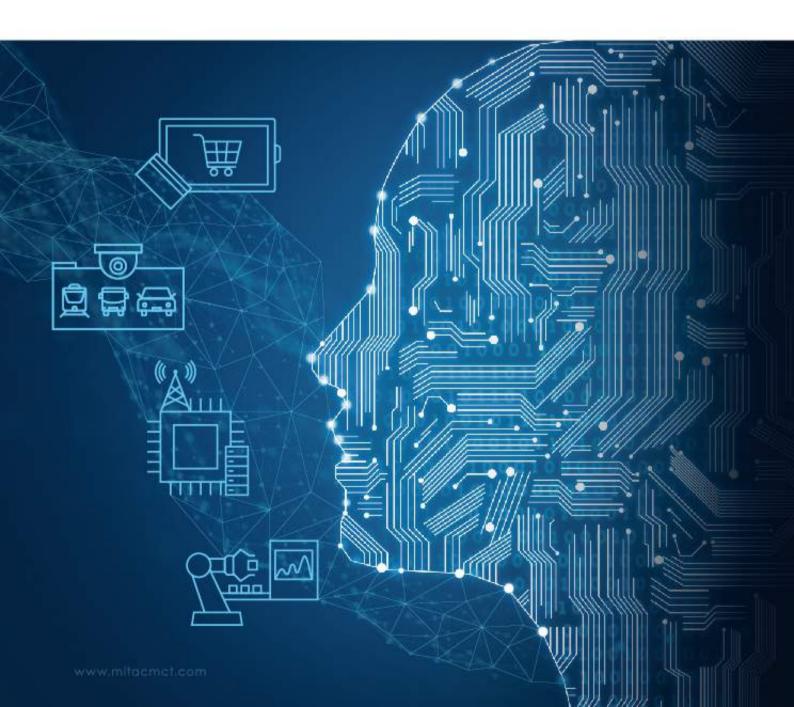


Embedded Products

Your Success is Our Ambition



Welcome to MiTAC Embedded

About MiTAC Embedded	2
Advanced JDM / ODM / OEM / OPM	4
Manufacturing Quality	6
Design Quality Assurance	8
MITAC'S LAB	10
Worldwide Regulatory Certification Services	12
Sustainability	14
Application	
Edge Al	16
Factory Automation	20
Intelligent Tranportation System (ITS)	24
Retail Automation	28

Product

Industrial Motherboard ----- 32

Micro ATX	Thin Mini-iTX	Mini-iTX	2.5" SBC
PH10ADU P34	PH12ADI P40 PD10EHI P56	PH13CMI P68	ND108T P82
PH10CMU P36	PH14ADI P42 PD11EHI P58	PH13FEI P70	ND118T P84
PH10FEU P38	PHIICMI P44 PDI4EHI P60	PD14RI P72	
	PH12CMI P46 PD10AI P62	PD11BI P74	СОМе
	PH12FEI P48 PD10RI P64		PD10KC P86
	PH14FEL P50 PD10BL P66	3.5" SBC	
	PH12SI P52	PD11TGS P76	
	PH13SI P54	PD11KS P78	Al Acceleration Card
	ГПІЗЗІ ГЗ4	PD10AS P80	MiAi-H8 P88

Embedded System ----- 90

Rugged system	Fanless system	Fanned system	Rackmount system
MZ1-10ADP P92 MB1-10AP P104 MX1-10FEP P94 ME1-108T P106 MX1-10FEP-D P96 ME1-118T P108 MP1-11TGS P98 MP1-11TGS-D P100 MA1 P102 P102		E500-14FEI P120 E600-13FEI P122	NV1 P124

Industrial Panel PC ----- 126

Panel Mount : P Series

 P100-10AS
 P130
 P210-11TGS
 P144

 P150-11TGS
 P132
 P210-11KS
 P146

 P150-11KS
 P134
 P210-10AI
 P148

 P150-10AI
 P136
 P156-11TGS
 P138

 P156-11KS
 P140
 P142
 P142

Point of Service -----

Interactive KioskFully-Rugged TabletKiosk-NeonP161CappuccinoP162

VESA Mount : D Series

D151-11TGS	P150
D151-11KS	P152
D210-11TGS	P154
D210-11KS	P156
D210-10RI	P158

 	 	 	 	 	 160



About MiTAC Embedded

02

MiTAC, Leading IT Technology & Service Group

MiTAC Holdings Group has been developing into a multinational organization and expanded its scope of businesses to the computer & consumer electronics, IT distribution, software development, system integration, materials & petrochemicals, industrial gases, transportation & logistics and food processing Industries in JDM / ODM / OEM / OPM (Original Product Manufacture) around four decades.



Your Success Our Ambition



Founded in Taiwan 1982 Around 40 years world-class Leading Company

The three main subsidiaries of the group, MiTAC Computing Technology Corp. (abbr. MCT), MiTAC Digital Technology Corp. and MiTAC International Corp., focus on offering cloud computing, embedded sytem, and smart living products and services.



Tailored Design Service

We provide tailored design packages from Hardware, Software, Mechanical Engineering, Industrial design, Validation, Certification to Manufacturing for many tier one technology companies. Our aim is to offer customers the most innovative design and World-class product quality to make the product just born to succeed.

Manufacturing

MCT design and manufacturing experience dates back more than thirty years, including a history of successfully supplying various computer and server solutions. MCT's industrial grade embedded products, ODM customization capacity, comprehensive relationships with channel and system integration service providers, means MCT now provides customers with deliverables featuring customized, flexible systems. MCT's belief is to ensure customers get the best Total Cost of Ownership (TCO) embedded solution of this and future generations.

Variety of Embedded Solutions

MCT came with in-house design and manufacturing experiences in embedded products, industrial computers, enterprise servers and storage systems near 40 years, we provided variety of embedded solutions containing panel PC, embedded system, rugged tablet, and industrial motherboards to our distribution partners and system integrators.



Advanced JDM / ODM / OEM / OPM

Leading Hardware

- Various silicon platforms
- Board design simulation
- Advanced design tools

Multiple Software

- Various BIOS platform
- Windows / Linux / Android
- Windows compatibility test
- Utility / APP / API Design

World Class Industrial Design

Superior Mechanical Engineering

• Tier 1 ODM design experience

- Sketch proposal
- 3D proposal
- Mock-up demo

Wide Range Validation

- Compatibility test
- Reliability test
- Environmental test
- Worldwide regulation certificain

Advanced Manufacturing

- Automated inspection
- Uncompromising quality
- Systematic control process

Direct Service

- Early-engage proposal service
- Fast sampling service
- Field technical service
- Global RMA service

OEM/ODM Service

MiTAC Computing Technology Corp. (MCT) offers both Off The Shelf products, and OEM/ODM professional services to meet customer's needs in different industries and applications. We provide tailored design ackages from HW, SW, ME, ID, Test, Certification to Manufacturing. MCT's expertise is aimed to offer customers the most innovative design and World-class product quality to make the product just born to succeed!

2

3

5

6

Technical Support





Highly-integrated & Light-touched



Thermal simulation

• Modularized design

• Strength simulation

Certifications

TL 9000 ISO 14001	ISO 9001	IATF 16949	ISO 27001
		CERTIFICATE CERTIFICATE	

CONT	THEATS.
-	
100	-
-	-
-	G







World –Class Manufacturing Quality

Dedicated in-house manufacturing resource







11

Intelligence



Online display The alert system, which is one part of intelligent management system (IMS) can alert SMT material shortage immediately.

SPI Process

printing, including

3D solder paste inspection is to

volume, area, height, XY offset,

defects occurring in process.

shape, bridging, etc. It could find

detect the quality of solder paste



Auto hand insertion machine

Auto H/I (hand insertion) machines improve production efficiency.



High pot test

Automatic HI-POT test realizes test machine selfpositioning, test items auto-identifying, test data autouploading.





Cell line

Compared to the traditional assembly lines, the cellular manufacturing lines are with much higher efficiency and Flexibility, good for low volume and diverse products.



ERSA waving solder

The advanced ERSA waving solder equipment could reduce the oxidation of the production and reduce the Sn slag, flux residue in PCBA by 0.3mm size selective spray.

Accuracy







P2L (Pick to light) / L2L (Load to light)

MiTAC have set up 97 racks of P2Ls with the 135,800 reels capacity, 70 material shelves of L2L for over 5000 reels production supporting every day. The advantages is to kit materials collaboratively to avoid occupation, and reduce transferring time. The material kitting time has been reduced from 2 days to 4 hours.

PCBA production line

- equipment.
- Produce different sizes of PCBA, up to 800*600mm.
- The most advanced NXT generation III M6 SMT line reaches to 35000 component per hour (cph) with the nozzle H24.
- Support the 03015 component.
- with ERP and Shop Floor Control System.
- facturing efficiency.
- are controlled by Part tracking system.
- and AOI.
- BFT.

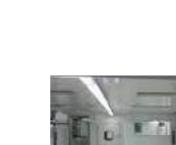
Clean room

standard.

Run in test and Burn in test

quality and reliability.









06

3 PCBA production workshops with comprehensive SMT production and test

- IMS (Intelligent management system) is developed by IT team and connected
- IMS optimizes material kitting process, reduces inventory and improves manu-
- Material tracking, feeder management, inspection, MSD and material control
- SMT process includes solder paste printing, SPI, component mounting, reflowing

All the boards proceed with hand insertion, press-fit, AXI, Flying Probe or ICT till

Clean room for panel cleaning and assembly which have passed ISO class 7

Running the burn-in test tool at room temperature or 37°C to make sure the product

Robust & Reliable

08

Design Quality Assurance Professional design and comprehensive validation



Temperature Humidity Test





MTBF Prediction

MTBF Demonstration



Surface Endurance Test



Touch Panel Life Test





Card Swipe Test



Anti-Dust IP-6X Testing

Water & Dust Proof Test



Power Cycling Test



HALT Test



I/O Connector Life Test



Power Button Test



Anti-Water IP-X4 Testing







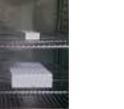


Single Package Vibration Test



Package Temperature Humidity Test





Op Shock Test



Non Op Shock Test



Vibration and





S & V Test



Acoustic-**Sound Power Test**





Single Package Drop Test



Pallet Package Vibration Test



Pallet Package Drop Test







Rotational Vibration Test



Free Fall Test



Worldwide ENV Marks & Ecolabels

European WEEE

10

Japan's Top Runner





Energy Star



Germany GS (PAHs) 80 Plus

EPEAT



Qualified by international accreditation organization

-		and the second	orviaji
17. English	Bright Street St	1.410	10170-10 10170-10
212	研		

-	
1	

Reliability, E-Star and Acoustic lab (Accredit no.:3100/3017) (1A,1B,1G,1H,3A,6A,7D)

Certified with ISTA Shipment Criteria





MiTAC owns Full line ICT **Products Agency Compliance Experiences**

- Servers, including NEBS spec validation and approval

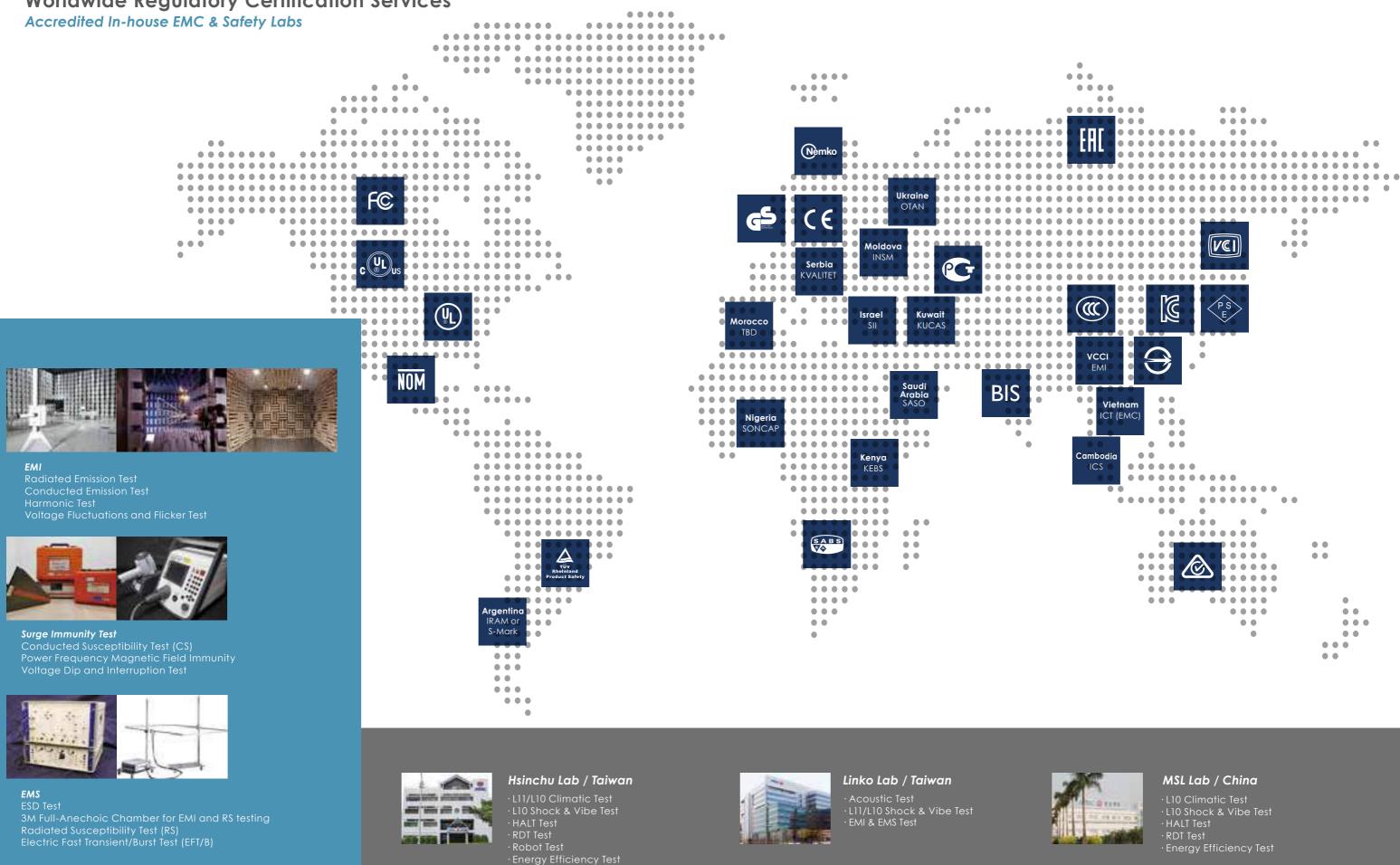
- Car electronic products

Lab Accreditation ISO 17025

Lab Accreditation ISO 17025



Worldwide Regulatory Certification Services



SUSTAINABILITY

Green Product

14

Eco-Friendly Product Strategies

MiTAC is committed to reducing environmental impacts in various ways. Compliance with international environmental laws, customer demands, and eco-friendly product design serve as the starting points. Harmful chemical substances are controlled from the source,



while energy conservation and material saving are incorporated as main considerations in the product design process.

Introduction of Product Design for the Environment

International environmental laws :

ErP (EU) has proposed that all energy-using products must adopt design for the environment to minimize resource depletion and pollution emission.

Design for the environment :

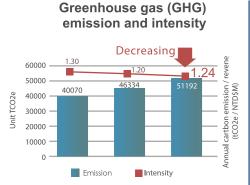
MiTAC has stipulated DfE (Design for Environment) / Eco-design as one of the prerequisites of product design, therefore we demand our R&D personnel to take into consideration the products' environmental impact during different stages, including design, production, packaging, transportation, usage and re-cycle for re-use to waste disposal.

Ecolabels :

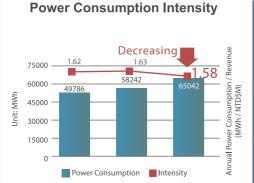
MiTAC distribute products that meet the highest eco-standards and eco-design requirements of different countries, such as the EPEAT and Energy Star of the USA, the SEPA and CECP of China, the Green Mark of Taiwan, the EU Flower of Europe, and the Blue Angel of Germany, in response to the customer's sales needs.

Climate Change Global Climate and Greenhouse Gas Inventory

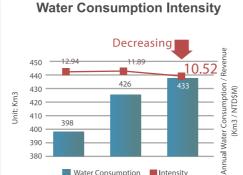
In response to accelerating climate change, MiTAC holdings corp. set an carbon reduction goal for moving toward a cleaner and more sutainable business.



Besides setting legal compliance as the basic requirement, we make constant adjustments to lower environmental impact for environment (DFE) of products and enhancement of equipment efficiency.



The office and plant energy conservation activities in 2020 enhanced energy efficiency to reduce electricity consumption by 2,540kWh/year.



MiTAC's water consumption at produc -tion locations worldwide consists of mainly service water (approx. 95%).-Most of the water is tap water, no ground water is used.

Green Supply Chain

Conflict Mineral Purchasing Policy

We achieved "management at source" by implementing investigations of smelters. MiTAC has placed "conflict minerals" investigations into supplier green product policies to coordinate customer investigation report demands.

with utmost effort.

Restriction on the Use of Hazardous Substances and Management

- recast, REACH and POPs etc.
- ucts comply with the latest environmental regulations.
- establish containment strategy.





This ensures that the company and its suppliers will abide by relevant regulations

■ To achieve the goal of eco-friendly products, MiTAC's component and materials selections all comply with international regulations, such as: EU's RoHS recast, WEEE

MiTAC has created a green product management platform (eGP System) and high efficiency supply chain management system (eSCM System)ensure that our prod-

Provides green products with low toxicity and low pollution, utilize eSCM/eGP to communicate with suppliers and manage green products and components and

Edge AI (Artificial Intelligence) **Real-time Calculation**

In Industrial applications, the data is used mostly for the detection and control of abnormalities. But, the potential performance is for the optimization and prediction. Edge computing allows real-time operations for critical processes such as data analysis, decision making and taking action. It also decreases the costs and manpower requirements in data transmission and operation accuracy. Therefore, in many field like automation industries, visual inspection is increasingly used by Edge Al computing technology. In vehicle, smart ADAS driver assistance and incident detection also guite rapidly start to be adopted different autonomous vehicle applications.

Edge Al provides:

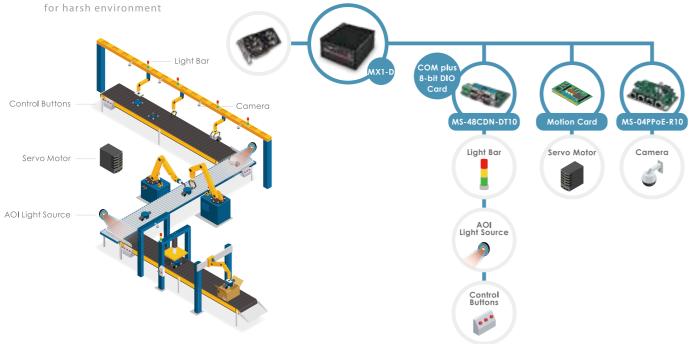
- Increase Productivity
- Improve Security
- Enhance Safety
- Faster Response



Smart Factory Control Unit

Solutions: MX1-10FEP-D

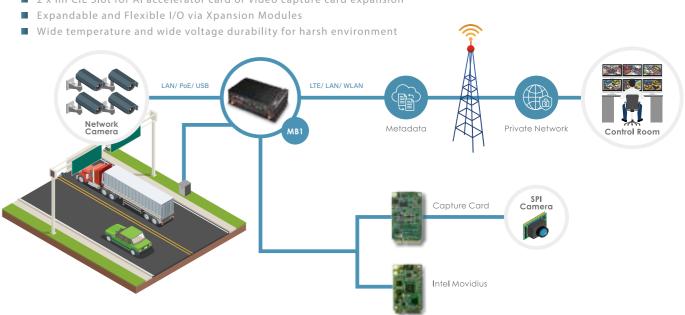
- Intel Xeon/Core-i7 processor for no latency computing power and center control
- Nvidia Tesla T4/P4 graphic card for machine vision application
- Up to 10 PoE for AOI camera connectivity
- Expandable legacy I/O for rich sensors and devices control
- Wide temperature and wide voltage durability



Traffic Flow Monitoring

Solutions: MB1-10AP + Intel[®] MovidiusTM MyriadTM X

- Intel Apollo Lake Efficient 4C4T or 2C2T Processor for real-time traffic flow monitoring
- Equipped with Intel[®] MovidiusTM MyriadTM X to enhance arithmetic capability for AI metadata computing
- 4 x USB3.0 and 3 x LAN Port for IP Camera connectivity
- 2 x mPCIE Slot for AI accelerator card or video capture card expansion

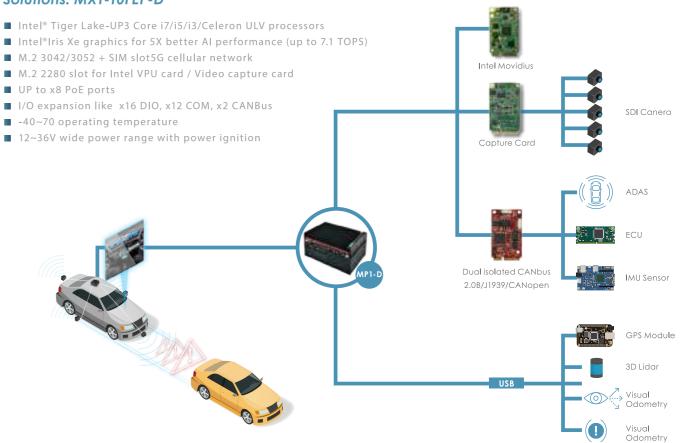


Smart Vehicle Control Unit

Solutions: MX1-10FEP-D

- Intel® Tiger Lake-UP3 Core i7/i5/i3/Celeron ULV processors

- M.2 2280 slot for Intel VPU card / Video capture card
- UP to x8 PoE ports
- I/O expansion like x16 DIO, x12 COM, x2 CANBus
- -40~70 operating temperature

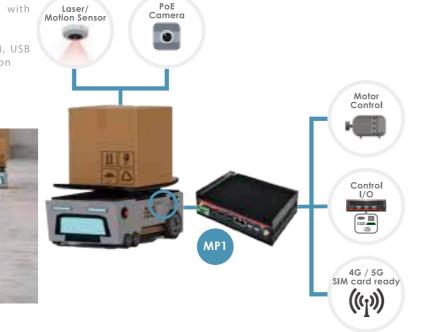


AMR (Autonomous Mobile Robot)

Solutions: MP1-11TGS

- Intel® Tiger Lake-UP3 Core i7/i5/i3/Celeron ULV processors
- Outstanding graphic computing capability with Integrated Intel®Iris Xe graphics
- Provide rich I/O connections for multiple COM, USB for Camera, Sensor and motor control connection
- 4G/5G/SIM card ready for wireless connectivity





Machine Vision

Solutions: MX1-10FEP-D

- High performance embedded system by Intel Coffee Lake Core i / Xeon processor
- Provide rich I/O connections for multiple COM, USB and PoE portrs
- Features with triple/dual display ports for real-time monitoring
- LAN and WLAN (optional) for cloud & edge computing





Predictive Maintenance

Solutions: ME1-108T

- High performance 4 x 1.5 GHz ARM Cortex-A53 plus Cortex-M4 cores
- Rich interface Giga LAN, USB 3.0, COM, Micro SD/SIM slot
- High resoluluon DisplayPort @FHD 60Hz & HDMI 2.0@4K
- 60 Hz

Versatille expansion for HATs

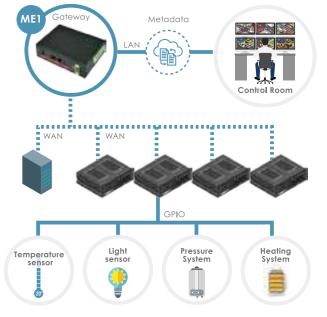


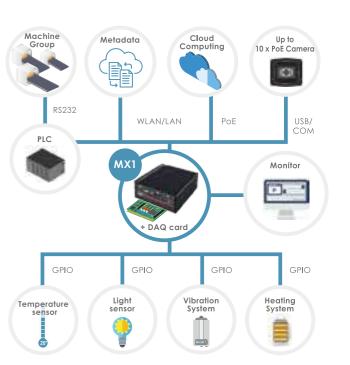
Production Optimization

Solutions: MX1-10FEP

- High performance embedded system by Intel Coffee Lake Core i / Xeon processor
- Provide rich I/O connections for multiple COM, USB and PoE portrs
- Features with triple/dual display ports for real-time monitoring
- LAN and WLAN (optional) for cloud & edge computing







Factory Automation

Industry 4.0 brings industry automation to a new intelligent era. This represents both a trend and also a challenge to industrial manufacturing companies. To support our customers' demand requires that we make machines more intelligently communicate with each other and perform complex tasks perfectly. MiTAC offers a variety of solutions to meet the needs of stringent environments



Operation & Automation System



Monitoring & Security System



Management & Communication System



AGV (Automated Guided Vehicle)

Solutions: MP1-11TGS

- Intel[®] Tiger Lake-UP3 Core i7/i5/i3/Celeron ULV processors
- Outstanding graphic computing capability with Integrated Intel®Iris Xe graphics
- Provide rich I/O connections for multiple COM, USB for Camera, Sensor and motor control connection
- 4G/5G/SIM card ready for wireless connectivity



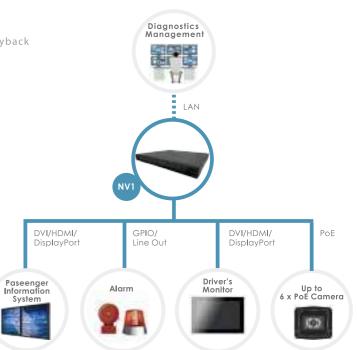
NVR (Network Video Recorder)

Solutions: NV1

- Intel® Tiger Lake-UP3 Core i7/i5/i3/Celeron ULV processors
- 64-CH H.265/H.264 decoding ability and simultaneous playback
- Support up to 16 PoE ports
- Dual 4K display for clear monitoring
- Support 2 x HDD RAID 0/1 storage







Inspection

22

Solutions: ND108T

- Powered by NXP I.MX8M Quad Core Arm-based processor
- Featured with both LVDS and HDMI for internal and external display
- Raspberry Pi 40 pin compatible connector for easy I/O
- expansion

Complete Linux BSP support for quick SW customization and development





HMI (Human Machine Interface)

Solutions: P100/P150/D150

- Provide I/O connection in both serial port (RS232/422/ 485) and GPIO function
- Fanless design and IP rating for automation application Feature with dual LAN ports for remote monitoring and maintain





AOI (Automated Optical Inspection)

Solutions: MX1-10FEP / S310-11KS

- High performance embedded system by Intel Coffee Lake Core i / Xeon processor
- Provide rich I/O connections for multiple COM, USB and PoE portrs
- Features with triple/dual display ports for real-time monitoring
- LAN and WLAN (optional) for cloud & edge computing



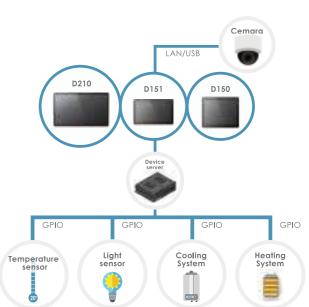
Smart Building - Environment Control

Solutions: D210/D151/D150

- Provide I/O connection in both serial port (RS232/422/485) and GPIO function
- Industrial operating temperature and IP rating support
- Optional WLAN for restricted area information and data
- transfer







Intelligent Transportation System

24

The application of intelligent transportation system (ITS) is widely accepted and used in many countries today and now become a multidisciplinary conjunctive field of work and thus many organizations around the world have developed solutions for providing ITS applications to meet the need.

The entire application of ITS is based on data collection, analysis and using the results of the analysis in the operations, control and research concepts for traffic management where location plays an important role.



In Vehicle Equipment Control & Surveillance



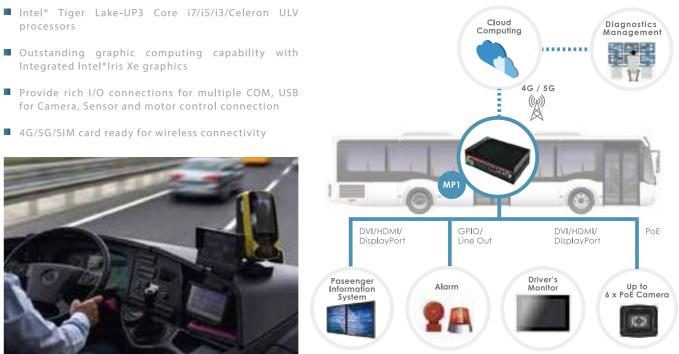
Traveler Information System



Embedded NVR (Network Video Recorder)

Solutions: MP1-11TGS

- Intel® Tiger Lake-UP3 Core i7/i5/i3/Celeron ULV processors
- Integrated Intel[®]Iris Xe graphics
- Provide rich I/O connections for multiple COM, USB for Camera, Sensor and motor control connection

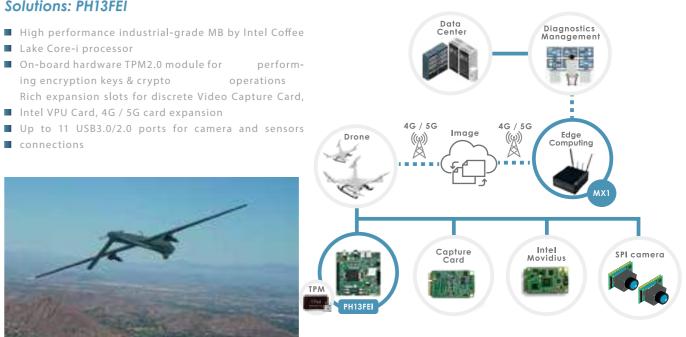


Edge Computing Drone

Solutions: PH13FEI

- High performance industrial-grade MB by Intel Coffee
- Lake Core-i processor
- On-board hardware TPM2.0 module for performing encryption keys & crypto operations

- connections

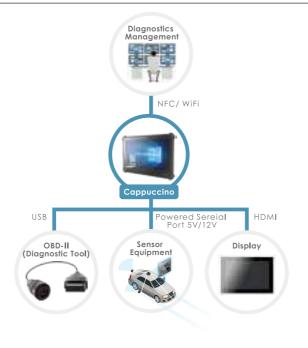


Automotive Diagnostics

Solutions: Cappuccino Tablet + Extension Cover

- Capacitive hotkey (F1/F2/F3) on front side for intuitive operation
- Featured with TPM 2.0, powerful anti-tampering device, able to detect potential intrusion during system boot-up
- Built-in NFC reader to authenticate users' credentials
- Featured with WiFi/BT/GPS/WWAN(optional) and rich I/O connections for OBD-II, external display, sensor equipment and Diagnostics Management System

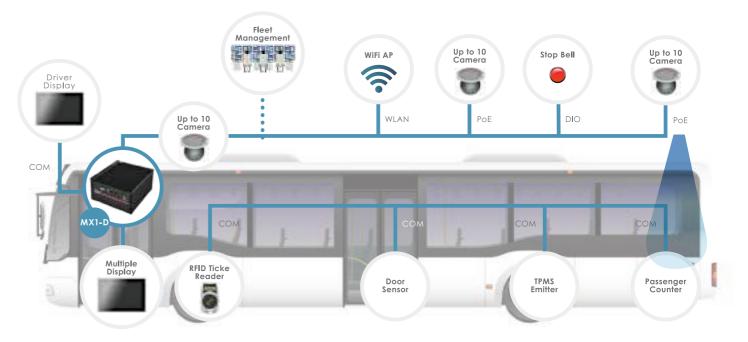




Real-time In-Vehicle Surveillance

Solution: MX1-10FEP-D

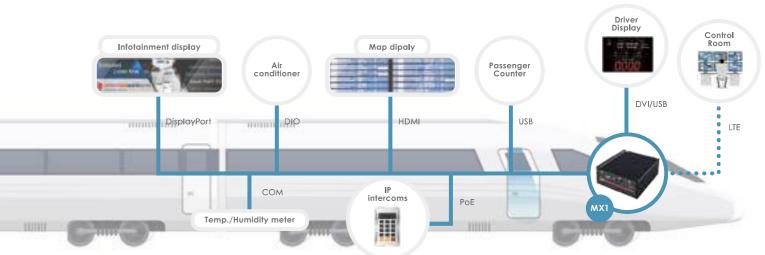
- E Features with maximum 10 ports PoE (Power over Ethernet) for safety and surveillance applications, such as facial recognitoin
- Rich I/O connectivities for multiple sencing and control in-vehicle devices Multiple display for monitoring and passenger information displays
- Optional WLAN for passenger internet connction and LTE for fleet management E-Mark certified



Intelligent Passenger Information System (PIS)

Solution: MX1-10FEP

- Supports HDMI, DisplayPort, and DVI-I triple display ports for multi-display scenarios
- Provides rich I/O connectivities for passenger counters, IP intercoms and environment sensors
- Optional WLAN/4G/GPS expansion modules for railway traffic control
- EN50155 certified

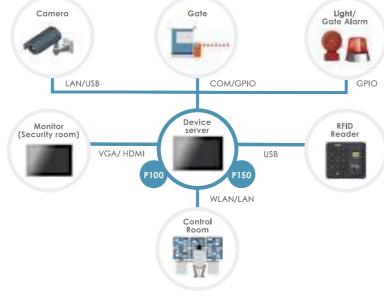


Access Control

Solutions: P100 / P150

- COM & GPIO interface for gate control
- LAN and WLAN (optional) for real-time data transmission





Retail Automation

With the implementation of check-out free stores in our daily lives, artificial intelligence is transforming the retail industry. Sometimes people seek emotional nourishment from purchasing, not just because of the lack of material. To satisfy these needs throughout the shopping journey, a retailer with millions of customers must make product recommendations based on each person's unique shopping needs based on their historical visits. Through the use of self-service applications such as interactive devices, multimedia equipment, etc., visitors can build on their own purchasing experience and easily have access to customized service.

MiTAC target each customer individually, allowing retailers to convert a high percentage of visitors into long-term, high-value customers. Loyalty, as well as sales will increase, improving brand engagement and growth.



Self Service System



Display System



Point of Sales System





Mobile POS

Hospitality in Restaurant

Solutions: Cappuccino Tablet + Docking Station

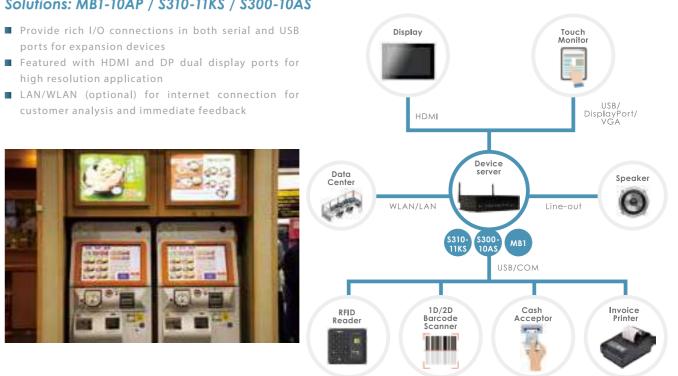
- The lightest 11.6" rugged tablet < 900g
- Dual OS compatibility with Windows® 10 IoT and Linux CentOS7
- Crystal clear display with 2K resolution
- Trouble-free scanning with built-in Honeywell software decoder
- Featured with WiFi/BT and rich I/O connections for display monitor, cash drawer, thermal receipt printer, and payment terminal



Smart Vending Machine

Solutions: MB1-10AP / S310-11KS / S300-10AS

- ports for expansion devices
- high resolution application
- customer analysis and immediate feedback



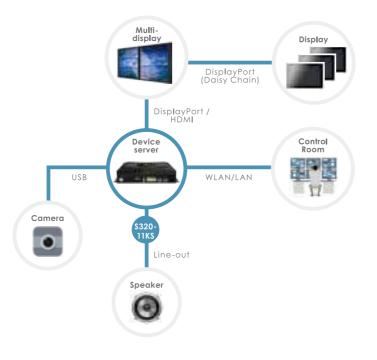


Compact Digital Signage Solution

Solution: S320-11KS

- High performance slim embedded system powered by Intel Kaby Lake Core-i Processor
- Features with high resolution 4K HDMI & 4K DisplayPort for multi-display
- LAN/WLAN (optional) for internet connection and data control
- USB ports connectivity for facial recognition via cameras



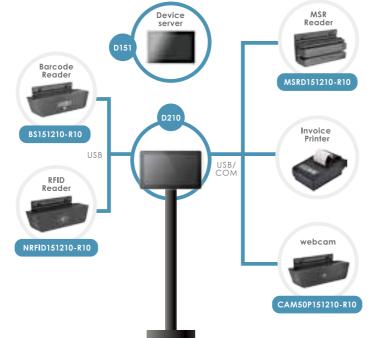


Interactive Kiosk/ Hospitality

Solutions: D210 / D151

- Support multiple easy-attached mounting modules via USB ports
- IP65 rated multi-touch front panel
- Optional agile WLAN for area information and data transfer

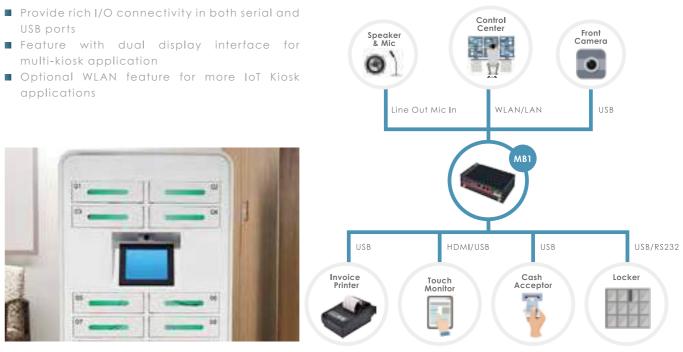




Smart Charging Station for Stores

Solutions:

- USB ports
- multi-kiosk application
- applications



Interactive Kiosk/ Self-ordering

Solution: K32F

- Replacing conventional manual operation by MiFace™, facial biometric recognition
- Enabling personalized recommendation on customer's ordering selection by Al-driven solution
- Encouraging more incentives on approaching interactive kiosk in post COVID-19 by MiAirtouch™
- Allowing business users conscious of any real-time operation performance by BI Dashboard Analytics
- Getting ready on most of Kiosk peripherals in terms of UPOS driver



30



Industrial Motherboard

Micro ATX



Mini-iTX



Thin Mini-iTX		
Alder Lake/Raptor Lake-S	PH12ADI	P40
	PH14ADI	P42
Comet Lake	PH11CMI	P44
	PH12CMI	P46
Coffee Lake	PH12FEI	P48
	PH14FEI	P50
Kaby Lake / Skylake	PH12SI	P52
	PH13SI	P54
Elkhart Lake	PD10EHI	P56
	PD11EHI	P58
	PD14EHI	P60
Apollo Lake	PD10AI	P62
Braswell	PD10RI	P64
Bay Trail	PD10BI	P66
SBC		



3.5"		
Tiger Lake	PD11TGS	P76
Kaby Lake / Skylake	PD11KS	P78
Apollo Lake	PD10AS	P80

2.5"



ND108T P82 ND118T P84



Micro ATX		
Raptor Lake-S/Alder Lake-S	PH10ADU	P34
Comet Lake	PH10CMU	P36
Coffee Lake	PH10FEU	P38



Mini-iTX

Comet Lake	PH13CMI	P68
Coffee Lake	PH13FEI	P70
Braswell	PD14RI	P72
Bay Trail	PD11BI	P74

СОМе



COMe

Kaby lake / Skylake

PD10KC

P86

AI Acceleration Card



AI Acceleration Card

СОМ

LGA1170

DIMM DDR4

ATX Power (24P)

ATX Power (8P)

PH10ADU

Micro-ATX Form Factor Intel® Raptor Lake-S 13th/Alder Lake-S 12th Processor with Q670 Chipset

PCle x8 -

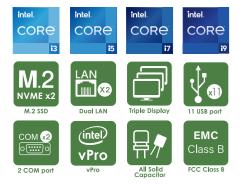
SATA II

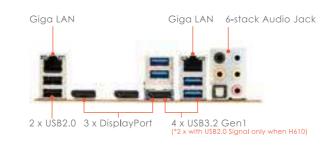
M.2 M Key 22110 -

Features

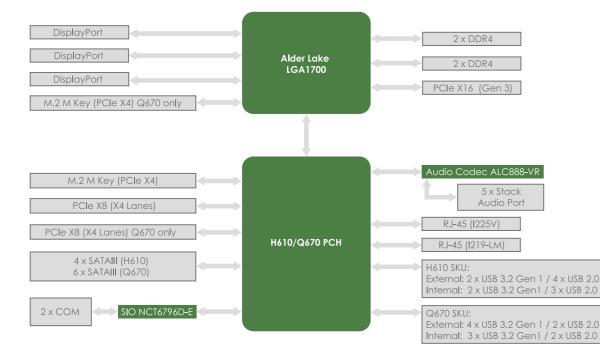
34

- Intel® Raptor Lake-S 13th/Alder Lake-S 12th PCle X16i9/i7/i5/i3 125 W processor
- Intel® Q670 Chipset
- Intel® vPro technology support (Q670)
- 4x DDR4 U-DIMM up to 128GB
- 1 x PCIe X16 slot, 2 x PCIe X8 slot (x4 Lanes), 2 x M.2 2280/2210 M-key (NVME)
- Support triple display for 3 x DisplayPort USB 3.0 -
- Up to 6 x SATAIII (support RAID 0, 1, 5, 10) USB 2.0
- Up to 2 x Intel® Gigabit Ethernet
- Up to 7 x USB 3.2 Gen1, 4 x USB 2.0, 2 x COM ports
- ATX power input





Block Diagram



PH10ADU Micro ATX

CHANICAL	
orm Factor	Micro-ATX: 9.6" x 9.6" (244 mm x 244 mm)
YSTEM	
rocessor	13th/12th Gen Intel® Raptor Lake-S/Alder Lake-S LGA1700 Socket Processor / Core i9/i7/i5/i3 Processor / TDP 125W
hipset	Intel® Q670 / H610
emory	4 x 288-pin U-DIMM / DDR4 3200 MHz/ Max. 128 GB (Non-ECC)
aphics	Intel® UHD Graphics 770
hernet Jdio	Intel® I219-LM Giga LAN + Intel® I225V 2.5 Giga LAN Realtek® ALC888-VR
) Chipset	Nuvoton NCT6796D-E
M	TPM Header / (support optional TPM module board NPCT750)
	For Q670:
	PCIe 3.0 X16 slot 2 x PCIe 3.0 X8 slot (X4 Lanes)
	M.2 2280 / 22110 M key (PCIe X4 ,SATA)
pansion Slot	M.2 2280 / 22110 M key (PCIe X2, SATA)
	For H610:
	PCIe 3.0 X16 slot 1 x PCIe 3.0 X8 slot (X4 Lanes)
	M.2 2280 / 22110 M key (PCIe X2)
2C	AMI BIOS / 256 Mbit SPI
/ W Monitor	Temperature Monitor / Voltage Monitor / Fan Monitor
atchdog Timer	1~255 steps by software program
nart Fan Control	CPU Fan / System Fan
	-
/	-
I	-
splayPort	Up to 4K (4096 x 2304) @60 Hz
DS	-
OP (Option)	-
AR I/O	
В	4 x USB 3.2 Gen 1(2 x with USB2.0 Signal only when H610) 2 x USB 2.0
splay I/O	3 x DisplayPort 1.2
idio I/O	1 x 6-stack Audio Jack
NI/O	2 x RJ-45
rial Port	-
/2 Port thers	_
ITERNAL CONNECTORS	
	6 x SATAIII (4 x SATAIII when H610)
	2 x USB 2.0/ 2 x USB 3.2 Gen1/ 1 x USB 3.2 Gen1 Type A connector
B	(This Type A connector is with USB2.0 Signal only when H610)
splay I/O	-
udio I/O	1 x Front Audio
rial Port	2 x RS232
/2 Port rallel Port	-
20	-
n	1 x 4-pin CPU Fan Header / 3 x 4-pin system Fan Header
wer	1 x 8-pin ATX Power Connector/ 1 x 24-pin ATX Power Connector
hers	1 x CMOS Jumper/ 1 x FIO header/ 1 x SPI TPM header
OWER REQUIREMENT	
werInput	ATX 8-pin + ATX 24-pin
NVIRONMENTAL	
perating Temperature	0 ~ 60°C (32 ~140°F)
orage Temperature	-20 ~ 70°C (-4 ~158°F)
perating Humidity	10% ~ 95% R/H (Non-condensing)
ertification c	CE / FCC Class B
Support	
Support	Linux (support by request) / Ubuntu 20.04 / Windows® 10 64-bit / Windows® 11 64bit,
Ordering Informatio	n
odel Number Chipset PCIe x16	
Intel® H610 Intel® H610 1/ I0ADU-Q670 Intel® Q670 1/	1 2 4 3 7/4 2 ATX Power (24-pin + 8-p) /2 2 2 6 3 4/7 2 ATX Power (24-pin + 8-p)

Packing List

	JCK	ng		
•1	x 50 c	rm S	ATA (^ahle

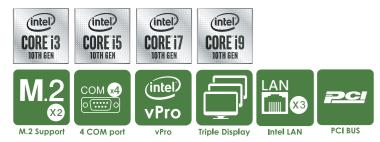


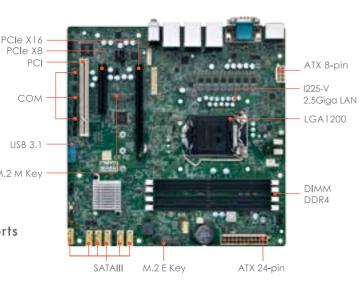
PH10CMU

Micro-ATX Form Factor Intel[®] Comet Lake Processor with H420E / Q470E / W480E Chipset

Features

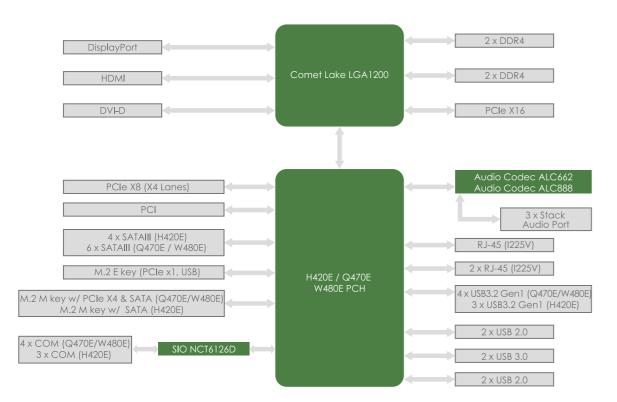
- Up to Intel® Comet Lake 10th Gen i9 125W (10 Cores) LGA1200 processor
- Intel[®] H420E / Q470E / W480E Chipset
- Intel[®] vPro technology supported
- 4 x DDR4 DIMM, support up to 64GB
- Support 1 x PCIe X16 slot, 1 x PCIe X8 slot, 1 x PCI slot, 1 x M.2 2280 slot, 1 x M.2 2230 slot
- Support triple display for 1 x DisplayPort,
 1 x HDMI and 1 x DVI
 M.2 M Key -
- Up to 6 x SATAIII (support RAID 0, 1, 5, 10)
- Up to 3 x Intel® Gigabit Ethernet
- Up to 6 x USB 3.2 Gen1, 4 x USB 2.0, 4 x COM ports
- ATX power input







Block Diagram



PH10CMU Micro ATX

MECHANICAL Form Factor	Micro-ATX 9.6" x 9.6" (2
SYSTEM	MICIO-ATX 7.8 X 7.8 (2
	10th Gen Intel® Comet
Processor	up to 10-core TDP Max
Chipset	Intel® Q470E / W480E (
Memory	DDR4 2933MHz, Max.
Graphics	Intel® HD Graphics
Ethernet	Intel® 1225V 2.5 Giga L
Audio	Realtek® ALC662 / AL
I/O Chipset TPM	Nuvoton NCT6126D(eS
TEIM	TPM Header (support
	1 x PCle 3.0 X16 slot (PCle x16 support 3 optio
	1 x PCIe 2.0 X8 slot (X4
Expansion Slot	1 x PCle x4 lanes is swit
	1 x M.2 2242 / 2260 / 22
	1 x M.2 2230 E key (PCI
BIOS	256 Mbit SPI
H / W Monitor	Temperature Monitor,
Watchdog Timer	1~255 Steps by Softwa
Smart Fan Control	CPU Fan / System Fan
GRAPHICS	
VGA	—
DVI	Up to 1920 x 1200 @60
HDMI	Up to 4K (4096 x 2160)
DisplayPort	Up to 4K (4096 x 2304)
LVDS	—
eDP (Option)	Up to 4K (4096 x 2304)
REAR I/O	
USB	2 x USB 2.0 / 4 x USB 3.2
Display I/O	1 x HDMI 1.4 / 1 x Displa
Audio I/O	1 x 3-stack Audio Jack
LAN I/O	3 x RJ-45 (1 x Optional)
Serial Port	1 x R\$232
PS/2 Port	—
Others	—
INTERNAL CONNECTORS	
Storage	6 x SATAIII (Q470E / W4
USB	2 x USB 3.2 Gen1
	2 x USB 2.0
Display I/O	1 x Backlight Connecto
Audio I/O	—
Serial Port	2 x RS232 / 1 x RS232 / 4
PS/2 Port	-
Parallel Port	
GPIO	1 x MiAPI Header (Prog
	1 x 4-pin CPU Fan Con
Fan	
Fan Power	1 x 8-pin ATX Power Cor
Fan Power Others	1 x 8-pin ATX Power Cor
Fan Power	1 x 8-pin ATX Power Cor
Fan Power Others	1 x &-pin ATX Power Co 1 x Front Audio Heade
Fan Power Others POWER REQUIREMENT Power Input	1 x 8-pin ATX Power Cor 1 x Front Audio Heade
Fan Power Others POWER REQUIREMENT	1 x 8-pin ATX Power Cor 1 x Front Audio Heade
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature	1 x 8-pin ATX Power Cor 1 x Front Audio Heade ATX Power 8-pin + ATX
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL	1 x 8-pin ATX Power Con 1 x Front Audio Heade ATX Power 8-pin + ATX 0 ~ 60°C (32 ~140°F) -20 ~ 70°C (-4 ~158°F)
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature	1 x 8-pin ATX Power Con 1 x Front Audio Heade ATX Power 8-pin + ATX 0 ~ 60°C (32 ~140°F) -20 ~ 70°C (-4 ~158°F) 10% ~ 95% R/H, non-co
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity Certification	1 x 8-pin ATX Power Cor 1 x Front Audio Heade ATX Power 8-pin + ATX 0 ~ 60°C (32 ~140°F) -20 ~ 70°C (-4 ~158°F) 10% ~ 95% R/H, non-co
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity	1 x 8-pin ATX Power Cor 1 x Front Audio Heade ATX Power 8-pin + ATX 0 ~ 60°C (32 ~140°F)

Ordering Information

Model Number	Chipset	PCle X16/ X8/ PCl	M.2 2280 / 2230	LAN	SATA	DisplayPort/ HDMI DVI-D/ DVI-I	eDP	USB 3.1/ 2.0	СОМ	Power
PH10CMU-H420E	Intel® H420E	1/0/0	1/1	2	4	1/1/1/0	0	5/4	3	ATX Power (24-pin + 8-pin)
PH10CMU-Q470	Intel® Q470E	1/1/0	1/1	2	6	1/1/1/0	0	6/4	3	ATX Power (24-pin + 8-pin)
PH10CMU-Q470-3LAN	Intel® Q470E	1/1/1	1/1	3	6	1/1/0/1	1	6/4	4	ATX Power (24-pin + 8-pin)
PH10CMU-W480-3LAN	Intel® W480E	1/1/1	1/1	3	6	1/1/0/1	1	6 / 4	4	ATX Power (24-pin + 8-pin)

