button)(2*5pin)
	FAN	2 x System FAN (1*4pin),1 x CPU FAN (1*4pin)
	PCIe X16	1 x PCIeX16(Gen3) slots
Expansion Slots	PCIe X4	2 x PCIeX4(Gen2, x 1 link) slots, 1 x PCIeX4(Gen2, x 2 link) slot
	PCI	3 x PCI slots
Watchdog Timer	Output & Interval	System reset, programmable from 1~255 sec
Security	TPM	fTPM2.0
Power	Type	ATX Power Input: 24-Pin ATX + 4-Pin ATX 12V
OS Support	Microsoft Windows	Windows 7/8.1(Only support with Intel 6th Gen. CPU), Windows 10
	Linux	Linux
Mechanism	Dimensions	(L)305mm x (W)244mm
	Gross Weight	0.61Kg
Environment	Operating	0°C ~ 60°C
	Storage	-40°C ~ 85°C
	Humidity	5~95% (Non-condensing)

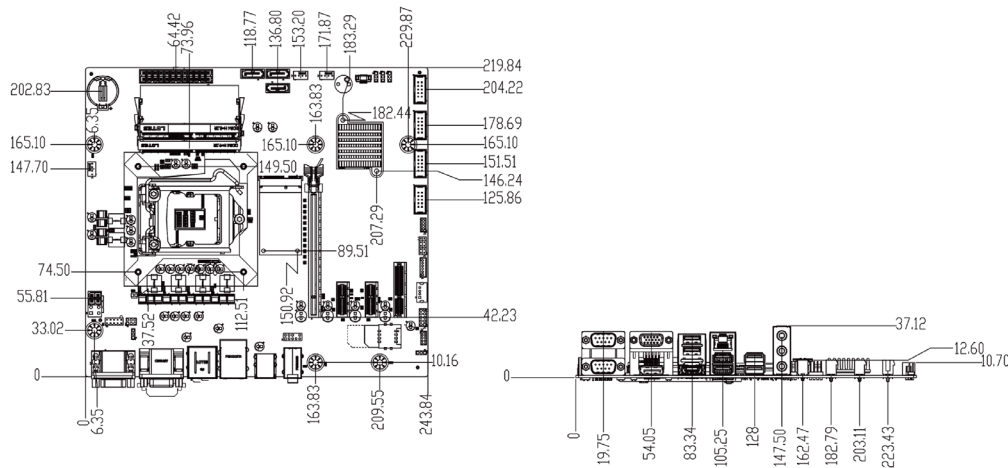
NK-5105

Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series processor,TDP 95W



- Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series processor,TDP 95W
- Support Dual channel(Non-ECC) DDR4-1866/2133/2400/2666MHz SO-DIMM slot, up to 64GB
- Support VGA,HDMI,DP Dual-display
- 1 x Giga-bit Ethernet
- 4 x USB3.0 ports, 4 x USB2.0 ports
- 1 x RS232/485,3 x RS232
- 3 x SATA3.0,1 x mSATA
- 1 x PCIe3.0 X 16 (Gen3) ,1 x PCIe X 4(Gen2, x2link), 2 x PCIe X 1(Gen2, X1link)

Size(Unit:mm)



Specification

Project		NK-5105
Processor System	CPU	Intel® 6/7/8/9th Generation Celeron/Pentium/Core-I series processor, TDP up to 95W
	Socket	LGA1151
	Chipset	Intel H110
	BIOS	AMI 128Mb UEFI BIOS
	Technology	Dual Channel(Non-ECC) DDR4-1866/2133/2400/2666MHz, up to 64GB
Memory	Slot	2 x DDR4 SO-DIMM slots
	mSATA	1 x mSATA
Storage	SATA	3 x SATA3.0 (up to 6Gb/s)
	Controller	Intel HD graphics integrated
Graphic	Codec	Realtek ALC897 codec
Rear I/O	Display	1 x VGA, resolution up to 1920x1200@60Hz
		1 x DP, resolution up to 4096x2304@60Hz
		1 x HDMI 1.4, resolution up to 4096x2160@30Hz
	Ethernet	1 x GbE Intel i219-V
	Audio	1 x Line-out, 1 x Mic-in, 1 x Line-in
	USB	4 x USB3.0(5Gbps), 2 x USB2.0(480bps)
	Serial Port	1 x RS232/485, 1 x RS232
		2 x USB2.0 pin header (1 x 2*5pin)
Internal I/O	Serial	2 x RS232 wafer(2*5pin),2 x RS232 wafer(2*5pin,optional)
	PS/2	1 x PS/2 wafer(1*6pin)
	LPC	1 x LPC header(2*5pin)
	FP	1 x FP(Power LED, HDD LED, Power button, Reset button)(2*5pin)
	FAN	2 x System FAN (1*4pin),1 x CPU FAN (1*4pin)
	GPIO	1 x 8bit GPIO(2*5pin)
	SMBUS	1 x SMBUS(1*4pin)
	PCIe X 16	1 x PCIeX16(Gen3) slot
Expansion Slots	PCIe X 4	1 x PCIeX4 (Gen2)
	PCIe	2 x PCIe (Gen2,x1link) slots
	Mini-PCIe	1 x mini-PCIe slot (SATA / USB Signal) with Nano-SIM card
Security	TPM	fTPM2.0
Watchdog Timer	Output&Interval	System reset, programmable from 1~255 sec
Power	Type	ATX Power Input: 24-Pin ATX + 4-Pin ATX 12V
O.S Support	MS Windows	Windows 7/8.1(Only support with Intel 6th Gen. CPU), Windows 10
	Linux	Linux
Mechanism	Dimensions	(L)244mm x(W) 220mm
	Gross Weight	0.54KG
Environment	Operating	0°C ~ 60°C
	Storage	-40°C ~ 85°C
	Humidity	5~95% (Non-condensing)

NEW PRODUCTS COMING SOON

COMLAC GPU Modules

- 12th Intel® Core™ Processor ,i7-1265UE/i5-1245UE/i3-1215UE,TDP 15W
- Support Signal Channel(Non-ECC) DDR5-4800MHz, up to 64GB
- Support 2 x DDI,1 x eDP,Tri-Display
- Type3 Interface Signals with MXM3.0 Gold Finger

SMARC CPU Modules

- Intel® N-series N97 processor, Quad-core, Max frequency 3.6GHz, TDP 12W
- onboard 4/8/16GB LPDDR5
- onboard 32/64/128/256GB eMMC
- Dual-channel LVDS (18/24-bit, selectable)/eDP, 4K DP++, DP++/HDMI
- Compliant with SMARC 2.1.1 specification

Embedded Industrial Motherboard

- Intel® Core™ Amston/i3-N305/N97/ x7425E/x7213RE processor
- Support 1x DDR4-3200MHz SO-DIMM slot, up to 16GB
- Support DP, HDMI, LVDS/eDP Tri-display
- 2 x Giga-bit Ethernet
- 2 x USB3.0 ports, 4 x USB2.0 ports
- 1 x RS232/485, 1 x RS232, 4 x TTL
- 1 x M.2-2230, 1 x M.2-2242/3042 and 1 x Mini-PCIe slot with nano-SIM card socket
- 12~24V power input, lockable DC-IN phoenix terminal block

Note: