

Embedded Fanless System

LEX believes your success will be our success.



Embedded Mainboard & SBC
Embedded Fanless PC
IP65/66/67/69 Panel PC / Box PC

Application

- AI & Edge computing
- Intelligent Traffic / Transportation
- Vehicle
- NVR
- Machine Vision
- Motion Control
- Automation
- Industry 4.0
- Video Solution
- Medical
- Digital Signage
- Mobile Computers
- IoT
- Networking
- Rugged & Military
- ODM





As the ideal platforms for a variety of applications, LEX SYSTEM provide multiple options of wide range DC power input, IP66/67 & IP69K rating waterproof, anti-vibration, rechargeable battery and hassle-free module expansion alternatives. With industrial-grade components, rugged thermal design and reliability validations, LEX SYSTEM products are able to meet the demands under various harsh operating environments.

INTEGRATED

- Easy Installation without cable
- Multiple platform for efficient development

FLEXIBLE

- Support various expansion
- Easy customized to meet industry requirements

Advantages



STABLE

- Extreme Temperature & Anti-Shock Ability
- IP66/IP67 & IP69K Water / Dust Proof

COMPACT

- Small form factor fanless system
- Ultra compact and slim solution

5G



5G



Company Overview

Found in 1990, LEX Computech(TPEX :7562), the excellent Taiwan industrial computer manufacturer, provides embedded solutions include designing and manufacturing of industrial motherboards, fanless embedded systems, rugged panel PC, network appliances, machine vision and automation controllers , AI Edge Computing & IoT related solutions.

LEX Computech R&D team with innovated electronics, layout, hardware mechanical, BIOS, software, and firmware technology , plus with experienced project management, in-house manufacturing and after sales service provides robust embedded solutions and various application-oriented OEM/ODM services.

Certified



LEX Product Guide

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Edge AI Computing

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Embedded System

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Embedded System

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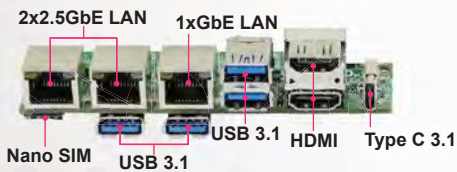
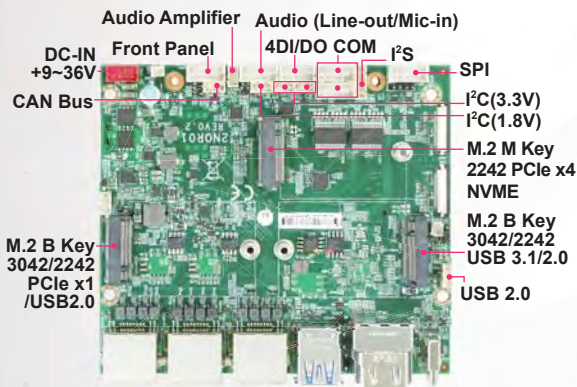
Embedded Fanless Panel PC

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NVIDIA Jetson Orin CPU Board / carrier board



Model Name	NVIDIA Jetson Orin NX / Orin Nano + 2NOR01
CPU Platform	8-core Arm® Cortex®-A78AE 2.0 GHz 6-core Arm® Cortex®-A78AE 1.5 Ghz
GPU	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores 512-core NVIDIA Ampere architecture GPU with 16 Tensor Cores
AI Accelerator	NVIDIA Jetson Orin NX: 70 / 100 TOPs NVIDIA Jetson Orin Nano: 20 / 40 TOPs
Memory	Jetson Orin NX: LPDDR5, 8 / 16GB Jetson Orin Nano: LPDDR5, 4 / 8GB
Storage	1 x M.2 M key Type 2242 (PCIe x 4), NVMe
Display	2 x HDMI
Ethernet	2 x Intel 2.5 GbE I2261T ; 1 x GbE
Audio	Support Line-out / Mic-in Two channel Class D Audio Amplifier 2W
M.2	1 x M.2 M key Type 2242 (PCIe x 4), NVMe 1 x M.2 B key Type 3042 (PCIe x 1 / USB 2.0) ; 1 x M.2 B key Type 3042 (USB 3.1 / 2.0)
SIM	1 x Nano SIM
USB	4 x USB 3.1 (external) ; 1 x USB 2.0 (internal) 1 x USB 3.1 / 2.0 (Type C, OTG)
Serial IO	2 x RS232 (Option RS422) 1 x CANBus
GPIO	4DI / 4DO
SPI / I²C	SPI, I²S, I²C
Power Input	Wide Range +9~36V
Operating Temp.	-20°C~70°C (100% CPU Usage, not-underclocking)
Dimension (mm)	2.5" Plus (110 x 98 mm)
Chassis	Box PC: SKY 2
Expansion	M.2 Module: 4G / 5G, WiFi+BT, GPS, SATA, PCIe NF212A: M.2 B + M Key 2242 PCIe to GbE LAN + PW351 NF212B: M.2 B + M Key 3042 PCIe to Dual GbE LAN + PW352 PW353: 4 port PoE Out (RJ45) (Option) PW354: 4 port PoE Out (M12) (Option) NF226A: M.2 B + M Key 2242 PCIe to 2.5G LAN + PW351 NF226B: M.2 B + M Key 3042 PCIe to Dual 2.5G LAN + PW352 CC007: USB to 4 x RS232 / 485 / 422

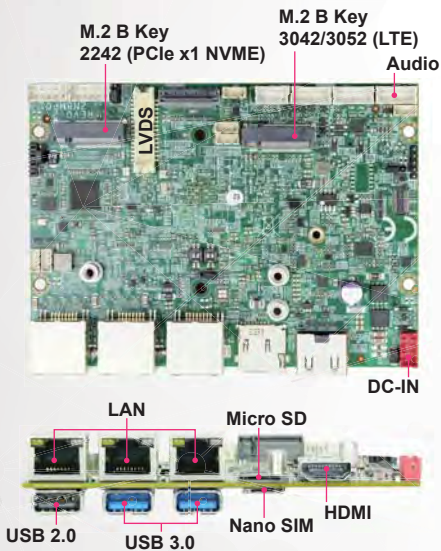


Model Name	SKY 2 - 2NOR01
Motherboard	NVIDIA Jetson Orin NX / Orin Nano + 2NOR01
System Dimension (W x D X H)	141W x 111.2D x 71.9H mm
Weight (incl. M/B)	1.25 kg
CPU	8-core Arm® Cortex®-A78AE 2.0 GHz 6-core Arm® Cortex®-A78AE 1.5 Ghz
GPU	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores 512-core NVIDIA Ampere architecture GPU with 16 Tensor Cores
AI Accelerator & Memory	Jetson Orin NX: LPDDR5, 8 / 16GB Jetson Orin Nano: LPDDR5, 4 / 8GB
Storage Space	M.2 - SSD
Display	2 x HDMI
USB	4 x USB 3.1 (external) ; 1 x USB 3.1 / 2.0 (Type C, OTG)
COM / CANBus	2 x RS232 (Option RS422 / 485) ; 1 x CANBus (Option)
M.2	1 x M.2 M key Type 2242 (PCIe x 4), NVMe 1 x M.2 B key Type 3042 (PCIe x 1 / USB 2.0) ; 1 x M.2 B key Type 3042 (USB 3.1 / 2.0) ;
SIM Card Holder	1 x Nano SIM
GPIO	4DI / 4DO (option)
Audio	Mic-in / Line-out
Ethernet	2 x Intel 2.5 GbE I226IT ; 1 x GbE
Power Input	Wide Range +9~36V UPS Option: Super Cap (2S1P / 4S1P) Li-battery Option (2S1P / 2S3P) Pack Ignition Option: ignition by module Wide Range +9~36V
Operating Temp.	-20°C to +60°C (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing
Expansion	M.2 Module: 4G, 5G, WiFi, GPS, Bluetooth, 1 x CANBus-Option

Compact Machine Learning & Edge Gateway Box PC



i.MX8M Plus
ARM CORTEX 4x A53 + M7



Model Name	2N8MP01
CPU Platform	NXP i.MX8M Plus (Quad core) ARM Cortex-A53 + M7
GPU	Vivante GC7000UL
Memory	LPDDR4, 4GB / 8GB
Storage	64GB eMMC 5.1 expandable to 256GB ; 1 x Micro SD, M.2 SSD
Display	1 x HDMI, 1 x LVDS, 1 x MIPI Display
Ethernet	2 x GbE (RTL8211) + 1 x LAN 7800
M.2	1 x M.2 B Key 3042 / 3052 (USB 3.0 / 2.0) 1 x M.2 E Key 2230 (SDIO) 1 x M.2 B Key 2242 (PCIe x1)
SIM	1 x Nano SIM
USB	2 x USB 3.0 (external) 1 x USB 2.0 (external) ; 2 x USB 2.0 (internal)
Audio	HD Audio with Amplifier
I/O	1 x RS422, 1 x RS485, 1 x CANBus
Camera interface	1 x MIPI (CSI)
GPIO	4 x DI / 4 x DO
Power Input	Wide Range DC IN +9~24V
Operating Temp.	-20°C~70°C (100% CPU Usage, not-underclocking)
Dimension (mm)	115.4 x 84.5 mm
Chassis	Box PC: NET-II

NET-II



Motherboard	2N8MP01
Dimension (WxDxH)	120W x 90D x 55H mm
Weight (Incl.M/B)	0.5 KG
CPU	NXP i.MX8M Plus (Quad core) ARM Cortex-A53 + M7
GPU	Vivante GC7000UL
Memory	LPDDR4, 4GB / 8GB
Storage Space	64GB eMMC 5.1 expandable to 256GB ; 1 x Micro SD, M.2 SSD
Display	HDMI
M.2	1 x M.2 B Key 3042 / 3052 (USB 3.0 / 2.0) 1 x M.2 E Key 2230 (SDIO) 1 x M.2 B Key 2242 (PCIe x1)
SIM	1 x Nano SIM
USB	2 x USB 3.0 ; 3 x USB 2.0
I/O	1 x RS422, 1 x RS485, 1 x CANBus (Option)
Ethernet	3 x GbE
Audio	Mic-in / Line-out
Power Input	Wide Range DC IN +9~24V
Operating Temp.	-20°C to +60°C (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing



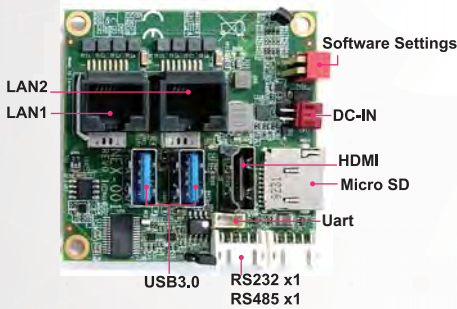
i.MX8M Plus
ARM CORTEX 4x A53 + M7

NEX-8MP



LPDDR4 8GB CPU eMMC 32GB

NEX-001



Computer on Module w/c carrier board

Machine Learning & Vision, Edge Gateway

Model Name	NEX-8MP + NEX-001
CPU Platform	NXP i.MX8M Plus (Quad core) ARM Cortex-A53 upto 1.8GHz
GPU	Vivante GC7000UL
Memory	LPDDR4, 8GB / 4GB
Storage	32GB eMMC 5.1 ; expandable to 256GB, 1 x Micro SD
Display	HDMI
Ethernet	2 x GbE
USB	2 x USB 3.0 / 2.0
I/O	1 x RS232, 1 x RS485
Power Input	DC-IN 5V
Operating Temp.	-20°C~70°C (100% CPU Usage, not-underclocking)
Dimension (mm)	NEX-8MP: 58.42 x 58.42 mm NEX-001: 60 x 60 mm
Chassis	Box PC: PALM

Compact Machine Learning & Edge Gateway Box PC with Computer on Module



PALM

Motherboard	NEX-8MP + NEX-001
System Dimension	71.4W x 71.4D x 29.5H mm
Weight (Incl.M/B)	258g
CPU	NXP i.MX8M Plus (Quad core) ARM Cortex-A53 upto 1.8GHz
GPU	Vivante GC7000UL
Memory	LPDDR4, 8GB / 4GB
Storage Space	32GB eMMC 5.1 ; expandable to 256GB, 1 x Micro SD
Display	HDMI
USB	2 x USB 3.0 / 2.0
Serial IO	1 x RS232, 1 x RS485
Ethernet	2 x GbE
Power Input	DC-IN 5V
Operating Temp.	-20°C to +60°C (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing



Edge AI Computing SBCs and Systems with Hailo-8™ AI modules

LEX SYSTEM Edge AI Computing solutions features pre-installed compact Hailo-8™ AI accelerator modules, enabling breakthrough performance with compact, low power consumption and cost-effective Edge AI devices across industries which including surveillance and security, intelligent manufacturing, smart city and transportation.

Intel Core™ SBC

2I110AW

+ Hailo-8™ AI modules



2I110D

+ Hailo-8™ AI modules



2I110H

+ Hailo-8™ AI modules



3I110HW/B

+ Hailo-8™ AI modules



3I470HW

+ Hailo-8™ AI modules



3I370HW

+ Hailo-8™ AI modules



Intel ATOM™ SBC

2I640DW

+ Hailo-8™ AI modules



2I640HW

+ Hailo-8™ AI modules





Compact DIN-Rail Embedded Systems

- Dimension: 145W x 111.2D x 71.9H mm
- Compact & Excellent DIN-Rail System
- Robust & Powerful Fanless Embedded solution



Intel Core™ Systems

SKY 2 2I110AW

+ Hailo-8™ AI modules



SKY 2 2I110D

+ Hailo-8™ AI modules



SKY 2 2I640DW

+ Hailo-8™ AI modules



SKY 2 2I640CW

+ Hailo-8™ AI modules

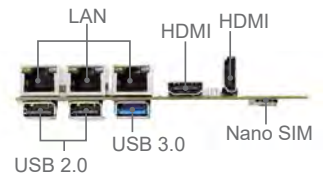




Edge AI Computing with onboard Hailo-8™ AI Processor



LEX SYSTEM Edge AI Computing solutions features onboard Hailo-8™ AI Processor, enabling breakthrough performance with compact, low power consumption and cost-effective Edge AI devices across industries which including surveillance and security, intelligent manufacturing, smart city and transportation.



Unit: mm

Model Name	NET-III 21640HL	SKY 2 21640HL
CPU Platform	Intel® Elkhart Lake ATOM x6413E 3.0 GHz (Quad Core) Intel® Elkhart Lake Celeron J6412 2.6 GHz (Quad Core)-OEM	
Chipset	Intel® Elkhart Lake SoC	
AI Accelerator	Onboard Hailo-8™ AI Accelerator	Onboard Hailo-8™ AI Accelerator
Memory	1 x DDR4 SODIMM, Max. 32GB	
Storage	M.2	M.2, SSD
Display	2 x HDMI (1 x OEM to DP)	2 x HDMI (1 x OEM to DP)
TPM	TPM 2.0 (Firmware) ; OEM Optional Hardware TPM 2.0	
Ethernet	3 x Intel 2.5 GbE I226-IT (external)	
M.2	1 x M.2 B Key Type2242 (PCIe x2 / USB 2.0) 1 x M.2 B Key Type2242 / 3042 (SATA / PCIe / USB 2.0-OEM to USB 3.0)	1 x M.2 B Key Type2242 (PCIe x2 / USB 2.0) 1 x M.2 B Key Type2242 / 3042 (SATA / PCIe / USB 2.0-OEM to USB 3.0)
SIM Card Holder	1 x Nano SIM	
USB	1 x USB 3.0, 2 x USB 2.0	1 x USB 3.0, 2 x USB 2.0
Serial IO	2 x RS232 / 422 / 485 *COM1, COM2 pin9 5V / 12V (Option)	
GPIO / WDT	Option	
Power Input	Wide Range DC IN +9~24V	
Operating Temp.	-40°C to +60°C (100% CPU Usage, not-underclocking)	
Dimension (mm)	135W x 110D x 40H mm	141W x 111.2D x 71.9H mm
Weight	0.75 kg	1.25 kg
Expansion	M.2 Module: 4G / 5G, WiFi + BT, SATA, PCIe By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card	

21640HL

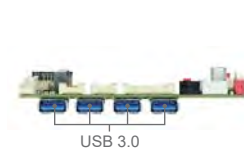
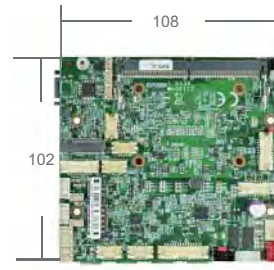
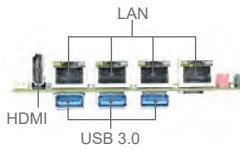
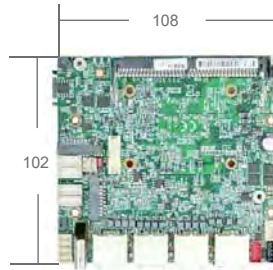
Features:

- Intel® Elkhart Lake ATOM® x6413E / J6412 CPU (OEM)
- Onboard Hailo-8™ AI Accelerator
- 1 x DDR4 SODIMM socket, Max. 32GB
- Independent display:
2 x HDMI (1 x OEM to DP), 1 x eDP
- 3 x Intel 2.5 GbE LAN, 1 x USB 3.0, 5 x USB 2.0
- 2 x COM, 4DI / 4DO, 2 x M.2, 1 x Nano SIM
- TPM 2.0 (Firmware), SMBus



AI • IoT • Deep Learning

AI • IoT • Deep Learning



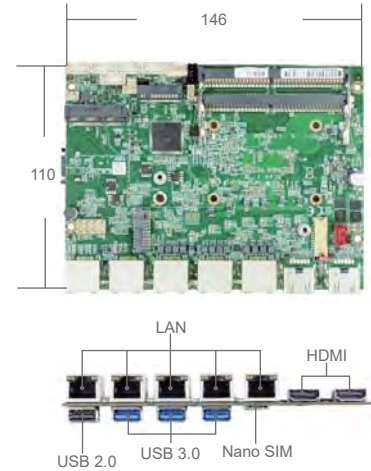
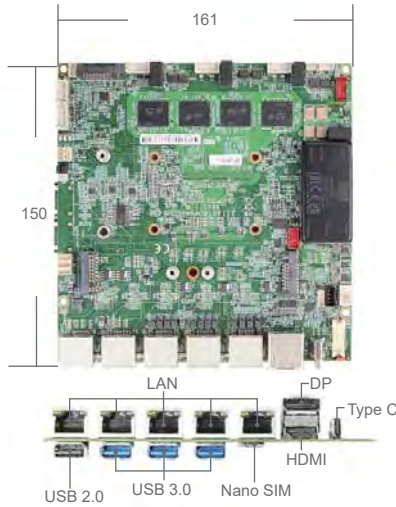
Unit: mm

Model Name	2I130DW	2I130HW
CPU Platform	13th Gen Intel® Raptor Lake-U, i7 / i5 / i3 CPU 12th Gen Intel® Alder Lake-U, i7 / i5 / i3 CPU	13th Gen Intel® Raptor Lake-P / Raptor Lake-U, i7 / i5 / i3 CPU 12th Gen Intel® Alder Lake-P / Alder Lake-U, i7 / i5 / i3 CPU
Chipset	Intel® Raptor Lake-U SoC Intel® Alder Lake-U SoC	Intel® Raptor Lake-P / U SoC Intel® Alder Lake-P / U SoC
Memory	1 x DDR5 SODIMM, Max 32GB	1 x DDR5 SODIMM, Max 32GB
Storage	SATA, M.2-SSD, NVMe	SATA, M.2-SSD, NVMe, Mini PCIe (SATA)
Display	HDMI, eDP	HDMI, eDP, Dual Channel, 48 bits LVDS
Touch	N/A	Touch Screen controller
TPM	TPM 2.0	TPM 2.0
Ethernet	4 x Intel 2.5 GbE I226-IT (external)	2 x Intel 2.5 GbE I226-IT (internal)
Audio	N/A	HD Audio with Amplifier
Mini-PCIe	N/A	PCIe / SATA / USB 2.0
M.2	1 x M.2 M key Type 2280 (PCIe x4 / mSATA), Support NVMe ; 1 x M.2 B key Type 3042 (PCIe x2 / USB 3.2 / USB 2.0)	1 x M.2 B key Type 2242 (PCIe x2 / USB 2.0), Support NVMe
SIM Card Holder	1 x Nano SIM	N/A
USB	3 x USB 3.2 Gen 1 x 1 (TypeA-external), 4 x USB 2.0 (internal)	4 x USB 3.2 Gen 1 x 1 (TypeA-external), 4 x USB 2.0 (internal)
Serial IO	2 x RS232 / 422 / 485 (internal) ; *COM1, COM2 pin9 5V / 12V (Option)	2 x RS232 / 422 / 485 (internal) ; *COM1, COM2 pin9 5V / 12V (option)
GPIO / WDT	4DI / 4DO, WDT	4DI / 4DO, WDT
Power Input	Wide Range +9~36V	Wide Range +9~36V
Operating Temp.	-40°C~+70°C (under specific environmental & CPU power consumption conditions)	-40°C~+70°C (under specific environmental & CPU power consumption conditions)
Dimension (mm)	108 x 102 mm	108 x 102 mm
Chassis	Box PC: SKY 2 / ROCK	Waterproof System / OEM Chassis
Expansion	By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, WiFi + BT, Hailo-8™ AI, SATA, PCIe	Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video, Hailo-8™ AI, By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, WiFi + BT, Hailo-8™ AI, SATA, PCIe



**In-vehicle • Railway
• Transportation**

AI • IoT • Machine Vision



Unit: mm

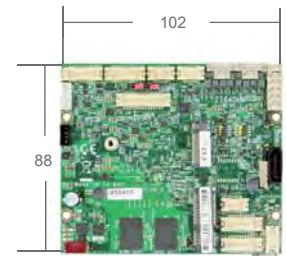
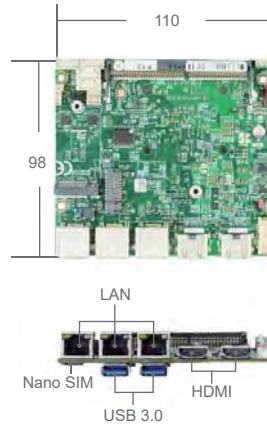
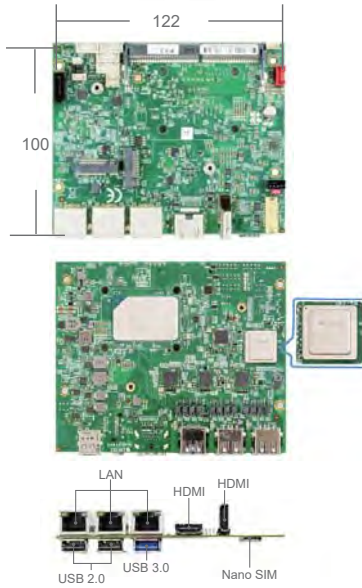
Model Name	31130TW	31130DW
CPU Platform	13th Gen Intel® Raptor Lake-U, i7 / i5 / i3 CPU 12th Gen Intel® Alder Lake-U, i7 / i5 / i3 CPU	13th Gen Intel® Raptor Lake-P / Raptor Lake-U, i7 / i5 / i3 CPU 12th Gen Intel® Alder Lake-P / Alder Lake-U, i7 / i5 / i3 CPU
Chipset	Intel® Raptor Lake-U SoC Intel® Alder Lake-U SoC	Intel® Raptor Lake-P / U SoC Intel® Alder Lake-P / U SoC
Memory	Onboard LPDDR 5, 16GB / 32GB	2 x DDR5 SODIMM, Max 64GB
Storage	NVMe (Optional to M.2), 2 x SATA, M.2-SSD NVMe	SATA, M.2-SATA, NVMe
Display	1 x HDMI, 1 x DP, 1 x eDP, 1 x Type C DP ALT Mode	2 x HDMI (OEM DP), eDP
TPM	TPM 2.0	TPM 2.0
Ethernet	5 x Intel 2.5 GbE I226-IT (external)	5 x Intel 2.5 GbE I226-IT (external)
Audio	HD Audio with Amplifier	HD Audio with Amplifier
Mini-PCIe	N/A	PCIe / USB 2.0
M.2	1 x M.2 B key Type 3042 (PCIe x1 / USB 2.0), (Optional to Onboard NVMe) 1 x M.2 M Key Type 3042 / 3080 (PCIe x4) 1 x M.2 B key Type 3042 / 3052 (USB 3.2 Gen 1 x 1 / USB 2.0)	1 x M.2 M key Type 2280 (PCIe x4), Support NVMe 1 x M.2 B key Type 3042 / 3052 (mSATA / USB 3.2 Gen 1 x 1 / USB 2.0)
SIM Card Holder	1 x Nano SIM	1 x Nano SIM
USB	3 x USB 3.2 Gen 1 x 1 (external), 1 x USB 2.0 (external), 2 x USB 2.0 (internal), 1 x Type C	3 x USB 3.2 Gen 1 x 1 (external), 1 x USB 2.0 (external), 4 x USB 2.0 (internal)
Serial IO	2 x ISO RS232 / 422 / 485 (internal) ; 2 x ISO CANBus	2 x RS232 / 422 / 485 (internal) ; *COM1, COM2 pin9 5V / 12V (Option)
GPIO / WDT	4DI / 4DO, WDT	4DI / 4DO, WDT
Power Input	Wide Range DC IN +9~36V ; CPC-Ignition on/off control Wide Range DC IN +18~75V (option), 1.6KVDC I/O isolation SIP Wide Range DC IN +20~53V (option)	Wide Range +9~36V
Operating Temp.	-40°C~+70°C (under specific environmental & CPU power consumption conditions)	-40°C~+70°C (under specific environmental & CPU power consumption conditions)
Dimension (mm)	161 x 150 mm	146 x 110 mm
Chassis	Box PC: HAWK	Box PC: SKY 3, HAWK, TASK (OEM)
Expansion	Mini Card: GPS, Wi-Fi, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video, Hailo-8™ AI By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, WiFi + BT, Hailo-8™ AI, SATA, PCIe	



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Unit: mm

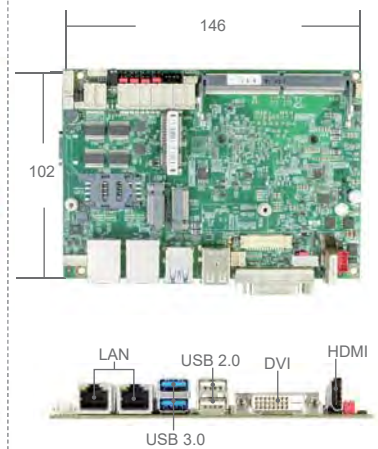
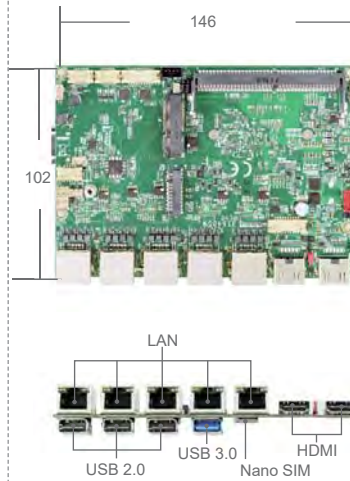
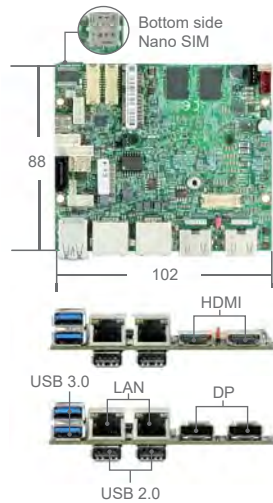
Model Name		21640HL	21640DW	21640HW
CPU Platform		Intel® Elkhart Lake ATOM x6413E 3.0 GHz (Quad Core) Intel® Elkhart Lake Celeron J6412 2.6 GHz (Quad Core)		
Chipset		Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
AI Accelerator		Onboard Hailo-8™ AI Accelerator	N/A	N/A
Memory		1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB	Onboard LPDDR4 8GB
Storage		2 x M.2 ; 1 x SATA	2 x M.2	SATA, M.2
Display		2 x HDMI (1 x OEM to DP), eDP	2 x HDMI (OEM Option to DP), eDP	HDMI, LVDS, eDP
Touch		N/A	N/A	USB interface Touch Screen controller
TPM		TPM 2.0 (Firmware) ; OEM Optional Hardware TPM 2.0	TPM 2.0 (Firmware) ; OEM Optional Hardware TPM 2.0	TPM 2.0 (Firmware) ; OEM Optional Hardware TPM 2.0
Ethernet		3 x Intel 2.5 GbE I226-IT (external)	3 x Intel 2.5 GbE I225 (external)	2 x Intel 2.5 GbE I225 (internal)
Audio		N/A	N/A	HD Audio with Amplifier
Mini-PCIe	Slot 1	N/A	N/A	USB 2.0 / PCIe
	Slot 2	N/A	N/A	N/A
M.2		1 x M.2 B Key Type2242 (PCIe x2 / USB 2.0), 1 x M.2 B Key Type 2242 / 3042 (SATA / PCIe / USB 2.0-OEM to USB 3.0)	1 x M.2 B Key Type2242 / 3042 (PCIe x2 / USB 3.0 / USB 2.0), 1 x M.2 B Key Type2242 (PCIe x2 / USB 2.0 / SATA)	1 x M.2 B Key Type 2242 / 3042 (SATA / USB 3.0 / 2.0)
SIM Card Holder		1 x Nano SIM	1 x Nano SIM	1 x Nano SIM
USB		1 x USB 3.0 (external) ; 2 x USB 2.0 (external) 3 x USB 2.0 (internal)	2 x USB 3.0 (external) ; 3 x USB 2.0 (internal)	1 x USB 3.0 (Type C-Lex define) ; 5 x USB 2.0 (internal)
Serial IO		2 x RS232 / 422 / 485 (internal) *COM1, COM2 pin9 5V / 12V (Option)	2 x RS232 / 422 / 485 (internal) *COM1, COM2 pin9 5V / 12V (Option)	1 x RS232 / 422 / 485 (internal) 3 x RS232 (internal) *COM1-4 pin9 5V / 12V (Option)
GPIO / WDT		4DI / 4DO, WDT	4DI / 4DO, WDT	4DI / 4DO, WDT
Power Input		Wide Range DC IN+9~24V	Wide Range DC IN +9~24V	Wide Range DC IN +9~36V
Operating Temp.		-40°C~70°C (100% CPU Usage, not-underclocking)	-20°C~70°C (100% CPU Usage, not-underclocking) -40°C by OEM	
Dimension (mm)		122 x 100 mm	110 x 98 mm	102 x 88 mm
Chassis		Box PC: SKY 2 / NET-III	Box PC: SKY 2 / TERA / NET-III	Waterproof System / Waterproof PPC
Expansion		Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video, Hailo-8™ AI By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, WiFi + BT, Hailo-8™ AI, SATA, PCIe		



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Unit: mm

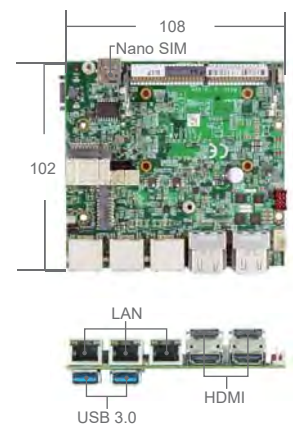
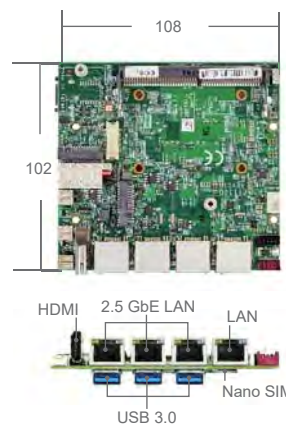
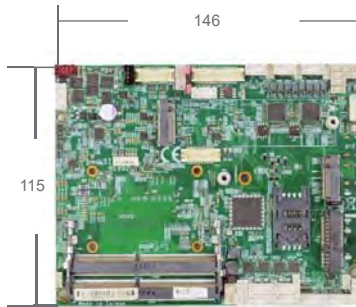
Model Name		2I640CW	3I640DW	3I640A/CW
CPU Platform		Intel® Elkhart Lake ATOM x6413E 3.0 GHz (Quad Core) Intel® Elkhart Lake Celeron J6412 2.6 GHz (Quad Core)		
Chipset		Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory		Onboard LPDDR4 8GB / 4GB	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Storage		SATA, M.2	SATA or Mini Card (OEM), M.2	SATA, M.2
Display		2 x HDMI (OEM Option to DP), eDP	2 x HDMI (OEM Option to DP), eDP	1 x HDMI, 1 x DVI, LVDS
Touch		USB interface Touch Screen controller	N/A	USB interface Touch Screen controller
TPM		TPM (Firmware)	TPM 2.0 (Firmware) ; OEM Optional Hardware TPM 2.0	TPM 2.0 (Firmware) ; OEM Optional Hardware TPM 2.0
Ethernet		2 x Intel 2.5 GbE I225 (external)	5 x Intel 2.5 GbE I225 (external)	2 x Intel 2.5 GbE I225 (external)
Audio		HD Audio with Amplifier	HD Audio with Amplifier (Option)	HD Audio with Amplifier (3I640CW)
Mini-PCIe	Slot 1	USB 2.0 / PCIe	1 x USB 2.0 / PCIe- OEM to mSATA-share w/SATA	USB 2.0 / PCIe
	Slot 2	N/A	N/A	N/A
M.2		1 x M.2 B Key Type 3042 (SATA / USB 3.0 / 2.0-optional to PCIe x2)	1 x M.2 B Key Type3042 (SATA / USB 3.0 / 2.0)	1 x M.2 B Key Type3042 (SATA / USB 3.0 / 2.0) 1 x M.2 Type2242 (PCIe x2 / USB 2.0)
SIM Card Holder		1 x Nano SIM	1 x Nano SIM	1 x Mini SIM
USB		2 x USB 3.0 (external) ; 2 x USB 2.0 (external) ; 3 x USB 2.0 (internal)	1 x USB 3.0 (external) ; 3 x USB 2.0 (external) + 4 x USB 2.0 (internal)	2 x USB 3.0 (external) ; 2 x USB 2.0 (external) + 2 x USB 2.0 (internal)
Serial IO		1 x RS232 / 422 / 485 (internal) 3 x RS232 (internal) *COM1-4 pin9 5V / 12V (Option)	2 x RS232 / 422 / 485 (internal) *COM1, COM2 pin9 5V / 12V (Option)	2 x RS232 / 422 / 485 (internal) 4 x RS232 internal) *COM1~COM4 pin9 5V / 12V (by Jumper) ; COM5 / COM6 (OEM Option)
GPIO / WDT		4DI / 4DO, WDT	4DI / 4DO, WDT	8DI / 8DO, WDT
Power Input		Wide Range DC IN +9~24V	Wide Range DC IN +9~36V	DC IN +12V or Wide Range DC IN+9~36V
Operating Temp.		-20°C~70°C (100% CPU Usage, not-underclocking) ; -40°C by OEM		
Dimension (mm)		102 x 88 mm	146 x 102 mm	146 x 102 mm
Chassis		Box PC: SKY 2 / TERA / NET-III	Box PC: Twitter	Box PC: Twitter Panel PC: Slim / SUPER / STAR / VITA Series PPC
Expansion		PCIe (Type C) module Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video, Hailo-8™ AI By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, WiFi + BT, Hailo-8™ AI, SATA, PCIe		



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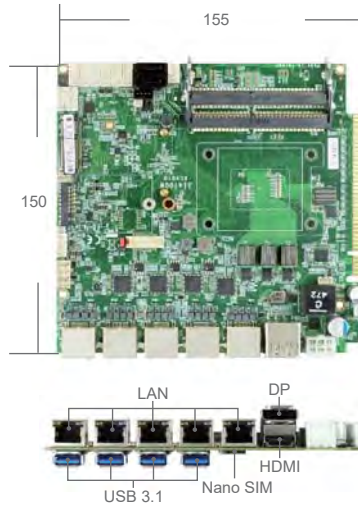


Unit: mm

Model Name		3I110HW / BW	2I110D	2I110AW
CPU Platform		11th Gen Intel®Tiger Lake-UP3, i7 / i5 / i3 / Celeron CPU		
Chipset		Intel® Tiger Lake-UP3 SoC	Intel® Tiger Lake-UP3 SoC	Intel® Tiger Lake-UP3 SoC
Memory		2 x DDR4 SODIMM, Max 64GB	1 x DDR4 SODIMM, Max 32GB	1 x DDR4 SODIMM, Max 32GB
Storage		2 x SATA ; 1 x M.2 B Key (share SATA 2) ; 1 x M.2 M Key (NVMe)	SATA, M.2	SATA, M.2
Display		VGA, HDMI (or DP), eDP or Dual Channel, 48 bits LVDS	HDMI, eDP	4 x HDMI
Touch		USB interface Touch Screen controller	N/A	N/A
TPM		TPM 2.0 (Firmware) ; OEM Optional to Hardware TPM		TPM 2.0 (Firmware)
Ethernet		1 x Intel GbE I219LM (internal), 2 x Intel GbE I225 (internal)	1 x Intel GbE I219LM (external) 3 x Intel 2.5 GbE I225 (external)	3 x Intel 2.5 GbE I225 (external)
Audio		HD Audio with Amplifier	N/A	N/A
Mini-PCle	Slot 1	PCle / USB 2.0	N/A	N/A
	Slot 2	N/A	N/A	N/A
M.2		1 x M.2 B key Type 3042 (PCle x2 / mSATA / USB 3.2 / 2.0) 1 x M.2 M key Type 2280 (PCle x4), Support NVMe	1 x M.2 B key Type 3042 (PCle x2 / USB 3.2 / 2.0), 1 x M.2 M key Type 2242 (PCle x4 / SATA), Support NVMe	1 x M.2 B key Type 3042 (PCle x2 / USB 3.2 / 2.0), 1 x M.2 M key Type 2242 (PCle x4 / SATA), Support NVMe
SIM Card Holder		1 x Mini SIM	1 x Nano SIM	1 x Nano SIM
USB		6 x USB 2.0 (internal)	3 x USB 3.0 (Type A), 6 x USB 2.0 (internal)	2 x USB 3.0 (Type A), 4 x USB 2.0 (internal)
Serial IO		4 x RS232 / 422 / 485 (internal)	2 x RS232 / 422 / 485 (internal)	2 x RS232 / 422 / 485 (internal)
GPIO / WDT		4DI / 4DO, WDT	4DI / 4DO, WDT	4DI / 4DO, WDT
Power Input		Wide Range +9~36V ; Battery Charger function (3I110BW)	DC-IN +12V	Wide Range +9~36V
Operating Temp.		-40°C~70°C (Core i GRE series CPU) -20°C~70°C (Core i G7E / G7 series CPU) (100% CPU Usage, not-underclocking)		
Dimension (mm)		146 x 115 mm	108 x 102 mm	108 x 102 mm
Chassis		Waterproof System / OEM Chassis / ROCK	Box PC: SKY 2 / ROCK	Box PC: SKY 2 / ROCK
Expansion		Mini Card: GPS, Wi-Fi, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video, Hailo-8™ AI, By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card, M.2 Module: 4G / 5G, WiFi + BT, Hailo-8™ AI, SATA, PCIe		



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Unit: mm

Model Name		3I470DW
CPU Platform		10th Gen Intel® Comet Lake-S i9 (35W) i7 / i5 / i3 / Celeron CPU
Chipset		Intel® Q470
Memory		2 x DDR4 SODIMM, Max. 64GB
Storage		mSATA, 2 x SATA, M.2
Display		HDMI, DP, eDP
TPM		TPM 2.0
Ethernet		1 x Intel GbE I219LM (external), 4 x Intel 2.5 GbE (external)
Audio (OEM)		HD Audio
Mini-PCle	Slot 1	PCIe / mSATA / USB 3.0 / USB 2.0
	Slot 2	N/A
PCIe		1 x PCIe x16
SIM Card Holder		1 x Nano SIM
SATA		2
M.2		1 x M.2 B key Type 3042 / 3052 (mSATA / PCIe x2 / USB 2.0 / USB 3.0) (Support NVME)
USB		4 x USB 3.1 (external) 4 x USB 2.0 (internal)
Serial IO		4 x RS232 / 422 / 485 (internal) (OEM option to 6 x COM w/o DIO)
GPIO / WDT		8DI / 8DO, WDT
Power Input		Wide Range +12~36V
Operating Temp.		-20°C~70°C (100% CPU Usage, not-underclocking)
Dimension (mm)		155 x 150 mm
Chassis		Box PC: APOLLO

Expansion

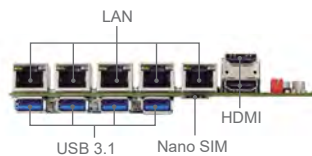
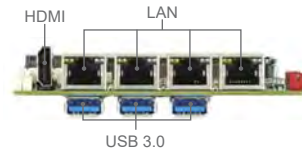
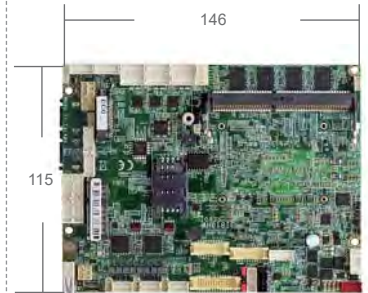
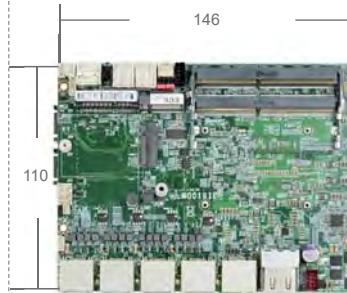
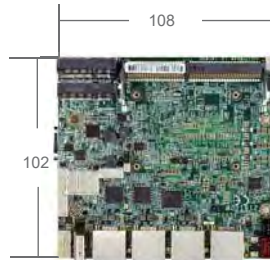
PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE
Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CAN Bus, SDI / AHD Video
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card
M.2 Module: 4G / 5G, SATA, PCIe



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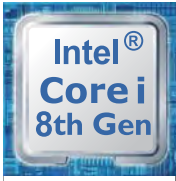
Unit: mm

Model Name		2I810D	3I810DW	3I810HW / BW
CPU Platform		8th Gen Intel® Whiskey Lake-U i7 / i5 / i3 / Celeron CPU	8th Gen Intel® Whiskey Lake-U i7 / i5 / i3 / Celeron CPU	8th Gen Intel® Whiskey Lake-U i7 / i5 / i3 / Celeron CPU
Chipset		Intel® Whiskey Lake-U SoC	Intel® Whiskey Lake-U SoC	Intel® Whiskey Lake-U SoC
Memory		1 x DDR4 SODIMM, Max. 32GB	2 x DDR4 SODIMM, Max. 64GB	Onboard (OEM) DDR4 + 1 x SODIMM Max 32GB
Storage		2 x mSATA, SATA	2 x SATA, 2 x M.2	mSATA (share SATA 2), 1 x SATA, M.2
Display		VGA, HDMI	2 x HDMI	VGA, HDMI, LVDS
Touch		N/A	N/A	USB interface Touch Screen controller
TPM		TPM 2.0 (Option)	TPM 2.0 (Option)	TPM 2.0 (Option)
Ethernet		1 x Intel GbE I219LM (external), 3 x Intel 2.5 GbE (external)	1 x Intel GbE I219LM (external), 4 x Intel 2.5 GbE (external)	1 x Intel GbE I219LM (internal), 2 x Intel 2.5 GbE (internal)
Audio		HD Audio (Option)	HD Audio with Amplifier (Option)	STD HD Audio with Amplifier
Mini-PCle	Slot 1	PCle / mSATA / USB 3.0 / USB 2.0	(PCle / USB), mSATA for OEM	PCle / mSATA / USB 3.0 / USB 2.0
	Slot 2	(Half Size) PCle / mSATA / USB 3.0 / USB 2.0	N/A	N/A
M.2		N/A	1 x M.2 B Key, Type 2242 (mSATA / USB / PCIe x1); 1 x M.2 B Key, Type 3042 (USB 3.0 / 2.0 / PCIe x1*); *If 2242 M.2 adopts PCIe x2 signal, 3042 M.2 will support USB 3.0 / 2.0 signal only	1 x M.2 B key Type 3042 / 2242 (PCIe x2 / mSATA / USB 3.0 / USB 2.0)
SIM Card Holder		N/A	1 x Nano SIM	1 x SIM
USB		3 x USB 3.0 (external) 4 x USB 2.0 (internal)	4 x USB 3.1 (external) 3 x USB 2.0 (internal)	1 x USB 3.0 (external) 2 x USB 3.0 (internal), 4 x USB2.0 (internal)
Serial IO		2 x RS232 / 422 / 485 (internal)	2 x RS232 / 422 / 485 (internal)	6 x RS232 / 422 / 485 (internal)
GPIO / WDT		4DI / 4DO, WDT	8DI / 8DO, WDT	16DI / 16DO, WDT
PS2 KB / MS		N/A	YES	YES
Power Input		DC IN +12V ; (Option +9~36V by power module)	Wide Range +9~36V	Wide Range +9~36V (3I810HW) Battery Charger function, DC +19V or +24V (3I810BW)
Operating Temp.		-20°C~70°C (100% CPU Usage, not-underclocking)		
Dimension (mm)		108 x 102 mm	146 x 110 mm	146 x 115 mm
Chassis		Box PC: TERA(L), SKY 2	Box PC: TASK, SKY3	Waterproof System / Waterproof PPC

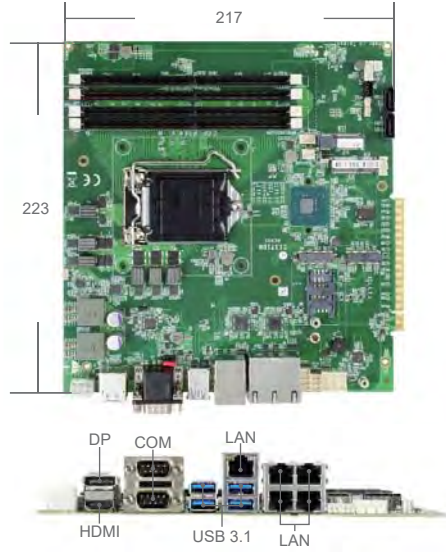
Expansion
Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card
M.2 Module: 4G / 5G, SATA, PCIe



Application



5G Communication



Unit: mm

Model Name		CI371D
CPU Platform		8th / 9th Gen Intel® Coffee Lake-S i9 (65W) i7 / i5 / i3 / Celeron CPU
Chipset		Intel® Q370
Memory		4 x DDR4 UDIMM, Max. 128GB
Storage		2 x mSATA, 2 x SATA, 2 x M.2
Display		HDMI, DP
TPM		TPM 2.0
Ethernet		1 x Intel GbE I219LM (external), 4 x Intel GbE (external)
Audio (OEM)		HD Audio
Mini-PCle	Slot 1	PCIe / mSATA / USB
	Slot 2	PCIe / mSATA / USB
PCIe		1 x PCIe x16
SIM Card Holder		1 (M.2 B Key)
SATA		2
M.2		1 x M.2 M key Type 2280 (PCIe x4 + mSATA) 1 x M.2 B key Type 3042 / 3052 / 2280 (PCIe x2 / mSATA / USB 3.0 / USB 2.0)
USB		4 x USB 3.1 (external) 7 x USB 2.0 (internal)
Serial IO		2 x RS232 / 422 / 485 (external)
GPIO / WDT		8DI / 8DO, WDT
Power Input		DC IN +24V
Operating Temp.		-20°C~70°C (100% CPU Usage, not-underclocking)
Dimension (mm)		217 x 223 mm
Chassis		Box PC: 1U

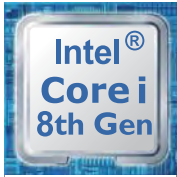
Expansion

PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE
Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card
M.2 Module: 4G / 5G, SATA, PCIe



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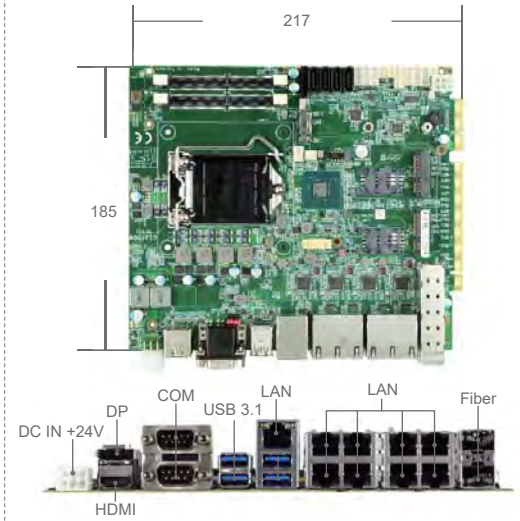
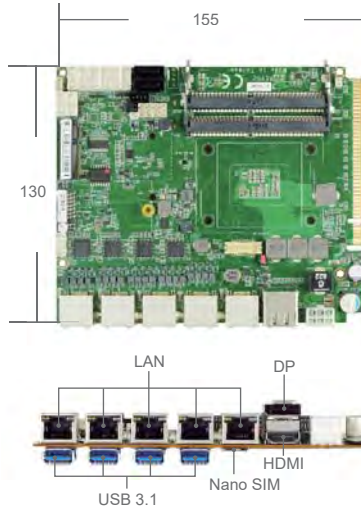
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Video Solution



Coffee Lake-S



Coffee Lake-S



Unit: mm

Model Name	3I370DW	CI370D
CPU Platform	8th / 9th Gen Intel® Coffee Lake-S i9 (35W) / i7 / i5 / i3 / Celeron CPU	8th / 9th Gen Intel® Coffee Lake-S i9 / i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Q370	Intel® Q370
Memory	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB
Storage	mSATA, 2 x SATA, M.2	2 x mSATA, 4 x SATA, M.2
Display	HDMI, DP, eDP	HDMI, DP, eDP
TPM	TPM 2.0	TPM 2.0
Ethernet	1 x Intel GbE I219LM (external), 4 x Intel 2.5 GbE (external)	1 x Intel GbE I219LM (external), 8 x Intel 2.5 GbE (external) 2 x Intel I210IS Fiber 10 / 100 / Giga bit
Audio (OEM)	HD Audio	HD Audio
Mini-PCle	Slot 1	PCIe / mSATA / USB 3.0 / USB 2.0
	Slot 2	N/A
PCIe	1 x PCIe x16	1 x PCIe x16 (PCIe x16 + PCIe x4 Signal)
SIM Card Holder	1 x Nano SIM	2
SATA	2	4
M.2	1 x M.2 B Key, Type 3042 (mSATA / PCIe x2 / USB 3.0 / USB 2.0), (Support NVME)	1 x M.2 B Key, Type 2280 (PCIe / USB / PCIe x2)
USB	4 x USB 3.1 (external) 4 x USB 2.0 (internal)	4 x USB 3.1 (external) 7 x USB 2.0 (internal)
Serial IO	4 x RS232 / 422 / 485 (internal) (OEM option to 6 x COM w/o DIO)	2 x RS232 / 422 / 485 (external)
GPIO / WDT	8 x DI / 8 x DO, WDT	8DI / 8DO, WDT
Power Input	Wide Range +12~36V	DC IN +24V
Operating Temp.	-20°C~70°C (100% CPU Usage, not-underclocking)	
Dimension (mm)	155 x 130 mm	217 x 185 mm
Chassis	Box PC: Apollo-S, Apollo-RS	Box PC: TINO, TWISTER, 1U

Expansion

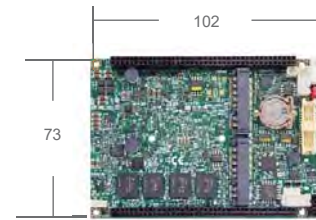
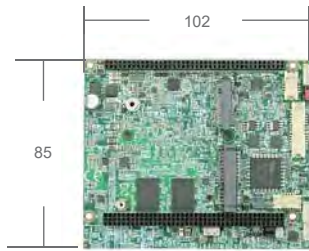
PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE
Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card
M.2 Module: 4G / 5G, SATA, PCIe





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Unit: mm

Model Name		2I640PW	2I385PW
CPU Platform		Intel® Elkhart Lake ATOM x6413E 3.0 GHz (Quad Core) Intel® Elkhart Lake Celeron J6412 2.6 GHz (Quad Core)	Intel Bay Trail-I E3845 1.91 GHz (Quad Core)
Chipset		Intel® Elkhart Lake SoC	Intel® Bay Trail SoC
Memory		On Board LPDDR4, 4GB or 8GB	DDR3L, 4GB
Storage		M.2-SSD, SATA	2 x mSATA, SATA (Optional to mSATA)
Display		VGA, HDMI, LVDS	VGA, HDMI, LVDS
Touch		USB interface Touch Screen controller	COM interface Touch Screen controller
Ethernet		2 x Intel 2.5 GbE I226	2 x Intel GbE
Audio		HD Audio with Amplifier	HD Audio with Amplifier
Mini-PCle	Slot 1	USB 2.0 / PCIe	PCIe / USB / mSATA
	Slot 2	N/A	mSATA
PCIe		1 x PCIe x1, 1 x PCIe x2 (Pico-Express expanded via 200-pin connector)	1 (IO expanded via 160-pin connector)
M.2		1 x M.2 B Key Type 3042 (USB 2.0 / PCIe / SATA)	N/A
USB		2 x USB 3.0 ; 5 x USB 2.0	1 x USB 3.0 / 2.0, 5 x USB 2.0
Serial IO		4 x RS232 / 422 / 485	N/A
GPIO / WDT		4DI / 4DO, WDT	4DI / 4DO, WDT
Power Input		Wide Range +9~36V	Wide Range +9~36V
Operating Temp.		-20°C~70°C (100% CPU Usage, not-underclocking)	-20°C~70°C (100% CPU Usage, not-underclocking)
Dimension (mm)		102 x 85 mm	102 x 73 mm
Chassis		Box PC: SKY 2 / OEM Design	Box PC: Light, TINO, TWIN ARK-I, ARK-II
Expansion		Carrier board : DK008: I/O: 1 x HDMI, 2 x RJ45, 2 x USB 3.0, 3 x USB 2.0, VGA (wafer), HD Audio (wafer) 4 x COM, 1 x Mini PCIe, 1 x M.2, 1 x SIM	IO expanded via 160-pin connector Carrier Boards: (Detailed SPEC on Page 65) DK001, DK002, DK006, DK007, DM002



Application



Model Name	PALM-I	PALM-I
Motherboard	11385A + CN051	11385A
System Dimension (W x D X H)	92.4W x 61.1D x 28H mm	92.4W x 61.1D x 28H mm
Weight (incl. M/B)	155 g	155 g
CPU	Intel® Bay Trail-I E3825 1.33 GHz (Dual Core) (Optional J1900 ; E3845)	Intel® Bay Trail-I E3825 1.33 GHz (Dual Core) (Optional J1900 ; E3845)
Chipset	Intel® Bay Trail SoC	Intel® Bay Trail SoC
Memory	DDR3L, 2GB (Optional 4GB)	DDR3L, 2GB (Optional 4GB)
Storage	mSATA	mSATA
Display	VGA	VGA
USB	4 x USB 2.0	1 x USB 2.0
COM	1 x RS232, 1 x RS485	1 x RS232, 1 x RS485
Mini-PCIe	1 x PCIe / mSATA / USB -Optional to CN051	1 x PCIe / mSATA / USB
Ethernet	2 x Intel GbE	1 x Intel GbE
Power Input	DC IN +5V	DC IN +5V
Operating Temp.	-20°C~70°C for mSATA (100% CPU Usage, not-underclocking)	-20°C~70°C for mSATA (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

Mini Card: GPS, 4G / 5G, WI-FI, SATA RAID, CANBus, SDI / AHD Video

By Cable: Bluetooth, Digital I/O, 4 x USB mini card





Model Name	BLADE	BLADE-HDD	BLADE-eIO
Motherboard	2I385S	2I385CW	2I390CW + L2L001
System Dimension (W x D X H)	150W x 80.8D x 18H mm	150W x 80.8D x 42H mm	150W x 80.8D x 63H mm
Weight (incl. M/B)	260 g	470 g	0.7 KG
CPU	Intel Bay Trail-D J1900 2.0 GHz (Quad Core) (Optional E3825 / E3845)	Intel Bay Trail-I E3845 1.91 GHz (Quad Core) (Optional J1900 ; E3825)	Intel Apollo Lake N4200 2.5 GHz (Quad Core) N3350 2.4 GHz (Dual Core) E3950 2.0 GHz (Quad Core)
Chipset	Intel® Bay Trail SoC	Intel® Bay Trail SoC	Intel® Apollo Lake SoC
Memory	DDR3L, 2GB (Optional 4GB)	DDR3L, 4GB (Optional 2GB)	DDR3L, 2 / 4GB
Storage	mSATA	mSATA, SSD	mSATA
Display	VGA , HDMI, Mini HDMI	VGA	HDMI, DVI
USB	1 x USB 3.0 1 x USB 2.0 1 x Micro USB	2 x USB 2.0	1 x USB 3.0 1 x USB 2.0
COM	N/A	1	Optional
Mini-PCIe	1 x PCIe / mSATA / USB 1 x (Half Size) mSATA / USB (share with Micro USB)	1 x PCIe / mSATA / USB 1 x (Half Size) mSATA / USB	1 x PCIe / mSATA / USB 1 x (Half Size) mSATA / USB
Ethernet	2 x Intel GbE	2 x Intel GbE	7 x Intel GbE (5 x GbE-L2L001)
Audio	Line-out / Mic-in (OEM)	Optional	Optional
Power Input	DC IN +12V ; +9~36V (Optional)	Wide Range +9~36V	Wide Range +9V~36V
Operating Temp.	-20°C~60°C for mSATA (100% CPU Usage, not-underclocking)	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)	-20°C~70°C for mSATA (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	Mini Card: GPS, 4G / 5G, WI-FI, CANBus, SDI / AHD Video By Cable: Bluetooth, 4 x USB mini card	Mini Card: GPS, 4G / 5G, WI-FI, SATA RAID, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video By Cable: Bluetooth, Digital I/O, 4 x USB mini card, 2 / 4 x PoE	LEX eIO: 2 x PCIe + USB L2L001: 5 x GbE + 1 x Mini PCIe (USB) + 1 x SIM L2L002: 4 x GbE + 1 x Fiber + 1 x Mini PCIe (USB) + 1 x SIM L2L003: 4 x PoE Switch + 1 x Fiber L2L004: 2 x PoE + 1 x Mini PCIe (USB) + 1 x SIM + 1 x Fiber (Optional) L2M001: 4 x Mini PCIe (USB / PCIe) + 1 x SIM



Model Name	TWIN	TWIN	TWIN(L)
Motherboard	2I380A	2I385A	2I385PW + DK007
System Dimension (W x D X H)	145W x 84D x 35H mm	145W x 84D x 35H mm	145W x 136.5D x 35H mm
Weight (incl. M/B)	0.7 KG	0.7 KG	0.9 KG
CPU	Intel Bay Trail-I E3825 1.33 GHz (Dual Core) Intel Bay Trail-I E3845 1.91 GHz (Quad Core) (Optional J1900)		Intel Bay Trail-I E3845 1.91 GHz (Quad Core)
Chipset	Intel® Bay Trail SoC	Intel® Bay Trail SoC	Intel® Bay Trail SoC
Memory	DDR3L, 2 / 4GB	DDR3L, 2 / 4GB	DDR3L, 4GB
Storage Space	mSATA	mSATA	mSATA
Display	VGA, HDMI	VGA	VGA (M12), Mini HDMI
USB	1 x USB 3.0 ; 3 x USB 2.0	2 x USB 2.0	2 x USB 2.0
COM	1	1	1
Mini-PCIe	1 x PCIe / mSATA / USB 1 x (Half size) mSATA / USB	1 x PCIe / mSATA / USB 1 x (Half size) mSATA / USB	1 x PCIe / mSATA / USB 1 x (Half size) mSATA / USB
SIM Card Holder	N/A	N/A	2
Ethernet	1 x Intel GbE	2 x Intel GbE	2 x PoE
Audio	Line-out / Mic-in (OEM)	N/A	N/A
Power Input	DC IN +12V ; +9~36V (Optional)	DC IN +12V ; +9~36V (Optional)	Wide Range +9V~36V
Operating Temp.	-20°C~70°C for mSATA (100% CPU Usage, not-underclocking)	-20°C~70°C for mSATA (100% CPU Usage, not-underclocking)	-20°C~70°C for mSATA (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

Mini Card: GPS, 4G / 5G, WI-FI, SATA RAID, CANBus, SDI / AHD Video

By Cable: Bluetooth, Digital I/O, 4 x USB mini card





Model Name	TERA	TERA
Motherboard	21640DW	21640CW
System Dimension (W x D X H)	145W x 102.4D x 56.5H mm	145W x 102.4D x 56.5H mm
Weight (incl. M/B)	0.88 KG	0.9 KG
CPU	Intel® Elkhart Lake ATOM x6413E Quad Core 3.0 GHz CPU Intel® Elkhart Lake Celeron J6412 Quad Core 2.6 GHz CPU	Intel® Elkhart Lake ATOM x6413E Quad Core 3.0 GHz CPU Intel® Elkhart Lake Celeron J6412 Quad Core 2.6 GHz CPU
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 3200 MHz SODIMM, Max. 32GB	On Board 4 / 8GB LPDDR4
Storage Space	M.2	M.2, SSD
Display	2 x HDMI (OEM to DP)	2 x HDMI (OEM to DP)
USB	2 x USB 3.0, 2 x USB 2.0	2 x USB 3.0, 2 x USB 2.0
COM	2 x RS232 / 422 / 485	1 x RS232 / 422 / 485 ; 3 x RS232
Mini-PCIe	N/A	1 x USB 2.0 / PCIe
M.2	1 x M.2 B Key Type 2242 / 3042 (PCIe x2 / USB 3.0 / USB 2.0) 1 x M.2 B Key Type 2242 (PCIe x2 / USB 2.0 / SATA)	1 x M.2 B Key Type 3042 (USB 2.0 / SATA / USB 3.0-optional to PCIe x2)
SIM Card Holder	1 x Nano SIM	1 x Nano SIM
GPIO	4DI / 4DO (Option)	4DI / 4DO (Option)
Ethernet	3 x Intel 2.5 GbE	2 x Intel 2.5 GbE
Power Input	Wide Range +9~24V	Wide Range +9~24V
Operating Temp.	-20°C to +60°C (X6413E CPU) 0°C to +60°C (J6412 CPU) (100% CPU Usage, not-underclocking)	-20°C to +60°C (X6413E CPU) 0°C to +60°C (J6412 CPU) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

M.2 Module: 4G / 5G, SATA, PCIe
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card

4G/5G

Bluetooth

WIFI

2/4xPoE

4xUSB mini card



Model Name	TERA(L)	TERA	TERA
Motherboard	2I810D	2I610DW	2I612CW
System Dimension (W x D X H)	145W x 126.2D x 56.5H mm	145W x 106.2D x 56.5H mm	145W x 106.2D x 56.5H mm
Weight (incl. M/B)	1.2 KG	0.9 KG	0.9 KG
CPU	8th Gen Intel® Whiskey Lake-U	6th / 7th Gen Intel® Skylake-U / Kaby Lake-U	6th / 7th Gen Intel® Skylake-U / Kaby Lake-U
Chipset	Intel® Whiskey Lake-U SoC	Intel® Skylake-U / Kaby Lake-U SoC	Intel® Skylake-U / Kaby Lake-U SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Storage Space	mSATA, SSD	mSATA, SSD	mSATA, SSD
Display	VGA (Option), HDMI	VGA	2 x HDMI (OEM to DP)
USB	3 x USB 3.0	3 x USB 3.0	4 x USB 3.0
COM	2 x RS232 / 422 / 485	2 x RS232 / 422 / 485	2 x RS232 / 422 / 485
Mini-PCIe	1 x PCIe / mSATA / USB 3.0 / USB 2.0 1 (Half Size) x PCIe / mSATA / USB 3.0 / USB 2.0	1 x USB / mSATA 1 x PCIe / USB 2.0	1 x USB / mSATA 1 x PCIe / USB 3.0 / USB 2.0
GPIO	4DI / 4DO (Option)	4DI / 4DO (Option)	4DI / 4DO (Option)
Ethernet	4 x Intel 2.5 GbE	3 x Intel GbE	2 x Intel GbE
Power Input	DC IN +12V (Option +9~36V by power module)	Wide Range +9V~36V	Wide Range +9V~36V
Operating Temp.	-20°C to +60°C (Core i5 / Celeron CPU) -20°C to +50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)		
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	<p>Mini Card: GPS, 4G / 5G, WI-FI, SATA RAID, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video</p> <p>By Cable: Bluetooth, Digital I/O, 2 / 4 x PoE, 4 x USB mini card</p>		



Model Name	HAWK	HAWK	TASK
Motherboard	31130TW	31130DW	31130DW
System Dimension (W x D X H)	220W x 180D x 80H mm	220W x 180D x 80H mm	210W x 125D x 77H mm
Weight (incl. M/B)	3.6 KG	3.6 KG	1.9 KG
CPU	13th Gen Intel® Raptor Lake-U, i7 / i5 / i3 CPU 12th Gen Intel® / Alder Lake-U, i7 / i5 / i3 CPU	13th Gen Intel® Raptor Lake-P / U, i7 / i5 / i3 CPU 12th Gen Intel® Alder Lake-P / U, i7 / i5 / i3 CPU	13th Gen Intel® Raptor Lake-P / U SoC 12th Gen Intel® Alder Lake-P / U SoC
Chipset	Intel® Raptor Lake-U SoC Intel® Alder LakeU SoC	Intel® Raptor Lake-P / U SoC Intel® Alder Lake-P / U SoC	Intel® Raptor Lake-P / U SoC Intel® Alder Lake-P / U SoC
Memory	On Board LPDDR 5 ,16GB / 32GB	2 x DDR5 SODIMM, Max 64GB	2 x DDR5 SODIMM, Max 64GB
Storage Space	NVMe (Optional to M.2), 2 x Mobile Rack	M.2, SSD, 1 x Mobile Rack (Option)	M.2, SSD HDD
Display	1 x HDMI, 1 x DP, 1 x Type C DP ALT Mode	2 x HDMI (OEM to DP)	2 x HDMI (OEM to DP)
TPM	TPM 2.0	TPM 2.0	TPM 2.0
USB	3 x USB 3.2 Gen 1 x 1 ; 1 x USB 2.0 ; 1 x Type C	3 x USB 3.2 Gen 1 x 1 (external) 1 x USB 2.0 (external)	3 x USB 3.2 Gen 1 x 1 (external) 1 x USB 2.0 (external)
COM	2 x ISO RS232 / 422 / 485 optional to 2 x ISO CANBus	2 x RS232 / 422 / 485	2 x RS232 / 422 / 485
Mini-PCIe	N/A	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2	1 x M.2 B key Type 3042 (PCIe x1 / USB 2.0), (Optional to Onboard NVMe) 1 x M.2 M Key Type 3042 / 3080 (PCIe x4) 1 x M.2 B key Type 3042 / 3052 (USB 3.2 Gen1 x 1 / USB 2.0)	1 x M.2 M key Type 2280 (PCIe x4), Support NVMe 1 x M.2 B key Type 3042 / 3052 (USB 3.2 Gen1 x 1 / USB 2.0 / mSATA)	1 x M.2 M key Type 2280 (PCIe x4), Support NVMe 1 x M.2 B key Type 3042 / 3052 (USB 3.2 Gen1 x 1 / USB 2.0 / mSATA)
SIM Card Holder	1 x Nano SIM	1 x Nano SIM	1 x Nano SIM
GPIO	4DI / 4DO (Option)	4DI / 4DO (Option)	4DI / 4DO (Option)
Ethernet	5 x Intel 2.5 GbE I226-IT	5 x Intel 2.5 GbE I226-IT	5 x Intel 2.5 GbE I226-IT
Audio	Line-out / Mic-in	Line-out / Mic-in	Option
Power Input	Wide Range DC IN +9~36V ; CPC-Ignition on/off control Wide Range DC IN +18~75V (option), 1.6KVDC I/O isolation SIP Wide Range DC IN +20~53V (option)	Wide Range +9~36V	Wide Range +9~36V
Operating Temp.	40°C~+70°C (under specific environmental & CPU power consumption conditions)	40°C~+70°C (under specific environmental & CPU power consumption conditions)	40°C~+70°C (under specific environmental & CPU power consumption conditions)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	M.2 Module: 4G / 5G, WiFi , BT, SATA, PCIe By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card		