Packing List

	Pack
•1 x Motherboard	• 1 x 50cm SATA Cable



(244mm x 244mm)

at Lake LGA1200 Socket Processor, Core i9/i7/i5/i3 IX. 125W

(Support RAID 0 / 1 / 5 / 10), H420E

LAN LC888 eSPI)

rt TPM module board NPCT750)

ions of PCIe switch: #1:1 x PCIe X16, #2:2 x PCIe X8, #3:1 x PCIe X8 + 2 x PCIe X4) 4 Lanes),

vitched with M.2 2242/2260/2280 slot, PCI slot 2280 M key (PCIe x4 ,SATA), 1 x M.2 2280 for H420E support SATA only Cle x1, USB2.0, CNVi)

r, Voltage Monitor, Fan Monitor are Program

60 Hz) @30 Hz 4) @60 Hz

4) @60 Hz

.2 Gen1 (Q470E / W480E) / 3 x USB 3.2 Gen1 (H420E) playPort 1.2 / 1 x DVH k (Mic-in, Line-in, and Line-out)

(480E) / 4 x SATAIII (H420E)

tor / 1 x eDP

/ 422 / 485

grammable. Support 10-bit GPIO)

onnector, 1x 4-pin System Fan Connector

onnector, 1 x 24-pin ATX Power Connector, 1 x AT / ATX Mode Select Jumper ler (Mic-in & Line-out), 1 x Chassis Intrusion, 1 x CMOS Jumper

X Power 24-pin

) condensing

lass B by request for customization SKU

quest)

37

cking

DIMM

DDR4

PH10FEU

Micro-ATX Form Factor Intel® Coffee Lake Processor with Q370 / H310 Chipset

Features

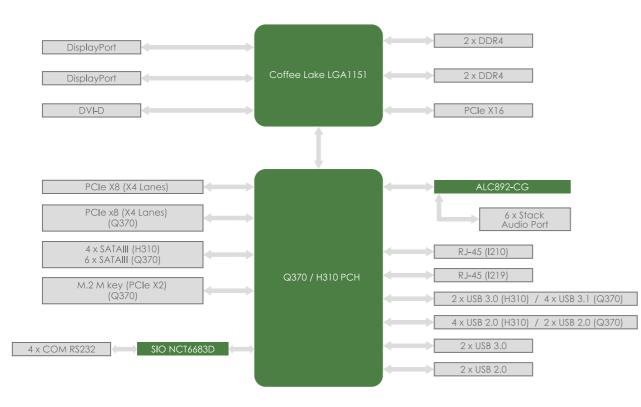
- Intel® Coffee Lake Core i7/i5/i3/Pentium/Celeron
 LGA1151 processors
 PCle X16
 PCle X4
- Intel® Q370 / H310 Chipset
- Intel® vPro technology supported
- 4 x DDR4 DIMM, support up to 64GB
- Support triple display for 2 x DisplayPort and DVI USB 3.1
- Support PCIe X16 (Gen 3) slot, 2 x PCIe X4 (Gen 3) USB 2.0 slot, and M.2 slot
- 6 x SATAIII (support RAID 0, 1, 5, 10 w/ Q370)
- 2 x Intel[®] Gigabit Ethernet
- 4 x USB 2.0, 2 x USB 3.0, 4 x USB3.1 (Gen 2), 4 x COM
- ATX power input



M.2 M Key

SataIII

Block Diagram



PH10FEU Micro ATX

MECHANICAL Form Factor	Micro-ATX 9.6" x 9.6"
SYSTEM	
	9th & 8th Gen Intel® 0
Processor	Core i9 8-core TDP Mo
Chipset Memory	Intel® Q370 (Support DDR4 2666MHz, 4 x 28
Graphics	Intel [®] HD Graphics
Ethernet	Intel® I219-LM Giga L/
Audio	Realtek® ALC892
I/O Chipset	Nuvoton NCT6683D
TPM	Nuvoton NPCT750AA
Expansion Slot	1 x PCle 3 0 X16 slot 2 x PCle 2.0 X8 slot (1 x PCle 2.0 X8 slot (
BIOS	256 Mbit SPI, AMI BIO
H / W Monitor	Temperature Monitor
Watchdog Timer	1~255 Steps by Softw
Smart Fan Control	CPU Fan / System Far
GRAPHICS	
VGA	—
DVI	Up to 4K (4096 x 2160
HDMI	—
DisplayPort	Up to 4K (4096 x 2304
LVDS	—
eDP (Option)	-
REAR I/O	
USB	4 x USB 3.1 Gen 2 (Q3
Display I/O	1 x DVI-D, 2 x Display
Audio I/O	6 x Stack Audio Jack
LAN I/O	2 x RJ-45
Serial Port PS/2 Port	_
Others	
INTERNAL CONNECTORS	
Storage	6 x SATAIII / 4 x SATAIII
USB	2 x USB 3.0 (Q370) 2 x USB 2.0
Display I/O	—
Audio I/O	—
Serial Port	4 x R\$232
PS/2 Port	_
Parallel Port GPIO	_
Fan	1 x 4-pin CPU Fan Co
Power	1 x ATX 24-pin, 1 x ATX
Others	1 x Front Audio Head
POWER REQUIREMENT	
Power Input	ATX Power 8-pin + AT
ENVIRONMENTAL	
Operating Temperature	0~60°C (32~140°F)
Storage Temperature	-20 ~ 70°C (-4 ~158°F)
Operating Humidity	10% ~ 95% R/H, non-c
Certification	CE & FCC Class B
OS	
	Windows [®] 10 64-bit
OS Support	Linux (support by req

Ordering Information

Model Number	Chipset	Disp l ay Port	DV I- D	External USB 3.1/3.0/2.0	Internal USB 3.0/2.0	6-stack Audio Jack	RS232	LAN	M.2 (2280 M key) / SATA	PCle X16	PCle X4	Power
PH10FEU-Q370	Intel® Q370	2	1	4/0/2	2/2	1	4	2	1/6	1	2	ATX Power (24-pin + 8-pin)
PH10FEU-H310	Intel® H310	2	1	0/2/4	2/2	1	4	2	0 / 4	1	1	ATX Power (24-pin + 8-pin)

Packing List

	Pack
• 1 x Motherboard	• 1 x 50cm SATA (



(244mm x 244mm)

Coffee Lake LGA1151 Socket Processor, Core i7/i5/i3 &-core TDP Max. 95W ax 35W RAID 0 / 1 / 5 / 10)/ Intel® H310

288-pin U-DIMM, Max. 64GB (Non-ECC)

AN + Intel® I210-AT Giga LAN

AAYX TPM2.0 (Optional)

(X4 Lanes) for Q370 (X4 Lanes) for H310 / M 2 2242 / 2280 M key (PCIe) DS or, Voltage Monitor, Fan Monitor

are Program

) @30 Hz

4) @60 Hz

770), 2 x USB 2.0 (Q370), 4 x USB 2.0 (H310), 2 x USB 3.0 (H310) Port 1.2

(H310)

onnector, 1x 4-pin System Fan Connector 'X 4-pin, 1 x AT/ATX Mode Select Jumper der (Mic-in & Line-out), 1 x Chassis Intrusion, 1 x CMOS Jumper

TX Power 24-pin

) condensing

quest)

PH12ADI

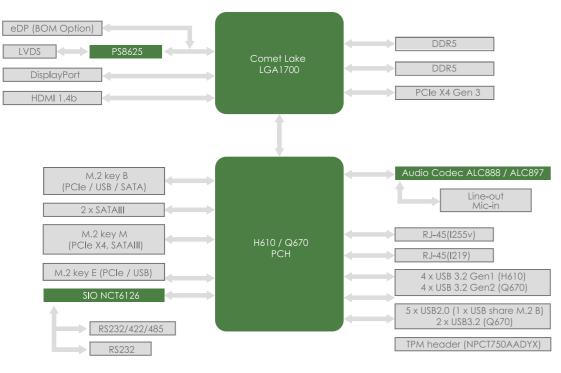
Thin Mini-ITX Form Factor Intel® 13th/12th Processor with H610/Q670 Chipset

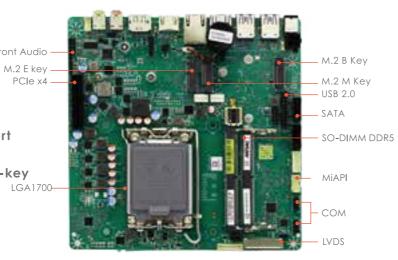
Features

- Intel® Raptor Lake-S 13th/Alder Lake-S Front Audio 12th i9/i7/i5/i3 65W processor
- Intel[®] H610 / Q670 Chipset
- Intel[®] vPro technology support (Q670)
- 2x DDR5 SO-DIMM up to 64GB
- Support triple display for HDMI, DisplayPort and LVDS/eDP
- 1x M.2 2280M-key (NVME), 1 x M.2 2230 E-key LGA1700-(CNVi), 1 x M.2 3042 B-Key, 1 x PCIe X4
- 1 x Intel[®] 2.5Gigabit Ethernet, 1 x Intel[®] Gigabit Ethernet
- DC-in 12V / 19V



Block Diagram







PH12ADI Thin Mini-ITX

Packing List

Packing

1 x Mainboard

MECHANICAL Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)						
SYSTEM							
Processor	13th/12th Gen Intel® Raptor Lake-S/Alder Lake-S LGA 1700 Socket Processor / Core i9/i7/i5/i3 Processor / TDP 65V						
Chipset	Intel® H610 / Q670						
Memory	DDR5 4800 MHz / 2 x 262-pin SO-DIMM / Max. 64GB (Non-ECC) Horizontal						
	(support 5200MHZ on Raptor Lake s)						
Graphics	Intel® UHD Graphics 770						
Ethernet Audio	Intel® I219-LM Giga LAN + Intel® I225V 2.5 Giga LAN Realtek® ALC888 Co-Lay ALC897						
I/O Chipset	Nuvoton NCT6126D(eSPI)						
TPM	TPM Header / (support optional TPM module board NPCT750)						
	1x PCIe x4 slot Gen3 open end (not support x16 graphic card)						
Expansion Slot	1x M.2 2242 / 2280 M key (PCIe X4, SATA)						
	1x M.2 2230 E key (PCIe, USB 2.0, CNVi) 1x M.2 3042 B key (USB, PCIe, SATA)						
BIOS	AMI BIOS, 256 Mbit SPI						
H / W Monitor	Temperature Monitor, Voltage Monitor, Fan Monitor						
Watchdog Timer	1 ~ 255 Steps by Software Program						
Smart Fan Control	CPU Fan / System Fan						
GRAPHICS							
VGA	-						
DVI HDMI							
DisplayPort	Up to 4K (4096 x 2160) @30 Hz Up to 4K (4096 x 2304) @60 Hz						
LVDS	Up to 1920 x 1200 @60 Hz						
eDP (Option)	Up to 4K (4096 x 2304) @60 Hz						
REAR I/O							
USB	4 x USB 3.2 Gen1 (H610) / 4 x USB 3.2 Gen2 (Q670)						
Display I/O	1 x HDMI 1.4, 1 x DisplayPort 1.2						
Audio I/O	1 x Mic-in, 1 x Line-out						
LAN I/O Serial Port	2 x RJ-45						
PS/2 Port							
Others	DC-in 12V (2.5 mm / ID, 5.5 mm / OD) / DC-in 19V (5.1 mm / ID, 7.4 mm / OD)						
INTERNAL CONNECTORS							
Storage	2 x SATAIII						
USB	H610 & Q670: 5 x USB 2.0 (1 x USB share M.2 B)						
	(0: 2 x USB 3.2 VDS (Optional opp SKU avaighte)						
Display I/O	1 x LVDS (Optional eDP SKU avaiable) 1 x Backlight Connector						
Audio I/O	1 x Stereo Speaker 2W						
Serial Port	1 x RS232 , 1 x RS232 / 422 / 485						
PS/2 Port	-						
Parallel Port							
GPIO Fan	1 x MiAPI Header (Programmable) 1 x 4-pin CPU Fan Connector / 1 x 4-pin System Fan Header						
Power	12V DC in Jack (2.5mm/ ID, 5.5mm/ OD) colay 19V DC in Jack (5.1 mm / ID, 7.4 mm / OD)						
	1 x ATX-4pin Connector, Jumper: 1 x AT / ATX Mode Select						
	1 x Front Audio Header (Mic-in / Line-out), 1 x CMOS Jumper,						
Others	1 x panel power select header, 1 x SATA power,						
	1 x FIO header, 1 x intrusion switch header, 1 x DMIC header, 1x buzzer header						
POWER REQUIREMENT							
Power Input	DC-in 19V (5.1 mm / ID, 7.4 mm / OD) / ATX 4-pin 19V DC-in 12V (2.5 mm / ID, 5.5 mm / OD) / ATX 4-pin 12V						
ENVIRONMENTAL Operating Temperature	$0 \sim 60^{\circ}$ C (32 ~ 140°E)						
Operating Temperature	0 ~ 60°C (32 ~ 140°F) -40 ~ 85°C (-40 ~ 185°F)						
	-40 ~ 85°C (-40 ~ 185°F) 10% ~ 95% R/H, non-condensing						
Operating Temperature Storage Temperature Operating Humidity Certification	-40 ~ 85°C (-40 ~ 185°F)						
Operating Temperature Storage Temperature Operating Humidity Certification OS	-40 ~ 85°C (-40 ~ 185°F) 10% ~ 95% R/H, non-condensing						
Operating Temperature Storage Temperature Operating Humidity Certification	-40 ~ 85°C (-40 ~ 185°F) 10% ~ 95% R/H, non-condensing						
Operating Temperature Storage Temperature Operating Humidity Certification OS OS OS Support	-40 ~ 85°C (-40 ~ 185°F) 10% ~ 95% R/H, non-condensing CE & FCC Class B						
Operating Temperature Storage Temperature Operating Humidity Certification OS	-40 ~ 85°C (-40 ~ 185°F) 10% ~ 95% R/H, non-condensing CE & FCC Class B Windows® 11 64bit, Linux (support by request) ubuntu 20.04						
Operating Temperature Storage Temperature Operating Humidity Certification OS OS Support	-40 ~ 85°C (-40 ~ 185°F) 10% ~ 95% R/H, non-condensing CE & FCC Class B Windows® 11 64bit, Linux (support by request) ubuntu 20.04						
Operating Temperature Storage Temperature Operating Humidity Certification OS OS Support Ordering Information Model Number Chipset DisplayPort HDMI	-40 ~ 85°C (-40 ~ 185°F) 10% ~ 95% R/H, non-condensing CE & FCC Class B Windows® 11 64bit, Linux (support by request) ubuntu 20.04 LVDS / eDP USB 3.2 / RS232 Mic-in/ LAN M.2 2230 E key / PCle X4 Power						
Operating Temperature Storage Temperature Operating Humidity Certification OS OS Support Ordering Information	-40 ~ 85°C (-40 ~ 185°F) 10% ~ 95% R/H, non-condensing CE & FCC Class B Windows® 11 64bit, Linux (support by request) ubuntu 20.04						



PH14ADI

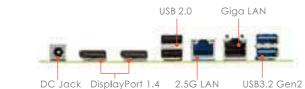
Thin Mini-ITX Form Factor Intel[®] 13th/12th Processor with H610/Q670 Chipset

Features

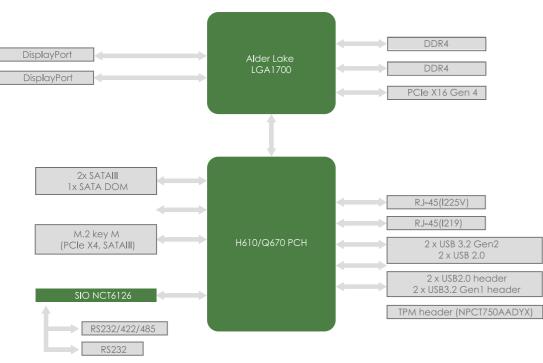
- Intel[®] Raptor Lake-S 13th/Alder Lake-S 12th i9/i7/i5/i3 65W processor
- Intel[®] H610 / Q670 Chipset
- Intel[®] vPro technology support (Q670)
- 2x DDR4 SO-DIMM up to 64GB
- Support dual display for 2x DisplayPort
- 1x M.2 2280M-key (NVME & SATA), 1 x PCIe X16 Gen 4
- 1 x Intel[®] 2.5Gigabit Ethernet, 1 x Intel[®] Gigabit Ethernet
- DC-in 12V







Block Diagram



MECHANICAL	
Form Factor	Mini-ITX: 6.7" x 6.7" (1
SYSTEM	
Processor	13th/12th Gen Intel® R Core i9/i7/i5/i3 Proces
Chipset	Intel [®] H610 / Q670
Memory	DDR4 3200 MHz, 2 x
Graphics	Intel [®] UHD Graphics
Ethernet	Intel® I219-LM Giga LA
Audio	—
I/O Chipset	Nuvoton NCT6126D
TPM	Header (support op
Expansion Slot	1 x PCIe X16 slot Gen 1x M.2 2280 M key (PC
BIOS	Temperature Monitor
H / W Monitor	—
Watchdog Timer	1~255 steps by softwo
Smart Fan Control	CPU Fan, System Far
GRAPHICS	
2nd DisplayPort	Up to 4K (4096 x 2304
VGA	<u> </u>
DVI	—
HDMI	-
DisplayPort	Up to 4K (4096 x 2304
LVDS	—
eDP (Option)	-
REAR I/O	
USB	2 X USB2.0, 2 x USB3.2
Display I/O	2 x DisplayPort 1.4
Audio I/O	—
LAN I/O	2 x RJ-45
Serial Port	—
PS/2 Port	—
Others	DC-in 12V (2.5 mm / I
INTERNAL CONNECTORS	
Storage	2 x SATAIII, 1 x SATA D
USB	2 x USB 2.0, 2 x USB3.2
Display I/O	—
Audio I/O	-
Serial Port	1 x RS232 , 1 x RS232 /
PS/2 Port	—
Parallel Port	—
GPIO	—
Fan	1 x 4-pin CPU Fan Co
Power	1 x ATX-4pin Connect
Others	1 x intrusion switch he
POWER REQUIREMENT	
Power Input	DC-in 12V (2.5 mm /
ENVIRONMENTAL	
Operating Temperature	0 ~ 60°C (32 ~ 140°F)
Storage Temperature	-40 ~ 85°C (-40 ~ 185
Operating Humidity	10% ~ 95% R/H, non-c
Certification	CE & FCC Class B
OS Support	Windows® 11 64bit, Wir

Model Number	Chipset	DisplayPort	USB 3.2 / 2.0	СОМ	LAN	2280 M key	PCle X16	Power
PH14ADI-H610-12V	Intel [®] H610	2	4/4	2	2	1	1	DC-in 12\
PH14ADI-Q670-12V	Intel® Q670	2	4/4	2	2	1	1	DC-in 12

Packing	
• 1 x Motherboard	• 1 x 50 cm SATA Cable



70mm x 170mm)

Raptor Lake-S/Alder Lake-S LGA1700 Socket Processor / ssor / TDP 65W

260-pin SO-DIMM, Max. 64GB (Non-ECC)

N + Intel® I225V 2.5 Giga LAN

(eSPI) tional TPM module board NPCT750) 4 Cle X4, SATAIII)

, Voltage Monitor, Fan Monitor,

are program

)@60 Hz,

) @60 Hz

Gen2

D, 5.5 mm / OD)

OM, 1x SATA Power header Gen1

422 / 485

nnector / 1 x 4-pin System Fan Header or

ader, 1 x CMOS Jumper, 1 x FIO header

ID, 5.5 mm / OD) / ATX 4-pin 12V

°F)

condensing

ndows® 10 IoT LTSC 64bit (LTSC 2021), Ubuntu 22.04, Linux (support by request)

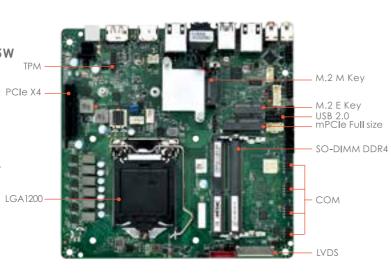
• 2 x I/O Bracket (Half and Full Height)

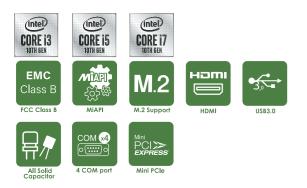
PH11CMI

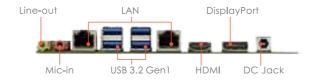
Thin Mini-ITX Form Factor Intel® Comet Lake 10th Processor with H410 Chipset

Features

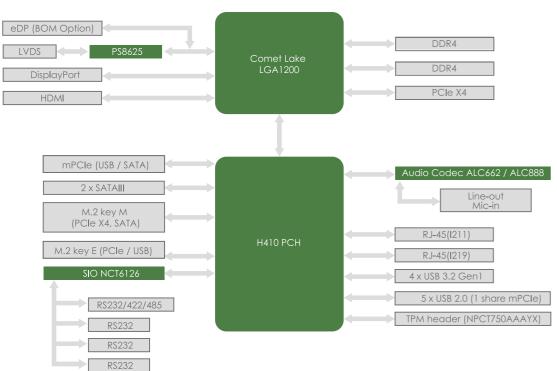
- Up to Intel[®] Comet Lake 10th i7 35W & i5 65W LGA processor
- Intel[®] H410 Chipset
- 2 x DDR4 SO-DIMM up to 64GB
- Support Dual display for HDMI, DisplayPort and LVDS/eDP
- 1 x M.2 M 2280, 1 x M.2 E 2230, 1 x PCIe X4 and 1 x mPCle Full size,
- 2 x Intel[®] Gigabit Ethernet
- DC-in 12V / 19V







Block Diagram



PH11CMI Thin Mini-ITX

MECHANICAL										
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)									
SYSTEM										
Processor	10th Gen Intel® Comet Lake LGA1200 Socket Processor / 10core TDP Max 35W / 8ccore TDP 65W									
Chipset	Intel® H410									
Memory	DDR4 2933/2666/2400MHz / 2 x 260-pin SO-DIMM / Max. 64GB (Non-ECC)									
Graphics	Intel® HD Graphics									
Ethernet	Intel® I219-LM Giga LAN + Intel® I211-AT Giga LAN									
Audio	Realtek® ALC662 / ALC888									
I/O Chipset	Nuvoton NCT6126D(eSPI)									
TPM	TPM Header / (support TPM module board NPCT750)									
	1 x PCIe 3.0 X4 slot / 1 x Mini PCIe Full size (SATA / USB)									
Expansion Slot	1 x M.2 2242 / 2280 M key (PCIe, SATA)									
BIOS	1 x M.2 2230 E key (PCle, USB 2.0) AMI BIOS, 256 Mbit SPI									
H / W Monitor	Temperature Monitor, Voltage Monitor, Fan Monitor									
Watchdog Timer	1 ~ 255 Steps by Software Program									
Smart Fan Control	CPU Fan / System Fan									
GRAPHICS										
VGA	-									
DVI	-									
HDMI	Up to 4K (4096 x 2160) @30 Hz									
DisplayPort	Up to 4K (4096 x 2304) @60 Hz									
LVDS	Up to 1920 x 1200 @60 Hz									
eDP (Option)	Up to 4K (4096 x 2304) @60 Hz									
REAR I/O										
USB	4 x USB 3.2 Gen 1									
Display I/O	1 x HDMI 1.4, 1 x DisplayPort 1.2									
Audio I/O	1 x Mic-in, 1 x Line-out									
LAN I/O	2 x RJ-45									
Serial Port	-									
PS/2 Port	-									
Others	DC-in 12V (2.5 mm / ID, 5.5 mm / OD) / DC-in 19V (5.1 mm / ID, 7.4 mm / OD)									
INTERNAL CONNECTORS										
Storage	2 x SATAIII / 1 x SATA power header									
USB	5 x USB 2.0 pitch 2.54mm (1 x USB share mPCle)									
Display I/O	1 x LVDS (Optional eDP SKU avaiable)									
Audio I/O	1 x Backlight Connector									
Serial Port	1 x Stereo Speaker Header 4 x RS232 pitch 2.0mm (One supports RS232 / 422 / 485)									
PS/2 Port										
Parallel Port	-									
GPIO	1 x MiAPI Header (Programmable. Support 10-bit GPIO)									
Fan	1 x 4-pin CPU Fan Connector / 1 x 4-pin System Fan Header									
Power	1 x AT / ATX Mode Select Jumper, 1 x 4-pin ATX Power Connector									
Others	1 x Front Audio Header (Mic/HP) x 1, CMOS Jumper									
POWER REQUIREMENT										
Powerlanut	DC-in 19V (5.1 mm / ID, 7.4 mm / OD) / ATX 4-pin 19V									
Power Input	DC-in 12V (2.5 mm / ID, 5.5 mm / OD) / ATX 4-pin 12V									
ENVIRONMENTAL										
Operating Temperature	0~60°C (32~140°F)									
Storage Temperature	-40 ~ 85°C (-40 ~ 185°F)									
Operating Humidity	10% ~ 95% R/H, non-condensing									
Certification	CE & FCC Class B									
OS										
OS Support	Windows® 10 64bit, Linux (support by request)									
Ordering Information	n									
Model Number Chipset DisplayPort HDMI	LVDS / eDP_USB 3.2 / 2.0_SATA_Line out_LAN_M.2 2230 E key / mini PCIe_PCIe X4_Power									
PH11CMI-H410-12V Intel®H410 1 1	1/0 4/5 2 1/1 2 1/1 1 1 DC-in 12V									
PH11CMI-H410-19V Intel®H410 1 1	1/0 4/5 2 1/1 2 1/1 1 DC-in 19V									
Packing List										

	•	
Packing		
 1 x Mainboard 		 1 x SATA & SATA Power C

44



Cable

M.2 M key

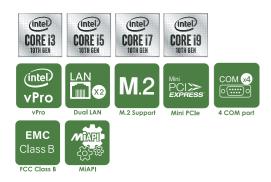
PH12CMI

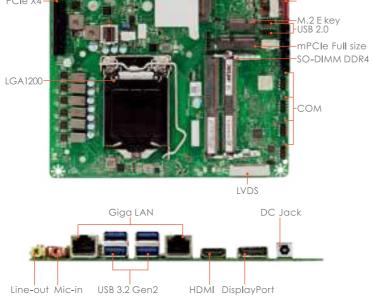
Thin Mini-ITX Form Factor Intel® Comet Lake Processor with Q470E Chipset

TPM

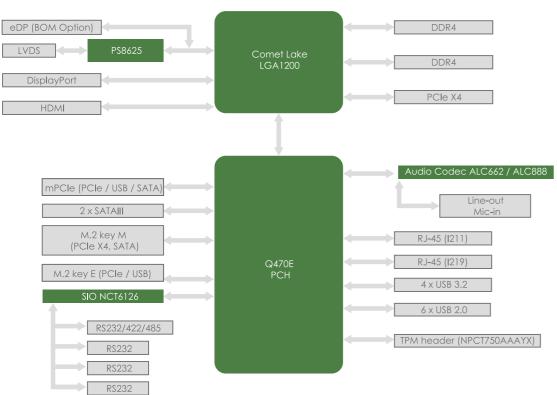
Features

- Intel® Comet Lake 10th 65W(10cores) LGA processor
- Intel[®] Q470E Chipset
- Intel® vPro technology support (Q470E)
- 2 x DDR4 SO-DIMM up to 64GB
- Support triple display for HDMI, DisplayPort PCIe X4and LVDS / eDP
- 1 x M.2 M 2280, 1 x M.2 E 2230, 1 x mPCle Full size, 1 x PCle X4
- 2 x Intel[®] Gigabit Ethernet
- DC-in 12V / 19V





Block Diagram



PH12CMI Thin Mini-ITX

MECHANICAL Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 1
SYSTEM	Mini-11X. 6.7 X 6.7 (17011111X1
Processor	10th Gen Intel® Comet Lake I
Chipset	Intel® Q470E (Support RAID 0
Memory	DDR4 2933/2666/2400MHz, 2 x
Graphics	Intel [®] HD Graphics
Ethernet	Intel® 1219-LM Giga LAN + Inte
Audio	Realtek® ALC662 / ALC888
I/O Chipset TPM	Nuvoton NCT6126D(eSPI)
I F IVI	TPM Header (support TPM mo 1 x PCIe X4 slot
Expansion Slot	1 x Mini PCIe Full size (PCIe / USB /
	1 x M.2 2242 / 2280 M key (PCIe) 1 x M.2 2230 E key (PCIe, USB 2.0)
BIOS	AMI BIOS, 256 Mbit SPI
H / W Monitor	Temperature Monitor, Voltage
Watchdog Timer	1~255 Steps by Software Progr
Smart Fan Control	CPU Fan / System Fan
GRAPHICS	
VGA	—
DVI	—
HDMI	Up to 4K (4096 x 2160) @30 Hz
DisplayPort 2nd DisplayPort	Up to 4K (4096 x 2304) @60 Hz
LVDS	Up to 1920 x 1200 @60 Hz
eDP (Option)	Up to 4K (4096 x 2304) @60 Hz
REAR I/O	
USB	4 x USB 3.2 Gen 2 (Q470E)
Display I/O	1 x HDMI 1.4, 1 x DisplayPort 1.
Audio I/O	1 x Mic-in ,1 x Line-out
LAN I/O	2 x RJ-45
Serial Port PS/2 Port	
Others	DC-in 12V (2.5 mm / ID, 5.5 mm
INTERNAL CONNECTORS	
Storage	2 x SATAIII / 1 x SATA power hea
USB	6 x USB 2.0 pitch 2.0mm
Display I/O	1 x LVDS (Optional eDP SKU av
	1 x Backlight Connector
Audio I/O Serial Port	- (and support of the second s
PS/2 Port	4 x RS232 pitch 2.0mm (one sup
Parallel Port	-
GPIO	1 x MiAPI Header (Programma
Fan	1 x 4-pin CPU Fan Connector,
Power	1 x ATX 4-pin Power Connector
Others	1 x Front Audio Header (Mic-ir
	1 x backlight power select hea
POWER REQUIREMENT	DC-in 19V (5.1 mm / ID, 7.4 m
Power Input	DC-in 19V (5.1 mm / ID, 7.4 m DC-in 12V (2.5 mm / ID, 5.5 m
ENVIRONMENTAL	
Operating Temperature	0~60°C (32~140°F)
Storage Temperature	-40 ~ 85°C (-40 ~185°F)
Operating Humidity	10% ~ 95% R/H, non-condensir
Certification OS	CE & FCC Class B
03	Windows® 10 64-bit
OS Support	Linux (support by request)
	and the second sec

Ordering Information

Model Number	Chipset	DisplayPort / HDMI	LVDS / eDP	USB 3.2 / 2.0	Mic-in / Line-in	RS - 232	LAN	M.2 2230 E key / M.2 2280 M key	PCle X4	Power
PH12CMI-Q470-12V	Intel® Q470E	1/1	1/0	4/6	1/1	4	2	1/1	1	DC-in 12V
PH12CMI-Q470-19V	Intel® Q470E	1/1	1/0	4/6	1/1	4	2	1/1	1	DC-in 19V

Packing List	
Packing	
• 1 x Motherboard	I x SATA & SATA Po

46



170mm)
LGA1200 Socket Processor, 10core TDP Max 35W / 8ccore TDP 65W) / 1 / 5, VPro) x 260-pin SO-DIMM, Max. 64GB (Non-ECC)
el® I210-AT Giga LAN
odule board PCT750) / SATA)
) X4, SATA) D
e Monitor, Fan Monitor Iram
.2
n / OD) / DC-in 19V (5.1 mm / ID, 7.4 mm / OD)
ader
ivailable)
pports RS232/422/485)
able) , 1 x 4-pin System Fan Connector r, 1 x AT / ATX Mode Select Jumper in / Line-out), 1 x CMOS Jumper, 1 x panel power select header, ader, 1x buzzer header, 1 x Digital MIC
nm / OD) / ATX 4-pin 19V nm / OD) / ATX 4-pin 12V

sing

Mini-iTX

Л.2 M key

Line-out/Mic-in

PH12FEI

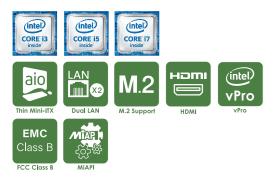
Thin Mini-ITX Form Factor Intel® Coffee Lake Processor with Q370 / H310 Chipset

COM

PCIe X4

Features

- Intel[®] Coffee Lake Core i7/i5/i3 / Pentium / Celeron LGA1151 processors
- Intel[®] H310/Q370 Chipset
- Intel[®] vPro technology support (Q370)
- 2 x DDR4 SO-DIMM, support up to 32GB
- Support triple display for HDMI, DisplayPort and LVDS/eDP
- Support PCIe X4 (Gen 3) slot and M.2 slot LGA1151-
- 3 x SATA III support RAID 0, 1, 5
- 2 x Intel[®] Gigabit Ethernet
- 6 x USB 2.0, 4 x USB 3.1 (Gen 2), 4 x COM and 1 x MiAPI (configurable digital I/O)
- DC-in 12/19V power input

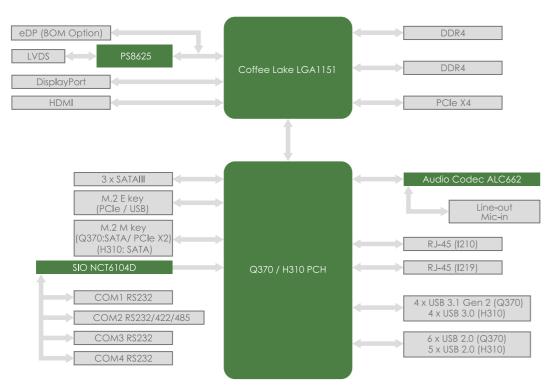




HDM

Giga LAN

Block Diagram



USB 3.1 Gen2

PH12FEI Thin Mini-ITX

MECHANICAL	
Form Factor	Mini-ITX: 6.7" x 6.7" (17
SYSTEM	
Processor	9th & 8th Gen Intel®C 65W, Core i9 8-core TD
Chipset	Intel® Q370 / Intel® H3
Memory	DDR4 2666MHz, 2 x 26
Graphics	Intel [®] HD Graphics
Ethernet	Intel® 1219-LM Giga LA
Audio	Realtek® ALC662
I/O Chipset	Nuvoton NCT6116D
TPM	Nuvoton NPCT750AAA 1 x PCle 3.0 X4 slot
Expansion Slot	1 x M.2 2260 / 2280 M 1 x M.2 2230 E key (PC
BIOS	AMI BIOS, 256 Mbit SPI
H / W Monitor	Temperature Monitor,
Watchdog Timer	1~255 Steps by Softwa
Smart Fan Control	CPU Fan / System Fan
GRAPHICS	
VGA	-
DVI HDMI	— Up to 4K (4096 x 2160)
DisplayPort	Up to 4K (4096 x 2160) Up to 4K (4096 x 2304)
LVDS	Up to 1920 x 1200 @60
eDP (Option)	Up to 4K (4096 x 2304)
REAR I/O	
USB	4 x USB 3 1 Cop 2 /10 /
Display I/O	4 x USB 3.1 Gen. 2 (10 1 x HDMI 1.4, 1 x Displa
Audio I/O	1 x Mic-in ,1 x Line-out
LAN I/O	2 x RJ-45
Serial Port	
PS/2 Port	-
Others	DC-in 12V(DIN 4-pin po
INTERNAL CONNECTORS	
Storage	3 x SATAIII
USB	6 x USB 2.0 (Q370) , 5 x
Display I/O	1 x LVDS(Optional eDF
	1 x Backlight Connect
Audio I/O	1 x Line-out
Serial Port	4 x RS232(one support
PS/2 Port	-
Parallel Port	
GPIO Fan	1 x MiAPI Header (Prog 1 x 4-pin CPU Fan Con
Power	1 x ATX Power Connec
Others	1 x Front Audio Heade
POWER REQUIREMENT	
Power Input	DC-in 19V(5.1mm / ID, DC-in 12V(DIN 4-pin p
ENVIRONMENTAL	
Operating Temperature	0~60°C (32~140°F)
Storage Temperature	-20~80°C (-4~158°F)
Operating Humidity	10% ~ 95% R/H, non-ce
Certification	CE & FCC Class B
OS	
	Windows® 10 64-bit
OS Support	Linux (support by requ

Ordering Information

Model Number	Chipset	Disp l ayPort	HDMI	LVDS / eDP	USB 3.1 / 2.0	Line-out / Mic-in	RS - 232	LAN	M.2 2230 E key / M.2 2280 M key	PCle X4	Power
PH12FEI-H310-19V	Intel [®] H310	1	1	1/0	4/5	1/1	4	2	1/1	1	DC-in 19V
PH12FEI-H310-12VC	Intel [®] H310	1	1	1/0	4/5	1/1	4	2	1/1	1	DC-in 12V
PH12FEI-Q370-19V	Intel [®] Q370	1	1	1/0	4/6	1/1	2	2	1/1	1	DC-in 19V
PH12FEI-Q370-12V	Intel [®] Q370	1	1	1/0	4/6	1/1	4	2	1/1	1	DC-in 12V
										* • • •	

Packing List

Packing	
 1 x Motherboard 	• 1 x 50cm
 1 x ATX 4-pin to DIN 4-pin Cable (12V SKU Only) 	• 2 x I/O B



0mm x 170mm)

Coffee Lake LGA1151 Socket Processor, Core i7/i5/i3 6-core TDP Max. DP Max 35W 310

0-pin SO-DIMM, Max. 32GB (Non-ECC)

AN + Intel® I210-AT Giga LAN

AYX TPM2.0 (Optional)

key (PCIe X2, SATA) **H310 only supports SATA SSD CIe, USB 2.0) *not support Intel CNVi wifi module

Voltage Monitor, Fan Monitor are Program

@30 Hz @60 Hz Ηz @60 Hz

Gb/S ayPort 1.2

ower cable) / DC-in 19V (5.1 mm / ID, 7.4 mm / OD)

USB 2.0 (H310) ^o SKU available) or

s RS232/422/485 select by BIOS)

grammable) support 8 x GPIO nnector, 1 x 4-pin System Fan Connector ctor, 1 x AT/ATX Mode Select Jumper r (Mic-in/Line-out), 1 x Chassis Intrusion, 1 x CMOS Jumper

7.4mm/ OD) / ATX 2-pin 19V ower cable) / ATX 4-pin 12V

ondensing

uest)

*Option: TPM, eDP

49

m SATA Cable Bracket (Half and Full Height) • 1 x 45cm SATA Power Cable

Sataiii

M.2 E key

MC

USB 2.0 LVDS

DisplayPort

HDMI

DC Jack

mPCIe Full size

SO-DIMM DDR4

PH14FEI

Thin Mini-ITX Form Factor Intel® Coffee Lake Processor with H310/Q370 Chipset

Giga LAN

USB 3.1 Gen2

Features

- Up to Intel[®] Coffee Lake-R 9th i9 35W & 8th i7 95W(6cores) LGA processor
- Intel[®] H310/Q370 Chipset
- Intel[®] vPro technology support (Q370)
- 2 x DDR4 SO-DIMM up to 32GB
- 5 phase power design
- Support triple display for HDMI, DisplayPort and LVDS/eDP LGA1151-
- 1 x M.2 M 2280, 1 x M.2 E 2230, 1 x mPCIe Full size, 1 x PCIe X16
- 2 x Intel[®] Gigabit Ethernet
- DC-in 12V (Optional: 12~24V SKU)



Block Diagram

PH14FEL-XXXX-12V(Output)

Pin 4 VCC

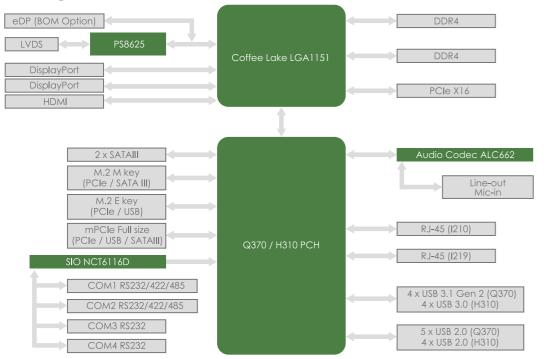
Pin 3 GND

Pin 2 VCC

Pin 1 GND

CS

FCC Class B



PH14FEI-XXXX-24V(Output)

Pin 3 GND Pin 2 NC

Pin 1 VCC

Line-out Mic-in

PCIe X16-TPM-

Power Ordering Information

MITAC PN	Description
442110000147	12V 180W adapter for PH14FEI-XXXX-12V
442110000151	24V 120W adapter (for 35W CPU only) for PH14FEI-XXXX-24V
442110000149	24V 220W adapter for PH14FEI-XXXX-24V

PH14FEI Mini-ITX

MECHANICAL	
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
SYSTEM Processor	9th & 8th Gen Intel® Coffee Lake LGA1151 Socket Processor, Core i7/i5/i3 6-core TDP Max. 95W,
Chipset	Core i9 8-core TDP Max 35W
Memory	Intel® Q370 (Support RAID 0 / 1) support vPro / Intel H310 DDR4 2666MHz, 2 x 260-pin SO-DIMM, Max. 32GB (Non-ECC)
Graphics	Intel [®] HD Graphics
Ethernet	Intel® I219-LM Giga LAN + Intel® I210-AT Giga LAN
Audio I/O Chipset	Realtek® ALC662 Nuvoton NCT6116D
TPM	TPM Header (option TPM-SPI-NPCT750)
	1 x PCIe X16 slot 1 x Mini PCIe Full size (SATA, USB, PCIe)
Expansion Slot	1 x M.2 2260 / 2280 M key (PCIe, SATÁ) * H310 only supports M.2 SATA SSD
BIOS	1 x M.2 2230 E key (PCIe, USB 2.0) AMI BIOS, 256 Mbit SPI
H / W Monitor	Temperature Monitor, Voltage Monitor, Fan Monitor
Watchdog Timer	1~255 Steps by Software Program
Smart Fan Control	CPU Fan / System Fan
GRAPHICS	
VGA	-
DVI	
HDMI DisplayPort	Up to 4K (4096 x 2160) @30 Hz Up to 4K (4096 x 2304) @60 Hz
2nd DisplayPort	Up to 4K (4096 x 2304) @60 Hz
LVDS	Up to 1920 x 1200 @60 Hz
eDP (Option)	Up to 4K (4096 x 2304) @60 Hz
REAR I/O USB	4 x USB 3.1 Gen. 2 (10Gb/S)(Q370) / 4 x USB 3.0 (H310)
Display I/O	1 x HDMI 1.4, 2 x DisplayPort 1.2
Audio I/O	1 x Mic-in ,1 x Line-out
LAN I/O	2 x RJ-45
Serial Port PS/2 Port	-
Others	1 x DIN 4-pin DC Jack
INTERNAL CONNECTORS	
Storage	2 x SATAIII
USB	5 x USB 2.0 (Q370) , 4 x USB 2.0 (H310)
Display I/O	1 x LVDS (Optional eDP SKU available) 1 x Backlight Connector
Audio I/O	1 x Speaker 2W
Serial Port	4 x RS232 (two supports RS232/422/485 select by BIOS)
PS/2 Port	-
Parallel Port GPIO	- 1 v MiA DI Haardar (Dragrammabla)
Fan	1 x MiAPI Header (Programmable) 1 x 4-pin CPU Fan Connector, 1 x 4-pin System Fan Connector
Power	1 x ATX 4-pin Power Connector, 1 x AT / ATX Mode Select Jumper
Others	1 x Front Audio Header (Mic-in / Line-out), 1 x CMOS Jumper, 1 x panel power select header,
	1 x backlight power select header, 1x buzzer header
POWER REQUIREMENT	DC in 101/ DIN 4 min compositor (ATV dain 10)/
Power Input	DC-in 12V DIN 4-pin connector / ATX 4pin 12V *optional 12V-24V SKU
ENVIRONMENTAL	
Operating Temperature	0~60°C (32~140°F)
Storage Temperature	-40 ~ 85°C (-40 ~185°F)
Operating Humidity	10% ~ 95% R/H, non-condensing
Certification	CE & FCC Class B
OS	Windows® 10 64-bit
OS Support	Linux (support by request)
Ordering Inform	ation
Model Number Chipset Display	
PH14FEI-H310-12V Intel® H310 1 /	
PH14FEI-Q370-12V Intel® Q370 2 /	
PH14FEI-H310-24V Intel® H310 1 /	1 1/0 4/4 1/1 4 2 1/1 1 1 DC-in 12~24
Optional Parinh	aral
Optional Periphe	
Model Number TPM-SPI-NPCT75	0 Description Nuvoton NPCT750 TPM2.0
Packing List	
Packing List	
Packing	
 1 x Motherboard 	1 x 50cm SATA Cable 2 x I/O Bracket (Half and Full Height)



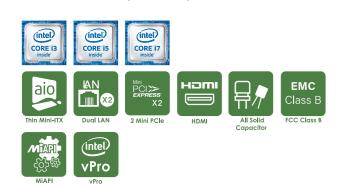
PH12SI

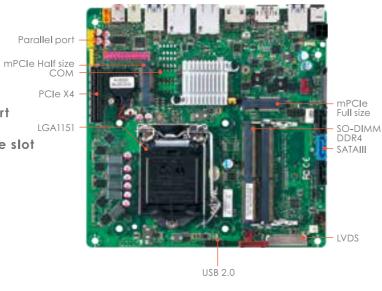
Thin Mini-ITX Form Factor

Intel® Kaby Lake / Skylake Processor with Q170 / H110 Chipset

Features

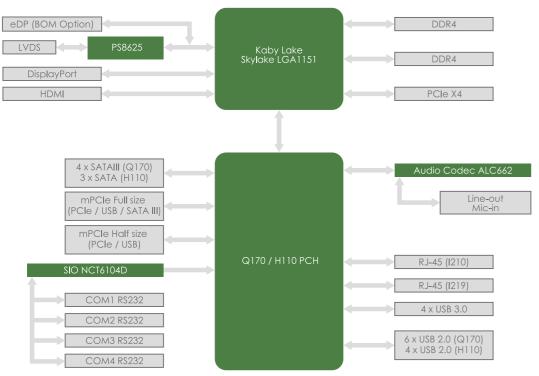
- Intel® Skylake / Kaby Lake Core i7/i5/i3 / Pentium / Celeron LGA1151 processors
- Intel[®] H110/Q170 Chipset
- Intel[®] vPro technology support (Q170)
- 2 x DDR4 SO-DIMM, support up to 32GB
- Support triple display for HDMI, DisplayPort and LVDS/eDP
- Support PCIe X4 (Gen 3) slot and Mini PCIe slot
- 4 x SATA III support RAID 0, 1, 5, 10
- 2 x Intel[®] Gigabit Ethernet
- 6 x USB 2.0, 4 x USB 3.0, 4 x COM and 1 x MiAPI (configurable digital IO)
- DC-in 12/19V power input







Block Diagram



PH12SI Thin Mini-ITX

MECHANICAL	
Form Factor	Mini-ITX: 6.7" x 6.7" (1
SYSTEM	
Processor	7/6th Gen Intel Kaby
Chipset	Intel® Q170 (Support
Memory Graphics	DDR4 1866/2133MHz, Intel® HD Graphics
Ethernet	Intel® I219-LM Giga L
Audio	Realtek [®] ALC662
I/O Chipset	Nuvoton NCT6104D
TPM	Nuvoton NPCT650AA
	1 x PCIe X4 slot
Expansion Slot	1 x PCle Full/Half size
	1 x PCIe Half size (PC 128 Mbit SPI, AMI BIO
BIOS H / W Monitor	Temperature Monito
Watchdog Timer	1 ~ 255 Steps by Soft
Smart Fan Control	CPU Fan / System Fa
GRAPHICS	
VGA	-
DVI	-
HDMI	Up to 4K (3840 x 2160
DisplayPort	Up to 4K (4096 x 2304
LVDS	Up to 1920 x 1200 @6
eDP (Option)	Up to 4K (4096 x 2304
REAR I/O	4 1100 0 0
USB Display I/O	4 x USB 3.0
Audio I/O	1 x HDMI 1.4, 1 x Disp 1 x Mic-in, 1 x Line-ou
Lan I/O	2 x RJ-45
Serial Port	_
PS/2 Port	-
Others	1 x DC Jack
INTERNAL CONNECTORS	
Storage	3 x SATAIII (H110) , 4 x
USB	4 x USB 2.0 (H110) , 6 >
Display I/O	1 x LVDS (Optional el
Audio I/O	1 x Backlight Connect 1 x Line-out
Serial Port	4 x R\$232
PS/2 Port	_
Parallel Port	1 x Parallel Port
GPIO	1 x MiAPI Header (Pro
Fan	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co
Fan Power	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne
Fan Power Others	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co
Fan Power	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne 1 x Front Audio Head
Fan Power Others	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne 1 x Front Audio Head DC-in 19V(5.1mm/ ID
Fan Power Others POWER REQUIREMENT Power Input	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne 1 x Front Audio Head
Fan Power Others POWER REQUIREMENT	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne 1 x Front Audio Head DC-in 19V(5.1mm/ ID
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne 1 x Front Audio Head DC-in 19V(5.1mm/ ID DC-in 12V(2.5mm/ ID
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne 1 x Front Audio Head DC-in 19V(5.1mm/ ID DC-in 12V(2.5mm/ ID 0 ~ 60°C (32 ~ 140°F) -20 ~ 70°C (-4 ~ 158°F 10% ~ 95% R/H, non-c
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity Certification	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne 1 x Front Audio Head DC-in 19V(5.1mm/ ID DC-in 12V(2.5mm/ ID 0 ~ 60°C (32 ~ 140°F) -20 ~ 70°C (-4 ~ 158°F
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne 1 x Front Audio Head DC-in 19V(5.1mm/ ID DC-in 12V(2.5mm/ ID 0 ~ 60°C (32 ~ 140°F) -20 ~ 70°C (-4 ~ 158°F 10% ~ 95% R/H, non-o CE & FCC Class B
Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity Certification	1 x MiAPI Header (Pro 1 x 4-pin CPU Fan Co 1 x ATX Power Conne 1 x Front Audio Head DC-in 19V(5.1mm/ ID DC-in 12V(2.5mm/ ID 0 ~ 60°C (32 ~ 140°F) -20 ~ 70°C (-4 ~ 158°F 10% ~ 95% R/H, non-c

Ordering Information

Model Number	Chipset	DisplayPort / HDMI	LVDS / eDP	USB 3.0 / 2.0	SA
PH12SI-H110-19V	Intel® H110	1/1	1/0	4 / 4	3
PH12SI-Q170-19V	Intel® Q170	1/1	1/0	4/6	4
PH12SI-Q170-12V	Intel® Q170	1/1	1/0	4/6	4

Packing List

Packing	
 1 x Motherboard 	 2 x I/O Bracket (Half and Full Height)



170mm x 170mm)

y Lake/Skylake LGA1151 Socket Processor, TDP Max. 65W RAID 0 / 1 / 5 / 10) / Intel® H110 z, 2 x 260-pin SO-DIMM, Max. 32GB (Non-ECC)

AN + Intel® I210-AT Giga LAN

AAYX TPM2.0 (Optional)

ze (PCIe / USB / SATA) CIe / USB) OS 'or, Voltage Monitor, Fan Monitor 'tware Program

in

0) @30 Hz 4) @60 Hz 60 Hz 4) @60 Hz

olayPort 1.2

x SATAIII (Q170) 5 x USB 2.0 (Q170) eDP SKU avaiable) ector

rogrammable) onnector, 1x 4-pin System Fan Connector ector, 1 x AT/ATX Mode Select Jumper (Optional) der (Mic-in/Line-out), 1 x CMOS Jumper

