2024

PRODUCT SELECTION GUIDE

iEi®

intel. partner Titanium

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INTELLIGENCE FROM EDGE TO CLOUD

Founded in 1997, IEI Integration Corp. established itself as a pioneer in industrial computing and has since become a leader in technological innovation, particularly in Edge Computing, Networking, and Medical applications. Our extensive product range is built on a solid foundation of robust industrial automation technology, enhanced by the latest advancements in AI, communication, cybersecurity, virtualized computing, and cloud management. This dynamic combination allows us to develop market-driven products and deliver optimal system integration solutions. Committed to environmental and social governance, we seamlessly integrate sustainability into every facet of our operations and innovations, ensuring a significant positive impact.

At IEI Integration Corp., our unwavering dedication to innovation and customer satisfaction drives us to confront complex challenges with sophisticated, integrated solutions that not only meet but consistently exceed market expectations.

Transportation

Food & Beverage

Smart Manufacture

Healthcare

Power & Energy

Networking

Focus Industries

IEI GROUP COMPANIES

Leveraging the collective strength of our group companies, we've established a technology-driven ecosystem. Our collaboration harnesses diverse expertise, ensuring readiness to deliver comprehensive Edge AI solutions. The IEI Group's key subsidiaries - QNAP Systems Inc., BriteMED Technology Inc., Xingwei Computer Co., Ltd., and Armorlink SH Corp. - specialize in cutting-edge offerings, including edge computing storage, intelligent medical systems, and advanced edge AI computing products and services. This synergy positions us at the forefront of innovation, ready to meet the evolving demands of our clients.

Founded in Taiwan 1997

A world-leading company with over 27 years of excellence

A pioneer since 1997, our Taiwan-based company excels in computing technologies with a formidable 1,000+ R&D team, dedicated to quality and longevity in product support, catering to dynamic client requirements.

27-YEAR	1,000 + R&D	100%	>3 YEARS
Expertise in Advanced Computing Solutions	Exceptional Engineering Excellence	In-House Manufacturing	Product Life Cycle Support

Manufacturing Excellence Across Borders

We stand at the forefront of innovation and quality in the manufacturing sector, with our roots deeply embedded in the technological powerhouses of Taiwan and China. Our dual manufacturing hubs are not just geographical locations; they represent our commitment to delivering unparalleled quality and cutting-edge solutions to our global clientele.

IEI GROUP GLOBAL FOOTPRINT

3 Manufacturing Sites
5 Logistics Centers
24 Countries

REGIONAL HUBS IN MAJOR ECONOMIES

HQ, Taiwan
- ODM / OEM
- RD Center
- Manufacturing
- Logistics & RMA

China (Shanghai)
- ODM / OEM
- RD Center
- Manufacturing
- Logistics & RMA

USA (Los Angeles)
- ODM / OEM
- Logistics & RMA
- Technical Support

Japan (Tokyo)
- Technical Support

Germany (Willich)
- Logistics & RMA
- Technical Support

United Kingdom
- Logistics & RMA
- Technical Support

Seamless Warranty

IEI provides a warranty with complimentary repairs and paid RMA for out-of-warranty items, based on condition and availability. The RMA system allows for RMA status tracking and repair reports.

Global Logistics Support

Leveraging IEI Group's expansive global footprint, we ensure swift local delivery and comprehensive customer support. Our mission extends beyond design and manufacturing; we prioritize accelerated distribution through our international logistics and regional service network, delivering your products rapidly to meet customer demands.

Commitment to ESG and International Quality Standards

Our Quality System, compliant with ISO 9001, encompasses all facets of our operation—from product design and component selection to manufacturing and customer service. This system, coupled with our certifications in ISO 13485, ISO 14001, ISO 45001, IECQ QC 080000, and ISO 14064, exemplifies our holistic commitment to quality and sustainability.

ADVANCED MEDICAL COMPUTING SOLUTIONS FOR ENHANCED EFFICIENCY

NEW

VISIT P.135

HTB-230D series

Medical AI Box PC Built for Medical AI Computing Solutions

Raptor Lake
13th Gen Intel® Core™ i9-13900

Expansion
1 x PCIe Gen4 x16
2 x PCIe Gen4 x4

DDR5
4 x DDR5 U-DIMM, Up to 128GB

10.1" TFT LCD
1920 × 1200 high resolution, 10-point PCAP with 6H anti-scratch surface

Graphics Power
Support NVIDIA Quadro RTX Ampere GPUs

NEW

IP65 Protection
10-point PCAP touchscreen

DC output
Configurable 5V/12V/15V/19V/24V

Batteries
3 hot-swappable Li-ion battery packs

MPOCm-W24 series

VISIT P.134

24" Mobile Medical Monitor with 3 hot-swappable batteries, and it can perfect fit with thin client box PC. It is ideal for improving caregivers' working efficiency and mobility.

AMD'S INNOVATIVE NETWORK APPLIANCES SERIES

Our appliances are designed for advanced network security applications like NGFW/UTM, IPS/IDS, and SASE. Featuring AMD's high-performance CPUs and PCIe 4.0 I/O, they provide advanced cryptography acceleration and high-availability architecture for continuous, reliable operation. This ensures unmatched efficiency and robust security for modern networks.

Coming soon

PUZZLE-7050 series

VISIT P.118

1U Premium Network Appliance

- Single Gen AMD EPYC™ 8004 Series Processor
- 12 x DDR5 ECC RDIMM slots (up to 4800 MHz)
- 1 x PCIe Gen4 x16 FHFL
- 2 x OCP 3.0 slots (PCIe Gen4 x16)
- BMC management port
- 2 x U.2 slots with removable tray

Coming soon

PUZZLE-5060 series

1U Performance Network Appliance

- AMD Ryzen™ 8000 Series
- 4 x DDR5 4800MHz UDIMM
- 2 x U.2 2.5" NVMe SSD
- 8 x 1GbE RJ45 ports

VISIT P.120

INDUSTRIAL PANEL SOLUTION

VISIT P.100

NEW

UPC series

12.1” Rugged IP66 Panel PC

13th Generation

Intel® Core i3-1315URE 6-core, 4.5GHz

I/O Cover Options

Standard, M12 or sealing rubbers

CAN Bus

1 x CAN bus for a vehicle’s real-time data display and control

Wireless Communication

WiFi, Bluetooth and RFID integration

VISIT P.102

NEW

DM2 series

NextGen IP65 Industrial Monitors

The IEI DM2 series industrial monitors, available in sizes from 10.4 to 23.8 inches, are IP65 certified for dust and water resistance. Featuring VESA and panel mounting options, dual 2.5W speakers, and a webcam, the DM2 series is perfect for industrial applications, interactive kiosks, and EV charging stations, providing a responsive and durable interface.

LOW CARBON EMISSION DISPLAY SOLUTION

NEW

VISIT P.108

Pitaya series

2.13”/2.9”/4.2” ePaper Displays

Content Management

ideaRoomX and iRM software management

Power

AAA batteries and USB-C

Wireless

IEEE 802.11b/g/n (2.4 GHz WiFi) / Bluetooth 5

AG Surface Treatment

Scratch resistance and impact resistance

NEW

Peach series

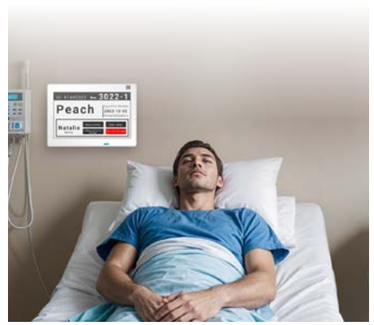
7.3” ePaper Display

NEW

Mangosteen series

2.13”/2.9” ePaper Displays

The IEI Low Carbon Emission Display Solution is a sustainable, cost-effective way to reduce carbon emissions. It helps companies save on printing and energy costs, lowering their carbon footprint. Unlike traditional LCDs and paper, this eco-friendly, energy-efficient display is visually stunning. Combining a low-cost ePaper panel with an energy-efficient controller, it delivers exceptional image quality while consuming significantly less power.



OS Support List (Windows / Linux)

System Chipset		CE 6.0	Embedded Compact 7 CE 7.0	Embedded Compact 2013	2000	XP Pro	7	8.1	10 32 bit	10 64 bit	11	Server 2003	Server 2008	Server 2012	Server 2016	Server 2019	Linux Kernel
Arrow Lake S	Intel® W880									V	V						Linux Kernel 5.4
	Intel® Q870									V	V						Linux Kernel 5.4
	Intel® H810									V	V						Linux Kernel 5.4
Intel® Meteor Lake U/H										V	V						Linux Kernel 5.4
Alder Lake S	Intel® R680									V	V					V	Linux Kernel 5.4
	Intel® Q670									V	V						
	Intel® H610									V	V						Linux Kernel 5.4
Intel® Alder Lake P										V	V						Linux Kernel 5.4
Intel® Alder Lake PS										V	V						
Intel® Alder Lake N										V	V						
Comet Lake	Intel® Q470									V	V						Linux Kernel 5.4
	Intel® H420E									V	V						Linux Kernel 5.4
	Intel® H410									V	V						Linux Kernel 5.4
Intel® Elkhart Lake										V	V						Linux Kernel 5.4
Intel® Jasper Lake										V	V						Linux Kernel 5.4
Intel® Atom® C3000 R										V				V	V		Linux Kernel 4.4
Intel® Atom® C3000								V		V				V	V		Linux Kernel 4.4
Intel® Tiger Lake UP3										V	V						Linux Kernel 5.4
Coffee Lake R	Intel® C246									V	V			V	V	V	Linux Kernel 4.19
	Intel® Q370									V	V						Linux Kernel 4.19
	Intel® H310									V	V						Linux Kernel 4.19
	Intel® CM246									V	V						Linux Kernel 4.19
	Intel® QM370									V	V						Linux Kernel 4.19
	Intel® HM370									V	V						Linux Kernel 4.19
Intel® Whiskey Lake ULT								V		V	V		V	V	V	V	Linux Kernel 4.19
Coffee Lake	Intel® C246									V	V			V	V	V	Linux Kernel 4.14
	Intel® Q370									V	V						Linux Kernel 4.14
	Intel® H310									V	V						Linux Kernel 4.14
	Intel® CM246									V	V						Linux Kernel 4.14
	Intel® QM370									V	V						Linux Kernel 4.14
	Intel® HM370									V	V						Linux Kernel 4.14
Intel® Broadwell-DE							V	V		V			V	V	V		Linux Kernel 3.19
Kaby Lake	Intel® C236									V			V	V	V		Linux Kernel 4.14
	Intel® Q170									V							Linux Kernel 4.14
	Intel® H110									V							Linux Kernel 4.14
	Intel® CM238									V							Linux Kernel 4.14
	Intel® QM175									V							Linux Kernel 4.14
	Intel® HM175									V							Linux Kernel 4.14
	Intel® Kaby Lake ULT									V							Linux Kernel 4.14
Skylake	Intel® C236						V	V		V			V	V	V		Linux Kernel 4.0 (3.2)
	Intel® Q170						V	V		V							Linux Kernel 4.0 (3.2)
	Intel® H110						V	V		V							Linux Kernel 4.0 (3.2)
	Intel® CM236						V	V		V							Linux Kernel 4.0 (3.2)
	Intel® QM170						V	V		V							Linux Kernel 4.0 (3.2)
	Intel® HM170						V	V		V							Linux Kernel 4.0 (3.2)
	Intel® Skylake ULT						V	V		V							Linux Kernel 4.0 (3.2)
	Intel® Broadwell ULT						V	V		V							Linux Kernel 3.19

OS Support List (Windows / Linux)

System Chipset		CE 6.0	Embedded Compact 7 CE 7.0	Embedded Compact 2013	2000	XP Pro	7	8.1	10 32 bit	10 64 bit	11	Server 2003	Server 2008	Server 2012	Server 2016	Server 2019	Linux Kernel
Haswell	Intel® C226					V	V	V		V		V	V	V			Linux Kernel 3.x
	Intel® Q87					V	V	V		V							Linux Kernel 3.x
	Intel® H81					V	V	V		V							Linux Kernel 3.x
	Intel® QM87					V	V	V		V							Linux Kernel 3.x
	Intel® Haswell ULT						V	V		V							Linux Kernel 2.6.3x
Ivy Bridge	Intel® C216					V	V	V		V		V	V	V			Linux Kernel 2.6.3x
	Intel® Q77					V	V	V		V							Linux Kernel 2.6.3x
	Intel® QM77					V	V	V		V							Linux Kernel 2.6.3x
Sandy Bridge	Intel® C206					V	V	V				V	V	V			Linux Kernel 2.6.3x
	Intel® Q67	V				V	V	V									Linux Kernel 2.6.3x
	Intel® B65	V				V	V	V									Linux Kernel 2.6.3x
	Intel® H61	V				V	V	V									Linux Kernel 2.6.3x
	Intel® QM67	V				V	V	V									Linux Kernel 2.6.3x
	Intel® HM65	V				V	V	V									Linux Kernel 2.6.3x
Intel® Legacy	Intel® Q57					V	V										Linux Kernel 2.6.2x
	Intel® QM57					V	V										Linux Kernel 2.6.2x
	Intel® HM55					V	V										Linux Kernel 2.6.2x
	Intel® Apollo Lake N4000/E3900									V							Linux Yocto Project 4.1
Intel® Atom®	Intel® Braswell N3000						V	V	V	V							Linux Kernel 3.14 Android 5.0
	Intel® Bay Trail J1900/N2930/ N2807/E3800		V		V		V	V	V	V							Linux Kernel 3.12 Android 4.2 (32 bit) Android 4.4 (64 bit)
	Intel® D2550/ N2600/N2800+ NM10					V	V										Linux Kernel 2.6.35
	Intel® D2550/ N2600/N2800 + ICH10R					V	V										Linux Kernel 2.6.35
	Intel® D525/D425/ N455/N425 + ICH8M	V				V	V										Linux Kernel 2.6.2x
AMD®	AMD® V1000-series (Ryzen Embedded) SoC									V							Linux Kernel 4.14
	AMD® R1000-series (Ryzen Embedded) SoC									V							Linux Kernel 4.14
	AMD® R-series (MERLIN FALCON) SoC						V	V		V							Linux Kernel 3.13
	AMD® G-series (eKABINI) SoC	V	V		V		V	V	V	V							Linux Kernel 3.x
	AMD® Geode LX800 + CS5536					V											Linux Kernel 2.6.18

CPU List

Microserver D1500 Family CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCBGA1667	Xeon® E3	22nm Broadwell	16/32	D-1577	1.30 GHz	24 MB	45 W	None	None	DDR4-2133, DDR3L-1600	-
			16/32	D-1571	1.30 GHz	24 MB	45 W				
			12/24	D-1567	2.10 GHz	18 MB	65 W				
			12/24	D-1559	1.50 GHz	18 MB	45 W				
			12/24	D-1557	1.50 GHz	18 MB	45 W				
			8/16	D-1548	2.00 GHz	12 MB	45 W				
			8/16	D-1541	2.10 GHz	12 MB	45 W				
			8/16	D-1540	2.00 GHz	12 MB	45 W			DDR4-2133	
			8/16	D-1539	1.60 GHz	12 MB	35 W			DDR4-2133, DDR3L-1600	
			8/16	D-1537	1.70 GHz	12 MB	35 W				
			6/12	D-1531	2.20 GHz	9 MB	45 W				
			4/8	D-1529	1.30 GHz	6 MB	20 W				
			6/12	D-1528	1.90 GHz	9 MB	35 W				
			4/8	D-1527	2.20 GHz	6 MB	35 W				
			4/8	D-1521	2.40 GHz	6 MB	45 W				
			4/8	D-1520	2.20 GHz	6 MB	45 W			DDR4-2133	
			4/8	D-1518	2.20 GHz	6 MB	35 W			DDR4-2133, DDR3L-1600	
	Pentium®		4/8	D1519	1.50 GHz	6 MB	25 W				
			4/8	D1517	1.60 GHz	6 MB	25 W				
			2/2	D1509	1.50 GHz	3 MB	19 W				
			2/4	D1508	2.20 GHz	3 MB	25 W				
			2/2	D1507	1.20 GHz	3 MB	20 W				

Denverton Atom® C3000 Family CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCBGA1310	Atom®	14nm Denverton	16/16	C3958	2.0GHz	16MB	31W	None	None	DDR4 2400	None
			12/12	C3858	2.0GHz	12MB	25W	None	None		
			8/8	C3758	2.2GHz	16MB	25W	None	None		
			4/4	C3558	2.2GHz	8MB	16W	None	None	DDR4 2133	
			4/4	C3538	2.1GHz	8MB	15W	None	None		
			2/2	C3338	1.5GHz	4MB	8.5W	None	None	DDR4 1866	
			2/2	C3336	1.5GHz	4MB	11W	None	None		
			8/8	C3758R	2.4GHz	16MB	26W	None	None	DDR4 2400	
			4/4	C3558R	2.4GHz	8MB	17W	None	None		
			4/4	C3436L	1.3GHz	8MB	10.75W	None	None	DDR4 1866	
			2/2	C3338R	1.8GHz	4MB	10.5W	None	None		

Workstation Xeon® E3/E/W Series CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA2066	Xeon® W	14nm Cascade Lake	18/36	W-2295	3.00 GHz	24.75 MB	165 W	None	None	DDR4 2933	C422
			14/28	W-2275	3.30GHz	19.25 MB	165 W	None	None		
			12/24	W-2265	3.50 GHz	19.25 MB	165 W	None	None		
			10/20	W-2255	3.70 GHz	19.25 MB	165 W	None	None		
			8/16	W-2245	3.90 GHz	16.5 MB	155 W	None	None		
			6/12	W-2235	3.80 GHz	8.25 MB	130W	None	None		
			4/8	W-2225	4.10 GHz	8.25 MB	105W	None	None		
			4/8	W-2223	3.60 GHz	8.25 MB	120W	None	None	DDR4 2666	

Yellow means long-term support

CPU List

Workstation Xeon® E3/E/W Series CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA3647	Xeon® W	14nm Cascade Lake	28/56	W-3275	2.50 GHz	38.5 MB	205W	None	None	DDR4 2933	C621
			24/48	W-3265M	2.70 GHz	33 MB	205W	None	None		
			24/48	W-3265	2.70GHz	33MB	205W	None	None		
			16/32	W-3245M	3.20 GHz	22MB	205W	None	None		
			16/32	W-3245	3.20 GHz	22 MB	205W	None	None		
			12/24	W-3235	3.30 GHz	19.25 MB	180W	None	None		C422
			8/16	W-3225	3.70 GHz	16.5 MB	160W	None	None	DDR4-2666	C621
			8/16	W-3223	3.50 GHz	16.5 MB	160W	None	None		
FCLGA1151	Xeon® E	14nm Coffee lake	6/12	E-2186G	3.80 GHz	12MB	95W	Intel® UHD Graphics P630	350 MHz	DDR4-2666	C246/ C242
			6/12	E-2176G	3.70 GHz	12MB	80W				
			4/8	E-2174G	3.80 GHz	8MB	71W				
			6/12	E-2146G	3.50 GHz	12MB	80W				
			4/8	E-2144G	3.60 GHz	8MB	71W				
			6/12	E-2136	3.30 GHz	12MB	80W	NA	NA		
			4/8	E-2134	3.50 GHz	8MB	71W	NA	NA		
			6/6	E-2126G	3.30 GHz	12MB	80W	Intel® UHD Graphics P630	350 MHz		
			4/4	E-2124	3.30 GHz	8MB	71W	NA	NA		
			4/4	E-2124G	3.40 GHz	8MB	71W	Intel® UHD Graphics P630	350 MHz		
FCLGA1151	Xeon® E3	14nm Kaby Lake	4/8	E3-1285 V6	4.1GHz	8 MB	79W	Intel® HD Graphics P630	350 MHz	DDR4-2400, DDR3L-1866	C236
			4/8	E3-1280 V6	3.9GHz	8 MB	72W	None	None		
			4/8	E3-1275 V6	3.8GHz	8 MB	73W	Intel® HD Graphics P630	350 MHz		
			4/8	E3-1270 V6	3.8GHz	8 MB	72W	None	None		
			4/8	E3-1245 V6	3.7GHz	8 MB	73W	Intel® HD Graphics P630	350 MHz		
			4/8	E3-1240 V6	3.7GHz	8 MB	72W	None	None		
			4/8	E3-1230 V6	3.5GHz	8 MB	72W	None	None		
			4/4	E3-1225 V6	3.3GHZ	8 MB	73W	Intel® HD Graphics P630	350 MHz		
			4/4	E3-1220 V6	3.0GHz	8 MB	72W	None	None		
FCLGA2066	Xeon® W	14nm Skylake	4/4	W-2123	3.60 GHz	8.25MB	120W	None	None	DDR4-2666 ECC R-DIMM / LR-DIMM	C422
			4/4	W-2125	4.00 GHz	8.25MB	120W	None	None		
			6/12	W-2133	3.60 GHz	8.25MB	140W	None	None		
			6/12	W-2135	3.70 GHz	8.25MB	140W	None	None		
			8/16	W-2145	3.70 GHz	11MB	140W	None	None		
			10/20	W-2155	3.30 GHz	13.75MB	140W	None	None		
			14/28	W-2175	2.50 GHz	19MB	140W	None	None		
			18/36	W-2195	2.30 GHz	24.75MB	140W	None	None		
FCLGA1151	Xeon® E3	14nm Skylake	4/8	E3-1515MV5	2.80 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P580	350 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	C236
			4/8	E3-1505MV5	2.80 GHz	8 MB	45 W	Intel® HD Graphics P530			
			4/8	E3-1578LV5	2.00 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P580	700 MHz	DDR3L, DDR4 2133MHz at 1.2V	
			4/8	E3-1558LV5	1.90 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P555	650 MHz		
			4/8	E3-1505LV5	2.00 GHz	8 MB	25 W	Intel® HD Graphics P530	350 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	
			4/8	E3-1268LV5	2.40 GHz	8 MB	35 W			DDR4-1866/2133, DDR3L-1333/1600@1.35V	
			4/8	E3-1585V5	3.50 GHz	8 MB	65 W	Intel® Iris™ Pro Graphics P580		DDR3L, LPDDR3 1600MHz, DDR4 2133MHz at 1.2V	
			4/8	E3-1585LV5	3.00 GHz	8 MB	45 W				
			4/8	E3-1565LV5	2.50 GHz	8 MB	35 W				

Yellow means long-term support

CPU List

Workstation Xeon® E3/E/W Series CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA1151	Xeon® E3	14nm Skylake	4/8	E3-1280V5	3.70 GHz	8 MB	80 W	None	None	DDR4-1866/2133, DDR3L-1333/1600@1.35V	C236
			4/8	E3-1275V5	3.60 GHz	8 MB	80 W	Intel® HD Graphics P530	400 MHz		
			4/8	E3-1270V5	3.60 GHz	8 MB	80 W	None	None		
			4/8	E3-1260LV5	2.90 GHz	8 MB	45 W				
			4/8	E3-1245V5	3.50 GHz	8 MB	80 W	Intel® HD Graphics P530	400 MHz		
			4/8	E3-1240LV5	2.10 GHz	8 MB	25 W	None	None		
			4/8	E3-1240V5	3.50 GHz	8 MB	80 W				
			4/4	E3-1235LV5	2.00 GHz	8 MB	25 W	Intel® HD Graphics P530	400 MHz		
			4/8	E3-1230V5	3.40 GHz	8 MB	80 W	None	None		
			4/4	E3-1225V5	3.30 GHz	8 MB	80 W	Intel® HD Graphics P530	400 MHz		
			4/4	E3-1220V5	3.00 GHz	8 MB	80 W	None	None		
FCLGA1150	Xeon® E3	22nm Haswell	4/4	E3-1220 v3	3.1 GHz	8 MB	80 W	None	-	DDR3 and DDR3L 1333/1600 at 1.5V	C226
			2/4	E3-1220LV3	1.1 GHz	4 MB	13 W		-	DDR3 1333/1600	
			4/4	E3-1225V3	3.2 GHz	8 MB	84 W	Intel® HD Graphics P4600	350 MHz	DDR3 and DDR3L 1333/1600 at 1.5V	
			4/4	E3-1226V3	3.3 GHz	8 MB	84 W				
			4/8	E3-1230 v3	3.3 GHz	8 MB	80 W	None	-		
			4/8	E3-1230Lv3	1.8 GHz	8 MB	25 W		-		
			4/8	E3-1231V3	3.4 GHz	8 MB	80 W		-		
			4/8	E3-1240 v3	3.4 GHz	8 MB	80 W		-		
			4/8	E3-1240LV3	2 GHz	8 MB	25 W		-		
			4/8	E3-1241V3	3.5 GHz	8 MB	80 W		-		
			4/8	E3-1245 v3	3.4 GHz	8 MB	84 W	Intel® HD Graphics P4600	350 MHz		
			4/8	E3-1246V3	3.5 GHz	8 MB	84 W				
			4/8	E3-1265Lv3	2.5 GHz	8 MB	45 W	Intel® HD Graphics			
			4/8	E3-1268LV3	2.3 GHz	8 MB	45 W	Intel® HD Graphics 4600		DDR3 1333/1600	
			4/8	E3-1270 v3	3.5 GHz	8 MB	80 W	None	-	DDR3 and DDR3L 1333/1600 at 1.5V	
			4/8	E3-1271V3	3.6 GHz	8 MB	80 W		-		
			4/8	E3-1275 v3	3.5 GHz	8 MB	84 W	Intel® HD Graphics P4600	350 MHz		
			4/8	E3-1275LV3	2.7 GHz	8 MB	45 W	Intel® HD Graphics			
			4/8	E3-1276V3	3.6 GHz	8 MB	84 W	Intel® HD Graphics P4600			
			4/8	E3-1280 v3	3.6 GHz	8 MB	82 W	None	-		
			4/8	E3-1281V3	3.7 GHz	8 MB	82 W	None	-		
			4/8	E3-1285 v3	3.6 GHz	8 MB	84 W	Intel® HD Graphics P4700	350 MHz		
			4/8	E3-1285Lv3	3.1 GHz	8 MB	65 W				
			4/8	E3-1286V3	3.7 GHz	8 MB	84 W				
			4/8	E3-1286LV3	3.2 GHz	8 MB	65 W				
LGA1155	Xeon® E3	22nm Ivy Bridge	4/8	E3-1290V2	3.7 GHz	8 MB	87 W	-	-	DDR3-1333/1600	C206/ C21
			4/8	E3-1280V2	3.6 GHz	8 MB	69 W	-	-		
			4/8	E3-1275V2	3.5 GHz	8 MB	77 W	-	1.25 GHz		
			4/8	E3-1270V2	3.5 GHz	8 MB	69 W	-	-		
			4/8	E3-1265LV2	2.5 GHz	8 MB	45 W	-	1.15 GHz		
			4/8	E3-1245V2	3.4 GHz	8 MB	77 W	-	1.25 GHz		
			4/8	E3-1240V2	3.4 GHz	8 MB	69 W	-	-		
			4/8	E3-1230V2	3.3 GHz	8 MB	69 W	-	-		
			4/4	E3-1225V2	3.2 GHz	8 MB	77 W	-	1.25 GHz		
			4/4	E3-1220V2	3.1 GHz	8 MB	69 W	-	-		
			4/2	E3-1220LV2	2.3 GHz	3 MB	17 W	-	-		

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CPU List

Workstation Xeon® E3/E/W Series CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
LGA1155	Xeon® E3	32nm Sandy Bridge	4/8	E3-1290	3.6 GHz	8 MB	95 W	-	-	DDR3-1066/1333	C206/ C216
			4/8	E3-1280	3.5 GHz	8 MB	95 W	-	-		
			4/8	E3-1275	3.4 GHz	8 MB	95 W	-	1.35 GHz		
			4/8	E3-1270	3.4 GHz	8 MB	80 W	-	-		
			4/8	E3-1260L	2.4 GHz	8 MB	45 W	-	1.25 GHz		
			4/8	E3-1245	3.3 GHz	8 MB	95 W	-	1.35 GHz		
			4/8	E3-1240	3.3 GHz	8 MB	80 W	-	-		
			4/8	E3-1235	3.2 GHz	8 MB	95 W	-	1.35 GHz		
			4/8	E3-1230	3.2 GHz	8 MB	80 W	-	-		
			4/4	E3-1225	3.1 GHz	6 MB	95 W	-	1.35 GHz		
			4/2	E3-1220L	2.2 GHz	3 MB	20 W	-	-		
			4/4	E3-1220	3.1 GHz	8 MB	80 W	-	-		

Desktop Core™ i9/i7/i5/i3/Pentium®/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA1700	Core™ i9	14nm Alder Lake-S	24/32	i9-14900K	3.20 GHz(Performance-core) 2.40 GHz (Efficient-core)	36 MB	125 W	Intel® UHD Graphics 770	300 MHz	DDR5 4800 DDR4 3200	R680/ Q670/H610
				i9-14900	2.00 GHz (Performance-core) 1.80 GHz (Efficient-core)	36 MB	65W				
				i9-14900T	1.10 GHz (Performance-core) 1.00 GHz (Efficient-core)	36 MB	35W				
	Core™ i7		20/28	i7-14700K	3.40 GHz (Performance-core) 2.70 GHz (Efficient-core)	33 MB	125 W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i7-14700	2.10 GHz (Performance-core) 1.60 GHz (Efficient-core)	33 MB	65W				
				i7-14700T	1.30 GHz (Performance-core) 1.00 GHz (Efficient-core)	33 MB	35W				
	Core™ i5		14/20	i5-14600K	3.50 GHz (Performance-core) 1.00 GHz (Efficient-core)	24 MB	125 W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i5-14600	2.7O GHz (Performance-core) 1.00 GHz (Efficient-core)	24 MB	65W				
				i5-14600T	1.30 GHz (Performance-core) 1.00 GHz (Efficient-core)	24 MB	35W				
	Core™ i3		4/8	i3-14100	3.50 GHz (Performance-core) 1.00 GHz (Efficient-core)	12 MB	60W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i3-14100T	2.70 GHz (Performance-core) 1.00 GHz (Efficient-core)	12 MB	35W				

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CPU List

Desktop Core™ i9/i7/i5/i3/Pentium®/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA1700	Core™ i9	14nm Alder Lake-S	24/32	i9-13900K	3.00 GHz(Performance-core) 2.40 GHz(Efficient-core)	36 MB	125 W	Intel® UHD Graphics 770	300 MHz	DDR5 4800 DDR4 3200	R680/ Q670/H610
				i9-13900	2.00 GHz(Performance-core) 1.80 GHz(Efficient-core)	36 MB	65W				
				i9-13900E	1.80 GHz(Performance-core) 1.70 GHz(Efficient-core)	36 MB	65W				
				i9-13900TE	1.00 GHz(Performance-core) 1.00 GHz(Efficient-core)	36 MB	35W				
	Core™ i7		16/24	i7-13700K	3.60 GHz(Performance-core) 2.70 GHz(Efficient-core)	30 MB	125 W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i7-13700	2.10 GHz(Performance-core) 1.60 GHz(Efficient-core)	30 MB	65W				
				i7-13700E	2.10 GHz(Performance-core) 1.60 GHz(Efficient-core)	30 MB	65W				
				i7-13700TE	1.40 GHz(Performance-core) 1.00 GHz(Efficient-core)	30 MB	35W				
	Core™ i5		14/20	i5-13600K	3.50 GHz(Performance-core) 1.00 GHz(Efficient-core)	24 MB	125 W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i5-13500	2.50 GHz(Performance-core) 1.00 GHz(Efficient-core)	24 MB	65W				
				i5-13500E	2.40 GHz(Performance-core) 1.00 GHz(Efficient-core)	24 MB	65W				
				i5-13500TE	1.30 GHz(Performance-core) 1.00 GHz(Efficient-core)	24 MB	35W				
	Core™ i3		4/8	i3-13100	3.40 GHz(Performance-core) 1.00 GHz(Efficient-core)	12 MB	60W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i3-13100E	3.30 GHz(Performance-core) 1.00 GHz(Efficient-core)	12 MB	60W				
				i3-13100TE	2.40 GHz(Performance-core) 1.00 GHz(Efficient-core)	12 MB	35W				
FCLGA1700	Core™ i9	14nm Alder Lake-S	16/24	i9-12900K	3.20 GHz(Performance-core) 2.40 GHz(Efficient-core)	14 MB	125 W	Intel® UHD Graphics 770	300 MHz	DDR5 4800 DDR4 3200	R680/ H610
				i9-12900	2.40 GHz(Performance-core) 1.80 GHz(Efficient-core)	14 MB	65W				
				i9-12900E	2.30 GHz(Performance-core) 1.70 GHz(Efficient-core)	30 MB	65W				
				i9-12900TE	1.10 GHz(Performance-core) 1.00 GHz(Efficient-core)	30 MB	35W				
	Core™ i7		12/20	i7-12700K	3.60 GHz(Performance-core) 2.70 GHz(Efficient-core)	12 MB	125 W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i7-12700	2.10 GHz(Performance-core) 1.60 GHz(Efficient-core)	12 MB	65W				
				i7-12700E	2.10 GHz(Performance-core) 1.60 GHz(Efficient-core)	25 MB	65W				
				i7-12700TE	1.40 GHz(Performance-core) 1.00 GHz(Efficient-core)	25 MB	35W				
	Core™ i5		6/12	i5-12600K	2.80 GHz	9.5 MB	125 W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i5-12500	3.00 GHz	7.5 MB	65W				
				i5-12500E	2.90 GHz	18 MB	65W				
				i5-12500TE	1.90 GHz	18 MB	35W				
	Core™ i3		4/8	i3-12300	3.50 GHz	5 MB	60W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i3-12100E	3.20 GHz	12 MB	60W				
				i3-12100TE	2.10 GHz	12 MB	35W				
	Pentium®		2/4	G7400E	3.60 GHz	6 MB	46W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				G7400TE	3.00 GHz	6 MB	35W				
	Celeron®		2/2	G6900E	3.00 GHz	4 MB	46W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				G6900TE	2.40 GHz	4 MB	35W				

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CPU List

Desktop Core™ i9/i7/i5/i3/Pentium®/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA1200	Core™ i9	14nm Comet Lake-S	8/16	i9-11900K	3.50 GHz	16 MB	125 W	Intel® UHD Graphics 750	350 MHz	DDR4-3200	W480E/ W480/ Q470E/ Q470/ H420E/ H410
				i9-11900	2.50 GHz	16 MB	65 W				
				i9-11900T	1.50 GHz	16 MB	35 W				
	Core™ i7		8/16	i7-11700K	3.60 GHz	16 MB	125 W	Intel® UHD Graphics 750		DDR4-3200	
				i7-11700	2.50 GHz	16 MB	65 W				
				i7-11700T	1.40 GHz	16 MB	35 W				
	Core™ i5		6/12	i5-11600K	3.90 GHz	12 MB	125 W	Intel® UHD Graphics 750		DDR4-3200	
				i5-11500	2.50 GHz	12 MB	65 W				
				i5-11500T	1.50 GHz	12 MB	35 W				
	Core™ i3		8/16	i3-11300K	3.50 GHz	16 MB	125 W	Intel® UHD Graphics 750		DDR4-3200	
				i3-11300	2.50 GHz	16 MB	65 W				
				i3-11300T	1.50 GHz	16 MB	35 W				
	Core™ i9		10/20	i9-10900K	3.70 GHz	20 MB	125 W	Intel® UHD Graphics 630		DDR4-2933	
				i9-10900	2.80 GHz	20 MB	65 W				
				i9-10900E	2.80 GHz	20 MB	65 W				
				i9-10900TE	1.80 GHz	20 MB	35W				
	Core™ i7		8/16	i7-10700K	3.80 GHz	16 MB	125 W	Intel® UHD Graphics 630		DDR4-2933	
				i7-10700	2.90 GHz	16 MB	65 W				
				i7-10700E	2.90 GHz	16 MB	65 W				
				i7-10700TE	2.00 GHz	16 MB	35 W				
	Core™ i5		6/12	i5-10600K	4.10 GHz	12 MB	125 W	Intel® UHD Graphics 630		DDR4-2666	
				i5-10500	3.10 GHz	12 MB	65 W				
				i5-10500E	3.10 GHz	12 MB	65 W				
				i5-10500TE	2.30 GHz	12 MB	35W				
	Core™ i3		4/8	i3-10300	3.70 GHz	8 MB	65 W	Intel® UHD Graphics 630		DDR4-2666	
				i3-10100E	3.20 GHz	8 MB	65 W				
				i3-10100TE	2.30 GHz	8 MB	35W				
	Pentium®		2/4	G6400E	3.80 GHz	4 MB	58 W	Intel® UHD Graphics 630		DDR4-2400	
				G6400TE	3.20 GHz	4 MB	35 W				
	Celeron®		2/2	G5900E	3.20 GHz	2 MB	58 W	Intel® UHD Graphics 630		DDR4-2400	
				G5900TE	3.00 GHz	2 MB	35 W				
FCLGA1151	Core™ i9	14nm Coffee Lake refresh	8/16	i9-9900KF	3.60 GHz	16MB	95W	N/A	N/A	DDR4-2666	H310/Q370/ C246
			8/16	i9-9900T	2.10 GHz	16MB	35W	Intel® UHD Graphics 630	350 MHz		
			8/16	i9-9900	3.10 GHz	16MB	65W				
	Core™ i7	14nm Coffee Lake refresh	8/8	i7-9700E	2.60 GHz	12MB	65W	Intel® UHD Graphics 630			
			8/8	9700TE	1.80 GHz	12MB	35W				
			8/8	i7-9700K	3.60 GHz	12MB	95W				
			8/8	i7-9700	3.00 GHz	12MB	65W				
			8/8	i7-9700T	2.00 GHz	12MB	35W				
	Core™ i5	14nm Coffee Lake refresh	6/6	i5-9500E	3.00 GHz	9MB	65W	Intel® UHD Graphics 630		DDR4-2666	H310/Q370/ C246
			6/6	i5-9500TE	2.20 GHz	9MB	35W				
			6/6	i5-9600K	3.70 GHz	9MB	95W				
			6/6	i5-9500	3.00 GHz	9MB	65W				
			6/6	i5-9400	2.90 GHz	9MB	65W				
			6/6	i5-9500T	2.20 GHz	9MB	35W				
			6/6	i5-9400T	1.80 GHz	9MB	35W				
	Core™ i3	14nm Coffee Lake refresh	4/4	i3-9100E	3.10 GHz	6MB	65W	Intel® UHD Graphics 630		DDR4-2400	H310/Q370/ C246
			4/4	i3-9100TE	2.20GHz	6MB	35W				Q370/C246
		14nm Coffee Lake	4/4	i3-9100	3.60 GHz	6MB	65W				
			4/4	i3-9300	3.70 GHz	8MB	62W				
			4/4	i3-9300T	3.20 GHz	8MB	35W				
			4/4	i3-9100T	3.10 GHz	6MB	35W				
			4/4	i3-9350K	4.00 GHz	8MB	91W				

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CPU List

Desktop Core™ i9/i7/i5/i3/Pentium®/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA1151	Core™ i9	14nm Coffee Lake	8/16	i9-9900K	3.60 GHz	16MB	95W	Intel® UHD Graphics 630	350 MHz	DDR4-2666	H310/Q370
	Core™ i7	14nm Coffee Lake	8/8	i7-9700K	3.60 GHz	12MB	95W				
			6/12	i7-8700T	2.40 GHz	12MB	35W				
			6/12	i7-8700K	3.70 GHz	12MB	95W				
			6/12	i7-8700	3.20 GHz	12MB	65W				
			6/12	i7-8086K	4.00 GHz	12MB	95W				
	Core™ i3	14nm Coffee Lake	4/4	i3-8350K	4.00 GHz	8MB	91W	Intel® UHD Graphics 630		DDR4-2400	H310/Q370
		14nm Coffee Lake	4/4	i3-8300	3.70 GHz	8MB	62W				
			4/4	i3-8300T	3.20 GHz	8MB	35W				
			4/4	i3-8100	3.60 GHz	6MB	65W				
			4/4	i3-8100T	3.10 GHz	6MB	35W				
	Core™ i5	14nm Coffee Lake	6/6	i5-9600K	3.70 GHz	9MB	95W	Intel® UHD Graphics 630		DDR4-2666	H310/Q370
			6/6	i5-8600T	2.30 GHz	9MB	35W				
			6/6	i5-8600K	3.60 GHz	9MB	95W				
			6/6	i5-8600	3.10 GHz	9MB	65W				
			6/6	i5-8500T	2.10 GHz	9MB	35W				H310
			6/6	i5-8500	3.00 GHz	9MB	65W				
			6/6	i5-8400T	1.70 GHz	9MB	35W				
			6/6	i5-8400	2.80 GHz	9MB	65W				H310/Q370
	Pentium®	14nm Coffee Lake	2/4	G5600	3.90 GHz	4MB	54W	Intel® UHD Graphics 630		DDR4-2400	H310/Q370
			2/4	G5500T	3.20 GHz	4MB	35W				
			2/4	G5500	3.80 GHz	4MB	54W				
			2/4	G5400T	3.10 GHz	4MB	35W	Intel® UHD Graphics 610			
			2/4	G5400	3.70 GHz	4MB	58W				
	Celeron®	14nm Coffee Lake	2/2	G4920	3.20 GHz	2MB	54W	Intel® UHD Graphics 610		DDR4-2400	H310/Q370
			2/2	G4900T	2.90 GHz	2MB	35W				
			2/2	G4900	3.10 GHz	2 MB	54W				
FCLGA1151	Core™ i7	14nm Kaby Lake	4/8	i7-7700	3.6GHz	8 MB	65W	Intel® HD Graphics 630	350 MHz	DDR4-2133/2400, DDR3L-1333/1600 @ 1.35V	C236/Q170/ H110
			4/8	i7-7700K	4.2GHz	8 MB	91W				
			4/8	i7-7700T	2.9GHz	8 MB	35W				
		14nm Skylake	4/8	i7-6785R	3.30 GHz	8 MB	65 W	Intel® Iris™ Pro Graphics 580		DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V	
			4/8	i7-6700K	4.00 GHz	8 MB	91 W	Intel® HD Graphics 530			
			4/8	i7-6700T	2.80 GHz	8 MB	35 W				
			4/8	i7-6700	3.40 GHz	8 MB	65 W				
			4/8	i7-6700TE	2.40 GHz	8 MB	35 W				
	Core™ i5	14nm Kaby Lake	4/4	i5-7600K	3.8GHz	6 MB	91W	Intel® HD Graphics 630		DDR4-2133/2400, DDR3L-1333/1600 @ 1.35V	
			4/4	i5-7600T	2.8GHz	6 MB	35W				
			4/4	i5-7600	3.5GHz	6 MB	65W				
			4/4	i5-7500	3.4GHz	6 MB	65W				
			4/4	i5-7400T	2.4GHz	6 MB	35W				
			4/4	i5-7500T	2.7GHz	6 MB	35W				
			4/4	i5-7400	3.5GHz	6 MB	65W				
		14 nm Skylake	4/4	i5-6600	3.30 GHz	6 MB	65 W	Intel® Iris™ Pro Graphics 580		DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V	
			4/4	i5-6600K	3.50 GHz	6 MB	91 W				
			4/4	i5-6585R	2.80 GHz	6 MB	65 W				
			4/4	i5-6500	3.20 GHz	6 MB	65 W	Intel® HD Graphics 530			
			4/4	i5-6500T	2.50 GHz	6 MB	35 W				
			4/4	i5-6402P	2.80 GHz	6 MB	65 W	Intel® HD Graphics 510			
			4/4	i5-6400	2.70 GHz	6 MB	65 W	Intel® HD Graphics 530			
			4/4	i5-6400T	2.20 GHz	6 MB	35 W				
			4/4	i5-6500TE	2.30 GHz	6 MB	35 W				
	Core™ i3	14nm Kaby Lake	2/4	i3-7350K	4.2GHz	4 MB	60W	Intel® HD Graphics 630		DDR4-2133/2400, DDR3L-1333/1600 @ 1.35V	
			2/4	i3-7320	4.1GHz	4 MB	51W				
			2/4	i3-7300	4.0GHz	4 MB	51W				
			2/4	i3-7300T	3.5GHz	4 MB	35W				
			2/4	i3-7101E	3.9GHz	3 MB	54W				
			2/4	i3-7101TE	3.4GHz	3 MB	35W				
			2/4	i3-7100T	3.4GHz	3 MB	35W				
			2/4	i3-7100T	3.9GHz	3 MB	51W				
		14 nm Skylake	2/4	i3-6300	3.80 GHz	4 MB	51 W	Intel® HD Graphics 530		DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V	
			2/4	i3-6300T	3.30 GHz	4 MB	35 W				
			2/4	i3-6320	3.90 GHz	4 MB	51 W				
			2/4	i3-6100	3.70 GHz	3 MB	51 W				
			2/4	i3-6100T	3.20 GHz	3 MB	35 W				
			2/4	i3-6100TE	2.70 GHz	4 MB	35 W				

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CPU List

Desktop Core™ i9/i7/i5/i3/Pentium®/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA1151	Pentium®	14nm Kaby Lake	2/4	G4620	3.7GHz	3 MB	51W	Intel® HD Graphics 630	350 MHz	DDR4-2133/2400, DDR3L-1333/1600 @ 1.35V	C236/ Q170/ H110
			2/4	G4600T	3.0GHz	3 MB	35W				
			2/4	G4600T	3.6GHz	3 MB	51W				
			2/4	G4560T	2.9GHz	3 MB	35W	Intel® HD Graphics 610			
			2/4	G4560	3.5GHz	3 MB	54W				
		14nm Skylake	2/2	G4500	3.50 GHz	3 MB	51W	Intel® HD Graphics 530		DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V	
			2/2	G4500T	3.00 GHz	3 MB	35W				
			2/2	G4520	3.60 GHz	3 MB	51W				
			2/2	G4400	3.30 GHz	3 MB	54W	Intel® HD Graphics 510			
			2/2	G4400T	2.90 GHz	3 MB	35W				
			2/2	G4400TE	2.40 GHz	3 MB	35W				
	Celeron®	14nm Kaby Lake	2/2	G3950	3.0GHz	2 MB	51W	Intel® HD Graphics 610		DDR4 2133, DDR3L 1333/1600 @ 1.35V	C236/ Q170/ H110
			2/2	G3930TE	2.7GHz	2 MB	35W			DDR4-2133, DDR3L-1600	
			2/2	G3930T	2.7GHz	2 MB	35W			DDR4 2133, DDR3L 1333/1600 @ 1.35V	
			2/2	G3930E	2.9GHz	2 MB	54W			DDR4-2133, DDR3L-1600	
			2/2	G3930	2.9GHz	2 MB	51W			DDR4 2133, DDR3L 1333/1600 @ 1.35V	
		14 nm Skylake	2/2	G3920	2.90 GHz	2 MB	51 W	Intel® HD Graphics 510		DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V	
			2/2	G3900T	2.60 GHz	2 MB	35 W				
			2/2	G3900	2.80 GHz	2 MB	51 W				
			2/2	G3900TE	2.30 GHz	2 MB	35 W				
FCLGA1150	Core™ i7	22 nm Haswell	4/4	i7-4765T	2 GHz	8 MB	35 W	Intel® HD Graphics 4600	350 MHz	DDR3-1333/1600, DDR3L-1333/1600 @ 1.5V	C226/ Q87/ H81 C226/ Q87/ H81
			2/4	i7-4770	3.4 GHz	8 MB	84 W		350 MHz		
			4/4	i7-4770K	3.5 GHz	8 MB	84 W		350 MHz		
			4/8	i7-4770S	3.1 GHz	8 MB	65 W		350 MHz		
			4/8	i7-4770T	2.5 GHz	8 MB	45 W		350 MHz		
			4/8	i7-4771	3.5 GHz	8 MB	84 W		350 MHz		
			4/8	i7-4785T	2.2 GHz	8 MB	35 W		350 MHz		
			4/8	i7-4790	3.6 GHz	8 MB	84 W		350 MHz		
			4/8	i7-4790S	3.2 GHz	8 MB	65 W		350 MHz		
			4/8	i7-4790T	2.7 GHz	8 MB	45 W		350 MHz		
	Core™ i5		4/4	i5-4670	3.4 GHz	6 MB	84 W		350 MHz		
			4/4	i5-4670K	3.4 GHz	6 MB	84 W		350 MHz		
			4/4	i5-4670S	3.1 GHz	6 MB	65 W		350 MHz		
			4/4	i5-4670T	2.3 GHz	6 MB	45 W		350 MHz		
			4/4	i5-4690	3.5 GHz	6 MB	84 W		350 MHz		
			4/4	i5-4690S	3.2 GHz	6 MB	65 W		350 MHz		
			4/4	i5-4690T	2.5 GHz	6 MB	45 W		350 MHz		
			4/4	i5-4570	3.2 GHz	6 MB	84 W		350 MHz		
			4/4	i5-4570S	2.9 GHz	6 MB	65 W		350 MHz		
			2/4	i5-4570T	2.9 GHz	4 MB	35 W		200 MHz		
			4/4	i5-4590	3.3 GHz	6 MB	84 W		350 MHz		
			4/4	i5-4590S	3 GHz	6 MB	65 W		350 MHz		
			4/4	i5-4590T	2 GHz	6 MB	35 W		350 MHz		
			4/4	i5-4460T	1.9 GHz	6 MB	35 W		350 MHz		
			4/4	i5-4460S	2.9 GHz	6 MB	65 W		350 MHz		
			4/4	i5-4460	3.2 GHz	6 MB	84 W		350 MHz		
			4/4	i5-4440S	2.8 GHz	6 MB	65 W		350 MHz		
			4/4	i5-4440	3.1 GHz	6 MB	84 W		350 MHz		
			4/4	i5-4430S	2.7 GHz	6 MB	65 W		350 MHz		
			4/4	i5-4430	3 GHz	6 MB	84 W		350 MHz		
	Core™ i3		2/4	i3-4330	3.5 GHz	4 MB	54 W	Intel® HD Graphics 4600	350 MHz		
			2/4	i3-4330T	3 GHz	4 MB	35 W		200 MHz		
			2/4	i3-4340	3.6 GHz	4 MB	54 W		350 MHz		
			2/4	i3-4350	3.6 GHz	4 MB	54 W		350 MHz		
			2/4	i3-4350T	3.1 GHz	4 MB	35 W		200 MHz		
			2/4	i3-4360	3.7 GHz	4 MB	54 W		350 MHz		
			2/4	i3-4360T	3.2 GHz	4 MB	35 W		200 MHz		
			2/4	i3-4370	3.8 GHz	4 MB	54 W		350 MHz		
			2/4	i3-4370T	3.3 GHz	4 MB	35 W	Intel® HD Graphics 4400	200 MHz		
			2/4	i3-4170T	3.2 GHz	3 MB	35 W		200 MHz		
			2/4	i3-4170	3.7 GHz	3 MB	54 W		350 MHz		
			2/4	i3-4160T	3.1 GHz	3 MB	35 W		200 MHz		
			2/4	i3-4160	3.6 GHz	3 MB	54 W		350 MHz		
			2/4	i3-4150T	3 GHz	3 MB	35 W		200 MHz		
			2/4	i3-4150	3.5 GHz	3 MB	54 W		350 MHz		
			2/4	i3-4130T	2.9 GHz	3 MB	35 W		200 MHz		
			2/4	i3-4130	3.4 GHz	3 MB	54 W		350 MHz		

Yellow means long-term support

CPU List

Desktop Core™ i9/i7/i5/i3/Pentium®/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA1150	Pentium®	22nm Haswell	2/2	G3470	3.6 GHz	3 MB	53 W	Intel® HD Graphics	350 MHz	DDR3-1333/1600, DDR3L-1333/1600 @ 1.5V	C226/ Q87/H81
			2/2	G3460T	3 GHz	3 MB	35 W		200 MHz		
			2/2	G3460	3.5 GHz	3 MB	53 W		350 MHz		
			2/2	G3450T	2.9 GHz	3 MB	35 W		200 MHz		
			2/2	G3450	3.4 GHz	3 MB	53 W		350 MHz		
			2/2	G3440T	2.8 GHz	3 MB	35 W		200 MHz		
			2/2	G3440	3.3 GHz	3 MB	53 W		350 MHz		
			2/2	G3430	3.3 GHz	3 MB	53 W		350 MHz		
			2/2	G3420T	2.7 GHz	3 MB	35 W		200 MHz		
			2/2	G3420	3.2 GHz	3 MB	53 W		350 MHz		
			2/2	G3260T	2.9 GHz	3 MB	35 W		200 MHz	DDR3-1333, DDR3L-1333 @ 1.5V	
			2/2	G3260	3.3 GHz	3 MB	53 W		350 MHz		
			2/2	G3258	3.2 GHz	3 MB	53 W		350 MHz		
			2/2	G3250T	2.8 GHz	3 MB	35 W		200 MHz		
			2/2	G3250	3.2 GHz	3 MB	53 W		350 MHz		
			2/2	G3240T	2.7 GHz	3 MB	35 W		200 MHz		
			2/2	G3240	3.1 GHz	3 MB	53 W		350 MHz		
			2/2	G3220T	2.6 GHz	3 MB	35 W		200 MHz		
			2/2	G3220	3 GHz	3 MB	53 W		350 MHz		
	Celeron®		2/2	G1820	2.7 GHz	2 MB	53 W		350 MHz		
			2/2	G1820T	2.4 GHz	2 MB	35 W		200 MHz		
			2/2	G1830	2.8 GHz	2 MB	53 W		350 MHz		
			2/2	G1840	2.8 GHz	2 MB	53 W		350 MHz		
			2/2	G1840T	2.5 GHz	2 MB	35 W		200 MHz		
			2/2	G1850	2.9 GHz	2 MB	53 W		350 MHz		
LGA1155	Core™ i7	22nm Ivy Bridge	4/8	i7-3770T	2.5 GHz	8 MB	45 W	-	1.15 GHz	DDR3-1333/1600	Q77/Q67/ B65/H61
			4/8	i7-3770S	3.1 GHz	8 MB	65 W	-	1.15 GHz		
			4/8	i7-3770K	3.5 GHz	8 MB	77 W	-	1.15 GHz		
			4/8	i7-3770	3.4 GHz	8 MB	77 W	-	1.15 GHz		
	Core™ i7	32nm Sandy Bridge	4/8	i7-2700K	3.5 GHz	8 MB	95 W	-	1.35 GHz	DDR3-1066/1333	
			4/8	i7-2600S	2.8 GHz	8 MB	65 W	-	1.35 GHz		
			4/8	i7-2600K	3.4 GHz	8 MB	95 W	-	1.35 GHz		
			4/8	i7-2600	3.4 GHz	8 MB	95 W	-	1.35 GHz		
	Core™ i5	22nm Ivy Bridge	4/4	i5-3570T	2.3 GHz	6 MB	45 W	-	1.15 GHz	DDR3-1333/1600	
			4/4	i5-3570S	3.1 GHz	6 MB	65 W	-	1.15 GHz		
			4/4	i5-3570K	3.4 GHz	6 MB	77 W	-	1.15 GHz		
			4/4	i5-3570	3.4 GHz	6 MB	77 W	-	1.15 GHz		
			4/4	i5-3550S	3 GHz	6 MB	65 W	-	1.15 GHz		
			4/4	i5-3550	3.3 GHz	6 MB	77 W	-	1.15 GHz		
			4/4	i5-3475S	2.9 GHz	6 MB	65 W	-	1.1 GHz		
			2/4	i5-3470T	2.9 GHz	3 MB	35 W	-	1.1 GHz		
			4/4	i5-3470S	2.9 GHz	6 MB	65 W	-	1.1 GHz		
			4/4	i5-3470	3.2 GHz	6 MB	77 W	-	1.1 GHz		
			4/4	i5-3450S	2.8 GHz	6 MB	65 W	-	1.1 GHz		
			4/4	i5-3450	3.1 GHz	6 MB	77 W	-	1.1 GHz		
			4/4	i5-3350P	3.1 GHz	6 MB	69 W	-	1.05 GHz		
			4/4	i5-3330S	2.7 GHz	6 MB	65 W	-	1.05 GHz		
			4/4	i5-3330	3 GHz	6 MB	77 W	-	1.05 GHz		
	Core™ i5	32nm Sandy Bridge	4/4	i5-2550K	3.4 GHz	6 MB	95 W	-	1.25 GHz	DDR3-1066/1333	
			4/4	i5-2500T	2.3 GHz	6 MB	45 W	-	1.25 GHz		
			4/4	i5-2500S	2.7 GHz	6 MB	65 W	-	1.1 GHz		
			4/4	i5-2500K	3.3 GHz	6 MB	95 W	-	1.1 GHz		
			4/4	i5-2500	3.3 GHz	6 MB	95 W	-	1.1 GHz		
			4/4	i5-2450P	3.2 GHz	6 MB	95 W	-	1.1 GHz		
			4/4	i5-2405S	2.5 GHz	6 MB	65 W	-	1.1 GHz		
			4/4	i5-2400S	2.5 GHz	6 MB	65 W	-	1.1 GHz		
			4/4	i5-2400	3.1 GHz	6 MB	95 W	-	1.1 GHz		
			2/4	i5-2390T	2.7 GHz	3 MB	35 W	-	1.1 GHz		
			4/4	i5-2380P	3.1 GHz	6 MB	95 W	-	1.1 GHz		
			4/4	i5-2320	3 GHz	6 MB	95 W	-	1.1 GHz		
			4/4	i5-2310	2.9 GHz	6 MB	95 W	-	1.1 GHz		
			4/4	i5-2300	2.8 GHz	6 MB	95 W	-	1.1 GHz		

Yellow means long-term support

CPU List

Desktop Core™ i9/i7/i5/i3/Pentium®/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Graphics Base Frequency	Memory Types	Chipset
LGA1155	Core™ i3	22nm Ivy Bridge	2/4	i3-3240T	2.9 GHz	3 MB	35 W	1.05 GHz	DDR3-1333/1600	Q77/Q67/B65/H61
			2/4	i3-3240	3.4 GHz	3 MB	55 W	1.05 GHz		
			2/4	i3-3225	3.3 GHz	3 MB	55 W	1.05 GHz		
			2/4	i3-3220T	2.8 GHz	3 MB	35 W	1.05 GHz		
			2/4	i3-3220	3.3 GHz	3 MB	55 W	1.05 GHz		
	Core™ i3	32nm Sandy Bridge	2/4	i3-2130	3.4 GHz	3 MB	65 W	1.1 GHz	DDR3-1066/1333	
			2/4	i3-2125	3.3 GHz	3 MB	65 W	1.1 GHz		
			2/4	i3-2120T	2.6 GHz	3 MB	35 W	1.1 GHz		
			2/4	i3-2120	3.3 GHz	3 MB	65 W	1.1 GHz		
			2/4	i3-2105	3.1 GHz	3 MB	65 W	1.1 GHz		
			2/4	i3-2102	3.1 GHz	3 MB	65 W	1.1 GHz		
			2/4	i3-2100T	2.5 GHz	3 MB	35 W	1.1 GHz		
			2/4	i3-2100	3.1 GHz	3 MB	65 W	1.1 GHz		
	Pentium®	22nm Ivy Bridge	2/2	G2120	3.1 GHz	3 MB	55 W	1.05 GHz	DDR3-1333/1600	
			2/2	G2100T	2.6 GHz	3 MB	35 W	1.05 GHz		
LGA1155	Pentium®	32nm Sandy Bridge	2/2	G870	3.1 GHz	3 MB	65 W	1.1 GHz	DDR3-1066/1333	Q77/Q67/B65/H61
			2/2	G860T	2.6 GHz	3 MB	35 W	1.1 GHz		
			2/2	G860	3 GHz	3 MB	65 W	1.1 GHz		
			2/2	G850	2.9 GHz	3 MB	65 W	1.1 GHz		
			2/2	G840	2.8 GHz	3 MB	65 W	1.1 GHz		
			2/2	G645T	2.5 GHz	3 MB	35 W	1.1 GHz	DDR3-1066	
			2/2	G645	2.9 GHz	3 MB	65 W	1.1 GHz		
			2/2	G640T	2.4 GHz	3 MB	35 W	1.1 GHz		
			2/2	G640	2.8 GHz	3 MB	65 W	1.1 GHz		
			2/2	G632	2.7 GHz	3 MB	65 W	1.1 GHz		
			2/2	G630T	2.3 GHz	3 MB	35 W	1.1 GHz		
			2/2	G630	2.7 GHz	3 MB	65 W	1.1 GHz		
			2/2	G622	2.6 GHz	3 MB	65 W	1.1 GHz		
			2/2	G620T	2.2 GHz	3 MB	35 W	1.1 GHz		
			2/2	G620	2.6 GHz	3 MB	65 W	1.1 GHz		
	Celeron®	22nm Ivy Bridge	2/2	G1610	2.6 GHz	2 MB	55 W	1.05 GHz		
			2/2	G1620	2.7 GHz	2 MB	55 W	1.05 GHz		
			2/2	G1610T	2.3 GHz	2 MB	35 W	1.05 GHz		
	Celeron®	32nm Sandy Bridge	2/2	G555	2.7 GHz	2 MB	65 W	1 GHz		
			2/2	G550T	2.2 GHz	2 MB	35 W	1 GHz		
			2/2	G550	2.6 GHz	2 MB	65 W	1 GHz		
			2/2	G540T	2.1 GHz	2 MB	35 W	1 GHz		
			2/2	G540	2.5 GHz	2 MB	65 W	1 GHz		
			2/2	G530T	2 GHz	2 MB	35 W	1 GHz		
			2/2	G530	2.4 GHz	2 MB	65 W	1 GHz		
			1/2	G465	1.9 GHz	1.5 MB	35 W	1 GHz		
			1/2	G460	1.8 GHz	1.5 MB	35 W	1 GHz		
			1/1	G440	1.6 GHz	1 MB	35 W	1 GHz		
LGA1156	Core™ i7	45nm	Quad Core	i7-880	2.93G	8M	95W	-	DDR3-1333/1600	Q57
				i7-875K	2.93G	8M	95W	-		
				i7-870S	2.66G	8M	82W	-		
				i7-870	2.93G	8M	95W	-		
				i7-860S	2.53G	8M	82W	-		
				i7-860	2.8G	8M	95W	-		
	Core™ i5			i5-760	2.8G	8M	95W	-		
				i5-750S	2.4G	8M	82W	-		
				i5-750	2.66G	8M	95W	-		
	Core™ i5	32nm	Dual Core	i5-680	3.6G	4M	73W	733MHz		
				i5-670	3.46G	4M	73W	733MHz		
				i5-661	3.33G	4M	87W	900MHz		
				i5-660	3.33G	4M	73W	733MHz		
				i5-665K	3.2G	4M	73W	733MHz		
				i5-650	3.2G	4M	73W	733MHz		
	Core™ i3			i3-560	3.33G	4M	73W	733MHz		
				i3-550	3.2G	4M	73W	733MHz		
				i3-540	3.06G	4M	73W	733MHz		
				i3-530	2.93G	4M	73W	733MHz		
	Pentium®			G6960	2.933G	3M	73W	533MHz	DDR3-1333	
				G6950	2.8G	3M	73W	533MHz		

Yellow means long-term support ***HM65/HM55 chipset doesn't support Intel® AMT feature***

CPU List

Meteor Lake U/H

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCBGA2049	Intel® Core™ Ultra 7	Meteor Lake H	16/22	165H	1.40 GHz(Performance-core) 0.90 GHz(Efficient-core)	24 MB	28W	Intel® ARC® Graphics	2.3 GHz	LPDDR5/x 7467 DDR5 5600	-
				155H	1.40 GHz(Performance-core) 0.90 GHz(Efficient-core)	24 MB	28W				-
	Intel® Core™ Ultra 5		14/18	135H	1.70 GHz(Performance-core) 1.20 GHz(Efficient-core)	18 MB	28W	Intel® ARC® Graphics		LPDDR5/x 7467 DDR5 5600	-
				125H	1.20 GHz(Performance-core) 0.70 GHz(Efficient-core)	18 MB	28W				-
	Intel® Core™ Ultra 7	Meteor Lake U	12/14	165U	1.70 GHz(Performance-core) 1.20 GHz(Efficient-core)	12 MB	15W	Intel® ARC® Graphics		LPDDR5/x 7467 DDR5 5600	-
				155U	1.70 GHz(Performance-core) 1.20 GHz(Efficient-core)	12 MB	15W				-
	Intel® Core™ Ultra 5		12/14	135U	1.60 GHz(Performance-core) 1.10 GHz(Efficient-core)	12 MB	15W	Intel® ARC® Graphics		LPDDR5/x 7467 DDR5 5600	-
				125U	1.30 GHz(Performance-core) 0.80 GHz(Efficient-core)	12 MB	15W				-

Alder Lake-P/Raptor Lake-P

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCBGA1744	13th Gen Intel® Core™ Processor	Raptor Lake-P P-Series	14/20	i7-1370PE	1.90 GHz (Performance-core) 1.20 GHz (Efficient-core)	24 MB	28W	Intel® Iris® X e Graphics	1.4 GHz	DDR5-5200 LPDDR5x-6400	-
			12/16	i5-1350PE	1.80 GHz (Performance-core) 1.30 GHz (Efficient-core)	12 MB	28W				-
			12/16	i3-1340PE	1.80 GHz (Performance-core) 1.30 GHz (Efficient-core)	12 MB	28W		1.35 GHz		-
			8/12	i3-1320PE	1.70 GHz (Performance-core) 1.20 GHz (Efficient-core)	12 MB	28W	Intel® UHD Graphics			-
		Raptor Lake-P U-Series	10/12	i7-1365UE	1.70 GHz (Performance-core) 1.20 GHz (Efficient-core)	12 MB	15W	Intel® Iris® X e Graphics	1.3 GHz		-
			10/12	i5-1345UE	1.40 GHz (Performance-core) 1.10 GHz (Efficient-core)	12 MB	15W		1.25 GHz		-
			6/8	i3-1315UE	1.20 GHz (Performance-core) 0.90 GHz (Efficient-core)	10 MB	15W	Intel® UHD Graphics	1.2 GHz		-
			5/6	U300E	1.10 GHz (Performance-core) 0.90 GHz (Efficient-core)	8 MB	15W		1.1 GHz		-
	12th Gen Intel® Core™ Processor	Alder Lake-P P-Series	12/16	i7-1270PE	1.80 GHz (Performance-core) 1.20 GHz (Efficient-core)	18 MB	28W	Intel® Iris® X e Graphics	1.35 GHz	DDR5-4800 LPDDR5x-5200	-
			12/16	i5-1250PE	1.70 GHz (Performance-core) 1.20 GHz (Efficient-core)	12 MB	28W		1.3 GHz		-
			8/12	i3-1220PE	1.50 GHz (Performance-core) 1.10 GHz (Efficient-core)	12 MB	28W	Intel® UHD Graphics	1.25 GHz		-
		Alder Lake-P U-Series	10/12	i7-1265UE	1.70 GHz (Performance-core) 1.20 GHz (Efficient-core)	12 MB	15W	Intel® Iris® X e Graphics	1.25 GHz		-
			10/12	i5-1245UE	1.50 GHz (Performance-core) 1.10 GHz (Efficient-core)	12 MB	15W		1.2 GHz		-
			6/8	i3-1215UE	1.20 GHz (Performance-core) 0.90 GHz (Efficient-core)	10 MB	15W	Intel® UHD Graphics	1.1 GHz		-
			5/5	7305E	1.00 GHz (Performance-core) 0.90 GHz (Efficient-core)	8 MB	15W		1.1 GHz		-

Yellow means long-term support ***HM65/HM55 chipset doesn't support Intel® AMT feature***

CPU List

ULT/UP3 CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCBGA1449	Core™ i7	10nm Tiger Lake-UP3	4/8	i7-1185G7E	2.8GHz/ 1.8GHz/ 1.2GHz	12MB	28W/ 15W/ 12W	Intel® Iris® Xe Graphics 96 EU 4x4k or 2x8k Displays 2 VDBOX	1.35 GHz	DDR4-3200, LPDDR4x-4267	-
				i7-1185GRE						DDR4-3200, LPDDR4x-4267, In-Band ECC	-
	Core™ i5		4/8	i5-1145G7E	2.6GHz/ 1.5GHz/ 1.1GHz	8MB	28W/ 15W/ 12W	Intel® Iris® Xe Graphics 80 EU 4x4k or 2x8k Displays 2 VDBOX	1.30 GHz	DDR4-3200, LPDDR4x-4267	-
				i5-1145GRE				Intel® Iris® Xe Graphics 80 EU 4x4k or 1x8k Displays 2 VDBOX		DDR4-3200, LPDDR4x-4267, In-Band ECC	-
	Core™ i3		2/4	i3-1115G4E	3.0GHz/ 2.2GHz/ 1.7 GHz	6MB	28W/ 15W/ 12W	Intel® UHD Graphics 48EU 4x4k or 1x8k Displays 1 VDBOX	1.25 GHz	DDR4-3200, LPDDR4x-3733	-
				i3-1115GRE						DDR4-3200, LPDDR4x-3733, In -Band ECC	-
	Celeron®		2/2	6305E	1.8 GHz	4MB	15W	Intel® UHD Graphics 48EU 4x4k or 1x8k Displays 1 VDBOX	1.25 GHz	DDR4-3200, LPDDR4x-3733	-
FCBGA1528	Core™ i7	14nm Whiskey Lake	4/8	i7-8565U	1.8GHz	8MB	15W	Intel® UHD Graphics 620	300 MHz	DDR4-2400, LPDDR3-2133	-
			4/8	i7-8665U	1.9GHz	8MB	15W				-
			4/8	i7-8665UE	1.7GHz	8MB	15W				-
	Core™ i5		4/8	i5-8265U	1.6GHz	6MB	15W				-
			4/8	i5-8365U	1.6GHz	6MB	15W				-
			4/8	i5-8365UE	1.6GHz	6MB	15W				-
	Core™ i3		2/4	i3-8145U	2.10 GHz	4MB	15W				
			2/4	i3-8145UE	2.2GHz	4MB	15W				-
	Pentium®		2/4	5405U	2.3GHz	2MB	15W			DDR4-2133, LPDDR3-1866	-
	Celeron®		2/2	4205U	1.8GHz	2MB	15W	Intel® UHD Graphics 610		DDR4-2133, LPDDR3-1866	
			2/2	4305UE	2.00GHz	2MB	15W			DDR4-2133, LPDDR3-1866	-
FCBGA1356	Core™ i7	14nm Coffee lake	4/8	i7-8559U	2.70 GHz	8MB	28W	Intel® Iris™ Plus Graphics 655	300 MHz	DDR4-2400, LPDDR3-2133	-
	Core™ i5		4/8	i5-8269U	2.60 GHz	6MB	28W				-
			4/8	i5-8259U	2.30 GHz	6MB	28W				-
	Core™ i3		2/4	i3-8109U	3.00 GHz	4MB	28W				
FCBGA1356	Core™ i7	14nm Kabylake	2/4	i7-7660U	2.5GHz	4MB	15W	Intel® Iris™ Plus Graphics 640	300 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	-
			2/4	i7-7600U	2.8GHz	4MB	15W	Intel® HD Graphics 620			-
			2/4	i7-7567U	3.5GHz	4MB	28W	Intel® Iris™ Plus Graphics 650			-
			2/4	i7-7560U	2.4GHz	4MB	15W	Intel® Iris™ Plus Graphics 640			-
			2/4	i7-7500U	2.70 GHz	4MB	15 W	Intel® HD Graphics 620			-
	Core™ i5		2/4	i5-7360U	2.3GHz	4MB	15W	Intel® Iris™ Plus Graphics 640			-
			2/4	i5-7300U	2.6GHz	3MB	15W	Intel® HD Graphics 620			-
			2/4	i5-7287U	3.3GHz	4MB	28W	Intel® Iris™ Plus Graphics 650			-
			2/4	i5-7267U	3.1GHz	4MB	28W				-
			2/4	i5-7260U	2.2GHz	4MB	15W	Intel® Iris™ Plus Graphics 640			-
			2/4	i5-7200U	2.50 GHz	3MB	15W	Intel® HD Graphics 620			-
	Core™ i3		2/4	i3-8130U	2.20 GHz	4MB	15W			DDR4-2400, LPDDR3-2133	
			2/4	i3-7130U	2.7GHz	3MB	15W			DDR4-2133, LPDDR3-1866, DDR3L-1600	-
			2/4	i3-7167U	2.8GHz	3MB	28W	Intel® Iris™ Plus Graphics 650			-
			2/4	i3-7100U	2.40 GHz	3MB	15W	Intel® HD Graphics 620			-
	Pentium®		2/4	4415U	2.3GHz	2MB	15W	Intel® HD Graphics 610			-
	Celeron®		2/2	3965U	2.2GHz	2MB	15W				-
			2/2	3865U	1.8GHz	2MB	15W				-
FCBGA1356	Core™ i7	14nm Skylake	2/4	i7-6500U	2.50 GHz	4 MB	15 W	Intel® HD Graphics 520	300 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	-
			2/4	i7-6560U	2.20 GHz	4 MB	15 W	Intel® Iris™ Graphics 540			-
			2/4	i7-6567U	3.30 GHz	4 MB	28 W	Intel® Iris™ Graphics 550			-
			2/4	i7-6600U	2.60 GHz	4 MB	15 W	Intel® HD Graphics 520			-
			2/4	i7-6660U	2.40 GHz	4 MB	15 W	Intel® Iris™ Graphics 540			-
			2/4	i7-6650U	2.20 GHz	4 MB	15 W				-

Yellow means long-term support ***HM65/HM55 chipset doesn't support Intel® AMT feature***

CPU List

ULT/UP3 CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCBGA1356	Core™ i5	14nm Skylake	2/4	i5-6287U	3.10 GHz	4 MB	28 W	Intel® Iris™ Graphics 550	300 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	-
			2/4	i5-6267U	2.90 GHz	4 MB	28 W				-
			2/4	i5-6260U	1.80 GHz	4 MB	15 W	Intel® Iris™ Graphics 540			-
			2/4	i5-6200U	2.30 GHz	3 MB	15 W	Intel® HD Graphics 520			-
			2/4	i5-6300U	2.40 GHz	3 MB	15 W				-
			2/4	i5-6360U	2.00 GHz	4 MB	15 W	Intel® Iris™ Graphics 540			-
	Core™ i3		2/4	i3-6006U	2.00 GHz	3 MB	15 W	Intel® HD Graphics 520			-
			2/4	i3-6167U	2.70 GHz	3 MB	28 W	Intel® Iris™ Graphics 550			-
			2/4	i3-6157U	2.40 GHz	3 MB	28 W				-
			2/4	i3-6100U	2.30 GHz	3 MB	15 W	Intel® HD Graphics 520			-
	Pentium®		2/4	4405U	2.10 GHz	2 MB	15 W	Intel® HD Graphics 510		DDR4-1866/2133, LPDDR3-1600/1866	-
	Celeron®		2/2	3855U	1.60 GHz	2 MB	15 W			DDR4-1866/2133, LPDDR3-1600/1866, DDR3L-1333/1600	-
			2/2	3955U	2.00 GHz	2 MB	15 W				-
FCBGA1168	Core™ i7	14nm Broadwell	2/4	i7-5650U	2.2 GHz	4 MB	15 W	Intel® HD Graphics 6000	300 MHz	DDR3L 1333/1600, LPDDR3 1600/1866	-
	Core™ i5		2/4	i5-5350U	1.8 GHz	3 MB	15 W		300 MHz		-
	Core™ i3		2/4	i3-5010U	2.1 GHz	3 MB	15 W	Intel® HD Graphics 5500	300 MHz	DDR3L 1333/1600, LPDDR 1333/1600	-
	Celeron®		2/2	3765U	1.9 GHz	2 MB	15 W	Intel® HD Graphics	300 MHz		-
	Core™ i7	22nm Haswell	2/4	i7-4650U	1.7 GHz	4 MB	15 W	Intel® HD Graphics 5000	200 MHz	DDR3L 1333/1600, LPDDR3 1333/1600	-
	Core™ i5		2/4	i5-4300U	1.9 GHz	3 MB	15 W	Intel® HD Graphics 4400	200 MHz		-
	Core™ i3		2/4	i3-4010U	1.7 GHz	3 MB	15 W		200 MHz		-
	Celeron®		2/2	2980U	1.6 GHz	2 MB	15 W	Intel® HD Graphics	200 MHz		-

Mobile Core™ i7/i5/i3/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCLGA1151	Xeon® E	14nm Coffee Lake refresh	8/16	E-2288G	3.70 GHz	16MB	95W	Intel® UHD Graphics P630	350MHz	DDR4-2666	C246
			6/12	E-2286G	4.00 GHz	12MB	95W	N/A	N/A		C240
			8/16	2278GE	3.30 GHz	16MB	80W	Intel® UHD Graphics P630	350MHz		C246
			8/16	2278GEL	2.00 GHz	16MB	35W				
			8/16	E-2278G	3.40 GHz	16MB	80W	N/A	N/A		C240
			6/12	E-2276G	3.80 GHz	12MB	80W	Intel® UHD Graphics P630	350MHz		C246
			4/8	E-2274G	4.00 GHz	8MB	83W				
			6/12	E-2246G	3.60 GHz	12MB	80W				
			4/8	E-2244G	3.80 GHz	8MB	71W				
			6/12	E-2236	3.40 GHz	12MB	80W	N/A	N/A		C240
			4/8	E-2234	3.60 GHz	8MB	71W				
			6/6	E-2226G	3.40 GHz	12MB	80W	Intel® UHD Graphics P630	350MHz		C246
			6/6	E-2226GE	3.40 GHz	12MB	80W				
			4/4	E-2224	3.40 GHz	8MB	71W	N/A	N/A		C240
FCBGA1440	Xeon® E	14nm Coffee lake	6/12	E-2186M	2.90 GHz	12MB	45W	Intel® UHD Graphics P630	350 MHz	DDR4-2666, LPDDR3-2133	CM246
			6/12	E-2176M	2.70 GHz	12MB	45W				
	Xeon® E3	14nm Kabylake	4/8	E3-1535MV6	3.10 GHz	8 MB	45W	Intel® HD Graphics P630		DDR4-2400, LPDDR3-2133, DDR3L-1600	CM236
			4/8	E3-1505MV6	3.00 GHz	8 MB	45 W				
			4/8	E3-1505LV6	2.20 GHz	8 MB	25 W			DDR4-2400	
			4/4	E3-1501LV6	2.10 GHz	6 MB	25 W				
			4/4	E3-1501MV6	2.90 GHz	6 MB	45 W				
	Xeon® E3	14nm Skylake	4/8	E3-1575MV5	3.00 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P580		DDR4-2133, LPDDR3-1866, DDR3L-1600	CM236
			4/8	E3-1545MV5	2.90 GHz	8 MB	45 W				
			4/8	E3-1535MV5	2.90 GHz	8 MB	45 W	Intel® HD Graphics P530			
			4/8	E3-1515MV5	2.80 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P580			
			4/8	E3-1505MV5	2.80 GHz	8 MB	45 W	Intel® HD Graphics P530			

Yellow means long-term support **HM65/HM55 chipset doesn't support Intel® AMT feature*

CPU List

Mobile Core™ i7/i5/i3/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
FCBGA1440	Core™ i9	14nm Coffee lake	6/12	i9-8950HK	2.90 GHz	12MB	45W	Intel® UHD Graphics 630	350 MHz	DDR4-2666, LPDDR3-2133	CM246
	Core™ i7		6/12	i7-8850H	2.60 GHz	9MB	45W				
			6/12	i7-8750H	2.20 GHz	9MB	45W			DDR4-2666	
			6/12	i7-8700B	3.20 GHz	12MB	65W				
	Core™ i5		6/6	i5-8500B	3.00 GHz	9MB	65W				
			4/8	i5-8400H	2.50 GHz	8MB	45W			DDR4-2666, LPDDR3-2133	
			6/6	i5-8400B	2.80 GHz	9MB	65W			DDR4-2666	
			4/8	i5-8300H	2.30 GHz	8MB	45W			DDR4-2666, LPDDR3-2133	
	Core™ i3		4/4	i3-8100H	3.00 GHz	6MB	35W				
FCBGA1440	Core™ i7	14nm Kabylake	4/8	i7-7920HQ	3.10 GHz	8 MB	45W	Intel® HD Graphics 630	350MHz	DDR4-2400, LPDDR3-2133, DDR3L-1600	CM236
			4/8	i7-7820HQ	2.90 GHz	8 MB	45W				
			4/8	i7-7820HK	2.90 GHz	8 MB	45W			DDR4-2400	
			4/8	i7-7820EQ	3.00 GHz	8 MB	45W			DDR4-2400, LPDDR3-2133, DDR3L-1600	
			4/8	i7-7700HQ	2.80 GHz	6 MB	45W				
	Core™ i5		4/4	i5-7442EQ	2.10 GHz	6 MB	25W			DDR4-2400	
			4/4	i5-7440HQ	2.80 GHz	6 MB	45W			DDR4-2400, LPDDR3-2133, DDR3L-1600	
			4/4	i5-7440EQ	2.90 GHz	6 MB	45W			DDR4-2400	
			4/4	i5-7300HQ	2.50 GHz	6 MB	45W			DDR4-2400, LPDDR3-2133, DDR3L-1600	
	Core™ i3		2/4	i3-7102E	2.10 GHz	3 MB	25W			DDR4-2400	
			2/4	i3-7100E	2.90 GHz	3 MB	35W				
FCBGA1440	Core™ i7	14nm Skylake	4/8	i7-6820EQ	2.80 GHz	8 MB	45 W	Intel® HD Graphics 530	350 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	QM170/ HM170
			4/8	i7-6822EQ	2.00 GHz	8 MB	25 W				
			4/8	i7-6700HQ	2.60 GHz	6 MB	45 W				
			4/8	i7-6770HQ	2.60 GHz	6 MB	45 W	Intel® Iris™ Pro Graphics 580			
			4/8	i7-6820HK	2.70 GHz	8 MB	45 W	Intel® HD Graphics 530			
			4/8	i7-6820HQ	2.70 GHz	8 MB	45 W				
			4/8	i7-6870HQ	2.70 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics 580			
			4/8	i7-6920HQ	2.90 GHz	8 MB	45 W	Intel® HD Graphics 530			
			4/8	i7-6970HQ	2.80 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics 580			
FCBGA1440	Core™ i5	14nm Skylake	4/4	i5-6442EQ	1.90 GHz	6 MB	25 W	Intel® HD Graphics 530	350 MHz	DDR4-2133, LPDDR3-1866, DDR3L-1600	QM170/ HM170
			4/4	i5-6440EQ	2.70 GHz	6 MB	45 W				
			4/4	i5-6300HQ	2.30 GHz	6 MB	45 W				
			4/4	i5-6350HQ	2.30 GHz	6 MB	45 W	Intel® Iris™ Pro Graphics 580			
			4/4	i5-6440HQ	2.60 GHz	6 MB	45 W	Intel® HD Graphics 530			
	Core™ i3		2/4	i3-6102E	1.90 GHz	3 MB	25 W				
			2/4	i3-6100E	2.70 GHz	3 MB	35 W				
			2/4	i3-6100H	2.70 GHz	3 MB	35 W				
	Celeron®		2/2	G3900E	2.40 GHz	2 MB	35 W	Intel® HD Graphics 510		DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V	
			2/2	G3902E	1.60 GHz	2 MB	25 W				
FCBGA1364	Core™ i7	22nm Haswell	4/8	i7-4700EC	2.7 GHz	8 MB	43 W	Intel® HD Graphics 4600	400 MHz	DDR3L 1333/1600	QM87/ HM86
			4/8	i7-4700EQ	2.4 GHz	6 MB	47 W		400 MHz		
			4/8	i7-4702EC	2 GHz	8 MB	27 W	None	400 MHz		
	Core™ i5		2/4	i5-4422E	1.8 GHz	3 MB	25 W	Intel® HD Graphics 4600	400 MHz		
			2/4	i5-4410E	2.9 GHz	3 MB	37 W		400 MHz		
			2/4	i5-4402EC	2.5 GHz	4 MB	27 W	None	-		
			2/4	i5-4402E	1.6 GHz	3 MB	25 W	Intel® HD Graphics 4600	400 MHz		
			2/4	i5-4400E	2.7 GHz	3 MB	37 W		400 MHz		
	Core™ i3		2/4	i3-4100E	2.4 GHz	3 MB	37 W		400 MHz		
			2/4	i3-4102E	1.6 GHz	3 MB	25 W		400 MHz		
			2/4	i3-4110E	2.6 GHz	3 MB	37 W		400 MHz		
			2/4	i3-4112E	1.8 GHz	3 MB	25 W		400 MHz		
	Celeron®		2/2	2002E	1.5 GHz	2 MB	25 W	Intel® HD Graphics	400 MHz		
			2/2	2000E	2.2 GHz	2 MB	37 W		400 MHz		

Yellow means long-term support **HM65/HM55 chipset doesn't support Intel® AMT feature*

CPU List

Mobile Core™ i7/i5/i3/Celeron® CPU List

Supported Sockets	Brand	Process	Cores/ Threads	Package Type	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
rPGA988B	Core™ i7 Extreme Edition	22nm Ivy Bridge	4/8	PGA	i7-3940XM	3 GHz	8 MB	55 W	-	1.35 GHz	DDR3/L/-RS 1333/1600	QM77/ QM67
			4/8		i7-3920XM	2.9 GHz	8 MB	55 W	-	1.3 GHz		
	Core™ i7 Extreme Edition	32nm Sandy Bridge	4/8		i7-2960XM	2.7 GHz	8 MB	55 W	-	1.3 GHz	DDR3-1066/1333/1600	
			4/8		i7-2920XM	2.5 GHz	8 MB	55 W	-	1.3 GHz		
	Core™ i7	22nm Ivy Bridge	4/8		i7-3840QM	2.8 GHz	8 MB	45 W	-	1.3 GHz	DDR3/L/-RS 1333/1600	QM77/ QM67/ HM65
			4/8		i7-3820QM	2.7 GHz	8 MB	45 W	-	1.25 GHz		
			4/8		i7-3740QM	2.7 GHz	6 MB	45 W		1.3 GHz		
			4/8		i7-3720QM	2.6 GHz	6 MB	45 W	-	1.25 GHz		
			4/8		i7-3632QM	2.2 GHz	6 MB	35 W	-	1.15 GHz		
			4/8		i7-3630QM	2.4 GHz	6 MB	45 W	-	1.15 GHz		
			4/8		i7-3612QM	2.1 GHz	6 MB	35 W	-	1.1 GHz		
			4/8		i7-3610QM	2.3 GHz	6 MB	45 W	-	1.1 GHz		
			4/8		i7-3610QE	2.3 GHz	6 MB	45 W	-	1.0 GHz	DDR3/L 1333/1600	
			2/4		i7-3520M	2.9 GHz	4 MB	35 W	-	1.25 GHz	DDR3/L/-RS 1333/1600	
		32nm Sandy Bridge	4/8		i7-2860QM	2.5 GHz	8 MB	45 W	-	1.3 GHz	DDR3-1066/1333/1600	QM77/ QM67/ HM65
			4/8		i7-2820QM	2.3 GHz	8 MB	45 W	-	1.3 GHz		
			4/8		i7-2760QM	2.4 GHz	6 MB	45 W	-	1.3 GHz		
			4/8		i7-2720QM	2.2 GHz	6 MB	45 W	-	1.3 GHz		
			4/8		i7-2710QE	2.1 GHz	6 MB	45 W	-	1.2 GHz		
			4/8		i7-2670QM	2.2 GHz	6 MB	45 W	-	1.1 GHz	DDR3-1066/1333	
			2/4		i7-2640M	2.8 GHz	4 MB	35 W	-	1.3 GHz		
			4/8		i7-2630QM	2 GHz	6 MB	45 W	-	1.1 GHz		
			2/4		i7-2620M	2.7 GHz	4 MB	35 W	-	1.3 GHz		
	Core™ i5	22nm Ivy Bridge	2/4		i5-3610ME	2.7 GHz	3 MB	35 W	-	950 MHz	DDR3/L 1333/1600	
			2/4		i5-3360M	2.8 GHz	3 MB	35 W	-	1.2 GHz	DDR3/L/-RS 1333/1600	
			2/4		i5-3320M	2.6 GHz	3 MB	35 W	-	1.2 GHz		
			2/4		i5-3210M	2.5 GHz	3 MB	35 W	-	1.1 GHz		
	Core™ i5	32nm Sandy Bridge	2/4		i5-2540M	2.6 GHz	3 MB	35 W	-	1.3 GHz	DDR3-1066/1333	
			2/4		i5-2520M	2.5 GHz	3 MB	35 W	-	1.3 GHz		
			2/4		i5-2510E	2.5 GHz	3 MB	35 W		1.1 GHz		
			2/4		i5-2450M	2.5 GHz	3 MB	35 W		1.3 GHz		
			2/4		i5-2435M	2.4 GHz	3 MB	35 W	-	1.3 GHz		
			2/4		i5-2430M	2.4 GHz	3 MB	35 W	-	1.2 GHz		
			2/4		i5-2410M	2.3 GHz	3 MB	35 W	-	1.2 GHz		
rPGA988B	Core™ i3	22nm Ivy Bridge	2/4		i3-3120M	2.5 GHz	3 MB	35 W	-	1.1 GHz	DDR3/L/-RS 1333/1600	QM77/ QM67/ HM65
			2/4		i3-3110M	2.4 GHz	3 MB	35 W	-	1 GHz		
	Core™ i3	32nm Sandy Bridge	2/4		i3-2370M	2.4 GHz	3 MB	35 W	-	1.15 GHz	DDR3-1066/1333	
			2/4		i3-2350M	2.3 GHz	3 MB	35 W	-	1.15 GHz		
			2/4		i3-2330M	2.2 GHz	3 MB	35 W	-	1.1 GHz		
			2/4		i3-2330E	2.2 GHz	3 MB	35 W	-	1.05 GHz		
			2/4		i3-2328M	2.2 GHz	3 MB	35 W	-	1.1 GHz		
			2/4		i3-2312M	2.1 GHz	3 MB	35 W	-	1.1 GHz		
			2/4		i3-2310M	2.1 GHz	3 MB	35 W	-	1.1 GHz		
	Celeron®	32nm Sandy Bridge	2/2		B840	1.9 GHz	2 MB	35 W	-	1 GHz	DDR3-1066/1333	
			2/2		B830	1.8 GHz	2 MB	35 W	-	1.05 GHz		
			2/2		B820	1.7 GHz	2 MB	35 W	-	1.05 GHz		
			2/2		B815	1.6 GHz	2 MB	35 W	-	1.05 GHz		
			2/2		B810	1.6 GHz	2 MB	35 W	-	950 MHz		
			2/2		B800	1.5 GHz	2 MB	35 W	-	1 GHz		
			1/1		B720	1.7 GHz	2 MB	35 W	-	1 GHz		
			1/1		B710	1.6 GHz	1.5 MB	35 W	-	1 GHz		
Socket988A	Core™ i7 Extreme Edition	45nm	Quad	PGA	i7-940XM	2.13G	8M	55W	-	-	1333 MHz 1066 MHz	QM57/ HM55
					i7-920XM	2.0G	8M	55W	-	-		
	Core™ i7				i7-840QM	1.86G	8M	45W	-	-		
					i7-820QM	1.73G	8M	45W	-	-		
					i7-740QM	1.73G	6M	45W	-	-		
					i7-720QM	1.6G	6M	45W	-	-		
	Core™ i5		Dual		i7-640M	2.8G	4M	35W	-		1066 MHz 800 MHz	
					i7-620M	2.66G	4M	35W	-			
					i5-580M	2.66G	3M	35W	-			
					i5-560M	2.66G	3M	35W	-			
					i5-540M	2.53G	3M	35W	-			
					i5-520M	2.4G	3M	35W	-			
					i5-480M	2.66G	3M	35W	-			
					i5-460M	2.53G	3M	35W	-			
					i5-450M	2.4G	3M	35W	-	500MHz		
					i5-430M	2.26G	3M	35W	-			
	Core™ i3				i3-390M	2.66G	3M	35W	-			
					i3-380M	2.53G	3M	35W	-			
					i3-370M	2.4G	3M	35W	-			
					i3-350M	2.26G	3M	35W	-			
					i3-330M	2.13G	3M	35W	-			
	Celeron®				P4600	2.0G	2M	35W	-			
					P4500	1.86G	2M	35W	-			

Yellow means long-term support ***HM65/HM55 chipset doesn't support Intel® AMT feature***

CPU List

AM5

Supported Sockets	Brand	process	Cores/ Threads	Processor Number	Processor Base Frequency	Cache	TDP	Processor Graphics	Graphics Base Frequency	Memory Types	Chipset
AMD AM5	Ryzen™ 7	Ryzen 8000 Series	8/16	AMD Ryzen™ 7 8700G	4.2 GHz	8 MB	65 W	AMD Radeon™ 780M	2900 MHz	DDR5	A620/ B650/ B650E/ X670/ X670E
				AMD Ryzen™ 7 8700F	4.1 GHz	8 MB	65W	Discrete Graphics Card Required	-		
	Ryzen™ 5		6/12	AMD Ryzen™ 5 8600G	4.30 GHz	6 MB	65W	AMD Radeon™ 760M	2800 MHz		
				AMD Ryzen™ 5 8500G	3.50 GHz	6 MB	65W	AMD Radeon™ 740M	2800 MHz		
				AMD Ryzen™ 5 8400F	4.20 GHz	6 MB	65W	Discrete Graphics Card Required	-		
	Ryzen™ 3		4/8	AMD Ryzen™ 3 8300G	3.40 GHz	4 MB	65W	AMD Radeon™ 740M	2600 MHz		
	Ryzen™ 9	Ryzen 7000 Series	16/32	AMD Ryzen™ 9 7950X3D	4.20 GHz	16 MB	120W	AMD Radeon™ Graphics	2200 MHz		
				AMD Ryzen™ 9 7950X	4.50 GHz	16 MB	170W				
			12/24	AMD Ryzen™ 9 7900X3D	4.40 GHz	12 MB	120W				
				AMD Ryzen™ 9 7900X	4.70 GHz	12MB	170W				
				AMD Ryzen™ 9 7900	3.70 GHz	12 MB	65W				
				AMD Ryzen™ 9 PRO 7945	3.70 GHz	12MB	65W				
	Ryzen™ 7		8/16	AMD Ryzen™ 7 7800X3D	4.20 GHz	8 MB	120 W				
				AMD Ryzen™ 7 7700X	4.50 GHz	8 MB	105 W				
				AMD Ryzen™ 7 7700	3.80 GHz	8 MB	65 W				
				AMD Ryzen™ 7 PRO 7745	3.80 GHz	8 MB	65 W				
	Ryzen™ 5		6/12	AMD Ryzen™ 5 7600X	4.70 GHz	6 MB	105 W				
				AMD Ryzen™ 5 7600	3.80 GHz	6 MB	65 W				
				AMD Ryzen™ 5 PRO 7645	3.80 GHz	6 MB	65 W				
				AMD Ryzen™ 5 7500F	3.70 GHz	6 MB	65 W	Discrete Graphics Card Required	-		
AMD Phoenix FP7/FP7r2/ FP8	Ryzen™ 9	Ryzen 8000 Series	8/16	Ryzen™ 9 8945HS	4.0 GHz	8 MB	45w	AMD Radeon™ 780M	2800 MHz	DDR5 (FP7r2) , LPDDR5X (FP7-FP8)	-
	Ryzen™ 7		8/16	Ryzen™ 7 8845HS	3.8 GHz	8 MB	45w	AMD Radeon™ 780M	2700 MHz		
				Ryzen™ 7 8840U	3.3 GHz	8 MB	28w		2700 MHz		
				Ryzen™ 7 8840HS	3.3 GHz	8 MB	28w		2700 MHz		
	Ryzen™ 5		6/12	Ryzen™ 5 8645HS	4.30 GHz	6 MB	45W	AMD Radeon™ 760M	2600 MHz		
				Ryzen™ 5 8640U	3.50 GHz	6 MB	28W		2600 MHz		
				Ryzen™ 5 8640HS	3.50 GHz	6 MB	28W		2600 MHz		
			4/8	Ryzen™ 5 8540U	3.2 GHz	6 MB	28W	AMD Radeon™ 740M	2800 MHz		
	Ryzen™ 3		4/8	Ryzen™ 3 8440U	3.0 GHz	4 MB	28W	AMD Radeon™ 740M	2500 MHz		
	Ryzen™ 9	Ryzen 7000 Series	8/16	Ryzen™ 9 7940HS	4.0 GHz	8 MB	45W	AMD Radeon™ 780M	2800 MHz		
				Ryzen™ 9 PRO 7940HS	4.0 GHz	8 MB	45W		2800 MHz		
	Ryzen™ 7		8/16	Ryzen™ 7 7840U Ryzen™ 7 PRO 7840U	3.30 GHz	8 MB	28W	AMD Radeon™ 780M	2700 MHz		
				Ryzen™ 7 7840HS	3.30 GHz	8 MB	28W		2700 MHz		
				Ryzen™ 7 PRO 7840HS	3.80 GHz	8 MB	45W		2700 MHz		
				Ryzen™ 7 7736U	2.70 GHz	4 MB	28W	AMD Radeon™ 680M	2200 MHz		
				Ryzen™ 7 7735U	2.70 GHz	4 MB	28W	AMD Radeon™ 680M	2200 MHz		
				Ryzen™ 7 7735HS	3.20 GHz	4 MB	45W	AMD Radeon™ 680M	2200 MHz		
			8/16	Ryzen™ 7 7435HS	3.1 GHz	4 MB	45W	Discrete Graphics Card Required	-		
	Ryzen™ 5		6/12	Ryzen™ 5 7640U	3.50 GHz	6 MB	28W	AMD Radeon™ 760M	2600 MHz		
				Ryzen™ 5 PRO 7640U	3.50 GHz	6 MB	28W	AMD Radeon™ 760M	2600 MHz		
				Ryzen™ 5 PRO 7640HS	4.30 GHz	6 MB	45W	AMD Radeon™ 760M	2600 MHz		
				Ryzen™ 5 7640HS	3.80 GHz	6 MB	45W	AMD Radeon™ 760M	2600 MHz		
				Ryzen™ 5 PRO 7545U	3.20 GHz	6 MB	28w	AMD Radeon™ 740M	2800 MHz		
				Ryzen™ 5 7545U	3.20 GHz	6 MB	28w	AMD Radeon™ 740M	2800 MHz		
				Ryzen™ 5 PRO 7540U	3.20 GHz	6 MB	28w	AMD Radeon™ 740M	2800 MHz		
				Ryzen™ 5 7540U	3.20 GHz	6 MB	28W	AMD Radeon™ 740M	2500 MHz		
				Ryzen™ 5 7535U	2.9 GHz	3 MB	28W	AMD Radeon™ 660M	1900 MHz		
				Ryzen™ 5 7535HS	3.3 GHz	3 MB	45W	AMD Radeon™ 660M	1900 MHz		
	Ryzen™ 3		4/8	Ryzen™ 3 7440U	3.0 GHz	4 MB	28W	AMD Radeon™ 740M	2500 MHz		
				Ryzen™ 3 7335U	3.0 GHz	2 MB	28W	AMD Radeon™ 660M	1800 MHz		

Yellow means long-term support

IEI Virtualization Edge Computer

The IEI Virtualization Edge Computer (iVEC) integrates powerful hardware with virtualization for industrial applications, enabling remote desktop access, efficient multi-application operation, and optimized hardware utilization. It supports scalable infrastructure, remote maintenance, and AI acceleration, enhancing efficiency and innovation for Industry 4.0.

- Legacy Applications Integration
- Efficient Hardware Optimization
- Web-based Remote Desktop Accessibility
- Flexible Workload Distribution for Enhanced QoS
- Energy Optimization
- Dynamic TCP/IP & Serial Connection Planning
- Disaster Recovery
- Edge AI Capabilities
- Secure OS Integration

Benefits of iVEC Over Traditional IPC Systems

IVEC Solution	V.S	Traditional IPC
RS232/485/DIO By project requirements	Serial Connection	Limited by IPC original I/O
One/Two cable (Bridge, NA, redundancy support)	Network Connection	Multi-cable
YES (Linux & Windows)	Multi OS	N/A
Low	OPEX	High
Integrated Single Host	Hardware Host	Multi Physical host
YES	Remote Monitoring	N/A
YES	Remote Desktop	N/A
YES	Disaster Recovery	N/A
Flexible Built-in GPU shared by multi-host	Edge AI Capability	Not flexible
Dynamic assign	Add-on GPU	Limited by host

iVEC vs. Traditional IT Virtualization Software

iVEC	V.S	IT Base Virtualization Software
Yes	Serial Connection in VM	N/A
Yes (Web base)	Virtual Desktop Console for Managing VM	N/A
Yes (iGPU)	Edge CPU Optimization (Core-I P-Core and E-Core)	N/A (external GPU Card)
Yes	Build-in VM Auto Backup Function	N/A
Yes	Build-in VM Auto Backup Function	N/A (add on backup software)
Industrial Venue	Target Environment	Data Center
Yes	VM Audio Support	N/A
Yes	Host Recovery	N/A (add on recovery software)
Hardware Embedded	Software License	Depend on CPU Core
No Limit	VM Quantity Limitation	Depend on License
IPC or Industrial Server	Hardware	Cloud Server
Yes	External Storage Bundled	N/A
Yes	POE NIC Support	N/A
Yes	Fanless	N/A (air conditioner)

Software Specifications

Main Features	Sub Features
System Management Console	Web-based management console
System Overview Dashboard	● VM Status Monitoring: VM running and status change ● CPU Utilization Monitoring: CPU utilization ranking ● Memory Utilization Monitoring: Memory utilization ranking ● Network Traffic Bandwidth Monitoring: Network received and transmitted data rate ● Storage Performance Monitoring: Storage read and write data rate
Virtual Machine Management	● VM Creation ● VM Import ● VM Migration ● Virtual Desktop Console Support for Managing VMs: Browser base ● VM Power Management ● Single VM management: > Information and dashboard: General, System, Display and Sound, Others, Storage, Network > Real time monitor: CPU usage, memory usage, network throughput, disk throughput > Snapshot management > Logs query ● Edit VM: > Synchronize time > Edit > Clone > Export > Data protection > Single VM share link management > Delete VM
Data Protection Plan Management	● Query for Protection Plan ● Creating a Backup Data Protection Plan ● Restoring a Backup Data Protection Plan ● Run Backup Data Protection Plan ● Edit Data Protection Plan ● Delete Data Protection Plan
OS Images Management	● Search OS Image ● Edit OS Image ● Delete OS Image ● Upload OS Image
System Management	● User management ● VM access permissions ● Overall VM share link management ● Overall VM exported file management
System Preferences	● Memory: >Provisioning System Memory >Memory Optimizer ● Remote Device Credentials Management
System Log	● Query Log ● Save and export Log ● Clear Log
Virtual Desktop Console for Managing VM	● Browser base remote desktop ● Pin task bar ● Task bar layout option ● VM power management ● Take snapshot ● Display quality setting ● Send function key and custom key ● Full screen ● Capture screen to image ● Audio on/off

Main Features	Sub Features
Supported Guest Operating Systems	● Microsoft Windows: Windows 11, Windows 10, Windows 8.1, Windows 8, Windows 7, Windows XP SP3 ● Windows Server: Windows Server 2022, Windows Server 2019, Windows Server 2016 ● Linux - Ubuntu: Ubuntu 22.04, Ubuntu 20.10, Ubuntu 20.04, Ubuntu 19.10, Ubuntu 19.04, Ubuntu 18.10, Ubuntu 18.04, Ubuntu 17.10, Ubuntu 17.04, Ubuntu 16.10, Ubuntu 16.04 ● Linux - Debian: Debian 9.1.0 (Linux kernel: 4.9.0-6), Debian 10, Debian 11, Debian 12 ● Linux - Fedora Fedora 24 – 26, Fedora 27–38 ● Linux - Red Hat: Red Hat Enterprise Linux 7, Red Hat Enterprise Linux 8, Red Hat Enterprise Linux 9 ● Linux - CentOS: CentOS 7.0 - 7.4, CentOS 8.0-8.5, CentOS Stream 8/9 ● Linux - SUSE: Suse Linux Enterprise Server 15 ● UNIX - FreeBSD: FreeBSD 11, FreeBSD 12, FreeBSD 13
Serial Connection Expansion Card for VM	IEI approved RS232/RS485 card
AI Acceleration for VM	● iGPU (CPU integrated GPU): virtual GPU card supports up to 7 VM (based on Intel Core-i9 13900TE) ● Dedicated GPU : NVIDIA GeForce Series Note: The VM enabled AI Acceleration will not support Browser base VM remote desktop
NIC Expansion Card	IEI approved POE NIC Card
Maximum Number of Snapshots	Up to 32 per VM
Maximum Number of Simultaneously Running VMs	The number of concurrently-running VMs is generally limited to the available CPU and memory resources of the device. Running multiple VMs at the same time may affect the performance of the device.
Maximum Number of VMs	No limit
Maximum Number of Virtual Devices	Each VM supports up to 16 devices, including hard disks and CD/DVD ROMs.
Maximum Number of Virtual Network Adapters	Up to 8 per VM
Maximum Number of Physical USB Connections	Up to 4 per VM
Maximum Number of Physical PCIe Connections	Up to 3 per VM
Supported File Types for Import	*.ova, *.ovf, *.vmx, *.qvm(from iVEC), *.vhdx
Supported File Types for Export	*.ovf, *.qvm, *.vhdx
Host OS Support	Ubuntu IoT 22.04 LTS for Intel Platform
Hardware Support	IEI approved hardware
Application OTA Upgrade	Supported
External Storage Support	● iRM Mini Server (recommended QTS OS V5.1.*) ● iVEC Node ● QNAP Storage (recommended QTS OS V5.1.*)
Network	● IP Configurations: Manual (Static IP) / DHCP (Dynamical IP) Client ● Network Mode: Bridge and NAT ● Network Redundancy Support: Active/Standby mode of operation (for detail setting , please check user manual) ● Virtual Networking Support: Yes Note: ● Support user-defined bridge networks ● Optional Accessories: IEI PoE LAN Module for network expansion

Hardware Specifications

Model	iVEC Appliance			
	IVEC-TANKXM811-RPL01-R10	IVEC-TANKXM811-RPL02-R10	IVEC-TANKXM811-RPL03-R10	IVEC-TANKXM811-RPL04-R10
Form Factor				
Color	Black			
Dimension (W x D x H)	137.9 x 255.4 x 230.6 mm			
Fan/Fanless	Fanless (optional external fan helps to increase system performance in harsh environment)			
Chassis Construction	Extruded aluminum alloys			
Motherboard				
CPU	Intel® Core™ i9-13900TE 1.0GHz [up to 5.0GHz, 24-Core (8P+16E), 32 Thread, TDP 35W]	Intel® Core™ i7-13700TE 1.1GHz [up to 4.8GHz, 16-Core (8P+8E), 24 Thread, TDP 35W]	Intel® Core™ i5-13500TE 1.3GHz [up to 4.5GHz, 14-Core (6P+8E), 20 Thread, TDP 35W]	Intel® Core™ i3-13100TE 2.4GHz [up to 4.1GHz, 4-Core (4P), 8 Thread, TDP 35W]
Virtual CPU	32	24	20	8
Chipset	Intel® R680E			
System Memory	1 x 32GB SO-DIMM DDR4 3200MHz (pre-installed)	1 x 32GB SO-DIMM DDR4 3200MHz (pre-installed)	1 x 16GB SO-DIMM DDR4 3200MHz (pre-installed)	1 x 16GB SO-DIMM DDR4 3200MHz (pre-installed)
	up to 2 x SO-DIMM DDR4 and 64GB, support ECC memory SKU			
Storage				
Hard Drive	Host OS: 1 x 2.5" 512GB SATA 6Gb/s SSD (pre-installed)			
	VM Storage: 1 x 1TB M.2 2280 M-key SSD (NVMe PCIe x4, pre-installed)			
I/O Interfaces				
Ethernet	2 x RJ45: 1 x Intel I226LM 2.5GbE 1 x Intel I226-V 2.5GbE (Note: I225 LM/-V 2.5GbE in the previous motherboard version)			
USB 3.2 Gen 2 (10Gb/s)	8			
COM	2 x RS-232/422/485			
	4 x RS-232			
Digital I/O	12-bit (6-in/6-out)			
Display	1 x DP++ (up to 4096 x 2160@60Hz)			
	1 x HDMI (up to 4096 x 2160@30Hz)			
Expansion Slots				
M.2	1 x 2230 A-key (PCIe x1/ USB 2.0 support Intel® vPro)			
Backplane	2 x PCIe x16 slot (x8 signal, pre-installed, total power up to 75W, support FHHL card)			
Power				
Power Input	DC Jack: 12V ~ 28V DC			
	Terminal Block: 12V ~ 28V DC			
Remote Power	Terminal Block: 2-pin			
Reliability				
Mounting	Wall mount			
Operating Temperature	-20°C ~ 60°C with air flow (with SSD), 10% ~ 95%, non-condensing			
Storage Temperature	-40°C ~ 80°C, 10% ~ 95%, non-condensing			
Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (with SSD)			
Operation Vibration	MIL-STD-810G 514.6C-1 (with SSD)			
Weight (Net / Gross)	4.6kg / 5.6kg			
Safety / EMC	CE / FCC			
Watchdog Timer	Programmable 1 ~ 255 sec/min			
OS				
Host OS	Ubuntu IoT 22.04 LTS for Intel Platform (pre-installed) Ubuntu IoT Certified Device : https://ubuntu.com/certified/202307-31831			
Guest OS	Windows / Linux OS (For detail, refer to software spec)			

IEI Remote Management Solution

iRM is IEI's Centralized Remote Management Solution designed for OT/IT Teams for Industry PC. It provides single point solution to monitor all the Critical IPC such as Industrial Servers/IPC/vIPC in OT network. iRM helps to easily monitor your OT/IT infrastructure worldwide through single interface within fraction of time.

Efficient Management & Troubleshooting

Seamless monitoring, centralized control of managed applications

Improved Availability

Quick issue diagnosis for device accessibility and reduced downtime.

Secure Sever Platform

Wide-temp mini server with pre-installed OS and one-click OS recovery

Enhanced Data protection

Wide selection of RAID technologies support

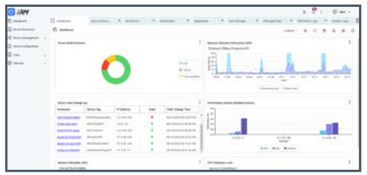
Cross-platform Capabilities

Full compatibility with any x86 platform and ability to manage devices running both Linux and Windows OS.

Customizable Email Alerts

Tailored Email notifications for targeted metrics tracking

Simple and Intuitive Web-Based Portal

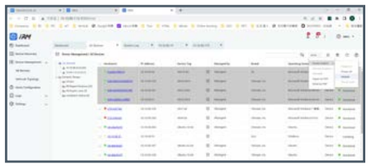


Device Health Status Dashboard

Historic Data Query

Network Topology View

Add Alert Rule



Device Group Control

Notification Mail Setting

iRM Software Specifications

Main Features	Sub Features	
Dashboard and Widget (user defined dashboard by system built-in widget)	CPU Utilization Memory Utilization Disk Utilization Disk Volume Live Information Disk Throughput Network Utilization Device Health Overview	State Change Log Shutdown Devices (Recent 10) Performance Monitor (Multiple Devices) Performance Monitor (Single Devices) Export to PDF Export and email as PDF document
Device Discovery (add your client device in iRM platform through network)	Device Discovery by network Add Device Search Device	
Device Management	Single and Multi Device Management Page • Export PDF • Email as PDF • Add Device • Delete Device	Remote Power Control Remote Desktop Network Topology View
Alert Configuration	CPU Utilization Memory Utilization	Disk Utilization Power Status

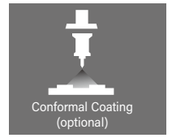
Main Features	Sub Features
Logs	IRM Alerts Log System Log Historic Data Log Query
Settings	Notification Settings Application Settings User Management: system admin, OT power user IRMAgent Repository Download
Monitored Client OS Support	• Windows® 32-Bit: Windows® 7, Windows® 8/8.1 • Windows® 64-Bit: Windows® 7, Windows® 8/8.1, Windows® 10, Windows® 11, Windows® Server 2012, Windows® Server 2016, Windows® Server 2019, Windows® Server 2022 • Ubuntu 64-Bit: Ubuntu 16.04, Ubuntu 18.04, Ubuntu 20.04, Ubuntu 22.04 • Debian 64-Bit : Debian 8, Debian 9, Debian 10, Debian 11 • CentOS 64-Bit: CentOS 7
Software Standard Warranty and Support	1 Year

iRM Mini Server Appliance Specifications

Model		iRM-TSi410X	iRM-TS410E
Chassis	Color	Black	Black
	Dimensions (H x W x D)	65 x 180 x 254 mm (2.56 x 7.09 x 10 in)	60 x 180 x 254 mm (2.36 x 7.09 x 10 in)
	Fan/Fanless	Fanless	Fanless
	Construction	Extruded aluminum alloy	Extruded aluminum alloy (front panel: plastic)
Processor	CPU	Intel® Atom® x6425E	Intel® Celeron® J6412
	Frequency	4-core/4-thread 2.0 GHz base/3.0 GHz burst	4-core/4-thread processor, burst up to 2.6 GHz
	Encryption engine	AES-NI	AES-NI
	Graphics	Intel® UHD Graphics for 10th Gen Intel® Processors	Intel® UHD Graphics for 10th Gen Intel® Processors
Memory	Pre-installed	8 GB RAM	8 GB RAM (on board)
	Maximum	8 GB RAM	8 GB RAM (non-expandable)
	Flash memory	4 GB (dual-boot OS protection)	4 GB (dual-boot OS protection)
Storage	Drive bays	4 x 2.5-inch SATA 6 Gbps	4 x 2.5-inch SATA 6 Gbps
	Hot-swapping	This device supports hot-swapping for all drives.	This device supports hot-swapping for all drives.
	Pre-installed SSD/ HDD	2 x 2.5-inch 512GB SATA SSD with RAID 1 Operational Temperature: - 20°C to 75°C	2 x 2.5-inch 512GB SATA SSD with RAID 1 Operational Temperature: 0°C to 70°C
	RAID	Support RAID 1 / 5 / 6 / 10	Support RAID 1 / 5 / 6 / 10
Network	10 Gigabit network interface	2 x 10G BASE-T (10G/5G/2.5G/1G)	2 x 2.5 GbE RJ45 (2.5G/1G/100 Mb./10 Mb.)
External I/ O Ports & Expansion Slots	USB ports	4 x USB 3.2 Gen 2 Type-A	4 x USB 3.2 Gen 2 Type-A
	HDMI™ ports	1 x HDMI™ 1.4b (up to 3840 x 2160 resolution at 30Hz)	1 x HDMI™ 1.4b (up to 3840 x 2160 resolution at 30 Hz)
Interface	Buttons	Power / Reset	Power / Reset
Power	Power supply unit	1. External power adapter 90W and above, 100-240V AC 2. 9-36V DC input	External power adapter, 90W and above, 100-240V AC
	System battery	CR2032 lithium battery (3V, 225 mAh)	CR2032 lithium battery (3V, 225 mAh)
Relative Humidity	Relative humidity	• Non-condensing relative humidity: 5% to 95% • Wet-bulb temperature: 27˚C (80.6˚F)	• Non-condensing relative humidity: 5% to 95% • Wet-bulb temperature: 27˚C (80.6˚F)
Package	Package Dimensions	290 x340 x195 mm (11.42 x 11.39 x 7.68 in)	290 x340 x195 mm (11.42 x 11.39 x 7.68 in)
Reliability	Operating Temperature	-40˚C to 70˚C (-40˚F to 158˚F)	0˚C to 40˚C (32˚F to 104˚F)
	Storage Temperature	-45 - 85°C (-49°F - 185°F)	-20˚C to 70°C (-4°F - 158°F)
Mount	Mount support	• VESA mount: 75 x 75 mm (2.95 x 2.95 in)	• Stand Mount
		Load bearing: > 15 kg (33.07 lbs)	• VESA mount: 75 x 75 mm (2.95 x 2.95 in)
		M4x6 screws	Load bearing: > 15 kg (33.07 lbs)
		Hole depth: 7.5 mm (0.26 in)	M4x6 screws
		Tooth depth: 5 mm (0.20 in)	Hole depth: 7.5 mm (0.26 in)
			Tooth depth: 5 mm (0.20 in)
Weight	Net weight	2.54 kg (5.6 lbs)	2.64 kg (5.82 lbs)
	Gross weight	3.85 kg (8.5 lbs)	3.83 kg(8.44 lbs)
Safety / EMC		CE / UKCA / FCC / VCCI–B / BSMI	CE / UKCA / FCC / VCCI–B / BSMI
Hardware Standard Warranty		3 Years	3 Years
Pre-install Application		IRM (IEI Remote Management)	IRM (IEI Remote Management)

Embedded Computers

IEI offers a range of industrial motherboards and single board computers that set the benchmark for embedded computing and the next generation of data processing and I/O connectivity. Our products cater to various computing designs, from OEM/ODM enterprise computing to embedded single board computer applications, and offer high reliability and longevity for demanding embedded deployments. IEI's industrial grade motherboards are readily available off-the-shelf, providing a standard solution for challenging embedded applications.



ATX

IMBA series

microATX

IMB series

Mini-ITX

KINO series

2.5” Pico-ITX

HYPER series

4” EPIC

NANO series

3.5” SBC

WAFER series

PC/104 CPU Module

PM series

Computer-on-Modules

COM Express: ICE series
Qseven™: iQ7 series
SMARC™: iSMC series

Slot SBCs and Passive Backplanes

Industrial Motherboards

ATX


Model	IMBAX-SP6	IMBA-AM5	IMBA-ADL-Q670	IMBA-ADL-H610
CPU Socket	AMD SP6 socket (LGA4844)	AMD Socket AM5	LGA1700	LGA1700
CPU Type	AMD EPYC™ 8004 Series Processors	AMD Ryzen™ 7000&8000G Series Desktop Processors	12th/13th/14th generation Alder Lake-S/Raptor Lake-S Intel® Core™ i9/ i7/i5/i3/Pentium®/Celeron® Processor (up to 125W TDP CPU)	12th/13th/14th generation Alder Lake-S/Raptor Lake-S Intel® Core™ i9/ i7/i5/i3/Pentium®/Celeron® Processor (up to 65W TDP CPU)
Chipset	N/A	AMD B650	Intel® Q670/Q670E	Intel® H610/H610E
Memory	Six 288-pin DDR5 4800MHz ECC RDIMM	Four 288-pin 5200 MHz Dual-Channel DDR5 SDRAM Unbuffered DIMMs supported up to 128GB	Four 288-pin 3200 MHz dual-channel DDR4 SDRAM unbuffered DIMMs supported up to 128GB	Two 288-pin 3200 MHz dual-channel DDR4 SDRAM unbuffered DIMMs supported up to 64GB
Display Interface	1 x DP	Triple independent display 1 x DP 1.4 2 x HDMI 1.4	Triple independent display 1 x DP 1.4a (up to 4096 x 2304 @60Hz) 1 x HDMI 1.4 (up to 4096 x 2304 @30Hz) 1 x IDPM support IEI eDP/ LVDS/ VGA module	Triple independent display 1 x DP (up to 4096 x 2304 @60Hz) 1 x HDMI (up to 4096 x 2304 @30Hz) 1 x iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)
Ethernet	4 x 2.5G (I225-LM / I226-LM) Base-T LAN Ports	LAN1: Intel® I226V 2.5GbE controller LAN2: Intel® I226V 2.5GbE controller	LAN1: Intel® I225V/I226V 2.5GbE controller (CO-LAY I225LM/I226LM support vPro) LAN2: Intel® I225V/I226V 2.5GbE controller (CO-LAY I225LM/I226LM support vPro)	LAN1: Intel® i219 LM controller LAN2: Intel® I225V/I226V 2.5GbE controller
I/O Interface	On board IPMI AST-2600 (1 x DP1.1a, 1 x RJ45) 4 x USB 3.2 Gen1 (Type-A) (5Gb/s) 1 x RJ45 (RS-232 Console) 2 x USB (2x4 pin, P=2.54)	2 x USB 2.0 (2x4 pin, P=2.54) 1 x RS-232/422/485 (2x5 pin, P=2.54) 2 x USB 3.2 Gen1 (2x10 pin) 4 x RS-232 (2x5 pin, P=2.54) 4 x USB 3.2 Gen2 (Type-A) (10Gb/s) 2 x USB 3.2 Gen1 (Type-A) (5Gb/s) 1 x RS-232/422/485 (RS-485 support AFC)	4 x USB 3.2 Gen2 (Type-A) 2 x USB 3.2 Gen1 (Type-A) 2 x RS-232/422/485 4 x USB 2.0 (2x4 pin, P=2.54) 2 x USB 3.2 Gen1 (2x10pin P=2.00) 4 x RS-232 (2x5 pin, P=2.54)	2 x USB 3.2 Gen2 x1 (Type-A) 2 x USB 3.2 Gen1 x1 (Type-A) 4 x USB 2.0 (Type-A) 2 x RS-232/422/485 2 x USB 2.0 (2x4 pin, P=2.54) 4 x RS-232 (2x5 pin, P=2.54)
Storage Interface	8 x SATA 6Gb/s	4 x SATA 6Gb/s	4 x SATA 6Gb/s	4 x SATA 6Gb/s
Audio	N/A	Realtek ALC888S HD Audio codec supports 2.1-channel 3 x Audio jacks (line-out, line-in, mic-in) on rear IO, 1 x Front audio (2x5 pin)	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin,P=2.0)
Digital I/O		12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)
Power Consumption	5VSB@0.7A, 5V@1.68A, 3.3V@0.87A, 12V@9.4A (AMD SP6 Siena 8-64 cores with 192GB (six of 32GB) 4800MHz DDR5 memory)	3.3V@1.62A, 5V@11.63A, 12V@19.46A, 5VSB@0.04A (AMD Ryzen 9 7950X; AMD Ryzen 9 7900 CPU with Apacer D12.35306H.001 32GB DDR5 5600 CL46 memory)	3.3V@1.04A, 5V@10.38A, 12V@5.76A, 5VSB@0.39A (Intel® Core™ i9-12900E CPU with 8 GB 3200 MHz DDR4 memory, EuP mode enabled)	3.3V@0.36A, 5V@7.04A, 12V@5.62A, 5VSB@0.7A (Intel® Core™ i7-12700E CPU with two 32 GB 2933 MHz DDR4 memory, EuP mode enabled)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operation Environment	Temperature Range: 0°C ~ 60°C (32°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: 0°C ~ 60°C (32°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	3 x PCIe Gen4 x16 slot 3 x PCIe Gen4 x8 slot 4 x M.2 M Key slot (2242/2280, PCIe Gen4 x4 for SSD), NVMe supported	1 x PCIe Gen4 x16 2 x PCIe Gen4 x4 open-end 4 x PCIe Gen4 x1 open-end 1 x M.2 M Key	**1 x PCIe Gen4 x16 slot **1 x PCIe Gen4 x4 open-end slot 2 x PCIe Gen4 x4 open-end slot 2 x PCIe Gen3 x1 slot 1 x PCI slot 1 x M.2 M key 2242/80 (PCIe Gen3 x4) 1 x M.2 M key 2242/80 (PCIe Gen3 x2)	**1 x PCIe Gen4 x16 1 x PCIe Gen3 x4 open-end 2 x PCIe Gen3 x1 2 X PCI
CPU Cooler	19100-000358-00-RS	19100-000344-00-RS 19100-000345-00-RS 19100-000348-00-RS 19100-000338-00-RS	19100-000323-00-RS 19100-000319-00-RS 19100-000333-00-RS 19100-000326-00-RS 19100-000327-00-RS	19100-000323-00-RS 19100-000319-00-RS 19100-000333-00-RS 19100-000326-00-RS 19100-000327-00-RS

**Intel® recommends that Alder Lake-S CPU PCIe ports are only used for discrete graphics and storage devices

Embedded Computers

Industrial Motherboards

ATX




Model	IMBA-R680	IMBA-Q470	IMBA-Q471	IMBA-H420
CPU Socket	LGA1700	LGA1200	LGA1200	LGA1200
CPU Type	12th/13th/14th Generation Alder Lake-S/Raptor Lake-S Core™ i9/i7/i5/ i3/Pentium®/Celeron® Processor. up to 125W TDP CPU	10th/11th generation Intel® Core™ i9/i7/i5/i3, Pentium® or Celeron® processor. up to 125W TDP	10th/11th Generation LGA1200 Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processors	10th/11th generation Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processor
Chipset	Intel® R680E	Intel® Q470/Q470E	Intel® Q470/Q470E	Intel® H420E
Memory	Four 288-pin Dual-Channel DDR5 (up to 4400 MHz) SDRAM Unbuffered DIMMs supported up to 192GB (ECC & non-ECC support)	Four 288-pin 2933 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 128 GB)	Four 288-pin 2933 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 128 GB)	Two 288-pin 2933 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64GB)
Display Interface	Triple independent display 1 x DP 1 x HDMI 1 x iDPM	Triple independent display 1 x VGA 1 x DP 1 x HDMI	Triple independent display 1 x VGA 1 x DP 1 x HDMI	Triple display 1 x VGA 1 x internal DP++ 1 x HDMI 1.4
Ethernet	LAN1: Intel® I225LMX/I226LM 2.5GbE controller (colay I225V/I226V support vPro) LAN2: Intel® I225V/I226V 2.5GbE controller	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller LAN3: Intel® I225V/I226V 2.5GbE controller	LAN1: Intel I225-V/I226-V GbE controller (colay I225-LM/I226-LM)
I/O Interface	4 x USB 3.2 Gen2 (Type-A) 2 x USB 3.2 Gen1 (Type-A) 2 x RS-232/422/485 (RAID 0/1/5/10 supported) 4 x USB 2.0 (2x4 pin, P=2.54) 2 x USB 3.2 Gen1 (2 X 10PIN P=2.00 pin wafer) 4 x RS-232 (2x5 pin, P=2.54)	2 x USB 2.0 1 x RS-232/422/485 (RS-485 supports AFC) 2 x USB 3.2 Gen 1 2 x RS-232 2 x USB 3.2 Gen 2 1 x RS-422/485 (2x5 pin, P=2.54) (RS-485 supports AFC) 2 x RS-232 (2x5 pin, P=2.54) 2 x USB 3.2 Gen 1 (2x10 pin, P=2.0) 4 x SATA 6Gb/s (supports RAID 0/1/5/10) 5 x USB 2.0 (2x4 pin, P=2.54)	2 x USB 3.2 Gen 2 (Type-A) 2 x USB 3.2 Gen 1 (Type-A) 2 x USB 2.0 (Type-A) 1 x RS-232 6 x USB 2.0 (2x4 pin, P=2.54) 2 x USB 3.2 Gen1 (2x10 pin, P=2.0) 2 x RS-232 (2x5 pin, P=2.54) 1 x RS-422/485 (1x4 pin, P=2.0)	4 x USB 3.1 Gen 1 (5Gb/s) 2 x USB 2.0 1 x RS-232 1 x KB/MS 1 x RS-232/422/485 (2x5 pin, P=2.54) 2 x USB 2.0 (2x4 pin, P=2.54) 4 x RS-232 (2x5 pin, P=2.54)
Storage Interface	6 x SATA 6Gb/s (RAID 0/1/5/10 supported)	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)	5 x SATA 6Gb/s (RAID 0/1/5/10 supported)	4 x SATA 6Gb/s (no RAID)
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2 x 5 pin)	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec
Digital I/O	12-bit programmable I/O (12-bit GPIO is for programming I/O)	8-bit programmable I/O (8-bit GPIO is for programming I/O)	12-bit programmable I/O (12-bit GPIO is for programming I/O)	Realtek ALC888S HD codec 3 x Audio Jack (Line-in, Line-out, Mic-in) on rear IO 1 x Front audio (2x5 pin)
Power Consumption	3.3V@0.89A, 5V@10.05A, 12V@6.05A, 5VSB@0.64A (Intel® Core™ i7-12700E CPU with four 16 GB 4800 MHz DDR5 memory, EuP mode enabled)	3.3V@1.36A, 5V@14.16A, 12V@7.5A (Intel® Core™ i9-10900E CPU with four 32 GB 3200 MHz DDR4 memory)	3.3V@1.1A, 5V@3.359A, 12V@2.18A, 5VSB@0.12A (Intel® Core™ i5-10500TE CPU with four 8 GB 2933 MHz DDR4 DIMMs)	3.3V@0.84A, 5V@8.12A, 12V@3.77A, 5VSB@0A (Intel® Core™ i5-10500TE CPU with two 32 GB 2933 MHz DDR4 memory, EuP mode enabled)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operation Environment	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing			
Expansion Slot	**2 x PCIe Gen5 x16 slot with x8 Signal **1 x PCIe Gen4 x4 open-end 2 x PCIe Gen4 x4 open-end 2 x PCIe Gen3 x1 2 x M.2 M key 2242/80(PCIe Gen3 x4)	1 x PCIe 3.0 x16 slot 1 x M.2 2230 A key (PCIe 3.0 x1, USB 2.0) 3 x PCIe 3.0 x4 slot 1 x M.2 2242/80 M Key (PCIe 3.0 x4) 3 x PCI slot	2 x PCIe Gen3 x16 (x8 signal) 3 x PCIe Gen3 x4 open-end 2 x PCIe Gen3 x1 M.2 M key 2240/2280 (PCIe x2 &SATA signal)	1 x PCIe Gen3 x16 1 x PCIe Gen3 x4 4 x PCI
CPU Cooler	19100-000323-00-RS 19100-000326-00-RS 19100-000319-00-RS 19100-000333-00-RS 19100-000327-00-RS	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10

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Industrial Motherboards

ATX



Model	IMBA-Q370	IMBA-H310	IMBA-C2360-i2
CPU Socket	LGA1151	LGA1151	LGA1151
CPU Type	8th/9th generation Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor	8th/9th generation Intel® Core™ i9/i7/5/i3, Pentium® and Celeron® processor	6th/7th generation Intel® Xeon® E3 v5/v6, Core™ i3, Pentium®, Celeron® processor
Chipset	Intel® Q370	Intel® H310	Intel® C236
Memory	Four 288-pin 2666/2400 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	Two 288-pin 2666/2400 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	Four 288-pin 2133 MHz dual-channel DDR4 SDRAM ECC and non-ECC unbuffered DIMMs (system max. 64 GB)
Display Interface	Triple independent display 1 x VGA 1 x DP++ 1 x HDMI 1 x Internal DisplayPort	Triple independent display 1 x DVI-D 1 x VGA 1 x Internal 180º DP	Triple independent display 1 x VGA 1 x DVI-D 1 x HDMI 2.0 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP
Ethernet	LAN1: Intel® I219LM PCIe controller with AMT 11.0 support LAN2: Intel® I210AT PCIe controller	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I210 AT PCIe controller	LAN1: Intel® I219LM with Intel® AMT 11.0 support LAN2: Intel® I210AT PCIe controller with NCSI support
I/O Interface	2 x USB 3.2 Gen 2 (Type-A) 2 x USB 3.2 Gen 1 (Type-A) 1 x PS/2 KB/MS 2 x USB 2.0 1 x RS-232 1 x KB/MS 2 x RS-232/422/485 3 x RS-232 2 x USB 3.2 Gen 1 4 x USB 2.0	4 x USB 3.2 Gen 1 2 x RS-232 2 x USB 2.0 1 x KB/MS 1 x KB/MS (1x6 pin) 2 x USB 2.0 (2x4 pin, P=2.54) 1 x LPT (2x13 pin, P=2.54) 3 x RS-232 (2x5 pin, P=2.54) 1 x RS-232/422/485 (2x5 pin, P=2.54)	2 x USB 2.0 4 x USB 3.2 Gen 1 1 x KB/MS (1x6 pin) 4 x RS-232 (2x5 pin, P=2.54) 1 x LPT (2x13 pin, P=2.54) 4 x USB 2.0 (2x4 pin, P=2.0) 2 x USB 3.2 Gen 1 (2x10 pin, P=2.0) 2 x RS-232/422/485 (2x5 pin, P=2.54)
Storage Interface	6 x SATA 6Gb/s (RAID 0/1/5/10 supported)	4 x SATA 6Gb/s (no RAID)	6 x SATA 6Gb/s (RAID 0/1/5/10 supported)
Audio	Realtek ALC888S HD Audio codec		
Digital I/O	8-bit programmable I/O (8-bit GPIO is for programming I/O)	8-bit digital I/O (2x5 pin)	8-bit programmable I/O (8-bit GPIO is for programming I/O)
Power Consumption	3.3V@1.65A, 5V@3.4A, 12V@8.58A, 5VSV@3.4A (Intel® Core® i7-8700K up to 4.60 GHz CPU with 32GB 2600MHz DDR4 memory)	3.3V@0.39A, 5V@2.99A, 12V@3.08A, 5VSB@0.2A (Intel® Core™ i5-8500 up to 3.00 GHz CPU with 20 GB 2400/2133 MHz DDR4 memory)	3.3V@1.51A, 5V@3.31A, 12V@9.02A, 5VSB@3.7A (Intel® Xeon® E3-1275 v5 3.60 GHz CPU with 32 GB (four 8GB) 2133 MHz DDR4 memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset		
Operation Environment	Temperature Range: -20°C ~ 60°C (-4°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing		
Expansion Slot	1 x M.2 A Key 1 x M.2 M Key 2 x PCIe Gen3 x8 3 x PCIe Gen3 x4 2 x PCI	1 x PCIe x16 (Gen3) 1 x PCIe x4 (Gen2) 4 x PCI	1 x Full-size PCIe Mini card slot (support mSATA) 2 x PCIe x8 slot (Gen3) 2 x PCI slot 3 x PCIe x4 slot (Gen3)
CPU Cooler	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10

Embedded Computers

Industrial Motherboards

ATX




Model	IMBA-Q170-i2	IMBA-H112	IMBA-H110	IMBA-H810
CPU Socket	LGA1151	LGA1151	LGA1151	LGA1150
CPU Type	6th/7th generation Intel® Core™ i7/i5/i3, Pentium® and Celeron® processor	6th/7th generation Intel® Core™ i7/i5/i3, Celeron® and Pentium® processor	6th/7th generation Intel® Core™ i7/i5/i3, Celeron® and Pentium® processor	4th generation Intel® Core™ i7/i5/i3 Pentium® and Celeron® processor
Chipset	Intel® Q170	Intel® H110	Intel® H110	Intel® H81
Memory	4 x 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	2 x 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	2 x 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	2 x 240-pin 1333/1600 MHz dual-channel DDR3 SDRAM unbuffered DIMM (system max. 16 GB)
Display Interface	Triple independent display 1 x HDMI 2.0 1 x DVI-D 1 x VGA 1 x iDP interface	Dual independent display support 1 x VGA 1 x HDMI 1 x iDP interface	Dual independent display support 1 x DVI-I 1 x HDMI 1 x iDP interface	Dual independent display support 1 x DVI-D 1 x VGA 1 x iDP interface
Ethernet	LAN1: Intel® I219LM with Intel® AMT 11.0 support LAN2: Intel® I210-AT PCIe controller with NCSI support	LAN1: Intel® I219V PHY LAN2: Intel® I211 PCIe controller	LAN1: Intel® I219V PHY LAN2: Intel® I211 PCIe controller	LAN1: Intel® I217-LM with Intel® AMT 9.0 support LAN2: Intel® I211-AT PCIe controller
I/O Interface	2 x USB 2.0 4 x USB 3.2 Gen 1 Type A 1 x KB/MS 4 x RS-232 1 x LPT 4 x USB 2.0 2 x USB 3.2 Gen 1 2 x RS-232/422/485 1 x KB/MS	4 x USB 3.2 Gen 1 Type A 2 x USB 2.0 1 x RS-232 1 x KB/MS 1 x RS-232/422/485 1 x LPT 1 x internal USB 2.0 (type A) 4 x RS-232 2 x USB 2.0 1 x KB/MS	1 x KB/MS 4 x USB 3.2 Gen 1 Type A 2 x USB 2.0 2 x RS-232 1 x KB/MS 2 x RS-232 1 x LPT 2 x USB 2.0 1 x RS-232/422/485 1 x internal USB 2.0 (type A)	1 x KB/MS 2 x USB 2.0 2 x RS-232 2 x USB 3.2 Gen 1 Type A 1 x KB/MS 1 x internal USB 2.0 (180° Type-A) 1 x LPT 3 x RS-232 1 x RS-422/485 4 x USB 2.0 2 x SATA 6Gb/s 2 x SATA 3Gb/s
Storage Interface	6 x SATA 6Gb/s (RAID 0/1/5/10 supported)	3 x SATA 6Gb/s	4 x SATA 6Gb/s	2 x SATA 3Gb/s 2 x SATA 6Gb/s
Audio	Realtek ALC888S HD Audio codec supports 7.1-channel 3 x Audio jacks (line-out, line-in, mic-in) on rear IO 1 x Front audio (2x5 pin)	Realtek ALC888S HD Audio codec supports 7.1-channel	Realtek ALC888S HD Audio codec supports 7.1-channel 3 x Audio jacks (line-out, line-in, mic-in) on rear IO 1 x Front audio (2x5 pin)	Realtek ALC888S HD Audio codec supports 7.1-channel 3 x Audio jacks (line-out, line-in, mic-in) on rear IO 1 x Front audio (2x5 pin)
Digital I/O	8-bit programmable I/O (8-bit GPIO is for programming I/O)	8-bit programmable I/O (8-bit GPIO is for programming I/O)	8-bit digital I/O (2x5 pin)	8-bit digital I/O (2x5 pin)
Power Consumption	3.3V@1.65A, 5V@3.4A, 12V@8.58A, 5VSB@0.22A (Intel® Core™ i7-6700K 4.0GHz CPU with 32 GB (four 4 GB) 2133 MHz DDR4 memory)	3.3V@1.53A, 5V@2.95A, 12V@8.38A, 5VSB@3.2A (4.0 GHz Intel® Core™ i7-6700K CPU with (two 8 GB) 2133 MHz DDR4 memory)	3.3V@1.53A, 5V@2.95A, 12V@8.38A, 5VSB@3.2A (Intel® Core™ i7 6700K 4.0GHz CPU with 16GB (two 8GB) 2133 MHz DDR4 memory)	3.3V@0.83A, 5V@2.2A, 12V@3.88A, 5VSB@0.3A (Intel® Core™ i7-4770K 3.90 GHz CPU with 8 GB (two 4 GB) 1333 MHz DDR3 memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operation Environment	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing			
Expansion Slot	1 x Full-size PCIe Mini card (support mSATA) 2 x PCIe x8 (Gen3) 3 x PCIe x4 (Gen3) 2 x PCI	1 x Full-size PCIe Mini card (support mSATA) 1 x PCIe x16 (Gen3) 1 x PCIe x4 (Gen3) 4 x PCI	1 x Full-size PCIe Mini card (support mSATA) 1 x PCIe x16 (Gen3) 6 x PCI	1 x PCIe x 16 2 x PCIe x 1 4 x PCI 1 x PCIe Mini (support mSATA)
CPU Cooler	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-115XE-R10

Industrial Motherboards

microATX

AMD® Platform

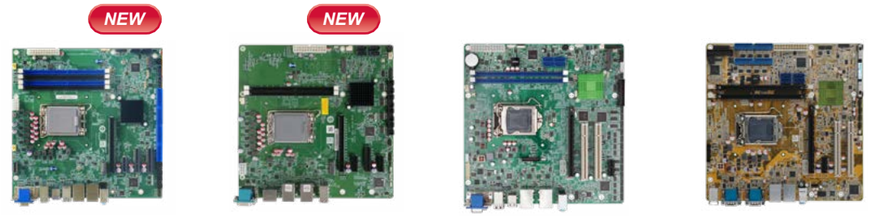
Intel® Platform

Model	IMB-AM5	IMB-V3000	IMB-MTL	IMB-Q470	IMB-H420
CPU Socket	AMD Socket AM5	On board	On board	LGA1200	LGA1200
CPU Type	AMD Ryzen™ 7000&8000G PHX1 Series Desktop Processors	AMD V3000 Series Processors TDP 15W	14th Gen. Intel® mobile Meteor Lake-H on-board processor	10th/11th Gen Intel® Core™ i9/ i7/i5/i3, Pentium® or Celeron® processor up to 125W TDP	10th/11th Gen Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processor up to 65W
Chipset	AMD Socket AM5	AMD V3000 Series Processors TDP 15W	14th Gen, Intel® mobile Meteor Lake-H on-board processor	Intel® Q470/Q470E	Intel® H420/H420E
Memory	Four 288-pin 5200 MHz Dual-Channel DDR5 SDRAM Unbuffered DIMMs supported (system max. 192GB)	Two 262-pin 5600 MHz DDR5 SO-DIMM (system max. 96GB)	Two 262-pin 5600 MHz DDR5 SO-DIMM (system max. 96GB)	Two 288-pin 2933 MHz unbuffered DDR4 SDRAM DIMMs supported (system max. 64GB)	Two 288-pin 2933 MHz dual-channel unbuffered DDR4 SDRAM DIMMs supported (system max. 64GB)
Display Interface	Triple independent display 1 x DP 2 x HDMI	-	Quad independent display 1 x HDMI 1 x DP 1 x USB4 1 x IEI iDPM	Triple display support 1 x VGA 1 x DVI-D 1 x Internal DP	Triple display support 1 x VGA 1 x DVI-D 1 x Internal DP
Ethernet	LAN1: Intel® I226-V 2.5GbE controller	1 x 10G SFI (SFP+) 1 x 10GBASE-T (RJ45)	LAN1: Intel® I226LM 2.5GbE controller LAN2: Intel® I226V 2.5GbE controller LAN3: For IPMI	LAN1: Intel® I219-LM GbE controller LAN2: Intel® I225-V/I226-V controller	LAN1: Intel@I225-V/I226-V controller LAN2: Intel@I225-V/I226-V controller
I/O Interface	2 x USB 3.2 Gen2 (Type-A) 4 x USB 3.2 Gen1 (Type-A) 1 x RS-232/422/485 (RS-485 support AFC) 1 x RS-232/422/485 (RS-485 support AFC) (2x5 pin, P=2.54) 4 x RS-232 (2x5 pin, P=2.54) 4 x USB2.0 (2x4 pin, P=2.54)	2 x USB 3.2 Gen2 (Type-A) (10Gb/s) 4 x USB 2.0 (Type-A) 2 x RS-232/422/485 (RS-485 support AFC) 4 x RS-232 (2x5 pin, P=2.54) 1 x RJ45 for IRIS2-2600 (F830)	2 x USB 2.0 (2x4 pin, P=2.54) 4 x RS-232 (2x5 pin, P=2.0) 2 x RS-232/422/485 (2x5 pin, P=2.0) 2x USB 3.2 Gen 2 (10Gb/s) 4 x USB 2.0	8 x USB 3.2 Gen1 6 x USB 2.0 1 x KB/MS 10 x RS-232 (2 x 2 x20-pin, 2 x 2x5 pin, P=2.54) 1 x LPT (2x13 pin)	8 x USB 3.2 Gen1 6 x USB 2.0 1 x KB/MS 10 x RS-232 (2 x 2x20 pin, 2 x 2x5 pin, P=2.54) 1 x LPT (2x13 pin)
Storage Interface	4 x SATA 6Gb/s	2 x SATA 6Gb/s (RAID 0/1 supported)	2 x SATA 6Gb/s	4 x SATA 6Gb/s	4 x SATA 6Gb/s
Audio	Realtek ALC888S HD Audio codec supports 7.1-channel 3 x Audio jacks (line-out, line-in, mic-in) on rear IO 1 x Front audio (2x5 pin)	-	Realtek ALC888S HD Audio codec 1 x Audio Jack (Line-out, Mic-in) 1 x Analog audio (2x5 pin)	Realtek ALC888S HD Audio codec 3 x Audio jack (Line-in, Line-out, Mic-in) 1 x Analog audio (2x5 pin)	Realtek ALC888S HD codec 3 x Audio jack (Line-in, Line-out, Mic-in) on rear IO 1 x Front audio (2x5 pin)
Digital I/O	12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)	8-bit Digital I/O (2x5 pin)	8-bit Digital I/O (2x5 pin)
Power Consumption	3.3V@1.66A, 5V@9.29A, 12V@16.33A, 5VSB@0.07A (AMD Ryzen 9 7950X 170W with four Transcend JM5600ALE-16GB memory)	TBD	TBD	3.3V@1.13A, 5V@10.14A, 12V@11.86A, 5VSB@0.23A (11th Gen. Intel® Core® i9-11900K 3.50 GHz 125W CPU with 32GB 2933MHz DDR4 memory, EUP enabled) 3.3V@1.16A, 5V@10.45A, 12V@5.93A, 5VSB@0.26A (10th Gen. Intel® Core® i9-10900E	3.3V@1.59A, 5V@10.18A, 12V@6.84A, 5VSB@0.23A (10th Gen. Intel® Core® i9-10900E 2.80 GHz 65W CPU with 32GB 2933MHz DDR4 memory, EUP enabled)
Watchdog Timer	Software Programmable support 1~255 sec. System reset				
Operation Environment	Temperature Range: 0°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x PCIe x16 2 x PCIe x4 1 x PCIe x1 (Slot 2,PCIe Gen4 x1) 1 x M.2 M Key (2242/2280, PCIe x4) 1 x M.2 M Key (2242/2280, PCIe x2)	1 x PCIe x16 (Slot1) with Gen4 x8 signal 1 x PCIe Gen4 x4 open-end 2 x PCIe Gen4 x1 1 x M.2 M Key (2242/2280, PCIe Gen4 x1) NVMe support 1 x M.2 B Key (2242/2280, PCIe Gen4 x1) NVMe support (IPMI)	1 x PCIe Gen5 x8 3 x PCIe Gen4 x4 1 x M.2 B key 3080 (IRIS2-2600) 1 x M.2 M key 2280 (PCIe Gen4 x2)	1 x PCIe Gen3 x16 slot 2 x PCIe Gen3 x4 slot 1 x M.2 B key 2242/2280 (PCIe Gen3 x2) 1 x M.2 M key 2242/2280 (PCIe Gen3 x4)	1 x PCIe Gen3 x16 slot 1 x PCIe Gen3 x1 slot 1 x M.2 M key 2242/80 (PCIe Gen3 x2)
CPU Cooler	19100-000344-00-RS 19100-000345-00-RS 19100-000348-00-RS 19100-000338-00-RS	-	-	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10

Embedded Computers

Industrial Motherboards

microATX



Model	IMB-ADL-Q670	IMB-ADL-H610	IMB-H110	IMB-H810
CPU Socket	LGA1700	LGA1700	LGA1151	LGA1150
CPU Type	12th/13th/14th generation Alder Lake-S/Raptor Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/ Celeron® Processor, up to 125W TDP	LGA1700 socket supports 12th/13th/14th generation Alder Lake-S/Raptor Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/ Celeron® Processor, up to 65W TDP	6th/7th generation Core™ i7/i5/i3, Pentium® or Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor
Chipset	Intel® Q670/Q670E	Intel® H610/H610E	Intel® skylake H110	Intel® H81
Memory	Four 288-pin 3200 MHz Dual-Channel DDR4 SDRAM Unbuffered DIMMs supported (system max.128GB)	Two 288-pin 3200 MHz dual-channel DDR4 SDRAM unbuffered DIMMs supported (system max. 64GB)	Two 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs supported (system max. 64GB)	Two 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 16 GB)
Display Interface	Triple independent display 1 x VGA 1 x DVI-I 1 x Internal DP++	Triple independent display 1 x DP 1.4a 1 x HDMI 2.0b 1 x iDPM 3040 slot (only for IEI eDP/ LVDS/VGA module)	Dual independent display support 1 x VGA 1 x DVI-I 1 x 18/24-bit dual-channel LVDS 1 x iDP	Triple display support 1 x VGA1 1 x VGA2 1 x iDP Interface
Ethernet	LAN1: Intel® I225LM/I226LM 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller	LAN1: Intel® i219 LM controller LAN2: Intel® I225V/I226V 2.5GbE controller	LAN1: RTL 8111GN controller	LAN1: Intel® I217LM LAN2: Intel® I210-AT PCIe controller with NCSI support
I/O Interface	4 x USB 3.2 Gen2 (Type A) 6 x USB 3.2 Gen1 (Type A) 4 x USB 2.0 (Type A) 2 x RS-232/422/485 (2x5 pin, P=2.54) 8 x RS-232 (2x20 pin, P=2.54)	2 x USB 3.2 Gen2 x1 (Type-A) 2 x USB 3.2 Gen1 x1 (Type-A) 4 x USB 2.0 (Type-A) 2 x RS-232/422/485 (RS-485 support AFC) 2 x USB 2.0 (2x4 pin, P=2.54) 4 x RS-232 (2x5 pin, P=2.54)	1 x KB/MS (1x6 pin) 2 x RS-232/422/485 (2x5 pin, P-=2.0) 1 x LPT (2x13 pin, P=2.54) 2 x USB 2.0 (2x4 pin, P=2.0) 10 x RS-232 (2x5 pin, P=2.0)	1 x KB/MS 2 x USB 2.0 2 x RS-232 2 x USB 3.2 Gen 1 Type A 1 x LPT pin header 1 x RS-422/485 (pin header 8 x RS-232 pin header 8 x USB 2.0 pin header
Storage Interface	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)	4 x SATA 6Gb/s (RAID 0/1 supported)	2 x SATA 6Gb/s 2 x SATA 3Gb/s (AHCI supported)
Audio	Realtek ALC888S HD Audio codec supports 7.1-channel 3 x Audio jacks (line-out, line-in, mic-in) on rear IO 1 x Front audio (2x5 pin)	1 x iAUDIO, supports IEI AC-KIT-888S Audio Kit (2x5 pin)	Realtek ALC888S HD Audio codec supports 7.1-channel 3 x Audio jacks (line-out, line-in, mic-in) on rear IO 1 x Front audio (2x5 pin)	Realtek ALC888S HD Audio codec
Digital I/O	1 x 12-bit digital I/O (2x7 pin)	1 x 12-bit digital I/O (2x7 pin)	8-bit programmable digital I/O	N/A
Power Consumption	3.3V@1.36A, 5V@11.85A, 12V@5.75A, 5VSB@0.38A (Intel® Core™ i9-12900E CPU with two 32 GB 3200 MHz DDR4 memory, EuP mode enabled)	3.3V@0.35A, 5V@7.54A, 12V@5.75A, 5VSB@0.96A (Intel® Core™ i9-12900E CPU with 8 GB 3200 MHz DDR4 memory, EuP mode enabled)	3.3V@ 0.93A, 5V@2.99A, 12V@6.88A, 5VSB@0.02A (Intel® Core™ i7-6700K 4.0GHz CPU with 16GB (two 8GB) 2133 MHz DDR4 memory)	3.3V@0.64A, 5V@4.20A, 12V@0.14A, Vcore_12V@3.88A, 5VSB@0.20A (Intel® Core™ i7-4770K 3.90 GHz CPU with 8 GB two 1333 MHz 4 GB DDR3 memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operation Environment	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing		Temperature Range: -20°C ~ 60°C (-4°F~140°F) Relative Humidity: 5% ~ 95% non-condensing	
Expansion Slot	**1 x PCIe Gen4 x16 **1 x PCIe Gen4 x4 open-end 1 x PCIe Gen4 x4 open-end 1 x PCIe Gen3 x1 1 x M.2 M key 2242/80 (PCIe Gen3 x4) 1 x M.2 M key 2242/80 (PCIe Gen3 x2)	*1 x PCIe Gen4 x16 Slot with x16 Signal 1 x PCIe Gen3 x4 open-end 2 x PCIe Gen3 x1 1 x M.2 M Key 2280 (PCIe x1)	1 x PCIe x16 (Gen3) 1 x Full-size PCIe Mini card 1 x PCIe x1 (Gen2) 2 x PCI	1 x PCIe x16 (Gen 3) 1 x PCIe x1 2 x PCI
CPU Cooler	19100-000319-00-RS 19100-000326-00-RS 19100-000327-00-RS 19100-000328-00-RS	19100-000323-00-RS	CF-115XA-R10 CF-115XE-R10	CF-115XA-R10 CF-115XE-R10

**Intel® recommends that Alder Lake-S CPU PCIe ports are only used for discrete graphics and storage devices

Industrial Motherboards

Mini-ITX

AMD® Platform

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Model	KINO-ADL-N	KINO-AM5	KINO-MPHX	KINO-ADLPS	KINO-EHL2
CPU Socket	On Board	AMD AM5	On Board	LGA1700	On Board
CPU Type	Intel® Alder Lake-N SoC Processor	AMD Ryzen™ 7000&8000G Series Desktop Processors	AMD Ryzen™ 7000 Series Mobile Processors	Intel® Alder Lake PS CPU	Intel® Elkhart Lake Processor Intel® Celeron® J6412 on-board SoC
Chipset	Intel® Alder Lake-N SoC Processor	AMD Ryzen™ 7000&8000G	AMD Ryzen™ 7000 Series Mobile Processors	Intel® Alder Lake PS CPU	Intel® Elkhart Lake Processor Intel® Celeron® J6412 on-board SoC
Memory	1 x 262-pin 4800 MHz DDR5 SO-DIMM (system max. 16GB, support IBECC)	Two 260-pin 5200 MHz dual-channel DDR5 SDRAM unbuffered DIMMs supported (system max. 64GB)	Two 260-pin 5600 MHz dual-channel DDR5 SDRAM unbuffered DIMMs supported (system max. 64GB)	Two 3200 MHz DDR4 SO-DIMMs	One 260-pin 3200 MHz DDR4 SO-DIMM (system max. 16GB)
Display Interface	2 x HDMI 1.4 1 x DP 1.4	1 x DP 1.4 2 x HDMI 2.0	-	1 x DP 1.4 1 x HDMI 2.0 1 x iDPM support IEI eDP/ LVDS/VGA module	Triple Independent Displays 1 x HDMI 1.4 1 x DP 1.4 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)
Ethernet	LAN1: Intel® I226V 2.5GbE controller LAN2: Intel® I226V 2.5GbE controller Support TSN (x7000 Series)	LAN1: Intel I226V 2.5GbE controller LAN2: Intel I226V 2.5GbE controller	LAN1: Realtek RTL8125BG-CG 2.5GbE controller LAN2: Realtek RTL8125BG-CG 2.5GbE controller LAN3: Realtek RTL8125BG-CG 2.5GbE controller	LAN1: Intel® I225-V/I226-V 2.5GbE controller LAN2: Intel® I225-V/I226-V 2.5GbE controller	LAN1: Intel® I225-V/I226-V 2.5GbE controller LAN2: Intel® I225-V/I226-V 2.5GbE controller
I/O Interface	2 x USB 3.2 Gen 2 (10Gb/s) 2 x USB 2.0 2 x USB 2.0 (2x4 pin, P=2.0) 1 x USB 3.2 (Type A, 180°) (Only embedded CPU) 2 x RS-232/422/485 (2x5 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0)	2 x USB 3.2 Gen2 (Type-A) 4 x USB 3.2 Gen1 (Type-A) 1 x RS-232/422/485 1 x RS-232/422/485 (2x5 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0) 4 x USB 2.0 (2x4 pin, P=2.0)	2 x USB 3.2 Gen2 (Type-A) (10Gb/s) 4 x USB 3.2 Gen1 (Type-A, 5Gb/s) from PCIe to USB bridge EJ198 2 x RS-232/422/485 (2x5 pin, P=2.0) 2 x USB 2.0 (2x4 pin, P=2.0)	2 x RS232/422/485 via DB-9 (RS-485 support AFC) 2 x USB 2.0 (Type A) 2 x USB 3.2 Gen 2 (Type A) (10Gb/s) 2 x USB 3.2 Gen 2 (Type A) (10Gb/s) 2 x USB 2.0 (2x4 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0)	2 x USB 3.2 Gen2 (10Gb/s) (USB Type A) 2 x USB 2.0 (USB Type A) 2 x RS-232 4 x USB 2.0 (2x4 pin, P=2.0) 2 X RS-232/422/485 (2x5 pin, P=2.0) 2 X RS-232 (2x5 pin, P=2.0)
Storage Interface	2 x SATA 6Gb/s	2 x SATA 6Gb/s	2 x SATA 6Gb/s	2 x SATA 6Gb/s	2 x SATA 6Gb/s
Audio	Realtek ALC888S HD Audio codec 1 x Audio Jack (line-out/MIC-in) on rear IO 1 x Front audio (2x5 pin)	Realtek ALC888S HD Audio codec 3 x Audio jack (Line-in, Line-out, MIC-in)	Realtek ALC888S HD Audio codec 2 x Audio jack (Line-out, Mic-in) 1 x Front audio (2x5 pin)	1 x IAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	Realtek ALC888S HD Audio codec 3 x Audio Jack (Line-in, Line-out, Mic-in) 1 x Analog audio (2x5 pin)
Digital I/O	12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin, P=2.0)		12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin, P=2.0)
Power Consumption	12V@4.304A, 19V@2.744A, 24V@2.241A, 28V@1.943A, (Intel ®N97 @2.00GHz (Intel® N97 2.00GHz CPU with Innodisk M5S0-AGS2NCVP 16GB 4800MHz memory, max. loading, EuP mode enabled)	12V@13.60A (AMD Ryzen™ 9 7900 3.7GHz CPU with Apacer D22.35305H.001 32GB 5600MHz DDR5 memory)	TBD	12V@2.59A (Intel@ Core i7-12700HL 2.3GHz 45W CPU with 32GB 3200MHZ DDR4 memory, max. loading, EuP mode enabled)	12V@3.23A, 19V@2.15A, 24V@1.74A, 28V@1.53A (Intel® Celeron® J6412 2.0GHz with 32GB 3200MHz DDR4 memory and Eup enabled)
Watchdog Timer	Software Programmable support 1~255 sec. System reset				
Operation Environment	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: 0°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x PCIe x4 Slot Open-ended (PCIe Gen3 x1 signal) 1 x M.2 A Key 2230 for WIFI & BT (PCIe Gen3 x1 & USB 2.0) 1 x M.2 M key 2242/2280 (PCIe Gen3 x1)	1 x PCIe Gen4 x16 1 x M.2 M key 2280 (PCIe Gen3 x4) 1 x M.2 A key 2230 (PCIe Gen3 x1 & USB 2.0) (A key will be disabled on Ryzen8000G PHX2)	1 x PCIe x16 (slot1) with Gen4 x8 signal 1 x M.2 M key (2242/80, PCIe Gen4 x4) 1 x M.2 A key (2230, PCIe Gen4 x1 & USB 2.0)	1 x PCIe Gen3 x4 (x4 or x2+x2 or x2+x1+x1) 1 x M.2 A Key 2230 for Wi-Fi & BT (PCIe Gen3 x1 & USB2.0) 1 x M.2 M Key 2242/3080 (PCIe Gen4 x4)	1 x PCIe x4 Slot Open-ended (PCIe Gen3 x1 signal) 1 x M.2 A key 2230 (PCIe Gen3 x1 & USB 2.0) 1 x M.2 B key 3042/3052//2280 (PCIe Gen3 x2 & USB 2.0) 1 x On-board SIM card socket (hinge type) for M.2 B key
CPU Cooler	-	19100-000344-00-RS 19100-000345-00-RS 19100-000348-00-RS 19100-000338-00-RS	-	19100-000323-00-RS 19100-000319-00-RS	-

Embedded Computers

Industrial Motherboards

Mini-ITX

Intel® Platform




Model	KINO-EHL-J6412	KINO-DBT	eKINO-BT	KINO-ADL-H610
CPU Socket	On Board	On board	On board	LGA1700
CPU Type	Intel® Celeron® J6412 on-board SoC	Intel® Atom®/Celeron® on board SoC (Code name: Bay Trail)	Intel® Atom®/Celeron® on board SoC (Code name: Bay Trail)	12th/13th/14th generation Alder Lake-S/ Raptor Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/ Celeron® Processor (up to 65W TDP CPU)
Chipset	Intel® Celeron® J6412 on-board SoC	Intel® Atom®/Celeron® on-board SoC	Intel® Atom®/Celeron® on-board SoC	Intel® H610/H610E
Memory	Onboard LPDDR4x-3200MHz 8GB (system max. 16GB)	2 x 204-pin 1066/1333 MHz dual-channel unbuffered DDR3L SDRAM SO-DIMM support up to 8 GB (J1900) One 204-pin 1066/1333 MHz dual-channel unbuffered DDR3L SDRAM SO-DIMM supports up to 4 GB (N2807)	2 x 204-pin 1066/1333 MHz dual-channel unbuffered DDR3L SDRAM SO-DIMM support up to 8 GB (J1900, N2930, E3845, E3827, E3826) One 204-pin 1066/1333 MHz dual-channel unbuffered DDR3L SDRAM SO-DIMM supports up to 4 GB (N2807, E3825, E3815)	Two 260-pin 3200 MHz dual-channel DDR4 SDRAM unbuffered SO-DIMMs supported (system max. 64GB)
Display Interface	Triple independent display 1 x HDMI 1.4 1 x DP 1.4 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	1 x VGA 1 x DVI-D 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP	Dual display supported 1 x VGA 2 x 18/24-bit dual-channel LVDS	Triple independent display 1 x DP 1.4 1 x HDMI 2.0 1 x IEI iDPM 3040 slot (only for IEI eDP/ LVDS/ VGA module)
Ethernet	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller	Dual LAN: Realtek RTL8111HN PCIe controller	Dual LAN: Realtek RTL8111E PCIe controller	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller
I/O Interface	2 x USB 3.2 Gen 2 (10Gb/s) (USB Type A) 2 x USB 2.0 (USB Type A) 2 x RS-232 4 x USB 2.0 (2x4 pin, P=2.0) 4 X RS-422/485 (1x4 pin, P=2.0)	2 x RS-232 2 x USB 2.0 2 x USB 3.2 Gen 1 Type A 1 x KB/MS pin header 1 x RS-422/485 pin header 3 x RS-232 pin header 4 x USB 2.0 pin header	2 x USB 2.0 2 x USB 3.2 Gen 1 Type A 3 x RS-232 1 x KB/MS pin header 1 x RS-422/485 pin header 1 x RS-232 pin header 2 x USB 2.0 pin header	2 x USB 3.2 Gen2 (Type-A) 2 x USB 3.2 Gen1 (Type-A) 2 x USB 2.0 (Type-A) 2 x RS-232/422/485 2 x USB 2.0 (2x4 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0)
Storage Interface	1 x SATA 6Gb/s	2 x SATA 3Gb/s 1 x microSD slot (E38xx sku only)	2 x SATA 3Gb/s 1 x microSD card 1 x CFast slot	2 x SATA 6Gb/s
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin, P=2.0)	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec	1 x iAUDIO, supports IEI AC-KIT-888S Audio Kit (2x5 pin)
Digital I/O	12-bit DIO (2x7 pin)	8-bit programmable digital I/O	8-bit programmable digital I/O	12-bit digital I/O (2x7 pin, P=2.0)
Power Consumption	12V@2.78A (Intel® Celeron® J6412 2.0GHz with 8GB 3200MHz LPDDR4X memory and EUP enabled)	12V@1.64A (Intel® Celeron® J1900 CPU with 4 GB 1333 MHz DDR3L memory)	12V@1.55A (Intel® Celeron® J1900 CPU with two 8 GB 1333 MHz DDR3L memory)	3.3V@0.96A, 5V@6.49A, 12V@5.95A, 5VSB@1.05A (Intel® Core™ i9-12900E CPU with two 16 GB 3200 MHz DDR4 memory, max. loading, EuP mode enabled)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operation Environment	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95% non-condensing	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: 0°C ~ 40°C with AUPS sub-system -20°C ~ 60°C without AUPS sub-system Relative Humidity: 5% ~ 95% non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x PCIe x4 slot, open-ended 1 x M.2 A key 1 x M.2 B Key 1 x On-board SIM card socket for M.2 B key	1 x Full-size PCIe Mini card slot (support mSATA) 1 x PCIe x4 slot (with PCIe x1 signal)	1 x Full-size PCIe Mini card slot 1 x PCIe x1 slot	**1 x PCIe x16 (Slot1) with x16 Signal Gen4 1 x M.2 M key 2242/2280 (PCIe Gen3 x4) 1 x M.2 A Key 2230 (PCIe Gen3 x1&USB 2.0)
CPU Cooler	Cooler/Heatsink	Heatsink	Heatsink	19100-000323-00-RS 19100-000319-00-RS 19100-000333-00-RS

**Intel® recommends that Alder Lake-S CPU PCIe ports are only used for discrete graphics and storage devices

Industrial Motherboards

Mini-ITX

Intel® Platform




Model	KINO-ADL-P	KINO-TGL-U	KINO-DH420	KINO-DH310
CPU Socket	On Board	On Board	LGA1200	LGA1151
CPU Type	12/13th Gen. Intel® mobile Alder Lake-P on-board processor	11th Gen. Core™ i7/i5/ i3, Celeron® UP3 processor (code name: Tiger Lake)	10th generation Intel® Core™ i9/i7/5/ i3/Pentium® and Celeron® processor	8th/9th generation Intel® Core™ i9/i7/ i5/i3, Pentium® or Celeron® processor (35W/65W)
Chipset	-	-	Intel® H420E	Intel® H310
Memory	Two 260-pin 3200 MHz DDR4 SO-DIMM (system max. 64GB)	Two 260-pin 3200 MHz DDR4 SO-DIMM (system max. 64GB)	Two 260-pin 2933 MHz dual-channel DDR4 SO-DIMMs (system max. 64GB)	Two 260-pin 2666/2400 MHz Dual-channel DDR4 SDRAM Unbuffered SO-DIMM slots
Display Interface	Triple independent display 1 x HDMI 1.4 1 x DP 1.4 1 x IEI iDPM 3040 slot (only for IEI eDP/ LVDS/ VGA module)	Triple independent display 1 x HDMI 1.4 1 x DP 1.4 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	Dual independent display 1 x DP 1.4 1 x HDMI 1.4	Dual independent display 2 x HDMI 1 x Internal DisplayPort (180°)
Ethernet	LAN1: Intel® I225LM 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller LAN3: Intel® I225V/I226V 2.5GbE controller	LAN1: Intel@I225-V/I226-V controller LAN2: Intel@I225-V/I226-V controller	LAN1: Intel® I225V/I226V GbE controller LAN2: Intel® I225V/I226V GbE controller LAN3: Intel® I225V/I226V GbE controller	LAN1: Realtek RTL8111H PCIe GbE controller LAN2: Realtek RTL8111H PCIe GbE controller
I/O Interface	4 x USB 3.2 Gen 2 (Type A) 2 x RS-232/422/485 4 x USB 2.0 (2x4 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0)	4 x USB 3.2 Gen 2 (10Gb/s) 1 x RS-422/485 (1x4 pin, P=2.0) 2 x USB 2.0 (2x4 pin, P=2.0) 5 x RS-232 (2x5 pin, P=2.0)	2 x RS-232 2 x USB 2.0 4 x USB 3.2 Gen 1 Type A 1 x RS-232 (2x5 pin, P=2.0) 1 x RS-422/485 (1x4 pin, P=2.0) 2 x USB 2.0 (2x4 pin, P=2.0)	4 x USB 3.2 Gen 1 Type A 2 x RS-232 1 x KB/MS 1 x RS-422/485 1 x RS-232 4 x USB 2.0
Storage Interface	2 x SATA 6Gb/s	2 x SATA 6Gb/s	2 x SATA 6Gb/s (No RAID)	2 x SATA 6Gb/s
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2 x 5 pin)	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	Realtek ALC888S HD codec 2 x Audio Jack (Line-out, Mic-in) 1 x Front Audio (2x5 pin, P=2.54)	Realtek ALC888S HD Audio codec 2 x Audio Jack (Lin-out, Mic-in) 1 x Front audio (2x5 pin)
Digital I/O	12-bit digital I/O (2x7 pin)	12-bit programmable I/O (12-bit GPIO is for programming I/O)	8-bit digital I/O connector (2x5 pin)	8-bit programmable digital I/O
Power Consumption	12V@5.09A, 19V@3.25A, 24V@2.58A, 28V@2.23A, (12th Gen Intel® Core™ i7-1270PE CPU with 32 GB 3200 MHz DDR4 memory, max. loading, EuP mode disabled)	9V@9.19A, 12V@7.768A, 28V@3.119A, 36V@2.459A (Intel® Core™ i7-1185G7E CPU and one 8 GB 2933 MHz DDR4 SO-DIMM)	12V@12.408A (Intel® Core™ i9-10900E CPU with two 32 GB 2933 MHz DDR4 memory, EuP/ErP mode disabled)	12V@11.32A (Intel® Core™ i7-8700 up to 4.60 GHz CPU with two 8GB 2666MHz DDR4 memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operation Environment	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: 0°C ~ 60°C (32°F-140°F) Relative Humidity: 5% ~ 95% non-condensing
Expansion Slot	1 x PCIe Gen3 x4 1 x M.2 E Key (WIFI&BT 2230) 1 x M.2 B key 3042 (PCIe Gen3 x2/USB2.0) 1 x M.2 M key 2280 (PCIe Gen3 x4)	1 x M.2 A key 2230 (PCIe Gen3 x1 & USB 2.0 signal) 1 x M.2 M key 2242/2280 (PCIe Gen3 x2 signal)	1 x PCIe Gen3 x16 1 x M.2 A key (2230) 1 x M.2 B key (3042/52/2242/80)	1 x PCIe x16 1 x M.2 M key (2280, Gen2 PCIe x2 only) 1 x M.2 A Key (2230, PCIe x1 & USB 2.0)
CPU Cooler	Cooler/Heatsink	Cooler/Heatsink	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10

Embedded Computers

Industrial Motherboards

Mini-ITX

Intel® Platform

Zhaoxion Platform




Model	KINO-DH110	KINO-AQ170	KINO-DH810	KINO-KX
CPU Socket	LGA1151	LGA1151	LGA1150	On Board
CPU Type	6th/7th generation Intel® Core™ i7/i5/i3 Pentium® and Celeron® processor	6th/7th generation Intel® Core™ i7/i5/ i3, Pentium® and Celeron® processor	4th generation LGA1150 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor supported	Zhaoxin Kaixian KX-6000 series 8-core processor Zhaoxin KX-U6580/U6780A on-board SoC
Chipset	Intel® H110	Intel® Q170	Intel® H81	Zhaoxin ZX-200
Memory	Two 260-pin 2133MHz dual-channel DDR4 SDRAM unbuffered SO-DIMM (system max. 32GB)	Two 260-pin 2133 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)	Two 204-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 16 GB)	2 x 260-pin 2666 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)
Display Interface	Dual independent display 1 x DP++ 1 x HDMI 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP	Triple independent display supported 1 x HDMI 2.0 1 x HDMI/DP 1 x VGA 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP	Dual display supported 1 x VGA 1 x DVI-I 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP	Dual independent display 1 x VGA 1 x DVI-I
Ethernet	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211 PCIe controller	LAN1: Intel® I219LM with (Intel® AMT 11.0 support) LAN2: Intel® I211 PCIe controller with NCSI support	Dual LAN: Intel® I211-AT PCIe controller	LAN1: Realtek RTL8111H PCIe GbE controller LAN2: Realtek RTL8111H PCIe GbE controller
I/O Interface	4 x USB 3.2 Gen 1 Type A 1 x RS-232/422/485 1 x KB/MS (1x6 pin) 2 x RS-232 (2x5 pin, P=2.0) 4 x USB 2.0 (2x4 pin, P=2.0)	1 x KB/MS 4 x USB 3.2 Gen 1 Type A 2 x USB 2.0 2 x RS-232/422/485 (2x5 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0) 4 x USB 2.0 (2x4 pin, P=2.0)	2 x USB 2.0 2 x USB 3.2 Gen 1 Type A 2 x RS-232 1 x KB/MS (1x6 pin) 1 x RS-422/485 (1x4 pin, P=2.0) 4 x USB 2.0 (2x4 pin, P=2.0) 3 x RS-232 (2x5 pin, P=2.0)	10 x USB 2.0 4 x USB 3.2 Gen 1 (5Gb/s) 1 x KB/MS 2 x RS-232 (2x5 pin, P=2.0) 8 x RS-232 (2x20 pin, P=2.0)
Storage Interface	2 x SATA 6Gb/s	4 x SATA 6Gb/s	2 x SATA 6Gb/s with SATA power connector	4 x SATA 6Gb/s
Audio	Realtek ALC888S HD Audio codec supports 7.1-channel 2 x Audio jacks (line-out, mic-in) on rear IO 1 x Front audio (2x5 pin)	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec 2 x Audio jacks (line-out, mic-in) on rear IO 1 x Front audio (2x5 pin)	Realtek ALC888S HD Audio codec
Digital I/O	8-bit digital I/O (2x5 pin)	8-bit digital I/O (2x5 pin)	8-bit digital I/O (2x5 pin)	N/A
Power Consumption	12V@12.16A (3.4GHz Intel® Core™ i7-6700 with two 8GB 2133MHz 16GB DDR4 memory)	3.3V@1.62A, 5V@3.54A, 12V@8.17A, 5VSB@3.6A (Intel® Core™ i7 6700K 4.0 GHz CPU with 16 GB (two 8 GB) 2133 MHz DDR4 memory)	12V@6.03A (Intel® Core™ i7-4770K 3.90 GHz CPU with two 1333 MHz 4 GB DDR3 memory)	12V@3.38A, 3.3V@0.62A, 5V@9.81A, 5VSB@0.03A (Zhaoxin KX-U6580 2.5 GHz CPU with 8 GB 2400 MHz DDR4 memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operation Enviornment	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95% non-condensing	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: 0°C ~ 60°C (32°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x Full-size PCIe Mini card slot (PCIe & USB) 1 x M.2 B key (SATA) 1 x PCIe x16 slot (Gen2)	1 x PCIe x8 slot 1 x Full-size PCIe Mini card slot (support mSATA)	1 x PCIe x1 slot 1 x Full-size PCIe Mini card slot (support mSATA)	1 x PCIe x16 slot (x8 Gen3 signal) 1 x Full-size PCIe Mini Slot
CPU Cooler	CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	Cooler

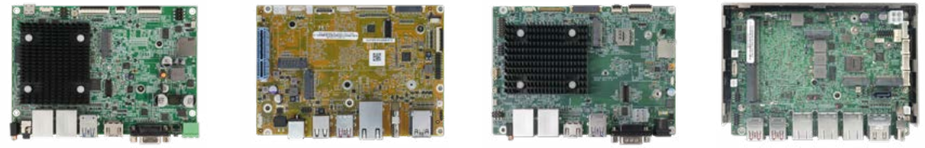
Embedded Boards

4” EPIC

Model	NANO-ADL-P	NANO-EHL	NANO-ULT3	NANO-AL	NANO-BT
CPU Socket	On board	On board	On board	On board	On board
CPU Type	12th/13th Gen. Intel® mobile Alder Lake-P/Raptor Lake-P on-board SoC	Intel® Elkhart Lake Processor Intel® Celeron® J6412 on-board SoC (up to 2.6GHz, quad-core, 1.5M Cache, TDP=10W)	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Pentium® N4200 on-board SoC Intel® Celeron® N3350 on-board SoC Intel® Atom® x7-E3950 on-board SoC Intel® Atom® x5-E3940 on-board SoC Intel® Atom® x5-E3930 on-board SoC	Intel® Atom® E3827 on-board SoC Intel® Atom® E3826 on-board SoC Intel® Atom® E3815 on-board SoC Intel® Celeron® J1900 on-board SoC Intel® Celeron® N2807 on-board SoC
Chipset	12th/13th Gen. Intel® mobile Alder Lake-P/Raptor Lake-P on-board SoC	Intel® Elkhart Lake Processor Intel® Celeron® J6412 on-board SoC (up to 2.6GHz, quad-core, 1.5M Cache, T DP=10W)	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Atom®/Celeron®/Pentium® on-board SoC	Intel® Atom®/Celeron® on-board SoC
Memory	On-board LPDDR4x 3200 MHz 8GB (system max. 32GB)	On-board Dual channel LPDDR4x 8GB (system max. 16GB)	Two 260-pin 2133/1867 MHz dual-channel DDR4 SO-DIMMs (system max. 32 GB)	One 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	One 204-pin 1333/1066 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)
Display Interface	Quadruple independent display 2 x HDMI 1.4 1 x DP 1.4 1 x iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	Triple Independent Display 1 x HDMI 1.4 1 x DP 1.4 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	Triple independent display 2 x HDMI 1 x 18/24-bit dual-channel LVDS 1 x iDP interface	Triple independent display 2 x HDMI 1 x 18/24-bit dual-channel LVDS 1 x iDP interface for HDMI. LVDS, VGA, DVI, DP	Dual display supported 1 x VGA 1 x HDMI 1 x 18/24-bit dual-channel LVDS
Ethernet	2 x Intel® I225V/I226V 2.5GbE controller (Colay with I225-LM/I226-LM)	LAN1: Intel® I225-V/I226-V 2.5GbE controller LAN2: Intel® I225-V/I226-V 2.5GbE controller	LAN1: Intel® I219-LM PHY with Intel® AMT 11.0 supported LAN2: Intel® I211-AT PCIe GbE controller	Intel® I211-AT PCIe controller	NANO-BT-i1 LAN1: Intel® I210-AT PCIe controller with NCSI support LAN2: Intel® I210-IT PCIe controller » NANO-BT-E38XX1W2 LAN1: Intel® I210-IT PCIe controller with NCSI support LAN2: Intel® I210-IT PCIe controller
I/O Interface	4 x USB 2.0 (2x4 pin, P=2.0) 2 x RS-232/422/485 (2x5 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0)	2 x USB 3.2 Gen2 2 x USB 2.0 2 x USB 2.0 (2x4 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0) 2 x RS-232/422/485 (2x5 pin, P=2.0)	4 x USB 3.2 Gen 1 1 x USB 2.0 (180° Type-A) 1 x KB/MS (1x6 pin) 2 x USB 2.0 (2x4 pin, P=2.0) 1 x RS-232/422/485 (2x5 pin, P=2.0) 2 x RS-232 (2x5 pin, P=2.0)	1 x KB/MS (1x6 pin) 2 x USB 2.0 (2x4 pin, P=2.0) 2 x RS-232/422/485 (2x5 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0)	1 x PS/2 KB/MS 1 x USB 2.0 1 x USB 3.2 Gen 1 (5Gb/s) 1 x RS-422/485 (1x4 pin, P=2.0) 2 x USB 2.0 (2x4 pin, P=2.0) 3 x RS-232 (2x5 pin, P=2.0)
Storage Interface	1 x SATA 6Gb/s	1 x SATA 6Gb/s with 5V SATA power connector 1 x iSATA	2 x SATA 6Gb/s with 5V SATA power connector 1 x 8 GB eMMC (optional)	2 x SATA 6Gb/s with 5V SATA power connector	2 x SATA 3Gb/s with 5V SATA power connector
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	Realtek ALC888S HD Audio codec 1 x Front audio (2x5 pin)	N/A	Realtek ALC888S HD Audio codec 1 x Front audio (2x5 pin)
Digital I/O	12-bit Digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)	8-bit programmable digital I/O	8-bit digital I/O (2x5 pin)	8-bit digital I/O (2x5 pin)
Power Consumption	12V@4.62A (12th Gen Intel® Core™ i7-1265UE CPU with 8 GB 3200 MHz LPDDR4x memory, max. loading, EuP mode enabled)	12V@2.75A (Intel® Celeron® J6412 CPU with 8 GB 3200 MHz LPDDR4x memory, max. loading, EuP mode disabled)	12V@2.48A (Intel® Core™ i3-6100U CPU with two 8 GB memory)	12V@2.13A (Intel® Pentium® N4200 CPU with one 8GB 1600MHz DDR3L memory) 12V@2.81A (Intel® Atom® x7-E3950 CPU with one 8GB 1600MHz DDR3L memory)	12V@1.52A (Intel® Atom® Processor J1900 CPU with one 8 GB 1333 MHz DDR3L memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset				
Operating Environment	Temperature Range: -10°C ~ 65°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 65°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: NANO-AL: -20°C ~ 70°C (-4°F~158°F) NANO-ALW2: -40°C ~ 85°C (-40°F~185°F) Relative Humidity: 5% ~ 95% non-condensing	Temperature Range: NANO-BT-i1: -20°C ~ 60°C (-4°F ~ 140°F) NANO-BTW2: -40°C ~ 85°C (-40°F ~ 185°F) Relative Humidity: 5% ~ 95% non-condensing
Expansion Slots	1 x M.2 A Key for Wi-Fi & BT 2230 (PCIe Gen3 x 1 & USB 2.0) 1 x M.2 B-key 3042/2280 (PCIe Gen3 x2 & USB 2.0) 1 x On-board SIM card socket (hinge type) for M.2 B key 1 x PCIe x4 slot(PCIe x4 signal, x4 or x2+x2 or x1+x1+x1)	1 x M.2 B Key 2242/2280 (PCIe Gen3 x2 & USB2.0) 1 x M.2 A Key 2230 (PCIe Gen3 x1 & USB2.0) 1 x PCIe x4 slot (PCIe Gen3 x2 signal) (x2 or x1+x1)	1 x Full-size PCIe Mini card slot (with SIM holder & mSATA support) 1 x Half-size PCIe Mini card slot	1 x Full/Half-size PCIe Mini slot with SIM holder (optional) 1 x M.2 2242 (B key, SATA, USB 2.0, USB 3.2 Gen1 (5Gb/s) signal only) 1 x micoSD (optional)	1 x Full-size PCIe Mini card slot (support mSATA co-lay SATA port 2) 1 x PCI-104 slot (PCI signal) 1 x microSD slot (E38XX SKU only)
CPU Cooler	Heat Spreader	Heat Spreader	Heat Spreader	Heatsink	Heatsink

Embedded Boards

3.5” Single Board Computers

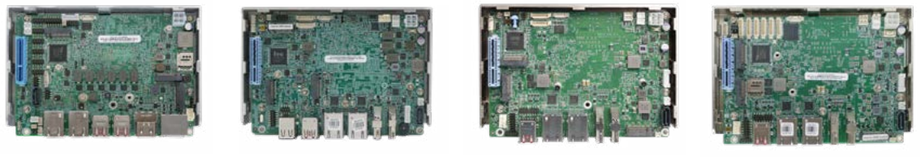


Model	WAFER-IMX8MP	WAFER-RK3588	WAFER-RK3568	WAFER-TGL-U
CPU Socket	On board	On board	On board	On board
CPU Type	NXP i.MX 8M Plus Quad (Quad-core Cortex-A53 up to 1.8 GHz)	Rockchip RK3588 (Quad core Cortex A76 + Quad core Cortex A55)	Rockchip RK3568 (Quad-code Cortex-A55 up to 2.0Ghz)	11th Gen. Intel® mobile Tiger Lake-UP3 SoC
Chipset	NXP i.MX 8M Plus Quad (Quad-core Cortex-A53 up to 1.8 GHz)	Rockchip RK3588	Rockchip RK3568	Intel® Mobile ULT processors
Memory	4 GB LPDDR4-3200 (system max. 8GB)	8GB LPDDR4x	2GB/4GB LPDDR4/4x (system max. 8GB) (the 2GB sku only supports Linux)	One 260-pin 3200 MHz DDR4 SO-DIMM (system max. 32GB)
Display Interface	1 x MIPI DSI 4 lanes (40-pin 0.5mm FPC 90°)	1 x MIPI DSI / 1 x LVDS out	1 x HDMI 2.0 Type A, up to 4K 1 x MIPI DSI, 4-lane (40-pin 0.5mm FPC 90°) 1 x eDP 1.3 (30-pin 0.5mm FPC 90°)	Four Independent Displays 2 x HDMI 1.4 1 x DP 1.4 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)
Ethernet	LAN1: Motorcomm YT8521S 1GbE controller LAN2: Motorcomm YT8521S 1GbE controller	LAN1: Realtek RTL8125B 2.5GbE controller LAN2: Motorcomm YT8521SC 1GbE controller	2 x 1GbE RJ45 by YT8521	LAN1: Intel@I225-V/I226-V 2.5GbE controller LAN2: Intel@I225-V/I226-V 2.5GbE controller LAN3: Intel@I225-V/I226-V 2.5GbE controller
I/O Interface	2 x GbE RJ45 2 x USB 5Gbps Type A 1 x Full RS-232/422/485 (DB9 Port) 1 x RS-232/RS-485 (2x3 pin header) 1 x I²C (for Touch, 8-pin 2.0mm FPC) 8-bit GPIO (4 in / 4 out, pin header)	1 x GbE LAN 1 x 2.5 GbE LAN 1 x USB 3.2 Gen 1 Type C with DP (OS update) 1 x USB 3.2 Gen 1 Type A 2 x USB 2.0 Type A UART (2x9 pin header) 1 x DC jack	1 x DB9 port 2 × RS-232/RS-485 2 x 1GbE RJ45 by YT8521 2 x USB 3.0 Type A 3 x USB 2.0 (2x4 pin, P=2.0) 1 x MIPI CSI, 4 lanes 1 x I2C Connector for TP 1 x Console port 1 x M.2 B Key	4 x USB 3.2 Gen 2 2 x USB 2.0 (P=2.0) 2 x RS-232/422/485 (2x5 pin, P=2.0) 1 x RS-232 (2x5 pin, P=2.0)
Storage Interface	16GB eMMC NAND flash, up to 128GB	32GB of eMMC NAND Flash 1 x SATA up to 6Gb/s	1 × microSD Slot	1 x SATA 6Gb/s
Audio	1 x 3.5mm Audio Jack (Mic-in & Line out)	Pin header to Mic-in / line-out jack	1 x Line out + Mic, 2x3 pin header 1 x 2-pin socket for speaker (1 x 1.3W) 1 x MIC (Wire to Board, WAFER, 1x2 pin, DIP, 180°P=1.25mm)	1 x iAUDIO (2x5 pin) supporting IEI AC-KIT-888S kit
Digital I/O	8-bit GPIO (4 in / 4 out, pin header)	14-bit DIO (7 in / 7 out, pin header)	14-bit GPIO 7 in / 7 out, 2x8 pin header	12-bit digital I/O (2x7pin)
Power Consumption	Maximum 36W	-	12V DC IN	12V@4.0A (11th Gen Intel® Core™ i5-1145G7E 2.6GHz with 8GB 3200MHz DDR4 memory and EUP enabled)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operating Environment	Temperature Range: 0°C ~ 70°C (32°F ~ 158°F) Relative Humidity: 10% ~ 99%, non- condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non- condensing	Operating Temperature: 0°C ~ 60°C with air flow Storage Temperature: -20°C ~ 70°C	Temperature Range: -10°C ~ 65°C Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x PCIe Gen3 x1	1 x PCIe Gen3 x2 1 x M.2 2280 B/M key (PCIe Gen3 x2) 1 x M.2 2230/2242 A/E key (PCIe Gen2 x1)		1 x M.2 A Key 1 x M.2 B Key 1 x On-board SIM card socket for M.2 B key
CPU Cooler	Heatsink	Heat Spreader	Heatsink	Heat Spreader

Embedded Boards

3.5” Single Board Computers

NEW



Model	WAFER-ADL-P	WAFER-ADL-N	WAFER-EHL	WAFER-EHL2
CPU Socket	On board		On board	On board
CPU Type	12th/13th Gen. Intel® mobile Alder Lake-P/Raptor Lake-P on-board SoC	Intel® Alder Lake-N N97 SoC Processor Intel® Alder Lake-N N200 SoC Processor	Intel® Atom® x6000 series / Pentium® / Celeron® processor (Elkhart Lake platform) Intel® Celeron® J6412 on-board SoC	Intel® Atom® x6000 series / Pentium® / Celeron® processor (Elkhart Lake platform) Intel® Celeron® J6412 on-board SoC
Chipset	12th/13th Gen. Intel® mobile Alder Lake-P/Raptor Lake-P on-board SoC	Intel® Alder Lake-N N97 SoC Processor Intel® Alder Lake-N N200 SoC Processor	Intel® Celeron® J6412 on-board SoC	Intel® Atom® x6000 series / Pentium® / Celeron® processor (Elkhart Lake platform) Intel® Celeron® J6412 on-board SoC
Memory	On-board LPDDR4x 3200 MHz 8GB (system max.32G)	Dual channel on-board LPDDR5 8GB pre-installed (system max.16GB)	On-board LPDDR4x 8GB (system max. 16GB)	On-board LPDDR4x 3200 MHz 8GB (system max. 16GB)
Display Interface	Quadruple independent display 2 x HDMI 1.4a 2 x DP 1.4a	Triple Independent Displays 1 x HDMI 2.0 1 x DP 1.4a 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	Triple independent display 1 x HDMI 1.4 1 x DP 1.4 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	Triple Independent Displays 1 x HDMI 1.4a 1 x DP 1.4a 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)
Ethernet	2 x Intel® I225V/I226V 2.5GbE controller (Colay with I225-LM/I226-LM)	2 x Intel® I225-V/I226-V 2.5 GbE LAN	LAN1: Intel® I225-V/I226-V 2.5GbE LAN LAN2: Intel® I225-V/I226-V 2.5GbE LAN	LAN1: Intel® I225-V/I226-V 2.5GbE LAN2: Intel® I225-V/I226-V 2.5GbE
I/O Interface	4 x USB 2.0 (2x4 pin, P=2.0) 2 x RS-232/422/485 (2x5 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.0)	2 x USB 3.2 Gen 2 2 x USB 2.0 2 x USB 2.0 (2x4 pin, P=2.0) 2 x RS-232/422/485 (1x9 pin, P=1.25)	2 x USB 3.2 Gen 2 4 x USB 2.0 (2x4 pin, p=2.0) 2 x RS-232/422/485 (1x9 pin, P=1.25)	2 x USB 3.2 Gen 2 4 x USB 2.0 2 x RS-232/422/485 (1x9 pin, P=1.25) 4 x RS-232 (1x9 pin, P=1.25)
Storage Interface	1 x SATA 6Gb/s	1 x SATA 6Gb/s	1 x SATA 6Gb/s	1 x SATA 6Gb/s
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	1 x iAUDIO Support IEI AC-KIT-888s (2x5 pin)	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)
Digital I/O	12-bit Digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)
Power Consumption	12V@2.83A(12th Gen Intel® Core™ i7-1265UE CPU with 8 GB 3200 MHz LPDDR4x memory, max. loading, EuP mode enabled)	12V@3.21A (Intel® Processor N97 with 8 GB 4800 MHz LPDDR5 memory, max. loading, EuP mode disabled) 12V@2.67A (Intel® Processor N200 with 8 GB 4800 MHz LPDDR5 memory, max. loading, EuP mode disabled)	12V@3.14A (Intel® Celeron® J6412 2.0GHz with on-board 8GB 3200MHz LPDDR4 memory and EUP enabled)	12V@3.24A (Intel® Celeron® J6412 2.0GHz with on-board 8GB 3200MHz LPDDR4 memory and EUP enabled)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operating Environment	Temperature Range: -10°C ~ 65°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 65°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 65°C Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x M.2 A Key 1 x M.2 M Key 1 x M.2 B Key 1 x PCIe Gen3 x4	1 x M.2 A Key 1 x M.2 M Key 1 x PCIe Gen3 x4 Slot (x2 signal)	1 x M.2 A key 1 x M.2 B key 1 x PCIe x4 slot (PCIe Gen3 x2 signal)	1 x M.2 A Key 1 x M.2 B key 1 x PCIe x4 slot (PCIe Gen3 x2 signal)
Recommended CPU Cooler	Heat Spreader	Heat Spreader	Heat Spreader	Heat Spreader

Embedded Computers

Embedded Boards

3.5” Single Board Computers

NEW

Model	WAFER-EHL-x6000	WAFER-JL	WAFER-AL	WAFER-BT
CPU Socket	On board	On board	On board	On board
CPU Type	Intel® Elkhart Lake Atom® x6000 series / Pentium® / Celeron® processor	Intel® Celeron® N5105 on-board SoC (Code name: Jasper Lake)	Intel® Pentium® N4200 on-board SoC Intel® Celeron® N3350 on-board SoC	Intel® Celeron® J1900 on-board SoC Intel® Celeron® N2930 on-board SoC Intel® Celeron® N2807 on-board SoC
Chipset	Intel® Atom® x6211E/x6413E/x6425E on-board SoC	Intel® Celeron® N5105 on-board SoC	Intel® Pentium® N4200 on-board SoC Intel® Celeron® N3350 on-board SoC	Intel® Celeron® J1900/N2930/N2807 on-board SoC
Memory	On-board LPDDR4x 8GB	One 260-pin 2933 MHz DDR4 SO-DIMM (system max. 16GB)	One 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	One 204-pin 1066/1333 MHz dual-channel DDR3L SO-DIMMs (system max. 8 GB)
Display Interface	Triple Independent Displays 1 x HDMI 1.4 1 x DP 1.2 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA Module)	Dual independent display 1 x DP 1.4 1 x HDMI 1.4	Triple independent display 1 x VGA 1 x DP++ 1 x 18/24-bit dual-channel LVDS 1 x iDP	Dual independent display 1 x VGA 1 x 24-bit dual-channel LVDS connector 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP
Ethernet	LAN1: Intel® I225-IT/ I226-IT 2.5GbE controller LAN2: Intel® I225-IT/ I226-IT 2.5GbE controller	3 x Intel@I225-V/I226-V 2.5GbE controller	2 x PCIe GbE LAN Realtek RTL8111 Controller	LAN1: Intel® I210-AT PCIe controller with NCSI support LAN2: Intel® I211-AT PCIe controller
I/O Interface	2 x USB 3.2 Gen 2 4 x USB 2.0 (2*4 pin, P=2.0) 2 x RS-232/422/485 (1x9 pin, P=1.25)	2 x RS-232 pin header 2 x USB 2.0 pin header 2 x USB 3.2 Gen 2	2 x USB 3.2 Gen 2 2 x USB 2.0 (2x4 pin, P=2.0) 2 x RS-232 (1x9 pin, P=1.25)	1 x RS-232 1 x USB 2.0 1 x USB 3.2 Gen 1 1 x KB/MS (1x6 pin) 1 x RS-422/485 (1x4 pin, P=2.0) 4 x USB 2.0 (2x4 pin, P=2.0) 2 x RS-232 (2x5 pin, P=2.0)
Storage Interface	1 x SATA 6Gb/s with 5V SATA power connector	1 x SATA 6Gb/s	2 x SATA 6Gb/s with 5V SATA power connector	2 x SATA 3Gb/s with 5V SATA power connector (no RAID)
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)		Realtek ALC888S HD Audio codec 1 x Front audio (2x5 pin)	Realtek ALC888S HD Audio codec 1 x Front audio (2x5 pin)
Digital I/O	8-bit digital I/O (2x5 pin)	12-bit digital I/O (2x7 pin)	8-bit digital I/O (2x5 pin)	8-bit digital I/O (2x5 pin)
Power Consumption	12V@3.34A, 19V@2.16A, 24V@1.79A, 28V@1.52A (Intel® Atom x6211E 1.3GHz with 8GB 3200MHz DDR4 memory and EUP enabled)	12V@2.45A (Intel® Pentium® Silver N6000 3.30 GHz TDP 6W with one 16GB 2933MHz DDR4 SO-DIMM)	12V@2.57A (Intel® Pentium® N4200 up to 2.5GHz with 8GB DDR3L memory)	12V@1.45A (Intel® Celeron® Processor J1900 CPU with one 8 GB 1333 MHz DDR3L memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operating Environment	Temperature Range: -20°C ~ 85°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 70°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x M.2 A Key 2230 1 x M.2 B Key 3042	1 x M.2 A key 2230 1 x M.2 B key 3042/2280 1 x On-board SIM card socket for M.2 B key	1 x Full/Half-size PCIe Mini slot 1 x Full/Half-size PCIe Mini slot	1 x Full-size PCIe Mini card slot 1 x Half-size PCIe Mini card slot
Recommended CPU Cooler	Heat Spreader	Heat Spreader	Heatsink	Heat Spreader

Embedded Boards

2.5” Pico-ITX/ PC/104-Plus




Model	HYPER-RK3566	HYPER-EHL	HYPER-BT	PM-BT
CPU Socket		On board	On board	On board
CPU Type	Rockchip RK3566 (Quad-code Cortex-A55 Up to 1.8Ghz)	Onboard Intel® Atom® x6000 series / Pentium® / Celeron® processor (Elkhart Lake platform) Intel® Celeron® J6412/N6210 on-board SoC	Intel® Atom® E3845/ E3827/E3826/ E3825/E3815on-board SoC Intel® Celeron® J1900/ N2930/N2807 on-board SoC	Intel® Celeron® J1900 on-board SoC
Chipset	Rockchip RK3566	Intel® Celeron® J6412/N6210 on-board SoC	Intel® Atom®/Celeron® SoC	Intel® Atom®/Celeron® SoC
Memory	2GB/4GB LPDDR4/4x, up to 8GB (option: 2GB sku only supports Linux)	LPDDR4x-3200 MHz 4GB (system max. 8GB)	One 204-pin 1066/1333 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	One 204-pin 1333/1066 MHz DDR3L SO-DIMM (system max. 8 GB)
Display Interface	1 x HDMI 2.0 output port 1 x LVDS port 1 x MIPI DSI, 4 lanes	1 x HDMI 1.4 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	Dual independent display 1 x VGA 1 x iDP interface	Dual independent display 1 x VGA 1 x 18/24-bit single-channel LVDS (2x10 pin)
Ethernet	1 x 1GbE RJ45 by YT8521	LAN1: Intel® I225-V/I226-V 2.5GbE controller	LAN: Intel® I211-AT PCIe GbE controller	GbE by Intel® I210 Ethernet PHY
I/O Interface	2 x RS-232+RS-485 (2x5 pin) 1 x USB 3.0 3 x USB 2.0 1 x HDMI 2.0 Type A 1 x LVDS 1 x MIPI DSI, 4 lanes	2 x USB 3.2 Gen2 2 x USB 2.0 (2x4 pin, P=2.0) 1 x RS-232/422/485 (1x9 pin, P=1.25)	1 x USB 2.0 1 x USB 3.2 Gen 1 (5Gb/s) 1 x RS-232 (2x5 pin, P=2.0) 2 x USB 2.0 (2x4 pin, P=2.0)	3 x USB 2.0 (1x4 pin, P=1.25) 2 x RS-232/422/485 (2x5, P=2.0)
Storage Interface	1 x microSD slot	1 x iSATA 6Gb/s	1 x SATA 3Gb/s with 5V SATA power connector (no RAID)	1 x SATA 3Gb/s with 5V SATA power connector On-board SSD (optional, support by request)
Audio	1 x 2PIN socket for speaker (1.3W); WAFER 1*2 with frame; SMD; 2PIN;180°; P=1.25mm 1 x 2PIN socket for MIC, Connectors; Wire toBoard; WAFER 1*2PIN; DIP; 2PIN; 180°; P=1.25mm	N/A	Realtek ALC888S HD Audio codec supports 7.1-channel	N/A
Digital I/O	8-bit GPIO	8-bit DIO (1x10 pin, P=1.25)	8-bit programmable digital I/O	8-bit digital I/O (2x5 pin, P=2.0)
Power Consumption	TBD	12V@ 2.07A (Intel® Celeron® J6412 CPU with 4 GB 3200 MHz LPDDR4x memory, max. loading, EuP mode enabled)	12V@1.35A (Intel® Celeron® processor J1900 with one 8 GB 1333 MHz DDR3L memory)	5V@1.70A (Intel® Celeron® J1900 CPU with 8GB memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operating Environment	Operating Temperature: -10°C ~ 60°C (14°F-140°F) Storage Temperature: -20°C ~ 70°C	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	-	1 x M.2 M Key 1 x PCIe x4 slot	N/A	1 x Full-size PCIe Mini slot (support mSATA) 1 x PC/104-Plus (ISA+PCI)
CPU Cooler	Heatsink	Heat Spreader	Heat Spreader	Heatsink

Computer-on-Modules

COM-HPC

NEW

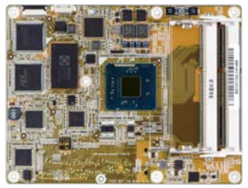
Model	HUK-R680
Form factor	COM-HPC
CPU	Intel® Alder Lake-S/Raptor Lake-S/Raptor Lake-S Refresh LGA1700 Desktop CPU (TDP up to 65W)
Chipsets	R680E
BIOS	UEFI BIOS
Graphics Engine	Intel® Gen12 UHD Graphics
Memory	2 x 262-pin DDR5 5600MHz SO-DIMM sockets (up to 96GB)
Display	Quadruple independent display signals to baseboard 3 x DDI 1 x eDP
LAN	1 x PCIe 2.5 GbE with Intel I226-V signal to baseboard 1 x PCIe 2.5 GbE with Intel I226-LM signal to baseboard
I/O Interface	USB and UART signals to the baseboard 8 x USB 2.0 4 x USB 3.2 Gen2 2 x UART
Storage	2 x SATA signals to the baseboard
Expansion	PCIe signals to the baseboard 1 x PCIe Gen5 x16 4 x PCIe Gen4 x4 1 x PCIe Gen3 x4 6 x PCIe Gen3 x1
Front panel	Front panel signal to baseboard
Audio	1 x HD Audio signal to baseboard 1 x Soundwire Audio/I2S Audio signal to baseboard
eSPI	1 x eSPI signal to baseboard
DMIC	2 x DMIC signal to baseboard
SMBus	1 x 4-pin wafer signal to baseboard
I²C	1 x 4-pin wafer signal to baseboard
GPIO	12-bit GPIO signal to baseboard
TPM	Onboard TPM2.0
Power Input	ATX 12V Power Supply
Size	160 x 120mm
Operating Temperature	-10ºC–60ºC
Operating Humidity	5%–95% (non-condensing)
Certification	CE/FCC compliant

NEW

Model	HUK-DB
Compatible Models	COM-HPC Size A Module (95 x 120mm), B Module (120 x 120mm) and C Module (120 x 160mm)
Display	1 x eDP 1 x HDMI 1.4 up to 4096 x 2304 @30Hz 2 x DP 1.2 up to 4096 x 2304 @60Hz
Ethernet	2 x RJ45 (2.5GbE)
External I/O	6 x RS-232 1 x Front panel (2x7 pin, power LED, HDD LED, speaker/buzzer, power button, reset button)
Internal I/O	1 x General Purpose SPI Port (2 x4 pin, P=2.0) 1 x 12-bit DIO (2x7 pin, P=2.54) 2 x SATA 6Gb/s
Expansion	1 x PCIe Gen5 x16 / 4 x PCIe Gen4 x4 / 1 x PCIe Gen3 x4 1 x PCIe Gen3 x4 (x2 signal) / 1 x M.2 M Key 2242/2280 (PCIe Gen3 x2) / 1 x M.2 A Key 2230 (USB2.0&PCIe Gen3 x2)
MIPI	2 x MIPI CSI
Audio	1 x Realtek ALC888S HD codec / 1 x I2S Audio (Line-in, Line-out, Mic) 1 x Soundwire Audio (2 x 4 pin header) 2 x DMIC connector
Front Panel	1 x Front_Panel (2*7 pin) (Power LED, HDD LED, Speaker (Buzzer), Power Button, Reset Button)
I²C	2 x 4-pin wafer
SMBus	1 x 4-pin wafer
Fan Connector	1 x System fan connector (1x4 pin)
Power Supply	12V DC Input
Temperature	-10°C ~ 60°C
Humidity	5% ~95 non-condensing
Dimensions	315mm x 190mm
Certification	CE/FCC compliant

Computer-on-Modules

COM Express



Computer on Module	COM Express Type 6	COM Express Type 6
COM Express Size	Basic: 125 mm x 95 mm	304.8 mm x 243.8 mm (12” x 9.6”)
Model	**ICE-BT-T6**	**ICE-DB-T6R**
CPU	Intel® Atom® E3845 on-board SoC (1.91GHz, quad-core, 2MB cache, TDP=10W) Intel® Atom® E3827 on-board SoC (1.75GHz, dual-core, 1MB cache, TDP=8W) Intel® Atom® E3826 on-board SoC (1.46GHz, dual-core, 1MB cache, TDP=7W) Intel® Atom® E3825 on-board SoC (1.33GHz, dual-core, 1MB cache, TDP=6W) Intel® Atom® E3815 on-board SoC (1.46GHz, single-core, 512KB cache, TDP=5W) Intel® Celeron® J1900 on-board SoC (2GHz, quad-core, 2MB cache, TDP=10W)	Supports COM Express Compact/Mini module using connector pin out Type 6
Memory	2 x 204-pin 1333/1066 MHz dual-channel DDR3L SDRAM unbuffered SO-DIMMs support up to 8 GB	-
BIOS	UEFI BIOS	-
Graphic Engine	Intel® HD Graphics Gen 7 Engine with 4 execution units, supporting DX11.1, OpenGL 4.2 and OpenCL1.2	-
Display Output	1 x VGA 1 x DDI: (DP up to 2560x1600@60Hz / HDMI up to 1920x1080@60Hz) 1 x LVDS: 18/24-bit dual-channel LVDS	1 x iDP pin-header 1 x LVDS 18/24-bit single or dual-channel (with PWM back light controller) 1 x VGA 2 x DisplayPort
Ethernet	Intel® I210 GbE controller	-
I/O Interface	1 x I²C 1 x LPC 1 x SMBus 2 x Serial port (TX & RX) 7 x USB 2.0 signal to baseboard 4 x USB 3.2 Gen1 signal to baseboard	1 x Audio jack (Line-in, Line-out, Mic) 2 x DisplayPort 1 x VGA 1 x PS2 KB/MS 2 x USB 2.0 1 x RJ-45 4 x USB 3.2 Gen 1 (5Gb/s)
Audio	High Definition Audio interface to baseboard	Realtek ALC888S HD Audio codec (Line-in, Line-out, Mic)
SMBus	Yes, to baseboard	1 x SMBus (1x4 pin)
I²C	Yes, to baseboard	1 x I²C (1x4 pin)
LPC	Yes, to baseboard	-
Expansion	5 x PCIe x1 signal to baseboard (2 from SoC, 3 from PLX PEX8605 switch IC)	1 x LPC 1 x PCIe x4 1 x PCIe x16 5 x PCIe x1 2 x PCIe Mini (MINIPCIE1 with mSATA support, colay with SATA_4)
Watchdog Timer	Software programmable, supports 1~255 sec. system reset (by EC)	Software programmable supports 1~255 sec system reset
eMMC	-	-
GPIO	Yes, to baseboard	8-bit GPIO
TPM	-	-
Power Supply	-	ATX / AT Power Supply 24+4 pins
Power Consumption	+12V@0.54A, Vcore_12V@0.95A (Intel® Celeron® J1900 CPU with two 8 GB 1333 MHz DDR3 memory)	-
Operating Temperature	-20°C ~ 60°C	-20°C ~ 60°C
Operating Humidity	5% ~ 95%, non-condensing	5% ~ 95 non-condensing
Dimension	125 mm x 95 mm	5% ~ 95 non-condensing
Weight	GW: 600g / NW: 200g	GW:650g / NW:430g
Safety	CE/FCC compliant	CE/FCC compliant

Embedded Computers

Computer-on-Modules

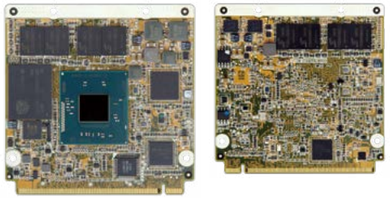
Qseven™

Model	iQ7-EHL
Size	QSeven 2.1
CPU	Intel® Celeron® J6412 on-board SoC (up to 2.6GHz, quad-core, 1.5M Cache, TDP=10W)
Memory	On-board LPDDR4x 3200 MHz 8GB (system max. 16GB)
BIOS	UEFI BIOS
Graphics Engine	Intel® UHD Graphics
Display Interfaces	Dual independent display signal to baseboard 1 X DP 1.4a: up to 4096 x 2160 @ 60 Hz 1 X LVDS: 1920 x 1200 @ 60Hz or eDP: 4096 x 2160 @ 60Hz
Ethernet	1 x PCIe 2.5 GbE with Intel I225-V signal to baseboard
I/O Interface	2 x USB 3.2 Gen2 (10 Gb/s) signal to baseboard 6 x USB 2.0 signal to baseboard
Audio	HDA signal to baseboard
Storage	2 x SATA 6Gb/s signal to baseboard on board eMMC optional (up to 256GB)
Expansion	4 x PCIe Gen3 x1 signal to baseboard
UART	UART signal to baseboard
SDIO	SDIO signal to baseboard
LPC	LPC signal to baseboard
TPM	Intel PTT
I²C	I²C signal to baseboard
Watchdog Timer	Software Programmable support 1~255 sec system reset
Power Supply	5V DC
Fan Connector	1 x Fan control signal to baseboard
Temperature	-10°C ~ 60°C (14°F-140°F)
Humidity	5% ~95 non-condensing
Dimensions	70 mm x 70 mm
Safety	CE/FCC compliant

Model	iQ7-CB
Size	Baseboard for QSeven Rev.2.1 module
Display Interfaces	1 X DP 1.4a 1 x18/24-bit dual-channel LVDS
Audio	Realtek ALC888S HD codec (Line-in, Line-out, Mic)
Expansion	1 x PCIe x1
	1 x M.2 2230 A key for Wi-Fi & BT (PCIe Gen3 x1 / USB 2.0 signal)
	1 x M.2 3042 B key (PCIe Gen3 x2/ USB 2.0 signal) 1 x On-board SIM card socket for M.2 B key
Internal I/O Interface	2 x SATA connector
	1 x SD card socket
	1 x RS-232 pin header (2x5, P= 2.54)
Rear I/O Interface	2 x USB 3.2 Gen1 (5 Gb/s)
	2 x RS-232
	1 x RJ45 (2.5GbE)
	3 x Audio Jack (Line-in, Line-out, Mic)
	2 x USB 2.0
Front Panel	1 x Front panel (2x7 pin) (power LED, HDD LED, speaker/buzzer, power button, reset button)
I²C	1 x 4-pin wafer
SMBus	1 x 4-pin wafer
Power Supply	12V DC Input
Fan Connector	1 x System fan connector (1x4 pin)
Temperature	-10°C ~ 60°C (14°F-140°F)
Humidity	5% ~95 non-condensing
Dimensions	170 mm x 170 mm
Safety	CE/FCC compliant

Computer-on-Modules

Qseven™



Model	iQ7-BT
CPU	Intel® Atom® E3845 on-board SoC (1.91GHz, quad-core, 2MB cache, TDP=10W) Intel® Atom® E3825 on-board SoC (1.33GHz, dual-core, 1MB cache, TDP=6W)
Memory	**2 GB soldered-down 1333/1066 MHz DDR3L memory (up to 4 GB)**
BIOS	UEFI BIOS
Graphics Engine	Intel® HD Graphics Gen 7 Engine with 4 execution units support DX11.1, OpenGL 4.2 and OpenCL1.2
Display Output	Dual independent display 1 x LVDS: 18/24-bit dual-channel LVDS (up to 1920x1200@60Hz) 1 x DDI: (DP up to 2560x1600@60Hz / HDMI up to 1920x1080@60Hz)
Ethernet	Intel® I210 GbE controller
Embedded Controller	ITE IT8528E/FX
I/O Interface	6 x USB 2.0 signal to baseboard 1 x USB 3.2 Gen 1 (5Gb/s) signal to baseboard
Storage	2 x SATA 3Gb/s signal to baseboard Optional soldered-down up to 64 GB SSD (SATA port 2)
Audio	High-definition Audio interface to baseboard
SMBus	Yes, to baseboard
I²C	Yes, to baseboard
LPC	Yes, to baseboard
SDIO	One 8-bit SDIO 2.0, to baseboard
SPI	Yes, to baseboard
Serial Port	One serial port to baseboard (form EC)
Expansion	3 x PCIe x1 signal to baseboard
Watchdog Timer	Software programmable supports 1~255 sec. system reset (form EC)
Power Consumption	3.3V@0.13A, 5V@0.13A, 12V@1.35A, 5VSB@0.12A (Intel® Atom® E3845 CPU with 2 GB on-board memory)
Operating Temperature	-20°C ~ 60°C
Operating Humidity	5% ~ 95%, non-condensing
Dimensions	70 mm x 70 mm
Weight	GW: 300g / NW: 150g
Safety	CE/FCC compliant

Model	iQ7-DB-MATX
COM Express Type	mATX form factor baseboard for Qseven Rev. 2.0 module
Display Interfaces	1 x LVDS 1 x HDMI 1 x iDP
Audio	Realtek ALC888S HD Audio codec (Line-in, Line-out, Mic)
Internal I/O Interface	1 x LPC 1 x SD card socket 2 x SATA 3Gb/s 3 x PCIe x1
External I/O Interface	1 x Audio jack (Line-in, Line-out, Mic) 1 x HDMI 1 x USB 3.2 Gen 1 (5Gb/s) 5 x USB 2.0 1 x RJ-45
Front Audio	1 x Front audio connector (2x5 pin)
TPM	1 x TPM connector(2x10 pin)
Port 80 Display	2 x 7 segment display
Front Panel	1 x Front panel (2x7 pin, power LED, HDD LED, buzzer speaker, power button, reset button)
I²C	3 x I²C (1x4 pin)
SMBus	1 x SMBus (1x4 pin)
Watchdog Timer	Software programmable, supports 1~255 sec. system reset
Power Supply	ATX power supply, ATX/AT mode support
Fan Connector	1 x CPU smart fan (1x4 pin) 1 x System fan (1x3 pin)
Operating Temperature	-20°C ~ 60°C
Humidity	5% ~ 95%, non-condensing
Dimensions	243.8 mm x 243.8 mm
Safety	CE/FCC compliant

Computer-on-Modules

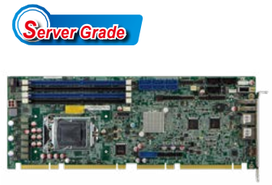
iSMC-EHL™

Model	iSMC-EHL
CPU	Intel® Celeron® J6412 on-board SoC Intel® Celeron® x6413E on-board SoC
Memory	**On-board LPDDR4x 3200 MHz 8GB (system max. 16GB)**
BIOS	UEFI BIOS
Graphics Engine	Intel® UHD Graphics
Display Interfaces	Triple independent display signals to baseboard 1 X DP 1.4a:up to 4096 x 2160 @ 60 Hz 1 X HDMI 1.4b: Up to 3840 x 2160 @ 30 Hz 1 x LVDS: 1920 x 1200 @ 60Hz or 1 x eDP: 4096 x 2160 @ 60Hz
Ethernet	2 x PCIe 2.5 GbE with Intel I225-V signal to baseboard
Audio	1 x HDA signal to baseboard Support 7.1-channel HD Audio by Realtek ALC888S
Storage	1 x SATA 6Gb/s signal to baseboard on board eMMC optional (up to 256G)
USB	2 x USB 3.2 Gen 2 signal to baseboard 6 x USB 2.0 signal to baseboard
UART	2 x UART signal to baseboard
Expansion	4 x PCIe Gen3 x1 signal to baseboard eSPI signal to baseboard
Front Panel	1 x Front Panel signal to baseboard (Power LED, HDD LED, Speaker(Buzzer), Power Button, Reset Button)
CAN	2 x CAN Bus signal to baseboard
GPIO	1 x 6-bit GPIO signal to baseboard
SDIO	1 x 4-bit SDIO signal to baseboard
I²C	4 x 4-pin wafer signal to baseboard
I²S	1 x 4-pin wafer signal to baseboard
SMBus	1 x 4 pin wafer signal to baseboard
TPM	Intel® PTT
Watchdog Timer	Software Programmable support 1~255 sec system reset
Power Supply	5V DC
Operating Temperature	-10°C ~ 60°C (14°F-140°F)
Storage Temperature	-30°C ~ 70°C
Humidity	5% ~95 non-condensing
Dimensions	82 mm x 50 mm
Certification	CE/FCC Compliant

Model	iSMC-CB
Display Interfaces	Triple independent display 1 X DP 1.4a: up to 4096 x 2160 @ 60 Hz 1 X HDMI 1.4b: Up to 3840 x 2160 @ 30 Hz 1 x LVDS: 1920 x 1200 @ 60Hz or 1 x eDP: 4096 x 2160 @ 60Hz
Ethernet	LAN1: Intel® I225V 2.5GbE LAN2: Intel® I225V 2.5GbE
Audio	Realtek ALC888S HD Audio codec (Line-out, Mic in)
Expansion	1 x PCIe Gen3 x4
Rear I/O Interface	2 x USB 3.2 Gen 2 2 x USB 2.0 1 x RS-232/422/485
Internal I/O	1 x SATA 6Gb/s 1 x SD slot 1 x RS-232/422/485 pin header (1x9 pin, P=1.25)
DIO	1 x 6-bit GPIO (2x4 pin)
CAN	2 x CAN Bus pin header (2x3 pin, P=2.54)
I²C/SMBus	4 x I²C (1 x 4 pin) 1 x SMBus (1 x 4 pin)
Front Panel	1 x Front Panel (2x7 pin) (Power LED, HDD LED, Speaker(Buzzer), Power Button, Reset Button)
Power Supply	1 x 12V DC jack Φ5.4 1 x Internal power connector (2x2 pin)
Operating Temperature	-10°C ~ 60°C (14°F-140°F)
Storage Temperature	-30°C ~ 70°C
Humidity	5% ~95 non-condensing
Dimensions	170 mm x 170 mm
Certification	CE/FCC Compliant

Slot SBCs and Passive Backplanes

PICMG 1.3 Full-Size SBC



Model	SPCIE-C246	PCIE-RPL-Q670	PCIE-Q470
CPU Socket	LGA1151	LGA1700	LGA1200
CPU Type	Intel® Xeon® E, 8th/9th generation Core™ i9/i7/ i5/i3, Pentium®, Celeron® processor	LGA1700 socket supports 12th/13th/14th generation Alder Lake-S Intel® Core™ i9/i7/i5/i3/ Pentium®/Celeron® Processor (up to 65W)	10th/11th Gen Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor
Chipset	Intel® C246	Intel® Q670E/Q670	Intel® Q470 / Q470E
Memory	Four 288-pin 2666MHz dual-channel DDR4 SDRAM unbuffered DIMMs support up to 128GB ECC & non-ECC	Two 288-pin 5200 MHz Dual-Channel DDR5 SDRAM Unbuffered DIMMs supported up to 64GB	Four 288-pin 2933 MHz dual-channel DDR4 SDRAM Unbuffered DIMMs (system Max. 128 GB)
Display Interface	Dual display supported 1 x HDMI 1 x DP	Triple independent display 1 x DP 1 x DP 180° (DP++) 1 x HDMI	1 x HDMI 1.4
Ethernet	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211AT PCIe controller	LAN1: Intel® I226-LM 2.5GbE controller LAN2: Intel® I226-V 2.5GbE controller	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller
I/O Interface	2 x USB 3.2 Gen 1 (Type-A) 1 x USB 2.0 (Type-A) 1 x KB/MS (1x6 pin) 1 x RS-422/485 (1x4 pin, P=2.0) 2 x USB 3.2 Gen 1 (2x10 pin) 3 x RS-232 (2x5 pin, P=2.54) 6 x USB 2.0 (2x4 pin, P=2.54)	2 x USB 3.2 Gen2 (Type-A) (10Gb/s) 2 x RS-232/422/485 (2x5 pin, P=2.54) (RS485 support AFC) 4 x USB 2.0 to backplane 1 x USB 3.2 Gen2 (Type A 180°) 4 x USB 3.2 Gen1 (2x10 pin, P=2.00 pin wafer) (5Gb/s) 2 x RS-232 (2x5 pin, P=2.54)	2 x USB 3.2 Gen 1 (Type-A) 1 x USB 3.2 Gen 2 (Type-C) 6 x USB 2.0 pin header 2 x USB 3.2 Gen 1 pin header 1 x Internal USB 3.2 Gen 1 (Type-A 180°) 2 x RS-232 pin header 2 x RS-422/485 pin header
Storage Interface	6 x SATA 6Gb/s (RAID 0/1/5/10 supported)	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)
Audio	Supports by IEI AC-KIT-888S-R10 audio kit		
Digital I/O	8-bit digital I/O (2x5 pin)	12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)
Power Consumption	5V@3.12A, 12V@6.85A, 3.3V@1.13A, 5VSB@0.15A (4.0 GHz Intel® Core™ i7-8700K CPU with four 16 GB 2666 MHz DDR4 memory)	3.3V@2.31A, 5V@10.16A, 12V@6.26A, 5VSB@0.46A (Intel® Core™ i9-14900 CPU with 16GB 5600MHz DDR5 memory, EuP mode disabled)	3.3V@1.04A, 5V@8.61A, 12V@12.33A (Intel® Core™ i9-11900K CPU with 4 GB 3200 MHz DDR4 memory)
Watchdog Timer	Software programmable supports 1~255 sec. system reset		
Operation Environment	Temperature Range: -20ºC ~ 60ºC (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x M.2 M key (2280, PCIe Gen3 x4) 1 x PCIe x16 & 4 x PCIe x1 signal via golden finger 4 x PCI signal via golden finger	1 x M.2 M Key (2242/2280, PCIe Gen3 x4) NVMe support 1 x PCIe Gen3 x16 & 4 x PCIe Gen3 x1 signal via golden finger 4 x PCI signal via golden finger	1 x PCIe x16 & 4 x PCIe x1 signal via golden finger 4 x PCI signal via golden finger 1 x M.2 A Key 1 x M.2 B Key 1 x M.2 M Key
CPU Cooler	CF-1150SA-R10 CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11	19100-000323-00-RS 19100-000319-00-RS 19100-000333-00-RS	CF-1150SA-R10 CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11

Slot SBCs and Passive Backplanes

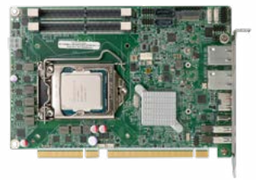
PICMG 1.3 Full-Size SBC

Model	PCIE-Q370	PCIE-Q170	PCIE-H810
CPU Socket	LGA1151	LGA1151	LGA 1150
CPU Type	8th/9th generation Intel® Core™ i9/i7/5/i3, Pentium®, Celeron® processor	6th/7th generation Intel® Core™ i9/i7/5/i3, Pentium®, Celeron® processor	4th/5th generation Intel® Core™ i9/i7/5/i3, Pentium®, Celeron® processor
Chipset	Intel® Q370	Intel® Q170	Intel® H81
Memory	Four 288-pin 2666MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	Four 288-pin 1866/2133 MHz dual-channel non-ECC unbuffered DDR4 DIMMs (system max. 64 GB)	Two 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 16 GB)
Display Interface	Dual display supported 1 x VGA 1 x DP PCIE-Q370-HDMI: 1 x HDMI 1 x DP	Dual display supported 1 x VGA 1 x iDP interface	Dual display supported 1 x VGA 1 x iDP interface
Ethernet	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211-AT PCIe controller	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I210 PCIe controller	LAN1: Realtek RTL8111E PCIe controller LAN2: Realtek RTL8111E PCIe controller
I/O Interface	2 x USB 3.2 Gen 2 (Type-A) 1 x USB 2.0 (Type-A) 1 x KB/MS (Type-A) 1 x RS-422/485 pin header 2 x USB 3.2 Gen 1 pin header 3 x RS-232 pin header 6 x USB 2.0 pin header	2 x USB 3.2 Gen 1 (Type-A) 1 x KB/MS pin header 1 x LPT pin header 1 x USB 2.0 (interface Type-A) 2 x USB 3.2 Gen 1 pin header 2 x RS-232/422/485 pin header 2 x RS-232 pin header 6 x USB 2.0 pin header	2 x USB 2.0 (Type-A) 1 x KB/MS pin header 1 x LPT pin header 1 x RS-422/485 pin header 1 x USB 2.0 (interface Type-A) 2 x RS-232 pin header 2 x USB 3.2 Gen 1 pin header 4 x USB 2.0 (Golden finger) 4 x USB 2.0 pin header
Storage Interface	6 x SATA 6Gb/s (RAID 0/1/5/10 supported)	6 x SATA 6Gb/s (RAID 0/1/5/10 supported)	2 x SATA 3Gb/s 2 x SATA 6Gb/s
Audio	Supports by IEI AC-KIT-888S-R10 audio kit	Supports by IEI AC-KIT-888S-R10 audio kit	Supports by IEI AC-KIT-888S-R10 audio kit
Digital I/O	8-bit programmable digital I/O		
Power Consumption	5V@3.12A, 12V@6.85A, 3.3V@1.13A, 5VSB@0.15A (Intel® Core™ i7-8700K 4.0 GHz CPU with four 16 GB 2666 MHz DDR4 memory)	5V@3.12A, 12V@6.85A, 3.3V@1.13A, 5VSB@0.15A (Intel® Core™ i7-6700K 4.0GHz CPU with 64GB (four 16GB) 2133 MHz DDR4 memory)	5V@3.41A, 12V@0.35A, Vcore_12V@7.52A, 3.3V@1.41A, 5VSB@0.12A (Intel® Core™ i7-4770K 3.90 GHz CPU with 8 GB (two 4 GB) 1333 MHz DDR3 memory)
Watchdog Timer	Software programmable supports 1~255 sec. system reset		
Operation Environment	Temperature Range: -20ºC ~ 60ºC (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing		
Expansion Slot	1 x M.2 M key 1 x PCIe x16 & 4 x PCIe x1 signal via golden finger 4 x PCI signal via golden finger	1 x PCIe x16 & 4 x PCIe x1 signal via golden finger 4 x PCI signal via golden finger 1 x Full/Half-size PCIe Mini card slot	1 x PCIe x16 & 4 x PCIe x1 signal via golden finger 4 x PCI signal via golden finger 1 x Full/Half-size PCIe Mini card slot (support mSATA)
CPU Cooler	CF-1150SA-R10 CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11	CF-1150SA-R10 CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11	CF-1150SA-R10 CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11

Embedded Computers

Slot SBCs and Passive Backplanes

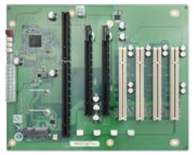
PICMG 1.3 Half-Size SBC



Model	HPCIE-RPL-Q670	HPCIE-Q470
CPU Socket	LGA1700	LGA1200
CPU Type	12th/13th/14th generation Alder Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/ Celeron® Processor (up to 65W)	10th/11th Gen Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor (up to 65W)
Chipset	Intel® Q670E	Intel® Q470 / Q470E
Memory	Two 262-pin 5200 MHz dual-channel DDR5 SO-DIMMs supported (system max. 64GB)	Two 260-pin 2933 MHz dual-channel DDR4 SO-DIMMs (system max. 64GB)
Display Interface	1 x DP 1 x HDMI	1 x HDMI 1.4
Ethernet	LAN1: Intel® I226-LM 2.5GbE controller LAN2: Intel® I226-V 2.5GbE controller	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller
I/O Interface	2 x USB 3.2 Gen2 (Type-A) (10Gb/s) 2 x RS-232/422/485 (2x5 pin, P=2.00) (RS-485 support AFC) 4 x USB 2.0 (2x4 pin, P=2.54) 1 x USB 3.2 Gen2 (Type A 180°) 2 x USB 3.2 Gen1 (2 X 10PIN P=2.00 pin wafer) (5Gb/s)	2 x USB 3.2 Gen 1 Type-A 1 x USB 3.2 Gen 2 Type-C 2 x USB 2.0 pin header 2 x RS-232/422/485 pin header
Storage Interface	2 x SATA 6Gb/s (RAID 0/1 supported)	2 x SATA 6Gb/s (RAID 0/1 supported)
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2 x 5 pin)	1 x iAUDIO, support IEI AC-KIT-888S audio kit (2 x 5 pin)
Digital I/O	12-bit digital I/O (2x7 pin)	12-bit digital I/O (2x7 pin)
Power Consumption	TBD	3.3V@0.11A, 5V@1.12A, 12V@13.31A, 5VSB@0.15A (Intel® Core™ i9-11900K CPU with 4 GB 3200 MHz DDR4 memory)
Watchdog Timer	Software programmable supports 1~255 sec. system reset	
Operation Environment	Temperature Range: -10ºC ~ 60ºC Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C (14°F-140°F) Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x M.2 M Key (2242, PCIe Gen3 x4) NVMe support 1 x PCIe Gen3 x16 & 4 x PCIe Gen3 x1 signal via golden finger	16-lanes PCIe via golden finger 4-lanes PCIe via golden finger 1 x M.2 (A Key) 1 x M.2 (M Key)
CPU Cooler	19100-000323-00-RS 19100-000319-00-RS 19100-000333-00-RS	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10

Slot SBCs and Passive Backplanes

PICMG 1.3 Passive Backplane



Backplane	Model	HPXE2-5S1	HPXE2-8S1
Total Slot		5	8
Expansion Slots	PCIe x16	1 (Gen 3.0)	-
	PCIe x8	-	2 (Gen 3.0)
	PCI	2	4
PSU Type		24+4-pin ATX	24+4-pin ATX
Chassis Option		PR-1500G	PAC-125G
		N/A	RACK-3000G RACK-360G
Note		ATX power	ATX power

PAC series wall-mount chassis | 4U/5U rack-mount chassis | 1U/2U rack-mount chassis

Server Grade SBC Backplane

Backplane		SPE-6S	SPE-9S
Total	Slot	6	7
PCIe	x8	-	1 (x16 connector) (Gen 3.0)
	x4	5 (Gen 3.0)	3 (Gen 3.0)
	PCI	-	3
PSU Type		24+4-pin ATX	24+4-pin ATX
Chassis Option		PAC-106G PAC-1000G	PAC-125G

Backplane		SPXE-11S	SPXE-14S
Total	Slot	11	14
PCIe	x8	-	1 (x16 connector) (Gen 3.0)
	x4	6 (x16 connector) (Gen 3.0)	-
	x1	-	12 (x4 connector) (Gen 3.0)
	PCI	4	-
PSU Type		24+8-pin ATX	24+8-pin ATX
Chassis Option		RACK-305G RACK-360G RACK-3000G	RACK-305G RACK-360G RACK-3000G

PAC series wall-mount chassis | 4U/5U rack-mount chassis | 1U/2U rack-mount chassis

Embedded Computers

Slot SBCs and Passive Backplanes

PICMG 1.3 Passive Backplane

Full-Size SBC Backplane



PICMG 1.3 (PCIe+PCI)	Model		PE-2SD1	PE-4S	PE-5S
Total Slot			2	4	5
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1	1 (Gen 2.0)
		x4	-	1	1 (Gen 2.0)
	PCI Slots		-	1	2
USB Connectors by Pin Header			4	4	4
PSU Type			24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis			RACK-1150-PE	N/A	N/A
Note			1U Type		



PICMG 1.3 (PCIe+PCI)	Model		PE-5S2	PE-6S	PE-6S2
Total Slot			5	6	6
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)
		x4	-	-	1 (Gen 2.0)
		x1	3 (Gen 2.0)	2 (Gen 2.0)	-
	PCI Slots		-	2	3
USB Connectors by Pin Header			4	4	4
PSU Type			24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis			N/A	RACK-305G RACK-360G RACK-3000G PAC-1700G PAC-125 G	PAC-106G PAC-1000G
Note					



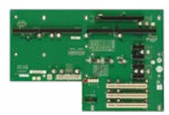
PICMG 1.3 (PCIe+PCI)	Model		PE-6SD	PE-6SD3	PE-7S
Total Slot			5	5	7
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)
		x4	-	1 (Gen 2.0)	-
		x1	3 (Gen 2.0)	-	2 (Gen 2.0)
	PCI Slots		-	2	3
USB Connectors by Pin Header			4	4	4
PSU Type			24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis			N/A	N/A	PAC-1700G
Note			2U Type	2U Type	

PAC series wall-mount chassis 4U/5U rack-mount chassis 1U/2U rack-mount chassis

*When using a PCIe x16 add-on card, the length of the card must not exceed 167mm or 6.57 inches.

Slot SBCs and Passive Backplanes

PICMG 1.3 Passive Backplane


PICMG 1.3 (PCIe+PCI)	Model		PE-8S	PE-9S	PE-10S
Total Slot			8	9	10
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)
		x1	3 (Gen 2.0)	4 (Gen 2.0)	4 (Gen 2.0)
	PCI Slots		3	3	4
USB Connectors by Pin Header			4	4	4
PSU Type			24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis			PAC-125G	N/A	RACK-305G / RACK-360G / RACK-3000G



PICMG 1.3 (PCIe+PCI)	Model		PE-10S2	PXE-13S	PXE-14S1
Total Slot			10	13	14
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1 (Gen 3.0)	1 (Gen 3.0)
		x1	4 (Gen 2.0)	3 (Gen 3.0)	0
	PCI Slots		4	8	12
USB Connectors by Pin Header			4	4	0
PSU Type			24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis			RACK-3000G / RACK-305G / RACK-360G	RACK-3000G / RACK-305G / RACK-360G	RACK-3000G / RACK-305G / RACK-360G
Note				PCIe to PCI Bridge Backplane	

*When using a PCIe x16 add-on card, the length of the card must not exceed 167mm or 6.57 inches.

PAC series wall-mount chassis 4U rack-mount chassis

PCISA Half-Size SBC Backplane

Supports PCI and ISA slot on one backplane (for half-size PCISA series single board computers)

The advantages of using the PCISA card are numerous:

1. Supports standard PISA version 1.0 slot on the IP/IPX series passive backplane.
2. Compatible with all available PCI/ISA cards. IP/IPX backplane is also integrated with the PCISA series card slot.

RoHS Ready

RoHS Ready

Model	IP-3S	IP-5SA2
Total Slot	3	5
PCI Slot	2	4
PSU Type	AT	ATX
Chassis	PAC-53GH	PR-1500G

RoHS Ready

RoHS Ready

RoHS Ready

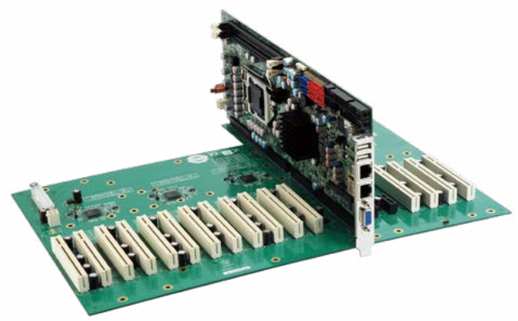
Model	IP-6S	IP-6SA	IP-10S
Total Slot	6	6	10
PCI Slot	3	3	4
ISA Slot	2	2	5
PSU Type	AT	ATX	ATX/AT
Chassis	PAC-1000G	PAC-106G / PAC-1000G	PAC-125G

PAC series wall-mount chassis 4U rack-mount chassis

Embedded Computers

Slot SBCs and Passive Backplanes

PCI/PX Backplane



PICMG 1.0 Full-Size SBC Backplane

Supports PCI and ISA slot on one backplane!
For PICMG 1.0 Single Board Computer

The advantages of using the PICMG 1.0 card are numerous:
1. Supports standard PICMG version 1.0 slot on the PCI/PX series passive backplane
2. Compatible with all available PCI/ISA cards. PCI/PX backplane is also integrated with the card slot

Model	PCI-5S2A-RS-R40 PCI-5S2-RS-R40	PCI-6S-RS-R40	PCI-7S-RS-R41
Total Slot	5	6	7
PCI Slot	4	4	4
ISA Slot	1	2	3
PSU Type	ATX/AT	ATX/AT	ATX/AT
Chassis	N/A	PAC-106G PAC-1000G	PAC-1700G

Model	PCI-10S-RS-R41	PCI-12S-RS-R40	PCI-14S-RS-R40
Total Slot	10	12	14
PCI Slot	4	4	4
ISA Slot	5	7	9
PSU Type	ATX/AT	ATX/AT	ATX/AT
Chassis	PAC-125G	RACK-3000G	N/A

Model	PCI-5SD6-RS-R40	PCI-6SD-RS-R40
Total Slot	6	6
PCI Slot	L2+R2	L1+R1
ISA Slot	-	L1+R1
PSU Type	ATX	ATX
Chassis	RACK-220G	RACK-220G

PAC series wall-mount chassis　4U/5U rack-mount chassis　1U/2U rack-mount chassis

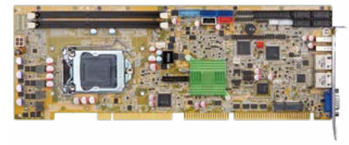
Embedded Computers

Slot SBCs and Passive Backplanes

PCISA Half-Size Single Board Computer

Model	PCISA-BT
SoC	Intel® Atom® E3845 on-board SoC (1.91GHz, quad-core, 2MB cache, TDP=10W) Intel® Atom® E3825 on-board SoC (1.33GHz, dual-core, 1MB cache, TDP=6W) Intel® Atom® E3815 on-board SoC (1.46GHz, single-core, 512KB cache, TDP=5W)
Memory	One 204-pin 1333/1066 MHz single-channel DDR3L SDRAM unbuffered SO-DIMM slot supports up to 8GB
Graphics Engine	Intel® HD Graphics Gen 7 Engines with 4 execution units, supporting DX11.1, OpenGL 4.2 and OpenCL1.2
Display Output	Dual independent display 1 x VGA 1 x 18/24-bit dual-channel LVDS (optional, MOQ: 100 pcs/lot) 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP
Ethernet	LAN1: Intel® I211-AT PCIe controller LAN2: Intel® I211-AT PCIe controller
IO Interface	1 x USB 2.0 1 x USB 3.2 Gen 1 (5Gb/s) 1 x KB/MS (1x6 pin) 1 x USB 2.0 (180° Type-A) 1 x LPT (2x13 pin) 2 x RS-232 (2x5 pin, P=2.54) 1 x mSATA 2 x SATA 3Gb/s 1 x RS-422/485 (1x4 pin, P=2.0) 4 x USB 2.0 (2x4 pin, P=2.54)
Audio	Support 7.1 channel HD Audio by IEI AC-KIT-888S-R10 kit 1 x Front Audio (2x5 pin)
TPM	1 x TPM (2x10 pin)
SMBus	1 x SMBus (1x4 pin)
I²C	1 x I²C (1x4 pin)
Infrared Interface	1 x Infrared interface (1x5 pin)
Expansion	1 x microSD socket 1 x PCIe Mini slot PCI and ISA signal via golden finger
Watchdog Timer	Software programmable supports 1~255 sec. system reset
Digital I/O	8-bit digital I/O (2x5 pin)
Fan Connector	1 x CPU smart fan (1x4 pin) 1 x System smart fan (1x3 pin)
Power Supply	5V/12V, AT/ATX support
Power Consumption	5V@1.55A,12V@0.74A (Intel® Atom® E3845 1.91GHz CPU with one 8 GB 1333 MHz memory)
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Dimensions	185 mm x 128 mm
Weight	GW: 1000g / NW: 250g
CE/FCC	Compliant

PICMG 1.0 Full-Size Single Board Computers



Model	WSB-H810
CPU	4th generation LGA 1150 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor supported
Chipset	Intel® H81
Memory	Two 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs support up to 16 GB
BIOS	UEFI
Graphics Engine	Intel® HD Graphics Gen 7.5 supports DX11.1 and OpenCL 1.2, OpenGL 3.2/ Full MPEG2, VC1, AVC Decode
Display Output	Dual independent display 1 x VGA (up to 1920x1200@60 Hz) 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 3840x2160@60 Hz)
Ethernet	LAN1: Intel® I217-LM Ethernet controller LAN2: Intel® I211-AT Ethernet controller
Audio	IEI AC-KIT-888S-R10 7.1-channel HD Audio kit via the on-board 10-pin header connector
IO Interface	1 x KB/MS (1x6 pin) 2 x SATA 6Gb/s 1 x LPT (2x13 pin) 2 x USB 3.2 Gen 1 (5Gb/s) (2x10 pin) 1 x RS-422/485 (1x4 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.54) 1 x USB 2.0 (180° Type-A) 4 x USB 2.0 (2x4 pin, P=2.54) 1 x SATA 3Gb/s (AHCI supported, no RAID)
Front Panel	1 x Front panel (2x7 pin, power LED, HDD LED, speaker, power button, reset button)
LAN LED	2 x LAN LED (1x2 pin)
Digital I/O	8-bit digital I/O (2x5 pin)
TPM	1 x TPM (2x10 pin)
SMBus	1 x SMBus (1x4 pin)
I²C	1 x I²C (1x4 pin)
Infrared Interface	1 x Infrared Interface (1x5 pin)
Expansion	1 x Full-size PCIe Mini card slot (support mSATA) PCI and ISA signal via golden finger
Watchdog Timer	Software programmable supports 1~255 sec. system reset
Fan Connector	1 x CPU smart fan (1x4 pin) 1 x System smart fan (1x3 pin)
Power Supply	5V/12V, AT/ATX support
Power Consumption	5V@3.4A, 12V@0.36A, Vcore_12V@7.48A, 3.3V@1.42A, 5VSB@0.13A (Intel® Core™ i7-4770K 3.90 GHz CPU with 8 GB (two 4 GB) 1333 MHz DDR3 memory)
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Operating Humidity	5% ~ 95%, non-condensing
Dimensions	338 mm x 122 mm
Weight: GW	1000g / NW: 260g
CE/FCC	compliant