Model Name	TASK	TASK
Motherboard	3I810DW	3I170DW
System Dimension (W x D X H)	210W x 125D x 77H mm	210W x 125D x 77H mm
Weight (incl. M/B)	1.9 KG	1.9 KG
CPU	8th Gen Intel® Whiskey Lake-U i7 / i5 / i3 / Celeron CPU	6th / 7th Gen Intel® Skylake-S / Kaby Lake-S i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Whiskey Lake-U SoC	Intel® Q170
Memory	2 x DDR4 SODIMM, Max. 64GB	1 x DDR4 SODIMM, Max. 32GB
Storage Space	1 x SATA, 2 x M.2	mSATA, SSD
Display	2 x HDMI	VGA, HDMI
TPM	TPM 2.0 (Optional)	TPM 2.0
USB	4 x USB 3.1	2 x USB 3.0, 2 x USB 2.0
COM	2	2
Mini-PCIe	(PCIe / USB), mSATA for OEM	1 x PCIe / mSATA / USB 1 (Half Size) x PCIe / mSATA / USB
M.2	1 x M.2 B Key, Type 2242 (mSATA / USB / PCIe x1) 1 x M.2 B Key, Type 3042 (USB 3.0 / 2.0 / PCIe x1*) *If 2242 M.2 adopts PCIe x 2 signal, 3042 M.2 will support USB 3.0 / 2.0 signal only	N/A
SIM Card Holder	1 x Nano SIM	1
GPIO	8DI / 8DO (Optional)	8DI / 8DO (Optional)
Ethernet	5 x Intel GbE	5 x Intel GbE
Audio	Optional	Line-out / Mic-in (OEM)
Power Input	Wide Range +9~36V	Wide Range DC IN +9V~36V
Operating Temp.	-20°C to +60°C (Core i5 / Celeron CPU) -20°C to +50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)	-20°C to +60°C (Core i5 / Celeron CPU) -20°C to +50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, SATA, PCIe	



Model Name	TWITTER	TWITTER
Motherboard	3I640DW	3I640A
System Dimension (W x D X H)	210W x 121D x 55H mm	210W x 121D x 55H mm
Weight (incl. M/B)	1.2 KG	1.2 KG
CPU	Intel® Elkhart Lake ATOM x6413E Quad Core 3.0 GHz CPU Intel® Elkhart Lake Celeron J6412 Quad Core 2.6 GHz CPU	Intel® Elkhart Lake ATOM x6413E Quad Core 3.0 GHz CPU Intel® Elkhart Lake Celeron J6412 Quad Core 2.6 GHz CPU
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Storage Space	M.2, SSD HDD	M.2, SSD HDD
Display	2 x HDMI (OEM to DP)	1 x DVI, 1 x HDMI
TPM	TPM 2.0 (Firmware) ; OEM Optional Hardware TPM 2.0	TPM 2.0 (Firmware) ; OEM Optional Hardware TPM 2.0
USB	1 x USB 3.0 3 x USB 2.0	2 x USB 3.0 2 x USB 2.0
COM	2 x RS232 / 422 / 485	2 x RS232 / 422 / 485 2 x RS232 2 x RS232 (Front Panel-OEM Option)
Mini-PCIe	1 x USB 2.0 / PCIe-OEM to mSATA-share w/SATA	1 x USB 2.0 / PCIe
M.2	1 x M.2 B Key Type 3042 (SATA / USB 2.0 / USB 3.0)	1 x M.2 B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x M.2 B Key Type 2242 (PCIe x2 / USB 2.0), support NVMe
SIM Card Holder	1 x Nano SIM	1 x Mini SIM
GPIO	4DI / 4DO (Option)	8DI / 8DO (OEM Option)
Ethernet	5 x Intel 2.5 GbE	2 x Intel 2.5 GbE
Power Input	Wide Range +9~36V	DC-IN +12V
Operating Temp.	-20°C to +60°C with SSD (100% CPU Usage, not-underclocking)	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

Mini Card: 4G / 5G, WiFi, BT, SATA, PCIe
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card



31380A



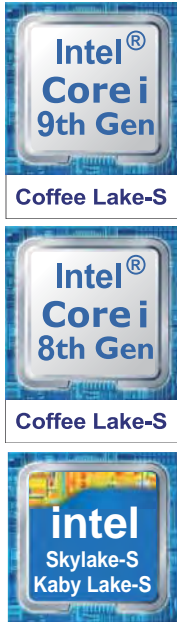
◆ BRIK system will be OEM system with MOQ.

Model Name	BRIK	BLOK
Motherboard	31380A / 31380CW	31385AW
System Dimension (W x D X H)	187W x 130D x 52H mm	195W x 138D x 70H mm
Weight (incl. M/B)	1.3 KG	1.4 KG
CPU	Intel Bay Trail-I E3825 1.33 GHz (Dual Core) Intel Bay Trail-I E3845 1.91 GHz (Quad Core)	Intel Bay Trail-DJ1900 2.0 GHz (Quad Core) Intel Bay Trail-E3845 1.91 GHz (Quad Core)
Chipset	Intel® Bay Trail SoC	Intel® Bay Trail SoC
Memory	DDR3L, 2 / 4GB	1 x DDR3L SODIMM, Max. 8GB
Storage Space	mSATA, SSD	mSATA, SSD
Display	VGA, HDMI	VGA, DVI, HDMI
USB	1 x USB 3.0 + 3 x USB 2.0	4 x USB 3.0
COM	2	6
Mini-PCIe	1 x PCIe / mSATA / USB 1 x PCIe / USB	1 x PCIe / mSATA / USB 1 x PCIe / USB
SIM Card Holder	1	1
GPIO	8DI / 8DO (Optional)	4DI / 4DO (Optional)
Ethernet	2 x Intel GbE	2 x Intel GbE
Audio	Mic-in / Line-out (OEM)	Optional
Power Input	DC IN +12V ; +9~36V (31380CW)	Wide Range DC IN +9V~36V
Operating Temp.	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

Mini Card: GPS, 4G / 5G, WI-FI, SATA RAID, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video
By Cable: Bluetooth, Digital I/O, 2 / 4 x PoE, 4 x USB mini card
















Model Name	TWISTER(L)	TWISTER	TWISTER
Motherboard	CI370D	CI170A	CI170C
System Dimension (W x D X H)	300W x 262D x 85H mm	300W x 200D x 85H mm	300W x 200D x 85H mm
Weight (incl. M/B)	5.6 kg	2.9 kg	2.9 kg
CPU	8th / 9th Gen Intel® Coffee Lake-S i7 / i5 / i3 / Celeron CPU	Intel Skylake-S / Kaby Lake-S i7 / i5 / i3 / Celeron CPU	Intel Skylake-S / Kaby Lake-S i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Q370	Intel® Q170	Intel® Q170
Memory	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB
Storage Space	mSATA, M.2, SSD	mSATA, M.2, SSD	mSATA, M.2, SSD
Display	DP, HDMI	DP, HDMI, DVI	DP, HDMI, DVI
TPM	TPM 2.0	TPM 2.0 (Optional)	TPM 2.0
USB	4 x USB 3.1	4 x USB 3.0	4 x USB 3.0
COM	2	6	6 up to 10
PCI / PCIe	1 x PCIe x16	1 x PCIe x16	1 x PCIe x16
Mini-PCIe	1 x PCIe / mSATA / USB 1 x PCIe / mSATA / USB	1 x PCIe / mSATA / USB 1 x PCIe / USB	1 x PCIe / mSATA / USB 1 x PCIe / USB
M.2	1 x M.2 B Key, Type 2280 (PCIe / USB)	1 x M.2 B key Type 2242 (mSATA / PCIe)	1 x M.2 B key Type 2242 (mSATA / PCIe)
SIM Card Holder	2	2	2
GPIO	8DI / 8DO (Optional)	8DI / 8DO (Optional)	8DI / 8DO (Optional)
Ethernet	8 x Intel 2.5 GbE 1 x Intel GbE ; 2 x SFP Fiber	2 x Intel GbE	5 x Intel GbE
Power Input	DC IN +24V	DC IN +12V	DC IN +12V
Operating Temp.	-20°C to +50°C (Core i7 6700 TE) -20°C to +40°C (Core i7 6700) (100% CPU Usage, not-underclocking)		
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE
Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CAN Bus, SDI / AHD Video
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card
M.2 Module: 4G / 5G, SATA, PCIe



optional

Model Name	TINO 2PCI	TINO	TINO(L)
Motherboard	CI170C	3I612DW	CI370D
System Dimension (W x D X H)	268W x 180.2D x 110H mm	245W x 177D x 68H mm	245W x 220D x 68H mm
Weight (incl. M/B)	6 kg	2.7 kg	3.4 kg
CPU	Intel Skylake-S / Kaby Lake-S i7 / i5 / i3 / Celeron CPU	6th / 7th Gen Intel® Skylake-U / Kaby Lake-U i7 / i5 / i3 / Celeron CPU	8th / 9th Gen Intel® Coffee Lake-S i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Q170	Intel® Skylake-U / Kaby Lake-U SoC	Intel® Q370
Memory	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB
Storage Space	mSATA, M.2, SSD	mSATA, M.2, SSD	mSATA, M.2, SSD
Display	DP, HDMI, DVI	DP, HDMI	DP, HDMI
TPM	TPM 2.0	TPM 2.0 (Optional)	TPM 2.0
USB	4 x USB 3.0	4 x USB 3.0	4 x USB 3.1
COM	7 (expand up to 10)	2	2
PCI / PCIe	2 x PCIe x8	N/A	N/A
Mini-PCIe	1 x PCIe / mSATA / USB 1 x PCIe / USB	1 x PCIe / mSATA / USB 1 x PCIe / USB 2.0 (Optional USB 3.0)	1 x PCIe / mSATA / USB 1 x PCIe / mSATA / USB
M.2	1 x M.2 B key Type 2242 (mSATA / PCIe)	1 x M.2 B key Type 2242 (mSATA)	1 x M.2 B Key, Type 2280 (PCIe / USB)
SIM Card Holder	2	1 x Nano SIM	2
GPIO	8DI / 8DO (Optional)	4DI / 4DO (Optional)	8DI / 8DO (Optional)
Ethernet	5 x Intel GbE	5 x Intel GbE ; 2 x SFP Fiber	8 x Intel 2.5 GbE 1 x Intel GbE ; 2 x SFP Fiber
Power Input	DC IN +12V	Wide Range +12~48V	DC IN +24V
Operating Temp.	-20°C to +50°C (Core i7 6700 TE) -20°C to +40°C (Core i7 6700) (100% CPU Usage, not-underclocking)		
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE
Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CAN Bus, SDI / AHD Video
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card
M.2 Module: 4G / 5G, SATA, PCIe







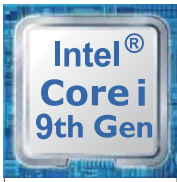


Model Name	1U Fanless	1U Half Fanless	1U with FAN
Motherboard	CI170C + 2 x E691A	3I380D	3I612DW
System Dimension (W x D X H)	440W x 360D x 44.3H mm	483.7W x 257.3D x 44.3H mm	230 W x 215D x 44H mm
Weight (incl. M/B)	6 kg	3.5 kg	1.259 kg
CPU	Intel Skylake-S / Kaby Lake-S i7 / i5 / i3 / Celeron CPU	Intel Bay Trail-I E3815 1.46 GHz (Single Core) Intel Bay Trail-D J1900 2.0 GHz (Quad Core)	6th / 7th Gen Intel® Skylake-U / Kaby Lake-U i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Q170	Intel® Bay Trail SoC	Intel® Skylake-U / Kaby Lake-U SoC
Memory	2 x DDR4 SODIMM, Max. 64GB	1 x DDR3L SODIMM, Max. 8GB (3I380D-D90) DDR3L, 2GB (3I380D-I12)	2 x DDR4 SODIMM, Max. 64GB
Storage Space	mSATA, M.2, SSD	mSATA, SSD	mSATA, M.2, SSD
Display	DP, HDMI, DVI	VGA (Optional with COM port), HDMI	DP, HDMI
TPM	TPM 2.0	N/A	TPM 2.0 (Optional)
USB	4 x USB 3.0	3 x USB 2.0	4 x USB 3.0
COM	4	1	2
PCI / PCIe	2 x PCIe x8 (Optional)	N/A	N/A
Mini-PCIe	1 x PCIe / mSATA / USB 1 x PCIe / USB	1 x USB 1 x mSATA / USB	1 x (PCIe / mSATA / USB) 1 x (PCIe / USB 2.0-Optional USB 3.0)
M.2	1 x M.2 B key Type 2242 (mSATA / PCIe)	N/A	1 x M.2 B key Type 2242 (mSATA)
SIM Card Holder	2	1 (Push-Push)	1 x Nano SIM
GPIO	8DI / 8DO (Optional)	4DI / 4DO (Optional)	4DI / 4DO
Ethernet	5 x Intel GbE, 8 x PoE LAN (2 x E691A)	4 x Intel GbE	5 x Intel GbE ; 2 x SFP Fiber
Power Input	DC IN +12V	DC IN +12V	Wide Range +12~48V
Operating Temp.	-20°C to +50°C (Core i7 6700 TE) -20°C to +40°C (Core i7 6700) (100% CPU Usage, not-underclocking)	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)	-20°C to +50°C (Core i7 6700 TE) -20°C to +40°C (Core i7 6700) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CAN Bus, SDI / AHD Video By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, SATA, PCIe		

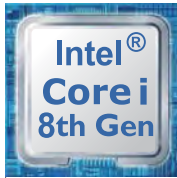


Model Name	APOLLO-RS
Motherboard	3I470DW
System Dimension (W x D X H)	230 x 89 x 173 mm
Weight (incl. M/B)	4 kg
CPU	10th Gen Intel® Comet Lake-S i9 (35W) i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Q470
Memory	2 x DDR4 SODIMM, Max. 64GB
Storage Space	mSATA, HDD / SSD, M.2
Display	HDMI, DP
TPM	TPM 2.0
USB	4 x USB 3.1 (external)
COM	2
PCI / PCIe	1 x PCIe x16
Mini-PCIe	1 x PCIe / mSATA / USB 3.0 / USB 2.0
M.2	1 x M.2 B Key, Type 3042 / 3052 (mSATA / PCIe x2 / USB 3.0 / USB 2.0) (Support NVME)
GPIO	Optional
Ethernet	5 x Intel 2.5 GbE
Power Input	Wide Range +12V~36V
Operating Temp.	-20°C to +50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing

Expansion	PCIe: GPU Card, 2 / 4 x LAN, 4 x PoE LAN, 2 x USB 3.1 Mini Card: GPS, 4G / 5G, WI-FI, SATA RAID, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video By Cable: CFAST, Bluetooth, Digital I/O, 4 x USB mini card, 2 / 4 x PoE
	          



Coffee Lake-S



Coffee Lake-S



Model Name	APOLLO-RS (OEM-L)	APOLLO-RS (OEM)
Motherboard	3I370DW	3I370DW
System Dimension (W x D X H)	360W x 145D x 173H mm	230W x 109D x 173H mm
Weight (incl. M/B)	7.35 kg	3.8 kg
CPU	9th / 8th Gen Intel® Coffee Lake-S i9 (35W) / i7 / i5 / i3 / Celeron CPU	9th / 8th Gen Intel® Coffee Lake-S i9 (35W) / i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Q370	Intel® Q370
Memory	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB
Storage Space	mSATA, SSD, M.2	mSATA, SSD, M.2, CFAST (Option)
Display	HDMI, DP	HDMI, DP
TPM	TPM 2.0	TPM 2.0
USB	4 x USB 3.1 (external)	4 x USB 3.1 (external)
COM	Optional	2~4
PCI / PCIe	1 x (PCIe x16)	1 x Slot (PCIe x16)
Mini-PCIe	1 x PCIe / mSATA / USB 3.0 / USB 2.0	1 x PCIe / mSATA / USB 3.0 / USB 2.0
SIM Card Holder	1 x Nano SIM	1 x Nano SIM
M.2	1 x M.2 B Key, Type 3042 (mSATA / PCIe x2 / USB 3.0 / USB 2.0), (Support NVME)	1 x M.2 B Key, Type 3042 (mSATA / PCIe x2 / USB 3.0 / USB 2.0), (Support NVME)
GPIO	Optional	Optional
Ethernet	5 x Intel 2.5 GbE	5 x Intel 2.5 GbE
Audio	Mic-in / Line-out (OEM)	Mic-in / Lin-out (OEM)
Power Input	DC IN +24V (RS815 Riser Card)	Wide Range +12V~36V
Operating Temp.	-20°C~50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)	-20°C~50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	PCIe: Support max 500W GPU Card	PCIe: GPU Card



Model Name	APOLLO-S	APOLLO-RS
Motherboard	3I370DW	3I370DW
System Dimension (W x D X H)	230W x 99D x 173H mm	230W x 89D x 173H mm
Weight (incl. M/B)	3.8 kg	3.7 kg
CPU	9th / 8th Gen Intel® Coffee Lake-S i9 (35W) / i7 / i5 / i3 / Celeron CPU	9th / 8th Gen Intel® Coffee Lake-S i9 (35W) / i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Q370	Intel® Q370
Memory	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB
Storage Space	mSATA, SSD, M.2, CFAST (Option)	mSATA, SSD, M.2
Display	HDMI, DP	HDMI, DP
TPM	TPM 2.0	TPM 2.0
USB	4 x USB 3.1 (external)	4 x USB 3.1 (external)
COM	2~4	2
PCI / PCIe	N/A	1 x (PCIe x16)
Mini-PCIe	1 x PCIe / mSATA / USB 3.0 / USB 2.0	1 x PCIe / mSATA / USB 3.0 / USB 2.0
SIM Card Holder	1 x Nano SIM	1 x Nano SIM
M.2	1 x M.2 B Key, Type 3042 (mSATA / PCIe x2 / USB 3.0 / USB 2.0), (Support NVME)	1 x M.2 B Key, Type 3042 (mSATA / PCIe x2 / USB 3.0 / USB 2.0), (Support NVME)
GPIO	Optional	Optional
Ethernet	5 x Intel 2.5 GbE	5 x Intel 2.5 GbE
Audio	Mic-in / Line-out (OEM)	Mic-in / Lin-out (OEM)
Power Input	Wide Range +12V~36V	Wide Range +12V~36V
Operating Temp.	-20°C~50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)	-20°C~50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CAN Bus, SDI / AHD Video By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, SATA, PCIe	