), 7.4mm/ OD]/ ATX 2-pin 19V), 5.5mm/ OD]/ ATX 4-pin 12V

°F)

-condensing

* 10 64bit, Linux (support by request) 7 32 / 64bit, Windows* 10 64bit, Linux (support by request)

 IA
 Mic-in / Line out
 RS232
 LAN
 PCle Full/ Half size
 PCle X4
 Power

 8
 1 / 1
 2
 2
 1 / 1
 1
 DC-in 19V

 4
 1 / 1
 2
 2
 1 / 1
 1
 DC-in 19V

 4
 1 / 1
 2
 2
 1 / 1
 1
 DC-in 19V

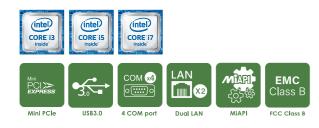
 4
 1 / 1
 4
 2
 1 / 1
 1
 DC-in 12V

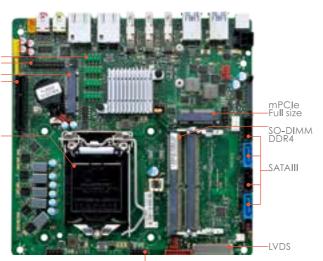
PH13SI

Thin Mini-ITX Form Factor Intel® Kaby Lake / Skylake Processor with Q170 Chipset

Features

- Intel® Skylake / Kaby Lake Core i7/i5/i3 Intel[®] Skylake / Kuby Lake - MIAPI-/ Pentium / Celeron LGA1151 processors
 MIAPI-mPCle Half size -PCle X4 -
- Intel® Q170 Chipset
- Intel® vPro technology support
- 2 x DDR4 SO-DIMM, support up to 32GB LGA1151 -
- Support triple display for 3 x HDMI and LVDS / eDP
- Support 1 x PCIe X4 (Gen 3) slot & 2 x Mini PCIe slot
- 4 x SATAIII
- 2xIntel[®] Gigabit Ethernet
- 6 x USB 2.0, 4 x USB 3.0, 4 x COM and 1 x MiAPI (configurable digital I/O)
- DC-in 12V power input

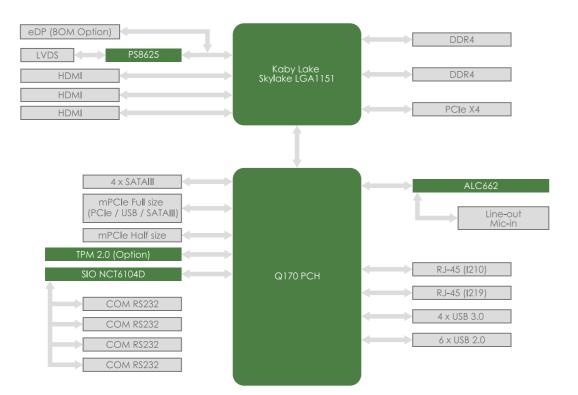




USB 2.0



Block Diagram



PH13SI Thin Mini-ITX

MECHANICA		
Form Factor		Mini-ITX: 6.7" x 6.7" (1
SYSTEM		
Processor		7/6th Gen Intel® Kaby
Chipset		Intel [®] Q170 (Support
Memory		DDR4 1866/2133MHz,
Graphics		Intel [®] HD Graphics
Ethernet		Intel® I219-LM Giga LA
Audio		Realtek® ALC662
I/O Chipset		Nuvoton NCT6104D
TPM		Nuvoton NPCT650AA
11 /VI		
Expansion Slot		1 x PCIe X4 slot 1 x Mini PCIe Full/Hali
Expunsion sion		1 x Mini PCle Half size
BIOS		128 Mbit SPI, AMI BIO
H / W Monitor		
		Temperature Monitor
Watchdog Timer		1~255 Steps by Softwo
Smart Fan Contro		CPU Fan / System Far
GRAPHICS		
VGA		—
DVI		—
HDMI		Up to 4K (3840 x 2160
DisplayPort		—
LVDS		Up to 1920 x 1200 @60
eDP (Option)		Up to 4K (4096 x 2304
REAR I/O	13SI Thin Mini-I	T
		4 x USB 3.0
Display I/O		3 x HDMI 1.4
Audio I/O ME	CHANICAL	1 x Mic-in, 1 x Line-ou
LAN I/O		2 x RJ-45
Serial Port SYS	TEM	-
PS/2 Port	cessor	-
Omers		1 x DC Jack
INTERNAL CO		
Storage	PH13SI Thin A	4 x SATAIII
USB		6 x USB2.0
Display I/O	MECHANICAL	1 x LVDS (colay eDP)
Display I/O	Form Eactor	1 x Backlight Connec
Audio I/O	EQUID FOUND	1 x Line-out
Serial Port	STSTEIM	4 x RS232
PS/2 Port		—
Parallel Port		_
GPIO		1 x MiAPI Header (Pro
Fan	Memory	1 x 4-pin CPU Fan Co
Power		1 x ATX Power Conne
Others	Ethernet	1 x Front Audio Head
POWER REQU	IREMENT	
		DC in 121/2 5mm/ ID
Power Input		DC-in 12V(2.5mm/ ID
	ITAL	
ENVIRONMEN	erature	0~60°C (32~140°F)
Operating Temp		
Operating Temp		-20 ~ 70°C (-4 ~158°F)
Operating Tempo Storage Tempero	ature	
Operating Tempo Storage Temperc Operating Humic	ature	
Operating Temper Storage Temperc Operating Humic Certification	ature	10% ~ 95% R/H, non-c
Operating Temper Storage Tempera Operating Humia Certification OS	ature	
Operating Temper Storage Temperc Operating Humic Certification	ature	10% ~ 95% R/H, non-c

Ordering Information

Model Number	Processor	HDMI	LVDS/eDP	USB 3.0 / 2.0	Sata	Mic-in / Line-out	PCle X4	RS232	LAN	mPCIe Full/Half size	Power
PH13SI-Q170	Intel® Q170	3	1/0	4/6	4	1/1	1	4	2	1/1	DC-in 12V
Packi	ing Lis	t									
Packina											

54

 1 x Motherboard • 1 x 50cm SATA Cable



ov Lake / Skylake LGA1151 Socket Processor, TDP Max. 65W

RAID 0 / 1 / 5 / 10)

, 2 x 260-pin SO-DIMM, Max. 32GB (Non-ECC)

AN + Intel® I210-AT Giga LAN

AAYX TPM2.0 (Optional)

alf size (PCIe / USB / SATA) :e (PCIe / USB))S r, Voltage Monitor, Fan Monitor vare Program

@30 Hz

0 Hz) @60 Hz

ctor

ogrammable) onnector, 1 x 4-pin System Fan Connector ector, 1 x AT/ATX Mode Select Jumper der (Mic-in & Line-out), 1 x Chassis Intrusion, 1 x CMOS Jumper

), 5.5mm/ OD)/ ATX 4-pin 12V

condensing

[®] 10 64bit, Linux (support by request) 32/64bit, Windows[®] 10 64bit, Linux (support by request)

PD10EHI

Thin Mini-ITX Form Factor Intel[®] Elkhart Lake Processor

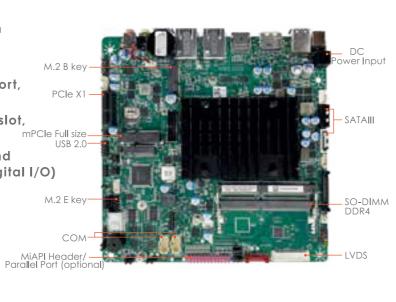
Features

- Intel® Elkhart Lake Celeron/Pentium/Atom BGA Processor (TDP up to 10W)
- Support 2 x DDR4 SO-DIMM (Up to 32GB)
- Support Triple Display for HDMI, DisplayPort, and LVDS/eDP
- Support 1 x PCIe X1 (Gen 3) slot, 2 x M.2 slot, 2 x SATA III and 1 x mPCIe slot mPCIe
- 4 x USB 2.0, 2 x USB 3.1 Gen2, 6 x COM and 1 x Parallel Port / MiAPI (configurable digital I/O)

(Optional)

• 8V~24V wide voltage power input

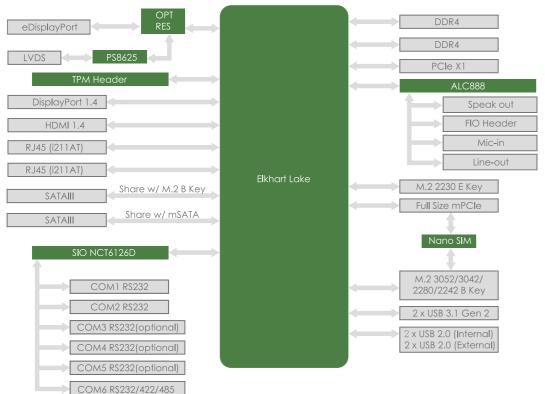






FCC Blass B

Block Diagram



PD10EHI Thin Mini-ITX

MECHANICAL Form Factor	Thin Mini-ITX: 6.7" x 6.7" (170 m
SYSTEM	
	Intel® Filchart Lake Celeren 1/4
Processor	Intel® Elkhart Lake Celeron J64
Chipset	Intel [®] SoC Integrated
Memory	DDR4 3200, 2 x 260-pin SO-DIM
Graphics	Intel [®] HD Graphics
Ethernet	2 x Intel® i211AT Giga LAN
Audio	Realtek [®] ALC888S
/O Chipset	Nuvoton NCT6126D
[PM	Nuvoton NPCT750AABYX TPM
	1 x M.2 2260 / 2280 / 2242 / 304
Expansion Slot	1 x PCIe 3.0 X1 slot, 1 x M.2 22
	1 x mPCIe Full size (USB2.0 / P
SIOS	AMIBIOS
H / W Monitor	Temperature Monitor, Voltage
Watchdog Timer	1~255 Steps by Software Progr
Smart Fan Control	CPU Fan
GRAPHICS	
VGA	
DVI	
HDMI	— Up to 4K (4096 x 2160) @60 Hz
	Up to 4K (4096 x 2160) @60 Hz
DisplayPort	
VDS	Up to 1920 x 1200 @60 Hz
eDP (Option)	Up to 4K (4096 x 2160) @60 Hz
REAR I/O	
JSB	2 x USB 3.1 Gen2, 2 x USB 2.0
Display I/O	1 x HDMI 1.4, 1 x DisplayPort 1.4
Audio I/O	1 x Mic-in, 1 x Line-out
AN I/O	2 x RJ45
Serial Port	-
PS/2 Port	-
Others	DC-in Jack 8~24V (2.5mm/ ID, 5
NTERNAL CONNECTORS	
Storage	2 x SATAIII (Multiplexed with M.2
JSB	2 x USB 2.0 Header
	1 x LVDS
Display I/O	1 x Backlight Connector
Audio I/O	1 x Speaker Header
	1 x Front Audio Header (Mic-in
Serial Port	2 x RS232 Header (Extra 1 x RS23
PS/2 Port	-
Parallel Port	1 x MiAPI Header (Optional for
GPIO	-
Fan	1 x 4-pin CPU Fan Header
Power	1 x AT / ATX Mode Select Jump
	1 x Clear CMOS Button / MiAPI:
Others	(support 10 x GPIO, 1 x SMBUS,
	1 x Buzzer / 1 x 3-pin CAN-FD Bu
POWER REQUIREMENT	
Power Input	DC-in 8~24V/ ATX 4-pin Powe
ENVIRONMENTAL	
Operating Temperature	0 ~ 60°C (32 ~140°F)
Storage Temperature	-40 ~ 85°C (-40 ~ 185°F)
Operating Humidity	10% ~ 95% R/H, non-condensir
Certification	CE & FCC Class B
OS	
OS Support	Windows® 10 IoT LTSB 64bit/Win Linux (Support by request)

Model Number	Processor	HS Configuration	Model Number	Processor	HS Configuration
PD10EHI-J6413	Celeron J6413	MB + Heatsink	PD10EHI-N6210**	Celeron N6210	MB + Heatsink
PD10EHLN6415	Pentium N6415	MB + Heatsink	PD10EHI-X6413E	Atom x6413E	MB + Heatsink
PD10EHFN6211	Celeron N6211	MB + Heatsink			

*5G card support might be by BOM option. Please check with sales about the M.2 B Key 3052 5G card spec if you have any request **This is a build-to-order model, please contact our sales team for more sampling or shipping details

Packing	List
Packina	

1 x Motherboard

• 2 x I/O Bracket (Half and Full Height)

56



mm x 170 mm)

13, Pentium N6415, Celeron N6211, Celeron N6210, and Atom x6413E

MM, Max. 32 GB (Non-ECC)

2.0 (Optional)

2 / 3052 B key (USB2.0, SATAIII, *PCIe X1) *Not support M.2 M Key NVMe SSD 230 E key (PCIe X1, USB2.0) CIe X1 / SATAIII)

Monitor, Fan Monitor

am

5.5mm/ OD)

2 and mSATA port)

/ Line-out)

32/422/485 Header + 3 x R\$232 Header for Option, total 6 x COM)

Parallel Port Header)

per / 1 x ATX 4-pin Power Connector : Programmable header 1 x UART, 1 x Watchdog) with API library supported for Windows OS us Header

er Connector + DC Jack

ng

ndows® 11 64bit

57

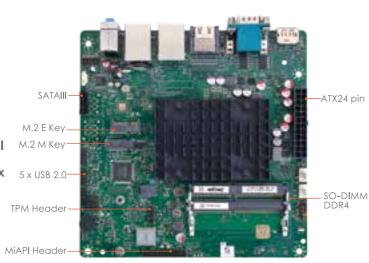
• 1 x 50cm SATA Cable

PD11EHI

Mini-ITX Form Factor Intel[®] Elkhart Lake Processor

Features

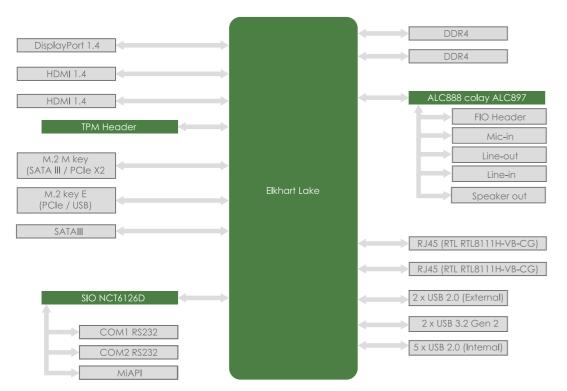
- Intel® Elkhart Lake Celeron J6413 BGA Processor (Up to 3.0GHz)
- Support 2 x DDR4 SO-DIMM (Up to 32GB)
- Support Triple Display for dual HDMI, and DisplayPort
- M.2 E Key- Support 1 x M.2 2242/2280 M-Key (SATA, PCIe X2), 1 x M.2 2230 E-Key, and 1 x SATA III M.2 M Key-
- 7 x USB2.0, 2 x USB3.2 Gen2, 2 x COM and 1 x 5 x USB 2.0-MiAPI (configurable digital I/O)
- ATX 24-pin power input







Block Diagram



PD11EHI Mini-ITX

MECHANICAL	
Form Factor	Mini-ITX: 6.7" x 6.7" (170 mm x
SYSTEM	
Processor	Intel® Elkhart Lake Celeron J64
Chipset	Intel [®] SoC Integrated
Memory	DDR4 3200, 2 x 260-pin SO-DI
Graphics	Intel [®] UHD Graphics
Ethernet	2 x Realtek RTL8111H-VB-CG
Audio	Realtek [®] ALC888S colay ALC8
I/O Chipset	Nuvoton NCT6126D (eSPI)
TPM	TPM Header, (support option
Expansion Slot	M.2 2242 / 2280 M key (SATAIII, **support M.2 M Key NVMe SSE M.2 2230 E key (PCIe, USB 2.0)
BIOS H / W Monitor	AMI BIOS Temperature Monitor, Voltage
Watchdog Timer	1~255 Steps by Software Progr
Smart Fan Control	CPU Fan
	Crondin
GRAPHICS	
VGA	-
DVI	—
HDMI	Up to 4K (4096 x 2160) @30 Hz
DisplayPort	Up to 4K (4096 x 2160) @60 Hz
LVDS	
eDP (Option)	
REAR I/O	
USB	2 x USB 3.2 Gen2, 2 x USB 2.0
Display I/O	2 x HDMI 1.4, 1 x DisplayPort 1.
	1 x Mic-in, 1 x Line-out, 1 x Line
LAN I/O	2 x RJ45
Serial Port	2 x RS232
PS/2 Port Others	-
Olliels	
INTERNAL CONNECTORS	
Storage	
Storage USB	1 x SATAIII (4x SATA III by custor 5 x USB 2.0
Storage	5 × USB 2.0
Storage USB Display I/O	5 × USB 2.0 — 1 × Stereo Speaker Header
Storage USB Display I/O Audio I/O	5 × USB 2.0 — 1 × Stereo Speaker Header
Storage USB Display I/O Audio I/O Serial Port	5 × USB 2.0
Storage USB Display I/O Audio I/O Serial Port PS/2 Port	5 x USB 2.0
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port	5 x USB 2.0
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel 1 x MiAPI Header (Optional for 1 x 4-pin CPU Fan Header / 1 x
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel 1 x MiAPI Header (Optional for 1 x 4-pin CPU Fan Header / 1 x
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power	5 x USB 2.0
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel 1 x MiAPI Header (Optional for 1 x 4-pin CPU Fan Header / 1 x 1 x ATX 24-pin Power Connect
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others	5 x USB 2.0
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT	5 x USB 2.0
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input	5 x USB 2.0
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel 1 x MiAPI Header (Optional for 1 x 4-pin CPU Fan Header / 1 x 1 x ATX 24-pin Power Connect 1 x CMOS Jumper 1 x Buzzer, 1 x FIO header ATX 24-pin
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity Certification	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Storage Temperature Operating Humidity Certification OS	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel - 1 x MiAPI Header (Optional for - 1 x 4-pin CPU Fan Header / 1 x 1 x ATX 24-pin Power Connect 1 x CMOS Jumper 1 x Buzzer, 1 x FIO header ATX 24-pin 0 ~ 60°C (32 ~140°F) -40 ~ 85°C (-40 ~185°F) 10% ~ 95% R/H, non-condens CE / FCC Class B, UKCA
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Storage Temperature Operating Humidity Certification OS	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel - 1 x MiAPI Header (Optional for - 1 x 4-pin CPU Fan Header / 1 x 1 x ATX 24-pin Power Connect 1 x CMOS Jumper 1 x Buzzer, 1 x FIO header ATX 24-pin 0 ~ 60°C (32 ~140°F) -40 ~ 85°C (-40 ~185°F) 10% ~ 95% R/H, non-condens CE / FCC Class B, UKCA
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Storage Temperature Operating Humidity Certification OS OS Support	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Storage Temperature Operating Humidity Certification OS OS Support	5 x USB 2.0
Storage USB Display I/O Audio I/O Serial Port PS/2 Port Parallel Port GPIO Fan Power Others POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Storage Temperature Operating Humidity Certification OS OS Support	5 x USB 2.0 1 x Stereo Speaker Header 1 x Audio Header (Front Panel 1 x MiAPI Header (Optional for 1 x 4-pin CPU Fan Header / 1 x 1 x 4-pin CPU Fan Header / 1 x 1 x ATX 24-pin Power Connect 1 x CMOS Jumper 1 x Buzzer, 1 x FIO header ATX 24-pin 0 ~ 60°C (32 ~140°F) -40 ~ 85°C (-40 ~185°F) 10% ~ 95% R/H, non-condensi CE / FCC Class B, UKCA Windows® 11 64bit,, Windows®

Packing List					
Packing					
• 1 x Motherboard	 1 x I/O Bracket (Full Height) 				



x 170 mm)
6413
IMM, Max. 32 GB (Non-ECC)
Giga LAN 897
nal TPM module board NPCT750) I, *PCIe X2) 5D
e Monitor, Fan Monitor gram
4
s-in
mize sku)
Mic-in & Line-out)
r Parallel Port Header)
< 4-pin System Fan Header
tor / 1 x AT / ATX Mode Select Jumper

10 IoT LTSC 64bit (LTSC 2021), Ubuntu 22.04, Linux (support by request)

Configuration

MB + Heatsink

• 1 x 50cm SATA Cable

• 1 x Quick Installation Guide

PD14EHI

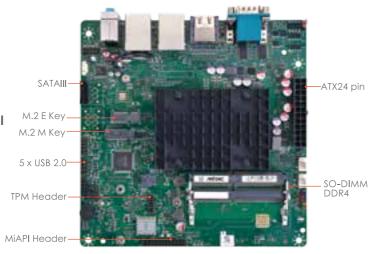
Mini-ITX Form Factor Intel[®] Elkhart Lake Processor

Features

60

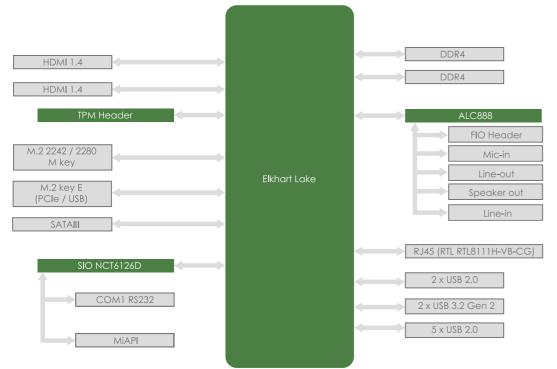
- Intel® Elkhart Lake Celeron N6210 BGA Processor (Up to 2.6GHz)
- Support 2 x DDR4 SO-DIMM (Up to 32GB)
- Support Dual Display for HDMI
- Support 1 x M.2 2242/2280 M-Key (SATA, PCIe X2), 1 x M.2 2230 E-Key, and 1 x SATA III
- 7 x USB2.0, 2 x USB3.2 Gen2, 1 x COM and 1 x MiAPI (configurable digital I/O)
- ATX 24-pin power input







Block Diagram



PD14EHI Mini-ITX

MECHANICAL	11: ITV (711 (711 (170
	Mini-ITX: 6.7" x 6.7" (170 mm x
SYSTEM	
Processor	Intel® Elkhart Lake Celeron N62
Chipset	Intel®SoC Integrated
Memory	DDR4 3200, 2 x 260-pin SO-DI/
Graphics	Intel [®] HD Graphics
Ethernet	1 x Realtek RTL8111H-VB-CG
Audio I/O Chipset	Realtek® ALC888S colay ALC8 Nuvoton NCT6126D (eSPI)
TPM	TPM Header, (support option
	M.2 2242 / 2280 M key (SATAIII,
Expansion Slot	**support M.2 M Key NVMe SSE
Expansion of the	M.2 2230 E key (PCIe, USB 2.0)
BIOS	AMIBIOS
H / W Monitor	Temperature Monitor, Voltage
Watchdog Timer	1~255 Steps by Software Progr
Smart Fan Control	CPU Fan
GRAPHICS	
VGA	-
DVI	-
HDMI	Up to 4K (4096 x 2160) @30 Hz
DisplayPort	<u> </u>
LVDS	-
eDP (Option)	—
REAR I/O	
USB	2 x USB 3.2 Gen2, 2 x USB 2.0
Display I/O	2 x HDMI 1.4
Audio I/O	1 x Mic-in, 1 x Line-out, 1 x Line-
LAN I/O	1 x RJ45
Serial Port	1 x RS232
PS/2 Port	-
Others	
Storage	1 x SATAIII (4x SATA III by custon
USB	5 × USB 2.0
Display I/O	
Audio I/O	1 x Stereo Speaker Header 1 x Audio Header (Front Panel /
Serial Port	
PS/2 Port	_
Parallel Port	1 x MiAPI Header (Optional for
GPIO	
Fan	1 x 4-pin CPU Fan Header / 1 x
Power	1 x ATX 24-pin Power Connecto
I Owei	
Others	1 x CMOS Jumper 1 x Buzzer, 1 x FIO header
POWER REQUIREMENT	
Power Input	ATX 24-pin
	ATX 24-pitt
	0 (000 (00 1 (005)
Operating Temperature	$0 \sim 60^{\circ}$ C (32 ~140°F)
Storage Temperature Operating Humidity	-40 ~ 85°C (-40 ~185°F)
Certification	10% ~ 95% R/H, non-condensir CE / FCC Class B, UKCA
OS	
OS Support	Windows® 11 64bit,, Windows®

Ordering Information									
Model Number	Processor	H							
PD14EHI-N6210	Celeron N6210								
Packing Li	st								
Packing Li	st								



x 170 mm)
3210 Processor
IMM, Max. 32 GB (Non-ECC)
Giga LAN
897
nal TPM module board NPCT750) , *PCIe X2) D
e Monitor, Fan Monitor
ram
-in
mize sku)
Mic-in & Line-out)
Parallel Port Header)
4-pin System Fan Header
or / 1 x AT / ATX Mode Select Jumper

ng

10 IoT LTSC 64bit (LTSC 2021), Ubuntu 22.04, Linux (support by request)

HS Configuration MB + Heatsink

• 1 x 50cm SATA Cable

Mini-iTX

PD10AI

Thin Mini-ITX Form Factor Intel[®] Apollo Lake Processor

M.2 E key

PCle X

СОМ

M.2 B key

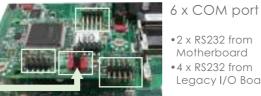
Features

62

- Intel®Apollo Lake / Celeron/Pentium **BGA** processor
- 2 x DDR3L SO-DIMM and support up to 8GB
- Support triple display for HDMI, DisplayPort and LVDS / eDP
- Support 1 x PCIe X1 (Gen 2) slot and 2 x M.2 slot 2 x SATA III
- 2 x Intel[®] Gigabit Ethernet
- 2 x USB 2.0, 4 x USB 3.0, 2 x COM and 1 x Parallel Port / MiAPI (configurable digital I/O)
- 8V~24V wide voltage power input



Legacy I/O Expansion



•2 x RS232 from Motherboard •4 x RS232 from Legacy I/O Board

USB 3.0 Mic-in

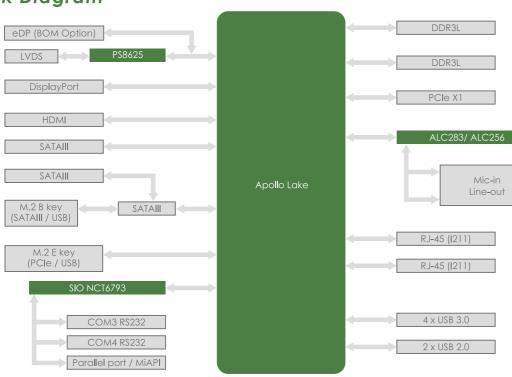
....

SATAIII

SO-DIMM DDR3L

LVDS

2 x Configurable Power RS232 2 x Configurable RS232/422/485 Block Diagram



PD10AI Thin Mini-ITX

MECHANICAL									
form Factor	Thin Mini-ITX: 6.7" x 6.7" (170mm x 170mm)								
SYSTEM									
Processor	Intel® Apollo Lake-M N3350 Processor Option: N4200								
Chipset	Intel [®] SoC Integrated								
/emory	DDR3L 1866MHz, 2 x 204-pin SO-DIMM, Max. 8GB (Non-ECC)								
Graphics	Intel® HD Graphics								
thernet	Intel® I211-AT Giga LAN + Intel® I211-AT Giga LAN								
Audio (O Chinsot	Realtek® ALC283 / ALC256 Nuvoton NCT6793D								
/O Chipset PM	Nuvoton NPCT650AAAWX TPM2.0 (Optional)								
1.141	1 x PCle X1 slot								
expansion Slot	1 x M.2 2280/2260/2242 B key (SATA / USB)								
	1 x M.2 2230 E key (PCIe / USB)								
los	AMI BIOS Temperature Monitor, Voltage Monitor, Fan Monitor								
ł / W Monitor Vatchdog Timer	1~255 Steps by Software Program								
mart Fan Control									
GRAPHICS /ga	-								
IDMI	Up to 4K (3840 x 2160) @30 Hz								
DisplayPort	Up to 4K (4096 x 2160) @60 Hz								
VDS	Up to 1920 x 1200 @60 Hz								
DP (Option)	Up to 4K (3840 x 2160) @60 Hz								
REAR I/O									
JSB Display I/O	4 x USB 3.0								
Display I/O Audio I/O	1 x HDMI 1.4, 1 x DisplayPort 1.2 1 x Mic-in, 1 x Line-out								
AN I/O	2 x RJ-45								
erial Port	_								
PS/2 Port	-								
Others	DC-in Jack 8-24V (2.5mm/ ID, 5.5mm/ OD)								
NTERNAL CONNECTORS									
torage	2 x SATAIII (One SATA is multiplexed with an M.2 port)								
JSB	2x USB 2.0 1 x LVDS, 1 x eDP								
Display I/O	1 x Backlight Connector								
Audio I/O	1 x Stereo Speaker Header								
	1 x Front Audio Header (Mic/HP)								
erial Port 2S/2 Port	2x RS232								
Parallel Port	1 x MiAPI Header (Programmable, Support 10-bit GPIO)								
GPIO									
an	2 x 4-pin PWM Fan Header								
Power	1 x 2-pin Power Connector, 1 x AT/ATX Mode Select Jumper								
	MiAPI (Optional): Programmable header (support 10 x GPIO, 1 x SMBUS, 1 x UART, 1 x Watchdog) with API library supported for Windows OS								
Others	1 x CMOS Jumper								
	1 x Legacy I/O Board Header (Optional Legacy I/O Board for Extra R\$232*2 and R\$232/422/485*2 Expansion)								
OWER REQUIREMENT									
	2-pin Internal Power Connector + DC Jack								
ower Input	DC-in 8-24								
INVIRONMENTAL									
Operating Temperature	0 ~ 60°C (32 ~ 140°F)								
torage Temperature	-20 ~ 80°C (-4 ~176°F)								
Operating Humidity Certification	10% ~ 95% R/H, non-condensing CE, FCC Class B								
DS									
25 Support	Windows® 10 64bit, Linux (support by request)								
Ordering Informa									
DisplayPort /	LVDS / Mic-in / USB3 0 / 2 0 LAN SATA M.2 2230 E key / Parallel / Pole X1 Power								
DIOAI-N3350 N3350 1 / 1	eDP Line-out USB3.072.0 LAN SATA M.2 2280 B key MiAPI FCIENT FOwer 1/1 1/1 4/2 2 1 1/1 1/0 1 DC-in Jack 8-								
D10AI-N3330 N3330 1/1	1/1 1/1 4/2 2 1 1/1 0/1 1 DC-in Jack 8-								
	232/422/485								
S-04COM-D10 2	2								
Packing List									





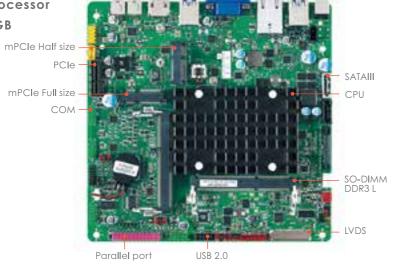
Thin Mini-ITX Form Factor Intel[®] Braswell Processor

PCle

Features

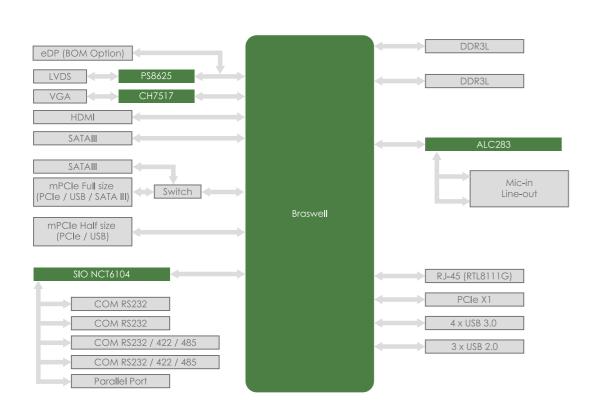
- Intel® Braswell Celeron / Pentium BGA processor
- 2 x DDR3L SO-DIMM and support up to 8GB
- Support triple display for HDMI, VGA and LVDS / eDP
- Support 1 x PCIe X1 (Gen 2) slot and 2 x Mini PCIe slot
- 2 x SATAIII
- 1 x Gigabit Ethernet
- 3 x USB 2.0, 4 x USB 3.0 and 4 x COM
- 8V~24V wide voltage power input







Block Diagram



PD10RI Thin Mini-ITX

MECHANICAL Form Factor	Mini_ITV+ 4 7" v 4 7" /1
	Mini-ITX: 6.7" x 6.7" (1
SYSTEM Processor	Intel [®] Celeron® Proc
Chipset	Intel [®] SoC Integrated
Memory	DDR3L 1600MHz, 204
Graphics	Intel® HD Graphics
Ethernet	Realtek RTL8111G Gig
Audio	Realtek® ALC283
I/O Chipset	Nuvoton NCT6104D
TPM	—
	1 x PCIe x1 slot
Expansion Slot	1 x Mini PCIe Full/Hal
	1 x Mini PCIe Half size
BIOS	64 Mbit SPI, AMI BIOS
H / W Monitor	Temperature Monito
Watchdog Timer	1 ~ 255 Steps by Soft
Smart Fan Control	CPU Fan / System Fa
GRAPHICS	llp to 1000
VGA	Up to 1920 x 1200 @60
DVI HDMI	— Up to 4K (3840 x 2160
DisplayPort	
LVDS	Up to 1920 x 1200 @60
eDP(Option)	Up to 4K (4096 x 2304
REAR I/O	
USB	4 x USB 3.0
Display I/O	1 x HDMI 1.4, 1 x VGA
Audio I/O	1 x Mic-in ,1 x Line-ou
LAN I/O	1 x RJ-45
Serial Port	—
PS/2 Port	-
Others	1 x DC Jack
INTERNAL CONNECTORS	
Storage	2 x SATAIII
USB	3 x USB2.0
Display I/O	1 x LVDS, 1 x eDP
	1 x Backlight Connec
Audio I/O	1 x Audio Header (Fr
Serial Port	4 x RS232
PS/2 Port Parallel Port	1 (colay MiAPI functi
GPIO	
Fan	1 x 4-pin CPU Fan Co
Power	1 x AT/ATX Mode Sele
Others	1 x CMOS Jumper
POWER REQUIREMENT	
PowerInput	DC-in 8~24V(2.5mm)
ENVIRONMENTAL	
Operating Temperature	0~60°C (32~140°F)
Storage Temperature	-20~70°C (-4~158°F
Operating Humidity	10% ~ 95% R/H, non-0
Certification	CE & FCC Class B
OS	
	Windows® 7 32/64bit,
OS Support	Linux (support by rec

Ordering Information

Model Number	VGA	HDMI	LVD\$/eDP	USB 3.0/2.0	Sata	Mic-in / Line in	RS232	LAN	mPCle Full / Half size	PCle X1	Power
PD10RI-N3160	1	1	1/1	4/3	2	1/1	4	1	1/1	1	DC-in 8~24V

Packing List

Packing		
I x Motherboard	I x 50cm SATA Cable	• 2 x I/O Br



cessor N3160 (2M Cache, up to 2.24 GHz) d 4-pin SO-DIMM x 2, Max. 8GB (Non-ECC) iga LAN

alf size (PCIe / USB / SATA) ze (PCle / USB)

or, Voltage Monitor, Fan Monitor ware Program

50 Hz

) @30 Hz

60 Hz 4) @60 H7

ctor Front panel Mic-in & Line-out)

onnector, 1x 4-Pin System Fan Connector lect Jumper, 1 x 2-pin Power Connector

n/ID, 5.5mm/OD)/ATX 2-pin

°F) -condensing , Windows® 10 64bit quest)

65

racket (Half and Full Height)

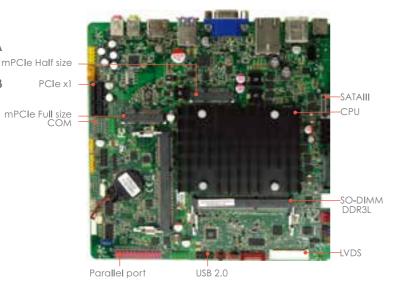
PD10BI

Thin Mini-ITX Form Factor Intel[®] Bay Trial Processor

Features

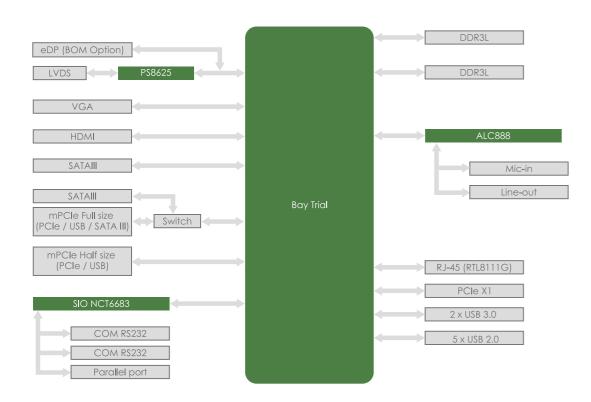
- Intel[®] Bay Trail Atom/Celeron/Pentium BGA mPCIe Half size processor
- 2 x DDR3L SO-DIMM and support up to 8GB PCle x1
- Support dual display for HDMI, VGA and LVDS/eDP
- Support 1 x PCIe X1 (Gen 2) slot and 2 x Mini PCIe slot
- 8V~19V wide voltage power input







Block Diagram



PD10BI Thin Mini-ITX

MECHANICAL	
Form Factor	Thin Mini-ITX: 6.7" x 6.7
SYSTEM	
Processor	Intel [®] Bay Trail-D J1900
Chipset	Intel® SoC Integrated
Memory	DDR3L 1333L, 2 x 204-
Graphics Ethernet	Intel® HD Graphics
Ethernet Audio	Realtek® RTL8111G Gig Realtek® ALC888
I/O Chipset	Nuvoton NCT6683D
TPM	Nuvoton NPCT420AA
Expansion Slot	1 x PCle X1 slot 1 x mini PCle Full / Ha 1 x mini PCle Half size
BIOS	AMIBIOS
H / W Monitor	Temperature Monitor,
Watchdog Timer	—
Smart Fan Control	—
GRAPHICS	
VGA	Up to 1920 x 1200 @60
DVI	—
HDMI	Up to 1920 x 1200 @60
DisplayPort	-
LVDS	Up to 1920 x 1200 @60
eDP (Option)	Up to 2560 x 1600 @60
REAR I/O	
USB	2 x USB 3.0, 2 x USB 2.0
Display I/O	1 x HDMI 1.4, 1 x VGA
Audio I/O	1 x Mic-in, 1 x Line-ou
LAN I/O	1 x RJ-45
Serial Port	—
PS/2 Port	—
Others	DC-in Jack 8-19V (2.5
INTERNAL CONNECTORS	
Storage	2 x SATAII (One SATA is
USB	3 x USB2.0
Display 1/0	1 x LVDS *Optional eD
Display I/O	1 x Backlight Connec
Audio I/O	1 x Stereo Speaker He
	1 x Front Audio Heade
Serial Port	2 x RS232
PS/2 Port	—
Parallel Port	1 x Parallel Port Head
GPIO	—
Fan	1 x 4-pin PWM Fan He
Power	1 x 2-pin Power Conn
Others	1 x CMOS Jumper
POWER REQUIREMENT	
Power Input	2-pin Internal Power C DC-in 8-19V
ENVIRONMENTAL	DC-III 0-17 V
	0~60°C (32~140°F)
Operating Temperature Storage Temperature	-20 ~ 70°C (-4 ~176°F)
	-20~70°C (-4~176°F) 10% ~ 95% R/H, non-c
Operating Humidity Certification	
	CE, FCC, Class B
OS	
OS Support	Windows® 7 32/64bit,

Ordering Information

ModelNumber	Processor	VGA	HDMI	LVD\$ / eDP	USB 3.0 / 2.0	Mic-in / Line in	LAN	mPCIe Full / Half size	Sata	PCle X1	POWER
PD10B I- J1900	J1900	1	1	1/1	2/5	1/1	1	1/1	2	1	DC-in Jack 8-19
Packii	ng List										
Packing											
• 1 x Motherboard	d		• 1 × I/	O Bracket		• 1 x 50 cm SA1	A Cab	e	• 1 x	45 cm SA	TA Power Cable

66



-pin SO-DIMM, Max. 8 GB (Non-ECC)

iga LAN

AOWX (Optional)

alf size (PCIe / SATA / USB) e (PCIe / USB)

Voltage Monitor, Fan Monitor

) Hz 0 Hz 0 Hz) Hz

5mm/ID, 5.5mm/OD)

is multiplexed with an mSATA port)

DP SKU available

eader, 1 x S/PDIF header der (Mic-in & Line-out), 1 x Digital MIC

eader, 1 x 3-pin Voltage Control Fan Header nector

Connector + DC Jack

condensing

Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request)

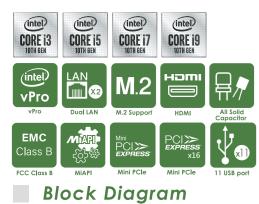
PH13CMI

Mini-ITX Form Factor Intel® Comet Lake Processor with Q470E/H420E Chipset

Features

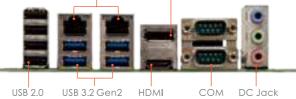
68

- Up to Intel[®] Comet Lake 10th i9 35W & i5 95W LGA processor
- Intel® Q470E / H420E Chipset
- Intel[®] vPro technology support (Q470E)
- 2 x DDR4 SO-DIMM up to 64GB
- Support triple display for HDMI, DisplayPort and LVDS/Edp (Q470E)
- 1 x M.2 M 2280, 1 x M.2 E 2230,
- 1 x mPCle Full size, 1 x PCle X16
- 2 x Intel[®] Gigabit Ethernet
- ATX or single 12V DC input



ATX 4-pin PCIe X16--USB 2.0 -M.2 E key USB 3.0 LGA1200-ATX 24-pin mPCIe Full size LVDS SO-DIMM DDR4 SATA

DisplayPort Giga LAN



eDP (BOM Option) DDR4 LVDS DDR4 Comet Lake LGA1200 DisplayPort PCle X16 HDMI Audio Codec ALC662 / ALC888 2 x SATAIII M.2 M key (Q470E: PCIe X4, SATA) (H420E: SATA) Line-in & Line-out Mic-in RJ-45 (l210) M.2 E key (PCle / USB) RJ-45 (l219) mPCle (PCle / USB / SATAIII) 2 x USB 2.0 (Header) 4 x USB 2.0 1 x USB 3.2 Gen1 SIO NCT6116D 1 x USB 3.0 COM1 RS232/422/485 4 x USB 3.2 Gen 2 (Q470E) 4 x USB 3.0 (H420E) COM2 RS232

PH13CMI Mini-ITX

MECHANICAL Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x
SYSTEM	With-11A. 0.7 X 0.7 (170mm X
Processor	10th Gen Intel® Comet Lake
	10core TDP Max 35W / 8 core
Chipset Memory	Intel® Q470E (Support RAID 0 DDR4 2933/2666/2400MHz / 2
Graphics	Intel [®] HD Graphics
Ethernet	Intel® 1219-LM Giga LAN + Inte
Audio	Realtek® ALC662 / ALC888
I/O Chipset	Nuvoton NCT6126D(eSPI)
TPM	Nuvoton NPCT750AAAYX TPM 1 x PCIe X16 slot
Expansion Slot	1 x Mini PCIe Full size (SATA, USI
	M.2 2242 / 2280 M key (PCIe, S. 1 x M.2 2230 E key(PCIe, USB)
BIOS	AMI BIOS, 256 Mbit SPI
H / W Monitor	Temperature Monitor, Voltage
Watchdog Timer	1~255 Steps by Software Progr
Smart Fan Control	CPU Fan / System Fan
GRAPHICS	
VGA	—
DVI	—
HDMI	Up to 4K (4096 x 2160) @30 Hz
DisplayPort	Up to 4K (4096 x 2304) @60 Hz
2nd DisplayPort	Up to 1920 x 1200 @60 Hz
LVDS eDP (Option)	Up to 4K (4096 x 2304) @60 Hz
REAR I/O	
USB	4 x USB 3.2 Gen. 2 (Q470E) / 4 x
Display I/O	1 x HDMI 1.4, 1 x DisplayPort 1.
Audio I/O	1 x Mic-in ,1 x Line-out, 1 x Line
LAN I/O	2 x RJ-45
Serial Port	2 x RS232 (one support RS422/4
PS/2 Port Others	-
INTERNAL CONNECTORS	
Storage	2 x SATAIII
USB	1 x USB 3.0, 2 x USB 2.0
	1 x LVDS (Optional eDP SKU a
Display I/O	1 x Backlight Connector
Audio I/O	-
Serial Port	-
PS/2 Port	-
Parallel Port GPIO	1 x MiAPI Header (Programma
Fan	1 x 4-pin CPU Fan Connector,
Power	1 x ATX Power Connector, 1 x A
	1 x Front Audio Header (Mic-ir
Others	1 x backlight power select hea
POWER REQUIREMENT	
Power Input	ATX 24-pin + 4-pin / 12V DC ((3
ENVIRONMENTAL	
Operating Temperature	0~60°C (32~140°F)
Storage Temperature	-40 ~ 85°C (-40 ~185°F)
Operating Humidity	10% ~ 95% R/H, non-condensi
Certification	CE & FCC Class B
OS	
OS Support	Windows® 10 64-bit
	Linux (support by request)

Ordering Information

Model Number	Chipset	DisplayPort / HDMI	LVDS / eDP	USB 3.2 / 2.0	Mic-in/ Line-out / Line-in	RS - 232	LAN	M.2 2230 E key / M.2 2280 M key /mPCle	PCle X16	Power
PH13CMI-H420E-12V	Intel® H420E	1/1	1/0	5/6	1/1/1	2	2	1/1/1	1	DC-in 12V
PH13CMI-Q470-12V	Intel® Q470E	1/1	1/0	5/6	1/1/1	2	2	1/1/1	1	DC-in 12V
PH13CMI-H420E-ATX	Intel® H420E	1/1	1/0	5/6	1/1/1	2	2	1/1/1	1	ATX
PH13CMI-Q470-ATX	Intel [®] Q470E	1/1	1/0	5/6	1/1/1	2	2	1/1/1	1	ATX

Packing List

	Packing	
l	 1 x Motherboard 	• 1 x 8-pin ATX female to 24p ATX + 4-pin A
	• 1 x I/O Bracket (Half and Full	Height)



 LGA1200 Socket Processor
 re TDP 65W / (ATX support 6core 95W) 0 / 1 / 5, VPro) / colay H420E 2 x 260-pin SO-DIMM / Max. 64GB (Non-ECC)

el® I210-AT Giga LAN

M2.0 (Optional)

SB, PCle) SATA)

e Monitor, Fan Monitor jram

x USB 2.0 .2 e-in

485)

available)

able)

1 x 4-pin System Fan Connector AT / ATX Mode Select Jumper, ATX 12V Power Connector (24-pin + 4-pin -in / Line-out), 1 x CMOS Jumper, 1 x panel power select header, eader, 1x buzzer header, 1 x SPDIF

3-pin terminal connector via cable by connecting to ATX 24-pin + 4-pin

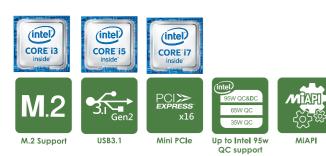
PH13FEI

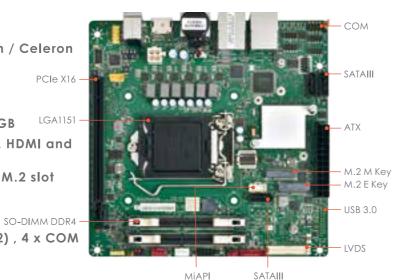
Mini-ITX Form Factor Intel® Coffee Lake Processor with Q370 / H310 Chipset

PCIe X16

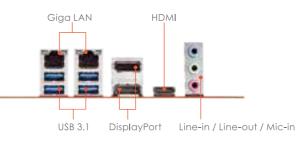
Features

- Intel[®] Coffee Lake Core i7/i5/i3 / Pentium / Celeron LGA1151 processors
- Intel[®] H310 / Q370 Chipset
- Intel® vPro technology support (Q370)
- lga1151 • 2 x DDR4 SO-DIMM and support up to 32GB
- Support triple display for 2 x DisplayPort, HDMI and LVDS / eDP
- Support 1 x PCIe X16 (Gen3) slot and 2 x M.2 slot
- 4 x SATAIII and support RAID 0, 1, 5, 10
- 2 x Intel® Gigabit Ethernet
- 2 x USB 2.0, 2 x USB 3.0, 4 x USB3.1 (Gen 2), 4 x COM and 1 x MiAPI (configurable digital IO)
- ATX power input

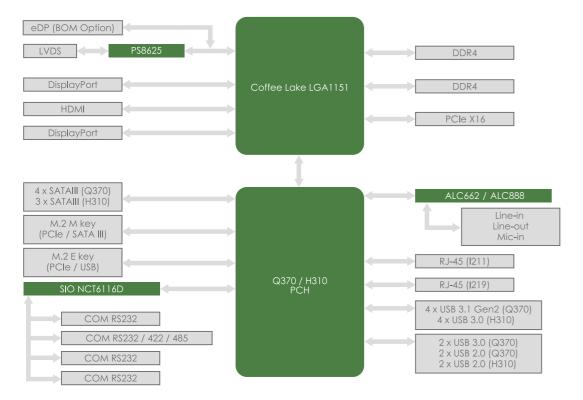




Miapl



Block Diagram



PH13FEI Mini-ITX

MECHANICAL	
Form Factor	Mini-ITX: 6.7" x 6.7" (17
SYSTEM	9th & 8th Gen Intel® Co
Processor	Core i9 8-core TDP Ma
Chipset	Intel® Q370 / Intel H31
Memory	DDR4 2666MHz, 2 x 26
Graphics	Intel® HD Graphics
Ethernet	Intel® I219LM Giga LAN
Audio	Realtek® ALC662 / AL
I/O Chipset	Nuvoton NCT6116D
TPM	Nuvoton NPCT750AA
Expansion Slot	1 x PCle x16 slot 1 x M.2 2260 / 2280 M
	1 x M.2 2230 E key (PC
BIOS	256 Mbit SPI, AMI BIOS
H / W Monitor	Temperature Monitor,
Watchdog Timer	1~255 Steps by Softwo
Smart Fan Control GRAPHICS	CPU Fan / System Fan
VGA	_
DVI	_
HDMI	Up to 4K (4096 x 2160)
DisplayPort	Up to 4K (4096 x 2304)
Lvds	Up to 1920 x 1200 @60
eDP (Option)	Up to 4K (4096 x 2304)
REAR I/O	
USB	4 x USB 3.1 Gen 2 (10G
Display I/O	1 x HDMI 1.4 , 2 x Displ
Audio I/O	1 x Mic-in ,1 x Line-out
LANI/O	2 x RJ-45
Serial Port	-
PS/2 Port	-
INTERNAL CONNECTORS	
Storage USB	4 x SATAIII (Q370), 3 x S
030	2 x USB 3.0 (Q370), 2 x 1 x LVDS(Optional eDF
Display I/O	1 x Backlight Connect
Audio I/O	1 x Line-out
Serial Port	4 x R\$232
PS/2 Port	-
Parallel Port	—
GPIO	1 x MiAPI Header (Pro
Fan	1 x 4-pin CPU Fan Cor
Power	1 x ATX 24-pin, 1 x ATX
Others	1 x Front Audio Heade
POWER REQUIREMENT	
Power Input	ATX 4-pin + ATX 24-pir
ENVIRONMENTAL	
Operating Temperature	0 ~ 60°C (32 ~140°F)
Storage Temperature	-20~80°C (-4~158°F)
Operating Humidity	10% ~ 95% R/H, non-ce
Certification	CE & FCC Class B
OS	
OS Support	Windows® 10 64-bit
	Linux (support by requ