Peripherals

PoE Cards

Model	GPOE-2P2	GPOE-4P2	GPOE-2P	GPOE-4P	GPOE-6P
Interface	PCI Express® x1	PCI Express® x4	PCI Express® x1	PCI Express® x1	PCI Express® x4
Ethernet	Intel® I225V/I226V controller 9kB jumbo frame IEEE 802.3at, IEEE1588	Intel® I225V/I226V controller 9kB jumbo frame IEEE 802.3az, IEEE1588	Intel® I210 controller 9kB jumbo frame IEEE 802.3az, IEEE1588	Intel® I210 controller 9kB jumbo frame IEEE 802.3az, IEEE1588	6 x Intel® i211AT controller 9kB jumbo frame
Fan	-	-	-	-	One 1x4 pin fan
Power Input	12~24V DC input 1 x Internal DC input (2x3 pin) 1 x External DC Jack (Φ2.1/Φ5.5) **Caution! Choose one input only at a time	Support 12V~24V DC input power 1 x Internal DC input (1x4 pin) 1 x Internal DC input (2x3 pin) **Caution! Choose one input only at a time	12~24V DC input 1 x Internal DC input (1x4 pin) 1 x External DC Jack (Φ2.1/Φ5.5) **Caution! Choose one input only at a time	12~24V DC input 1 x Internal DC input (1x4 pin) 1 x Internal DC input (2x3 pin) **Caution! Choose one input only at a time	12~24V DC input 1 x Internal DC input (2x3 pin)
PoE Capability	IEEE 802.3at 30W / 52V DC per port (Support for total 60 watts under full load)	LAN3/LAN4 support: IEEE 802.3af with 15.4W / 52V per port LAN1/LAN2 support: IEEE 802.3at with 30W / 52V per port (Support for total 90 watts under full load)	IEEE 802.3at 30W / 52V DC per port (Support for total 60 watts under full load)	Standard mode: IEEE 802.3af with 15.4W / 52V per port Dual port mode: IEEE 802.3at with 30W / 52V per port (Support for total 90 watts under full load)	IEEE 802.3at with 30W / 52V per port IEEE 802.3bt with 90W / 52V per port (Support for total 180 watts under full load)
Operating Temperature	0°C ~ 60°C	0°C ~ 60°C (0 ~ 60 watts) 0°C ~ 50°C (60 ~ 90 watts)	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C
Storage Temperature	-10°C ~ 70°C	-10°C ~ 70°C	-10°C ~ 70°C	-10°C ~ 70°C	-10°C ~ 70°C
Operating Humidity	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing
Dimensions	130 mm x 69 mm	158 mm x 69 mm	130 mm x 65 mm	160 mm x 65 mm	169.44 mm x 106.65 mm
Weight	110g	110g	110g	110g	286g
Compliant	CE/FCC	CE/FCC	CE/FCC	CE/FCC	CE/FCC

iRIS Cards

Model	iRIS2-2600	iRIS2-2620
IPMI 2.0 Based Management	BMC stack with a full IPMI 2.0 implementation Customizable sensor management	
Hardware Health Monitor	System/CPU temperature Fan speed Voltage	Chassis intrusion Power supply failed FRU (Field Replaceable Unit)
Event Log	BIOS event Hardware health monitor event Sensor readings	
Hardware Status	Sensors	
LDAP Support	Direct LDAP support from the device Open LDAP (Generic LDAP) supported	
Media Redirection	Virtual Media allows users to remotely mount given ISO/IMG drive images through BMC to Server Completely secured (Authenticated or Encrypted) remote KVM or virtual media	Virtual Media allows users to remotely mount given ISO/IMG drive images through BMC to Server
Remote Power Control	Remote power control Keyboard, Video & Mouse (KVM) over IP (iRIS2-2600 only) Serial over LAN (SOL)	Remote power control Serial over LAN (SOL)
User Management	IPMI based user management Added security with SSL (HTTPS)	Multiple user permission level Multiple user profiles
Web-based Configuration	Full configuration using web UI Fail-safe firmware upgrade Multi-language support in Web interface with English as the currently supported language	
Dimension (LxWxH)	30mm x 80mm x 7.6mm	30mm x 80mm x 7.6mm
Weight	18g	18g

Peripherals

Industrial I/O Expansion Module

Model	iM2-UART-4P	iM2-CAN-2P	iM2-DLAN
Form Factor	M.2 B Key + M Key card	M.2 B Key + M Key card	M.2 B Key + M Key card
Input Interface	M.2 B/M key 2280 (PCIe Gen3 x1 signal)	M.2 B/M key 3042 (PCIe Gen3 x1 signal)	M.2 B/M key 3042 (PCIe Gen3 x2 signal)
main IC	Fintek F81504	Fintek F81601	LAN1: Intel® I226-V controller LAN2: Intel® I226-V controller
Buffer/Transceiver Series	Fintek F81439	Chipanalog CA-IS3062	-
Speed	-	-	100/1000/2500 Mbps
IO	4 x RS-232/422/485 pin header (2x5 pin, P=2.0)	2 x CANBus 2.0 B ports	2 x RJ-45 2 x 14-pin LAN port
Operating Temperature	-10°C ~ 65°C	-10°C ~ 65°C	-10°C ~ 65°C
Storage Temperature	-30°C ~ 70°C	-30°C ~ 70°C	-30°C ~ 70°C
Operating Humidity	5% ~95%, non-condensing	5% ~95%, non-condensing	5% ~95%, non-condensing
Dimension	22mm x 80mm	30mm x 42mm	30mm x 42mm
Weight	GW: 100g / NW: 50g	GW: 100g / NW: 50g	GW: 100g / NW: 50g
Safety	CE/FCC compliant	CE/FCC compliant	CE/FCC compliant

Model	IPCIE-UART-2D2P	IPCIE-CAN-2D
Form Factor	PCI Express® x1	PCI Express® x1
main IC	Fintek F81504	Fintek F81601
Buffer/Transceiver Series	Fintek F81439	-
Protocol	-	CAN 2.0 A/B
CAN Transceiver IC	-	Chipanalog CA-IS3062
IO	2 x RS-232/422/485 (DB9) 2 x RS-232/422/485 (2x5 pin, P=2.0)	2 x DB9 (CAN 2.0B port with isolation)
Operating Temperature	0°C ~ 60°C	0°C ~ 60°C
Storage Temperature	-30°C ~ 70°C	-30°C ~ 70°C
Operating Humidity	5% ~95%, non-condensing	5% ~95%, non-condensing
Dimension	70mm x 90mm	70mm x 90mm
Weight	GW: 120g / NW: 80g	GW: 120g / NW: 80g
Safety	CE/FCC compliant	CE/FCC compliant

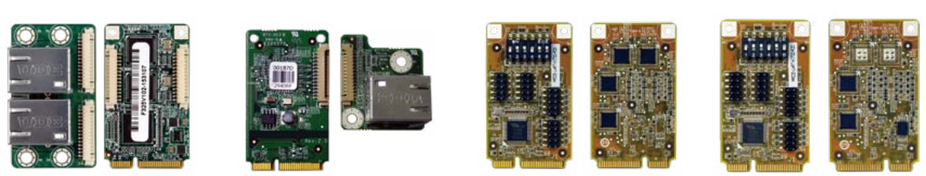
Model	LAN-100G2SF-E810
Form Factor	Low profile PCI Express® add-on card
NIC	Intel® E810
LAN Interface	QSFP28
Speed	100GbE
LAN Ports	2 x LAN ports
Host Interface	1 x PCIe Gen4 x16
Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Operating Humidity	5% ~ 95% RH, Non-condensing
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)
Safety	RoHS compliant

Peripherals

Industrial I/O Expansion Module

NEW

Model	iUCOM-2D	iUCOM-4R	iUCOM-4D	iUA-CM6533
Input Interface	USB 2.0 (1x4 pin, P=2.0)	USB 2.0 (1x4 pin, P=2.0)	USB 2.0 (1x4 pin, P=2.0)	USB 2.0 (1x4 pin, P=2.0)
Converter IC	WCH CH342	WCH CH344	WCH CH344	CM6533
Buffer/Transceiver Series	F81435	Fintek 81435	Fintek 81435	-
IO	2 x RS-232/422/485 (DB-9)	4 x RS-232/422/485 (RJ-45)	4 x RS-232/422/485 (DB-9)	1 x Mic in (audio jack) 1 x Speaker out (audio jack) 2 x Speaker out (4-pin, P=1.25mm) (1.5W amplifier)
Operating Temperature	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C
Operating Humidity	10% ~ 95%, non-condensing	10% ~ 95%, non-condensing	10% ~ 95%, non-condensing	10% ~ 95%, non-condensing
Dimensions (LxW)	65mm x 35mm	95mm x 40mm	140mm x 35mm	44mm x 24mm



Model	MPCIE-DLAN	MPCIE-LAN	MPCIE-UART-KIT01	MPCIE-UART-KIT02
Form Factor	PCI Express Mini card	PCI Express Mini card	PCI Express Mini card	PCI Express Mini card
BIOS	UEFI BIOS	-	-	-
Ethernet Controller	Dual Intel® I210-IT	Realtek RTL8111E	Fintek F81504	Fintek F81504
Speed	10/100/1000Mbps	10/100/1000Mbps	-	-
Buffer/Transceiver Series	-	-	F81439	F81439
External Connector	2 x 8-pin RJ-45	1 x 8-pin RJ-45	4 x RS-232/422/485 connector (2x5 pin)	2 x RS-232/422/485 (2x5 pin header) 2 x 8-bit GPIO (2x5 pin header)
Power Supply	On board 3.3V	On board 3.3V	-	-
Compatible OS	Windows XP/Server 2003/ Server 2008/ Vista/ 7 /8.1/10 Linux kernel version 2.6.32 or later	Windows 2000/ XP/ Server 2003/ Server 2008/ Vista/ 7 Linux kernel version 2.6.32 or later	-	-
Operating Temperature	-10°C ~ 70°C	-10°C ~ 70°C	0°C ~ 60°C	0°C ~ 60°C
Operating Humidity	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing
Dimensions (LxW)	51 mm x 30 mm	51 mm x 30 mm	51 mm x 30 mm	51 mm x 30 mm
Weight	55g	70g	GW: 100g / NW: 50g	GW: 100g / NW: 50g
Safety	CE/FCC compliant	CE/FCC compliant	CE/FCC compliant	CE/FCC compliant

Peripherals

Trusted Platform Module

Model	TPM-IN03
Interface	SPI interface
Solution	Infineon SPI TPM 2.0 with SLB9670VQ2.0 FW7.85
Management Tool Function	1. TPM management 2. File & Folder En/De-cryption 3. Personal secure drive 4. Secure email 5. Key transferring 6. Security policy configuration 7. SPI interface
Market Segment	Complete TPM 2.0 function
OS Support	Windows® & Linux
Operating Temperature	0°C ~ 60°C
Storage Temperature	-20°C ~ 70°C
Operating Humidity	5% ~ 95%, non-condensing
Dimensions (LxW)	26mm x 18mm

Wi-Fi Module

Model	EMB-WIFI-KIT
Standard	IEEE 802.11a/b/g/n/ac, Wi-Fi compliant / Bluetooth 4.0 Standard
Major Chipset	Realtek RTL8821AE
Antenna	2x standard U.FL Connector
Frequency Range	Wi-Fi: 2.4GHz/5GHz, BT: 2402MHz~2483MHz
Modulation	Wi-Fi: 802.11a/g/n/ac: OFDM 802.11b: CCK(11, 5.5Mbps), DQPSK(2Mbps), BPSK(1Mbps)
Receive Sensitivity	Wi-Fi: 802.11a: less than -65 dBm (54M) 802.11b: less than -76 dBm (11M) 802.11g: less than -65 dBm (54M) 802.11n @2.4GHz: less than -64 dBm (HT20 MCS7) 802.11n @2.4GHz: less than -61 dBm (HT40 MCS7) 802.11n @5GHz: less than -64 dBm (HT20 MCS7) 802.11n @5GHz: less than -61 dBm (HT40 MCS7) 802.11ac @5GHz: less than -51 dBm (VHT80 MCS9) BT: BER < 0.1% (Anritsu 8852B Tx -70 dBm)
Driver Support	Windows 7/8/10, Linux kernel 3.18
Temperature	0°C ~ 70°C
Dimensions	29.85mm x 26.65mm x 1.5mm
Weight	NW: 3.28g

Converter Board

Model	SACFA-KIT01
CFast™ socket	
7-pin SATA data connector, and a female 17-pin power CFast™ connector	

Model	SAIDE-KIT01
CF Type II socket	
40-pin IDE connector (master mode)	
4-pin 5V input connector	
Power/5V/HDD LED indicator	
Support one IDE device or one CF	

Peripherals

Display Expansion Modules

Model	iDPM-HDMI	iDPM-LVDS	iDPM-eDP	iDPM-DP	iDPM-VGA	iUDP-HDMI-2P
Form Factor	iDPM 2240 slot (IEI-defined B key)	iDPM 3040 slot (IEI-defined B key)	iDPM 2240 slot (IEI-defined B key)	iDPM 2240 slot (IEI-defined B key)	iDPM 2240 slot (IEI-defined B key)	USB to display Module
Display Output	1 x HDMI	1 x LVDS 24-bit dual-channel	1 x eDP connector (1x40 pin)	1 x DP	1 x VGA pin-header	2 x HDMI
Display IC	CHRONTEL-CH7525A-BF-Fw1.8.10	Chrontel - CH7511B (DP to LVDS)	-	-	Lontium LT8711	DL-6950 (USB to 2 port HDMI)
Power	On-board 3.3V ~ 12V	On-board 3.3V ~ 12V	On-board 3.3V ~ 12V	On-board 3.3V ~ 12V	On-board 3.3V ~ 12V	On-board 3.3V ~ 12V
Operating Temperature	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C
Operating Humidity	5% ~ 95, non-condensing	5% ~ 95, non-condensing	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing
Dimensions (LxW)	22 mm x 40 mm	40 mm x 30 mm	40 mm x 22 mm	22 mm x 40 mm	40mm x 22mm	72mm x 92mm
Safety	CE/FCC compliant	CE/FCC compliant	CE/FCC compliant	CE/FCC compliant	CE/FCC compliant	CE/FCC compliant

Model	DP-LVDS	DP-DVI	DP-HDMI
Display Input	1 x IEI iDP connector	1 x IEI iDP connector	1 x IEI iDP connector
Display Output	1 x LVDS 24-bit dual-channel	1 x DVI	1 x HDMI 1.3a
Display IC	Chrontel - CH7511B (DP to LVDS)	Parade - PS161 (DP to HDMI / DVI)	IC: Parade - PS161 (DP to HDMI 1.3a)
Temperature	-10°C ~ 60°C	-10°C ~ 60°C	-10°C ~ 60°C
Humidity	5% ~ 95 non-condensing	5% ~ 95 non-condensing	5% ~ 95 non-condensing
Dimensions	60 mm x 50 mm	50 mm x 50 mm	50 mm x 50 mm

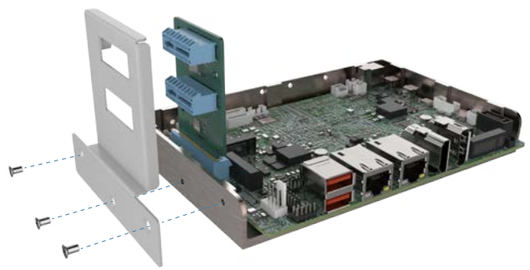
Model	LVDS-VGA
Resolution adjusted by BIOS	Support 1024x768, 800x600, 640x480
Provide 2nd VGA option for dual VGA display	
18-bit LVDS to VGA converter board	

Peripherals

PCIe Expansion Riser Cards for IEI 2.5”/3.5”/4” SBC

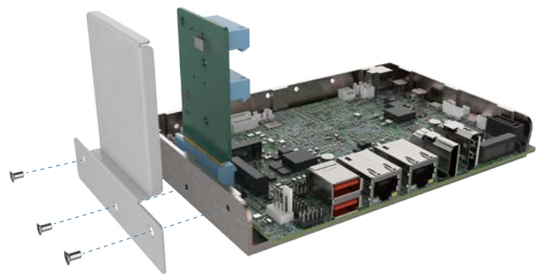
IEI’s latest 2.5”/3.5”/4” SBCs feature a PCIe x4/x2 slot, which is a new design for IEI compact single board computer to expand functionality providing easy integration of PoE, video capture or I/O cards with a compatible riser card.

Outwards-facing PCIe Expansion



Although may take up more space, the outwards-facing expansion slot can help enhance the airflow and heat transfer within the system. It is ideal for the chassis that is wide enough for the expansion card to be placed.

Inwards-facing PCIe Expansion

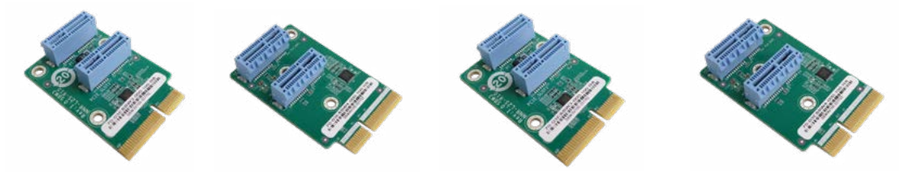


The inwards-facing expansion slot is suitable for installation where space is limited. With higher height to increase spacing between boards, the riser card slot ensure efficient heat dissipation for space-constrained applications.

Motherboard	Riser Card	Description of Riser Card
WAFER-EHL-J6412C	**NWR-L2S-R10**	PCIe x2 to two PCIe x1, on the left side
	NWR-R2S-R10	PCIe x2 to two PCIe x1, on the right side
NANO-EHL-J6412C	**NWR-L2S-N-R10**	PCIe x2 to two PCIe x1, the left side
	NWR-R2S-N-R10	PCIe x2 to two PCIe x1, on the right side
HYPER-EHL	**HPR-L2S-R10**	PCIe x4 to two PCIe x2 riser card, on the left side
	HPR-L4S-R10	PCIe x4 to four PCIe x1, on the left side
	HPR-R2S-R10	PCIe x4 to two PCIe x2, on the right side
	HPR-R4S-R10	PCIe x4 to four PCIe x1, on the right side
WAFER-ADL-P	**NWR2-L2S-R10**	PCIe x4 to two PCIe x2, on the left side
	NWR2-R2S-R10	PCIe x4 to two PCIe x2, on the right side
NANO-ADL-P	**NWR2-L2S-N-R10**	PCIe x4 to two PCIe x2, on the left side
	NWR2-R2S-N-R10	PCIe x4 to two PCIe x2, on the right side
	NWR-L3S-N-R10	PCIe x3 to three PCIe x1, on the left side
	NWR-R3S-N-R10	PCIe x3 to three PCIe x1, on the right side

Peripherals

PCIe Expansion Riser Cards for IEI 2.5”/3.5”/4” SBC



Model	NWR-L2S-R10	NWR-R2S-R10	NWR-L2S-N-R10	NWR-R2S-N-R10
Input	PCIe x2	PCIe x2	PCIe x2	PCIe x2
Output	Two PCIe x1	Two PCIe x1	Two PCIe x1	Two PCIe x1
Temperature	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C
Humidity	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing
Direction	Left side	Right side	Left side	Right side
Dimensions	40 mm x 60 mm	40 mm x 65 mm	40 mm x 60 mm	40 mm x 65 mm
Applicable Motherboards	WAFER-EHL-J6412C		NANO-EHL-J6412C	

Model	HPR-L2S-R10	HPR-L4S-R10	HPR-R2S-R10	HPR-R4S-R10
Input	PCIe x4	PCIe x4	PCIe x4	PCIe x4
Output	Two PCIe x2	Four PCIe x1	Two PCIe x2	Four PCIe x1
Temperature	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C
Humidity	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing
Direction	Left side	Left side	Right side	Right side
Dimensions:	50 mm x 58 mm	44 mm x 90 mm	43 mm x 60 mm	43 mm x 83 mm
Applicable Motherboards	HYPER-EHL			

Model	NWR2-L2S-N-R10	NWR2-R2S-N-R10	NWR-L3S-N-R10	NWR-R3S-N-R10	NWR2-L2S-R10	NWR2-R2S-R10
Input	PCIe x4	PCIe x4	PCIe x4	PCIe x4	PCIe x4	PCIe x4
Output	Two PCIe x2	Two PCIe x2	ThreePCIe x1	Three PCIe x1	Two PCIe x2	Two PCIe x2
Temperature	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C	0°C ~ 60°C
Humidity	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing
Direction	Left side	Right side	the left side	the right side	Left side	Right side
Dimensions:	55 mm x 60 mm	55 mm x 60 mm	40 mm x 100 mm	40 mm x 100 mm	55 mm x 60 mm	55 mm x 60 mm
Applicable Motherboards	NANO-ADL-P				WAFER-ADL-P	

Industrial Chassis

	Model No.	Type	Board Type		Max. Slots	Drive Capacity				Fan Spec.			
			SBC Slot	Motherboard		5.25” F.P.	3.5” F.P	2.5” Int	3.5” Int	4 cm	6 cm	8 cm	12 cm
	RACK-1150G	1U	PICMG 1.0 full-size/ PICMG 1.3 full-size		3	1			1	3			
	RACK-220G	2U	PICMG 1.0 full-size	*microATX, Mini-ITX	6	1	1		1			2	
	RACK-305G	4U	Full-size	*ATX, microATX, Mini-ITX	14	2	1		1		***2	2	
	RACK-360G	4U	Full-size	*ATX, microATX, Mini-ITX	14	2	1		1		***2		1
	RACK-3000G	4U	Full-size	*ATX, microATX, Mini-ITX	14	3	2		1		***2	2	
	RACK-500AI	5U	Full-size		5		1		1			1	
	ECA-300			ATX, microATX	7	2		1	1				
	ECA-200			microATX	4			1	1				
	ECA-100			ATX, microATX	7			1	1				
	PAC-1000G		Full-size		6	1	1		1			1	
	PAC-106G		Full-size		6		1		1			1	
	PAC-1700G		Full-size		7	1	1		2			1	
	PAC-125G		Full-size		10	2	1		1			1	
	PAC-53GH		Half-size		3			1					
	PR-1500G		Half-size		5	◇1	1		1			1	
	PAC-700G		Half-size		7	1	△1		1			1	

	Model No.	Indicators		Front Panel Control						Back Panel Control		PSU	Dimensions (mm)			Color	
		Power	HDD	Power	Reset	KB	USB	Keylock	COM	USB	COM		Depth	Height	Width	Black	White
	RACK-1150G	O	O	O	O		2					1U	449	44	431	O	
	RACK-220G	O	O	O	O		2	O				PS/2	487.5	88	431	O	O
	RACK-305G	O	O	O	O	O	2	O				PS/2 or mini redundant	413	176	431	O	O
	RACK-360G	O	O	O	O	O	2	O				PS/2 or mini redundant	435.5	176	431	O	O
	RACK-3000G	O	O	O	O			O				PS/2 or mini redundant	520	176	431	O	O
	RACK-500AI	O	O	O	O		2					1U	440.2	221.3	110.6	(Navy Blue & Black)	
	ECA-300	O	O	O	O		2		6			1U	291	162	365	O	
	ECA-200	O	O	O	O		2		6			1U	310	162	310	O	
	ECA-100	O	O	O	O		2			4	2	1U	320	480.5	210		O
	PAC-1000G	O	O	O	O							PS/2	421	176	232	O	
	PAC-106G	O	O	O	O		2					1U	400	175.5	166		O
	PAC-1700G	O	O	O	O							PS/2	433	253.7	192.4	O	
	PAC-125G	O	O	O	O		2	O				PS/2	420	176	321		O
	PAC-53GH	O	O	O	O		2					1U	218	200	95		O
	PR-1500G	O	O	O	O		2					1U	254	132	286		O
	PAC-700G	O	O	O	O		2	O				1U	279	176	321	O	

Rackmount chassis
Full-size wall mount chassis
Half-size wall mount chassis

* For ATX model
*** Optional fans for ATX model

◇ Slim-type CD-ROM
△ Please refer to datasheet for detail information

Industrial Chassis

Full-size Rackmount Chassis



Model	RACK-360	RACK-3000G	RACK-500AI
Construction	Heavy duty metal	Heavy duty metal	Heavy duty metal
SBC Form Factor	Full-size, slot CPU card	Full-size, slot CPU card	Full-size CPU cards
Drive Bays	Shock-resistant disk drive bay design 3 x 5.25" + 1 x 3.5/2.5" HDD or 2 x 5.25" + 2 x 3.5/2.5" HDD (1 x front accessible)	3 x 5.25" + 1 x front-accessible 3.5" + 2 x 3.5" HDD or 3 x 5.25" + 2 x front-accessible 3.5" + 1 x 3.5" HDD or 3 x 5.25" + 3 x 3.5" HDD	1 x Front-accessible 3.5" 1 x 3.5" HDD
Cooling Fans	1 x 12 cm	2 x 8 cm	1 x 8 cm
I/O Ports	2 x USB	N/A	2 x USB
I/O Openings	2 x COM, 2 x LPT	2 x COM, 2 x LPT, 1 x PS2	1 x LPT, 1 x COM
Expansion Slots	14 slots for RACK-360G 7 slots for RACK-360GATX	14 slots for RACK-3000G 7 slots for RACK-3000GATX	5 slots
Indicators	Power, HDD	Power, HDD	Power, HDD
Button	Power switch, reset button	Power switch, reset button	Power switch, reset button
Operating Temperature	0°C ~ 50°C	0°C ~ 50°C	0°C ~ 50°C
Operating Humidity	10% ~ 90%	10% ~ 90%	10% ~ 90%
Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis	N/A	N/A
Operating Vibration	MIL-STD-810G 514.6C-1	N/A	N/A
Color	B: Black/ W: White	Black	Navy blue and black
Weight (Net/Gross)	11 kg/15.4 kg	13 kg/18 kg	6 kg/9 kg
Dimensions (DxWxH)	435.5 mm x 431 mm x 176 mm	520 mm x 431 mm x 176 mm	440.2 mm x 110.6 mm x 221.3 mm
PCIe Expansion Card (GPU/ Add-on Cards) Recommendation	N/A	N/A	Total maximum up to 150W (80W CPU with 16GB memory, 350W ATX Power) Total maximum up to 180W (35W CPU with 16GB memory, 350W ATX Power)

Industrial Chassis

Industrial Chassis

Full-size Rackmount Chassis



Model	RACK-1150G/1150G-PE	RACK-220G	RACK-305G
Construction	Heavy duty metal	Heavy duty metal	Heavy duty metal
SBC Form Factor	Full-size CPU card	Full-size, slot CPU card	Full-size, slot CPU card
Drive Bays	1 x 5.25" 1 x 3.5" HDD (internal)	1 x 5.25" 1 x 3.5" 1 x 3.5" HDD (internal)	3 x 5.25" + 1 x 3.5" HDD or 2 x 5.25" + 2 x 3.5" HDD or 2 x 5.25" + 1 x 3.5" HDD + 1 x front accessible 3.5" or 2 x 5.25" + 2 x front accessible 3.5"
Cooling Fans	3 x 4 cm	2 x 8 cm	2 x 8 cm
I/O Ports	2 x USB	2 x USB	2 x USB
I/O Openings	1 x COM, 1 x LPT	6 slots	14 slots for RACK-305G 7 slots for RACK-305GATX
Expansion Slots	3 slots/2 slots (PE)	N/A	N/A
Indicators	Power, HDD	Power, HDD	Power, HDD
Button	Power switch, reset button	Power switch, reset button	1 x Power switch, 2 x reset buttons
Operating Temperature	0°C ~ 50°C	0°C ~ 50°C	0°C ~ 50°C
Operating Humidity	10% ~ 90%	10% ~ 90%	10% ~ 90%
Color	B: Black	Black	W: White/B: Black
Weight (Net/Gross)	7.5 kg/9.5 kg	8.2 kg/12.4 kg	10.4 kg/15 kg
Dimensions (DxWxH)	449 mm x 431 mm x 44 mm	488 mm x 431 mm x 89 mm	413 mm x 431 mm x 176 mm

RACK-1150G and RACK-1151G support processors with a maximum TDP of 31 W only.

Tower Industrial Chassis



Model	ECA-300	ECA-200	ECA-100
Construction	Heavy duty metal	Heavy duty metal	Heavy duty metal
SBC Form Factor	ATX/microATX	microATX	ATX/microATX
PSU	PS/2 ATX power supply	1U flex power supply	1U flex power supply
Drive Bays	2 x 5.25" 1 x 3.5"/2.5" HDD/SSD	1 x 3.5"/2.5" HDD/SSD Expansion: 1 x 3.5"/2.5" HDD/SSD by the optional ECA-HDD-KIT-R10	1 x 3.5"/2.5" HDD/SSD Expansion: 1 x 3.5"/2.5" HDD/SSD by the optional ECA-HDD-KIT-R10
Cooling Fans	1	1	1
I/O Openings	2 x USB, 4 x USB, 2 x COM	2 x USB, 6 x COM	2 x USB, 6 x COM
Expansion Slots	7	4	7
Indicators	1 x Power LED, 1 x HDD LED	1 x Power LED, 1 x HDD LED	1 x Power LED, 1 x HDD LED
Button	1 x Reset button, 1 x Power switch	1 x Reset button, 1 x Power switch	1 x Reset button, 1 x Power switch
Installation	Desktop, wall mount	Desktop, wall mount	Desktop, wall mount
Operating Temperature	-10°C ~ 50°C	-10°C ~ 50°C	-10°C ~ 50°C
Operating Humidity	5% ~ 95%	5% ~ 95%	5% ~ 95%
Color	Silver	Black	Black
Operating Vibration	MIL-STD-810F 514.5C-1	MIL-STD-810F 514.5C-1	MIL-STD-810F 514.5C-1
Operating Shock	Half-sine wave 3G, 11ms, 100 shocks per axis	Half-sine wave 3G, 11ms, 100 shocks per axis	Half-sine wave 3G, 11ms, 100 shocks per axis
Dimensions (DxWxH)	210 mm x 320 mm x 480.5 mm	310 mm x 310 mm x 162 mm	365 mm x 291 mm x 162 mm

Industrial Chassis

Full-size Compact Chassis




Model	PAC-1000G	PAC-106G	PAC-1700G	PAC-125G
Construction	Metal with plastic front panel	Heavy duty metal	Metal with plastic front panel	Heavy duty metal
SBC Form Factor	Full-size, slot CPU card	Full-size, slot CPU card	Full-size, slot CPU card	Full-size, slot CPU card
Drive Bays	1 x Front-accessible 3.5", 1 x 5.25", 1 x 3.5" HDD	1 x Front-accessible 3.5", 1 x 3.5" HDD	1 x front-accessible 3.5", 1 x 5.25", 2 x 3.5" HDD	2 x 5.25", 1 x Front accessible 3.5", 1 x 3.5" HDD
Cooling Fans	1 x 8 cm	1 x 8 cm	1 x 8 cm	1 x 80 mm x 80 mm x 25 mm
I/O Ports	None	2 x USB	None	2 x USB
I/O Openings	1 x LPT, 1 x COM	1 x COM, 1 x LPT	1 x LPT, 2 x COM	1 x LPT, 1 x COM
Expansion Slots	6 slots	6 slots	7 slots	10 slots
Indicators	Power, HDD	Power, HDD	Power, HDD	Power, HDD
Button	Power switch, reset	Power switch, reset	Power switch, reset	Power switch, reset
Operating Temperature	0°C ~ 50°C	0°C ~ 50°C	0°C ~ 50°C	0°C ~ 50°C
Operating Humidity	10% ~ 90%	10% ~ 60%	10% ~ 90%	10% ~ 90%
Color	B: Black	W: White	B: Black	W: White
Weight (Net/Gross)	5.6 kg/8.8 kg	5.2 kg/7.8 kg	6 kg/8.4 kg	7.2 kg/10.4 kg
Dimensions (DxWxH)	421 mm x 232 mm x 176 mm	400 mm x 166 mm x 175.5 mm	433 mm x 233 mm x 253.7 mm	420 mm x 321 mm x 176 mm

Half-size Compact Chassis



Model	PAC-53H	PR-1500G	PAC-700G
Construction	Heavy duty metal	Heavy duty metal	Heavy duty metal
SBC Form Factor	Half-size CPU card	Half-size CPU card	Half-size CPU card
Drive Bays	1 x 5.25", 1 x 3.5" HDD (internal)	1 x 5.25", 1 x 3.5" HDD (internal)	1 x 5.25", 1 x 3.5" HDD (internal)
Cooling Fans	3 x 4 cm	2 x 4 cm	1 x 8 cm
I/O Ports	2 x USB	2 x USB	2 x USB
I/O Openings	1 x COM, 1 x LPT	1 x COM, 1 x LPT	1 x COM, 1 x LPT
Expansion Slots	3 slots/2 slots (PE)	5 slots	7 slots
Indicators	Power, HDD	Power, HDD	Power, HDD
Button	Power switch, reset button	Power switch, reset button	Power switch, reset button
Operating Temperature	0°C ~ 50°C	0°C ~ 50°C	0°C ~ 50°C
Operating Humidity	10% ~ 90%	10% ~ 90%	10% ~ 90%
Color	Black	Black	Black
Weight (Net/Gross)	7.5 kg/9.5 kg	7.5 kg/9.5 kg	6 kg/8 kg
Dimensions (DxWxH)	218 mm x 200 mm x 95 mm	254 mm x 132 mm x 286 mm	279 mm x 176 mm x 321 mm

Industrial Chassis

Industrial Chassis

Mini-ITX Motherboard Chassis


Model		EBC-3220	EBC-3100
Platform		Case only	Case only
Chassis	Color	Black	Black
	Dimensions (WxDxH) (mm)	190 x 180 x 55	260 x 250 x 156
	System Fan	1 x 4 cm	1 x 8 cm
	Chassis Construction	Heavy duty metal	Heavy duty metal with plastic front panel
Motherboard	Motherboard Model	tKINO-BW KINO-DQM170 KINO-DH810 KINO-DBT eKINO-BT KINO-R1000 KINO-DH310 KINO-DH110 KINO-DAL tKINO-AL tKINO-ULT3 KINO-TGL-U	KINO-AQ170
	SBC Size (mm)	Mini-ITX (170 x 170)	1 x 3.5" SATA HDD space
Storage	Hard Drive	1 x 2.5'' SATA HDD/SSD drive bay	1 x 3.5" SATA HDD space
	CF Card/CFast	N/A	Refer to SBC
	SD Card	Refer to SBC	Refer to SBC
I/O Interfaces	PS2 (KB/MS)	N/A	Refer to SBC
	USB 3.2 Gen 1	Refer to SBC	Refer to SBC
	USB 2.0	Refer to SBC	Refer to SBC
	Ethernet	2	2
	COM Port	Refer to SBC	Refer to SBC
	LPT	Refer to SBC	Refer to SBC
	Display	Refer to SBC	Refer to SBC
	Resolution	Refer to SBC	Refer to SBC
	Audio	Refer to SBC	Refer to SBC
	Wireless	Refer to SBC	Refer to SBC
Expansions	PCI	N/A	N/A
	PCIe	N/A	1 x Full-height expansion slot
	PCIe Mini	Refer to SBC	Refer to SBC
	Others	N/A	N/A
Power	Power Input	12V DC	90~264V AC
	Power Supply	12V DC	ACE-A618C 180W ACE-A627A 270W
Reliability	Mounting	VESA 100, wall mount	Desktop, wall mount
	Operating Temperature	-10°C ~ 50°C	0°C ~ 50°C
	Operating Shock	Half-sine wave 3G, 11ms 3 shocks per axis	
	Operating Vibration	MIL-STD-810F 514.5C-1	
	Weight (Net/Gross)	1 kg/2 kg	2.5 kg/3.9 kg

Box Computer

TANK-XM81x Series
13th/12th/11th/10th Gen Intel® Core™ Desktop Processors

TANK-XM87x Series
7th Gen Intel® Core™ Desktop Processors

TANK-610 Series
Intel® Celeron® N3160 Processor

TANK-630 Series NEW
Intel® Celeron® J6412 Processor

DIN-Rail Computer

DRPC-242-ADL-P NEW
12th Gen Intel® Core™ Mobile Processors

DRPC-124-EHL
Intel® Celeron® Processor J6412

DRPC-140-EHL NEW
Intel® Celeron® Processor J6412

DRPC-240-TGL-U
11th Gen Intel ® Core™ Mobile Processors

DRPC-W Series
11th Gen Intel® Core™ Mobile Processors
Intel® Celeron® Processors
Intel® Atom® x6000 Processors

Compact Computer

IDS-330-ADL-P
12th Gen Intel® Core™ Mobile Processors

Rackmount Computer

FLEX-BX210
11th Gen Intel® Core™ Desktop Processors

Ultra-Compact Computer

uIBX-260
Intel® Celeron® Processor J6412

uIBX-250-BW
Intel® Celeron® Processor N3160

Mini Computer

TANGO-7010
12th Gen Intel® Core™ Desktop Processors

TANGO-3010
Intel® Celeron® Processor J6412

4K Low Latency Pro AV Application

Video Transceiver

iSDV-200CTR
BlueRiver® AVP2000T

Box Computer

Model		TANK-XM811	TANK-XM810
Chassis	Color	Black C	Black C
	Dimensions (WxDxH) (mm)	230.6 x 256.04 x 76.2	230.6 x 256.04 x 76.2
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloys	Extruded aluminum alloys
Motherboard	CPU	12/13th Gen Intel® Core™ CPU 35/65W Intel® Core™ i5-12500TE 1.9 GHz (up to 4.3 GHz, 6-core, 35W TDP) Intel® Core™ i7-12700TE 1.4 GHz (up to 4.6 GHz, 12-core, 35W TDP)	10/11th Gen Intel® Core™ CPU 35/65W Intel® Core™ i3-10320 3.8 GHz (up to 4.6 GHz, quad-core, 65W TDP) Intel® Core™ i5-10500TE 2.3 GHz (up to 3.7 GHz, 6-core, 35W TDP) Intel® Core™ i7-10700TE 2.0 GHz (up to 4.4 GHz, 8-core, 35W TDP)
	Chipset	R680E	Q470/Q470E
	System Memory	2 x SO-DIMM DDR4 3200 MHz (8GB pre-installed) (up to 64GB)	2 x SO-DIMM DDR4 2933 MHz (8GB pre-installed) (up to 64GB)
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD/SSD bay	1 x 2.5" SATA 6Gb/s HDD/SSD bay
I/O Interfaces	USB	8 x USB 3.2 Gen 2 (10Gb/s)	6 x USB 3.2 Gen 2 (10Gb/s) 2 x USB 2.0
	Ethernet	2 x RJ-45 2 x I225V 2.5GbE (colay I225LM)	2 x RJ-45 2 x I225V 2.5GbE (colay I225LM)
	COM Port	2 x RS-232/422/485, 4 x RS-232	2 x RS-232/422/485, 4 x RS-232
	Digital I/O	12-bit Digital I/O (6-in/6-out) DB15	12-bit Digital I/O (6-in/6-out) DB15
	Display	1 x DP++ 1 x HDMI	1 x DP++ 1 x HDMI
	Wireless	1 x 802.11a/b/g/n/ac (optional)	N/A
	TPM	Support Intel® PTT function	Support Intel® PTT function
Expansions	PCIe Mini	Optional	Optional
	M.2	1 x 2280 M-key (PCIe x4) 1 x 2230 A-key (USB+PCIe x1, supports vPRO)	2 x 2280 M-key (PCIe x2)
	Backplane	Optional	Optional
Power	Power Input	12 ~ 28V DC	12 ~ 28V DC
	Power Consumption	12V @ 8.8A (Intel® Core™ i9-12900TE with 16GB memory)	12V @ 8A (Intel® Core™ i9-10900TE with 8GB memory)
Reliability	Mounting	Wall mount	Wall mount
	Operating Temperature	-20°C ~ -60°C with air flow (SSD) 10% ~ 95% non-condensing	-20°C ~ -60°C with air flow (SSD) 10% ~ 95% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)	MIL-STD-810G 514.6C-1 (with SSD)
	Weight (Net/Gross)	3.33 kg/3.7 kg	3.2 kg/3.5 kg
	Safety/EMC	CE/FCC	CE/FCC
OS	Supported OS	Windows 10 / Windows 11 IoT Enterprise/ Linux	Windows 10 / Windows 11 IoT Enterprise/ Linux

Download IEI's IIoT Whitepaper

What's Inside?

This paper will take a deeper look at IIoT challenges at the rugged edge and how modern hardware strategies can assure the reliable performance and intelligent data handling needed to fuel AI's value further into modern life and enterprise business.