OEM



Model Name	APOLLO-C	APOLLO-RS	APOLLO	APOLLO
Motherboard	PM390CW + BPM002	PM170DW + RS701	PM170DW + BPM001	PM610DW + BPM002
System Dimension (W x D X H)	200W x 103.75D x 173H mm	231W x 93D x 173H mm	260W x 142.5D x 173H mm	200W x 103.75D x 173H mm
Weight (incl. M/B)	1.75 kg	3.82 kg	4.2 kg	1.75 kg
CPU	Intel Apollo Lake N4200 2.5 GHz (Quad Core) N3350 2.4 GHz (Dual Core) E3950 2.0 GHz (Quad Core)	6th / 7th Gen Intel® Skylake-S / Kaby Lake-S i7 / i5 / i3 / Celeron CPU		6th / 7th Gen Intel® Skylake-U / Kaby Lake-U i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Apollo Lake SoC	Intel® Q170		Intel® Skylake-U / Kaby Lake-U SoC
Memory	1 x DDR3L SODIMM, Max. 8GB	2 x DDR4 SODIMM, Max. 64GB		2 x DDR4 SODIMM, Max. 64GB
Storage Space	mSATA, SSD, M.2	mSATA, SSD, M.2	mSATA, SSD, M.2	mSATA, SSD
Display	VGA, HDMI	VGA, HDMI	VGA, HDMI	VGA, HDMI
TPM	TPM 2.0 (Optional)	TPM 2.0	TPM 2.0	TPM 2.0 (Optional)
USB	2 x USB 3.0 2 x USB 2.0	4 x USB 3.0	4 x USB 3.0	4 x USB 3.0
COM	3	2	3	2
PCI / PCIe	2 x Slots (PCIe x4 + PCIe x1)	1 x Slot (PCIe x16)	2 x Slots (PCIe x16 + PCIe x4)	2 x Slots (PCIe x4 + PCIe x1)
Mini-PCIe	1 x PCIe / USB 1 x PCIe / mSATA / USB	1 x mSATA / USB 1 x PCIe / USB	1 x mSATA / USB 1 x PCIe / USB	1 x mSATA / USB 1 x PCIe / USB
M.2	1 x M.2 B Key, Type 2242 / 2280 (mSATA / PCIe)	1 x M.2 B Key, Type 2242 (mSATA / PCIe)	1 x M.2 B Key, Type 2242 (mSATA / PCIe)	N/A
SIM Card Holder	1	2	2	1
GPIO	8DI / 8DO (Option)	16DI / 16DO (Option)	16DI / 16DO (Option)	8DI / 8 DO (Option)
Ethernet	2 x Intel GbE	5 x Intel GbE	4 x Intel GbE	3 x Intel GbE
Power Input	Wide Range +9V~36V	Wide Range +12V~36V		Wide Range +9V~36V
Operating Temp.	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)	-20°C to +60°C (Core i6700 TE) 0°C to +50°C (Core i6700) (100% CPU Usage, not-underclocking)		-20°C~50°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing			
Expansion	PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CAN Bus, SDI / AHD Video By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, SATA, PCIe			



Model Name	SKY 2	ROCK 2
Motherboard	2I130DW	2I130DW
System Dimension (W x D X H)	141W x 111.2D x 71.9H mm	173W x 130D x 85H mm
Weight (incl. M/B)	1.25 kg	1.25 kg
CPU	13th Gen Intel® Raptor Lake-U, i7 / i5 / i3 CPU 12th Gen Intel® Alder Lake-U, i7 / i5 / i3 CPU	13th Gen Intel® Raptor Lake-U, i7 / i5 / i3 CPU 12th Gen Intel® Alder Lake-U, i7 / i5 / i3 CPU
Chipset	Intel® Raptor Lake-U SoC Intel® Alder Lake-U SoC	Intel® Raptor Lake-U SoC Intel® Alder Lake-U SoC
Memory	1 x DDR5 SODIMM, Max 32GB	1 x DDR5 SODIMM, Max 32GB
Storage Space	M.2-SSD, HDD / SSD	M.2-SSD, HDD / SSD
Display	HDMI	HDMI
TPM	TPM 2.0	TPM 2.0
USB	3 x USB 3.2 Gen 1 x 1 ; 2 x USB 2.0	3 x USB 3.2 Gen 1 x 1 ; 2 x USB 2.0
COM	2 x RS232 / 422 / 485	2 x RS232 / 422 / 485
M.2	1 x M.2 M key Type 2280 (mSATA / PCIe x 4), Support NVMe 1 x M.2 B key Type 3042 (PCIe x2 / USB 3.2 / 2.0)	1 x M.2 M key Type 2280 (mSATA / PCIe x 4), Support NVMe 1 x M.2 B key Type 3042 (PCIe x2 / USB 3.2 / 2.0)
SIM Card Holder	1 x Nano SIM	1 x Nano SIM
GPIO	4DI / 4DO (Option)	4DI / 4DO (Option)
Ethernet	4 x Intel 2.5 GbE I226-IT	4 x Intel 2.5 GbE I226-IT
Power Input	Wide Range +9~36V	Wide Range +9~36V
Operating Temp.	-40°C~+70°C (under specific environmental & CPU power consumption conditions)	-40°C~+70°C (under specific environmental & CPU power consumption conditions)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

M.2 Module: 4G / 5G, SATA, PCIe
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card





Model Name	SKY 2	SKY 2
Motherboard	21640DW	21640CW
System Dimension (W x D X H)	145W x 111.2D x 71.9H mm	145W x 111.2D x 71.9H mm
Weight (incl. M/B)	1.25 kg	1.36 kg
CPU	Intel® Elkhart Lake ATOM x6413E 3.0 GHz (Quad Core) Intel® Elkhart Lake Celeron J6412 2.6 GHz (Quad Core)	Intel® Elkhart Lake ATOM x6413E 3.0 GHz (Quad Core) Intel® Elkhart Lake Celeron J6412 2.6 GHz (Quad Core)
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	On Board 4 / 8GB LPDDR4
Storage Space	M.2	M.2, SSD
Display	2 x HDMI (OEM to DP)	2 x HDMI (OEM to DP)
USB	2 x USB 3.0, 3 x USB 2.0	2 x USB 3.0, 4 x USB 2.0
COM	2 x RS232 / 422 / 485	1 x RS232 / 422 / 485 ; 3 x RS232
Mini-PCle	N/A	1 x USB 2.0 / PCle
M.2	1 x M.2 B Key Type 2242 / 3042 (PCIe x2 / USB 3.0 / USB 2.0) 1 x M.2 B Key Type 2242 (PCIe x2 / USB 2.0 / SATA)	1 x M.2 B Key Type 3042 (USB 2.0 / SATA / USB 3.0-optional to PCIe x2)
SIM Card Holder	1 x Nano SIM	1 x Nano SIM
GPIO	4DI / 4DO (Option)	4DI / 4DO (Option)
Ethernet	3 x Intel 2.5 GbE (external)	2 x Intel 2.5 GbE (external)
Power Input	Wide Range DC IN +9~24V	Wide Range DC IN +9~24V
Operating Temp.	-20°C to +60°C (X6413E) 0°C to +60°C (J6412) ; -40°C by OEM (100% CPU Usage, not-underclocking)	-20°C to +60°C (X6413E) 0°C to +60°C (J6412) ; -40°C by OEM (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

M.2 Module: 4G / 5G, SATA, PCIe
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card

4G/5G

Bluetooth

2/4xPoE

4xUSB mini card



Model Name	SKY 2	SKY 2
Motherboard	2I110D	2I110AW
System Dimension (W x D X H)	145W x 111.2D x 71.9H mm	145W x 111.2D x 71.9H mm
Weight (incl. M/B)	1.25 kg	1.46 kg
CPU	11th Gen Intel®Tiger Lake-UP3, i7 / i5 / i3 / Celeron CPU	11th Gen Intel®Tiger Lake-UP3, i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Tiger Lake-UP3 SoC	Intel® Tiger Lake-UP3 SoC
Memory	1 x DDR4 SODIMM, Max 32GB	1 x DDR4 SODIMM, Max. 32GB
Storage Space	M.2-SSD	M.2-SSD
Display	HDMI	4 x HDMI
USB	3 x USB 3.0, 2 x USB 2.0	2 x USB 3.0, 2 x USB 2.0
COM	2 x RS232 / 422 / 485	2 x RS232 / 422 / 485
M.2	1 x M.2 B key Type 3042 (PCIe x2 / USB 3.2 / 2.0), 1 x M.2 M key Type 2242 (PCIe x4 / SATA), Support NVMe	1 x M.2 B key Type 3042 (PCIe x2 / USB 3.2 / 2.0), 1 x M.2 M key Type 2242 (PCIe x4 / SATA), Support NVMe
SIM Card Holder	1 x Nano SIM	1 x Nano SIM
GPIO	4DI / 4DO (Option)	4DI / 4DO (Option)
Ethernet	1 x Intel GbE ; 3 x Intel 2.5 GbE	3 x Intel 2.5 GbE
Power Input	DC IN +12V (Option 9~36V by power module)	Wide Range +9~36V
Operating Temp.	-40°C to +60°C (Core i7 1185GRE) (100% CPU Usage, not-underclocking)	-40°C to +60°C (Core i7 1185GRE) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion	<p>M.2 Module: 4G / 5G, SATA, PCIe By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card</p>
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Model Name	SKY 2	SKY 2	SKY 2
Motherboard	21810D	21610DW	21612CW
System Dimension (W x D X H)	141W x 111.2D x 71.9H mm	141W x 111.2D x 71.9H mm	141W x 111.2D x 71.9H mm
Weight (incl. M/B)	1.24 kg	1.36 kg	1.36 kg
CPU	8th Gen Intel® Whiskey Lake-U i7 / i5 / i3 / Celeron CPU	6th / 7th Gen Intel® Skylake-U / Kaby Lake-U i7 / i5 / i3 / Celeron CPU	6th / 7th Gen Intel® Skylake-U / Kaby Lake-U i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Whiskey Lake-U SoC	Intel® Skylake-U / Kaby Lake-U SoC	Intel® Skylake-U / Kaby Lake-U SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Storage Space	mSATA, SSD	mSATA, SSD	mSATA, SSD
Display	VGA (Optional), HDMI	VGA	2 x HDMI (OEM to DP)
USB	3 x USB 3.0	3 x USB 3.0	4 x USB 3.0
COM	2	2	2
Mini-PCIe	1 x PCIe / mSATA / USB 3.0 / USB 2.0 1 x (Half Size) PCIe / mSATA / USB 3.0 / USB 2.0	1 x mSATA / USB 1 x PCIe / USB 2.0	1 x mSATA / USB 1 x PCIe / USB 2.0
GPIO	4DI / 4DO (Option)	4DI / 4DO (Option)	4DI / 4DO (Option)
Ethernet	4 x Intel 2.5 GbE	3 x Intel GbE	2 x Intel GbE
Power Input	DC IN +12V (Option 9~36V by power module)	Wide Range +9V~36V	Wide Range +9V~36V
Operating Temp.	-20°C to +60°C (Core i5 Celeron CPU) -20°C to +50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)	-20°C to +60°C (Celeron CPU) -20°C to +50°C (Core i7 / i5 CPU) (100% CPU Usage, not-underclocking)	-20°C to +60°C (Celeron CPU) -20°C to +50°C (Core i7 / i5 CPU) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion	Mini Card: GPS, 4G / 5G, WI-FI, SATA RAID, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video By Cable: Bluetooth, Digital I/O, 2 / 4 x PoE, 4 x USB mini card



Model Name	SKY 3
Motherboard	31130DW
System Dimension (W x D X H)	183W x 142.2D x 83.9H mm
Weight (incl. M/B)	2.8 kg
CPU	13th Gen Intel® Raptor Lake-P / Raptor Lake-U, i7 / i5 / i3 CPU 12th Gen Intel® Alder Lake-P / Alder Lake-U, i7 / i5 / i3 CPU
Chipset	Intel® Raptor Lake-P / U SoC Intel® Alder Lake-P / U SoC
Memory	2 x DDR5 SODIMM, Max. 64GB
Storage Space	M.2, SSD HDD
Display	2 x HDMI (OEM to DP)
USB	3 x USB 3.2 Gen 1 x 1 (external) 1 x USB 2.0 (external)
COM	2 x RS232 / 422 / 485
Mini-PCIe	1 x USB 2.0 / PCIe
M.2	1 x M.2 M key Type 2280 (PCIe x4), Support NVMe 1 x M.2 B key Type 3042 / 3052 (USB 3.2 Gen1 / USB 2.0 / mSATA)
SIM Card Holder	1 x Nano SIM
GPIO	4DI / 4DO (Option)
Ethernet	5 x Intel 2.5 GbE
Power Input	Wide Range +9~36V
Operating Temp.	-40°C~+70°C (under specific environmental & CPU power consumption conditions)
Operating Humidity	5~95% @ 40°C, non-condensing
Expansion	Mini Card: 4G / 5G, WiFi , BT, SATA, PCIe By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card



Model Name	SKY 3	SKY 3	SKY 3
Motherboard	31810DW	31170UW	31170NX
System Dimension (W x D X H)	183W x 142.2D x 82.4H mm	183W x 142.2D x 66.9H mm	183W x 142.2D x 66.9H mm
Weight (incl. M/B)	2.8 kg	2.8 kg	2.8 kg
CPU	8th Gen Intel® Whiskey Lake-U i7 / i5 / i3 / Celeron CPU	6th / 7th Gen Intel® Skylake-S / Kaby Lake-S i7 / i5 / i3 / Celeron CPU	6th / 7th Gen Intel® Skylake-S / Kaby Lake-S i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Whiskey Lake-U SoC	Intel® Q170	Intel® Q170
Memory	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB
Storage Space	mSATA, 2 x M.2, SSD	M.2, 2 x mSATA, SSD	mSATA, SSD
Display	2 x HDMI	VGA, DP, HDMI	VGA, HDMI
USB	4 x USB 3.1	4 x Renesas USB 3.0 with max. 2A output current ; 2 x USB 3.0	2 x USB 3.0
COM	2	2	2
SIM Card Holder	1 x Nano SIM	1	1
Mini-PCle	1 x PCIe / USB	1 x PCIe / mSATA / USB, (Half size) 1 x PCIe / mSATA / USB	1 x PCIe / mSATA / USB (Half size) 1 x PCIe / mSATA / USB
M.2	1 x M.2 B Key, Type 2242 (mSATA / USB / PCIe x1) 1 x M.2 B Key, Type 3042 (USB 3.0 / 2.0 / PCIe x1*) *If 2242 M.2 adopts PCIe x2 signal, 3042 M.2 will support USB 3.0 / 2.0 signal only.	1 x M.2 B Key (SATA / PCIe)	N/A
GPIO	8DI / 8DO (Option)	8DI / 8DO (Option)	8DI / 8DO ; 16DI / 16DO (Option)
Ethernet	5 x Intel 2.5 GbE	2 x Intel GbE	5 x Intel GbE (4 port PSE)
Power Input	Wide Range DC IN +9~36V	Wide Range DC IN +9~36V	Wide Range DC IN +12~36V
Operating Temp.	-20°C to +50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)	-20°C to +50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)	-20°C to +50°C (Core i7 CPU) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CAN Bus, SDI / AHD Video By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card M.2 Module: 4G / 5G, SATA, PCIe		








Model Name	SKY 3	SKY 3	SKY 3
Motherboard	31612DW	31610NX	31610NM
System Dimension (W x D X H)	223W x 142.2D x 66.9.9H mm	183W x 142.2D x 83.9H mm	183W x 142.2D x 83.9H mm
Weight (incl. M/B)	3 kg	2.8 kg	2.8 kg
CPU	6th / 7th Gen Intel® Skylake-U / Kaby Lake-U i7 / i5 / i3 / Celeron CPU	6th / 7th Gen Intel® Skylake-U / Kaby Lake-U i7 / i5 / i3 / Celeron CPU	6th / 7th Gen Intel® Skylake-U / Kaby Lake-U i7 / i5 / i3 / Celeron CPU
Chipset	Intel® Skylake-U / Kaby Lake-U SoC	Intel® Skylake-U / Kaby Lake-U SoC	Intel® Skylake-U / Kaby Lake-U SoC
Memory	2 x DDR4 SODIMM, Max. 64GB	2 x DDR4 SODIMM, Max. 64GB	On board DDR4 (OEM) + 1 x SODIMM (Max 32GB)
Storage Space	M.2, mSATA, SSD	mSATA, SSD	mSATA, SSD, M.2
Display	DP, HDMI	HDMI	HDMI
USB	4 x USB 3.0	2 x USB 3.0	2 x USB 3.0
COM	2	2	2
SIM Card Holder	1 x Nano SIM	Optional	2
Mini-PCIe	1 x PCIe / mSATA / USB 1 x PCIe / USB 2.0 (Optional USB 3.0)	1 x mSATA / USB 1 x PCIe / USB 2.0	1 x PCIe / USB 2.0 (Half size) 1 x PCIe / mSATA / USB
M.2	1 x M.2 B Key Type 2242 (mSATA)	N/A	1 x M.2 B key Type 3042 (PCIe x2 / mSATA / USB 2.0 / USB 3.0)
GPIO	4DI / 4DO (Option)	16DI / 16DO (Option)	16DI / 16DO (Option)
Ethernet	5 x Intel GbE ; 2 x SFP Fiber	5 x Intel GbE (4 port PSE)	5 x Intel GbE (4 port PSE)
Power Input	Wide Range DC IN +12~48V	Wide Range DC IN +9~36V	Wide Range DC IN +9~36V
Operating Temp.	-20°C to +60°C (Celeron CPU) -20°C to +50°C (Core i7 / i5 CPU) (100% CPU Usage, not-underclocking)	-20°C to +60°C (Celeron CPU) -20°C to +50°C (Core i7 / i5 CPU) (100% CPU Usage, not-underclocking)	-20°C to +60°C (Celeron CPU) -20°C to +50°C (Core i7 / i5 CPU) (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing

Expansion

PCIe Card via riser Card: 2 x USB 3.1, 2 x 10 GbE LAN, 4 x PoE, 4 x GbE
Mini Card: GPS, WI-FI, 2 / 4 x LAN, 4 x COM, CAN Bus, SDI / AHD Video
By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card
M.2 Module: 4G / 5G, SATA, PCIe



Model Name	NET-III	NET-III
Motherboard	2I640DW	2I640CW
System Dimension (W x D X H)	135W x 110D x 35H mm	135W x 110D x 40H mm
Weight (incl. M/B)	0.75 KG	0.75 KG
CPU	Intel® Elkhart Lake ATOM x6413E Quad Core 3.0 GHz CPU Intel® Elkhart Lake Celeron J6412 Quad Core 2.6 GHz CPU	Intel® Elkhart Lake ATOM x6413E Quad Core 3.0 GHz CPU Intel® Elkhart Lake Celeron J6412 Quad Core 2.6 GHz CPU
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	On Board 4GB / 8GB LPDDR4
Storage Space	M.2	M.2
Display	2 x HDMI (OEM to DP)	2 x HDMI (OEM to DP)
USB	2 x USB 3.0	2 x USB 3.0, 2 x USB 2.0
COM	2 x RS232 / 422 / 485	1 x RS232 / 422 / 485 ; 3 x RS232
SIM Card Holder	1 x Nano SIM	1 x Nano SIM
Mini-PCle	N/A	1 x USB 2.0 / PCle
M.2	1 x M.2 B Key Type 2242 / 3042 (PCle x2 / USB 3.0 / USB 2.0) 1 x M.2 B Key Type 2242 (PCle x2 / USB 2.0 / SATA)	1 x M.2 B Key Type 3042 (USB 2.0 / SATA / USB 3.0-optional to PCle x2)
GPIO	4DI / 4DO (Option)	4DI / 4DO (Option)
Ethernet	3 x Intel 2.5 GbE	2 x Intel 2.5 GbE
Power Input	Wide Range +9~24V	Wide Range +9~24V
Operating Temp.	-20°C to +60°C (X6413E CPU) 0°C to +60°C (J6412 CPU) ; -40°C by OEM (100% CPU Usage, not-underclocking)	-20°C to +60°C (X6413E CPU) 0°C to +60°C (J6412 CPU) ; -40°C by OEM (100% CPU Usage, not-underclocking)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	<p>M.2 Module: 4G / 5G, WiFi + BT, SATA, PCle, By Cable: Bluetooth, Digital I/O, 2 / 4 PoE, 4 x USB mini card</p> <div style="display: flex; justify-content: space-around; align-items: center;">      </div>	



Model Name	SHARK 7" Box PC	SHARK 10.1" Box PC
Motherboard	7" Box PC + 2I385HW	10.1" Box PC + 2I385HW
System Dimension (W x D X H)	184.7W x 40H x 122.5D mm	250W x 40H x 168D mm
Weight (incl. M/B)	2 Kg	2.5 Kg
Storage Space	mSATA, SSD	mSATA, SSD
MB	2I385HW	2I385HW
CPU	Intel Bay Trail-I E3825 1.33 GHz (Dual Core) Intel Bay Trail-I E3845 1.91 GHz (Quad Core) (Optional J1900)	Intel Bay Trail-I E3825 1.33 GHz (Dual Core) Intel Bay Trail-I E3845 1.91 GHz (Quad Core) (Optional J1900)
Chipset	Intel® Bay Trail SoC	Intel® Bay Trail SoC
Memory	DDR3L, 2GB (Optional 4GB)	DDR3L, 2GB (Optional 4GB)
Display	VGA (Selectable M12 I/O)	VGA (Selectable M12 I/O)
USB	5 (Selectable M12 I/O)	5 (Selectable M12 I/O)
COM	4 (Selectable M12 I/O)	4 (Selectable M12 I/O)
Mini PCIe	1 x PCIe / USB / mSATA 1 x (Half Size) USB / mSATA	1 x PCIe / USB / mSATA 1 x (Half Size) USB / mSATA
Ethernet	2 x Intel GbE (Selectable M12 I/O)	2 x Intel GbE (Selectable M12 I/O)
Audio	Line-out / Mic-in (Optional)	Line-out / Mic-in (Optional)
Power Input	Wide Range +9~36V	Wide Range +9~36V
Battery	Optional (3200~9600 mAh)	Optional (3200~9600 mAh)
Mounting	VESA 75 & Panel Mount	VESA 75 & Panel Mount
Panel frame water proof	IP66 / IP67	IP66 / IP67
Operating Temp.	-20°C~60°C for mSATA / SSD HDD, (100% CPU Usage, not-underclocking)	
Operating Humidity	5~95% @ 40°C, non-condensing	

Expansion

Mini Card: GPS, 4G / 5G, WI-FI, SATA RAID, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video

By Cable: Bluetooth, Digital I/O, 2 / 4 x PoE, 4 x USB mini card



Model Name	SUPER 7''	SUPER 10.1''
Motherboard	7'' + 3I640CW	10.1'' + 3I640CW
System Dimension (W x D X H)	66.1H x 225.3W x 166.87D mm	66.79H x 293.4W x 210.4D mm
Weight (incl. M/B)	1.2 Kg	1.6 Kg
Storage Space	SSD, M.2	SSD, M.2
LCD size	7 inch, 16:9	10.1 inch, 16:9
Max Resolution	1024 × 600	1280 × 800
Luminance (cd/m ²)	500	300
Contrast Ratio	700:1	1300:1
Viewing Angle (H-V)	75 / 75 / 70 / 75CR ≥ 10 (L / R / U / D)	85 / 85 / 85 / 85CR ≥ 10 (L / R / U / D)
Backlight	LED	LED
Touch Screen	Resistive touch screen optional capacitive touch	Resistive touch screen optional capacitive touch
MB	3I640CW	3I640CW
CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Display	DVI, HDMI	DVI, HDMI
USB	2 x USB 3.0 ; 2 x USB 2.0	2 x USB 3.0 ; 2 x USB 2.0
COM	2 x RS232 / 422 / 485 1 x RS232	2 x RS232 / 422 / 485 1 x RS232
Mini PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe
SIM Card Holder	1 x Mini SIM	1 x Mini SIM
Ethernet	2 x 2.5G Intel GbE	2 x 2.5G Intel GbE
Audio	Line-out / Mic-in	Line-out / Mic-in
Power Input	Wide Range +9~36V	Wide Range +9~36V
Mounting	VESA 75 / Wall mount	VESA 75 / Wall mount
Panel frame water proof	IP65	IP65
Optional MB	3I385CW-Intel ATOM BayTrail CPU	3I385CW-Intel ATOM BayTrail CPU
Operating Temp.	-20°C~50°C for M.2 / SSD (100% CPU Usage, not-underclocking)	
Operating Humidity	5~95% @ 40°C, non-condensing	
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card	



Model Name	SUPER 10.4"	SUPER 15.1"
Motherboard	10.4" + 3I640CW	15.1" + 3I640CW
System Dimension (W x D X H)	296W x 250.4D x 66.79H mm	404.1W x 335D x 68.7H mm
Weight (incl. M/B)	1.9 Kg	3.5 Kg
Storage Space	SSD, M.2	SSD, M.2
LCD size	10.4 inch, 4:3	15.1 inch, 4:3
Max Resolution	1024 x 768	1024 x 768
Luminance (cd/m2)	500	450
Contrast Ratio	1000:1	800:1
Viewing Angle (H-V)	80 / 80 / 80 / 80 CR ≥ 10 (L / R / U / D)	80 / 80 / 80 / 80 CR ≥ 10 (L / R / U / D)
Backlight	LED	LED
Touch Screen	Resistive touch screen optional capacitive touch	Resistive touch screen optional capacitive touch
MB	3I640CW	3I640CW
CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Display	DVI, HDMI	DVI, HDMI
USB	2 x USB 3.0 ; 2 x USB 2.0	2 x USB 3.0 ; 2 x USB 2.0
COM	2 x RS232 / 422 / 485 1 x RS232	2 x RS232 / 422 / 485 1 x RS232
Mini PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), support NVMe	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), support NVMe
SIM Card Holder	1 x Mini SIM	1 x Mini SIM
Ethernet	2 x 2.5G Intel GbE	2 x 2.5G Intel GbE
Audio	Line-out / Mic-in	Line-out / Mic-in
Power Input	Wide Range +9~36V	Wide Range +9~36V
Mounting	VESA 75 / Wall mount	VESA 75 / Wall mount
Panel frame water proof	IP65	IP65
Optional MB	3I385CW-Intel ATOM BayTrail CPU	3I385CW-Intel ATOM BayTrail CPU
Operating Temp.	-20°C~50°C for M.2 / SSD (100% CPU Usage, not-underclocking)	
Operating Humidity	5~95% @ 40°C, non-condensing	
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card	



Model Name	Slim 10.4"	Slim 12.1"	Slim 15"
Motherboard	10.4" + 3I640CW	12.1" + 3I640CW	15" + 3I640CW
System Dimension (W x D X H)	287.6W x 245D x 60.9H mm	320.3W x 275D x 60.9H mm	384W x 312D x 70.5H mm
Weight (incl. M/B)	2.8 Kg	3.4 Kg	4 Kg
Storage Space	M.2, SSD	M.2, SSD	M.2, SSD
LCD size	10.4 inch, 4:3	12.1 inch, 4:3	15 inch, 4:3
Max Resolution	1024 x 768	1024 x 768	1024 x 768
Luminance (cd/m2)	500	500	450
Contrast Ratio	1000:1	700:1	800:1
Viewing Angle (H-V)	80(U), 80(D), 80(R), 80(L)	80(U), 80(D), 80(R), 80(L)	80(U), 80(D), 80(R), 80(L)
Backlight	LED	LED	LED
Touch Screen	Resistive touch screen	Resistive touch screen	Resistive touch screen
MB	3I640CW	3I640CW	3I640CW
CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)		
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Display	DVI, HDMI	DVI, HDMI	DVI, HDMI
USB	2 x USB 3.0 2 x USB 2.0	2 x USB 3.0 2 x USB 2.0, expand up to 4 x USB 2.0	2 x USB 3.0 2 x USB 2.0, expand up to 4 x USB 2.0
COM	2 x RS232 / 422 / 485 2 x RS232	2 x RS232 / 422 / 485 2 x RS232	2 x RS232 / 422 / 485 4 x RS232
Mini PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2 / PCIe	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), support NVMe		
SIM Card Holder	1 x Mini SIM	1 x Mini SIM	1 x Mini SIM
Ethernet	2 x 2.5G Intel GbE	2 x 2.5G Intel GbE	2 x 2.5G Intel GbE
Audio	Line-out / Mic-in	Line-out / Mic-in	Line-out / Mic-in
Power Input	Wide Range +9~36V	Wide Range +9~36V	Wide Range +9~36V
Mounting	VESA 75 / 100 & Wall mount	VESA 75 / 100 & Wall mount	VESA 75 / 100 & Wall mount
Panel frame water proof	IP65	IP65	IP65
Operating Temp.	-20°C~60°C for M.2 / SSD (100% CPU Usage, not-underclocking)		
Operating Humidity	5~95% @ 40°C, non-condensing		
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card		



Model Name	Slim 15"	Slim 17"
Motherboard	15" + CI170C	17" + 3I640CW
System Dimension (W x D X H)	384W x 312H x 80.5D mm	413W x 343H x 64.5D mm
Weight (incl. M/B)	4.2 Kg	4.89 Kg
Storage Space	mSATA, M.2, SSD	M.2, SSD
LCD size	15 inch, 4:3	17 inch, 4:3
Max Resolution	1024 x 768	SXGA 1280 x 1024
Luminance (cd/m2)	450	350
Contrast Ratio	800:1	1000:1
Viewing Angle (H-V)	80(U), 80(D), 80(R), 80(L)	80(U), 80(D), 85(R), 85(L)
Backlight	LED	LED
Touch Screen	Resistive touch screen	Resistive touch screen
MB	CI170C	3I640CW
CPU	Intel Skylake-S / Kaby Lake-S i7 / i5 / i3 / Celeron CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)
Chipset	Intel® Q170	Intel® Elkhart Lake SoC
Memory	2 x DDR4 SODIMM, Max. 64GB	1 x DDR4 SODIMM, Max. 32GB
Display	DP, HDMI, DVI	DVI, HDMI
USB	Built-in 4 x USB, expand up to 9 x USB	2 x USB 3.0 2 x USB 2.0, expand up to 4 x USB 2.0
COM	Built-in 4 x COM, expand up to 10 x COM	2 x RS232 / 422 / 485 4 x RS232
Mini PCIe	1 x PCIe / mSATA / USB 1 x PCIe / USB	1 x PCIe / USB 2.0
M.2 / PCIe	1 x M.2 B Key, Type 2242 (mSATA / PCIe) 1 x PCIe, expand up to 2 x PCI / PCIe	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), support NVMe
SIM Card Holder	2	1 x Mini SIM
Ethernet	4 x Intel GbE	2 x 2.5G Intel GbE
Audio	Optional	Line-out / Mic-in
Power Input	DC IN +12V	Wide Range +9~36V
Mounting	VESA 75 / 100 & Wall Mount	VESA 75 / 100 & Wall Mount
Panel frame water proof	IP65	IP65
Operating Temp.	-20°C~60°C for mSATA / M.2 / SSD (100% CPU Usage, not-underclocking)	-20°C~60°C for mSATA / SSD (100% CPU Usage)
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card	



Model Name	STAR 10.4"	STAR 12.1"
Motherboard	10.4" + 3I640CW	12.1" + 3I640CW
System Dimension (W x D X H)	279.5W x 54H x 231D mm	323.5W x 54H x 268D mm
Weight (incl. M/B)	2.67 Kg	3.4 Kg
Storage Space	M.2, SSD	M.2, SSD
LCD size	10.4 inch, 4:3	12.1 inch, 4:3
Max Resolution	1024 x 768	1024 x 768
Luminance (cd/m2)	500	500
Contrast Ratio	1000:1	700:1
Viewing Angle (H-V)	80(U), 80(D), 80(R), 80(L)	80(U), 80(D), 80(R), 80(L)
Backlight	LED	LED
Touch Screen	Resistive touch screen	Resistive touch screen
MB	3I640CW	3I640CW
CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Display	DVI, HDMI	DVI, HDMI
USB	2 x USB 3.0 2 x USB 2.0	2 x USB 3.0 2 x USB 2.0
COM	2 x RS232 / 422 / 485 2 x RS232	2 x RS232 / 422 / 485 2 x RS232
Mini PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe
SIM Card Holder	1 x Mini SIM	1 x Mini SIM
Ethernet	2 x 2.5G Intel GbE	2 x 2.5G Intel GbE
Audio	Line-out / Mic-in	Line-out / Mic-in
Power Input	Wide Range +9~36V	Wide Range +9~36V
Battery	Option (3200~9600 mAh)	Option (3200~9600 mAh)
Mounting	VESA 75 & Wall Mount	VESA 75 / Wall mount
Panel frame water proof	IP65	IP65
Operating Temp.	-20°C~60°C for M.2 / SSD (100% CPU Usage, not-underclocking)	
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card	



Model Name	STAR 15.1"	STAR 21.5"
Motherboard	15.1" + 3I640CW	21.5" + 3I640CW
System Dimension (W x D X H)	385.5W x 55.9H x 317.5D mm	548W x 64H x 328.6D mm
Weight (incl. M/B)	4.89 Kg	5.19 Kg
Storage Space	M.2, SSD	M.2, SSD
LCD size	15.1 inch, 4:3	21.5 inch, 16:9
Max Resolution	1024 x 768	1920 x 1080
Luminance (cd/m2)	450	250
Contrast Ratio	800:1	1000:1
Viewing Angle (H-V)	80(U), 80(D), 80(R), 80(L)	80(U), 80(D), 80(R), 85(L)
Backlight	LED	LED
Touch Screen	Resistive touch screen	Capacitive touch screen
MB	3I640CW	3I640CW
CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Display	DVI, HDMI	DVI, HDMI
USB	2 x USB 3.0 2 x USB 2.0	2 x USB 3.0 2 x USB 2.0
COM	2 x RS232 / 422 / 485 2 x RS232	2 x RS232 / 422 / 485 2 x RS232
Mini PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe
SIM Card Holder	1 x Mini SIM	1 x Mini SIM
Ethernet	2 x 2.5G Intel GbE	2 x 2.5G Intel GbE
Audio	Line-out / Mic-in	Line-out / Mic-in
Power Input	Wide Range +9~36V	Wide Range +9~36V
Battery	Optional (3200~9600 mAh)	Optional (3200~9600 mAh)
Mounting	VESA 75 & Wall Mount	VESA 75 / Wall mount
Panel frame water proof	IP65	IP65
Operating Temp.	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)	
Operating Humidity	5~95% @ 40°C, non-condensing	
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card	