Ordering Information

Model Number Chi	ipset (Disp l ay Port	HDM	LVDS / eDP	USB 3.1 / 2.0	Mic-in/ Line-out/ Line-in	RS232	LAN	M.2 2230 E key / M.2 2280 M key	PCle X16	Power
PH13FEI-H310 Intel®	® H310	2	1	1/0	4/2	1/1/1	4	2	1/1	1	ATX Power (24+4 pin)
PH13FEI-Q370 Intel®	® Q370	2	1	1/0	6/2	1/1/1	4	2	1/1	1	ATX Power (24+4 pin)

Packing List

Packing	
 1 x Motherboard 	• 1 x 50cm SATA Cable



offee Lake LGA1151 Socket Processor, Core i7/i5/i3 6-core TDP Max. 95W ax 35W

60-pin SO-DIMM, Max. 32GB (Non-ECC)

N +Intel® I211AT Giga LAN LC888

AYX TPM2.0 (Optional)

1 key (PCIe X2, SATA) CIe, USB 2.0) * H310 only support M.2 SATA SSD Voltage Monitor, Fan Monitor

are Program

@30 Hz) @60 Hz 0 Hz) @60 Hz

Gbps) (Q370), 4 x USB 3.0 (H310) olayPort 1.2 ut, 1 x Line-in

SATAIII(H310

x USB 2.0 (Q370), 2 x USB 2.0 (H31) DP SKU avaiable) ctor

ogrammable) support 10-bit GPIO onnector, 1x 4-Pin System Fan Connector X 4-pin, 1 x AT/ATX Mode Select Jumper er (Mic-in/Line-out), 1 x CMOS Jumper

condensing

uest)

*Option: TPM, eDP

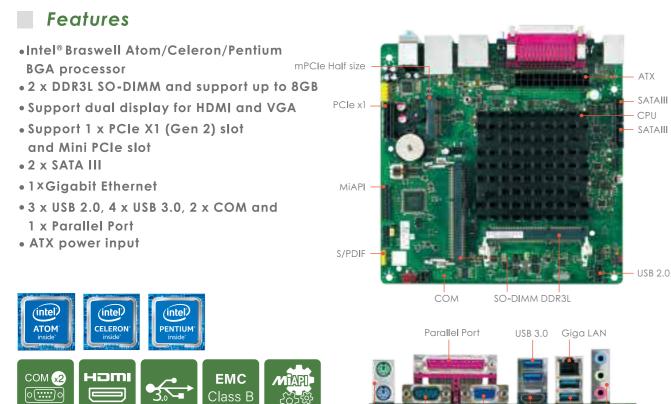
ATX

SATAIII

USB 2.0

PD14RI

Mini-ITX Form Factor Intel[®] Braswell Processor





Block Diagram

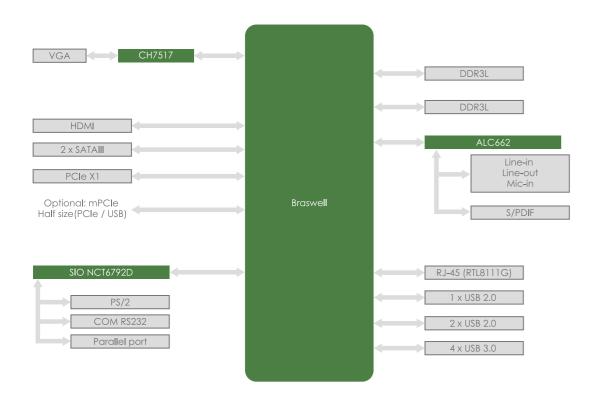
USB3.0

FCC Class B

MiAPI

HDMI

2 COM port



PD14RI Mini-ITX

MECHANICAL	
FormFactor	Mini-ITX: 6.7" x 6.7" (170mm x 170n
SYSTEM	
Processor	Intel [®] Celeron [®] Processor N3060 (
Chipset	Intel® SoC Integrated
Memory	DDR3L 1600MHz, 2 x 204-pin SO-D
Graphics	Intel® HD Graphics
Ethernet	Realtek® RTL8111G Giga LAN
Audio	Realtek® ALC662
I/O Chipset	Nuvoton NCT6792D
TPM	Nuvoton NPCT650AAAWX (option 1 x PCIe X1 slot
Expansion Slot	Option:
	1 x Mini PCIe Half size (PCIe / USB)
BIOS	64 Mbit SPI, AMI BIOS
H / W Monitor	Temperature Monitor, Voltage Mo
Watchdog Timer	1 ~ 255 Steps by Software Program
Smart Fan Control	CPU Fan
GRAPHICS	
VGA	Up to 1920 x 1200 @60 Hz
DVI	0p101920 x 1200 @80 Hz
HDMI	— Up to 4K (3840 x 2160) @30 Hz
DisplayPort	— —
LVDS	_
eDP (Option)	_
REAR I/O	
USB	4 × USB 3.0
Display I/O	1 x HDMI 1.4, 1 x VGA
Audio I/O	1 x Mic-in ,1 x Line-out, 1 x Line-in
LAN I/O	1 x RJ-45
Serial Port	
PS/2 Port	2
Parallel Port	1
INTERNAL CONNECTORS	
Storage	2 x SATAIII
USB	3 × USB 2.0
	_
Display I/O	
Audio I/O	1 x Line-out
Serial Port	1 x RS232
PS/2 Port	-
Parallel Port	-
GPIO	1 x MiAPI Header (Programmable
Fan	1 x 4-pin CPU Fan Connector
Power	1 x ATX 24-pin
Othors	1 x Front Audio Header (Mic-in/Lir
Others	
	ATX Power 24-pin
POWER REQUIREMENT Power Input	ATX Power 24-pin
POWER REQUIREMENT Power Input ENVIRONMENTAL	
POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature	0 ~ 60°C (32 ~140°F)
POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature	
POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature	0 ~ 60°C (32 ~140°F) -20 ~ 70°C (-4 ~ 158°F) 10% ~ 95% R/H, non-condensing
POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity Certification	0 ~ 60°C (32 ~140°F) -20 ~ 70°C (-4 ~ 158°F)
POWER REQUIREMENT Power Input ENVIRONMENTAL Operating Temperature Storage Temperature Operating Humidity	0 ~ 60°C (32 ~140°F) -20 ~ 70°C (-4 ~ 158°F) 10% ~ 95% R/H, non-condensing

Ordering Information

Model Number	Processor	VGA	HDMI	PS/2	USB 3.0 / 2.0	Parallel Port	SATA	Mic-in/ Line out/ Line-in	RS232	LAN	mini PCle Full / Half size	PCle x1	Power
PD14RI-N3060	1	1	1	2	4/3	1	2	1/1/1	2	1	0/0	1	ATX Power 24-pin
PD14R I- N3160	1	1	1	2	4/3	1	2	1/1/1	2	1	0/0	1	ATX Power 24-pin

Packing List	
Packing	
• 1 x Motherboard	• 1 x 50cm



essor N3060 (2M Cache, up to 2.48 GHz) 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN AAWX (option) e (PCIe / USB) r, Voltage Monitor, Fan Monitor ware Program

70mm x 170mm)

ogrammabl onnector

ler (Mic-in/Line-out)

, Windows[®] 10 64bit quest)

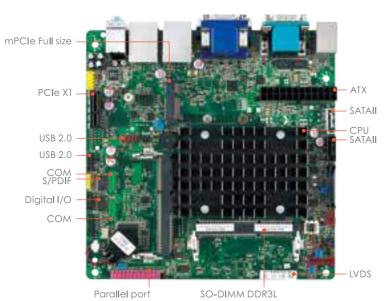
PD11BI



Features

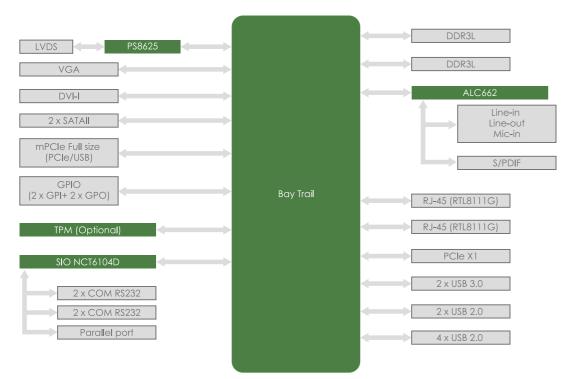
- Intel[®] Bay Trail Atom / Celeron / Pentium BGA processor
- 2 x DDR3L SO-DIMM and support up to 8GB
- Support triple display for VGA, DVI and LVDS
- Support 1 x PCIe X1 (Gen 2) slot and Mini PCle slot
- 2 x SATA II
- 2 x Intel[®] Gigabit Ethernet
- 6 x USB 2.0, 2 x USB 3.0, 4 x COM and 1 x Parallel Port
- ATX power input







Block Diagram



PD11BI Mini-ITX

MECHANICAL	Mini ITV. Z 7" v Z 7" I
Form Factor	Mini-ITX: 6.7" x 6.7" (1
SYSTEM	
Processor	Intel® Bay Trail-D J19
Chipset	Intel® SoC Integrate
Memory	DDR3L 1333, 2 x 204-
Graphics Ethernet	Intel® HD Graphics 2 x Realtek® RTL81110
Audio	Realtek® ALC662
I/O Chipset	Nuvoton NCT6104D
TPM	
11 / 14	1 x PCle X1 slot
Expansion Slot	1 x Mini PCIe Full / He
BIOS	AMIBIOS
H / W Monitor	Temperature Monito
Watchdog Timer	1~255 Steps by Softw
Smart Fan Control	—
GRAPHICS	
VGA	Up to 1920 x 1200 @6
DVI	Up to 1920 x 1200 @6
HDMI	_
DisplayPort	_
LVDS	Up to 1920 x 1200 @6
eDP (Option)	— — — — — — — — — — — — — — — — — — —
REAR I/O	
USB	2 x USB 3.0, 2 x USB 2.
Display I/O	1 x DVI-I, 1 x VGA
Audio I/O	1 x Mic-in, 1 x Line -ir
LAN I/O	2 x RJ-45
Serial Port	2 x RS232
PS/2 Port	2 x PS/2
Others	—
INTERNAL CONNECTORS	
Storage	2 x SATAII
USB	4 × USB2.0
Display I/O	1 x LVDS
	1 x Backlight Conne
Audio I/O	1 x S/PDIF header
Control Doub	1 x Front Audio Head
Serial Port	2 x R\$232
PS/2 Port Parallel Port	1 x Parallel Port Hea
GPIO	Digital I/O (2 x Input
Fan	1 x 4PIN PWM Fan He
Power	1 x ATX 24-pin
Others	1 x CMOS Jumper
POWER REQUIREMENT	
Power Input	ATX Power 24-pin (O
ENVIRONMENTAL	
Operating Temperature	0 ~ 60°C (32 ~ 140°F)
Storage Temperature	-20 ~ 70°C (-4 ~176°F
Operating Humidity	10% ~ 95% R/H, non-
Certification	CE & FCC Class B, UI
OS	
OS Support	Windows® 7 32/64bit

Ordering Information

Model Number	Processor	DVI-I	VGA	lvds	3-Stack Audio Jack	LAN	USB 3.0 / 2.0	PS/2	Serial Port	mPCle	Sata	PCle X1	Power
PD11BI-J1900	J1900	1	1	1	1	2	2/6	2	4	1	2	1	ATX Power 24-pin
Pa	cking	Lis	t										
Packing													



(170mm	Х	170mm)

00 Processo

-pin SO-DIMM, Max. 8 GB (Non-ECC)

G Giga LAN

alf size (PCIe / USB)

r, Voltage Monitor, Fan Monitor vare Program

60 Hz 0 Hz

0 Hz

, 1 x Line-out

ctor

der (Mic-in / Line-out)

/ 2 x Output] eader

optional: ATX Power 12V 4-pin)

condensing , Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request)

75

• 1 X I/O Bracket

SO-DIMM DDR4

PD11TGS

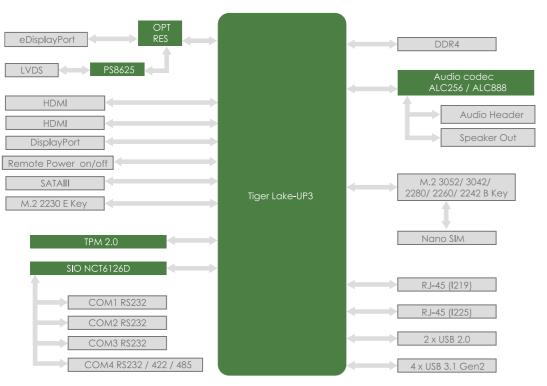
3.5" SBC Form Factor Tiger Lake UP3 (Intel[®] Core[™] and Celeron[®] TDP up to 28W)

Features

- Intel® Tiger Lake UP3 Core i7/i5/i3 / Celeron ULV
 SATAIII processors
 M.2 B key-
- Outstanding graphic computing capability with COM-Integrated Intel® Iris Xe graphics M.2 E key-
- Intel[®] vPro technology support (SKUs i5 & i7)
- 1 x DDR4 SO-DIMM and support up to 32GB
- Support quadruple display for HDMI, DisplayPortPowerInput and LVDS / eDP
- 1 x SATA III
- 1 x Intel® 1G + 2.5G LAN port
- 2 x USB 2.0, 4 x USB 3.1 Gen2 and 4 x COM
- 8V~24V wide voltage power input



Block Diagram



CPU







PD11TGS 3.5" SBC

MECHANICAL	
Form Factor	3.5" SBC Embedded: 4" x 5.8"
SYSTEM	
Processor	11th Gen Intel® Tiger Lake-UP3 option: 11th Gen Tiger Lake-U
Chipset	Intel®SoC Integrated
Memory	DDR4 3200MHz / 1 x 260-pin S
Graphics	Intel® Iris Xe Graphics
Ethernet	Intel® I219LM Giga LAN + I225L/
Audio	Realtek [®] ALC256 / ALC888
I/O Chipset	Nuvoton NCT6126D
TPM	Nuvoton NPCT750AABYX TPM2
Expansion Slot	Storage / LTE / 5G: M.2 2242 /
	Wireless: M.2 2230 E KEY (PCIe
BIOS	AMIBIOS
H / W Monitor	Temperature Monitor, Voltage
Watchdog Timer	1~255 Steps by Software Progr
Smart Fan Control	CPU Fan
GRAPHICS	
HDMI 2.0b	Up to 4K (4096 x 2160) @60 Hz
HDMI 2.0b	Up to 4K (4096 x 2160) @60 Hz
DisplayPort 1.4	Up to 5120 x 3200 @60 Hz
LVDS	Up to 1920 x 1200 @60 Hz
eDP (Option)	Up to 5120 x 3200 @60 Hz
REAR I/O	
USB	4 x USB 3.1 Gen2
Display I/O	2 x HDMI 2.0b, 1 x DisplayPort 1
Audio I/O	—
LAN I/O	2 x RJ-45
Serial Port	-
PS/2 Port	-
Others	1 x 2-pin Remote Power ON/OF
INTERNAL CONNECTORS	
Storage	1 x SATAIII
USB	2 x USB2.0
Display I/O	1 x LVDS (colay eDP)
	1 x Backlight Connector
Audio I/O	1 x Audio Header Supporting S
Serial Port	1 x Audio Header (Front Panel
PS/2 Port	4 x RS232 (One Supports RS232
Parallel Port	_
GPIO	_
Fan	1 x 4-pin CPU Fan Header
Power	1 x 8~24V 4-pin Power Connec
i owei	
Others	1 x Front IO Header (PWR ON/F 1 x Nano SIM slot, 1 x Buzzer
POWER REQUIREMENT	
Power Input	8~24V Wide Range DC Input
ENVIRONMENTAL	
	15W TDP: -40 ~ 60°C (-40 ~140°
Operating Temperature	28W TDP: -40 ~ 50°C (-40 ~122°)
	with 0.7m/s Air Flow and Wide
Storage Temperature	-40 ~ 85°C (-40 ~185°F)
Operating Humidity	10% ~ 95% R/H, non-condensi
Certification	CE & FCC Class B
OS	
OS Support	Windows [®] 10 64bit/Windows [®]

Ordering Information

Model Number	Processor	HS Configuration	Model Number	Processor	HS Configuration
PD11TGS-6305E-HSK	Celeron 6305E	MB + Heatsink	PD11TGS-1145G7E-HSK	i5-1145G7E	MB + Heatsink
PD11TGS-1115G4E-HSK	i3-1115G4E	MB + Heatsink	PD11TGS-1185G7E-HSK	i7-1185G7E	MB + Heatsink

*5G card support is by BOM option. Please check with sales about the M.2 B Key 3052 5G card spec if you have any request *0 ption 1 / 2 : eDP / with 2nd DP without LVDS/eDP,

Packing List

Packing	
• 1 x Motherboard	• 1 x 50cm SATA Co



(102mm x 147mm)

i i3-1115G4E (Dual Core, 6MB Cache, up to 3.90 GHz) P3 Celeron 6305E / i5-1145G7E / i7-1185G7E

O-DIMM / Max. 32GB (Non-ECC)

M 2.5 G LAN

2.0 2260 / 2280 / 3042 / 3052 B Key (USB2.0/*PCIex1/SATAIII) e / USB) *Not support M.2 M Key NVMe SSD

Monitor, Fan Monitor am

1.4

F Terminal Block Connector

ystem Stereo Speaker Mic-in & Line-out) 2/422/485)

ctor, 1 x AT/ATX Mode Select Jumper RESET/PWR LED/HDD LED)

w/ 4-pin Power Header (Pitch: 2.5mm)

E1

=)

Temperature Memory/Storage

ng

1 64bit, Linux (support by request)

Cable

PD11KS 3.5" SBC

PD11KS

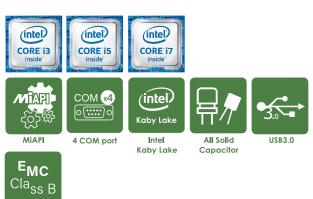
3.5" SBC Form Factor Intel[®] Kaby Lake / Skylake Processor

COM

USB 3.0

Features

- Intel[®] Skylake / Kaby Lake Core i7/i5/i3 / Celeron ULV processors
- Intel® vPro technology support (sku i5 & i7)
- 2 x DDR4 SO-DIMM and support up to 32GB
- Support triple display for HDMI, DisplayPort and LVDS / eDP
- 1 x SATA III
- 2 x Intel[®] Gigabit Ethernet
- 2 x USB 2.0, 4 x USB 3.0 and 4 x COM
- 8V~24V wide voltage power input



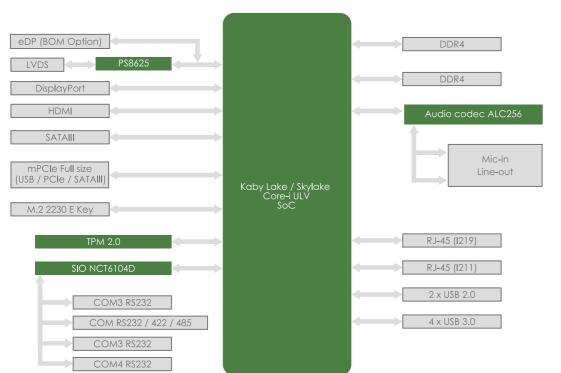
Satalli SO-DIMM DDR4 MIAPL M.2 E key DC Power Input mPCle Full size LVDS CPU ·

Giga LAN HDMI DisplayPort

Audio

FCC Class B

Block Diagram



Processor Intel® Kaby Lake Cellson 39450 (J > 3000 (J > 4000 U) Chiosat Intel® Scool Inspected Memory DDDR4 2133/400 24 260-pin SO-DDIAM, Mex. 32 CB (Non-ECC) Signahus Intel® Scool Inspected Chiosat Intel® Scool Inspected Memory DDDR4 2133/400 24 260-pin SO-DDIAM, Mex. 32 CB (Non-ECC) Signahus Intel® INC Kendus (Intel Intel Intel® 2000 (Intel Intel® 2000 (Intel® 2000 (Intel Intel® 2000 (Intel® 2000 (Intel® 2000 (Intel Intel® 2000 (Intel Intel® 2000 (Intel Intel® 2000 (Intel Intel® 2000 (Intel® 2000 (Intel Intel® 2000 (Intel® 200	MECHANICAL Form Factor	3.5" SB	C Embedded: 4" x 5.8" (10	02mm x 147mm)		
Intel® Kaby Lake-U ST/000 (Dud Core, 3/84 Coche, 2.40 CHa) Option: Kaby Lake Celeron 3/852/U (3-5000 / 7-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54000 / 2-54	SYSTEM					
Skylake Celeron 3954/1/3-61001/17-43001/17-44001 Memory DDDRA (133/2400, 2x.26-pin SO-DIMA, Max, 32 GB (Non-ECC) Graphics Intel® 106 Graphics Ethernet Intel® 106 Graphics Ethernet Intel® 106 Graphics Ethernet Intel® 106 Graphics Ethernet Newton NC1040 Ethernet Newton NC1040 Ethernet Newton NC1040 Ethernet Temperature (US / PCIe / VSB) MCS AMI 8105 Ethernet Temperature Monitor, Voltage Monitor, Fan Monitor Methods (Inter Temperature Monitor, Voltage Monitor, Enh Monitor Monitor Up to 4X (4094 x 2140) 4924 trg Monitor Up to 4X (4094 x 2140) 4924 trg		Intel [®]	Kaby Lake-U i3-7100U (Du	al Core, 3MB Cache, 2.40 GH	z)	
Chipset Uniter's Sc: Trikegraded Wemory DDDK 2337400, 22 420-pin SO-DIMA, Mox. 32 GB (Non-ECC) Graphics Intel® IDG Graphics Ehernet Intel® IDG Graphics Expansion Stot Bioson Wickless: AW BIOS AW Monitor Temperature Monitor, Voltage Monitor, Fan Monitor Wickless: AW BIOS AW Monitor Temperature Monitor, Voltage Monitor, Fan Monitor Wickless: AW BIOS AW Monitor Up to 4K (40% x 2100) #24 112 Biodon Up to 4K (40% x 2100) #24 112 Biodon Up to 4K (40% x 2100) #24 112 Biodon/UO Up to 4K (40% x 2100) #24 112 Biodon/UO 1 x HOMI 1.4, 1 x Biology #04 1.2 Biodon/UO 1 x AVAID Combe Jock (Mocin and Line-out) LAN DO 2 x R-45 Biology MO 1 x AVAID Reader (Phogrammable: Support Rozes peoser or Buzzer	Processor	Option				
Memory DDDR# 2132/200, 2x 20-pin SO-DMM, Mox: 32 G8 (Non-ECC) Separation Indel* ND Graphics Enternet Indel* X0 Graphics Nucloin ReattleK AC236 VID Chippat Nuccion NC161040 Nuccion NC161040 Nuccion NC161040 Storage: Min PCIE VID SIG Nuccion NC161040 Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID SIG Storage: Min PCIE VID Sig Storage: Min PCIE VID Sig Storage: Min PCIE VID Sig	2 11			/ i3-6100U / i5-6300U / i7-6600	JU	
Graphica Intel® HD Graphics Enement Intel® HD/Graphics Newtoin KR Graphics Reatlex® ALC256 OC Chipset Newtoin KC1604D FM Storage: NimPCie FUSB Storage: NimPCie FUSB AM 8105 FM Newtoin KIPCIE FUSB Storage: NimPCie FUSB AM 8105 FM MW Manifer FM TSS Storage: NimPCie FUSB FUSB Storage: NimPC						
Ethernel Eth				ט-טואת, Max. 32 GB (Non-EC	.CJ	
Audio Realite/* ALC236 Nuvoton NC15104D Nuvoton NC15104D IPM Nuvoton NC15104D VMC Storage Idea Storage Idea<						
VIC Chipsel VIC C						
IPM Nuvelon NPC1630ABC/X IPM2.0 Spansion Slot Storage Kini PCE for Idls (USB / PCE / SIAL) Wireless: M.2 230 E Key (PCE / USB) Storage Kini PCE for Idls (USB / PCE / SIAL) Storage Kini PCE for Idls (USB / PCE / USB) Storage Kini PCE for Idls (USB / PCE / USB) Marchdog Timer 1-2555 Eps ky Software Program GRAPHICS - VCA VCA VCA	I/O Chipset					
Wireless: M.2 2230 E key (PCIe / USB) BIOS AVM BIOS H W. Monitor Temperature Monitor. Voltage Monitor. Fan Monitor Workhold gittiner I-255 Steps by Software Program Smart For Control CPU Fan GRAPHICS CPU Fan VCA - WOM - WDM - WDM - DVI - WDM - WDM - WDM - WDM - DVID K (4095 x 2160) #04 Hz Display/Port Up to 4K (4095 x 2160) #06 Hz DSB 4 x USB 3.0 Start K /O 1 x HOM 1.4.1 x DisplayPort 1.2 VIDS Up to 1 Y20 x 1200 #60 Hz Display (//O 1 x HOM 1.4.1 x DisplayPort 1.2 VIDS 4 x USB 3.0 Start A CONNECTORS - NTERNAL CONNECTORS - Start A S	TPM					
BIOS AMI BIOS AVM BIOS Tomperature Monitor, Voltage Monitor, Fan Monitor Watchdog Timer 1-255 Steps by Software Program Smart Fan Control CPU Pan CRAPHICS — VX0A — Disologivant Up to 4K (40% x 2160) @24 Hz Disologivant Up to 4K (40% x 2160) @24 Hz Disologivant Up to 4K (40% x 2160) @26 Hz Disologivant Up to 4K (40% x 2160) @26 Hz Disologivant Up to 4K (40% x 2160) @26 Hz Disologivant Up to 4K (40% x 2160) @26 Hz Disologivant Up to 4K (40% x 2160) @26 Hz Disologivant Up to 4K (40% x 2160) @26 Hz Disologivant Up to 4K (40% x 2160) @26 Hz Disologivant Up to 4K (40% x 2160) @26 Hz Disologivant Up to 4K (40% x 2160) @26 Hz Disologivant Tx 4 Audio Combo Jack (Mic-in and Line-out) LANIO 2 x Risologivant Disologivant — Disologivant Tx Audio Combo Jack (Mic-in and Line-out) LANIO 2 x Risologivant Disologivant —	Expansion Slot	0				
H. W. Monifor Temperature Monifor, Valiage Monifor, Fan Monifor Vectored primer 1-255 Steps by Software Program Smart Fan Control CPU Fan CRA PHICS				USB)		
Watchdag Timer 1-255 Steps by Software Program GRAPHICS CPU Han CRAPHICS				Appitor For Manitor		
Smart Fen Control CPU Fon CRA PHICS						
GRAPHICS VXA — PDMI Up to 4K (4096 x 2160) €20 Hz PDMI Up to 4K (4096 x 2160) €20 Hz PDMI Up to 4K (4096 x 2160) €20 Hz PDMI Up to 4K (4096 x 2160) €20 Hz PDMI Up to 4K (4096 x 2160) €20 Hz PDMI Up to 4K (4096 x 2160) €20 Hz PDMI Up to 4K (4096 x 2160) €20 Hz PDMI VDMI (4006 x 2160) €20 Hz PDMI (2000) 1 x HDMI 1.4, 1 x DisplayPort 1.2 Vadio I/O 1 x Audio Ecombol Jack (Mic-in and Line-out) VERNAL CONNECTORS — Storage 1 x SATAIII USB 2 x USB2.0 VICE Colory eDP) 1 x Backlight Connector Nadio I/O 1 x Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header Stazy(422/485) Parallel Port — Storage 1 x SATAII CPO 1 x Audio Header (Programmable. Support 10 x GPIO) Far 1 x Audio Header (Programmable. Support 10 x GPIO) Far = Parallel Port				11		
VCA - PDM - PDM Up to 4K (4094 × 2160) %20 Hz PDM Up to 4K (4094 × 2160) %20 Hz PDM Up to 4K (4094 × 2160) %20 Hz PDM Up to 4K (4094 × 2160) %20 Hz REAR I/O Status Status Up to 4K (4094 × 2160) %20 Hz REAR I/O 1 × HDMI 1.4. 1 × DisplayPort 1.2 Audio I/O 1 × HDMI 1.4. 1 × DisplayPort 1.2 Audio I/O 1 × Audio Combo Jack (Mic-in and Line-oul) Audio I/O 1 × Audio Combo Jack (Mic-in and Line-oul) Status - Others - Others - Others - Display I/O 1 × SATAII USB 2 × USB 2.0 Tx Audio Header Supporting System Steres Speaker or Buzzer Audio I/O 1 × Audio Header Supporting System Steres Speaker or Buzzer Audio I/O 1 × MuRPI Header (Programmable. Support 10 × GPIO) Fan - Parallel Port - Set 2 Port - Set 2 Port Mice Are PiNP M Fon Header -		Crore				
DVI HDMI Up to 4K (40% x 2160) %24 Hz Display/port Up to 4K (40% x 2160) %60 Hz Display/port Up to 4K (40% x 2160) %60 Hz Display HO Up to 4K (40% x 2160) %60 Hz B2R VO Status Up to 4K (40% x 2160) %60 Hz B2R VO B3S 4 x USB 3.0 Avail/O 1 x HuMi 1.4, 1 x Display/Port 1.2 Avail/O 2 x RU-45 Baid Port - Strate - <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
HDM Up to 4x (1409 x 2140) @204 Hz BiplaphPort Up to 4x (1409 x 2140) @40 Hz NDS Up to 1920x 1200 @40 Hz BiP (Option) Up to 4x (4094 x 2140) @40 Hz REAR I/O XEX REAR I/O X USB 3.0 USB 4 x USB 3.0 USB 2 x USB 2.0 USB 1 x USB (Colory CPP) 1 x VDS (Colory CPP) 1 x Audio Hoader Supporting System Stereo Speaker or Buzer A x Exal (Color veDP) 1 x Audio Hoader (Programmable. Support 10 x CPIO) Fan 4 x Exa2 (One Supports Es232/422/485)	DVI	_				
DisplayPort Up to 4.K (4096 x 2160) 680 Hz REAR I/O ID to 4.K (4096 x 2160) 680 Hz REAR I/O ID to 4.K (4096 x 2160) 680 Hz REAR I/O ID to 4.K (4096 x 2160) 680 Hz REAR I/O ID to 4.K (4096 x 2160) 680 Hz USB 4 x USB 3.0 Display I/O I x HDMI I.4, 1 x DisplayPort 1.2 Audio I/O 2 x RL-45 Serial Port - - - PS/2 Port - Others - INTERNAL CONNECTORS - Storage 1 x SATAIII USB 2 x US82.0 1 x Audio Header Supporting System Storeo Speaker or Buzzer 1 x Audio Header Supporting System Storeo Speaker or Buzzer 1 x Audio Header (Programmable, Support 10 x GPIO) Earliel Port - Provent 1 x A-200 F Mover Header, 1 x XI/ATX Mode Select Jumper Prover 1 x 4-201 Power Header, 1 x XI/ATX Mode Select Jumper Prover 1 x 4-201 Power Header, 1 x XI/ATX Mode Select Jumper Storage Temperature - Others MAPL Programmable Neader (Proch, 1 x SMBUS, 1 x UART, 1 x Watchdog) with	HDMI	Up to 4	4K (4096 x 2160) @24 Hz			
B/P (Option) Up to 4k (4096 x 2160) @60 Hz REAR I/O Visite of the second of t	DisplayPort		1 /			
REAR I/O 4 x USB 3.0 USB 4 x USB 3.0 USB 4 x USB 3.0 1 x HOMI 1.4, 1 x DisplayPort 1.2 Audio I/O 1 x Audio Combo Jack (Mic-in and Line-out) Audio I/O 2 x R1-45 Serial Port – Others – INTERNAL CONNECTORS – NITERNAL CONNECTORS – Storage 1 x Audio Header Supporting System Stereo Speaker or Buzzer USB 2 x USB2.0 1 x Audio Header Supporting System Stereo Speaker or Buzzer Vadio I/O 1 x Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header Supporting System Stereo Speaker or Buzzer – Vadio Header Without Amplifier (for Extra Amplifier Board for System Speaker) – Storage 1 x MiAPI Header (Programmable. Support 10 x GPIO) – For – – Parallel Port – – GPIO 1 x MiAPI Header (Programmable. Support 10 x GPIO) – For 1 x Choss Jumper – Power Input 8-24V Vide Range DC Input w/ 4-pin Power Header (2 x 5-pin) 1 x Choss Jumper Power Input 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm)	LVDS					
US8 4 x US8 3.0 Display I/O 1 x AUdio Combo Jack (Mic-in and Line-out) ANI/O 2 x RJ-45 Serial Port	eDP (Option)	Up to 4	4K (4096 x 2160) @60 Hz			
Display I/O I X HDM 1.4, 1 x DisplayPort 1.2 Audio I/O I x Audio Combo Jack (Mic-in and Line-out) Audio I/O I x Audio Combo Jack (Mic-in and Line-out) Audio I/O I x Audio Combo Jack (Mic-in and Line-out) Serial Port I I X Audio I/O I X KDX I I X SATAII I I X Audio I/O I X KDX I I X SATAII I I X Audio I/O I X KDX I I X IVDS (colay eDP) I X Backlight Connector I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header Support 10 x GPIO I X Backlight Connector A K RS232 (One Support SS232/422/485) FS/2 Port - Profele Port - Profele Port - Programmable header (Support 10 x GPIO) I X MaPt Header (Programmable, Support 10 x GPIO) I X CHOS Jumper POWER REQUIREMENT - Power I X 8-24V Vide Ranae DC Input w/ 4-pin Power Header (Pitch: 2.5mm) EMVIRONMENTAL Operating Imperature - 20 - 80°C (14 - 140°F) - 20 - 80°C (14 - 140°F) - 20 - 80°C (24 - 140	REAR I/O					
Audio I/O I x Audio Cambo Jack (Mic-in and Line-out) X RJ-45 Serial Port - Serial Port - NTERNAL CONNECTORS Storage I x SATAIII USB 2 x USB2.0 I x SATAIII USB 2 x USB2.0 I x UVDS (colary eDP) 1 x Backlight Connector X udio / Conn	USB					
LAN I/O 2 x RJ=45 Serial Port PS/2	Display I/O					
Serial Port — PS/2 Part — Others — NTERNAL CONNECTORS Is \$ATAIII Storage 1 x \$V1582.0 Display I/O 1 x \$V1582.0 Audio I/O 1 x Audio Header Supporting System Steree Speaker or Buzzer Audio I/O 1 x Audio Header Supporting System Steree Speaker or Buzzer Serial Port 4 x R5232 (One Supporting System Steree Speaker or Buzzer Parallel Port 4 x R5232 (One Supporting System Steree Speaker or Buzzer Parallel Port 4 x R5232 (One Supports R5232/422/485) Portice Port 1 x MiAPI Header (Programmable support 10 x GPIO) Fan 1 x MaiPI Header (Programmable header Support 10 x GPIO) Fan 1 x Audio Header Support 10 x GPIO) Fan 1 x Audio Header (Programmable header Support 10 x GPIO) Fan 1 x AbaiD Header (Programmable header Support 10 x GPIO) Fan 1 x CANOS Jumper Power Inoul 8-24V 4-pin Power Header (2 x 5-pin) Supported for Windows OS 1 x CANOS Jumper Power Inoul 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) ENVIRONMENTAL — Operating Temperature 0 - 60°C (32 -				and Line-out)		
PS/2 Port Others NTERNAL CONNECTORS Storage 1 x SATAIII US8 2 x USB2.0 Display I/O 1 x KUOS (colay eDP) Audio I/O 1 x Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header without Amplifier (for Extra Amplifier Board for System Speaker) Serial Port 4 x R532 (One Supports R532/422/485) Parallel Port GPIO 1 x Audio Header (Programmable, Support 10 x GPIO) Fan Power 1 x 4-pin PWM Fan Header (Programmable, Support 10 x GPIO) Fan Power 1 x 8-24V 4-pin Power Header. 1 x AT/ATX Mode Select Jumper Others MAPI: Programmable header (support 10 x GPIO) Fan Others Supported for Windows OS 1 x Chossis Front Panel Header (2 x 5-pin) 1 x CMOS Jumper POWER REQUIREMENT 244 Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Foroge Tangereature 0 - 60°C (32 - 140°F) Storage Tangereature 0 - 60°C (32 - 140°F) Storage Tangereature 0 - 80°C (4 - 174°F)			43			
Others — NTERNAL CONNECTORS						
Internal Connectors Shorage 1 x SATAIII USB 2 x USB2.0 Display I/O 1 x LVDS (colay eDP) Audio I/O 1 x Backlight Connector Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header without Amplifier (for Extra Amplifier Board for System Speaker) Serial Port 4 x R5232 (One Supports R5232/422/485) PS/2 Port - Parallel Port - GPIO 1 x MAPI Header (Programmable, Support 10 x GPIO) Fan 1 x 8-244 v-pin Power Header.1 x AT/ATX Mode Select Jumper Power 1 x 8-244 v-pin Power Header (Support 10 x GPIO, 1 x SMBUS, 1 x UART, 1 x Watchdog) with API lib Supported for Windows 0S 1 x Chossis Front Panel Header (2 x 5-pin) 1 x CMOS Jumper 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch; 2.5mm) POWER REQUIREMENT 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch; 2.5mm) Rever Input 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch; 2.5mm) POWER REQUIREMENT 8-24V Wide Range DC Input w/ 4-pin Power 10 x GPIO, 1 x SMBUS, 1 x UART, 1 x Watchdog) with API lib Sorage Temperature -0 ~ 60°C (32 ~ 140°F) Operating Temperature -0 ~ 60°C (42 ~ 176°F) Operating Temperature						
Storage 1 x SATAIII USB 2 x USB2.0 Display I/O 1 x Bucklight Connector Audio I/O 1 x Bucklight Connector Audio I/O 1 x Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header without Amplifier (for Extra Amplifier Board for System Speaker) Serial Port 4 x RS232 (One Supports RS232/42/485) SP(2 Port - Parallel Port 4 x RS232 (One Supports RS232/42/485) SP(2 Port - Parallel Port 1 x 4-pin PWM Fon Header Power I x A P-pin PWM Fon Header (Programmable, Support 10 x GPIO) Fan 1 x 4-pin PWM Fon Header (Support 10 x GPIO) Fan 1 x 4-pin PWM Fon Header (Support 10 x GPIO) Fan 1 x 4-pin PWM Fon Header (Support 10 x GPIO) Fan 1 x 4-pin PWM Fon Header (Support 10 x GPIO) Fan 1 x 4-pin PWM Fen Header (Support 10 x GPIO) Fan 1 x 6-24V 4-pin Power Header (1 x 5-pin) 1 x CMOS Jumper POWER REQUIREMENT Power Input 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch; 2.5mm) ENVIRONMENTAL Operating Temperature 0 - 60°C (32 - 140°F) Storage Temperature 2 - 0 - 80°C (-4 - 176°F) Operating Temperature 2 - 0 - 80°C (-4 - 176°F) Operating Temperature 2 - 0 - 80°C (-4 - 176°F) Operating Temperature 2 - 0 - 80°C (-4 - 176°F) Operating Temperature 2 - 0 - 80°C (-4 - 176°F) Operating Temperature 2 - 0 - 80°C (-4 - 176°F) Operating Temperature 3 - 558 R/H, non-condensing Certification C E & FCC Clas B OS Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 10 64bit, Windows® 10 64bit, Linux (support by request) Skylake: Windows® 17 32/64bit, Windows® 10 64bit, Windows® 10 64bit, Linux (support by request) PDIXE-3760U-H5K 3 - 27100U MB + Heatsink PDIXE-3700U-H5K 3 - 27100U MB + Heatsink PDIXE-3700U-H5K 3 - 2700U * Option: * Opti						
USB 2 x USB2.0 Display I/O 1 x LVDS (colay eDP) 1 x Bocklight Connector 1 x Audio Header Supporting System Stereo Speaker or Buzzer Audio I/O 1 x Audio Header Without Amplifier (for Extra Amplifier Board for System Speaker) Serial Port 4 x RS232 (One Supports RS232/422/485) F3/2 Port - Parallel Port - GPIO 1 x MiAPI Header (Programmable. Support 10 x GPIO) Fon 1 x 4-pin POWE Fan Header, 1 x AT/ATX Mode Select Jumper Power 1 x 8-24V 4-pin Power Header, 1 x AT/ATX Mode Select Jumper Others MIAPI: Frogrammable header (support 10 x GPIO) Supported for Windows OS 1 x Chossis Front Panel Header (2 x 5-pin) 1 x CMOS Jumper - Power Inout 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) ENVIRONMENTAL Operating Temperature Operating Temperature -20 ~ 80°C (-4 - 176°F) Operating Temperature -20 ~ 80°C (-4 - 176°F) Operating Temperature -20 ~ 80°C (-4 - 176°F) Operating Humidity 10% 5% 78 (/H, non-condensing Certification CE & FCC Class B OS Stylake: Windows* 7 32/64bit, Windows* 8.1 64bit, Windows* 10						
Display I/O 1 x I/DS (colary eDP) 1 x Backlight Connector Audio I/O 1 x Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header Supporting System Stereo Speaker or Buzzer 1 x Audio Header Supports RS32/422/485) PS/2 Port - Parallel Port GPIO 1 x H-pin PWM Fan Header Power 1 x B - 24V 4-pin Power Header, 1 x AT/ATX Mode Select Jumper Others WiAPI: Frogrammable header (pupport 10 x GPIO) transition of the support for Windows OS 1 x Chasis Front Panel Header (2 x 5-pin) 1 x CASS Jumper POWER REQUIREMENT Power Input Rower Input B-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) ENVIRONMENTAL Operating Humidity Operating Humidity 10% - 80°C (32 - 140°F) Operating Humidity 10% - 80°C (52 - 140°F) Operating Humidity 10% - 80°C (52 - 140°F) Operating Humidity <	USB					
Audio I/O I X Audio Hoader Supporting System Stereo Speaker or Buzzer I X Audio Header Supporting System Stereo Speaker or Buzzer I X Audio Header without Amplifier (for Extra Amplifier Board for System Speaker) F2/2 Port Parallel Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 Port F3/2 P		1 x LVE	DS (colay eDP)			
I x Audio Header without Amplifier (for Extra Amplifier Board for System Speaker) 4 x R3232 (One Supports R3232/422/485) PS/2 Port Parallel Port GPIO 1 x MiAPI Header (Programmable. Support 10 x GPIO) Fan 1 x 4-pin PWM Fan Header Power 1 x 8-24V 4-pin Power Header, 1 x AT/ATX Mode Select Jumper Others MiAPI: Programmable header (support 10 x GPIO, 1 x SMBUS, 1 x UART, 1 x Watchdog) with API lib supported for Windows 0S 1 x CMOS Jumper NiAPI: Programmable header (2 x 5-pin) 1 x CMOS Jumper 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) POWER REQUIREMENT 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) RENVIRONMENTAL 0 ~ 60°C (32 ~ 140°F) Storage Temperature -20 ~ 80°C (-4 ~ 178°F) Operating Temperature -20 ~ 80°C (-4 ~ 178°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & PCC Class B OS Support Kaby Lake: Windows [®] 10 64bit, Linux (support by request) Skylake: Windows [®] 7 32/64bit, Windows [®] 8.1 64bit, Windows [®] 10 64bit, Linux (support by request) Support Kaby Lake: Windows [®] 10 64bit, Linux (support by request) Skylake: Windows [®] 7 32/64bit, Windows [®]			0			
Serial Port 4 x R\$232 (One Supports R\$232/422/485) PS/2 Port Parallel Port GPIO 1 x MiAPI Header (Programmable. Support 10 x GPIO) Fan 1 x 4-pin PWM Fan Header, 1 x AT/ATX Mode Select Jumper Others MiAPI: Programmable header (support 10 x GPIO, 1 x SMBUS, 1 x UART, 1 x Watchdog) with API lib supported for Windows OS 1 x Chossis Front Panel Header (2 x 5-pin) 1 x CMOS Jumper POWER REQUIREMENT	Audio I/O					
PS/2 Port Parallel Port Parallel Port Parallel Port Parallel Port Power P	Sorial Port				tor System Speaker	r)
Parallel Port GPIO I x MiAPI Header (Programmable. Support 10 x GPIO) Fan Ni API. Programmable header (support 10 x GPIO) Power I x 8~24V 4-pin Power Header, 1 x AT/ATX Mode Select Jumper Others MiAPI. Programmable header (support 10 x GPIO, 1 x SMBUS, 1 x UART, 1 x Watchdog) with API lib supported for Windows OS I x Chassis Front Panel Header (2 x 5-pin) I x CMOS Jumper POWER REQUIREMENT Power Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Power Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Power Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Power Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Power Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fower Input B=24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Fowe			.32 (One supports K3232/4	122/400]		
GPIO 1 x MiAPI Header (Programmable. Support 10 x GPIO) Fan 1 x 4-pin PWM Fan Header Power 1 x 8-24V 4-pin Power Header, 1 x AT/ATX Mode Select Jumper Others MiAPI: Programmable header (support 10 x GPIO, 1 x SMBUS, 1 x UART, 1 x Watchdog) with API lib supported for Windows OS 1 x Chossis Front Panel Header (2 x 5-pin) 1 x CMOS Jumper POWER REQUIREMENT 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch; 2.5mm) Power Input 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch; 2.5mm) ENVIRONMENTAL 0 ~ 60°C (32 ~ 140°F) Storage Temperature -20 ~ 80°C (-4 ~ 176°F) Operating Temperature -20 ~ 80°C (-4 ~ 176°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS Support Kaby Lake: Windows® 10 64bit, Linux (support by request) skylake: Windows® 7 32/64bit, Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 10 64bit, Linux (support by request) PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK PD11KS-7100U-HSK i3-7100U i3-7100U MB + Heatsink PD11KS-7600U-HSK i3-7300U '*Option:						
Fan 1 x 4-pin PWM Fan Header Power 1 x 8-24V 4-pin Power Header, 1 x AT/ATX Mode Select Jumper Others MiAPI: Programmable header (support 10 x GPIO, 1 x SMBUS, 1 x UART, 1 x Watchdog) with API lib supported for Windows OS 1 x Chassis Front Panel Header (2 x 5-pin) 1 x CMOS Jumper POWER REQUIREMENT 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Power Input 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) ENVIRONMENTAL 0 ~ 60°C (32 ~ 140°F) Storage Temperature 0 ~ 60°C (32 ~ 140°F) Operating Temperature 0 ~ 60°C (32 ~ 140°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS Support Stylake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 10 64bit, Windows® 10 64bit, Windows® 10 64bit, Linux (support by request) Stylake: Windows® 10 64bit, Windows® 10 64bit, Windows® 10 64bit, Linux (support by request) Stylake: Windows® 10 64bit, Windows® 10 64bit, Windows® 10 64bit, Linux (support by request) Stylake: Windows® 10 64bit, Windows® 10 64bit, Linux (support by request) Stylake: Windows® 10 64bit, Windows® 10 64bit, Windows® 10 64bit, Linux (support by request) Stylake: Windows® 10 64bit, Windows® 10 64bit, Windows® 10 64bit, Linux (support by request)	GPIO		API Header (Proarammab	le. Support 10 x GPIO)		
Power 1 x 8-24V 4-pin Power Header, 1 x AT/ATX Mode Select Jumper Others MiAPI: Programmable header (support 10 x GPIO, 1 x SMBUS, 1 x UART, 1 x Watchdog) with API lib supported for Windows OS 1 x Chassis Front Panel Header (2 x 5-pin) 1 x CMOS Jumper POWER REQUIREMENT 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) Power Input 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) POWER REQUIREMENT 0 ~ 60°C (32 ~ 140°F) Power Input 0 ~ 60°C (-4 ~ 176°F) Operating Temperature -20 ~ 80°C (-4 ~ 176°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS Skylake: Windows [®] 10 64bit, Linux (support by request) Skylake: Windows [®] 7 32/64bit, Windows [®] 8.1 64bit, Windows [®] 10 64bit, Linux (support by request) Ordering Information Kdey Lake: Windows [®] 10 64bit, Linux (support by request) Model Number Processor HS Configuration Model Number Processor HS Configuration PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink POption:	Fan					
supported for Windows OS 1 x Chassis Front Panel Header (2 x 5-pin) 1 x CMOS Jumper POWER REQUIREMENT Power Input 8-24V Wide Range DC Input w/ 4-pin Power Header (Pitch; 2.5mm) ENVIRONMENTAL Operating Temperature 0 ~ 60°C (32 ~ 140°F) Storage Temperature -20 ~ 80°C (-4 ~ 176°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS OS OS OS Support Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) POINS-39650-HSK Celeron 39650 MB + Heatsink PD11KS-73000-HSK i5-73000 MB + Heatsin PD11KS-71000-HSK i3-71000 MB + Heatsink PD11KS-76000-HSK i7-76000 MB + Heatsin PD11KS-76000-HSK i3-71000 MB + Heatsink PD11KS-76000-HSK i7-76000 MB + Heatsin POTOPINE	Power	1 x 8~2	24V 4-pin Power Header, 1			
1 x Chassis Front Panel Header (2 x 5-pin) 1 x CMOS Jumper POWER REQUIREMENT Rower Input Sever Input Sever Input Sever Input OPWER REQUIREMENT ENVIRONMENTAL Operating Temperature -20 ~ 80°C (-4 ~176°F) Operating Humidity Operating Humidity Operating Humidity Operating Temperature CE & FCC Class B OS OS OS OS Léve: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Skylake: Windows® 10 64bit, Linux (support by request) <tr< td=""><td>Others</td><td></td><td></td><td>support 10 x GPIO, 1 x SMBUS,</td><td>1 x UART, 1 x Watch</td><td>ndog) with API lib</td></tr<>	Others			support 10 x GPIO, 1 x SMBUS,	1 x UART, 1 x Watch	ndog) with API lib
I x CMOS Jumper POWER REQUIREMENT Power Input 8~24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) ENVIRONMENTAL Operating Temperature 0 ~ 60°C (32 ~ 140°F) Storage Temperature 0 ~ 80°C (-4 ~ 176°F) Operating Humidity 0 CE & FCC Class B OS OS OS OS Ordering Information Model Number Processor HS Configuration Model Number Processor HS Configuration PD11KS-3965U-H5K Celeron 3965U MB + Heatsink PD11KS-7300U-H5K i5-7300U MB + Heatsink PD11KS-7100U-H5K i3-7100U						
POWER REQUIREMENT Power Input 8~24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) ENVIRONMENTAL 0~60°C (32~140°F) Operating Temperature -20~80°C (-4~176°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS Support Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 10 64bit, Unux (support by request) Ordering Information Model Number Processor PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK Packing List *Option:				2 x 5-pin)		
Power Input 8~24V Wide Range DC Input w/ 4-pin Power Header (Pitch: 2.5mm) ENVIRONMENTAL 0 ~ 60°C (32 ~ 140°F) Operating Temperature -20 ~ 80°C (-4 ~ 176°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS Support Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) OS Support Kaby Lake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Model Number Processor HS Configuration PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsink *Option: *Option:			Jumper			
ENVIRONMENTAL Operating Temperature 0 ~ 60°C (32 ~ 140°F) Storage Temperature -20 ~ 80°C (-4 ~ 176°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS OS OS Support Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) OCdering Information Processor Model Number Processor PD11KS-3965U-HSK Celeron 3965U PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7300U-HSK PACKing List *Option:			Wide Deutste DO	/ A rein Deutschlass (Dit	Q. Empires	
Operating Temperature 0 ~ 60°C (32 ~ 140°F) Storage Temperature -20 ~ 80°C (-4 ~ 176°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS CS OS Support Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Ordering Information Model Number Processor HS Configuration Model Number Processor HS Configuration PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink PD11KS-7600U-HSK i7-7600U *Option:		8~24V	wide Kange DC Input w	<u>/ 4-pin Power Header (Pitch:</u>	2.5mm)	
Storage Temperature -20 ~ 80°C (-4 ~176°F) Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS Support Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 10 64bit, Linux (support by request) OS Support Kaby Lake: Windows® 10 64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Ordering Information Model Number Processor PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsink Packing List *Option:			C (20 - 14005)			
Operating Humidity 10% ~ 95% R/H, non-condensing Certification CE & FCC Class B OS Support Kaby Lake: Windows® 10 64bit, Linux (support by request) Support Kaby Lake: Windows® 10 64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Ordering Information Model Number Processor PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsink PD11KS-7600U-HSK Potenting List *Option:						
Certification CE & FCC Class B OS Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Ordering Information Model Number Processor HS Configuration Model Number Processor HS Configuration PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsink Packing List *Option:			()	1		
OS OS Support Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Ordering Information Model Number Processor HS Configuration Model Number Processor HS Configurat PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsin PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsin Packing List	1 0 /			, 		
Kaby Lake: Windows® 10 64bit, Linux (support by request) Skylake: Windows® 7 32/64bit, Windows® 8.1 64bit, Windows® 10 64bit, Linux (support by request) Ordering Information Model Number Processor HS Configuration Model Number Processor HS Configuration PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsink Packing List *Option:						
Model Number Processor HS Configuration Model Number Processor HS Configuration PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsink Packing List *Option:			alka: Window @ 10 / / ! !			
Model Number Processor HS Configuration Model Number Processor HS Configuration PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsink Packing List *Option:	OS Support	Kaby L Skylak	e: Windows® 7 32/64bit, U	inux (support by request) 'indows® 8.1 64bit, Windows® 1	10 64bit, Linux (supr	port by request)
Model NumberProcessorHS ConfigurationModel NumberProcessorHS ConfigurationPD11KS-3965U-HSKCeleron 3965UMB + HeatsinkPD11KS-7300U-HSKi5-7300UMB + HeatsinkPD11KS-7100U-HSKi3-7100UMB + HeatsinkPD11KS-7600U-HSKi7-7600UMB + HeatsinkPacking List	Ordering					,
PD11KS-3965U-HSK Celeron 3965U MB + Heatsink PD11KS-7300U-HSK i5-7300U MB + Heatsink PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsink Packing List *Option:						
PD11KS-7100U-HSK i3-7100U MB + Heatsink PD11KS-7600U-HSK i7-7600U MB + Heatsink Packing List *Option:	Model Number	Processor	HS Configuration	Model Number	Processor	HS Configura
*Option:	DD11KC 20/ELLUCK	Celeron 3965U	MB + Heatsink	PD11KS-7300U-HSK	i5-7300U	MB + Heatsi
Packing List	PD11K3-34030-H3K	i3-7100U	MB + Heatsink	PD11KS-7600U-HSK	i7-7600U	
- · · · ·		10 / 1000				
Packing	PD11KS-7100U-HSK					*Option:
	PD11KS-7100U-HSK					*Option:



79

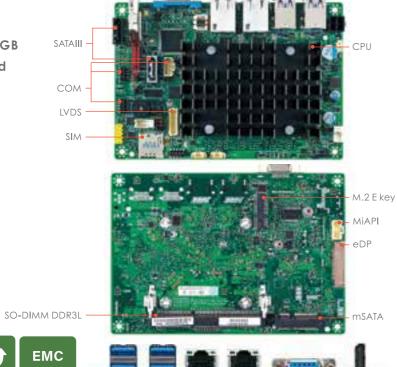
PD10AS

3.5" SBC Form Factor Intel[®] Apollo Lake Processor

Features

- Intel® Apollo Lake Atom / Celeron / Pentium BGA processor
- 1 x DDR3L SO-DIMM and support up to 8GB
- Support triple display for HDMI, VGA and LVDS / eDP
- 1 x Mini PCle + 1 x M.2 slot
- 2 x SATAIII (1 x SATA is multiplexed with 1 x mSATA port)
- 2 x Intel[®] Gigabit Ethernet
- 2 x USB 2.0, 4 x USB 3.0 and 4 x COM
- 8V~24V wide voltage power input
- mPCle with SIM card holder

MIAPI



HDMI

М.2 ٢ 3.~-Class B USB 3.0 Giga LAN VGA FCC Class B USB3.0 Wide Range M.2 Wide Temp. Range

DC-in

Support

Block Diagram eDP LVDS DDR3L VGA Audio codec ALC888 HDM Satall mPCIe Full size (USB / PCIe / SATAIII) SIM Apo**l**lo Lake SoC M.2 2230 E Key RJ-45 (i210) RJ-45 (i210) 2 x USB 2.0 COM1 RS232 4 x USB 3.0 COM2 RS232 COM3 RS232 COM4 RS232/422/485

PD10AS 3.5" SBC

MECHANICAL Form Factor	3.5" SBC Embedded: 4
SYSTEM	0.0 SBC LINDedded.
	Intel® Apollo Lake-M N
Processor	
	Intel® Apollo Lake-I E3
	Option: E3940 / E3950
Chipset	Intel [®] SoC Integrated
Memory	DDR3L 1867, 1 x 204-pi
Graphics	Intel [®] HD Graphics
Ethernet	2 x Intel® 1210-IT Giga l
Audio	Realtek® ALC888
I/O Chipset	Nuvoton NCT6116D
TPM	Nuvoton NPCT650ABC
Expansion Slot	Storage: Mini PCIe Ful
DIOC .	Wireless: M.2 2230 E ke
BIOS H / W Monitor	AMI BIOS
Watchdog Timer	Temperature Monitor,
Smart Fan Control	1~255 Steps by Softwa CPU Fan
	CruFan
GRAPHICS	
VGA	Up to 1920 x 1200 @60
DVI	—
HDMI	Up to 4K (3840 x 2160)
DisplayPort	—
LVDS	Up to 1920 x 1200 @60
eDP (Option)	Up to 4K (3840 x 2160)
REAR I/O	
USB	4 x USB 3.0
Display I/O	1 x HDMI 1.4, 1 x VGA
Audio I/O	—
LAN I/O	2 x RJ-45
Serial Port	—
PS/2 Port	-
Others	—
INTERNAL CONNECTORS	
Storage	2 x SATAIII(1 x SATA is n
USB	2 x USB 2.0
Display I/O	1 x LVDS, 1 x eDP
	1 x Backlight Connect
Audio I/O	1 x Audio Header (Fro
Serial Port	4 x RS232 (One Suppo
PS/2 Port	-
Parallel Port	—
GPIO	1 x MiAPI Header (Pro
Fan	1 x 4-pin CPU Fan Hea
Power	1 x 8~24V ATX Power C
Others	1 x CMOS Jumper
POWER REQUIREMENT	
Power Input	8~24V Wide Range D0
ENVIRONMENTAL	
Operating Temperature	Normal Temperature:
e per en igron per anoro	Wide Temperature (O
Storage Temperature	-40 ~ 85°C (-40 ~185°F
Operating Humidity	10% ~ 95% R/H, non-co
Certification	CE & FCC Class B
OS	
	Windows® 10 64-bit
OS Support	Linux (support by requ

Ordering Information

Model Number	Processor	VGA	HDMI	LVDS / eDP	USB 3.0 / 2.0	LAN	mPC l e	M.2 (2230)	Operting Temp.	Power	HS Configuration
PD10AS-E3930-NT	E3930	1	1	1/1	4/2	2	1	1	0~70°C	ATX 4-pin DC-in 8~24V	MB + Heatsink
PD10AS-N3350-NT	N3350	1	1	1/1	4/2	2	1	1	0~70°C	ATX 4-pin DC-in 8~24V	MB + Heatsink
PD10AS-N4200-NT	N4200	1	1	1/1	4/2	2	1	1	0~70°C	ATX 4-pin DC-in 8~24V	MB + Heatsink
											*Ontion: TPM

Packing List	
Packing	
 1 x Motherboard 	• 1 x 50cm SATA Co



" x 5.8" (102mm x 147mm

N3350 / N4200 Processor 3930 Processor

bin SO-DIMM, Max. 8GB (Non-ECC)

LAN

3CYX TPM2.0 (Optional) ull size (USB / PCIe / SATA), w/ SIM Card Holder key (PCIe / USB)

Voltage Monitor are Program

) Hz

) @30 Hz

) Hz

) @60 H

nultiplexed with 1 x mSATA port)

ctor ont Panel Mic-in & Line-out)

orts RS232/422/485)

ogrammable. Support 10-bit GPIO) ader

Connector, 1 x AT/ATX Mode Select Jumpe

C Input w/ 4-pin ATX connector (Pitch: 4.2mm)

ə: 0 ~ 70°C (32 ~ 158°F) Optional*) : -40 ~ 85°C (-40 ~ 185°F) F) condensing

quest)

* Must use the wide-temp modules for wide temperature SKU

SBC

81

• 1 x 45cn SATA Power Cable

ND108T

Pico-iTX Form Factor NXP® i.MX8M Family

Features

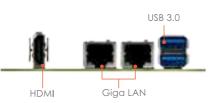
- NXP[®] i.MX8M Dual Core & Quad Core Processor
- LPDDR4 Memory (Options for 1GB / 2GB / 4GB)
- eMMC Storage (Options for 8GB / 16GB / 32GB)
- Support up to 2 x Giga LAN
- Support up to 2 x display: 1x HDMI (4K), 1 x DisplayPort(FHD) or LVDS(FHD)
- Support 1 x Mini PCIe expansion slot
- Support 1 x Raspberry Pi fully Compatible 40-pin Header
- Up to 2 x USB 3.0, 2 x USB 2.0, 12V DC Power Input 1 x COM port (RS232/422/485)



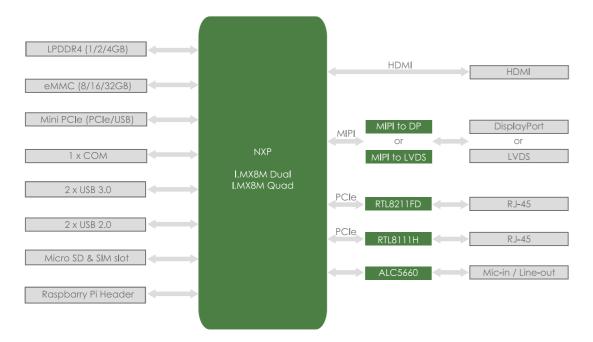


Raspberry Pi Header





Block Diagram



ND108T Pico-iTX

MECHANICAL Form Factor	Pico-iTX 2.5" SBC: 3.94
SYSTEM	PICO-IIX 2.5 SBC: 3.94
	NXP® i.MX8M Family :
Processor	8M Quad (4x Cortex-A53
Chipset	i.MX8M SoC Integrate
Memory	LPDDR4 Onboard Mei
Graphics	I.MX8 Integrated
Ethernet	2 x Realtek Giga LAN (
Audio	Realtek ALC5660
I/O Chipset TPM	-
Expansion Slot	- Mini PCle Full / Half Siz
BIOS	-
H / W Monitor	Temperature Monitor,
Watchdog Timer	Yes
Storage	Onboard eMMC with
	1 x Micro SD card slot
GRAPHICS	
VGA	—
DVI	
HDMI DisplayPort	Up to 4K (4096 x 2160) (Up to FHD (1920 x 1080
LVDS	Up to FHD (1920 x 1080
eDP (Option)	
REAR I/O	
USB	2 x USB 3.0
Display I/O	1 x HDMI 2.0, 1 x Display
Audio I/O	—
LAN I/O	2 x RJ-45
Serial Port	—
PS/2 Port	
	1 Adiana Shaddadiana SD
Storage USB	1 x Micro-SIM/Micro SD 1 x USB2.0 Port Header
030	1 x LVDS / 1 x LCD PWR
Display I/O	1 x Backlight PWR Head
Audio I/O	1 x Line-out / Mic-in He
Serial Port	1 x RS232/422/485 Head
PS/2 Port	—
GPIO	1 x MiAPI Header (Prog
Front Panel	1 x Front Panel Header
Power	1 x 12V 4-pin Power Co
Others	1 x 40-pin General Purp *Raspberry Pi is a trade
	Raspbelly Fils a lidde
POWER REQUIREMENT Power Input	DC-in 12V (4-pin Powe
	DC-IN 12V (4-pin Powe
ENVIRONMENTAL	-10 ~ 65°C (14 ~ 149°F)
Operating Temperature Storage Temperature	-10 ~ 85°C (14 ~ 149°F) -20 ~ 70°C (-4 ~158°F)
Operating Humidity	10% ~ 95% R/H, non-cc
Certification	CE & FCC Class B
OS	
	Yocto Sumo (Kernel ver
OS Support	Android 9 Pie (Kernel ve

Ordering Information

Model Number	Processor	DDR4	eMMC	Display	LAN	COM Port
ND108T-8MD-1G8G-LVDS	I.MX8M Dual Core	1 GB	8 GB	HDMI + LVDS	1	0
ND108T-8MD-2G16G-LVDS	I.MX8M Dual Core	2 GB	16 GB	HDMI + LVDS	1	0
ND108T-8MQ-4G32G-LVDS	I.MX8M Quad Core	4 GB	32 GB	HDMI + LVDS	2	1

Packing List

I	Packing
	• 1 x Mainboard



2.84" (100 mm x 72 mm)

@ 1.3GHz) / 8M Dual (2 x Cortex-A53 @ 1.3GHz) ed

emory with Options: 1GB (1200MHz), 2GB (1600MHz), 4GB (1600MHz)

1st LAN: RTL8211FD; 2nd LAN: RTL8111H)

ize (PCIe / USB)

Voltage Monitor, Fan Monitor

Options for 8GB / 16GB / 32GB (IIp to 256GB

@60 Hz 0) @60 Hz 0) @60 Hz

yPort 1.2

ombo card slot / 1 x USB 2.0 OTG port Heade Selection Header der

eader

ıder

grammable. Support 10-bit GPIO)

onnector

pose Header (Fully Compatible with Raspberry Pi 40-pin Header) emark of the Raspberry Pi Foundation

er Connecgtor)

ondensing

ersion 4.14.98) BSP Support ersion 4.14.98) BSP Support (Remark: Android is suggested for 2G or 4G memory MB SKU)

ND118T

Pico-iTX Form Factor NXP® i.MX8M Family

Features

84

- NXP® i.MX8M Dual Core & Quad Core Processor
- LPDDR4 Memory (Options for 1GB / 2GB / 4GB)
- eMMC Storage (Options for 8GB / 16GB / 32GB)
- Support up to 1 x Giga LAN
- Support up to 1x HDMI (4K)
- Support 1 x Mini PCIe expansion slot
- Support 1 x Raspberry Pifully Compatible 40-pin Header
- Up to 2 x USB 3.0, 2 x USB 2.0, 1 x COM port (RS232/422/485)
- 12~24V DC Power Input



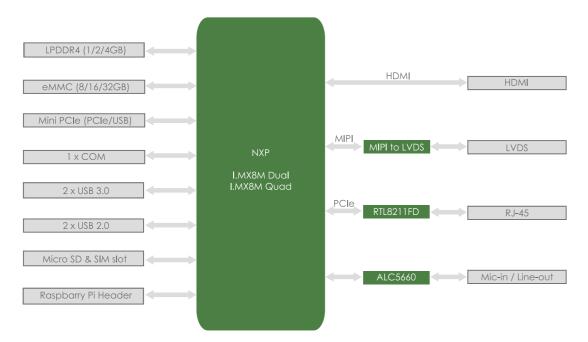
Line-out /Mic-in USB 2.0 Power Switch

Raspberry Pi 40-pin Header COM





Block Diagram



ND118T Pico-iTX

Form Factor	Pico-iTX 2.5" SBC: 3.9
SYSTEM	THEO-ITX 2.3 SBC: 3.7
	NXP® i.MX8M Family
Processor	8M Quad (4 x Corte)
Chipset	i.MX8M SoC Integrat
Memory	LPDDR4 Onboard Me
Graphics	I.MX8 Integrated
Ethernet	1 x Realtek® RTL8211FI
Audio	Realtek ALC5660
I/O Chipset	—
TPM	-
Expansion Slot	Mini PCIe Full / Halfs
BIOS	-
H / W Monitor	
Watchdog Timer	Yes
Storage	Onboard eMMC with
GRAPHICS	
VGA	-
DVI	-
HDMI	Up to 4K (4096 x 216
DisplayPort	-
LVDS	Up to FHD (1920 x 10
eDP (Option)	-
REAR I/O	
USB	2 x USB 3.0
Display I/O	1 x HDMI 2.0
Audio I/O	—
LAN I/O	1 x RJ-45
Serial Port	-
PS/2 Port	-
	_
INTERNAL CONNECTORS	
Storage	1 x Micro-SIM or Micr
USB Display I/O	1 x USB2.0 Port Head
Display I/O	1 x LVDS / 1 x LCD PV
Audio I/O	1 x Line-out & Mic-in
Serial Port	1 x R\$232/422/485 He
PS/2 Port	_
GPIO	_
Front Panel	1 x Front Panel Head
Power	1 x 12~24V 4-pin Pov
Others	1 x 40-pin General P
	*Raspberry Pi is a tro
POWER REQUIREMENT	
	DC-in 12~24V (4-pin
ENVIRONMENTAL	
Operating Temperature	-0 ~ 60°C (32 ~ 140°F
Storage Temperature	-20 ~ 70°C (-4 ~158°F
Operating Humidity Certification	10% ~ 95% R/H, non- CE & FCC Class B
	CE & FCC Class B
OS	Veete 2.0 PCP 6
OS Support	Yocto 3.2 BSP Suppo Android 9 Pie (Kerne

Ordering Information

Model Number	Processor	DDR4	eMMC	Display	LAN	COM Port
ND118T-8MD-1G8G-LVDS	I.MX8M Dual Core	1 GB	8 GB	HDMI + LVDS	1	0
ND118T-8MD-2G16G-LVDS	I.MX8M Dual Core	2 GB	16 GB	HDMI + LVDS	1	0
ND118T-8MQ-4G32G-LVDS	I.MX8M Quad Core	4 GB	32 GB	HDMI + LVDS	1	1

Packing List

Packing			
 1 x Mainboard 			



4" x 2.84" (100 mm x 72 mm)

. x-A53 @ 1.3GHz) / 8M Dual (2 x Cortex-A53 @ 1.3GHz)

ated Memory with Options: 1GB (800MHz), 2GB (1600MHz), 4GB (1600MHz)

D Giga LAN

size (PCIe / USB)

h Options for 8GB / 16GB / 32GB

0) @60 Hz

080) @60 Hz

ro SD combo card slot der / 1 x USB 2.0 OTG port Header WR Selection Header / 1 x Backlight PWR Header

Header eader

der

ver Connector

Purpose Header (Fully Compatible with Raspberry Pi 40-pin Header) ademark of the Raspberry Pi Foundation

Power Connecgtor)

=)

condensing

ort

version 4.14.98) BSP Support

Remark: Android is suggested for 4G memory MB SKU)

CPU

PD10KC

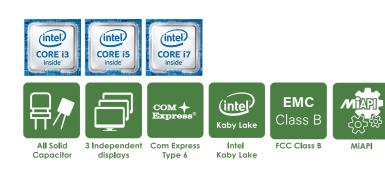
COM Express Compact Size (Type 6) Form Factor Intel[®] Kaby Lake / Skylake Processor

Features

- Intel® Kaby Lake / Skylake Core i7/i5/i3 / Celeron ULV processors SO-DIMM DDR4 socket -
- Intel® vPro technology support (SKUs i5 & i7)
- 2 x DDR4 SO-DIMM and support up to 32GB
- Support triple display for Display Port, HDMI and LVDS
- 3 x SATAIII

86

- 1 x Intel® Gigabit Ethernet
- 4 x USB 2.0 and 4 x USB 3.0



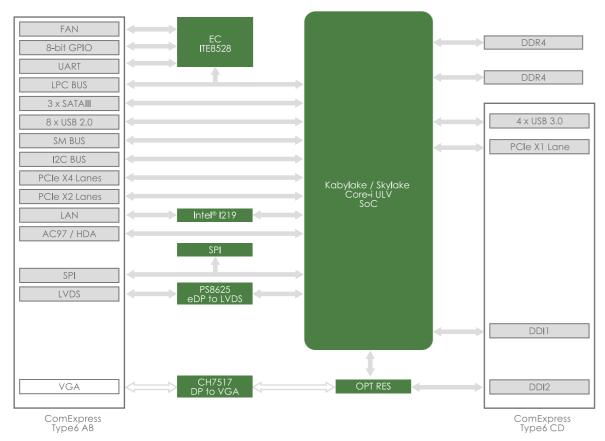


SO-DIMM DDR4 socket

Connector Row C/D

Connector Row A/B

Block Diagram



PD10KC COM Express

MECHANICAL	COM Everage Comme
Form Factor	COM Express Compo
SYSTEM	
	7th Gen Intel® Kaby Lo
Processor	Option: Kaby Lake Co
Object	Skylake Cele
Chipset Memory	Intel® SoC Integrated DDR4 2133 / 2400MH
Graphics	Intel® HD Graphics
Gruphics	DDI 1 / 2: Support Dis
	DDI 2 (BOM Option):
	LVDS: Single / Dual cl
LVDS Transmitter	Parade PS8625
Ethernet	1 x Intel® I219LM Gigo
Audio	High Definition Audio
Embedded controller	ITE IT8528
TPM	Nuvoton NPCT650AA
Solid controller	All Solid Capacitors
I/O SUPPORT	
PCI Express	PCle Gen 3.0 X7 Lane
SATA	3 x SATAIII (can be co
USB 3.0	4 x USB 3.0
USB 2.0	8 x USB 2.0
Pin-out Type	COM Express Type 6
LPC	LPC bus (no DMA)
12C	I ² C bus (fast mode, 4
Others	8-bit GPIO / SMBus /
ENVIRONMENTAL	
Operating Temperature	0~60°C (32~140°F)
Storage Temperature	-20 ~ 70°C (-4 ~158°F
Operating Humidity	10% ~ 95% R/H, non-c
Certification	CE & FCC Class B
OS	
OS Support	Windows® 10 64bit, Li
000000000	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

Ordering Information

Model Number	Processor	HS Configuration
*PD10KC-3965U-HSD	Celeron 3965U	MB + Heatspreader
*PD10KC-7100U-HSD	i3-7100U	MB + Heatspreader
*PD10KC-7300U-HSD	i5-7300U	MB + Heatspreader
*PD10KC-7600U-HSD	i7-7600U	MB + Heatspreader
Packing List	*Remark: This is a build-to-order model, please contact o	our sales team for more sampling or shipping details
Packing		
 1 x Motherboard 	 1 x Screw Pack 	



ct, Type 6: 3.74" x 3.74" (95 mm x 95 mm

- Lake-U i3-7100U (Dual Core, 3MB Cache, 2.40 GHz) Celeron 3965U / i5-7300U / i7-7600U eron 3955U / i3-6100U / i5-6300U / i7-6600U
- tz, 2 x 260-pin SO-DIMM, Max. 32GB (Non-ECC)
- splay Port / HDMI 1.4 / DVI (DP 1.2: up to 4096 x 2304 @60Hz) Switch to VGA (up to 1920 x 1200 @60 Hz) channel 18/24-bit LVDS (up to 1920 x 1200 @60 Hz)
- ga LAN io Interface
- AAWX TPM2.0

- onfigured as RAID)
- Connector
- 400 kHz, multi-master) / 2-pin UART

- -condensing
- Linux (support by request)

MiAi-H8

Real-time & Al Inference Acceleration Xpansion PCIe Card

Features

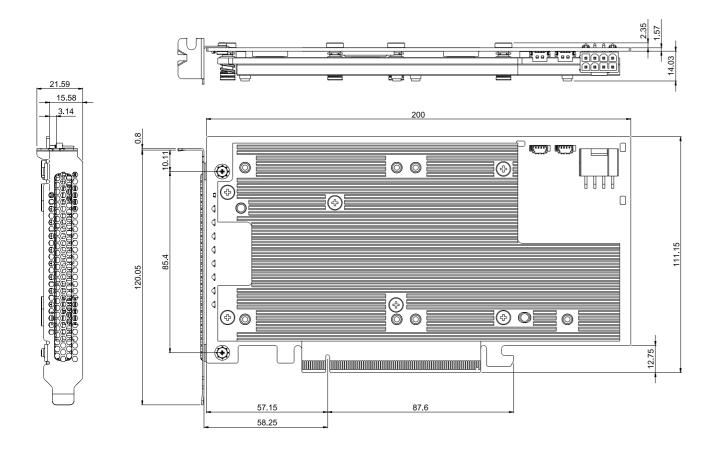
- Support up to 8 x Hailo-8[™] Al Processor
- Support up to 208 TOPs
- Support Hailo-8™ Software Development Kit
- Passive and active cooling alternatives
- Industrial grade design with all solid capacitors and wide temperature support





Dimension

Passive Cooling: 111mm (Width) x 200mm (Length) x 14mm (Height) Active Cooling: 111mm (Width) x 200mm (Length) x 30.5mm (Height)



MiAi-H8 AI Acceleration card Specification

Real-time Al Inferenc
PCI Express Gen3 x16
CE, FCC
111 x 200 x 14 mm (Po 111 x 200 x 30.5 mm (
4~8 x Hailo-8™ Al Pro
104 TOPs, 5,300 FPS o
208 TOPs, 10,600 FPS
4 x Hailo-8™: Max. 42
8 x Hailo-8™: Max. 74
Pre-installed Full heig

Software

ML Frameworks Support	
ML Frameworks Support	ONNX; TensorFlow; py
Runtime Support	
Runtime Support	GStreamer; ONNX Ru
Hailo Software Suites Support	
Hailo Software Suites Support	Dataflow Compiler (N HailoRT (Runtime env Model Zoo (Pre-traine TAPPAS (Deployment
OS Support	
OS Support	Linux Ubuntu 22.04 Microsoft® Windows® Windows® 11 Pro (on

Environmental

Operating Temperature	
4 x Hailo-8™	-40 ~ 60°C (Passive cooling SKU)
8 x Hailo-8™	-40 ~ 50°C (Passive cooling SKU)
4 x Hailo-8™	-40 ~ 85° C (Active cooling SKU)
8 x Hailo-8™	-40 ~ 75°C (Active cooling SKU)
Storage Temperature	
Storage Temperature	-40 ~ 85°C
Operating Humidity	
Operating Humidity	10% ~ 95% R/H (Non-condensing)

Ordering Information

Model Number	AI Processor	Thermal Solution	Operating Temperature
MiAi-H8-C4-AF	4 x Hailo-8™ Al Core	Active Fan with Heatsink	-40 ~ 85°C
MiAi-H8-C8-AF	8 x Hailo-8™ Al Core	Active Fan with Heatsink	-40 ~ 75°C



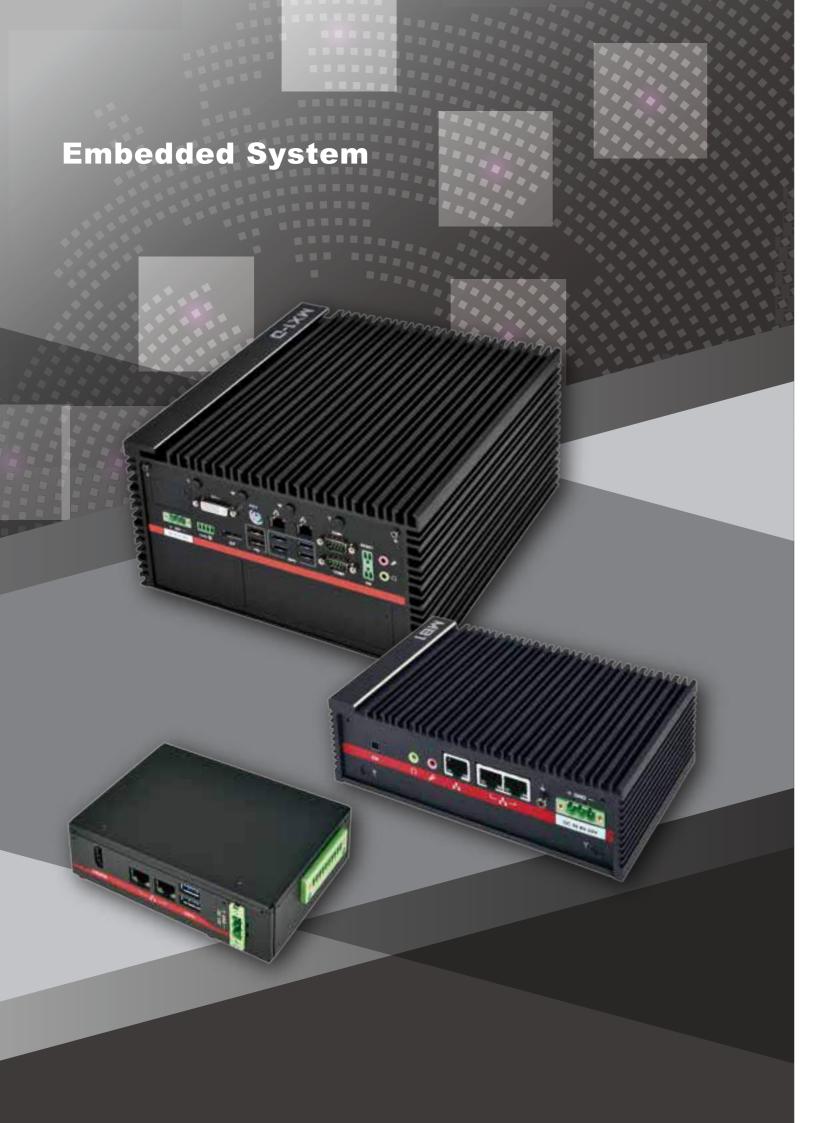
nce Acceleration
16
Passive Cooling); n (Active Cooling)
rocessor
of ResNet, and 900 FPS of YOLO v5m
S of ResNet, and 1,800 FPS of YOLO v5m
42W; Typ. 20W
74W; Typ. 30W
ight PCIe bracket with venting holes

; Native C/C++

Model conversion and compilation) vironment and driver) ned models)

framework, examples and multi-network pipelines)

s® 10 Pro/IoT 2021 LTSC, only support PCIe driver and HailoRT tool in Windows)



Indutrial Embedded System



Fanless Embedded System

Intel® Core-I & Atom Model E series (Versatile)

E420 F	P110
E410 F	2112
E310 F	P114

Intel[®] Core-i & Atom Model S series (Compact)

S300-10AS	P116
S310-11KS	P118



Rackmount System

Intel[®] Core-i Model

NV1

P124

Rugged & Versatile

Intel® Xeon, Core-i & Atom Model	
MZ1-10ADP	P92
MX1-10FEP	P94
MX1-10FEP-D	P96
MP1-11TGS	P98
MP1-11TGS-D	P100
MAI	P102
MB1-10AP	P104
NXP 1.MX8	
ME1-108T	P106
ME1-118T	P108





Fanned Embedded system

Intel[®] Core-i Model

E500-14FEI	P120
E600-14CMI	P122



MZ1-10ADP

Al Inference/ Machine Learning/ Deep Learning Rugged GPU Computing System Supports Intel® Raptor Lake-S / Alder Lake-S Core-i processor up to 125W

Introduction

- Supports Intel® Raptor Lake-S 13th/Alder Lake-S 12th Core-i processor (Up to 125W)
- Support 2 x DDR5 SO-DIMM (Up to 64GB)
- HDMI, DisplayPort, VGA, Dual 2.5G LAN
- Support 10 x USB, 4 x RS232, and 32-bit DIO

USB3.2

• 9~48V Wide Power Range



Power Ignition



I/O Interface

All Solid

Capacitor

High ESD

protection

Front I/O

Power button 2-pin Remote Power on/off Line-out & Mic-in 4 x USB3.2 & 2 x 2.5G LAN -3 x RS232 1 x RS232/422/485 Display & USB3.2 HDMI & USB3.2-Door#1: PCIe X16/ X8 Door#2: PCle Door#3: PCle X4 VGA Door#4: Empty Door#5: Blank or PCIe X8 Door#6: PCle X1

Door#7: Empty

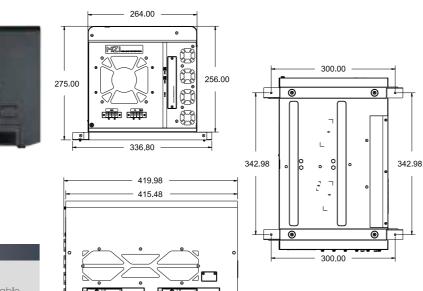
Side I/O



PCle



Dimension (mm)



MZ1-10ADP Fan Embedded System

	-
SYSTEM	
CPU	13th/12th Gen Intel® Raptor Lake-S/
Chipset	Intel® R680E
System Memory	DDR5 4800MHz, 2 x 262-pin SO-DIMM
Graphics	Intel® UHD Graphics
Display Interface	VGA, DisplayPort 1.4, HDMI 2.0b
Storage Slot	1 x mSATA 1 x M.2 B Key 2280/2260/2242 Slot 2 x Hot Swappable 2.5" HDD Tray (su 2 x Hot Swappable 3.5" HDD Tray 1 x CFast slot / 1 x M.2 M Key 2280/22
Ethernet	1 x Intel® 1225-LM 2.5GbE LAN + 1 x Int
Audio	Realtek® ALC888S
I/O Chipset	Nuvoton NCT6126D
TPM	Nuvoton NPCT750AAAYX TPM2.0
Expansion Slot	1 x M.2 3052 / 3042 / 2242 / 2260 / 22 / 1 x M.2 2230 / 2242 / 2260 / 2280 M / / 1 x M.2 2230 E key (CNVi , PCleX1, I / 1 x Mini PCle Full size (USB2.0 / SATA / 1 x Mini PCle Full size (USB2.0 / PCle #1: 1 x PCle X16 (Gen4) or PCle X8 (#2: 1 x PCle X4 in PCle X16 physical (#3: 1 x PCle X4 in PCle X16 physical (#4: 1 x PCle X8 in PCle X16 physical (#5: 1 x PCle X1 in open ended conn
Indicator	Power Button, Power LED, HDD LED
Internal I/O	1 X USB3.2 Gen1 Type A/ 1 X USB2.0 1
FRONT I/O	1 x HDMI 2.0b/ 1 X DP1.4/ 1X VGA 1 x 2-pin Terminal Block Remote Pow 3 x R5232/ 1 X R5232/ 422/ 485/ 4 X U 6 x SMA hole with rubber cap / 1 x D 1 X Mic-in/ 1 X Line-out
REAR I/O	2 x 4-pin Terminal Block Power Input 2 x SIM slot to M.2 B Key slot 2 x SIM slot to mPCIe slot 1 x CFast slot
Internal Speaker	1 x Buzzer
POWER REQUIREMENT	
Power Input	9~48V Wide Rage DC Input w/ dual
MECHANICAL	
Thermal Design	Fan
Mounting	Wallmount
Dimension	264mm(W) x 415mm(D) x 256(H)
Material	Top cover: Aluminum Alloy, Bezel an
ENVIRONMENTAL	
Operating Temperature	-40°C ~ 70°C (w/ 35W CPU, w/o GPU c -40°C ~ 60°C (w/ 65W CPU, w/o GPU c -40°C ~ 40°C (w/ 125W CPU, w/o GPU *Max OT limit -10°C w/ dual GPU card *Please consult with your sales contac
Storage Temperature	-40 ~ 85°C (-40 ~185°F)
Storage Humidity	10% ~ 95% @85°C non-condensing
Humidity	264mm(W) x 415mm(D) x 256(H)
Vibration Resistance	MIL-STD-810H, Follow Method 514.8C-1
Shock Resistance	MIL-STD-810H 516.8 procedure I - function
Certification	264mm(W) x 415mm(D) x 256(H)
OS	
The serve of Dis sizes	Windows® 10/11/4 bit Line (

Ordering Information

Thermal Design

Packinc

Model Number	Power	AC to DC PSU
MZ1-10ADP-R680E		No PSU & no power cord
MZ1-10ADP-R680E-AC300	9~48V DC-in w/ Terminal Block Connectivity	1.24V/300W AC Adaptor 2.EU + US AC power cord
MZ1-10ADP-R680E-AC1000		1. 48V/1000W Power Supply (External) 2. DC to DC power cable 3. DC to AC - EU + US power cord
Packing List		



Optional Peripheral



Vehicle Power Ignition Card, 12V/24V and Power ON/OFF Timing Selectable



/Alder Lake-S Core i9/i7/i5/i3/Celeron/Pentium (Up to 125W)

л, Max. 64GB

upport 7-9.5mm height)

2262/2242 SSD slot ntel® 1225-V 2.5GbE LAN

2280 B key (USB3.0 , SATAIII, PCIeX1) w/ SIM slot 1 key (PCIeX4 NVME, SATAIII) , USB 2.0) AllI / PCleX1) leX1) / (Gen4) connector (Gen4) I connector (Gen4) I connector (Gen4 x8 = Gen3 x16 Bandwidth) nector (Gen3)

Type A

wer on / off USB3.2 Gen2/ 4 X USB3.2 Gen1 DB37 connector for 32 bit DIO

Terminal Block Connectivity

nd chassis: Steel

card card) / -40°C ~ 50°C (w/ 80W CPU, w/o GPU card) J card) J / with 0.7m/s Air Flow and Wide Temperature Memory/Storage ct window about the Operating Temperature of GPU Card Configurations

Category 4 for Truck

onal shock, Operating 20G, 11ms (Follow IEC 60068-2-27 half sine

Windows® 10/ 11 64-bit, Linux (support by request)

*with 0.7m/s Air Flow and Wide Temperature Memory/Storage

Rugged

• 1 x CPU Cooler (passive)

• 1 x Screw Pack (For HDD)

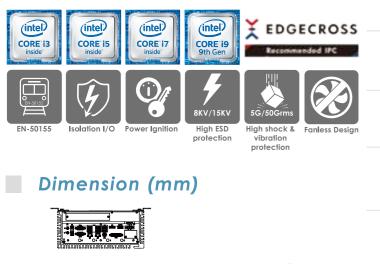
MX1-10FEP

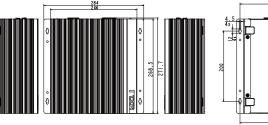
Fanless Embedded System Supports Intel® Coffee Lake Xeon / Core-i Powerful Processor

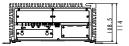
Introduction

MiTAC's MX1-10FEP embedded system is the next generation embedded system with Intel® Coffee Lake C246 workstation chipset which can support Xeon and Core-i LGA1151 socket type processor. The excellent performance, powerful processor, OCP/OVP power protection, and expandable design provide the solution for every complicated task and most types of application.

The MX1-10FEP's 7.8 liter fan-less chassis design and Xpandable module design give it the possibility to implement the complicated tasks and for every workspace and environment. VESA mount holes allow for space-saving and rear-mounting on VESA arms. Flexibilities also mean a rich array of I/O ports (including 2 x Ethernet RJ45, 8 x USB, 1 x HDMI, 1 x DVI-I, 1 x DisplayPort, 2 x COM, PCIe X16 slot, 3-pin Terminal Block Power Input, and 3 x Expansion doors) to add a variety of peripherals. Storage expandability is supported for 3 x high-density hard drives in 2.5" HDD bracket design. Two mPCle (shared with mSATA) slots provide the support of SSD and wireless interfaces which allow effortless connection to Wi-Fi and Bluetooth networks, and 4Gconnectivity. DIO/COM/LAN/-PoE/Power Ignitoin expansion modules extend the capability and possibility to be used in more applications.











Optional Peripheral



Safety Operating: 0-40°C, parctical Operating: -30~60°C (Over 40°C need derating by 2.5%/°C).
 * AC to DC Accessory for industrial application. Not for railay application

MX1-10FEP Fanless Embedded System

SYSTEM	
CPU	9th & 8th Gen Intel® Coffee Lake Xeon LGA1151 Socket Processor, 6-core TDP Max, 80W 9th & 8th Gen Intel® Coffee Lake LGA1151 Socket Processor, Core i7/i5/i3 6-core TDP Max, 65W, Core i9 8-core TDP Max 35W
Chipset	Intel® C246
System Memory	DDR4 2666MHz, 2 x 260-pin SO-DIMM, Max. 32GB (Xeon: ECC; Core-i: Non-ECC)
Graphics	Intel® HD Graphics
Display Interface	HDMI, DisplayPort, DVI-
Storage Slot	3 x 2.5 HDD / SSD (1 w/ Removable HDD Bay, 2 w/ Internal HDD Bracket) 2 x mSATA
Ethernet	Intel® I219-LM Giga LAN + I210-IT Giga LAN
Audio	Realtek® ALC888
/O Chipset	Nuvoton NCT6116D
IPM	Nuvoton NPCT750AAAYX
Expansion Slot	Storage: M.2 2242 / 2260 / 2280 M key (PCIe X4 / SATAIII) Storage/LTE/Wireless: 2 x Mini PCIe Full / Half size (USB2.0 / SATAIII / PCIe X1), w/ SIM Card Hol Wireless: M.2 2230 E key (PCIe X1 / USB2.0) PCIe 3.0 X16
Indiantar	Power LED, HDD LED, DIO LED, LAN1 & 2 ACT / SPEED
Indicator	2 x USB 3.2 Gen1
	1 x HDMI 1.4
	2 x SIM Card Slot w/ Cover
FRONT I/O	
	1 x 2.5" SATAIII HDD / SSD Bay
	4 x USB 3.2 Gen 2 (Gbps), 2 x USB 2.0, 2 x RJ-45 , 1 x DisplayPort 1.2, 1 x DVI-I, 1 x PS/2
	2 x RS232 / 422 / 485 (Support Power 5V / 12V), 1 x Mic-in, 1 x Line-out
	1 x 2-pin Terminal Block Remote Power on / off
REAR I/O	1 x 2-pin Terminal Block Remote Power reset
	1 x 4-pin Terminal Block External Fan Connector
	1 x 3-pin Terminal Block Power Input
	4 x SMA Antenna (Optional for WiFi/LTE function)
H/W Monitor	•
Watchdog Timer	1~255 Steps by Software Program
Edge Al Engine (Optional)	Hailo-8™ M.2 2242 M key (Model Name:M2M-01HAI-MX1)
POWER REQUIREMENT	
Power Input	9~48V Wide Rage DC Input w/ Terminal Block Connectivity
MECHANICAL	
Thermal Design	Fanless
Mounting	Wallmount
Dimension	10.6" x 9.7" x 4.3" (268 mm x 246 mm x 108 mm)
Material	Top cover: Aluminum Alloy , Bezel and chassis: Steel
ENVIRONMENTAL	
Operating Temperature	35W TDP Processor: -40°C to 70°C 51~65W TDP Processor: -40°C to 50°C 71~80W TDP Processor: -40°C to 40°C
Operating Humidity	10%~90% R/H (Non-condensing)
, , ,	Operating, 5 Grms, 5-500 Hz, 3 Axes
Vibration Resistance	(w/ SSD, according to IEC60068-2-64)
Shock Resistance	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
	EMC: CE & FCC
Certification	Safety: compliant with LVD,EN60950-1 / EN62368-1 Certified with EN50155/EN50121/E-mark
OS	
OS Support	Windows® 10 64-bit, Linux (support by request)
	*with 0.7m/s Air Flow and Wide Temperature Memory/Stor
Ordering Inform	ation
Model Number Chips	t Thermal Power AC Adaptor
MX1-10FEP-C246 C246	Fanless 9~48V Wide Rage DC Input w/ Terminal Block Connectivity None
MX1-10FEP-C246-AC300 C246	Fanless 9~48V Wide Rage DC Input w/ Terminal Block Connectivity 300W AC to DC Adaptor
MX1-10FEP-C246-AC220 C246	Fanless 9~48V Wide Rage DC Input w/ Terminal Block Connectivity 220W AC to DC Adaptor
Packing List	
Packing	
• 1 x MX1-10FEP	1 x 3-pin Terminal Block Connector 1 x 4-pin Terminal Block Connector



• 1 x DVI to VGA converter

• 2 x 2-pin Terminal Block Connector

• 1 x 4-pin Terminal Block Connector • 1 x Wall Mount Bracket

Rugged

SANTIBUTINAGE

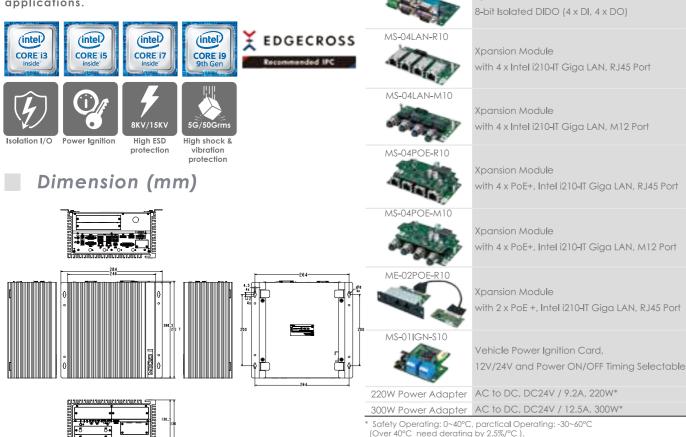
MX1-10FEP-D

Embedded System for GPU Computing Supports Intel® Coffee Lake Xeon / Core-i Powerful Processor

Introduction

MiTAC's MX1-10FEP-D embedded system is the next generation embedded system with Intel® Coffee Lake C246 workstation chipset which can support Xeon and Core-i LGA1151 socket type processor. The excellent performance, powerful processor, OCP/OVP power protection, and expandable design provide the solution for every complicated task and most types of application.

The MX1-10FEP-D's 8.5 liter chassis design and Xpandable module design give it the possibility to implement the complicated tasks and for every workspace and environment. Flexibilities also mean a rich array of I/O ports (including 2 x Ethernet RJ45, 8 x USB, 1 x HDMI, 1 x DVI-I, 1 x DisplayPort, 2 x COM, PCIe X16 + X1 slots, 3-pin Terminal Block Power Input, and 3 x Expansion doors) to add a variety of peripherals. Storage expandability is supported for 3 x high-density hard drives in 2.5" HDD bracket design. The reserved space for dual PCIe slots can be used for 1 x GFX Card installation. Two mPCle (shared with mSATA) slots provide the support of SSD and wireless interfaces which allow effortless connection to Wi-Fi and Bluetooth networks, and 4Gconnectivity. DIO/COM/LAN/PoE/Power Ignitoin expansion modules extend the capability and possibility to be used in more applications.



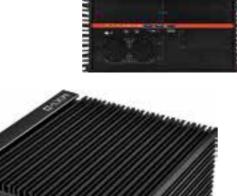
* Safety Operating: 0~40°C, parctical Operating: -30~60°C (Over 40°C need derating by 2.5%/°C).
 * AC to DC Accessory for industrial application. Not for railay application

MX1-10FEP-D Embedded System for GPU Computing

SYSTEM	Oth 8	Oth Con Intol® Coffee Lake Year LCA1151 Seeket Braces	ar (aara IDB May 2014)		
CPU	9th & 8	8th Gen Intel® Coffee Lake Xeon LGA1151 Socket Process 8th Gen Intel® Coffee Lake LGA1151 Socket Processor, Co Core i9 8-core TDP Max 35W			
Chipset	Intel® C246				
System Memory	DDR4	DDR4 2666MHz, 2 x 260-pin SO-DIMM, Max. 32GB (Xeon: ECC; Core-i: Non-ECC)			
Graphics	Intel® I	Intel® HD Graphics			
Display Interface	HDMI,	DisplayPort, DVI-I			
Storage Slot	3 x 2.5 HDD / SSD (1 w/ Removable HDD Bay, 2 w/ Internal HDD Bracket) 2 x mSATA				
Ethernet	Intel® I	219-LM Giga LAN + I210-IT Giga LAN			
Audio	Realte	ek® ALC888			
/O Chipset	Nuvot	Nuvoton NCT6116D			
TPM	Nuvot	on NPCT750AAAYX			
Expansion Slot	Storag Wirele	ge: M.2 2242 / 2260 / 2280 M key (PCIe X4 / SATAIII) ge/LTE/Wireless: 2 x Mini PCIe Full / Half size (USB2.0/ PCIe X ss: M.2 2230 E key (PCIe X1 / USB2.0) 3.0 X16, PCIe 3.0 X1 (Option: 2 x PCIe 3.0 X8)	(1/ SATAIII), w/ SIM Card Hol		
Indicator		r LED, HDD LED, DIO LED, LAN1 & 2 ACT / SPEED			
Indicator		B 3.2 Gen1			
	1 x HD				
FRONT I/O		A Card Slot w/ Cover			
		" SATAIII HDD / SSD Bay			
		B 32 Gen2 (Gbps), 2 x USB 2.0, 2 x RJ-45 , 1 x DisplayPort 1			
		232 / 422 / 485 (Support Power 5V / 12V), 1 x Mic-in, 1 x Lin	e-out		
		oin Terminal Block Remote Power on / off			
REAR I/O	1 x 2-p	pin Terminal Block Remote Power reset			
	1 x 4-p	pin Terminal Block External Fan Connector			
	1 x 3-p	pin Terminal Block Power Input			
	4 x SM	A Antenna (Optional for WiFi/LTE function)			
Edge Al Engine (Optional)	Hailo-8	Hailo-8™ M.2 2242 M key (Model Name:M2M-01HAFMX1)			
POWER REQUIREMENT					
Power Input	9~48V	Wide Rage DC Input w/ Terminal Block Connectivity			
MECHANICAL					
MECHANICAL	a Far	less w/o Venting Holes			
Thermal Design b.		b. With 2 x Internal 40x40x20 System Fan (Supporting NVIDIA GTX1650/GTX1660 Graphic Cards) c. With 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting NVIDIA Tesla T4/P4 GPU Cards)			
Thermal Design					
<u> </u>	c. With		NVIDIA Tesla T4/P4 GPU Car		
Mounting / Material	c. With Wallm	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting	NVIDIA Tesla T4/P4 GPU Car		
Mounting / Material Dimension	c. With Wallm	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting Jount / Top cover: Aluminum Alloy , Bezel and chassis: Stee	NVIDIA Tesla T4/P4 GPU Car		
Mounting / Material Dimension	c. With Wallm 10.6" >	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting Jount / Top cover: Aluminum Alloy , Bezel and chassis: Stee	NVIDIA Tesla T4/P4 GPU Car		
Mounting / Material Dimension ENVIRONMENTAL	c. With Wallm 10.6"> 35W TE	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C) NVIDIA Tesla T4/P4 GPU Cai el		
Mounting / Material Dimension ENVIRONMENTAL	c. With Wallm 10.6"> 35W TE 51~65V	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to	9 NVIDIA Tesla T4/P4 GPU Car el 40°C		
Mounting / Material Dimension ENVIRONMENTAL	c. With Wallm 10.6" > 35W TC 51~65V *The op	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i	9 NVIDIA Tesla T4/P4 GPU Car el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature	c. With Wallm 10.6" > 35W TE 51~65V *The op **with (n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) OP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage	9 NVIDIA Tesla T4/P4 GPU Car el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature	c. With Wallm 10.6" > 35W TC 51~65V *The op **with (10%~9	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing)	9 NVIDIA Tesla T4/P4 GPU Car el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature	c. With Wallm 10.6" > 35W TC 51~65V *The op **with (10%~9 Opera	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) ating, 5 Grms, 5-500 Hz, 3 Axes	9 NVIDIA Tesla T4/P4 GPU Car el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity	c. With Wallm 10.6" > 35W TD 51~65V *The op **with (10%~9 Operco (w/ SS Operco	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) ating, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) ating, 50 Grms, Half-sine 11 ms Duration	9 NVIDIA Tesla T4/P4 GPU Car el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity Vibration Resistance	c. With Wallm 10.6" > 35W TD 51~65V *The op **with (10%~9 Operco (w/ SS Operco (w/ SS	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) ating, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) ating, 50 Grms, Half-sine 11 ms Duration D, according to IEC60068-2-27)	9 NVIDIA Tesla T4/P4 GPU Car el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity Vibration Resistance	c. With Wallm 10.6" > 35W TD 51~65V *The op **with (10%~9 Opera (w/ SS Opera (w/ SS EMC: (Safety	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) ating, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) ating, 50 Grms, Half-sine 11 ms Duration	9 NVIDIA Tesla T4/P4 GPU Car el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity Vibration Resistance Shock Resistance Certification	c. With Wallm 10.6" > 35W TD 51~65V *The op **with (10%~9 Opera (w/ SS Opera (w/ SS EMC: (Safety	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) ating, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) ating, 50 Grms, Half-sine 11 ms Duration D, according to IEC60068-2-27) CE & FCC 7: compliant with LVD,EN60950-1 / EN62368-1	9 NVIDIA Tesla T4/P4 GPU Car el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity Vibration Resistance Shock Resistance Certification OS	c. With Wallm 10.6" > 35W TE 51~65V *The op **with 0 10%~9 Opero (w/ SS Opero (w/ SS EMC: 0 Safety Comp	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) ating, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) ating, 50 Grms, Half-sine 11 ms Duration D, according to IEC60068-2-27) CE & FCC 7: compliant with LVD,EN60950-1 / EN62368-1	9 NVIDIA Tesla T4/P4 GPU Ca el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity Vibration Resistance Shock Resistance Certification	c. With Wallin 10.6" > 35W TE 51~65V *The op **with (10%~9 Opera (w/ SS Opera (w/ SS EMC: (Safety Comp	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) atting, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) atting, 50 Grms, Half-sine 11 ms Duration D, according to IEC60068-2-64) cE & FCC r: compliant with LVD,EN60950-1 / EN62368-1 bliant with EN50155/EN50121/E-mark	9 NVIDIA Tesla T4/P4 GPU Ca el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity Vibration Resistance Shock Resistance Certification OS OS Support	c. With Wallin 10.6" > 35W TE 51~65V *The op **with (10%~9 Opera (w/ SS Opera (w/ SS EMC: (Safety Comp	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) atting, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) atting, 50 Grms, Half-sine 11 ms Duration D, according to IEC60068-2-64) cE & FCC r: compliant with LVD,EN60950-1 / EN62368-1 bliant with EN50155/EN50121/E-mark	9 NVIDIA Tesla T4/P4 GPU Ca el 40°C		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity Vibration Resistance Shock Resistance Certification OS OS Support Ordering Inforr Model Number	c. With Wallm 10.6" > 35W TE 51~65V *The op **with (10%~9 Opera (w/ SS Opera (w/ SS EMC: (Safety Comp Windo	n 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) ating, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) ating, 50 Grms, Half-sine 11 ms Duration D, according to IEC60068-2-27) CE & FCC r: compliant with LVD, EN60950-1 / EN62368-1 bliant with EN50155/EN50121/E-mark	NVIDIA Tesla T4/P4 GPU Car al 40°C installation.		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity Vibration Resistance Shock Resistance Certification OS OS Support Ordering Inforr Model Number MX1-10FEP-D-C246-FL	c. With Wallm 10.6" > 35W TD 51~65V *The op **with (10%~9 Operc (w/ SS Operc (w/ SS EMC: (Safety Comp Windo	A 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) OP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) ating, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) ating, 50 Grms, Half-sine 11 ms Duration D, according to IEC60068-2-27) CE & FCC *: compliant with LVD,EN60950-1 / EN62368-1 bliant with EN50155/EN50121/E-mark	NVIDIA Tesla T4/P4 GPU Car al 40°C installation. AC Adaptor None		
Mounting / Material Dimension ENVIRONMENTAL Operating Temperature Operating Humidity Vibration Resistance Shock Resistance Certification OS OS Support Ordering Inforr Model Number	c. With Wallm 10.6" > 35W TD 51~65V *The op **with (10%~9 Operc (w/ SS Operc (w/ SS Operc (w/ SS EMC: (Safety Comp Windo	A 2 x Internal 40x40x28 System Fan and Fan Duct (Supporting rount / Top cover: Aluminum Alloy , Bezel and chassis: Stee x 9.7" x 5.0" (268 mm x 246 mm x 128 mm) DP Processor: -40°C to 70°C W TDP Processor: -40°C to 50°C / 71~80W TDP Processor: -40°C to perating temperature is based on fanless design w/o GPU card i 0.7m/s Air Flow and Wide Temperature Memory/Storage 20% R/H (Non-condensing) ating, 5 Grms, 5-500 Hz, 3 Axes D, according to IEC60068-2-64) ating, 50 Grms, Half-sine 11 ms Duration D, according to IEC60068-2-27) CE & FCC 7: compliant with LVD,EN60950-1 / EN62368-1 oliant with EN50155/EN50121/E-mark bwss® 10 64-bit, Linux (support by request) Thermal Fanless	NVIDIA Tesla T4/P4 GPU Car el 40°C installation.		