Model Name	VITA 10.1"	VITA 15"
Motherboard	10.1" + 3I640CW	15" + 3I640CW
System Dimension (W x D X H)	260.67W x 183.37D x 70.8H mm	364.03W x 290.93D x 72.8H mm
Weight (incl. M/B)	2.5 Kg	4 Kg
Storage Space	M.2, SSD	M.2, SSD
LCD size	10.1 inch, 16:9	15 inch, 4:3
Max Resolution	1280 x 800	1024 x 768
Luminance (cd/m2)	500	350
Contrast Ratio	1300:1	800:1
Viewing Angle (H-V)	85(U), 85(D), 85(R), 85(L)	80(U), 80(D), 80(R), 80(L)
Backlight	LED	LED
Touch Screen	Capacitive touch screen	Capacitive touch screen
MB	3I640CW	3I640CW
CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Display	DVI, HDMI	DVI, HDMI
USB	2 x USB 3.0 ; 2 x USB 2.0	2 x USB 3.0 ; 2 x USB 2.0
COM	2 x RS232 / 422 / 485 2 x RS232	2 x RS232 / 422 / 485 2 x RS232
Mini PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe
SIM Card Holder	1 x Mini SIM	1 x Mini SIM
Ethernet	2 x 2.5G Intel GbE	2 x 2.5G Intel GbE
Audio	Line-out / Mic-in	Line-out / Mic-in
Power Input	Wide Range +9~36V	Wide Range +9~36V
Battery	Optional	Optional
Mounting	VESA 75 / 100 & Wall mount	VESA 75 / 100 & Wall mount
Panel frame water proof	IP65	IP65
Optional MB	3I385CW-Intel ATOM Bay Trail CPU ; 3I610CW- 6th / 7th Gen Intel® Core i CPU	
Operating Temp.	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)	
Operating Humidity	5~95% @ 40°C, non-condensing	
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card	



Model Name	VITA 21.5"	VITA 23.8"
Motherboard	21.5" + 3I640CW	23.8" + 3I640CW
System Dimension (W x D X H)	519.91W x 314.92D x 83.4H mm	575.06W x 347D x 83.8H mm
Weight (incl. M/B)	5.45 Kg	6.8 Kg
Storage Space	M.2, SSD	M.2, SSD
LCD size	21.5 inch, 16:9	23.8 inch, 16:9
Max Resolution	1920 x 1080	1920 x 1080
Luminance (cd/m2)	250	250
Contrast Ratio	1000:1	3000:1
Viewing Angle (H-V)	89(U), 89(D), 89(R), 89(L)	89(U), 89(D), 89(R), 89(L)
Backlight	LED	LED
Touch Screen	Capacitive touch screen	Capacitive touch screen
MB	3I640CW	3I640CW
CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	1 x DDR4 SODIMM, Max. 32GB	1 x DDR4 SODIMM, Max. 32GB
Display	DVI, HDMI	DVI, HDMI
USB	2 x USB 3.0 ; 2 x USB 2.0	2 x USB 3.0 ; 2 x USB 2.0
COM	2 x RS232 / 422 / 485 2 x RS232	2 x RS232 / 422 / 485 2 x RS232
Mini PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe	1 x B Key Type 3042 (SATA / USB 2.0 / USB 3.0) 1 x B Key Type 2242 (PCIe x2 / USB 2.0), Support NVMe
SIM Card Holder	1 x Mini SIM	1 x Mini SIM
Ethernet	2 x 2.5G Intel GbE	2 x 2.5G Intel GbE
Audio	Line-out / Mic-in	Line-out / Mic-in
Power Input	Wide Range +9~36V	Wide Range +9~36V
Battery	Optional	Optional
Mounting	VESA 75 / 100 & Wall mount	VESA 75 / 100 & Wall mount
Panel frame water proof	IP65	IP65
Optional MB	3I385CW-Intel ATOM Bay Trail CPU ; 3I610CW- 6th / 7th Gen Intel® Core i CPU	
Operating Temp.	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)	
Operating Humidity	5~95% @ 40°C, non-condensing	
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card	



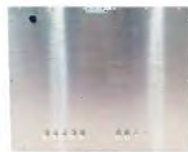
Waterproof Panel PC



Model Name	SHARK 7"	SHARK 10.1"	SHARK 10.1"
Motherboard	7" + 2I385CW	10.1" + 2I385CW	10.1" + 2I385HW
System Dimension (W x D X H)	184.7W x 40H x 122.5D mm	250W x 40H x 168D mm	250W x 40H x 168D mm
Weight (incl. M/B)	2 Kg	2.3 Kg	2 Kg
Storage Space	mSATA	mSATA, SSD	mSATA, SSD
LCD size	7 inch, 16:9	10.1 inch, 16:9	10.1 inch, 16:9
Max Resolution	1024 x 600	1280 x 800	1280 x 800
Luminance (cd/m2)	500	300	300
Contrast Ratio	700:1	1300:1	1300:1
Viewing Angle (H-V)	75 / 75 / 70 / 75 CR ≥ 10 (L / R / U / D)	85 / 85 / 85 / 85 CR ≥ 10 (L / R / U / D)	85 / 85 / 85 / 85 CR ≥ 10 (L / R / U / D)
Backlight	LED	LED	LED
Touch Screen	Resistive touch screen	Resistive touch screen	Resistive touch screen
MB	2I385CW	2I385CW	2I385HW
CPU	Intel Bay Trail-I E3845 1.91 GHz (Quad Core) (Optional J1900 ; E3825)		Intel Bay Trail-I E3825 1.33 GHz (Dual Core) Intel Bay Trail-I E3845 1.91 GHz (Quad Core) (Optional J1900)
Chipset	Intel® Bay Trail SoC	Intel® Bay Trail SoC	Intel® Bay Trail SoC
Memory	DDR3L, 4GB (Optional 2GB)	DDR3L, 4GB (Optional 2GB)	DDR3L, 2GB (Optional 4GB)
Display	VGA, LVDS	VGA, LVDS	VGA (Selectable M12 I/O)
USB	2 x USB 2.0	4 x USB 2.0	5 (Selectable M12 I/O)
COM	1	1	4 (Selectable M12 I/O)
Mini PCIe	1 x PCIe / mSATA / USB 1 x (Half size) mSATA / USB	1 x PCIe / mSATA / USB 1 x (Half size) mSATA / USB	1 x PCIe / USB / mSATA 1 x (Half Size) USB / mSATA
GPIO	4DI / 4DO (Optional)	4DI / 4DO (Optional)	4DI / 4DO (Optional)
Ethernet	2 x Intel GbE	2 x Intel GbE	2 x Intel GbE (Selectable M12 I/O)
Audio	N/A	N/A	Line-out / Mic-in (Optional)
Power Input	Wide Range +9~36V	Wide Range +9~36V	Wide Range +9~36V
Battery	Optional	Optional	Optional (3200~9600 mAh)
Mounting	VESA 75	VESA 75	VESA 75 & Wall Mount
Panel frame water proof	IP65	IP65	IP66 / IP67
Operating Temp.	-20°C~60°C for mSATA / SSD HDD (100% CPU Usage, not-underclocking)		
Operating Humidity	5~95% @ 40°C, non-condensing		
Expansion	Mini Card: GPS, 4G / 5G, WI-FI, SATA RAID, 2 / 4 x LAN, 4 x COM, CANBus, SDI / AHD Video By Cable: Bluetooth, Digital I/O, 2 / 4 x PoE, 4 x USB mini card		



Model Name	STAR 10.4"	STAR 12.1"	STAR 15.1"
Motherboard	10.4" + 2I640HW	12.1" + 2I640HW	15.1" + 2I640HW
System Dimension (W x D X H)	279.5W x 54H x 231D mm	323.5W x 54H x 268D mm	385W x 55.9H x 317.5D mm
Weight (incl. M/B)	2.67 Kg	3.4 Kg	4.89 Kg
Storage Space	M.2, SSD	M.2, SSD	M.2, SSD
LCD size	10.4 inch, 4:3	12.1 inch, 4:3	15.1 inch, 4:3
Max Resolution	1024 x 768	1024 x 768	1024 x 768
Luminance (cd/m2)	500	500	450
Contrast Ratio	1000:1	700:1	800:1
Viewing Angle (H-V)	80(U), 80(D), 80(R), 80(L)	80(U), 80(D), 80(R), 80(L)	80(U), 80(D), 80(R), 80(L)
Backlight	LED	LED	LED
Touch Screen	Resistive touch screen	Resistive touch screen	Resistive touch screen
MB	2I640HW	2I640HW	2I640HW
CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)		
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	On Board LPDDR4, upto 8GB	On Board LPDDR4, upto 8GB	On Board LPDDR4, upto 8GB
Display	HDMI	HDMI	HDMI
USB	6 (Selectable M12 I/O)	6 (Selectable M12 I/O)	6 (Selectable M12 I/O)
COM	4 (Selectable M12 I/O)	4 (Selectable M12 I/O)	4 (Selectable M12 I/O)
Mini PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2	1 x M.2 B Key 2242 / 3042 (SATA / USB 3.0 / 2.0)		
SIM Card Holder	1 x Nano SIM	1 x Nano SIM	1 x Nano SIM
Ethernet	2 x Intel 2.5 GbE (Optional M12 I/O)	2 x Intel 2.5 GbE (Optional M12 I/O)	2 x Intel 2.5 GbE (Optional M12 I/O)
Power Input	Wide Range +9~36V (M12 I/O)	Wide Range +9~36V (M12 I/O)	Wide Range +9~36V (M12 I/O)
Battery	Optional (3200~9600 mAh)	Optional (3200~9600 mAh)	Optional (3200~9600 mAh)
Mounting	VESA 75 & Panel Mount	VESA 75 & Panel Mount	VESA 75 & Panel Mount
Panel frame water proof	IP66 / IP67	IP66 / IP67	IP66 / IP67 / IP69K
Operating Temp.	-20°C~60°C for M.2 / SSD (100% CPU Usage, not-underclocking)		
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card		



Model Name	Stainless 10.4"	Stainless 15.1"	Stainless 19"
Motherboard	10.4" + 2I640HW	15.1" + 2I640HW	19" + 2I640HW
System Dimension (W x D X H)	308W x 45H x 259.4D mm	414W x 45H x 346.1D mm	476.4W x 45H x 404.6D mm
Weight (incl. M/B)	3.35 Kg	6.13Kg	7.5 Kg
Storage Space	M.2, SSD	M.2, SSD	M.2, SSD
LCD size	10.4 inch, 4:3	15 inch, 4:3	19 inch, 4:3
Max Resolution	1024 x 768	1024 x 768	1280 x 1024
Luminance (cd/m2)	500	450	350
Contrast Ratio	1000:1	800:1	1000:1
Viewing Angle (H-V)	80(U), 80(D), 80(R), 80(L)	80(U), 80(D), 80(R), 80(L)	60(U), 80(D), 80(R), 80(L)
Backlight	LED	LED	LED
Touch Screen	Resistive touch screen	Resistive touch screen	Capacitive touch screen
MB	2I640HW	2I640HW	2I640HW
CPU	Intel Elkhart Lake x6413E 3.0 GHz (Quad Core) Intel Elkhart Lake J6412 2.6 GHz (Quad Core)		
Chipset	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC	Intel® Elkhart Lake SoC
Memory	On Board LPDDR4, upto 8GB	On Board LPDDR4, upto 8GB	On Board LPDDR4, upto 8GB
Display	HDMI	HDMI	HDMI
USB	6 (Selectable M12 I/O)	6 (Selectable M12 I/O)	6 (Selectable M12 I/O)
COM	4 (Selectable M12 I/O)	4 (Selectable M12 I/O)	4 (Selectable M12 I/O)
Mini PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe	1 x USB 2.0 / PCIe
M.2	1 x M.2 B Key 2242 / 3042 (SATA / USB 3.0 / 2.0)		
SIM Card Holder	1 x Nano SIM	1 x Nano SIM	1 x Nano SIM
Ethernet	2 x Intel 2.5 GbE (Optional M12 I/O)	2 x Intel 2.5 GbE (Optional M12 I/O)	2 x Intel 2.5 GbE (Optional M12 I/O)
Power Input	Wide Range +9~36V (M12 I/O)	Wide Range +9~36V (M12 I/O)	Wide Range +9~36V (M12 I/O)
Battery	Optional (3200~9600 mAh)	Optional (3200~9600 mAh)	Optional (3200~9600 mAh)
Mounting	VESA 100 & Panel Mount	VESA 100 & Panel Mount	VESA 100 & Panel Mount
Panel frame water proof	IP66 / IP67	IP66 / IP67	IP66 / IP67 / IP69K
Operating Temp.	-20°C~60°C for M.2 / SSD (100% CPU Usage, not-underclocking)		
Operating Humidity	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing	5~95% @ 40°C, non-condensing
Expansion	4G / 5G, WiFi + BT, AI Accelerator, GPS, WI-FI, 2 / 4 PoE, COM CANBus, SDI / AHD Video, Digital I/O, 4 x USB mini card		



	Touch Monitor
Model Name	21.5"
Dimension	64H x 548W x 328.6D mm
Case Material	Aluminum
Weight	7.83 Kg
Mounting Spec.	VESA 75 / Wall Mount
Panel Frame Water Proof	IP65
Luminance (cd/m2)	250
Max Resolution	1920 x 1080
Color Support	16.7M (RGB 6 bit + Hi_FRC)
Max Sync Rate (V x H)	60 Hz x 80 kHz
Response Time	3.8 ms (Falling time) 1.2 ms (Raising time)
Backlight Life	30,000 hours
Touch Screen	Projected Capacitive Touch screen
Image Aspect Ratio	16:9
Contrast Ratio	1000:1
H-View Angle	170°
V-View Angle	165°
Signal Interfaces	HDMI / VGA / DVI, USB Touch, COM Touch (Optional)
Voltage Required	DC 12V
Power Consumption Operational	15.534W (Typ.)
Operating Temperature	0°C~50°C
Operation Humidity Range	5~90% RH @ 39°C, non-condensing
Storage Temperature	-20°C~+60°C
Storage Humidity Range	5~90% RH @ 39°C, non-condensing
Optional Accessory	Wall Mount Kit / Stand



	Touch Monitor	Touch Monitor	Touch Monitor	Touch Monitor
Model Name	7"	10.1"	10.4"	15.1"
Dimension	37.9H x 225.3W x 166.8D mm	38.6H x 293.4W x 210.4D mm	38.6H x 296W x 250.4D mm	40.5H x 404.1W x 335D mm
Case Material	ABS front frame + housing	ABS front frame + housing	ABS front frame + housing	ABS front frame + housing
Weight	570 g	950 g	1.4 Kg	2.2 Kg
Mounting Spec.	VESA 75 / Wall Mount	VESA 75 / Wall Mount	VESA 75 / Wall Mount	VESA 75 / Wall Mount
Panel Frame Water Proof	IP65	IP65	IP65	IP65
Optional Accessory	Wall Mount Kit / Stand	Wall Mount Kit / Stand	Wall Mount Kit / Stand	Wall Mount Kit / Stand
Max Resolution	1024 x 600	1280 x 800	1024 x 768	1024 x 768
Color Support	116.2M / 262K colors	116.2M / 262K colors	116.2M / 262K colors	116.2M / 262K colors
Max Sync Rate (V x H)	60 Hz x 80 kHz	60 Hz x 80 kHz	60 Hz x 80 kHz	60 Hz x 80 kHz
Response Time	10 ms (Falling time) 15 ms (Raising time)	10 ms (Falling time) 15 ms (Raising time)	11 ms (Falling time) 14 ms (Raising time)	2.3 ms (Falling time) 5.7 ms (Raising time)
Touch Screen	Resistive touch screen optional capacitive touch	Resistive touch screen optional capacitive touch	Resistive touch screen optional capacitive touch	Resistive touch screen optional capacitive touch
Image Aspect Ratio	16:9	16:9	4:3	4:3
Brightness	500	500	350	450
Contrast Ratio	800:1	800:1	1200:1	800:1
H-View Angle	150°	150°	176°	160°
V-View Angle	145°	145°	176°	150°
Signal Interfaces	VGA / DVI, USB Touch, COM Touch (Optional)	VGA / DVI, USB Touch, COM Touch (Optional)	VGA / DVI, USB Touch, COM Touch (Optional)	VGA / DVI, USB Touch, COM Touch (Optional)
Voltage Required	DC9~36V	DC9~36V	DC9~36V	DC9~36V
Power Consumption Operational	0.57A max.	0.57A max.	0.6A max.	1.02A max.
Operating Temperature	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C
Operation Humidity Range	5~90% RH @ 39°C, non-condensing	5~90% RH @ 39°C, non-condensing	5~90% RH @ 39°C, non-condensing	5~90% RH @ 39°C, non-condensing
Storage Temperature	-30°C~+80°C	-30°C~+80°C	-30°C~+80°C	-20°C~+65°C
Storage Humidity Range	5~90% RH @ 39°C, non-condensing			

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