Packing List	
Packing	
• 1 x MX1-10FEP-D	• 1 x 3-pin Terminal Block Connecto
 1 x CPU Cooler (passive) 	 1 x DVI to VGA converter
 1 x Screw Pack (For HDD) 	• 2 x 2-pin Terminal Block Connect

E



Xpansion Module with 4 x RS232 / 422 / 485,

Optional Peripheral

MS-48CDN-DT10

97

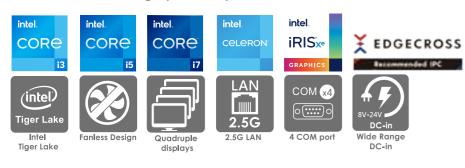
MITAC COMPUTING TECHNOLOGY CORP

MP1-11TGS Fanless Embedded System with Intel® Tiger Lake-UP3 Processor (up to 4.4GHz)

Introduction

98

- Intel® Tiger Lake-UP3 Core i7/i5/i3/Celeron ULV processors
- Outstanding graphic computing capability with Integrated Intel[®] Iris Xe graphics
- Intel[®] vPro technology support (SKUs i5 & i7)
- 1 x DDR4 SO-DIMM and support up to 32GB
- Support Quadruple display for HDMI, and DisplayPort
- 1 x Hot Swappable SSD/HDD slot
- 2 x USB 2.0, 4 x USB 3.1 Gen2 and 4 x COM
- Intel[®] 1G + 2.5G LAN Ports (Option: additional 2 x LAN)
- 8V~24V wide voltage power input



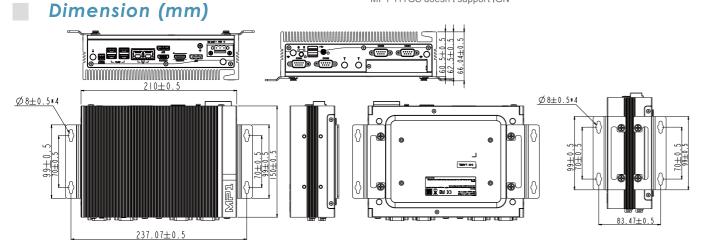
I/O Interface

Front I/O



Rear I/O 3-pin Terminal Block DisplayPort HDMI 1G+2.5G LAN USB 3.1 Antenna DC-in Gen2 (Optional) DisplayPort Remote Power on/off

* Power Ignition Xpansion module is only optional for MP1-11TGS-D model. MP1-11TGS doesn't support IGN



MP1-11TGS Fanless Embedded System

	11st Gen Tiger Lake-UP3 Intel® Core™ i ULV Processor i3-1115G4E		
CPU	(Dual Core, 6MB Cache, up to 3.90 GHz) /		
	option: 11st Gen Tiger Lake-UP3 Celeron 6305E / i5-1145G7E / i7-1185G7E		
Chipset	Intel® SoC Integrated		
System Memory	DDR4 3200MHz, 1 x 260-pin SO-DIMM, Max. 32GB (Non-ECC)		
Graphics	Intel [®] Iris Xe Graphics		
Display Interface	DisplayPort 1.4, HDMI 1.4		
Storage Slot	1 x Hot Swappable 2.5 HDD / SSD		
0	1 x M.2 B Key 2280/2260/2242 Slot		
Ethernet	Intel® 1219-LM Giga LAN + Intel® 1225-LM 2.5G LAN Additional 2 x Intel® 1210-IT Giga LAN for Opti		
Audio	Realtek® ALC256 / ALC888		
I/O Chipset	Nuvoton NCT6126D		
TPM	Nuvoton NPCT750AABYX TPM2.0		
Expansion Slot	Storage/LTE/5G Slot: M.2 224/2260/2280/3042/3052 B Key (USB2.0/*PCIex1/SATAIII)		
	Wireless: M.2 2230 E key (PCIe / USB) *Not support M.2 M Key NVMe SS		
Indicator	Power LED, HDD LED		
	1 x Hot Swappable 2.5" SSD/HDD slot		
	3 x RS232		
	1 x R\$232/422/485		
Front I/O	2 x USB 2.0		
	2 x SMA Antenna (Optional for WiFi function)		
	1 x Audio Combo Jack (Mic-in & Line-out)		
	2 x DisplayPort 1.4		
	2 x HDMI 1.4		
De am 1/O	2 x RJ-45		
Rear I/O	4 x USB 3.2 Gen2		
	1 x 3-pin Terminal Block Power Input		
	2 x SMA Antenna (Optional for LTE function) 1 x 2-pin Terminal Block Remote Power on / off		
H/W Monitor	Temperature Monitor, Voltage Monitor		
Watchdog Timer	1~255 Steps by Software Program		
0			
Edge AI Engine(Optional)	Hailo-8™ M.2 2242 B+M key (Model Name:M2B-01HAI-MP1)		
POWER REQUIREMENT			
Power Input	8~24V Wide Range DC Input w/ 3-pin Terminal Block Connectivity		
Power Adapter	AC / DC / DC24V / 3A / 72W adapter in AC SKUs		
MECHANICAL			
Thermal Design	Fanless		
Mounting	Wallmount / Side Mount / 75 mm x 75 mm VESA Holes &		
Dimensions (W X D X H)	Din Rail Mount Combo Kit (Optional)		
	8.3" x 5.9" x 2.5" (210 x 150 x 63 mm) Top cover: Aluminum Alloy, Bezel and chassis: Steel		
Operating Temperature	15W TDP: -40 ~ 70°C with 0.7m/s Air Flow (w/ Extended Temp. SSD/mSATA/RAM) 28W TDP: -40 ~ 60°C with 0.7m/s Air Flow (w/ Extended Temp. SSD/mSATA/RAM)		
Storage Temperature	-40~85°C (-40 ~185°F)		
Operating Humidity	10%~95% (Non-condensing)		
Vibration Resistance Shock Resistance	5Hz~500Hz / 5Grms / 3Axis (w/ SSD, according to IEC60068-2-64) Operating: 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)		
Certification	CE & FCC Class A		
OS			
OS Support	Windows [®] 10 64bit/Windows [®] 11 64bit, Linux (support by request)		

Ordering Information

Model Number	Processor	AC Adaptor	Model Number	Processor	AC Adaptor
MP1-11TGS-6305E	Celeron 6305E	None	MP1-11TGS-1145G7E	i5-1145G7E	None
MP1-11TGS-6305E-AC	Celeron 6305E	72W AC to DC Adaptor	MP1-11TGS-1145G7E-AC	i5-1145G7E	72W AC to DC Adaptor
MP1-11TGS-1115G4E	i3-1115G4E	None	MP1-11TGS-1185G7E	i7-1185G7E	None
MP1-11TGS-1115G4E-AC	i3-1115G4E	72W AC to DC Adaptor	MP1-11TGS-1185G7E-AC	i7-1185G7E	72W AC to DC Adaptor
		1			

*5G card support is by BOM option. Please check with sales about the M.2 B Key 3052 5G card spec if you have any request

Packing List Packing

9	
 1 x Wall Mount Brackets (2PCS in 1 set) 	 1 x Quick Installation C
 1 x Power Adapter(AC sku) 	 1 x US + EU Power Cord



Rugged

Guide rd(AC sku)

MP1-11TGS-D

Fanless Embedded System with Intel[®] Tiger Lake-UP3 Processor (up to 4.4GHz)

EDGECROSS

DC-i

Wide Range

DC-in

COM x4

0

Recommended IPC

3-pin Terminal Block DC-in

DisplayPort

. 4-pin Terminal Block

DC-out

Rear I/O

DisplayPort

HDMI 1G + 2.5G LAN USB 3.1

Antenna

(Optional)

Antenna (Optional)

Packing

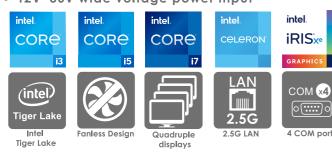
1 x Wall Mount Brackets (2PCS in 1 set)
1 x US + EU Power Cord (AC sku)

Gen 2

Remote Power on/off

Introduction

- Intel® Tiger Lake-UP3 Core i7/i5/i3/Celeron ULV processors
- Outstanding graphic computing capability with Integrated Intel ® Iris Xe graphics
- Intel[®] vPro technology support (SKUs i5 & i7) 1 x DDR4 SO-DIMM and support up to 32GB
- Support Quadruple display for HDMI, and DisplayPort
- 2 x Hot Swappable SSD/HDD slot
- Intel[®] 1G + 2.5G LAN Ports (Option: additional 2 x LAN)
- 2 x USB 2.0, 4 x USB 3.1 Gen2 and 4 x COM
- 12V~36V wide voltage power input

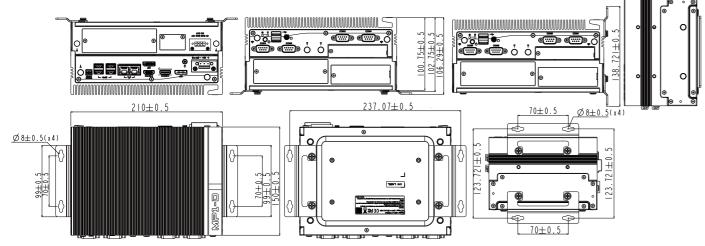




Front I/O



Dimension (mm)



SYSTEM							
CPU		11st Gen Tiger Lake-UP3 Intel® Core™ i ULV Processor i3-1115G4E (Dual Core, 6MB Cache, up to 3.90 GHz) / option: 11st Gen Tiger Lake-UP3 Celeron 6305E / i5-1145G7E / i7-1185G7E					
Chipset			Intel® SoC Integrated				
System Memory		Ŭ	DDR4 3200MHz, 1 x 260-pin SO-DIMM, Max. 32GB (Non-ECC)				
Graphics			Intel® Iris Xe Graphics				
Display Interface		DisplayPort 1.4, HDMI 1.4					
Storage Slot			2 x Hot Swappable 2.5 HDD / SSD				
storage stor			1 x M.2 B Key 2280 / 2260 / 2242 Slot				
Ethernet			Intel® 1219-LM Giga LAN + Intel® 1225-LM 2.5G LAN Additional 2x Intel®1210-IT Giga LAN for Options				
Audio			Realtek® ALC256 / ALC888				
/O Chipset		Nuvoton NCT612					
IPM		Nuvoton NPCT75					
Expansion Slot		Wireless: M.2 223 Mini PCIe slot (Fu	ilot: M.2 2242/2260/2280/3 0 E key (PCIe X1 / USB2.0) II size, USB2.0/ PCIe X1/SAT. (PoE/LAN/COM/DIO/IGN/	*Not su AIII)	pport M.2 M Key NVMe SSE		
ndicator		Power LED, HDD					
			ble 2.5" SSD/HDD slot				
		3 x RS232					
		1 x RS232/422/48	5				
Front I/O		2 x USB 2.0					
		2 x SMA Antenno	(Optional for WiFi/LTE fund	ction)			
			o Jack (Mic-in & Line-out)				
		2 x DisplayPort 1.	4				
		2 x HDMI 1.4					
		2 x RJ-45					
		4 x USB 3.2 Gen2					
Rear I/O		1 x 3-pin Termino	1 x 3-pin Terminal Block Power Input				
		1 x 4-pin Termino	1 x 4-pin Terminal Block Power Output (12V/5V)				
			4 x SMA Antenna (Optional for LTE function)				
			1 x 2-pin Terminal Block Remote Power on / off				
H/W Monitor			nitor, Voltage Monitor				
Watchdog Timer			oftware Program				
Edge Al Engine(Optional	.)	Hailo-8™ M.2 22	42 B+M key (Model Name:	M2B-01HAI-MP	1D)		
POWER REQUIREMENT							
Power Input		12~36V Wide Rar	nge DC Input w/ 3-pin Tern	ninal Block Co	nnectivity		
Power Adapter			/ / 5A / 120W adapter in A		,		
MECHANICAL							
Thermal Design		Fanless Wallmount / Side	M_{0}	/ESA Holos 8			
Mounting		Din Rail Mount C	Wallmount / Side Mount / 75 mm x 75 mm VESA Holes & Din Rail Mount Combo Kit (Optional)				
Dimensions (W X D X H)			8.3" x 5.9" x 4" (210 x 150 x 103 mm)				
Material		Top cover: Alumi	num Alloy, Bezel and chas	sis: Steel			
ENVIRONMENTAL							
		15W TDP: -40 ~ 70)°C with 0.7m/s Air Flow (w	/ Extended Ter	mp. SSD/mSATA/RAM)		
Operating Temperature		28W TDP: -40 ~ 60	28W TDP: -40 ~ 60°C with 0.7m/s Air Flow (w/ Extended Temp. SSD/mSATA/RAM)				
Storage Temperature -40~85°C (-40 ~185°F)							
Operating Humidity Vibration Resistance		10%~95% (Non-c			0 0 (1)		
Shock Resistance			ms / 3Axis (w/ SSD, accord				
Certification		CE & FCC Class /	ms, Half-sine 11 ms Duration	11 (W) 33D, acco			
OS							
		Windows [®] 10 44b	oit/Windows® 11 64bit, Linux (s				
OS Support			717 WINDOWS- 11 64DII, LINUX (S	oppoind red	0031		
Ordering In	formatio	on					
			Model Musels and	Dreeser			
Model Number	Processor	AC Adaptor	Model Number	Processor	AC Adaptor		
MP1-11TGS-D-6305E	Celeron 6305E		MP1-11TGS-D-1145G7E	i5-1145G7E			
MP1-11TGS-D-6305E-AC	Celeron 6305E i3-1115G4E	120W AC to DC Adaptor None	MP1-11TGS-D-1145G7E-AC MP1-11TGS-D-1185G7E	i5-1145G7E i7-1185G7E	120W AC to DC Adaptor None		
VADI TITOS DITIECAE				1/=11001/7/17			
MP1-11TGS-D-1115G4E MP1-11TGS-D-1115G4E-AC	i3-1115G4E		MP1-11TGS-D-1185G7E-AC	i7-1185G7E	120W AC to DC Adaptor		





1 x Quick Installation Guide
1 x Power Adapter (AC sku)

Rugged

MA1

Industrial Edge AI Computer Powered by NVIDIA Jetson Orin NX & Nano SOM

Introduction

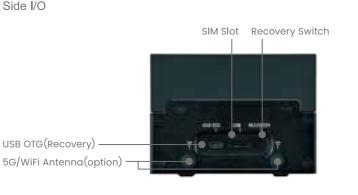
- NVIDIA® Jetson Orin™ Nano and NX SOM Compatible Box PC, Up to 100TOPS/25W
- Industrial Fanless & Compact Design
- Wide Operating Temperature -25~60°C
- HDMI up to 4K@60Hz Resolution
- 2x RJ-45 1GbE LAN
- 2x USB3.2 Gen2 Type A
- 1x D-Sub9 RS-232 (4-wire)
- High-speed M.2 2280 PCIe x4 NVMe
- Support 5G/LTE and WiFi-6E



I/O Interface







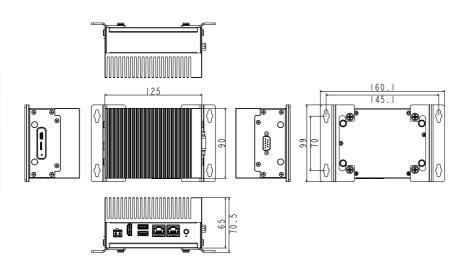
Dimension (mm)

Side I/O

Side I/O

Front I/O





MA1 Fanless Embedded System

SYSTEM	
NVIDIA® Jetson Orin™ Compatible Module	NVIDIA® Jetson Orin [™] NVIDIA® Jetson Orin [™] NVIDIA® Jetson Orin [™] NVIDIA® Jetson Orin [™]
Display Interface	1 x HDMI 2.0 Type A, U
Storage Slot	1 x M.2 2280 M-Key Slo
Expansion Slot	1 x M.2 3042/3052 B-K 1 x M.2 2230 E-Key Slo 1 x Nano-SIM Slot
Front I/O	2 x USB 3.2 Gen 2 Type 1 x USB2.0 MicroUSB C
Rear I/O	2 x 1GbE RJ-45 / 1 x RS
POWER REQUIREMENT	
Power Input Power Adapter	12V DC Input 60W AC-DC Power Ac
MECHANICAL	
Thermal Design	Fanless
Dimensions (W X D X H)	90 x 125 x 65 mm
ENVIRONMENTAL	
Operating Temperature	-25°C ~ 60°C
Operating Humidity	10% ~ 95% R/H (Non-c
Certification	CE / FCC Class B
OS	
OS Support	NVIDIA JetPack 5.1.1 (

Packing List

Packing	
•1 x MA1	• 1 x AC-DC Power Adapter with 2-Pin Terminal Bloc





™ Nano 4GB Module (7~10W) ™ Nano 8GB Module (7~15W) ™ NX 8GB Module (10~20W) ™ NX 16GB Module (10~25W)

Up to 3840 x 2160 at 60 Hz Resolution

lot (PCIe x4 for NVMe)

Key Slot (USB3.2) for 5G/LTE Module ot (PCIe/USB2.0) for WiFi Module

be A

OTG with Recovery Button (for Recovery Mode Only)

RS-232 DB9 (4-wire)

dapter with 2-PIN Terminal Block

condensing)

(Ubuntu 20.04 with Linux Kernel 5.10 LTS)

1 x Power Cord

• 1 x MicroUSB cable

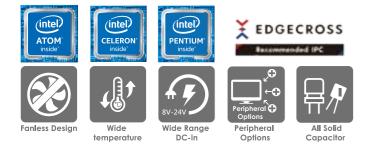
MB1-10AP

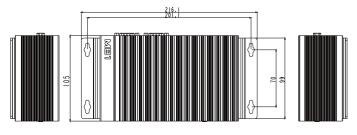
Fanless Embedded System Intel® Apollo Lake N3350 / N4200 Processor (up to 2.5 GHz)

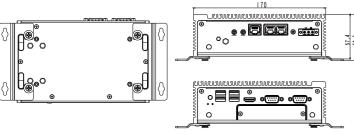
Introduction

MiTAC's MB1-10AP embedded system is the next generation embedded system with Intel® Apollo Lake processor. The whole new SOC structure packs more powerful capability for your tasks or applications.

The MB1-10AP's 1.5 liter fanless chassis design and expandable module design give it the flexibility to adapt to every workspace and environment, whether implemented as an embedded system. Din Rail mount support allows it to be used in factory environment and application. VESA mount support allows for space-saving and rear-mounting on flat-screen displays. Flexibilities also mean a rich array of I/O ports (including 3 x Ethernet RJ45, 4 x USB 3.0, 1 x HDMI, 2 x RS232/422/485, 1 x 3-pin Terminal Block Power Input, 1 x Expansion Socket) to add a variety of peripherals. Storage expandability is supported for high-density hard drives in 2.5" HDD bracket design. 2 mini PCIe (1 shared with mSATA) slots provide the support of SSD and wireless interfaces which allow effortless connection to Wi-Fi and Bluetooth networks, and 4G connectivity. HDMI and one additional expansion display module extend your visual experience with support for dual displays.









Optional Peripheral

Model Number	Description
MS-01VGA-D10	VGA Port Expansion Module
MS-01DVI-D10	DVI-D Port Expansion Module
MS-01DPN-D10	DisplayPort Expansion Module
MS-02COM-D10	Expansion Module with 2 x RS232 / 422 / 485 (support power 5V/12V)
MS-08DIO-T10	Expansion Module with 8-bit Isolated DIDO $(4 \times DI, 4 \times DO)$
Power Adapter	Description
72W Power Adapter	AC / DC, DC24V / 3A, 72W*
120W Power Adapter	AC / DC, DC24V / 5A, 120W*
	* Safaty apparating: For AC Adaptor 0 ~ 40°C

* Safety operating: For AC Adapter 0 ~ 40°C

I/O Interface (mm)



initial Line-out Giga LAN Giga LAN 3-pin Terminal Block Remote Power on /off PoE(optional) 8-24V DC-in



USB 3.0 HDMI COM Expansion Mudule Door ANT hole

MB1-10AP Fanless Embedded System

SYSTEM	
CPU	Intel® Apollo Lake-M N4200
Chipset	Intel [®] SoC Integrated
System Memory	DDR3L 1867, 1 x 204-pin SO-
Graphics	Intel [®] HD Graphics
Display Interface	HDMI, Optional DisplayPort
Storage Slot	1 x 2.5 HDD / SSD (Default v
	1 x mSATA
Ethernet	2 x Intel® I210-IT Giga LAN (2
Audio	Realtek [®] ALC888
I/O Chipset	Nuvoton NCT6116D
TPM	Nuvoton NPCT750AAAYX (0
Expansion Slot	Storage: Mini PCIe Full size
	LTE/Wireless: Mini PCIe Full s
	(w/ Full to Half
	1 x HDMI 1.4
	4 x USB 3.2 Gen1
	2 x SMA Antenna (Optional
FRONT I/O	1 x Xpansion Module Door
	2 x R\$232 / 422 / 485 (Suppo
	3 x RJ-45
	1 x Mic-in, 1 x Line-out
REAR I/O	1 x 3-pin Terminal Block Pov
	2 x SMA Antenna (Optional
H/W Monitor	-
Watchdog Timer	1~255 Steps by Software Pro
Edge AI Engine (Optional)	Hailo-8™ mPCle (Model No
	Hallo-8*** THE Cle (Model No
POWER REQUIREMENT Power Input	8~24V Wide Rage DC Input
MECHANICAL	0 24V Wide Ruge DC Inpol
Thermal Design	Fanless
Mounting	Wallmount (default), 75 x 7
Dimension	6.9" x 4.1" x 2.2" (170 mm x
Material	Top cover: Aluminum Alloy
ENVIRONMENTAL	
	05%C to 70%C (Searces Def 6
Operating Temperature	-25°C to 70°C (For non-PoE S
On prating I ly unidity	-25°C to 60°C (For PoE SKU, v
Operating Humidity	10%~90% (Non-condensing
Vibration Resistance	Operating: 5Hz~500Hz / 5G
Shock Resistance	Operating: 50 Grms, Half-si
Certification	CE & FCC Class A
OS	
OS Support	Windows® 10 64-bit, Linux (s

Ordering Information

Model Number	Processor	Giga / PoE LAN	Operating Temperature	AC Adaptor
MB1-10AP-N3350	N3350	3 / 0	-25 ~ 70°C	None
MB1-10AP-N3350-AC	N3350	3 / 0	-25 ~ 70°C	72W AC to DC Adaptor
MB1-10AP-N4200	N4200	3 / 0	-25 ~ 70°C	None
MB1-10AP-N4200-AC	N4200	3 / 0	-25 ~ 70°C	72W AC to DC Adaptor

Packing List

Packing		
1 x MB1-10AP Box PC	1 x Quick Installation Guide	1 x 3-pin Terminal Block Power Connector
1 x Screw Pack (For HDD)	1 x Mini PCIe Full to Half siz adapter plate	1 x Wall Mount Bracket





00 / N3350 Processor

O-DIMM, Max. 8GB (Non-ECC)

rt/VGA/DVI-D by Expansion Module w/ HDD Bracket)

(2 x PoE LAN: Optional), 1 x Realtek RTL8154 LAN (Up to 480 Mbps)

(Optional) e (USB / PCIe / SATA) I size (USB / PCIe), w/ SIM Card Holder ulf size adapter plate)

al for WiFi/LTE function) r port Power 5V / 12V)

ower Input / 1 x 2-pin Header Remote Power on / off al for WiFi/LTE function)

Program Name:MPE-01HAI-MB1)

ut w/ Terminal Block Connectivity

75 mm VESA hole and din rail mount combo kit (optional) x 105 mm x 57 mm)

y , Bezel and chassis: Steel

SKU, with 0.7m/s Air Flow and Wide Temperature Memory/Storage) with 0.7m/s Air Flow and Wide Temperature Memory/Storage) g)

Grms / 3Axis (w/ SSD, according to IEC60068-2-64) sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)

(support by request)

* Option: TPM

ME1-108T

Fanless Embedded System with NXP[®] i.MX8M Processor

Introduction

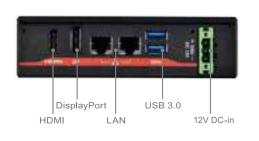
- NXP[®] i.MX8M Dual Core & Quad Core Processor
- LPDDR4 Memory (Options for 1GB / 2GB / 4GB)
- eMMCStorage (Options for 8GB / 16GB / 32GB)
- Support up to x2 Giga LAN
- Support up to x2 display for 1x HDMI (4K), 1 x DisplayPort(FHD)
- Support x1 Mini PCIe expansion slot
- Up to 2 x USB 3.0, 1 x USB 2.0, 1 x COM port (x RS232/422/485), 4in-4out GPIO
- 12V DC Power Input

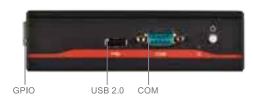


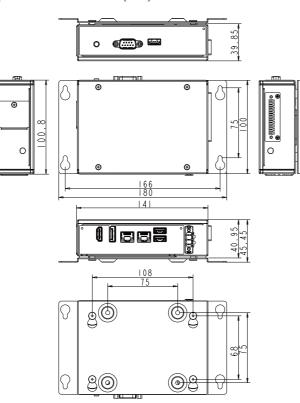




I/O Interface (mm)







ME1-108T Fanless Embedded System

SYSTEM	
	NXP [®] i.MX8M Family
CPU	- 8M Quad (4 x Cortex-A53
	- 8M Dual (2 x Cortex-A53
Chipset	i.MX8M SoC Integrated
System Memory	LPDDR4 Onboard Memory
Graphics	i.MX8M SoC Integrated
Storage	Onboard eMMC with Opt
	1 x Micro SD card slot (Up
Ethernet	2 x Realtek Giga LAN (1st
Audio	Realtek ALC5660
Expansion Slot	Mini PCIe Full / Half Size (P
	1 x USB 2.0 Type A
Front I/O	1 x COM port (RS232/422/4
	1 x Power button
	1 x Power LED
Side I/O	1 x Micro SD/SIM card slot
	1 x GPIO 10-pin (4in/4out/
	2 x USB 3.0
Pagel/O	2 x RJ-45
Rear I/O	1 x HDMI2.0
	1 x 3-pin Terminal Block Pa
POWER REQUIREMENT	
Power Input	12V 36W Power Adapter
MECHANICAL	
Thermal Design	Fanless & Ventless
Mounting	Wallmount & VESA Mount
Antenna	2 x SMA Antenna (Option
Dimension	140*100*38.75mm
Material	Enclosure: Sheet Metal
ENVIRONMENTAL	
Operating Temperature	0°C to 55°C
Storage Temperature	-20°C ~ 70°C
Operating Humidity	10% ~ 90% R/H (Non-conde
Storage Humidity	10% ~ 95% @85°C non-cond
Certification	CE / FCC Class B
OS	the second s
	Yocto Sumo (Kernel version
OS Support	Android 9 Pie (Kernel versio

Ordering Information

Model Number	Processor	DDR4	eMMC	Display	LAN	СОМ
ME1-8MQ-4G32G-DP	I.MX8M Quad Core	4GB	32GB	HDMI + DisplayPort	1	0

Packing List

Packing	
• 1 x ME1-108T Embedded System	 1 x Wallmount & VESA Mount



3 @ 1.3GHz) @ 1.3GHz)

y with Options: 1GB (800MHz), 2GB (1600MHz), 4GB (1600MHz)

tions for 8GB / 16GB / 32GB) to 256GB) LAN: RTL8211FD; 2nd LAN: RTL8111H)

PCIe / USB)

(485)

(5V/GND, Terminal Block)

ower Connector

t (75 x 75mm) 2-in-1Bracket nal for WiFi/LTE function)

ensing) densing

n 4.14.98) BSP Support on 4.14.98) BSP Support

 1 x 10P terminal blcok male plug 	• 1 x Quick Installation Guid
------------------------------------------------------	-------------------------------

(Remark: Android is suggested for 2G or 4G memory MB SKU)

ME1-118T

Fanless Embedded System with NXP® i.MX8M Processor

Introduction

- NXP[®] i.MX8M Dual Core & Quad Core Processor
- LPDDR4 Memory (Options for 1GB / 2GB / 4GB)
- eMMCStorage (Options for 8GB / 16GB / 32GB)
- Support up to x1 Giga LAN
- Support up to x1 HDMI (4K)
- Support x1 Mini PCIe expansion slot
- Up to 2 x USB 3.0, 1 x USB 2.0, 1 x COM port (x R\$232/422/485), 4in-4out GPIO
- 12~24V DC Power Input





GPIO



NXP Dual/Quad Core

GPIO

I/O Interface (mm)

USB 3.0

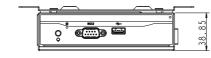
- 70

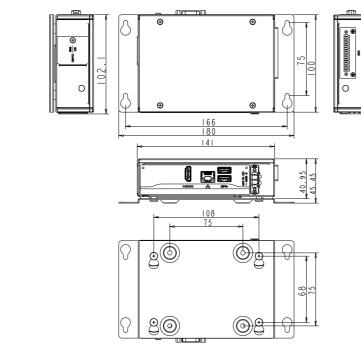
12~24V DC-in

HDMI LAN

1-1-1-1-1

USB 2.0 COM





ME1-118T Fanless Embedded System

SYSTEM	
	NXP® i.MX8M Family
CPU	- 8M Quad (4 x Cortex-A53
	- 8M Dual (2 x Cortex-A53
Chipset	i.MX8M SoC Integrated
System Memory	LPDDR4 Onboard Memory
Graphics	i.MX8M Integrated
Storage	Onboard eMMC with optic
	1 x Micro SD card slot (Up
Ethernet	1 x Realtek Giga LAN (LAN
Audio	Realtek ALC5660
Expansion Slot	Mini PCIe Full / Half Size (PC
	1 x USB 2.0 Type A
Freed 1/O	1 x COM port (RS232/422/4
Front I/O	1 x Power button
	1 x Power LED
Side I/O	1 x Micro SD/SIM card slot
3ide 1/0	1 x GPIO 10-pin (4 in/4 out,
	2 × USB 3.0
	1 x RJ-45
Rear I/O	1 x HDMI2.0
	1 x 3-pin Terminal Block Po
POWER REQUIREMENT	
Power Input	DC12~24V / 3A / 36W Pow
MECHANICAL	
Thermal Design	Fanless & Ventless
Mounting	Wallmount & VESA Mount
Antenna	2 x SMA Antenna (Option
Dimension	140*100*38.75mm
Material	Enclosure: Sheet Metal
ENVIRONMENTAL	
Operating Temperature	0°C to 55°C (32~131°F)
Storage Temperature	-20°C ~ 70°C (-4 ~158°F)
Operating Humidity	10% ~ 90% R/H (Non-conde
Storage Humidity	10% ~ 95% @85°C non-conc
Certification	CE / FCC Class B
OS	
	Yocto Sumo (Kernel version
OS Support	Android 9 Pie (Kernel versior

Ordering Information

Model Number	Processor	DDR4	eMMC	Display	LAN	СОМ
ME1-1-8MQ-4G32G	I.MX8M Quad Core	4GB	32GB	HDMI	1	1

Packing List

Packing	
 1 x ME1-118T Embedded System 	 1 x Wall Mount Brackets





3@	1.	3GHz)	
0	1.3	GHz)	

y with Options: 1GB (800MHz), 2GB (1600MHz), 4GB (1600MHz)

tions for 8GB / 16GB / 32GB o to 256GB) N: RTL8211FD)

PCIe / USB)

(485)

t/5V/GND, Terminal Block)

ower Connector

ver Adapter

nt (75 x 75mm) 2-in-1Bracket nal for WiFi/LTE function)

ensing) densing

n 4.14.98) BSP Support on 4.14.98) BSP Support

(Remark: Android is suggested for 4G memory MB SKU)

 1 x 10P terminal blcok male plug 	 1 x Quick Installation Guide

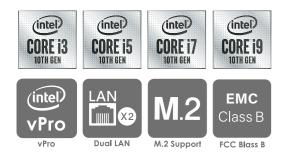
E420

110

Intel Raptor Lake-S 13th/ Alder Lake-S 12th Core-i processor, up to 35W

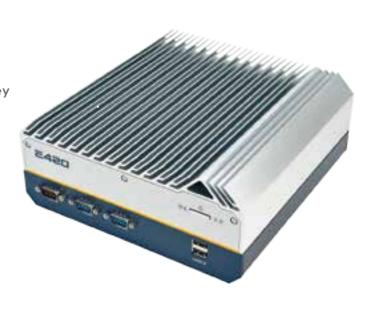
Introduction

- Intel® H610 Chipset
- 2x DDR5 SO-DIMM up to 64GB
- Support Dual Display for HDMI, DisplayPort
- 1x M.2 2280 M-key (NVME), 1 x M.2 2230 E-key (CNVi), 1 x M.2 3042 B-Key
- 4 x USB3.2 Gen1, 2 x USB2.0, 2 x COM, 8-bit GPIO
- Hailo-8[™] Al chip for Al acceleration up to 26TOPS (Optional)

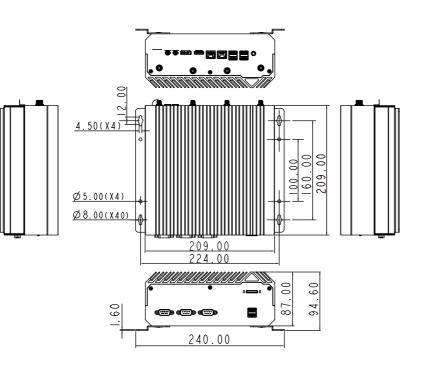


I/O Interface





Dimension (mm)



E420 Fanless Embedded System

SYSTEM	
CPU	13th/12th Gen Intel® Raptor Lake-S
	Alder Lake-S LGA1700 Socket Processor Core i9/i7/i5/i3 Processor (TDP Max 35W)
Chipset	Intel® H610
System Memory	DDR5 4800 MHz / 2 x 262-pin SO-DIMM / Max. 64 GB (Non-ECC)
Graphics	Intel® UHD Graphics
Display Interface	DisplayPort 1.2 / HDMI 1.4
Storage Slot	1 x 2.5" HDD/SSD bracket
Ethernet	Intel® I219-LM Giga LAN + Intel® I225V 2.5 Giga LAN
Audio	Realtek® ALC888S
TPM	TPM Header / (support optional TPM 2.0 module)
I/O Chipset	
Fundamente a Clat	1x M.2 2230 E key (PCIe X1, USB2.0, SMBus, CNVi)
Expansion Slot	1x M.2 2280 M key (PCIe3.0 X4, SATAIII)
Indicator	1x M.2 3042 B key (USB2.0, PCIe3.0 X1, SATAIII)"
Indicator	Power Button / Power LED / HDD LED
	2 x USB 2.0
Front I/O	8-bit GPIO (DB9 Connector)
	1 x R\$232
	1 x RS232 / 422 / 485"
	4 x SMA hole with rubber cap (for optional wireless module) / 1 x HDMI 1.4
	1 x DisplayPort 1.2 2 x RJ-45
Rear I/O	4 x USB 3.2 Gen1
	1 x Mic-in
	1 x Line-out"
H/W Monitor	Temperature Monitor / Voltage Monitor
Watchdog Timer	1~255 steps by software program
POWER REQUIREMENT	
Power Input	12V DC-in Jack (Default)
MECHANICAL	
	Fanless
Thermal Design	209mm x 209mm x 87mm
Dimensions (W X D X H) Material	Cold rolled steel and extruded aluminum front panel
	Cold folled sleef and exhoded alominom nom panel
ENVIRONMENTAL	
Operating Temperature	-20 ~ 50°C
Storage Temperature	-40 85°C (-40~185°F)
Operating Humidity	10% ~ 95% R/H (Non-condensing)
	Operating Random Vibration, PSD (0.25 - GRMS) minimum
Vibration Resistance	axis, 3 axes - Test up to 0.50 GRMS
	axis Non-operating Random Vibration, 3 axes, 15 min per axis, 2.09Grms
Shock Resistance	Operating (without package) – Half sine wave shock: 40G, 2.5ms duration
SHOCK RESISTUNCE	Non-operating (without package) – Half sine wave shock: 120G, 2ms duration
Certification	CE / FCC Class B
OS	
OS Support	Windows®10 64-bit / Windows® 11 64bit
Ordering Inform	ation
Model Number Chipset	DP HDMI USB 3.2 / 2.0 LAN M.2 E key / M.2 M key / M.2 B key Power
E420 RPL-S/ADL-S H610	1 1 4/2 2 1/1/1 DC-in 12V
Packing List	*Option: TPM, WIFI
Packing 1 x Embedded System 	• 1 x SATA Cable • 1 x SATA Power Cable

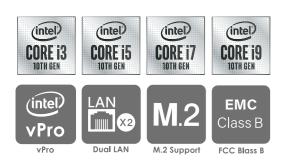
Mitac 🍩
MITAC COMPUTING TECHNOLOGY CORP.

E410-13CMI

Fanless Embedded System with Intel[®] Comet Lake TDP up to 35W

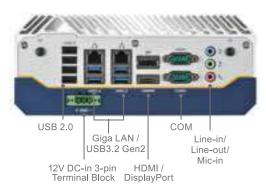
Introduction

- 10th Comet Lake LGA Processor, up to i9 35W
- Intel[®] H420E Chipset
- 2 x DDR4 SO-DIMM up to 64GB
- Support Dual Display for HDMI, DisplayPort
- 1 x M.2 2280M-key, 1 x M.2 2230 E-key (CNVi), 1 x mPCle Full size
- 6 x USB2.0, 5 x USB3.0, 2 x COM, 8-bit GPIO



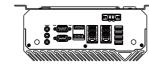
I/O Interface

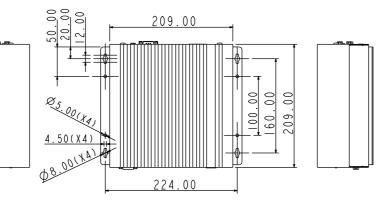


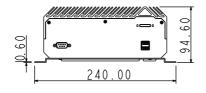




Dimension (mm)







E410 Fanless Embedded System

• 1 x SATA Cable

CPU Chipset System Memory Graphics Display Interface	10th Gen Intel® Comet Lake LGA1200 Socket Processor 10core TDP Max 35 Intel® H420E DDR4 2933/2666/2400MHz / 2 x 260-pin SO-DIMM / Max. 64GB (Non-ECC
System Memory Graphics	
Graphics	DDR/ 2933/2666/2400MHz / 2 x 260-pip SO-DIMM/ / Max 64GB (Non-ECC
	DDR4 2755/2000/2400Mill2/ 2 x 200-pirt 30-DiMill/ / Max. 040B (NOTFLECC
Display Interface	Intel® HD Graphics
	HDMI, DisplayPort
Storage Slot	1 x 2.5" HDD/SSD BKT 1 x M.2 2280/2262/2242 SSD slot 1 x mSATA slot
Ethernet	Intel® 1219-LM Giga LAN + Intel® 1210-AT Giga LAN
Audio	Realtek [®] ALC888S
TPM	Nuvoton NPCT750AAAYX TPM2.0 (Optional)
I/O Chipset	Nuvoton NCT6126D
	M.2 2242 / 2280 M key (SATA)
Expansion Slot	Mini PCIeFull size (USB2.0 / SATAIII / PCIe x1)
	M.2 2230 E KEY (USB / PCle x1)
Indicator	Power Button, Power LED, HDD LED
	2 x USB2.0
Front I/O	8-bit GPIO in DB9 type
	1 x Mic-in ,1 x Line-out, 1 x Line-in
	4 x USB 2.0, 4 x USB 3.2 Gen1
	1 x HDMI 1.4, 1 x DisplayPort 1.2
Rear I/O	2 x Giga LAN
	DC-in 12V in 3-pin terminal block connector
	2 x SMA hole with rubber cap
Edge Al Engine(Optional)	Hailo-8™ M.2 2242 M key
Others	1 x USB 3.2 Gen1 typeA
POWER REQUIREMENT	
Power Input	1 x AT/ATX Jumper; 1 x Buzzer
Power Adapter	12V / 90W AD to DC Adaptor
MECHANICAL	
Thermal Design	Fanless
Mounting	Wall mount
Dimensions (W X D X H)	209mm x 209mm x 87mm
Material	Cold rolled steel and extruded aluminum front panel
ENVIRONMENTAL	
Operating Temperature	-20 ~ 50°C
Storage Temperature	-40 ~ 85°C
Operating Humidity	10%~95% R/H (Non-condensing)
Certification	CE & FCC Class A
OS	
OS Support	Windows® 10 64bit (2019 LTSC / 2021 LTSC)/Windows® 11 64bit Ubuntu 20.04
Ordering Informatio	n
Model Number Processor DisplayPort / HDMI	USB 3. 1/ 2.0 LAN M.2 2230 E key mPCIe Full size M.2 M Key Line-out / Mic-in Power
E400-13CMI H420E 1 / 1	5/6 2 1 1 1 1/1/1 12V DC-in
Packing List	*Option: TPM, WIFI /
Packing	

Mitac 🎯
MITAC COMPUTING TECHNOLOGY CORP

• 1 x 3-pin terminal block to 6530 DC Jack cable

• 1 x Wall Mount Brackets

E310-10EHI

Fanless Embedded System with Intel[®] Elkhart Lake Atom/Celeron/Pentium TDP up to 12W

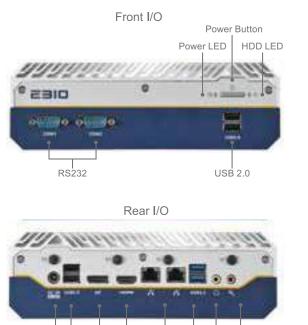
Introduction

114

- Intel® Elkhart Lake ATOM/Celeron/Pentium BGA Processor (TDP up to 12W)
- Support 2 x DDR4 SO-DIMM (Up to 32GB)
- Compatible with M.2 3042/3052 + SIM slot for 5G cellular network connectivity
- Support Dual Display for HDMI, DisplayPort
- 4 x USB2.0, 2 x USB3.1 Gen2, 2 x COM (Max. 6 x COM by Option)
- 8~24V wide range DC input



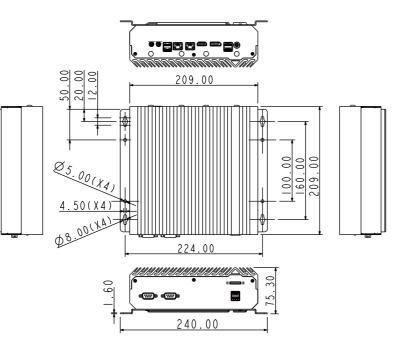
I/O Interface



HDMI Giga LAN Line-out Mic-in USB 2.0 8-24V DC-in Jack DisplayPort USB 3.2 Gen2



Dimension (mm)



E310 Fanless Embedded System

SYSTEM				
	11th Gen Intel® Elkhart Lake Celeron J6413			
CPU	Option: Pentium N6415, Celeron N6211, Celeron N6210, and Atom x6413E (Up to 12			
Chipset	Intel® SoC Integrated			
System Memory	DDR4 3200, 2 x 260-pin SO-DIMM, Max. 32 GB (Non-ECC)			
Graphics	Intel [®] HD Graphics			
Display Interface	HDMI, DisplayPort			
Storage Slot	1 x 2.5" HDD/SSD BKT 1 x M.2 2280/2262/2242 SSD slot 1 x mSATA slot			
Ethernet	2 x Intel® I211-AT Giga LAN			
Audio	Realtek® ALC888S			
TPM	Nuvoton NPCT750AAAYX TPM2.0 (Optional)			
I/O Chipset	Nuvoton NCT6126D			
	M.2 2280/2242/3042 B Key(USB / PCIe x1 / SATA)			
	Mini PCIeFull size (USB2.0 / SATAIII / PCIex1)			
Expansion Slot	M.2 2230 E KEY (USB / PCIe x1)			
	1 x NanoSIM slot to M.2 B Key slot			
Indicator	Power Button, Power LED, HDD LED			
	2 x USB 2.0			
Front I/O	2 x RS232 (Extra 1 x RS232/422/485 + 3 x RS232 for Option)			
	1 x Mic-in, 1 x Line-out			
	2 x USB 2.0, 2 x USB 3.2 Gen2			
Rear I/O	2 x i211ATGiga LAN			
	1 x HDMI 1.4, 1 x DisplayPort 1.4			
	4 x SMA hole with rubber cap			
Edge Al Engine (Optional)	Hailo-8™ M.2 2242 B+M key			
POWER REQUIREMENT				
Power Input	1 x AT/ATX Jumper; 1 x Buzzer			
Power Adapter	65W, 19V AC adaptor			
Thermal Design	Fanless			
Mounting	Wall mount			
Dimensions (W X D X H)	209mm x 209mm x 68mm			
Material	Cold rolled steel and extruded aluminum front panel			
Operating Temperature	-20 ~ 60°C			
Storage Temperature	-40 ~ 85°C			
Operating Humidity	10%~95% R/H (Non-condensing)			
Certification	CE & FCC Class A			
OS				
OS Support	Windows® 10 IoT 64bit (2019 LTSC / 2021 LTSC)/Windows® 11 64bit Ubuntu 20.04			
Ordering Informati	on			
Model Number Processor DisplayPort / HD/ 310-10EHI-J6413 J6413 1 / 1				
	2/4 2 1 1 1 1/1 8~24V DC Jack *Option: TPM, WIFI / B			
Packing List				
1 x Embedded System	• 1 x 65W, 19V AC adaptor and US+ EU power cords • 1 x 18 cm SATA Power Cable			
• I X EIIIDCOOCO System				



115

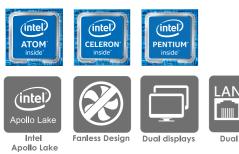
MITAC COMPLITING TECHNOLOGY CORP

S300-10AS

Fanless Embedded System with Intel® Apollo Lake-I/M Processor (up to 2.5GHz)

Introduction

\$300 is a fanless embedded system, powered by the latest Intel Apollo Lake performance- enhanced processor. The whole system is less than 1.4 liter size but still with versatile I/O aiming to adapt it in different environments and wide applications.



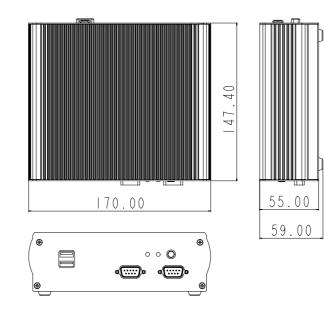


Wide temperature



Dimension (mm)





S300-10AS Fanless Embedded System

SYSTEM						
CPU			200 / N3350 Processor			
	Intel® Ap	ollo Lake-I E393	0 / E3940 / E3950 Processor			
Chipset	Intel® So	C Integrated				
System Memory	DDR3L 1	867, 1 x 204-pin S	O-DIMM, Max. 8 GB (Non-E	ECC)		
Graphics	Intel® HD) Graphics				
Display Interface	VGA, HE	IMC				
Storage Slot	1 x mSA1	A				
Ethernet	2 x Intel®	1210-IT Giga LAI	N			
Audio	Realtek	Realtek ALC888				
I/O Chipset	Nuvotor	NCT6116D				
Expansion Slot	Storage:	Mini PCIe Full siz	ze (USB / PCIe / SATA)			
	Wireless	: M.2 2230 E key	(PCIe / USB)			
Indicator	Power B	utton, Power LEC), HDD LED			
Front I/O	2 x USB 2	2.0				
		2, 1 x RS232/422/	485			
	4 x USB 3					
	2 x RJ-45	5				
Rear I/O	1 x VGA					
iccuriyo	1 x HDM					
	1 x DC-ir					
			nal for WiFi function)			
H/W Monitor		ature Monitor, Vo	-			
Watchdog Timer	1~255 St	1~255 Steps by Software Program				
POWER REQUIREMENT						
Power Input		8~24V Wide Rage DC-in Jack Connectivity				
Power Adapter	AC to D	AC to DC, DC19V/ 3.4A, 65W adapter				
MECHANICAL						
Thermal Design	Fanless					
Mounting	Wallmou	unt and VESA Mo	ount Kit (Optional)			
Dimensions (W X D X H)	6.7" x 5.8	3" x 2.2" (170mm	x 147mm x 55mm)			
Material	Тор соч	er: Aluminum All	oy , Bezel and chassis: Steel			
ENVIRONMENTAL						
Operating Temperature	Nomal T Wide Ter Wide Ter	emp.: 0 ~ 50°C (mp. (Optional*) mp. Memory / St	32 ~ 122°F) -40 ~ 60°C (-40 ~ 140°F) w/ 0 orage).7 m/s Air Flov	v &	
Operating Humidity		% R/H (Non-cond				
Vibration Resistance			kis (Non-operating)			
Shock Resistance			1 07			
Certification		120G, 2ms Duration (Non-operating) CE & FCC Class A				
OS						
	Window	s® 10 64-bit				
OS Support		pport by reques	†)			
Orderin a Inferr			lust use the wide-temp module	es for wide tem	perature SKU.	
Ordering Infor	mation				<u> </u>	
Model Number	Processor	Operating Temperatire	Model Number	Processor	Operating Temperatire	
\$300-10A\$-N3350-NT	N3350	0~50°C	* \$300-10A\$-E3930-WT	E3930	-40 ~ 60°C	
	* *!-!-	is a build to order to	* \$300-10AS-E3930-NT	E3930	0 ~ 50°C	
	··· I nis	(x + y) = (y +	THE THEASE CONTROL OUTSCIES (EAM T	A = A = A = A = A = A = A = A = A = A =	or startard defail	

Packing Lis	t	
Packing		
1 x Embedded System	1 x Quick Installation Guide	1 x P

I/O Interface

Wide Rana DC-in







* This is a build-to-order model, please contact our sales team for more sampling or shipping details

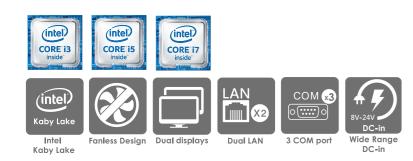
S310-11KS Fanless Embedded System with Intel® Kabylake/Skylak

with Intel[®] Kabylake/Skylake Processor (up to 3.9GHz)

Introduction

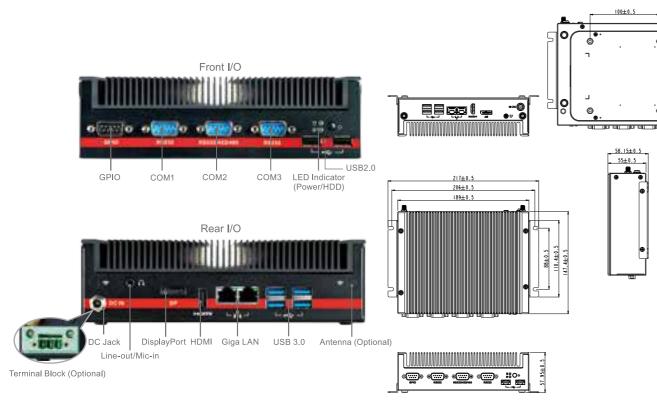
118

- Intel[®] Kaby Lake / Skylake Core i7/i5/i3/Celeron ULV processors
- Intel[®] vPro technology support (SKUs i5 & i7)
- 1 x DDR4 SO-DIMM and support up to 32GB
- Support Dual display for HDMI, and DisplayPort
- 1 x 2.5" SSD/HDD slot
- 2 x Intel[®] Gigabit Ethernet
- 2 x USB 2.0, 4 x USB 3.1 Gen2 and 3 x COM
- 8V~24V wide voltage power input



I/O Interface

Dimension (mm)



\$310-11KS Fanless Embedded System

SYSTEM					
	7th Gen Kabylake Intel® Core™ i ULV P	rocessor			
	(Default: i3-7100U; Compatible with i7-	-7600U, i5-7300U, Celeron 3965U)			
CPU	Option: 6th Gen Skylake Intel® Core™	i ULV Processor			
	(Compatible with i7-6600U, i5-6300U, i	3-6100U, Celeron 3955U)			
Chipset	Intel [®] SoC Integrated				
System Memory	DDR4 2133/2400, 2 x 260-pin SO-DIMM	, Max. 32 GB (Non-ECC)			
Graphics	Intel® HD Graphics				
Display Interface	DisplayPort 1.2, HDMI 1.4				
Storage Slot	1 x 2.5 HDD/SSD (Default w/SATA and S 1 x mSATA	SATA Power Cable in Accessories)			
Ethernet	Intel® 1219LM Giga LAN + 1211AT Giga L	AN			
Audio	Realtek ALC256				
I/O Chipset	Nuvoton NCT6104D				
TPM	Nuvoton NPCT650ABCYX TPM2.0				
	Storage: Mini PCIe Full size (USB / PCIe	/ SATA)			
Expansion Slot	Wireless: M.2 2230 E key (PCIe / USB)				
Indicator	Power LED, HDD LED				
	GPIO 8-bit (DB9 Connector)				
	2 x R\$232				
Front I/O	1 x R\$232/422/485				
	2 x USB 2.0				
	1 x DC Jack				
	1 x Audio Combo Jack (Mic-in & Line-	out)			
	1 x DisplayPort 1.2	,			
Rear I/O	1 x HDMI1.4				
	2 x RJ-45				
	4 x USB 3.0				
	2 x SMA Antenna (Optional for WiFi fur	nction)			
H/W Monitor	Temperature Monitor, Voltage Monito				
Watchdog Timer	1~255 Steps by Software Program				
POWER REQUIREMENT					
Deversion	8~24V Wide Rage DC-in Jack Connec	tivity (Default)			
Power Input Power Adapter	8~24V Wide Rage DC Input w/ Termine AC to DC, DC19V/3.4A, 65W adapter	al Block Connectivity (Optional)			
MECHANICAL					
Thermal Design	Fanless				
Mounting	100mm x 100mm VESA holes / Wallmo	unt Kit (Default in Accessories)			
	100mm x 100mm VESA Mount Kit (Opt				
Dimensions (W X D X H) Material		7.4" x 5.8" x 2.2" (189.0mm x 147.4mm x 55.0mm) Top cover: Aluminum Alloy, Bezel and chassis: Steel			
ENVIRONMENTAL	Top cover. Alonninom Alloy, bezel dria				
	-10~50°C with 0.7m/s Air Flow (w/Exter	nded Temp. SSD / mSATA / RAM			
Operating Temperature	0~40°C with 0.7m/s Air Flow (w/Stando				
Storage Temperature	-20~80°C				
Operating Humidity Vibration Resistance	10%~90% (Non-condensing)	atio a)			
Shock Resistance	5Hz~500Hz / 2Grms / 3Axis (Non-operating) 120G, 2ms Duration (Non-operating)	aling)			
Certification	CE & FCC				
OS					
	Kaby Lake-U: Windows® 10, Linux supp	ort by request			
OS Support	Skylake: Windows® 10, Windows® 7, Lin	ux (súpport by request)			
Ordering Informatio		Processor			
Model Number Processor \$310-11K\$-3965U Celeron 3965U	Power Model Number 8~24V DC Jack \$310-11KS-7300U	Processor Tempera i5-7300U 8~24V DC			
\$310-11KS-39630 Celeron 39630 \$310-11KS-7100U i3-7100U	8~24V DC Jack \$310-11KS-7600U	i7-7600U 8~24V DC			
Packing List					
Packing					
 1 x Wall Mount Brackets (2PCS in 1 set) 	 1 x Quick Installation Guide 1 x Power Adapter (19V, 65W, DC Jack Type) 	 1 x Embedded System 1 x US + EU Power Cord 			
• 1 x 11 cm SATA Cable					





Fanless

onal for WiFi functi	on)	
oltage Monitor		
e Program		
) Jack Connectivi put w/ Terminal B 65W adapter		ty (Optional)
noles / Wallmount Mount Kit (Option		ccessories)
ım x 147.4mm x 55	.0mm)	
loy, Bezel and cha	assis: Steel	
r Flow (w/Extende Tow (w/Standard		SATA / RAM)
sing)		
xis (Non-operatin	g)	
n-operating)		
10 Linux support	byroquest	
10, Linux support Vindows® 7, Linux (support by requ	est)
· · · · · · · · · · · · · · · · · · ·		
lel Number	Processor	Operating Temperatire
-11KS-7300U	i5-7300U	8~24V DC Jack
-11KS-7600U	i7-7600U	8~24V DC Jack
	•] x Emb	bedded System
DC Jack Type)		- EU Power Cord

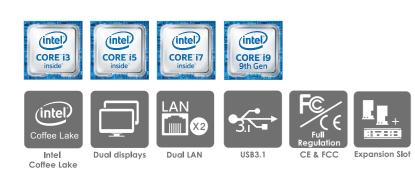
E500-14FEI

Embedded System with Intel® Coffee Lake Core-i Powerful Processor & reserve versatile I/O card space

Introduction

120

E500 is a embedded system, powered by the 8th & 9th Intel® core i Coffee Lake processor. The whole system is compact size and with dual LAN to provide more stable internet environments. Reserve versatile I/O card space can also satisfy the various embedded applications.



I/O Interface

Dimension (mm)

,coci



Line-out Giga LAN DisplayPort DC Jack

E500 Embedded System

SYSTEM	
CPU	9th & 8th Gen Intel®
Chipset	Intel® H310
System Memory	DDR4 2666MHz , 2 x
Graphics	Intel [®] HD Graphics
Display Interface	HDMI, DisplayPort
Storage Slot	1 x 2.5 HDD / SSD (Default w/ HDD Brad
Ethernet	Intel® I219-LM Giga
Audio	Realtek® ALC888
I/O Chipset	Nuvoton NCT6116D
Expansion Slot	Wireless: M.2 E key
Indicator	Power Button, Powe
Front I/O	-
	1 x HDMI
	1 x Displayport
	2 x RJ-45
Rear I/O	4 x USB 3.1
	1 x Line-out
	1 x Mic-in
	1 x DC-in Jack
POWER REQUIREMENT	
Power Input	12V DC-in Jack
Power Adapter	DC12V / 15A / AC to
MECHANICAL	
Thermal Design Mounting	65W CPU cooler Wall mount
Dimensions (W X D X H)	270mm x 306mm x
Material	Cold rolled steel an
ENVIRONMENTAL	
Operating Temperature	0~40°C (32~104°F)
Operating Humidity	10%~95% R/H (Non-
Certification	CE & FCC Class A
OS	
OS Support	Windows [®] 10, Linux

Ordering Information

Model Number	Processor	DisplayPort / HDMI	USB 3. 1	LAN	M.2 2230 E key	mPCle Full size	PCle X16	Line-out / Mic-in	Power
E500-14FEI	H310	1/1	4	2	1	1	1	1/1	12V DC Jack
Remark: This is a build-to-order model, please contact our sales team for more sampling or shipping details *Option: TPM, WIFI / BT Packing Packing									
 1 x Embedde 	d System		• 1 x Pov	ver Adapt	er (12V, 180W, D	C Jack Type)		• 1 x 18 cm S	ATA Power Cable
• 1 x Quick Insta	allation Gui	de	• 1 x US -	+ EU Powe	r Cord			• 1 x 18 cm S	ATA Cable



I[®] Coffee Lake LGA1151 Socket Processor, Corei9/ i7/i5/i3

x 260-pin SO-DIMM, Max. 32GB (Non-ECC)

acket, SATA, and SATA Power Cable in Accessories) a LAN + Intel® 1210-AT Giga LAN

) y 2230 (PCIe / USB) ver LED, HDD LED

to DC / 180W adapter

67.25mm nd extruded aluminum front panel

-condensing)

x (Support by request)

E600-13FEI

Embedded System with Intel[®] Coffee Lake Core Processor

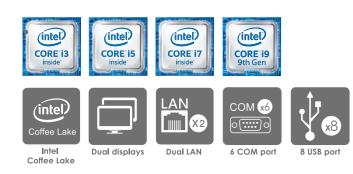
-extiligities

Introduction

- Intel[®] Coffee Lake Core i7/i5/i3 / Pentium / Celeron LGA1151 processors
- Intel[®] H310 Chipset

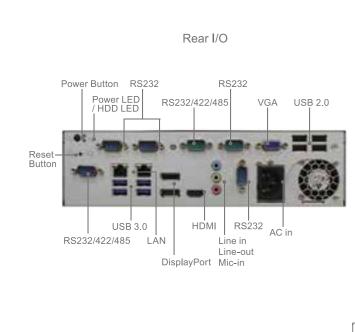
122

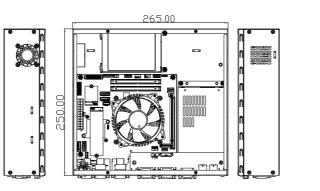
- Support dual display from 2 x DisplayPort, HDMI, VGA
- 2 x RS232/422/485 and 4 RS232, total 6 x COM Port
- 4 x USB3.0 and 4 x USB2.0, total 8 x USB Port
- 100~240V AC-in directly with built-in 250W PSU

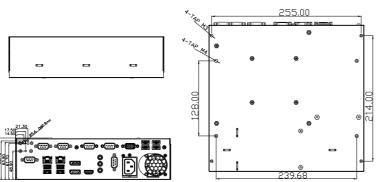


I/O Interface

Dimension (mm)







E600 Embedded System

SYSTEM					
CPU	9th & 8th Gen Intel® Coffee Lake LGA1151 Socket Processor, Corei9/ i7/i5/i3				
Chipset	Intel® H310				
System Memory	DDR4 2666MHz , 2 x 260-pin SO-DIMM, Max. 32GB (Non-ECC)				
Graphics	Intel® HD Graphics				
Display Interface	VGA / DisplayPort 1.4 / HDMI 1.4 *Only dual display at the same time. H310 doesn't support triple display				
Storage Slot	1 x 2.5 HDD / SSD (Default w/ HDD Bracket, SATA Cable in Accessories)				
Ethernet	Intel® I219-LM Giga LAN + Intel® I211-AT Giga LAN				
Audio	Realtek® ALC888				
I/O Chipset	Nuvoton NCT6116D				
TPM	Nuvoton NPCT750AAAYX TPM2.0 (Optional)				
Expansion Slot	M.2 2260 / 2280 M key (PCIe X2, SATA) / M.2 2230 E key (PCIe, USB 2.0)				
Indicator	Power Button / Reset Button / Power LED / HDD LED				
Front I/O					
	1 x VGA				
	1 x HDMI 1.4				
	2 x DisplayPort 1.2				
	4 x USB 3.0				
	4 x USB2.0				
	2 x RJ-45				
Rear I/O	2 x R\$232/422/485				
	4 x R\$232				
	1 x Mic-in & 1 x Line-out & 1 x Line-in				
	1 x AC-in				
	*Only dual display at the same time. H310 doesn't support triple display				
Power Input	100~240V AC-in				
Power Adapter	Built-in 250W Flex ATX PSU with AC Plug				
	Fan				
Thermal Design Mounting	Desktop				
Dimensions (W X D X H)	10.4" x 9.8" x 2.8" (265 x 250 x 71.2 mm)				
Material	Bezel and chassis: Steel				
environmental					
Operating Temperature	0~ 45°C (32 ~ 113°F)				
Operating Humidity	5% ~ 95% R/H (Non-condensing)				
Vibration Resistance	5Hz~500Hz / 2Grms / 3Axis (Non-operating)				
Shock Resistance Certification	120G, 2ms Duration (Non-operating) CE / FCC Class A				
OS					
	Windows® 10, Linux (Support by request)				
OS Support					
Ordering Informat					
Model Number Processor HDMI/V					
E600-13FEI H310 2 / 1	/1 4/4 2 6 1/1 1/1/1 100~240V AC				

E600-13FEI	H310	2/1/1	4/4	2
			This is a bui	ld-to-orde
Packin	g List			
Packing				
• 1 x Embedded Sv	stem	• 1 x US + FL	Power Cord	4





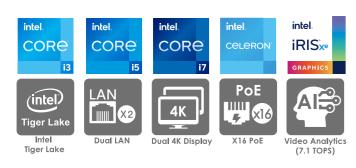
• 1 x 18 cm SATA Cable

NV1

1U Smart NVR System with Intel[®] Tiger Lake-UP3 Processor

Introduction

- Intel[®] Tiger Lake-UP3 Core i7/i5/i3/Celeron ULV processors
- 16-CH H.265/H.264 decoding ability & simultaneous playback
- 16-CH Al video analytics (7.1 TOPS)
- Equipped 0/8/16 802.3 at/af PoE ports
- Support 2 x HDD RAID 0/1 storage



A THINK

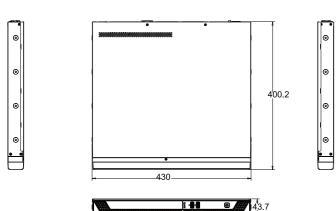
I/O Interface

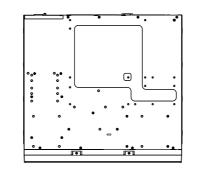
Front I/O

Rear I/O



Dimension (mm)





NV1	NVR S	ystem
-----	-------	-------

	11th Gen Tiger Lake-UP3 Intel® Celeron 6305E ULV Processor, 1.80 GHz, TDP:15W
CPU	option: Core i3-1115G4E/ i5-1145G7E / i7-1185G7E, TDP: up to 28W
Chipset	Intel® SoC Integrated
System Memory	DDR4 3200MHz, 2 x 260-pin SO-DIMM, Max. 64GB (Non-ECC)
Graphics & Al	Celeron 6305E: Intel® UHD Graphics / Core i7-1185G7E: Intel® Iris Xe Graphics
	Video Decoding (1080P,H264 / H.265): up to 64 channels
	Video Recoding (1080P,H264 / H.265): up to 64 channels
	Video Playback(1080P): up to 64 channels
	Video Analytics / Deep Learning (1080P): 16 channels (7.1 TOPS)
Display Interface	2 x HDMI 1.4 (Up to 4K@30 Hz)
Storage Slot	2 x 3.5" internal HDD (RAID 0/1)
Ethernet	Intel® 1219-LM Giga LAN, Intel® 1225-LM 2.5GbE LAN
Audio	Realtek [®] ALC888S
I/O Chipset	Nuvoton NCT6126D
TPM	Nuvoton NPCT750AABYX TPM2.0
Expansion Slot	1 x M.2 224/2260/2280 M Key (PCIe X1, SATA)
	1 x Mini PCIe full/ half size slot (PCIe, SATA, USB)
Internal Speaker	
Indicator	Power LED, HDD LED, Alarm LED, Power button
Front I/O	2 x USB 2.0
	4 x USB 3.2 Gen2
De amb/O	2 x DisplayPort 1.4
Rear I/O	1 x Line-out, 1 x Line out
	2 x RJ-45
	1 x RS232, 1 x RS485
IP Camera Input (Optional)	Options#1: 8 x PoE ports (IEEE 802.3 af/at, Max 25.5W for single port, 80W in total)
	Options#2: 16 x PoE ports (IEEE 802.3 af/at, Max 25.5W for single port, 150W in tota
Edge AI Engine (Optional)	1 x Movidius Myriad X VPU, and Intel® Open VINO™ toolkit supported (optional)
POWER REQUIREMENT	
Power Input	100~240V AC-in
Power Adapter	Built-in 280W Flex ATX PSU with AC Plug
MECHANICAL	
Thermal Design	With Fan
Material	Bezel: Plastic / Chassis: Steel
Weight	3.5kg
Mounting	Rackmount
Dimensions (W X D X H)	19" 1U Chassis : 427 x 381 x 44.4 mm
ENVIRONMENTAL	
Operating Temperature	0~50°C (32~122°F)
Storage Temperature	-20 ~ 70°C (-4 ~158°F)
Operating Humidity	$10\% \sim 90\%$ R/H (Non-condensing)
Vibration Resistance	5Hz~500Hz / 2Grms / 3Axis (Non-operating)
Shock Resistance	120G, 2ms Duration (Non-operating)
Certification	CE / FCC Class B
OS	
OS Support	Windows® 10 64-bit/Windows® 11 64bit, Linux (support by request)

Ordering Information							
Model Number	Processor	PoE	HDD	Power			
NV1-6305E-8POE	Celeron 6305E	8	2	100~240V AC-in			
NV1-1185G7E-16POE	Core-i7 1185G7E	16	2	100~240V AC-in			

Packing List		
Packing		
 1 x NV1 System 	 1 x Quick Installation Guide 	 1 x Rackmount Kit
• 1 x Screw Pack	 2 x AC Power Cord (US & EU) 	





Industrial Panel PC



Industrial Panel PC

Powered by Intel Core i and Atom platform with reliable, flexible, long-term supported in fanless slim chasis design. Easy to access in different application.



VESA Mount		
D151-11TGS	15.6"/16:9	P150
D151-11KS	15.6"/16:9	P152
D210-11TGS	21"/16:9	P154
D210-11KS	21"/16:9	P156
D210-10RI	21''/16:9	P158

P & D Series













P210-10AI

Front Panel IP65

Fanless Design

Harsh Sleek yet Environment Ruggedized

S Series

Panel Mount		
P100-10AS	10"/16:10	P130
P150-11TGS	15''/4:3	P132
P150-11KS	15''/4:3	P134
P150-10AI	15"/4:3	P136
P156-11TGS	15.6"/16:9	P138
P156-11KS	15.6"/16:9	P140
P156-10AI	15.6"/16:9	P142
P210-11TGS	21"/16:9	P144
P210-11KS	21"/16:9	P146

21"/16:9

D Series

P148



Industrial Panel PC

MiTAC Panel PC Antibacterial & Antivirus

128

Due to the risk of covid-19 infectious diseases transferred indoors, customers begin to pay attention on the application of IPC to be protected to reduce the growth and spread of microorganisms. Whether it is factory automation or retail automation, protective devices can stay themselves clean to avoid the bacterial and keep operators in a safer environment.

MiTAC offer Panel PC with front side Anti-Bacterial touch panel in Hybrid Optical coating through physical anti-bacterial mechanism.



Panel Mount P Series





P100-10AS P130

P150-11TGS P132
P150-11KS P134
P150-10AI P136

Anti-Bacterial mechanism

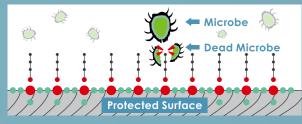
Caused by the interactive of the molecular structure with the similar bacteria cell membrane phospholipid composition, thus disrupt the bacterial cell membrane, exposure the inside cytoplasm, result in the lack of protection, to achieve the purpose of anti bacterial and steriliztion.

The benefit from coating material:



Not induce bacterial resistance

Anti bacterial and steriliztion

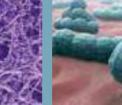




Non-Toxic excellent biocompatibility

Bacterial resistance as be





Stable mass

production capability

Streptococ Pneumoni Candida Albicans

Antibacterial test report

scherichia Coli	٨
IS Z 2801, the	
Antibacterial activity value R= 5.33	
ntibactorial rate > 00 0000	

JIS Z 2801, the Antibacterial act









P156-11TGS	P138
P156-11KS	P140
P156-10AI	P142



P210-11TGS	P144
P210-11KS	P146
P210-10AI	P148

t Staphylococcus aureus)

vity value R= 5,87 > 99.999%

Pseudomonas aeruginosa

Streptococcus Pneumoniae JIS Z 2801, the Antibacterial activity value R= 5.33 Antibacterial rate > 99.999%







Power

🕕 USB 3.0

P100-10AS

10.1" Panel PC Intel[®] Apollo Lake Celeron Processor

Feature

130

- 10.1" TFT LCD with 30,000 hrs backlight lifetime
- Front panel IP65-rated, fanless design
- Inside Intel[®] Apollo Lake-M N3350 Processor





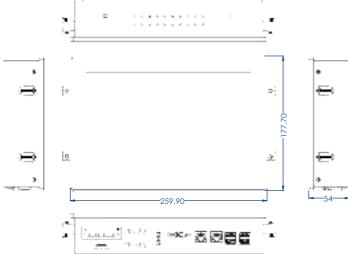
Fanless Design

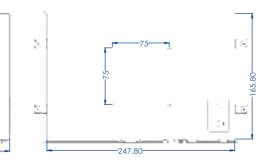
IP65 (in front) P-cap Touch dust & water resistant with panel)

I/O Interface









Suggest cut out dimension: 248mm x 166mm

P100-10AS Industrial Panel PC

LCD		
Display Type		10.1" TFT-LCD
Max. Resolution		1280 x 800
Max. Colors		16.7M (8 bit/color)
Luminance		400
Viewing Angle		170°/170°
Led Backlight (Hours)		30,000
Brightness		Option
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
AR/AG		Option
SYSTEM		
	Processor	Intel® Apollo Lake-N
	Chipset	Intel [®] SoC integrate
	System Memory	DDR3L 1866 MHz, 20
	Ethernet	2 x Intel® I210-AT Gi
	Linoinor	1 x 3-pin Phoenix ty
		4 x USB3.0
		2 x RS232 (one supp
PD10AS	I/O Port	1 x VGA
FDTUAS		
		1 x HDMI
	Martin alle et al. There are	1 x 8bit GPIO termin
	Watchdog Timer	1~255 steps by soft
	Storage Disk Drive	1 x SATA 2.5" HDD/
	Expansion Slot	1 x mPCIe Full size (
		1 x M.2 2230 E key(
	Stereo Speaker	-
	Os Support	Windows 10 64bit (l
POWER REQUIREM	ENT	_
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V &
MECHANICAL		
Dimension		259.9 x 177.7 x 54 m
Weight		1.65kg
ENVIRONMENTAL		
Operating Temperatu	re	-10°C ~ 50°C
Storage Temperature		-20°C ~ 60°C
Storage Humidity		10% ~ 95% @40°C r
Vibration Resistance		Operating Randon
Shock Resistance		Operating 50 G pe
EMC		CE, FCC Class A
Front Panel Protection)	IP65 Compliant

Ordering Information

System I/O									
Model Number	CPU	VGA	HDMI	USB 3.0 / 2.0	8bit GPIO	RS-232	LAN	Wifi / BT	Power
P100-10AS-N3350	N3350	1	1	4 / 0	1	2	2	Optional	8~24V
P100-10AS-N4200	N4200	1	1	4 / 0	1	2	2	Optional	8~24V

Packing List

Packing		
1 x Panel PC	1 x Power Adapter (19V, 65W, DC Jack Type)	1 x Quick Installation Guide
1 x Screws kit	1 x 10 pin Terminal Male Connector	1 x Mounting kit
US + EU Power Cord	1 x 3 pin Terminal Block Power Connector	





M N3350 Processor Option: N4200	P series
ed 104-pin SO-DIMM x 1, Max. 8GB (Non-ECC) iga LAN /pe terminal block DC input	
ports RS232/422/485)	
nal block ware program (SSD bay (USB / PCIe / SATA) PCIe / USB)	
UEFI only no legacy support), Linux (support by request)	
65W adapter	
nm	3

non-condensing

- n vibration Test 5-500Hz, 0.3Grms@with HDD
- eak (3 ms duration)

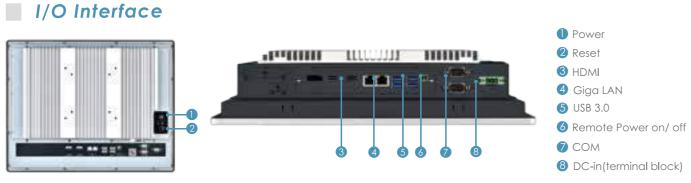
P150-11TGS

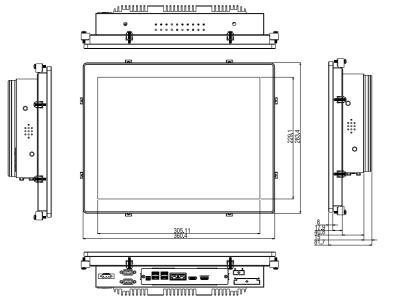
15" Panel PC / Intel® Tiger Lake UP3 Processor

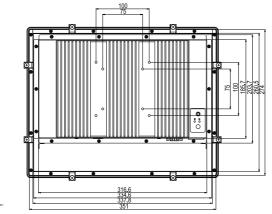
Feature

- 15" TFT LCD with 70,000 hrs backlight lifetime
- Front panel IP65-rated, fanless design
- Inside Intel® Tiger Lake UP3 Core i7/i5/i3 / Celeron ULV processors









P150-11TGS Industrial Panel PC

LCD		
Display Type Max. Resolution		15" TFT-LCD 1024 x 768
Max. Colors		
Luminance		16.7M (8 bit/color)
		300 cd/m2 176°/176°
Viewing Angle Led Backlight (Hours	-1	70000
TOUCH SCREEN		70000
Type		P-CAP
Touch Screen		True-flat 10 points /
SYSTEM		
13131E/VI	Dreeseer	
	Processor	Intel® Tiger Lake-UP
	Chinast	option: 11th Gen Ti
	Chipset	Intel [®] SoC Integrate
	System Memory Ethernet	DDR4 3200MHz / 1
	Einemei	Intel [®] I219-LM Giga 2 x RJ45, 4 x USB 3.
PD11TGS	I/O Port	
		1 x 2-pin remote po
	Watchdog Timor	1 x RS232 / 1 x RS23
	Watchdog Timer Storage Disk Drive	1~255 steps by soft 1 x SATA 2.5" HDD/
	STORAGE DISK DITVE	M.2 3042 / 3052 / 2
	Expansion Slot	*Not support M.2 M
	Stereo Speaker	2 x 3W
	Os Support	Windows [®] 11 64bit
POWER REQUIREN		
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V/
MECHANICAL		
Mounting		VESA 75/100 mm S
Dimension		360.4 x 283.1 x 81.7
Weight		5kg (11.1 lb)
ENVIRONMENTAL		
Operating Tempera	ture	-20°C ~ 55°C (-4 ~
Storage Temperatur		-20°C ~ 70°C (-4 ~
Storage Humidity		10% ~ 90% @40°C r
Vibration Resistance)	Operating Randon
Shock Resistance		Operating 10 G pe
EMC		CE, FCC Class B
Front Panel Protection	on	IP65 Compliant
ESTD		E star 7.0, ErP test

Ordering Information								
System I/O								
Model Number	CPU	HDMI	USB 3.1					
P150-11TGS-UP3Ce	Celeron 6305E	2	4 / 0					
P150-11TGS-UP3i3	i3-1115G4E	2	4 / 0					
P150-11TGS-UP3i5	i5-1145G7E	2	4 / 0					
P150-11TGS-UP3i7	i7-1185G7E	2	4/0					

Packing List

F	Packing	
	• 1 x Panel PC	 1 x 3 pin Terminal Block Power Connector
	 1 x Screws kit 	• 1 x Power Adapter (19V, 65W, DC Jack Type)





Single point
23 i3-1115G4E (Dual Core, 6MB Cache, up to 3.90 GHz)
ger Lake-UP3 Celeron 6305E / i5-1145G7E / i7-1185G7E
ed
x 260-pin SO-DIMM / Max. 32GB (Non-ECC)
LAN / Intel® I225-LM 2.5GbE LAN
Gen2, 2 x HDMI 1.4,
ower on/off, 1 x 3-pin Phoenix type terminal block DC input
2 / 422 / 485
ware program
SSD bay
242 / 2260 / 2280 B key (USB2.0, SATAIII, *PClex1)
Key NVMe SSD / Wireless: M.2 2230 E key (PCIe, USB)

3.4A, 65W adapter

tand (support M4/L6) / Panel Mount ' (mm)

- 131°F)
- 158°F)
- non-condensing
- n Vibration Test 5 ~ 500Hz; 2Grms @with SSD, follow IEC 60068-2-64 eak acceleration (11 ms duration), follow IEC 60068-2-27

GB 3.1 / 2.0	RS232	LAN	Wifi / BT	Power
4 / 0	3	2	Optional	DC-in 8~24V
4 / 0	3	2	Optional	DC-in 8~24V
4 / 0	3	2	Optional	DC-in 8~24V
4 / 0	3	2	Optional	DC-in 8~24V

P150-11KS 15" Panel PC / Intel® Kaby Lake Processor

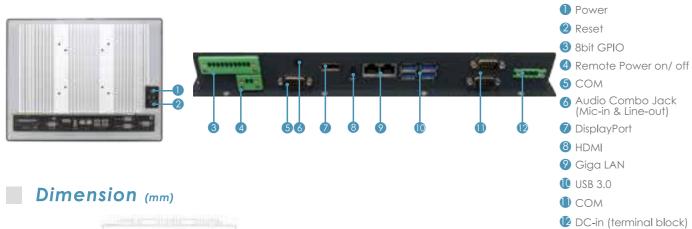
Feature

134

- 15" TFT LCD with 70,000 hrs backlight lifetime
- Inside Intel[®] 7th & 6th Gen Core i Processor

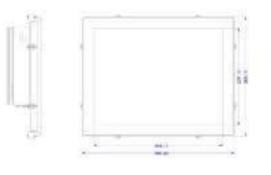


I/O Interface

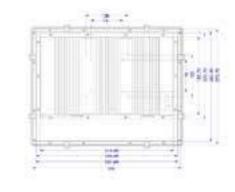


-









Suggest cut out dimension: 338mm x 261mm

P150-11KS Industrial Panel PC

LCD		
Display Type		15" TFT-LCD
Max. Resolution	1024 x 768	
Max. Colors	16.7M (8 bit/color)	
Luminance (cd/m2	300	
Viewing Angle (H/V	176°/176°	
Led Backlight (Hours)		70,000
High Brightness		Option
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
AR/AG		Option
SYSTEM		
		7th Gen Intel® Kaby
	Processor	option: 7th Gen Ka
		6th Gen Sky
	Chipset	Intel [®] SoC integrate
	System Memory	DDR4 2133 MHz, 2 x
	Ethernet	Intel® I219-LM Giga
	Linemer	1 x DC in terminal k
		4 x USB3.0
		3 x RS232
		2 x RJ45
PD11KS	I/O Port	1 x DisplayPort
		1 x HDMI
		1 x Audio Jack (co 1 x 8bit GPIO termir
	Watchdog Timor	
	Watchdog Timer	1~255 steps by soft
	Storage Disk Drive	1 x SATA 2.5" HDD/
	Expansion Slot	1 x Mini PCIe Full siz
	Staraa Spagkar	1 x M.2 2230 E key
	Stereo Speaker	2 x 2W
	Os Support	Windows [®] 10 64 bit
POWER REQUIR	EMENT	
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V
MECHANICAL		
Dimension		360.4 x 283.1 x 81.7
Weight		5 kg
Mounting		VESA 75/100mm / F
ENVIRONMENTA	AL	
Operating Tempera	ature	-20°C ~ 55°C
Storage Temperatu	re	-20°C ~ 70°C
Storage Humidity		10% ~ 90% @40°C r
Vibration Resistance	e	Operating Random
Shock Resistance		Operating 10 G pe
EMC		CE, FCC Class B
LIVIC		

Ordering Information

System I/O					
Model Number	CPU	VGA	DisplayPort	HDMI	USB 3.0
P150-11KS-3965U	Celeron 3965U	0	1	1	4 / 0
P150-11KS-7100U	Core i3-7100U	0	1	1	4/0
P150-11KS-7300U	Core i5-7300U	0	1	1	4/0
P150-11KS-7600U	Core i7-7600U	0	1	1	4/0

Packing List

Packing			
 1 x Mounting kit 	I x Panel PC	 1 x 3 pin Terminal Block Power Connector 	I x US + EU Poower Cord
• 1 x 10 pin Terminal Male Connector	 1 x Screws kit 	 1 x Power Adapter (19V, 65W, DC Jack Type) 	 1 x Quick Installation Guide





y Lake-U i3-7100U(Duc Iby Lake celeron 3965 /lake celeron 3955U / ed < 260-pin SO-DIMM, M	U / i5-730 i3-6100U /	0U / i7· / i5-630	-7600U 00U / i7-6600		
LAN + Intel® I211-AT C block	Giga LAN				
mbo Mic-in & Line-ou nal block ware program SSD bay re	†)				
65W adapter					
mm (W x D x H) Panel Mount					
non-condensing n Vibration Test 5 ~ 500 Pak acceleration (11 n					
/ 2.0Line-out / Mic-ir01 combo jack01 combo jack01 combo jack	3 3 3	LAN 2 2 2	Wifi / BT Optional Optional Optional	Power DC-in 8~24V DC-in 8~24V DC-in 8~24V	- - -
) 1 combo jack	3	2	Optional	DC-in 8~24V	_

Power 2 Reset 3 8bit GPIO

DisplayPort 8 HDMI 🥑 Giga LAN USB 3.0

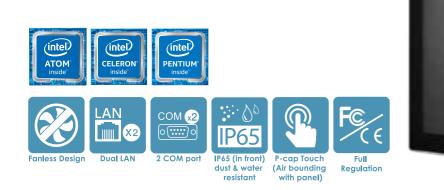
🕑 СОМ

BC-in (terminal block)

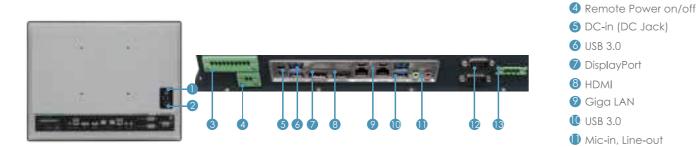
P150-10AI 15" Panel PC / Intel® Apollo Lake Celeron Processor

Feature

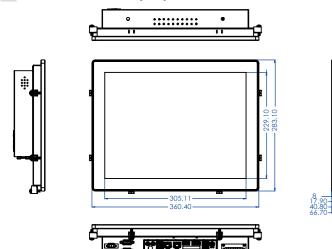
- 15" TFT LCD with 70,000 hrs backlight lifetime True-flat touchscreen with projected capaci-
- Front panel IP65-rated, fanless design
- Inside Intel® Apollo Lake-M N3350 Processor

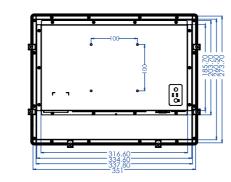


I/O Interface



Dimension (mm)





Suggest cut out dimension: 338mm x 261mm

P150-10Al Industrial Panel PC

LCD		
Display Type		15" TFT-LCD
Max. Resolution		1024 x 768
Max. Colors	16.7M (8 bit/color)	
Luminance (cd/m2)	300	
Viewing Angle (H/V)		176°/176°
Led Backlight (Hours)		70,000
High Brightness		Option
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
AR/AG		Option
SYSTEM		
	Processor	Intel® Apollo Lake-A
	Chipset	Intel [®] SoC integrate
	System Memory	DDR3L 1866 MHz, 2
	Ethernet	2 x Intel® I211-AT Gi
		1 x DC in terminal b
		1 x DC Jack
		4 x USB3.0
PD10AI		2 x RS232
		2 x RJ45
	I/O Port	1 x DisplayPort
		1 x HDMI
		1 x Mic-in, 1 x Line-o
		1 x 8bit GPIO termir
	Watchdog Timer	1~255 steps by soft
	Storage Disk Drive	1 x SATA 2.5" HDD/
	Expansion Slot	1 x M.2 2280 B key
	Expansion Slot	1 x M.2 2230 E key(I
	Stereo Speaker	2 x 2W
	Os Support	Windows® 10 64 bit
POWER REQUIREM	ENT	
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V &
MECHANICAL		
Dimension		360.4 x 283.1 x 66.7
Weight		4.3 kg
Mounting		VESA 100mm / Pan
ENVIRONMENTAL		
Operating Temperati	Ire	-20°C ~ 60°C
Storage Temperature		-20°C ~ 70°C
Storage Humidity		10% ~ 95% @40°C r
		Operating Random \
Vibration Resistance		Operatina 10 G pe
		Operating 10 G pe CE, FCC Class B

Ordering Information

System I/O									
Model Number	CPU	DisplayPort	HDMI	USB 3.0 / 2.0	GPIO	RS-232	LAN	Wifi / BT	Power
P150-10AI- N3350	N3350	1	1	4 / 0	1	2	2	Optional	8~24V
P150-10AI- N4200	N4200	1	1	4 / 0	1	2	2	Optional	8~24V

Packing List

Packing		
 1 x Panel PC 	 1 x Mounting Kit 	• 1 × US + E
• 1 x Screws kit	 1 x 10 pin Terminal Male Connector 	 1 x Quick





M N3350 Processor Option: N4200 ed :x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN olock out nal block ware program SSD bay PCle / USB)	ORP.
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
ed x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCle / USB)	
x 204-pin SO-DIMM, Max. 8GB (Non-ECC) iga LAN block out nal block ware program SSD bay PCIe / USB)	
iga LAN block out nal block ware program SSD bay PCle / USB)	
out nal block ware program SSD bay PCIe / USB)	
nal block ware program SSD bay PCIe / USB)	
nal block ware program SSD bay PCIe / USB)	
nal block ware program SSD bay PCIe / USB)	
nal block ware program SSD bay PCIe / USB)	
nal block ware program SSD bay PCIe / USB)	
ware program SSD bay PCIe / USB)	
PCle / USB)	
t	
65W adapter	
7 mm (W X D X H)	
nel Mount	

non-condensing Vibration Test 5 ~ 500Hz; 2Grms @with SSD, follow IEC 60068-2-64 eak acceleration (11 ms duration), follow IEC 60068-2-27

P series

P156-11TGS

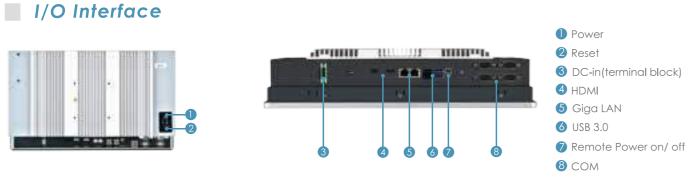
15.6" Panel PC / Intel® Tiger Lake UP3 Processor

Feature

138

- Inside Intel® Tiger Lake UP3 Core i7/i5/i3 / Celeron ULV processors
- Front panel IP65-rated, fanless design
- 15.6" TFT LCD with 50,000 hrs backlight lifetime

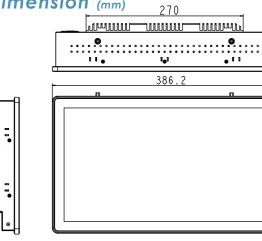


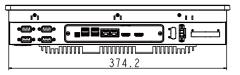


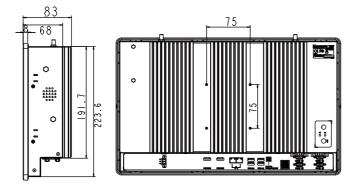
0

.....

¢







Suggest cut out dimension: 375mm x 224mm

P156-11TGS Industrial Panel PC

LCD		
Display Type		15.6" TFT-LCD
Max. Resolution		1920 x 1080
Max. Colors		16.2M (8 bit/color)
Luminance		450 cd/m2
Viewing Angle		170°/170°
Led Backlight (Ho	urs)	50000
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
SYSTEM		
	Processor Chipset System Memory Ethernet	Intel® Tiger Lake-UF option: 11th Gen Ti Intel® SoC Integrate DDR4 3200MHz, 1 x Intel® I219-LM Giga
PD11TGS	I/O Port	2 x RJ45, 3 x RS232 / 1 x 3-pin Phoenix ty
	Watchdog Timer Storage Disk Drive	1~255 steps by soft 1 x SATA 2.5" HDD/S
	Expansion Slot	M.2 3042 / 3052 / 22 *Not support M.2 M
	Stereo Speaker	2 x 3W
	Os Support	Windows® 11 64bit
POWER REQUIRE	EMENT	
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V/
MECHANICAL		
Mounting		VESA 75/100 mm St
Dimension		393.5 x 247.1 x 83 (r
Weight		5kg
ENVIRONMENTA	\L	
Operating Tempe	rature	-20°C ~ 55°C
Storage Temperat	ure	-20°C ~ 70°C
Storage Humidity		10% ~ 95% @40°C r
Vibration Resistant	се	Operating Random
Shock Resistance		Operating 10 G pe
EMC		CE, FCC Class B
Front Panel Protec	tion	IP65 Compliant
ESTD		E star 7.0, ErP test

Ordering Information

System I/O							
Model Number	CPU	HDMI	USB 3.1 / 2.0	RS232	LAN	Wifi / BT	Power
P156-11TGS-UP3Ce	Celeron 6305E	2	4 / 0	4	2	Optional	DC-in 8~24V
P156-11TGS-UP3i3	i3-1115G4E	2	4 / 0	4	2	Optional	DC-in 8~24V
P156-11TGS-UP3i5	i5-1145G7E	2	4 / 0	4	2	Optional	DC-in 8~24V
P156-11TGS-UP3i7	i7-1185G7E	2	4 / 0	4	2	Optional	DC-in 8~24V

Packing List

1 x Panel PC 1 x 3 pin Terminal Block Power Connector 1 x Screws kit 1 x Power Adapter (19V, 65W, DC Jack Type)	Packing		
• 1 x Screws kit • 1 x Power Adapter (19V, 65W, DC Jack Type)	I x Panel PC	 1 x 3 pin Terminal Block Power Connector 	
	 1 x Screws kit 	 1 x Power Adapter (19V, 65W, DC Jack Type) 	



P series



P3 i3-1115G4E (Dual Core, 6MB Cache, up to 3.90 GHz) ger Lake-UP3 Celeron 6305E / i5-1145G7E / i7-1185G7E
ed
260-pin SO-DIMM, Max. 32GB (Non-ECC)
LAN / Intel® I225-LM 2.5GbE LAN
/ 1 x R\$232 / 422 / 485, 1 x 2-pin remote power on/off
rpe terminal block DC input, 4 x USB 3.1 Gen2, 2 x HDMI 1.4
ware program
SSD bay
242 / 2260 / 2280 B key (USB2.0, SATAIII, *PCIex1)
I Key NVMe SSD / Wireless: M.2 2230 E key (PCIe, USB)
3.4A, 65W adapter
and (support M4/L6)
nm)

non-condensing

n Vibration Test 5 ~ 500Hz; 2Grms @with SSD, follow IEC 60068-2-64 eak acceleration (11 ms duration), follow IEC 60068-2-27

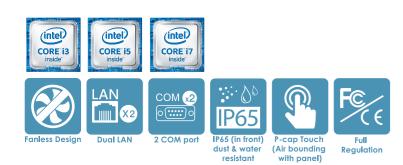
1 x Quick Installation Guide
1 x Mounting kit

P156-11KS 15.6" Panel PC / Intel® Kaby Lake Processor

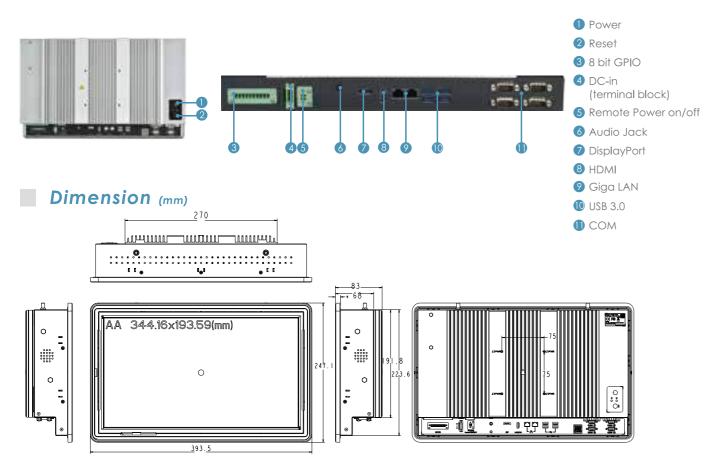
Feature

140

- 15.6" TFT LCD with 50,000 hrs backlight lifetime
- Inside Intel® 7th & 6th Gen Core i Processor



I/O Interface





Suggest cut out dimension: 375mm x 224mm

P156-11KS Industrial Panel PC

LCD											
Display Type				15.6"	TFT-I C	CD					
Max. Resolution				1920 >							
Max. Colors						it/color)					
Luminance (cd/m2)				450	1 10 0	170001					
Viewing Angle (H/V)				170°/	170°						
Led Backlight (Hours)			_	50,000							
Brightness				Optio							
TOUCH SCREEN				Opilo							
Туре				P-CA	P						
Touch Screen) points					
AR/AG			_	Optio		points					
SYSTEM				opilo	211						
5151L/W				7th C	onlo	tol® Kaby Lak		Coro 21		aha 2.40 C	
	Drocos						e-U i3-7100U(Dual)				mz)
	Process	O		opiloi		,	ake celeron 3965U				
			_				celeron 3955U / i3	-61000 /	15-630	JUU / 1/-6600	00
	Chipset					integrated			()		
	System		ory				pin SO-DIMM, Max		(NON-I	=CC)	
	Etherne	T				-	+ Intel [®] I211-AT Gig	ga lan			
						erminal block					
				4 x US							
	I/O Por	ł		4 x RS							
PD11KS				2 x RJ		Deut					
				1 x Di		Port					
							Mic-in & Line-out)				
	Watchdog Timer			1 x 8bit GPIO terminal block							
		-		1~255 steps by software program 1 x SATA 2.5" HDD/SSD bay							
Storage Disk Drive				1 x Mini PCle Full size							
	Expansi	on Slot	t	1 x M.2 2230 E key							
	Channa a f					во Е кеу					
	Stereo S Os Supr		er	2 x 2V		10 64 bit					
POWER REQUIREM		50H		WING	0005-	10 64 DII					
					0.4	/					
Power Input			_	DC 8			u el eue k e v				
Power Adapter			_	AC IC	DC,	DC19V 65W 0	adapter				
MECHANICAL					0.13						
Dimension			_			'.1 x 83mm (W	XHXD)				
Weight				5 kg (
Mounting			_	VESA	/5mr	m / Panel Moi	Jnt				
ENVIRONMENTAL											
Operating Temperatur	re			-20°C							
Storage Temperature				-20°C							
Storage Humidity			_			@40°C non-c	0				
Vibration Resistance							ation Test 5 ~ 500H				
Shock Resistance			_		-		cceleration (11 ms	duratio	n), fol	ow IEC 600	68-2-27
EMC				CE, FO							
Front Panel Protection				IP65 C	Comp	pliant					
Ordering	Infor	ma	tion								
System I/O											
Model Number C	CPU	VGA	DisplayP	ort H	DMI	USB 3.0 / 2.0	Line-out / Mic-in	RS232	LAN	Wifi / BT	Power
P156-11KS-3965U Celero	on 3965U	0	1		1	4 / 0	1 combo jack	4	2	Optional	DC-in 8~24V
P156-11KS-7100U Core	i3-7100U	0	1		1	4 / 0	1 combo jack	4	2	Optional	DC-in 8~24V
P156-11KS-7300U Core	i5-7300U	0	1		1	4 / 0	1 combo jack	4	2	Optional	DC-in 8~24V
P156-11KS-7600U Core	i7-7600U	0	1		1	4 / 0	1 combo jack	4	2	Optional	DC-in 8~24V
		1							1	1	1

Packing List

Packing			
• 1 x Panel PC	 1 x 3 pin Terminal Block Power Connector 	 1 x Quick Installation Guide 	I x US + EU Poower Cord
 1 x Screws kit 	 1 x Power Adapter (19V, 65W, DC Jack Type) 	 1 x 10 pin Terminal Male Connector 	 1 x Mounting kit





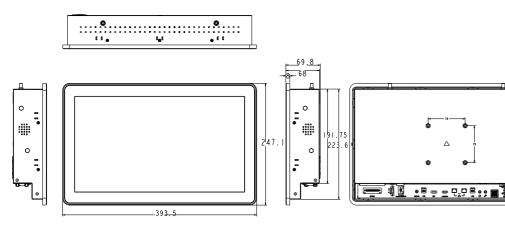
y Lake-U i3-7100U(Dual Core, 3MB Cache, 2.40 GHz) ıby Lake celeron 3965U / i5-7300U / i7-7600U	P series
/lake celeron 3955U / i3-6100U / i5-6300U / i7-6600U ed	
x 260-pin SO-DIMM, Max. 32GB (Non-ECC) LAN + Intel® I211-AT Giga LAN Dlock	
mbo Mic-in & Line-out) nal block	
ware program SSD bay	
'e	
65W adapter	
m (W X H X D)	
Mount	
non-condensing n Vibration Test 5 ~ 500Hz; 2Grms @with SSD, follow IEC 60068-2-64 eak acceleration (11 ms duration), follow IEC 60068-2-27	

P156-10AI 15.6" Panel PC / Intel® Apollo Lake Celeron Processor

Feature

- 15.6" TFT LCD with 50,000 hrs backlight lifetime
- True-flat touchscreen with projected capaciFront panel IP65-rated, fanless design
- Inside Intel[®] Apollo Lake-M N3350 Processor

X2 IP6 IP65 (in front) dust & water Full Dual LAN 2 COM por P-cap Touch (Air bounding Regulation with panel) resistant I/O Interface Power 2 Reset 3 8bit GPIO 4 DC in 5 Remote power on/off 6 DC in 🕖 USB 3.0 8 DisplayPort 9 HDMI and the second second 2 9 🚺 LAN USB 3.0 🕑 Line-out 🚯 Mic-in





Suggest cut out dimension: 375mm x 224mm

🖪 СОМ

2

P156-10AI Industrial Panel PC

LCD		
Display Type		15.6" TFT-LCD
Max. Resolution		1920 x 1080
Max. Colors		16.2M (8 bit/color)
Luminance (cd/m2)		450
Viewing Angle (H/V)		170°/170°
Led Backlight (Hours)		50,000
Brightness		Option
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
AR/AG		Option
SYSTEM		
	Processor	Intel® Apollo Lake-N
	Chipset	Intel [®] SoC integrate
	System Memory	DDR3L 1866 MHz, 2
	Ethernet	2 x Intel® I211-AT Gig
		1 x DC in terminal b
		1 x DC Jack
PD10AI		4 x USB3.0
		2 x RS232
		2 x RJ45
	I/O Port	1 x DisplayPort
		1 x HDMI
		1 x Mic-in, 1 x Line-c
		1 x 8bit GPIO termin
	Watchdog Timer	1~255 steps by softw
	Storage Disk Drive	1 x SATA 2.5" HDD/S
	Expansion Slot	1 x M.2 2280 B key
	EXPONSION SION	1 x M.2 2230 E key(F
	Stereo Speaker	2 x 2W
	Os Support	Windows [®] 10 64bit
POWER REQUIREME	NT	
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V 6
MECHANICAL		
Dimension		393.5 x 247.1 x 69.8
Weight		4.3 kg
Mounting		VESA 75mm / Panel
ENVIRONMENTAL		
Operating Temperatu	re	-20°C ~ 55°C
Storage Temperature		-20°C ~ 70°C
Storage Humidity		10% ~ 95% @40°C n
Vibration Resistance		Operating Random V
Shock Resistance		Operating 10 G per
EMC		CE, FCC Class B
Front Panel Protection		IP65 Compliant
Ordoring	Information	· · · ·
Ordening	Information	

System I/O USB 3.0 Model Number CPU DisplayPort HDMI P156-10AI- N3350 N3350 1 1 4/0 P156-10AI- N4200 4/0 N4200 1 1

Pac	kina	List	
		LIUI	

Packing	
1 x Mounting kit	1 x 3 pin Terminal Block Power Con
1 x Panel PC	1 x Power Adapter (19V, 65W, DC J
1 x Screws kit	1 x 10 pin Terminal Male Connector





)
-M N3350 Processor Option: N4200 ted
2 x 204-pin SO-DIMM, Max. 8GB (Non-ECC)
Giga LAN
block
-out
inal block
ftware program
)/SSD bay
(PCIe / USB)
t

65W adapter

3 mm (W X D X H)

el Mount

non-condensing

Vibration Test 5 ~ 500Hz; 2Grms @with SSD, follow IEC 60068-2-64 eak acceleration (11 ms duration), follow IEC 60068-2-27

/ 2.0	GPIO	RS-232	LAN	Wifi / BT	Power
0	1	2	2	Optional	8~24V
0	1	2	2	Optional	8~24V

nnector Jack Type) or 1 x US + EU Poower Cord 1 x Quick Installation Guide P series

P210-11TGS

21.5" Panel PC / Intel® Tiger Lake UP3 Processor

Feature

144

- 21.5" TFT LCD with 30,000 hrs backlight lifetime
- Front panel IP65-rated, fanless design
- Inside Intel® Tiger Lake UP3 Core i7/i5/i3 / Celeron ULV processors

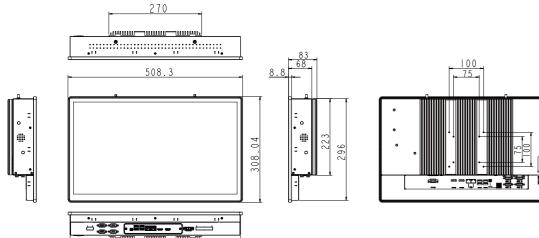






I/O Interface





496.3

Suggest cut out dimension: 497mm x 297mm

P210-11TGS Industrial Panel PC

LCD		
Display Type		21.5" TFT-LCD
Max. Resolution		1920 x 1080
Max. Colors		16.7M (8 bit/color)
Luminance (cd/m2)		250
Viewing Angle (H/V)		170°/160°
Led Backlight (Hours)		30,000
Brightness		Option
TOUCH SCREEN		
Туре		P-CAP, 5 Wire Resist
Touch Screen		True-flat 10 points
AR/AG		Option
SYSTEM		
	Processor	11th Gen Intel® Tige
		option: 11th Gen Tig
	Chipset	Intel [®] SoC integrate
	System Memory	DDR4 3200MHz, 1 x
	Ethernet	Intel® I219-LM Giga
		1 x 2-pin remote po
		4 x USB 3.1 Gen 2
		3 x RS232 / 1 x RS23
PD11TGS	I/O Port	2 x RJ45
	1/01011	2 x HDMI 1.4
		1 x 3-pin Phoenix ty
	Watchdog Timer	1~255 steps by soft
	Storage Disk Drive	1 x SATA 2.5" HDD/S
	Expansion Slot	M.2 3042 / 3052 / 22
	· ·	*Not support M.2 M
	Stereo Speaker	2 x 3W
	Os Support	Windows [®] 11 64bit
POWER REQUIREME	NT	
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V 3
MECHANICAL		
Dimension		508.3 x 308 x 83 mr
Weight		8kg
Mounting		VESA 75 / 100mm (
ENVIRONMENTAL		
Operating Temperatur	re	0°C ~ 50°C
Storage Temperature		-20°C ~ 60°C
Storage Humidity		10%~90%@40°Cn
Vibration Resistance		Operating Random
Shock Resistance		Operating 10 G pe
EMC		CE, FCC Class A
Front Panel Protection		IP65 Compliant
ESTD		E star 7.0, ErP test

Ordering Information

System I/O							
Model Number	CPU	HDMI	USB 3.0 / 2.0	RS232	LAN	Wifi / BT	Power
P210-11TGS-UP3Ce	Celeron 6305E	2	4 / 0	4	2	Optional	DC-in 8~24V
P210-11TGS-UP3i3	i3-1115G4E	2	4 / 0	4	2	Optional	DC-in 8~24V
P210-11TGS-UP3i5	i5-1145G7E	2	4 / 0	4	2	Optional	DC-in 8~24V
P210-11TGS-UP3i7	i7-1185G7E	2	4 / 0	4	2	Optional	DC-in 8~24V

Packing List

Packing		
 1 x Screws kit 	 1 x Mounting kit 	• 1 x 3 pin Terminal B
 1 x Panel PC 	I x US + EU Poower Cord	 1 x Power Adapter





stive(True-flat)
er Lake-UP3 i3-1115G4E (Dual Core, 6MB Cache, up to 3.90 GHz) iger Lake-UP3 Celeron 6305E / i5-1145G7E / i7-1185G7E ed
x 260-pin SO-DIMM, Max. 32GB (Non-ECC)
a LAN + Intel® I225-LM 2.5GbE LAN
ower on/off
32 / 422 / 485
ype terminal block DC input
tware program
/SSD bay 2242 / 2260 / 2280 B key (USB2.0, SATAIII, *PClex1)
M Key NVMe SSD / Wireless: M.2 2230 E key (PCIe, USB)
3.4A 65W adapter
im (W X D X H)
(support M4/L6)

non-condensing

n Vibration Test 5 ~ 500Hz; 2Grms @with SSD, follow IEC 60068-2-64 eak acceleration (11 ms duration), follow IEC 60068-2-27

Block Power Connector er (19V, 65W, DC Jack Type) P series

P210-11KS 21.5" Panel PC / Intel® Kaby Lake Processor

Feature

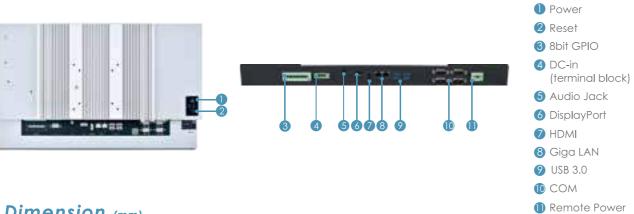
146

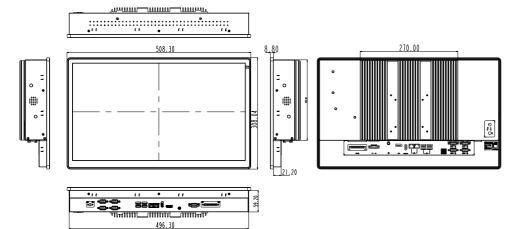
- 21.5" TFT LCD with 30,000 hrs backlight lifetime
- Front panel IP65-rated, fanless design
- Inside Intel® 7th & 6th Gen Core i Processor





I/O Interface





Suggest cut out dimension: 497mm x 297mm

(on/off)

P210-11KS Industrial Panel PC

LCD		
Display Type		21.5" TFT-LCD
Max. Resolution		1920 x 1080
Max. Colors		16.7M (8 bit/color)
Luminance (cd/m2)		250
Viewing Angle (H/V)		170°/160°
Led Backlight (Hours)		30,000
Brightness		Option
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
AR/AG		Option
SYSTEM		
	Processor	7 th Gen Intel® Kaby option: 7 th Gen Kab 6 th Gen Skyle
	Chipset	Intel [®] SoC integrate
	System Memory	DDR4 2133 MHz, 2 x
	Ethernet	Intel® I219-LM Giga
		1 x DC in terminal b
		4 x USB3.0
		4 x RS232
	I/O Port	2 x RJ45
PD11KS		1 x DisplayPort
		1 x HDMI
		1 x Audio Jack (cor
	Watchdog Timer	1 x 8bit GPIO termin 1~255 steps by soft
	Storage Disk Drive	1 x SATA 2.5" HDD/S
	STORAGE DISK DITVE	1 x Mini PCle Full size
	Expansion Slot	1 x M.2 2230 E key
	Stereo Speaker	2 x 2W
	Os Support	Windows® 10 64bit
POWER REQUIREM		
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V 6
MECHANICAL		
Dimension		508.3 x 308 x 83 mn
Weight		8 kg
Mounting		VESA 75/100mm / P
ENVIRONMENTAL		
Operating Temperatu	ire	0°C ~ 50°C
Storage Temperature		-20°C ~ 60°C
Storage Humidity		10% ~ 90% @40°C n
Vibration Resistance		Operating Random
Shock Resistance		Operating 10 G pe
EMC		CE, FCC Class A
Front Panel Protection	1	IP65 Compliant

Ordering Information

System I/O					
Model Number	CPU	VGA	DisplayPort	HDMI	USB 3.0
P210-11KS-3965U	Celeron 3965U	0	1	1	4 /
P210-11KS-7100U	Core i3-7100U	0	1	1	4 /
P210-11KS-7300U	Core i5-7300U	0	1	1	4 /
P210-11KS-7600U	Core i7-7600U	0	1	1	4 /

Packing List Packing • 1 x Mounting kit • 1 x Quick Installation Guide • 1 x 3 pin Terminal Block Power Connector • 1 x US + EU Poower Cord • 1 x 10 pin Terminal Male Connector • 1 x Power Adapter (19V, 65W, DC Jack Type) 1 x Screws kit • 1 x Panel PC





						P series
oy Lal lake c	-U i3-7100U(Dual C ke celeron 3965U / celeron 3955U / i3-	/ i5-7300	U / i7-7	7600U		
	pin SO-DIMM, Max		(Non-E	ECC)		
LAN	+ Intel®I211-AT Gig	ga LAN				
	Mic-in & Line-out)					
	program					
SSD b ze	ραγ					
65W c	adapter					
m (W	X D X H)					
Panel	Mount					
	ondensing ation Test 5 ~ 500H	z; 2Grms	s @with	n SSD, follow	/ IEC 60068-2-64	
	cceleration (11 ms					
/ 2.0	Line-out / Mic-in	R\$232	LAN	Wifi / BT	Power	
)	1 combo jack	4	2	Optional	DC-in 8~24V	
))	1 combo jack 1 combo jack	4	2	Optional Optional	DC-in 8~24V DC-in 8~24V	
))	1 combo jack	4	2	Optional	DC-in 8~24V	

P210-10AI 21.5" Panel PC / Intel[®] Apollo Lake Celeron Processor

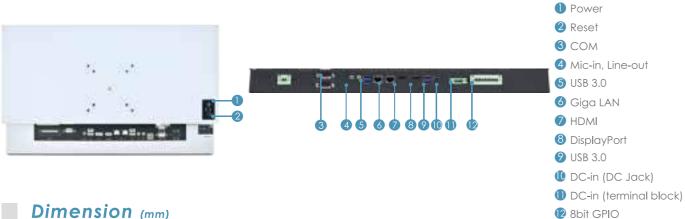
Feature

148

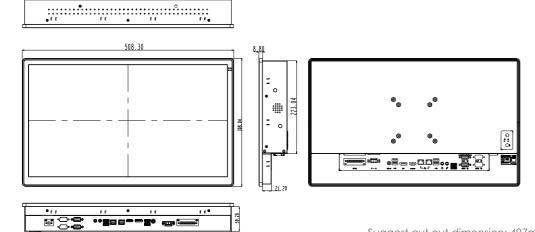
- 21.5" TFT LCD with 30,000 hrs backlight lifetime
- Front panel IP65-rated, fanless design
- Inside Intel® Apollo Lake-M N3350 Processor



i/O Interface



496 30



Suggest cut out dimension: 497mm x 297mm

P210-10AI Industrial Panel PC

LCD					
Display Type		21.5" TFT-LCD			
Max. Resolution		1920 x 1080			
Max. Colors		16.7M (8 bit/color)			
Luminance (cd/m2)		250			
Viewing Angle (H/V)					
Led Backlight (Hours)		30,000			
Brightness		Option			
TOUCH SCREEN					
Туре		P-CAP			
Touch Screen					
Brightness		Option			
SYSTEM					
	Processor	Intel® Apollo Lake-N			
	Chipset	Intel [®] SoC integrate			
	System Memory	DDR3L 1866 MHz, 2 >			
	Ethernet	2 x Intel® I211-AT Gig			
		1 x DC in terminal bl			
		1 x DC Jack			
		4 x USB3.0			
PD10AI		2 x RS232			
	I/O Port	2 x RJ45			
	,	1 x DisplayPort			
		1 x HDMI			
		1 x Mic-in & 1 x Line-			
	NA7 1 1 1 7"	1 x 8bit GPIO termin			
	Watchdog Timer	1~255 steps by softv			
	Storage Disk Drive	1 x SATA 2.5" HDD/S			
	Expansion Slot	1 x M.2 2280 B key			
	Storog Spagker	1 x M.2 2230 E key(P 2 x 2W			
	Stereo Speaker Os Support	Windows [®] 10 64 bit			
		WINDOWS 10 64 DI			
POWER REQUIREME	:NI				
Power Input		DC 8 ~ 24V			
Power Adapter		AC to DC, DC19V 6			
MECHANICAL		500.0 ··· 000 ··· /0			
Dimension		508.3 x 308 x 68 mm			
Weight		5.9 kg			
Mounting		VESA 75/100mm / P			
ENVIRONMENTAL		1000 5000			
Operating Temperatu	re	-10°C ~ 50°C			
Storage Temperature	-20°C ~ 60°C				
Storage Humidity		10% ~ 90% @40°C no			
Vibration Resistance		Operating Random Vi			
Shock Resistance		Operating 10 G per			
EMC		CE, FCC Class A			
Front Panel Protection		IP65 Compliant			

Ordering Information

System I/O									
Model Number	CPU	DisplayPort	HDMI	USB 3.0 / 2.0	GPIO	RS-232	LAN	Wifi / BT	Power
P210-10Al- N3350	N3350	1	1	4 / 0	1	2	2	Optional	8~24V
P210-10Al- N4200	N4200	1	1	4 / 0	1	2	2	Optional	8~24V

Packing List

P

1

acking		
x Panel PC	1 x Screws kit	1 x 3 pin Ter
x Mounting kit	1 x 10 pin Terminal Male Connector	1 x Power A



P series



M N3350 Processor Option: N4200	
ted	
2 x 204-pin SO-DIMM, Max. 8GB (Non-ECC) Siga LAN	
block	
e-out	
inal block itware program	
/SSD bay	
(PCIe / USB)	
t	
65W adapter	
nm (W X D X H)	

Panel Moun

non-condensing

Vibration Test 5 ~ 500Hz; 2Grms @with SSD, follow IEC 60068-2-64 eak acceleration (11 ms duration) / follow IEC 60068-2-27

D151-11TGS

15.6" Touch Panel PC / Intel® Tiger Lake UP3 Core i

Feature

150

- 15.6" HD TFT LCD with 50,000 hrs backlight lifetime
- True-flat touchscreen with projected capacitive multi-touch control
- Front panel IP65-rated, fanless design
- Support multiple mounting modules(webcam, NFC/RFID, barcode)





Peripheral Options

Model Number

Description





D151-11TGS Industrial Panel PC

		-			
LCD					
Display Type		15.6" TFT-L	CD		
Max. Resolution		1366 x 768	3		
Max. Colors		16.2M (8 bit/color)			
Luminance		500 cd/m2			
Viewing Angle		170°/160°			
Led Backlight (Hours)		50000			
TOUCH SCREEN					
Туре		P-CAP			
Touch Screen		True-flat 1	0 points		
SYSTEM					
	Processor		Intel® Tige th Gen Tig		
	Chipset		Integrate		
	System Memory		0MHz / 1 x		
	Ethernet	Intel [®] I219	-LM Giga l		
			I x RS232, 1		
			emote pov		
PD11TGS		1 x DC Jack,			
FDITIGS	I/O Port	4 x USB 3.			
		2 x HDMI	1.4		
	Watchdog Timer	1~255 step	os by softw		
	Storage Disk Drive		2.5" HDD/S		
			/ 3052 / 22		
	Expansion Slot	*Not supp	oort M.2 M		
	Stereo Speaker	2 x 2W			
	Os Support	Windows®	0 10 64bit/V		
POWER REQUIREME	INT				
Power Input		DC 8 ~ 24	V		
Power Adapter		AC to DC	, DC19V/ 3		
MECHANICAL					
Mounting		VESA 100,	/ Stand		
Dimension		401.6 x 25	0.9 x 44 (m		
Weight		4.8kg (10.	58 lb)		
ENVIRONMENTAL					
Operating Temperatu	re	0°C ~ 40°	C (32°F ~ 1		
Storage Temperature)°C (-4°F ~		
Storage Humidity			, % @40°C nd		
Vibration Resistance		Operating	g Random		
Shock Resistance		Operating	g 50 G pec		
EMC		CE, FCC (
Front Panel Protection		IP65 Com			
Ordering	Information				
System I/O	0.511				
Model Number	CPU	HDMI	USB 3.2		
D151-11TGS-UP3Ce	Celeron 6305E	2	4 /		

i3-1115G4E

i5-1145G7E

i7-1185G7E

1 x Cable Cover

1 x Power Adapter (19V, 65W, DC Jack Type)

2

2

2

D151-11TGS-UP3i3

D151-11TGS-UP3i5

D151-11TGS-UP3i7

Packing

1 x Panel PC

1 x Screws kit

Packing List





er Lake-UP3 i3-1115G4E (Dual Core, 6MB Cache, up to 3.90 GHz) ger Lake-UP3 Celeron 6305E / i5-1145G7E / i7-1185G7E
ed
x 260-pin SO-DIMM / Max. 32GB (Non-ECC)
LAN / Intel® I225-LM 2.5GbE LAN
1 x R\$232 / 422 / 485,
ower on/off
ware program
SSD bay
242 / 2260 / 2280 B key (USB2.0, SATAIII, *PClex1)
1 Key NVMe SSD / Wireless: M.2 2230 E key (PCIe, USB)
Windows® 11 64bit
3.4A, 65W adapter
nm)

104°F)

140°F)

non-condensing

n vibration Test 5-500Hz, 0.3Grms@with HDD

eak (3 ms duration)

3.2 / 2.0	R\$232	LAN	Wifi / BT	Power
4/0	2	2	Optional	DC-in 8~24V
4 / 0	2	2	Optional	DC-in 8~24V
4/0	2	2	Optional	DC-in 8~24V
4/0	2	2	Optional	DC-in 8~24V

US + EU Power Cord 2 x Antenna

D151-11KS 15.6" Touch Panel PC / Intel® Kabylake ULV Core i

Feature

- Industrial-grade 15.6" HD TFT LCD with 50,000 hrs backlight lifetime
- True-flat touchscreen with projected capacitive multi-touch control
- Front panel IP65-rated, fanless design
- Support multiple mounting modules(webcam, NFC/RFID, barcode)





Peripheral Options

		del Number rt Number	Description
I/O Interface		D151210-R10 2D7680002	Compact Intelligent MagStripe Swipe Reader
	MSRS	C151210-R10 2D7680007	Secure EMV Chip Card and Magnetic Stripe Reader
I PowerI Giga LANI Audio Jack2 DC InputI HDMII COM3 USB 3.0I DisplayPort		D151210-R10 2D7680006	HF RFID / 13.56MHz NFC reader
Dimension (mm)		0P151210-R10 2D7680005	5M webcam
		51210-R10 2D7680002	2D barcode Scanner

D151-11KS Industrial Panel PC

LCD		
Display Type		15.6" TFT-LCD
Max. Resolution		1366 x 768
Max. Colors		16.2M (8 bit/color)
Luminance		500 cd/m2
Viewing Angle		170°/160°
Led Backlight (Hours	5)	50000
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
SYSTEM		
	Processor	Intel® Kaby Lake-U
		option:
		Kaby Lake celeron
		Skylake celeron 395
	Chipset	Integrated
PD11KS	System Memory	DDR4 2133/2400MH
	Ethernet	Intel [®] I219-LM Giga
		1 x DC Jack , 4 x US
	I/O Port	1 x Audio Jack (cor
	Watchdog Timer	1~255 steps by softw
	Storage Disk Drive	1 x SATA 2.5" HDD/S
	ororage blan brite	1 x Mini PCle Full size
	Expansion Slot	1 x M.2 2230 E key s
	Stereo Speaker	2 x 2W
	Os Support	Kaby Lake: Window
		Skylake: Windows 7
POWER REQUIREN	NENT	
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V/
MECHANICAL		
Mounting		VESA 100/ Stand
Dimension		400 x 250 x 44 (mm)
Weight		4.8kg (10.58 lb)
ENVIRONMENTAL		
Operating Tempera	ture	0°C ~ 40°C (32°F ~ 1
Storage Temperatur	-20°C ~ 60°C (-4°F ~	
Storage Humidity	10% ~ 95% @40°C n	
Vibration Resistance	<u> </u>	Operating Random
Shock Resistance		Operating 50 G per
EMC		CE, FCC Class A
Front Panel Protection	n	IP65 Compliant
Hom uner HoleClic	511	ii os compliant

Ordering Information

System I/O										
Model Number	CPU	VGA	DisplayPort	HDMI	USB 3.0 / 2.0	Line-out / Mic-in	RS232	LAN	Wifi / BT	Power
D151-11KS-3965U	Celeron 3965U	0	1	1	4 / 0	1 combo jack	2	2	Optional	DC-in 8~24V
D151-11KS-7100U	Core i3-7100U	0	1	1	4 / 0	1 combo jack	2	2	Optional	DC-in 8~24V
D151-11KS-7300U	Core i5-7300U	0	1	1	4 / 0	1 combo jack	2	2	Optional	DC-in 8~24V
D151-11KS-7600U	Core i7-7600U	0	1	1	4 / 0	1 combo jack	2	2	Optional	DC-in 8~24V

Packing List Packing 1 x Power Adapter (19V, 65W, DC Jack Type) 1 x Panel PC 1 x Screws kit 1 x Cable Cover





i3-7100U(Dual Core, 3MB Cache, 2.40 GHz)

3965U / i5-7300U / i7-7600U 550 / i3-61000 / i5-63000 / i7-66000

Hz, 2 x 260-pin SO-DIMM, Max. 32GB (Non-ECC) LAN + Intel® 1211-AT Giga LAN JSB 3.0, 2 x RJ-45, 1 x DisplayPort 1.2, 1 x HDMI 1.4 mbo Line-out + Mic-in), 1 x R\$232, 1 x R\$232/422/485 ware program 'SSD bay

slot

vs 10 64bit, Linux (support by request) 32/64bit, Windows 10 64bit, Linux (support by request)

3.4A, 65W adapter

104°F)

- 140°F)

non-condensing

n vibration Test 5-500Hz, 0.3Grms@with HDD

eak (3 ms duration)

US + EU Power Cord 2 x Antenna

D210-11TGS

21.5" Panel PC / Intel[®] Tiger Lake UP3 Processor

Feature

• 21.5" Full HD TFT LCD with 40,000 backlight lifetime

- True-flat touchscreen with projected capacitive multi-touch control
- Front panel IP65-rated, fanless design
- Support multiple mounting modules(webcam, NFC/RFID, barcode)





Peripheral Options

Model Number

Part Number

MSRD151210-R10

5412D7680002

MSRSC151210-R10

5412D7680007

Description

Compact

Intelligent

Reader

Card and

Reader

HF RFID /

reader

webcam

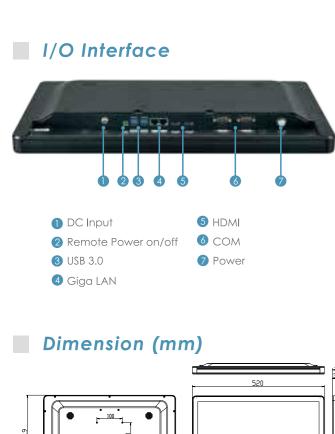
Scanner

13.56MHz NFC

MagStripe Swipe

Secure EMV Chip

Magnetic Stripe





Barcode Scanner

Magnet Strip Reader

D210-11TGS Industrial Panel PC

LCD		
Display Type		21.5" TFT-LCD
Max. Resolution		1920 x 1080
Max. Colors		16.7M (8 bit/color)
Luminance		250 cd/m2
Viewing Angle		178°/178°
Led Backlight (Hou	rs)	40000
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
SYSTEM		
	Processor	11th Gen Intel® Tige
		option: 11th Gen Tig
	Chipset	Intel [®] SoC Integrate
PD11TGS	System Memory	DDR4 3200MHz / 1 x
	Ethernet	Intel® I219-LM Giga
		2 x RJ45, 1 x RS232
	I/O Port	1 x DC Jack, 4 x US
	Watchdog Timer	1~255 steps by soft
	Storage Disk Drive	1 x SATA 2.5" HDD/
	Europeanie an Olash	M.2 3042 / 3052 / 22
	Expansion Slot	*Not support M.2 M
	Stereo Speaker	2 x 3W
	Os Support	Windows® 10 64bit/
POWER REQUIRE	MENT	
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V/
MECHANICAL		
Mounting		VESA 100/ Stand
Dimension		520 x 315.9 x 45.2 m
Weight		10kg (22.04 lb)
ENVIRONMENTA	L	
Operating Temper	ature	0°C ~ 40°C (32°F ~
Storage Temperate	ure	-20°C ~ 60°C (-4°F ~
Storage Humidity		10% ~ 95% @40°C r
Vibration Resistance	e	Operating Randon
Shock Resistance		Operating 50 G pe
EMC		CE, FCC Class B
Front Panel Protec	tion	IP65 Compliant

Ordering Information

System I/O							
Model Number	CPU	HDMI	USB 3.1 / 2.0	RS232	LAN	Wifi / BT	Power
D210-11TGS-UP3Ce	Celeron 6305E	2	4 / 0	2	2	Optional	DC-in 8~24V
D210-11TGS-UP3i3	i3-1115G4E	2	4 / 0	2	2	Optional	DC-in 8~24V
D210-11TGS-UP3i5	i5-1145G7E	2	4 / 0	2	2	Optional	DC-in 8~24V
D210-11TGS-UP3i7	i7-1185G7E	2	4 / 0	2	2	Optional	DC-in 8~24V

Packing List

Packing	
1 x Panel PC	1 x Power Adapter (19V, 65W, DC Jack Type)
1 x Screws kit	1 x Cable Cover





er Lake-UP3 i3-1115G4E (Dual Core, 6MB Cache, up to 3.90 GHz) iger Lake-UP3 Celeron 6305E / i5-1145G7E / i7-1185G7E
ed
x 260-pin SO-DIMM / Max. 32GB (Non-ECC)
LAN / Intel® I225-LM 2.5GbE LAN
/ 422 / 485, 1 x RS232
SB 3.1 Gen2, 2 x HDMI 1.4
ware program
SSD bay
242 / 2260 / 2280 B key (USB2.0, SATAIII, *PCIex1)
1 Key NVMe SSD / Wireless: M.2 2230 E key (PCIe, USB)
/Windows® 11 64bit
3.4A, 65W adapter
nm
104°F)
1
~ 140°F)
non-condensing
n vibration Test 5-500Hz, 0.3Grms@with HDD
eak (3 ms duration)

US + EU Power Cord 2 x Antenna

1 x Quick Installation Guide

D series

D210-11KS 21.5" Touch Panel PC / Intel® Kabylake ULV Core i

Feature

.

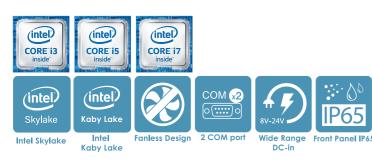
Power

3 сом

4 COM

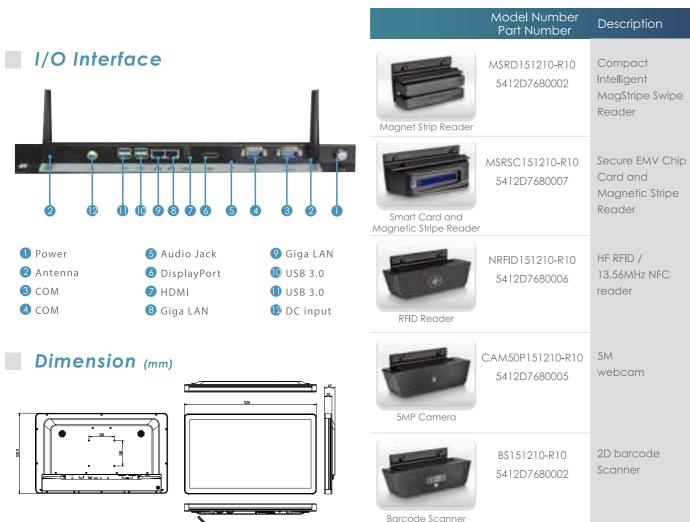
2 Antenna

- Industrial-grade 21.5" Full HD TFT LCD with 40,000 backlight lifetime
- True-flat touchscreen with projected capacitive multi-touch control
- Front panel IP65-rated, fanless design
- Support multiple mounting modules(webcam, NFC/RFID, barcode)





Peripheral Options



D210-11KS Industrial Panel PC

LCD		
Display Type		21.5" TFT-LCD
Max. Resolution		1920 x 1080, FHD
Max. Colors		16.7M (8 bit/color)
Luminance		250 cd/m2
Viewing Angle		178°/178°
Led Backlight (Hours	5)	40000
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
SYSTEM		
	Processor	7th Gen Intel®Kaby
		option:
		Kaby Lake celeron
		Skylake celeron 395
	Chipset	Integrated
	System Memory	2 x DDR4 2133/2400
PDIIKS	Ethernet	Intel® I219-LM Giga
	I/O Port	1 x DC Jack , 4 x U
		1 x Audio Jack (cor
	Watchdog Timer	1~255 steps by soft
	Storage Disk Drive	1 x SATA 2.5" HDD/S
	Expansion Slot	1 x Mini PCIe Full size
		1 x M.2 2230 E key s
	Stereo Speaker	2 x 3W
	OS Support	7th Gen Kaby Lake
		6th Gen Skylake: Wir
POWER REQUIREN	MENT	
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V/
MECHANICAL		
Mounting		VESA 100/ Stand
Dimension		520 x 315 x 42 (mm)
Weight		10kg (22.04 lb)
ENVIRONMENTAL		
Operating Tempera	ture	0°C ~ 40°C (32°F ~
Storage Temperatur		-20°C ~ 60°C (-4°F ~
Storage Humidity		10% ~ 95% @40°C n
Vibration Resistance	;	Operating Random
Shock Resistance		Operating 50 G pe
EMC		CE, FCC Class A
Front Panel Protectio	22	IP65 Compliant

Ordering Information

System I/O										
Model Number	Model Number CPU		DisplayPort	HDMI	USB 3.0 / 2.0	Line-out / Mic-in	R\$232	LAN	Wifi / BT	Power
D210-11KS-3965U	Celeron 3965U	0	1	1	4 / 0	1 combo jack	2	2	Optional	DC-in 8~24V
D210-11KS-7100U	Core i3-7100U	0	1	1	4 / 0	1 combo jack	2	2	Optional	DC - in 8~24V
D210-11KS-7300U	Core i5-7300U	0	1	1	4 / 0	1 combo jack	2	2	Optional	DC-in 8~24V
D210-11KS-7600U	Core i7-7600U	0	1	1	4 / 0	1 combo jack	2	2	Optional	DC-in 8~24V

Packing List

Packing	
1 x Panel PC	1 x Power Adapter (19V, 65W, DC Jack Type)
1 x Screws kit	1 x Cable Cover





/ Lake-U i3-7100U(Dual Core, 3MB Cache, 2.40 GHz)

39650 / i5-73000 / i7-76000 55U / i3-6100U / i5-6300U / i7-6600U

0MHz, 260-pin SO-DIMM, Max. 32GB (Non-ECC) LAN + Intel® I211-AT Giga LAN ISB 3.0, 2 x RJ45, 1 x DisplayPort 1.2, 1 x HDMI 1.4 mbo Line-out + Mic-in), 1 x R\$232, 1 x R\$232/422/485 ware program

(SSD bay, 1 x mSATA (through expansion slot)

slot

: Windows 10 64bit, Linux (support by request) ndows 7 32 / 64bit, Windows 10 64bit, Linux (support by request)

3.4A, 65W adapter

104°F)

~ 140°F)

non-condensing

n vibration Test 5-500Hz, 0.3Grms@with HDD

eak (3 ms duration)

US + EU Power Cord 2 x Antenna

D210-10RI 21.5" Touch Panel PC / D210 with Intel® Platform

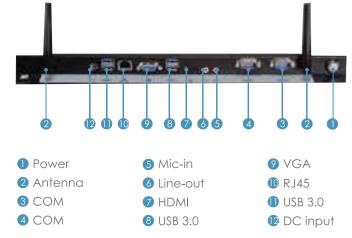
Feature

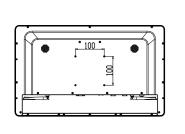
158

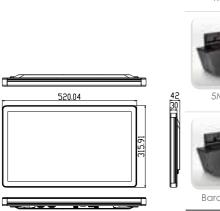
- Industrial-grade 21.5" Full HD TFT LCD with 40,000 backlight lifetime
- True-flat touchscreen with projected capacitive multi-touch control
- Front panel IP65-rated, fanless design
- Support multiple mounting modules (webcam, NFC/RFID, barcode)



I/O Interface









Peripheral Options



D210-10RI Industrial Panel PC

LCD		
Display Type		21.5" TFT-LCD
Max. Resolution		1920 x 1080
Max. Colors		16.7M (8 bit/color)
Luminance		250 cd/m2
Viewing Angle		178°/178°
Led Backlight (Hou	rs)	40000
TOUCH SCREEN		
Туре		P-CAP
Touch Screen		True-flat 10 points
SYSTEM		
PD10RI	Processor Chipset System Memory Ethernet I/O Port Watchdog Timer Storage Disk Drive Expansion Slot Stereo Speaker OS Support	Intel® Celeron® Prov Integrated DDR3L 1866MHz, 2 Realtek RTL8111G 1 x DC Jack, 4 x US 1 x Mic-in, 2 x RS233 1~255 steps by soft 1 x SATA 2.5" HDD/ 1 x Mini PCIe Full/H 1 x Mini PCIe Full/H 1 x Mini PCIe Half si 2 x 3W Windows 7 32bit / 6 Windows 10 64bit
		Linux (support by re
POWER REQUIREN	1ENT	
Power Input		DC 8 ~ 24V
Power Adapter		AC to DC, DC19V/
MECHANICAL		
Mounting		VESA 100/ Stand
Dimension		520 x 315 x 42 (mm
Weight		10kg (22.04 lb)
ENVIRONMENTAL		
Operating Tempera	ature	0°C ~ 40°C (32°F ~
Storage Temperatu	re	-20°C ~ 60°C (-4°F
Storage Humidity		10% ~ 95% @40°C r
Vibration Resistance	e	Operating Randon
Shock Resistance		Operating 50 G pe
EMC		CE, FCC Class A
Front Panel Protect	ion	IP65 Compliant

Ordering Information

System I/O												
Model Number	CPU	VGA	DisplayPort	HDMI	Line-out / Mic-in	USB 3.0 / 2.0	RS232	LAN	Wifi / BT	Power		
D210-10RI-N3160	Celeron N3160	1	0	1	1 / 1	4 / 0	2	1	Optional	DC-in 8~24V		

Packing List

1 x Panel PC 1 x Screws kit	
1 x Quick Installation Guide US + EU Power	r Cord





cessor N3160 (Quad Core, 2M Cache, up to 2.24GHz)
x 204-pin SO-DIMM, Max. 8GB (Non-ECC)
Giga LAN
SB 3.0, 1 x RJ45 , 1 x VGA , 1 x HDMI, 1 x Line-out
2 (RS232/RS422/RS485)
tware program
/SSD bay
Half size
ize
64bit
equest)
/ 3.4A, 65W adapter

104°F)

- 140°F)

non-condensing

n vibration Test 5-500Hz, 0.3Grms@with HDD

eak (3 ms duration)

2 x Antenna 1 x Power Adapter (19V, 65W, DC Jack Type)

1 x Cable Cove

Point of Service



Kiosk – Neon Series

Feature

- Selectable built-in 15.6" to 32" open-frame panel PC
- Selectable Intel® Client Platform 15W-65W CPUs
- Selectable Intel[®] Entry Platform 4.5W-12W CPUs
- 16:9 widescreen display with 1920 x 1080 resolution
- 10 points capacitive touch screen
- Front access for easy management
- Support pole and wall mounting
- Support Windows and Linux operating systems
- Optional accessory: HD camera, thermal printer, barcode scanner and MiAir-touch solution



K32F Fully-Rugged Tablet

DISPLAY	
Size	15.6", 21.5", 32" TF
Max. Resolution	1920 x 1080
Max. Colors	16.7M
Luminance (cd/m2)	332nits (Typ.)
View Angle	178° / 178°
LED Backlight (hours)	30000
TOUCH SCREEN	
Туре	P-CAP
Touch	10 point capacitive
TABLET	
Motherboard Selectable	Intel® Comet Lake C Intel® Coffee Lake C Intel® Sky Lake/ Kaby Intel® Elkhart Lake AT Intel® Tiger Lake UP3
Memory	Supported by reque
Storage	Supported by reque
OS supported	Windows® 10 64-bit/
Stereo Speaker	2 x 3W
Wireless	IEEE 802.11 ac/a/b/g
Bluetooth	BT V4.2
Barcode Scanner	2D imager module, 11 5M, AF camera
Camera Printer	Integrated 58mm ther
Touchless solution	ComiSmartAirTouc
Color	Supported by reque
Power Switch	Yes
Instusion switch	Yes
Maintenance USB	1 x USB (front access
Weight	115Kg
Dimension	729*600*1777mm (ir
Operating Temperature	0~ 40°C (32 ~ 104°F)
Storage Temperature	-20 ~ 60°C (-4 ~ 140°
Storage Humidity	10% ~ 95% @60°C no







Utilizing touchless technology to make customer not only get used to post COVID-19 life seamlessly but also in a safe manner, namely ComiSmartAirTouch

FT-LCD

e multi-touchscreen supporting glove mode and rain mode

Core i7/ i5/ i3/ Pentium / Celeron LGA1151 processors Core i7/ i5/ i3/ Pentium / Celeron LGA1151 processors by Lake Core i7/ i5/ i3/ Pentium / Celeron LGA1151 processors ATOM/ Celeron/ Pentium BGA Processor ²3 Core i7/ i5/ i3 / Celeron ULV processors / Linux (support by request g/n (2.4GHz/5GHz) 1D/ 2D barcode supported rmal printer, auto/ partial cut include stand footprint)

Cappuccino Intel® Apollo Lake Pentium N4200E

Feature

- 11.6" Windows® Tablet w/ 2K Resolution
- Extra Light (<900g w/ entry SKU)
- **|P65**
- MIL-STD-810G on 1.2m Drop Proof, S&V, High/Low Temperature
- Hot-Swappable Battery
- Honeywell Software Decode Scanner 1D/2D (Optional)
- WiFi ac/a/b/g/n, NFC Module
- Support by Request: GPS & LTE
- HW TPM2.0 FIPS 140-2 Level 2 Compliance
- Accessory for Cable Cover w/ Docking Station
- Adjustable View-angle Docking Station
- Accessory for I/O Connectivity
- Accessory for Vehicle Mounting VESA 75mm
- Accessory for charging battery





1D/2D BCR Light Weight

Accessory Feature



Accessory Model

Cappuccino Docking Station(with additional Cable Cover) Cappuccino Extension Cover (w/ VESA 75mm mounting)

2 slots Battery Charger

Ordering Information

	1ode l Jmber	OS	CPU	LCD Brightness	RAM	Storage	WiFi/BT	ТРМ	Main Battery	Operating Temperature	Power Supply	NFC
Sto	ablet Indard Config	Win10 loT 2019	Intel N4200	300nits	4GB	64GB SSD	ac/a/b/g/n BT V5.0	HW TPM 2.0	19.53Whr	-10°C ~ 50°C	19V/65W Adapter +Power Cord	NFC Reader (NXP NPC300)

Model Number	LCD Brightness	RAM	Storage	GPS	LTE	MainBattery (Spare Hardpack Battery)		Model Number	Docking Station	Extension Cover	Battery Charger
Tablet Optional Config	500nits	8GB	256GB SSD	Ublox IC	CAT6 (Sierra Module)	19.53Whr	* Software Decode (Honeywe ll SwiftDecode)	Accessory	Docking Station with additional Cable Cover	Extension Cover with VESA 75mm Mounting	2 Slots
Note: Optio	te: Optional Config Support by Request Note: Including additional 24V/										124V/180W

* SDK Solution only. (SDK + Integration Guide).

Further integration with customer's proprietary application would be mandatory.



Cappuccino Fully-Rugged Tablet

DISPLAY	3300.000
Size	11.6" TFT-LCD
Max. Resolution	1920 x 1080
Luminance (cd/m2)	300nits (Option: 500nits)
Glass Type	Gorilla [®] Glass 3 and Direct Bor
TOUCH SCREEN	
Туре	P-CAP
Touch	10 point capacitive multi-touch
TABLET	
Operating System	Windows [®] 10 JaT Enterning 2010 J
	Windows® 10 IoT Enterprise 2019 LT Intel® Apollo Lake Pentium N4200E (Qu
Processor Chipset	Intel® SoC Integrated
System RAM	LPDDR4 3733MHz 4GB (Option: 80
System ROM	M.2 SSD 64GB (Option: 256GB)
Wireless	IEEE 802.11 ac/a/b/g/n (2.4GHz/50
Bluetooth	BT V5.0
LTE/GPS	Support by Request : GPS (UBX-G80
NFC	NFC Reader (NXP NPC300)
	Option: SW Decode: Honeywell Swift
Barcode Scanner	Further integration with customer's p
Rear Camera	8MP Auto-Focus CMOS built-in r
Switch Key	1 x Dump Switch ; 1 x Reset Swit
Sensor	Ambient Light Sensor, Gyro Sens
Speaker	2 x 0.8W
Microphone	Yes
LED Indicator	Charging LED, Power LED
Main Battery	19.53Whr Removable lithium bat
Hot-Swappable Battery	Yes, 2.66Whr back-up battery (70
I/O Port	1 x USB 3.0 Type-A
	1 x Nano-SIM w/ LTE only (Support
	1 x Audio Jack
	1 x DC Jack
	1 x POGO Connector
Kovpad	1 x Power Key
Keypad	2 x Volume Key
	3 x Capacitive Function Key (on f
	IP65 MIL-STD-810G:
	- 1.2M Drop
	- Shock & Vibration
Fully Rugged Feature	- Sand & Dust-Blowing Sand
,	- High/Low Temperature – Operat
	- High/Low temperature – Storage
	- Freeze/thaw –Rapid temperatur - Thermal Shock
Dimension	299 x 199 x 17.7 mm (w/o bumpers &
Weight	895g (Entry WiFi SKU)
Operating Temperature	-10°C ~ 50°C
Storage Temperature	-20°C ~ 60°C
Storage Humidity	10% ~ 90% @40°C non-condensing
Security	HW TPM 2.0 FIPS 140-2 Level 2 Cor
Certification	CB/CE/FCC/VCCI
Hand-strap	Yes
Shoulder-strap	Yes
Power Adapter	AC to DC, DC 19V 65W Adaptor
	AC TO DC, DC 17 V 65 W Aduptor

Peripheral

Docking Station		Extension Cover	
Key Feature	Desktop Cradle with Power Charging Battery Charging Bay and I/O Expansion	Key Feature	Vehicle Mounting VESA mount support 75 mm x 75mm Power Charaing and I/O Expansion
1 x USB 3.0 Type-A 2 x USB 2.0 Type-A 1 x HDMI 1.3 1 x Powered 5V/12 1 x Giga LAN 1 x Battery Chargin 1 x DC Jack	1 x Powered 24V USB	1/0	Clip-Fix Design for Pick-up Tablet by Tool-Less
	1 x USB 3.0 Type-A		1 x Powered 24V USB
			1 x USB 3.0 Type-A
	1 x Powered 5V/12V Serial Port		1 x HDMI 1.3
			1 x Powered 5V/12V Serial Port
	1 x Battery Charging Slot		1 x Giga LAN
	,		(Optional) 3 x SMA (2 x LTE and 1 x GPS) for RF Antenna Path
	//e io be, be 244 loott //ddpici		(Optional) 1 x Nano-SIM (support by request)
Battery Charge	r	Power Adapter	1 x DC Jack
Battery Charger	SKU1: with 1 battery pack; SKU2: with 2 battery packs		AC to DC, DC 24V 180W Adapter





163

Direct Bonding

nulti-touchscreen supporting glove mode and rain mode

orise 2019 LTSB

n N4200E (Quad-Cores) 1.1GHz with turbo frequency to 2.5GHz, 2MB L2 Cache (4 Thre

(Option: 8GB : 256GB) (2.4GHz/5GH

PS (UBX-G8020-KT) & LTE CAT6 w/ M.2 Slot Comp. w/ regular M.2 card 2300)

neywell SwiftDecoder (1D/2D Support)*SDK Solution only. (SDK + Integration Guide) customer's proprietary application would be mandatory.

OS built-in module with Flash LED

Reset Switch

, Gyro Sensor & G-sensor

Ithium battery with latch lock (2570mAh, 7.6V) *with JEITA2.0 Test Report 4.2hrs battery (700mAh*1, 3.8V, 1\$1P)

nly (Support by Request)

on Key (on front side)

Sand ure – Operation ire – Storage temperature change

o bumpers & hand-strap) / 307.9 x 207.9 x 29.3 mm (w/ bumpers & hand-strap)

condensing Level 2 Compliance



Headquarters

MITAC Computing Technology Corporation

No.200, Wen Hwa 2nd Rd., Kuei Shan Dist., Taoyuan City 33383, Taiwan, R.O.C. TEL: 886-3-3275988 Sales_client@mic.com.tw

www.mitacmct.com



Global Location

Taiwan

MITAC Computing Technology Corporation 3F., No.1, R&D Road 2, HsinChu Science Park, HsinChu, Taiwan, R.O.C, TEL: 886-3-577-9088 | FAX: 886-3-578-3208 Sales_client@mic.com.tw

Japan

MITAC Japan Corp.

Yasuda Shibaura 2nd Bullding 3F Kaigan 3-chome, 2-12. Minato-ku, Tokya 108-0022, Japan. TEL: 81-3-3769-8311 | FAX: 81-3-3769-8328

China

MITAC Computer (KunShan) Co., Ltd. No.269, 2nd Road, Export Processing Zone, Changjiang South Road, Kunshan, Jiangsu, P.R

Sales_client@mic.com.tw

MITAC Computer (ShunDe) Ltd.

No.1, Shunda Road, Lunjiao Street, ShunDe District, Foshan City, Guangdong Province, China TEL:86-757-2775-3168 | FAX:86-757-2775-9246 Sales_client/@mic.com.tw

MITAC Research (Shanghai) Ltd.

No.213, Jiang Chang San Road, Zha Bei District, Shanghai TEL: 86-21-6143-1188 | FAX: 86-21-6143-1199 Sales_client@mic.com.fw

Europe

MITAC Europe Ltd.,

3rd Floor The Pinnacle Station. Way Crawley West Sussex, RH10 1 JF United Kingdom T E L : 44-7943739548

Sales_client@mic.com.tv

USA

Tyan computer (MITAC group) Corp. Japan Corp. 3288 Laurelview Ct. Fremant, CA 94538, U.S.A. TEL: 1-510-651-8868 | FAX: 1-510-651-7688 Sales: client@mic.com.tw

MITAC Information Systems Corp. 39889 Eureka Dr., Newark, CA 94560, U.S.A. Sales, client@mic.com.tw

Embedded Products

Your Success is Our Ambition



All specification are subject to change without notification. copyright@MITAC Computing Technology Corp.