GPOE-XM81-8P

Specifications
- Interface: 8 x PCI Express® x1
- Ethernet: 8 x Intel® I225-V controller
- PoE Capability
- IEEE 802.3at with 30W / 52V per port (Total power 60W)
- Operating Temperature: 0°C ~ 60°C
- Operating Humidity: 5% ~ 95%, non-condensing
- CE/FCC compliant

TXIOB-XM81-A

Specifications
- 1 x Full-Size Mini PCIe (PCIe Gen3 x1 & USB2.0)
  1 x M.2 A Key 2230 (PCIe Gen3 x1 & USB2.0)
  1 x M.2 B Key (M.2_B1) 3042/52/80 (PCIe Gen3n x1 & USB3.2)
  1 x M.2 B Key (M.2_B2) 3042/52/80 (PCIe Gen3 x2)
  3 x On-board SIM card socket (hinge type) for M.2 B key &Mini PCIe
- Operating Temperature: 0°C ~ 60°C
- Operating Humidity: 5% ~ 95%, non-condensing
- Dimensions (LxW): 131.22 mm x 170.94 mm
- CE/FCC compliant

SF-TANK-XM81

Specifications
- Expansion fan module
- Material: Heavy duty metal
- Color: Black
- Fan Dimensions (mm): 80 x 80 x 15
- Bearing Type: Two ball bearing
- Fan Speed (RPM): 3800
- Noise Level (dBA): 40
- Air Flow (CFM): 35.77
- Life Expectancy (hrs): 6500

Flexible Expansion with eChassis

Box Computers

Flexible Expansion via PCIe/PCI Slot

IEI has engineered the TANK-XM811 with the latest technologies to deliver optimized and reliable processing performance at the rugged edge

Chassis Name	TXC-XM81-3S		TXC-XM81-4S		
Backplane Name	TXCBP-XM81-2A	TXCBP-XM81-2B	TXCBP-XM81-4A	TXCBP-XM81-4B	TXCBP-XM81-4C
					
Slot 1	PCIe x16	PCIe x16 (PCIe x8 Signal)	PCIe x16	PCIe x16 (PCIe x8 Signal)	PCIe x16
Slot 2	N/A	N/A	PCIe x1	PCIe x4	PCIe x4
Slot 3	PCIe x4	PCIe x16 (PCIe x8 Signal)	PCIe x4	PCIe x16 (PCIe x8 Signal)	PCI
Slot 4	N/A	N/A	PCIe x4	PCIe x4	PCI
System Fan (Chassis)	1 x 5cm (RS5015B12VH, 6000rpm, 35db) 1 x 5cm (Optional)		1 x 8cm (FD1280, 3800rpm, 40db)		
System Fan (Backplane)	1 x 4-pin (1x4)	2 x 4-pin (1x4)	2 x 4-pin (1x4)	2 x 4-pin (1x4)	1 x 4-pin (1x4)
Power Connector (Backplane)	N/A	N/A	1 x 8-pin (2x4)	1 x 8-pin (2x4)	N/A
Max. Length of Add-on Card (mm)	223.18		224.40		
Additional Power Board	N/A		IDD-X1228150 (adds a terminal block on rear I/O)		
Dimension (W x H x D) (mm)	230.6 x 69.16 x 255		230.6 x 100 x 255		
With Host Dimension (W x H x D) (mm)	230.6 x 137.86 x 255		230.6 x 168.5 x 255		

Chassis Name	TXC-XM81-G1	TXC-XM81-G2
Backplane Name	TXCBP-XM81-4A	TXCBP-XM81-G2
		
Slot 1	PCIe x16	PCIe x16 (PCIe x8 Signal)
Slot 2	PCIe x1	N/A
Slot 3	PCIe x4	PCIe x16 (PCIe x8 Signal)
Slot 4	PCIe x4	N/A
Slot 5	N/A	PCIe x4
Slot 6	N/A	PCIe x4
System Fan (Chassis)	1 x 8cm (FD1280, 3800rpm, 40db)	
System Fan (Backplane)	2 x 4-pin (1x4)	2 x 4-pin (1x4)
Power Connector (Backplane)	1 x 8-pin (2x4)	1 x 8-pin (2x4)
Max. Length of Add-on Card (mm)	339.8	
Additional Power Board	IDD-X1228150 (adds a terminal block on rear I/O)	
Dimension (W x H x D) (mm)	230.6 x 166.3 x 370.4	230.6 x 207.1 x 370.4
With Host Dimension (W x H x D) (mm)	230.6 x 168.7 x 370.4	230.6 x 209.86 x 370.4

Box Computers

Model		TANK-871-Q170	TANK-870-Q170
Chassis	Color	Black C + Silver	Black C + Silver
	Dimensions (WxDxH) (mm)	82.2 x 255.2 x 204	2-slot: 121.5 x 255.2 x 205 4-slot: 154.8 x 255.2 x 205
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloys	Extruded aluminum alloys
Motherboard	CPU	7th Gen Intel® Core™ CPU & Intel® Core™ i7-6700TE 2.4 GHz (up to 3.4 GHz, quad-core, TDP 35) Intel® Core™ i5-6500TE 2.3 GHz (up to 3.3 GHz, quad-core, TDP 35)	7th Gen Intel® Core™ CPU & Intel® Core™ i7-6700TE 2.4 GHz (up to 3.4 GHz, quad-core, TDP 35) Intel® Core™ i5-6500TE 2.3 GHz (up to 3.3 GHz, quad-core, TDP 35)
	Chipset	Intel® Q170	Intel® Q170
	System Memory	2 x SO-DIMM DDR4 2666 (4GB pre-installed) (up to 32GB)	2 x SO-DIMM DDR4 2666 (4GB pre-installed) (up to 32GB)
IPMI	iRIS Solution	1 x iRIS-2400 (optional)	1 x iRIS-2400 (optional)
Storage	Hard Drive	2 x 2.5" SATA 6Gb/s HDD/SSD bay (RAID 0/1 support)	2 x 2.5" SATA 6Gb/s HDD/SSD bay (RAID 0/1 support)
I/O Interfaces	USB	4 x USB 3.2 Gen 1 4 x USB 2.0	4 x USB 3.2 Gen 1 / 4 x USB 2.0
	Ethernet	2 x RJ-45: LAN1: GbE by Intel® I219LM LAN2 (iRIS): GbE by Intel® I210	2 x RJ-45: LAN1: GbE by Intel® I219LM LAN2 (iRIS): GbE by Intel® I210
	COM Port	2 x RS-232/422/485 with AFC (DB-9) 4 x RS-232 (2 x RJ-45, 2 x DB-9 with 2.5kV isolation)	2 x RS-232/422/485 with AFC (DB-9) 4 x RS-232 (2 x RJ-45, 2 x DB-9 with 2.5kV isolation)
	Digital I/O	8-bit Digital I/O (4-in/ 4-out)	8-bit Digital I/O (4-in/ 4-out)
	Display	1 x VGA (up to 1920 x 1200@60Hz) 1 x HDMI/DP (up to 3840x2160@30Hz/4096×2304@60Hz) 1 x iDP (optional)	1 x VGA (up to 1920 x 1200@60Hz) 1 x HDMI/DP (up to 3840x2160@30Hz/4096×2304@60Hz) 1 x iDP (optional)
	Audio	1 x Line-out, 1 x Mic-in	1 x Line-out, 1 x Mic-in
	Wireless	1 x 802.11 a/b/g/n/ac (optional)	1 x 802.11 a/b/g/n/ac (optional)
	TPM	1 x TPM 2.0 (2 x 10 pin) (optional)	1 x TPM 2.0 (2 x 10 pin) (optional)
Expansions	PCIe Mini	1 x Half-size (PCIe/ USB 2.0) 1 x Full-size (PCIe/ USB 2.0/ SATA)	1 x Half-size (PCIe/ USB 2.0) 1 x Full-size (PCIe/ USB 2.0/ SATA)
	M.2	N/A	N/A
	Backplane	N/A	2-slot model: 1 x PCIe x16, 1 x PCI 2-slot model: 2 x PCIe x8 4-slot model: 2 x PCIe x8, 2 x PCI, 1 x Full-size PCIe Mini (PCIe/USB 2.0) 4-slot model: 1 x PCIe x16, 3 x PCI, 1 x Full-size PCIe Mini (PCIe/ USB 2.0)
Power	Power Input	DC Jack: 9 ~ 36V DC Terminal Block: 9 ~ 36V DC	DC Jack: 9 ~ 36V DC Terminal Block: 9 ~ 36V DC
	Power Consumption	19V@3.68 A (Intel® Core™ i7-6700TE with 8 GB memory)	19V@3.68 A (Intel® Core™ i7-6700TE with 8 GB memory)
	Internal Power Connector	5V@3A or 12V@3A	5V@3A or 12V@3A
Reliability	Mounting	Wall mount	Wall mount
	Operating Temperature	i7-6700TE: -20ºC ~ 45°C with air flow (SSD), 10% ~ 95% non-condensing i5-6500TE: -20ºC ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing	i7-6700TE: -20ºC ~ 45°C with air flow (SSD), 10% ~ 95% non-condensing i5-6500TE: -20ºC ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6 C-1 (SSD)	MIL-STD-810G 514.6 C-1 (SSD)
	Weight (Net/Gross)	3.5 kg/4.5 kg	2-slot: 4.2 kg/6.3 kg 4-slot: 4.5 kg/6.5 kg
	Safety/EMC	CE/FCC/KC	CE/FCC/KC
OS	Supported OS	Microsoft® Windows® 8 Embedded, Microsoft® Windows® Embedded Standard 7 E, Microsoft® Windows® 10 IoT Enterprise	Microsoft® Windows® 8 Embedded, Microsoft® Windows® Embedded Standard 7 E, \Microsoft® Windows® 10 IoT Enterprise

Embedded Systems

Box Computers

NEW

Model		TANK-870e-H110	TANK-610-BW	TANK-630-EHL
Chassis	Color	Dark silver purple + Silver	Black C + Silver	Black C
	Dimensions (WxDxH) (mm)	132.6 x 255.2 x 190	184 x 200.6 x 58.2	184 x 200.6 x 53
	System Fan	Fanless	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloys	Extruded aluminum alloys	Extruded aluminum alloy
Motherboard	CPU	7th Gen Intel® Core™ CPU & Intel® Core™ i7-6700TE 2.4 GHz (up to 3.4 GHz, quad-core, TDP 35) Intel® Core™ i5-6500TE 2.3 GHz (up to 3.3 GHz, quad-core, TDP 35)	Intel® Celeron® N3160 1.6 GHz (up to 2.24 GHz, quad-core, TDP 6W)	Intel® Celeron® J6412 2.0 GHz (up to 2.6GHz, quad-core, TDP 10W)
	Chipset	Intel® H110	SoC	SoC
	System Memory	2 x SO-DIMM DDR4 2666(4GB pre-installed)(up to 32GB)	2 x DDR3L SO-DIMM(2GB pre-installed)(up to 8GB)	2 x DDR4 3200MHz SO-DIMM (8GB pre-installed) (up to 32GB)
Storage	Hard Drive	2 x 2.5'' SATA 6Gb/s HDD/SSD bay	1 x 2.5'' SATA 6Gb/s HDD/SSD Bay	1 x 2.5'' SATA 6Gb/s HDD/SSD bay
I/O Interfaces	USB	4 x USB 3.2 Gen1	4 x USB 3.2 Gen1	2 x USB 3.2 Gen2 4 x USB 2.0
	Ethernet	2 x RJ-45: 2 x GbE by RTL8111G	2 x RJ-45: 2 x GbE by Intel® I210	3 x 2.5 GbE by Intel® I225-V/I226-V controller
	COM Port	2 x RS-232/422/485 with AFC (DB-9 with 2.5kV isolation)	2 x RS-232/422/485 with AFC 6 x RS-232	2 x RS-232/422/485 with AFC (DB9) 6 x RS-232 (DB9)
	Display	1 x VGA (up to 1920 x 1200@60Hz) 1 x HDMI (up to 3840 x 2160@30Hz)	1 x VGA (up to 1920 x 1200@60Hz) 1 x HDMI (up to 3840 x 2160@30Hz)	2 x HDMI 1.4b (up to 4k@30Hz)
	Audio	1 x Line-out, 1 x Mic-in	1 x Line-out, 1 x Mic-in	1 x Line-out, 1 x Mic-in
	Wireless	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (M.2 A Key optional)
	TPM	N/A	N/A	1 x TPM (2 x10 pin) Intel PTT
	Other	N/A	N/A	1 x Power Button with LED, 1 x HDD LED, 1 x AT/ATX Switch, 1 x Reset Button
Expansions	PCIe Mini	1 x Full-size (PCIe/ USB 2.0) 1 x Full-size (PCIe/ USB 2.0/ SATA)	1 x Half-size (PCIe/USB 2.0) 1 x Full-size (PCIe/SATA)	N/A
	Backplane	3A: 1 x PCIe x16, 2 x PCI 3B: 1 x PCIe x16, 1 x PCIe x4, 1 x PCI 3C: 3 x PCI	N/A	N/A
	M.2	N/A	N/A	1 x 2230 A-key (PCIe Gen3 x1/USB 2.0) 1 x 2042/52/80 B-key (SATA/USB 2.0) 1 x 2280 M-key (PCIe Gen3 x2)
Power	Power Input	DC Jack: 9 ~ 36V DC Terminal Block: 9 ~ 36V DC	DC Jack: 9 ~ 36V DC Terminal Block: 9 ~ 36V DC	DC Jack: 12 ~ 28V DC Terminal Block: 12 ~ 28V DC
	Power Consumption	19V@3.44A (Intel® Core™ i7-6700TE with 8GB memory)	12V@1.49A (Intel® Celeron® N3160 with 4GB DDR3L memory)	+12V @ 3.36A (Intel® Celeron® J6412 with 8GB memory)
Reliability	Mounting	Wall mount & DIN Rail	Wall mount, VESA 100	Wall Mount, VESA 100
	Operating Temperature	-20ºC ~ 50°C with air flow (SSD), 10% ~ 95% non-condensing	-40ºC ~ 60°C with air flow(SSD), 10% ~ 95% non-condensing	-10°C ~ 50°C with 0.7M/S air flow (M.2), 10% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)		
	Operating Vibration	MIL-STD-810G 514.6C-1 (SSD)	MIL-STD-810G 514.6C-1 (SSD)	10-500 Hz, 1.04 Grms, random, 1 hr/axis (SSD)
	Weight (Net/Gross)	2.8 kg / 4.3 kg	2.2 kg / 3 kg	2.04 kg / 2.29 kg
	Safety/EMC	CE/FCC/KC	CE/FCC/KC	CE, FCC, UKCA
OS	Supported OS	Microsoft® Windows® 8 Embedded, Microsoft® Windows® Embedded Standard 7 E, Microsoft® Windows® 10 IoT Enterprise	Microsoft® Windows 8 Embedded, Microsoft® Windows® Embedded Standard 7 E	Microsoft® Windows® 10/11, Linux

DIN-Rail Computers

NEW

Model		DRPC-242-ADL-P-CCS-R10	DRPC-242-ADL-P-i3CS-R10 DRPC-242-ADL-P-Ri3ECS-R10	DRPC-242-ADL-P-i5CS-R10 DRPC-242-ADL-P-Ri5ECS-R10	DRPC-242-ADL-P-i7CS-R10 DRPC-242-ADL-P-Ri7ECS-R10
Chassis	Dimensions	81 mm x 150 mm x 190 mm			
	System Fan	Fanless (Fan optional)			
	Chassis Construction	Extruded Aluminum alloys			
Motherboard	CPU	Intel® Celeron® 7305 (5-core, 15W TDP)	Intel® Core™ i3-1220P (up to 4.4GHz, 10-core, 28W TDP) Intel® Core™ i3-1320PE (up to 4.5GHz, 8-core, 28W TDP)	Intel® Core™ i5-1240P (up to 4.4GHz, 12-core, 28W TDP) Intel® Core™ i5-1340PE (up to 4.5GHz, 12-core, 28W TDP)	Intel® Core™ i7-1260P (up to 4.7GHz, 12-core, 28W TDP) Intel® Core™ i7-1370PE (up to 4.8GHz, 14-core, 28W TDP)
	Chipset	SoC			
	Memory	2 x SO-DIMM slot DDR4 3200 MHz (8 GB pre-installed) (up to 64GB)			
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s SSD bay			
I/O Interfaces	USB	2 x USB 3.2 Gen2 4 x USB 2.0			
	Ethernet	1 x 2.5 GbE by Intel® I225LM/I226LM controller support iAMT 2 x 2.5 GbE by Intel® I225-V/I226-V controller			
	COM	2 x RS-232 (DB9 with 2.5KV isolation) 2 x RS-232 (optional) 2 x RS-422/485 with AFC (DB9 with 2.5KV isolation)			
	DIO	1 x 12-bit (6-in, 6-out)(optional)			
	Display	1 x Lockable HDMI™ 1.4b (up to 4096 x 2160@30Hz) 1 x DP 1.4b (up to 4096 x 2160 @60Hz)			
	TPM	Support Intel PTT			
	Others	1 x Power button, 1 x 2-pin terminal block for remote power button, 1 x Reset button, 1 x AT/ATX switch, 1 x Power LED (green), 1 x HDD LED (yellow), 4-pin external system fan connector			
Expansions	M.2	1 x 2230 A-key (PCIe Gen3 x1/USB 2.0) Support Vpro 1 x 3042/52 B-key (PCIe Gen3 x1/USB 3.2 Gen2/USB 2.0) 1 x On-board SIM card socket (hinge type) for M.2 B key 1 x 2280 M-key (PCIe Gen4 x4)			
	Backplane	1 x PCIe Gen3 x4 (optional)			
Power	Power Input	3-pin terminal block: 12 ~ 28 VDC			
	Internal PWR	4-pin 60W @12V			
	Consumption	12V@4.46A (Intel® Core™ i7-1260P with DDR4 8GB memory)			
Reliability	Mounting	DIN-Rail, Wall Mount			
	Operating Temp	-20°C ~ 60°C with air flow (SSD)			
	Storage Temp	-40°C ~ 85°C			
	Humidity	10% ~ 95%, non-condensing			
	Operating Shock	Half-sine wave shock 5G, 11ms, 3 shocks per axis (SSD)			
	Operating Vibration	10-500 Hz, 1.04 Grms, random, 1 hr/axis (SSD)			
	Weight	1.88 kg / 2.66 kg			
	Safety/EMC	CE, FCC, UKCA			
OS	Supported OS	Microsoft® Windows 10 / 11, Linux			

DIN-Rail Computers

NEW

Model		DRPC-124-EHL	DRPC-140-EHL
Chassis	Color	Black	Black
	Dimensions (WxDxH) (mm)	159 x 132.5 x 35	58.75 x 130 x 174
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Celeron® J6412 2.0 GHz (up to 2.6 GHz, quad-core, TDP 10W)	Intel® Celeron® J6412 2.0 GHz (up to 2.6 GHz, quad-core, TDP 10W)
	Chipset	SoC	SoC
	System Memory	LPDDR4X onboard 8GB (max. 16GB)*	1 x SO-DIMM DDR4 3200 (8GB pre-installed) (up to 32GB)
Storage	Hard Drive		1 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	eMMC 5.1 64GB/128GB (optional)	1 x eMMC 5.1 (optional)*
I/O Interfaces	USB	2 x USB 3.2 Gen2 2 x USB 2.0	4 x USB 3.2 Gen2
	Ethernet	1 x RJ-45 PCIe GbE by I210 controller 3 x RJ-45 PCIe 2.5 GbE by I225V controller	2 x 2.5 GbE by Intel® I225-V/I226-V controller
	COM Port	1 x RS-232/422/485 (DB9) (optional)	2 x HDMI™ (up to 4K@30Hz)
	Digital I/O	-	4 x RS-232/422/485 (DB-9)
	CAN-bus	-	8-bit Digital I/O (4-in/ 4-out)
	Display	1 x HDMI 1.4B	2 x CAN-bus (DB9 with 2.5kV isolation)
	Wireless	-	1 x 802.11a/b/g/n/ac (optional)
	TPM	Intel PTT	1 x TPM (2 x10 pin) Intel PTT
	Other	1 x Power Button (with LED),1 x Clear CMOS	1 x Power Button, 1 x Reset Button, 1 x AT/ATX Switch, 1 x LED for Power (Green), 1 x LED for HDD (Yellow)
Expansions	M.2	1 x 2242 B-key (PCIe Gen3 x2) 1 x 2242 B-key (SATA) 1 x 2280 M-key (PCIe Gen3 x2)	1 x M.2 A Key 2230 (PCIe Gen3 x1/USB 2.0) 1 x M.2 M Key 2280 (PCIe Gen3 x2)
Power	Power Input	2-pin terminal block: 12-28 VDC	3-pin terminal block: 12-24V DC
	Power Consumption	12V@3.05 (Intel® Celeron® J6412 with 8GB DDR4 Memory)	12V @ 3.36A (Intel® Celeron® J6412 with 8GB memory)
	Remote PWR	-	Terminal Block: 2-Pin
Reliability	Mounting	DIN-Rail, Wall Mount	DIN-Rail, Wall Mount
	Operating Temperature	-10°C ~ 50°C with air flow (M.2), 10% ~ 95%, non-condensing	-20°C ~ 60°C with 0.7M/S air flow (M.2), 10% ~ 95%, non-condensing
	Storage Temperature	-20°C ~ 70°C with air flow (M.2), 10% ~ 90%, non-condensing	-20°C ~ 70°C, 10% ~ 90%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (M.2)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (M.2)	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	0.78 kg /1.2 kg	1.39 kg /1.68 kg
	Safety/EMC	CE, FCC, UKCA	CE/ FCC/ UKCA
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1~255 sec/min
OS	Supported OS	Microsoft® Windows® 10/11, Linux	Microsoft® Windows® 10/11, Linux

* Based on project discussion, it might have MOQ criteria. Please contact with Sales Account.

DIN-Rail Computers

Model		DRPC-240-TGL-U	DRPC-130-AL
Chassis	Color	Black	Black
	Dimensions (WxDxH)(mm)	81 x 150 x 190	58.75 x 130 x 174
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Core™ i7-1185G7E 1.8 GHz (up to 4.4 GHz, quad-core, TDP 15W) Intel® Core™ i5-1145G7E 1.5 GHz (up to 4.1 GHz, quad-core, TDP 15W) Intel® Celeron® 6305E 1.8 GHz (dual-core, TDP 15W)	Intel® Atom® x5-E3930 1.3 GHz (up to 1.8 GHz, dual-core, TDP 6.5W)
	Chipset	SoC	SoC
	System Memory	2 x SO-DIMM DDR4 3200 MHz (8 GB pre-installed) (up to 64GB)	1 x SO-DIMM DDR3L 1333/1600 (up to 8GB)
Storage	Hard Drive	1 x 2.5'' SATA 6Gb/s HDD/SSD bay	1 x 2.5'' SATA 6Gb/s HDD/SSD bay 1 x eMMC 5.0 (optional, up to 32GB)*
I/O Interfaces	USB	2 x USB 3.2 Gen 2 2 x USB 2.0	4 x USB 3.2 Gen 1
	Ethernet	1 x 2.5 GbE by Intel® I225LM/I226LM controller 3 x 2.5 GbE by Intel® I225-V/I226-V controller	2 x GbE RJ-45 by Intel® I211
	COM Port	2 x RS-422/485 with AFC (DB-9, with 2.5kV isolation) 2 x RS-232 (DB-9, with 2.5kV isolation)	4 x RS-232/422/485 with AFC (DB9)
	Digital I/O	12-bit Digital I/O (6-in/ 6-out)(optional)	8-bit Digital I/O (4-in/ 4-out)
	CAN-bus	N/A	1 x Port supporting two CAN-bus (DB9 with 2.5kV isolation)
	Display	1 x HDMI (up to 3840 x 2160@30Hz) 1 x DP++ (up to 4096 x 2304@60Hz)	2 x HDMI (up to 3840 x 2160@30Hz)
	Wireless	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)
	TPM	Support Intel PTT	1 x TPM 2.0 (2x10 pin) (optional)
	Other	1 x Power button, 1 x Reset button, 1 x AT/ATX switch, 1 x Power LED (green), 1 x HDD LED (yellow), 4-pin external system fan connector	1 x Power button, 1 x Reset button, 1 x AT/ATX switch, 1 x Power LED (green), 1 x HDD LED (yellow)
Expansions	PCIe Mini	N/A	1 x Half-size (PCIe/USB 2.0) 1 x Full-size (PCIe/USB 2.0/SATA)
	M.2	1 x 2230 A-key (PCIe Gen3 x1/USB 2.0) 1 x 3042/52/80 B-key (PCIe Gen3 x1/USB 3.2 Gen1/USB 2.0) 1 x On-board SIM card socket (hinge type) for M.2 B key	N/A
	Backplane	1 x PCIe Gen 3 x4 (optional)	N/A
Power	Power Input	Terminal block: 12 ~ 28V DC	Terminal block: 12 ~ 24V DC
	Power Consumption	12V @ 6.98A (Intel® Core™ i5-1145G7E with 8GB memory)	12V @ 2.88 A (Intel® Atom® x5-E3930 with 4GB memory)
	Remote PWR	2-pin Terminal block	Terminal block: PSON
Reliability	Mounting	DIN-Rail, Wall Mount	DIN-Rail
	Operating Temperature	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-40°C ~ 85°C, 10% ~ 95% non-condensing	-40°C ~ 85°C with air flow (SSD), 10% ~ 95% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (SSD)	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	2.15 / 2.5 kg	1.4 kg / 2.5 kg
	Safety/EMC	CE, FCC, UKCA	CE/ FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft Windows 10 / Windows 11, Linux	Microsoft® Windows 10, Linux

* Based on project discussion, it might have MOQ criteria. Please contact with Sales Account.

Embedded Systems

DIN-Rail Computers

Model		DRPC-W-TGL-U	DRPC-W-JL
Chassis	Color	Black	
	Dimensions (WxDxH)(mm)	176 x 116 x 67.8	176 x 116 x 60.8
	System Fan	Fanless	
	Chassis Construction	Extruded aluminum alloys	
Motherboard	CPU	Intel® Core™ i7-1185G7E 1.8 GHz (up to 4.4 GHz, quad-core, TDP 15W) Intel® Core™ i5-1145G7E 1.5 GHz (up to 4.1 GHz, quad-core, TDP 15W) Intel® Core™ i3-1115G4E 2.2 GHz (up to 3.9 GHz, dual-core, TDP 15W) Intel® Celeron® 6305/6305E1.8 GHz (dual-core, TDP 15W)	Intel® Celeron® N5105 2.0 GHz (up to 2.9 GHz, quad-core, TDP 10W)
	Chipset	SoC	
	System Memory	1 x DDR4 3200 MHz SO-DIMM (pre-installed 8GB) (up to 32GB)	1 x DDR4 2933 MHz SO-DIMM (pre-installed 8GB) (up to 16GB)
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD bay	
	eMMC	N/A	N/A
	microSD	N/A	N/A
I/O Interfaces	USB	4 x USB 3.2	2 x USB 3.2
	LAN	LAN1: Intel® I225V 2.5GbE (I225-LM for i5/i7 SKU) LAN2/3: Intel® I225V 2.5GbE	3 x 2.5GbE
	COM Port	2 x RS-232/422/485 (optional)	
	Digital I/O	1 x 12-bit digital I/O (optional)	
	Display	1 x DP, 2 x HDMI	1 x DP, 1 x HDMI
	Wireless	Optional	
	TPM	Intel PTT	
	Other	1 x Power button, 1 x Reset button, 1 x Power LED, 1 x HDD LED, 1 x System fan connector, 1 x AT/ATX Switch	1 x Power button, 1 x Reset button, 1 x Power LED, 1 x HDD LED, 1 x System fan connector
Expansions	PCIe Mini	N/A	N/A
	M.2	1 x 2230 M.2 A Key (PCIe Gen3 x1 & USB 2.0) 1 x 3042/3052 M.2 B Key (PCIe Gen3 x2) 1 x On-board SIM card socket (push-push type) for M.2 B key	1 x 2230 M.2 A Key (PCIe Gen3 x1 & USB 2.0) 1 x 2242/2280 M.2 B Key (PCIe Gen3 x2) 1 x On-board SIM card socket (hinge type) for M.2 B key
Power	Power Input	12V DC	
	Power Consumption	12V@4.1A (Intel® i5-1145G7E with 8GB DDR4 memory)	12V@2.45A (Intel® N5105 with 16GB DDR4 memory)
Reliability	Mounting	DIN-Rail	
	Operating Temperature	-20°C ~ 60°C with airflow, 10% ~ 95% non-condensing	
	Storage Temperature	-30°C ~ 85°C, 10% ~ 95% non-condensing	
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis	Half-sine wave shock 5G, 11ms, 100 shocks per axis
	Operating Vibration	10-500 Hz,1.04 Grms, random, 1 hr/axis	10-500 Hz,1.04 Grms, random, 1 hr/axis
	Weight (Net/Gross)	0.98 kg / 1.2 kg	0.91 kg / 1.6 kg
	Safety/EMC	CE/ FCC/UKCA	
	Watchdog Timer	Programmable 1 ~ 255 sec/min	
OS	Supported OS	Microsoft® Windows 10/11, Linux	

Din-Rail Computers /Compact Computers

NEW

Model		DRPC-W-EHL1	DRPC-W-EHL	IDS-330-ADL-P
Chassis	Color	Black	Black	Black
	Dimensions (WxDxH) (mm)	176 x 116 x 60.8	176 x 116 x 60.8	176 x 115.6 x 55.2
	System Fan	Fanless	Fanless	Fanless (Fan optional)
	Chassis Construction	Extruded aluminum alloys	Extruded aluminum alloys	ABS Plastic+Aluminum
Motherboard	CPU	Onboard Intel® Atom® x6000 series / Pentium® / Celeron® processor (Elkhart Lake platform) Intel® Celeron® x6211E on-board SoC (up to 3.0 GHz, dual-core, 1.5M Cache, TDP=6W) Intel® Celeron® x6413E on-board SoC (up to 3.0 GHz, quad-core, 1.5M Cache, TDP=9W) Intel® Celeron® x6425E on-board SoC (up to 3.0 GHz, quad-core, 1.5M Cache, TDP=12W)	Intel® Celeron® J6412 2.0 GHz (up to 2.6 GHz, quad-core, TDP 10W)	Intel® Core™ i5-1235U (up to 4.4GHz, 10-core, 15W TDP) Intel® Core™ i7-1255U (up to 4.7GHz, 10-core, 15W TDP)
	Chipset	SoC	SoC	SoC
	Memory	Onboard LPDDR4x 3200MHz 8GB (up to 16GB)*	Onboard LPDDR4x 3200MHz 8GB (up to 16GB)*	LPDDR4x onboard 8GB (max 16GB)
Storage	HDD Bay	1 x 2.5" SATA 6Gb/s HDD bay	1 x 2.5" SATA 6Gb/s HDD bay	1 x M.2 B key 3042/52/80 with SIM slot (PCIe x1 / USB 2.0 / SATA) 1 x 2280 M-key (PCIe Gen4 x4)
IO Interfaces	USB	2 x USB 3.2 Gen2	2 x USB 3.2	4 x USB 3.2 Gen 2
	LAN	2 x PCIe 2.5GbE with Intel i225-IT	2 x 2.5GbE	2 x 2.5GbE by Intel® I225V (colay I225LM)
	Display	1 x HDMI™ 1.4 (up to 4096 x 2160@30Hz) 1 x DP 1.2 (up to 4096 x 2160@60Hz)	1 x DP 1 x HDMI	4 x HDMI 1.4b with CEC (up to 4096 x 2160@30Hz)
	Others	1 x Power button, 1 x Reset button, 1 x Power LED, 1 x HDD LED, 1 x System fan connector	1 x Power button, 1 x Reset button, 1 x Power LED, 1 x HDD LED, 1 x System fan connector	1 x Power Button, 1 x Reset Button, 1 x AT/ATX switch, 1 x Power LED (green), 1 x HDD LED (yellow)
Internal Expansions	PCIe Mini	N/A	N/A	
	M.2	1 x 2230 M.2 A Key (PCIe Gen3 x2 & USB 2.0) 1 x 3042 M.2 B Key (PCIe Gen3 x2 & USB 2.0)	1 x 2230 M.2 A Key (PCIe Gen3 x1 & USB 2.0) 1 x 3042 M.2 B Key (PCIe Gen3 x2) 1 x On-board SIM card socket (push-push type) for M.2 B key	1 x 2230 E-key (PCIe x1 / USB 2.0) Support Vpro
Power	Power Input	12V ~ 28V DC input power (AT/ATX mode)	12V DC	DC Jack: 12 VDC
	Power Consumption	28V@1.58A (Intel® Celeron® x6211E With 8GB LPDDR4x Memory)	12V@2.5A (Intel® J6412 With 4GB DDR4 Memory)	12V@4.25A (Intel® Core™ i7-1255U with 8GB DDR4 memory)
Reliability	Mounting	DIN-Rail	DIN-Rail	Wall mount, VESA 75/100
	Operating Temperature	-20°C ~ 70°C with airflow, 10% ~ 95% non-condensing	-20°C ~ 60°C with airflow, 10% ~ 95% non-condensing	-10°C ~ 40°C with air flow, 10% ~ 95%, non-condensing
	Storage Temperature	-30°C ~ 85°C, 10% ~ 95% non-condensing	-30°C ~ 85°C, 10% ~ 95% non-condensing	-20°C ~ 60°C with air flow, 10% ~ 90%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis	Half-sine wave shock 5G, 11ms, 100 shocks per axis	Half-sine wave shock 5G, 11ms, 100 shocks per axis
	Operating Vibration	10-500 Hz, 1.04 Grms, random, 1 hr/axis	10-500 Hz,1.04 Grms, random, 1 hr/axis	10-500 Hz, 1.04 Grms, random, 1 hr/axis
	Weight (Net/Gross)	0.92 kg / 1.16 kg	0.92 kg / 1.16 kg	0.97 kg / 1.74kg
	Safety/EMC	CE/FCC	CE/FCC/UKCA	CE/ FCC/ UKCA
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min	Programmable 1~255 sec/min
OS	Supported OS	Microsoft® Windows 10 / Windows 11, Linux	Microsoft® Windows 10 / Windows 11, Linux	Microsoft® Windows® 10/11, Linux

* Based on project discussion, it might have MOQ criteria. Please contact with Sales Account.

Ultra-Compact Computers

Model		uIBX-260-EHL	uIBX-250-BW
Chassis	Color	Black	Black
	Dimensions (WxDxH) (mm)	137 x 102.8 x 65.8	137 x 102.8 x 52
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Celeron® J6412 2.0GHz (up to 2.6GHz, quad-core, TDP 10W)	Intel® Celeron® N3160 1.6 GHz (up to 2.24 GHz, quad-core, TDP 6W)
	Chipset	SoC	SoC
	System Memory	Onboard LPDDR4x 3200MHz 8GB (up to 16GB)[2]	1 x 204-pin DDR3L SO-DIMM slot (2 GB pre-installed, system max: 8GB)
Storage	Hard Drive	1 x 2.5'' SATA 6Gb/s HDD/SSD bay	1 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	1 x eMMC (optional)[2]	N/A
	Micro SD	N/A	N/A
I/O Interfaces	USB	4 x USB 3.2 Gen2 2 x USB 2.0 (optional)[1]	4 x USB 3.2 Gen 1
	Ethernet	2 x 2.5 GbE by Intel® I225-V/I226-V controller	2 x GbE RJ-45 by Intel® I210
	COM Port	1 x RS-232/422/485 (DB9) 1 x RS-232 (optional)	2 x RS-232/422/485 with AFC (RJ-45)
	Digital I/O	N/A	N/A
	Display	1 x HDMI 1.4b (up to 4k@ 30Hz)	1 x HDMI™ (up to 3840 x 2160@30Hz) 1 x VGA (up to 1920 x 1080@60Hz)
	Audio	N/A	1 x Line-out, 1 x Line-in
	Wireless	1 x 802.11a/b/g/n/ac (M.2 A Key optional)	1 x 802.11a/b/g/n/ac (optional)
	Other	1 x Power Button (with LED), 1 x Reset Button, 1 x AT/ATX switch, 1 x Clear CMOS Button, 1 x HDD LED	1 x Power Button, 1 x Reset Button, 1 x AT/ATX Switch, 1 x LED for HDD (Green)
Expansions	PCIe Mini	N/A	1 x Full-size (PCIe/USB 2.0/SATA)
	M.2	1 x 2230 A-key (PCIe Gen3 x1/USB 2.0) 1 x 2280 M-key (PCIe Gen3 x2)	N/A
Power	Power Input	DC Jack: 12V DC	DC Jack: 12V DC
	Power Consumption	12V@3.6A (Intel® Celeron® J6412 with 8GB DDR4 Memory)	12V @ 2A (Intel® Celeron® N3160 with 2GB memory)
Reliability	Mounting	Wall Mount, VESA 75	Wall-mount/ VESA 75
	Operating Temperature	-10°C ~ 50°C with air flow (M.2), 10% ~ 95%, non-condensing	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-20°C ~70°C with air flow (M.2), 10% ~ 90%, non-condensing	-20°C ~ 80°C with air flow (SSD), 10% ~ 90% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	10-500 Hz, 1.04 Grms, random, 1 hr/axis (SSD)	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	0.97 /1.74kg	0.47 kg / 1.4 kg
	Safety/EMC	CE/ FCC/ UKCA	CE/ FCC
	Watchdog Timer	Programmable 1~255 sec/min	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows® 10/11, Linux	Microsoft® Windows 8, Microsoft® Embedded Standard 7 E

[1] USB expansion is applicable only when 2.5-inch hard disk is not installed.
[2] Based on project discussion, it might have MOQ criteria. Please contact with Sales Account.

Industrial Mini PCs

Model		TANGO-3010	TANGO-7010
Form factor	Color	Black C & grey (Pantone 430C)	Black C & grey (Pantone 430C)
	Dimensions (WxDxH)	139 x 137 x 39.8 mm	192.09 x 158 x 64 mm
	System Fan	Fanless	Fan
	Chassis Construction	ABS Plastic + Aluminum	ABS Plastic + Aluminum
Motherboard	CPU	Intel® Celeron® J6412 2GHz (up to 2.6GHz, TDP 10W)	Intel® Core™ i9-12900TE 1.1 GHz (up to 4.8 GHz, 16-core, TDP 35W) Intel® Core™ i7-12700TE 1.4 GHz (up to 4.6 GHz, 12-core, TDP 35W) Intel® Core™ i5-12500TE 1.9 GHz (up to 4.3 GHz, 6-core, TDP 35W) Intel® Core™ i3-12100TE 2.1 GHz (up to 4 GHz, quad core, TDP 35W)
	Chipset	SoC	H610
	System Memory	LPDDR4X on board 8GB (up to 16G)*	2 x SO-DIMM 3200MHz DDR4, 8GB pre-installed (up to 64G)
Storage	SATA	1 x 2.5" SATA 6Gb/s HDD/SSD bay (support up to 9.5 mm SSD)	1 x 2.5" SATA 6Gb/s HDD/SSD bay (support 9.5mm SSD)
I/O Interfaces	Ethernet	3 x 2.5 GbE by Intel® I225-V/I226-V controller	3 x 2.5GbE by Intel® I225V controller
	USB	2 x USB 3.2 Gen2 2 x USB 2.0	2 x USB 3.2 Gen2 2 x USB 3.2 Gen1
	Display	2 x HDMI 1.4b Support CEC (up to 4K@ 30Hz)	2 x HDMI™ 2.0B Support CEC (up to 4K@ 60Hz) 1 x DP 1.4 (up to 4K@ 60Hz)
	COM	1x RS-232 (DB9) 1x RS-232/422/485 (DB9)	1 x RS-232 (DB9) 1 x RS-232/422/485 with AFC (DB9)
	Wireless/ Bluetooth	Intel AX210 Wi-Fi 6E & Bluetooth 5.2 module, built-in with 2T2R antenna	Intel AX210 Wi-Fi 6E & Bluetooth 5.2 module, built-in with 2T2R antenna
	TPM2.0	Support Intel PTT	Support Intel PTT
Expansion Slots	M.2	1 x 2230 A-key (PCIe x1 / USB 2.0) (preinstalled Wi-Fi module) 1 x 2280 M-key (PCIe x4)	1 x 2230 A-key (PCIe Gen3 x1/USB2.0)(preinstalled Wi-Fi Module) 1 x 2280 M-key (PCIe Gen4 x4) 1 x 2280 M-key (PCIe Gen3 x4)
Power	Power Input	DC jack: 12V DC	DC jack: 12V DC
	Power Consumption	+12V@2.95A (Intel® Celeron® J6412 with 8GB memory)	12V@2.95A (Intel® Core™ i7-12700TE with 8GB memory)
Reliability	Mounting	60.6 x 11.55 (mm) with VESA 75/100 conversion bracket	VESA 75/100
	Operating Temperature	0°C ~ 40°C with air flow (SSD), 10% ~ 95%, non-condensing	0°C ~ 40°C with air flow (SSD), 10% ~ 95%, non-condensing
	Storage Temperature	-10°C ~ 60°C with air flow (SSD), 10% ~ 90%, non-condensing	-10°C ~ 60°C with air flow (SSD), 10% ~ 90%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operation Vibration	10-500 Hz, 1.04 Grms, random, 1 hr/axis (SSD)	10-500 Hz, 1.04 Grms, random, 1 hr/axis (SSD)
	Weight (Net/ Gross)	0.57kg / 1.35kg	1.29kg / 2.34kg
	Safety / EMC	CE/RED/FCC/UKCA	CE/RED/FCC/UKCA
	Watchdog Timer	Programmable 1~255 sec/min	Programmable 1 ~ 255 sec/min
Others	Switch	1 x Power Button (with LED), 1 x Reset Button	1 x Power Button (with LED), 1 x Reset Button
OS	Supported OS	Microsoft® Windows® 10/11, Linux	Microsoft® Windows® 10/11, Linux

*Based on project discussion, it might have MOQ criteria. Please contact with Sales Account.

Rackmount Computers

Model		FLEX-BX210-Q470	
System	CPU	10th/11th Generation Intel® Core™ processor (35W TDP) Intel® Core™ i3-10320 3.8 GHz (up to 4.6 GHz, quad-core, 65W TDP) Intel® Core™ i5-10500TE 2.3 GHz (up to 3.7 GHz, 6-core, 35W TDP) Intel® Core™ i7-10700TE 2.0 GHz (up to 4.4 GHz, 8-core, 35W TDP) Intel® Core™ i9-10900TE 1.8 GHz (up to 4.5 GHz, 10-core, 35W TDP)	
	Chipset	Q470/Q470E	
	Memory	2 x 288-pin 2933/2666 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB	
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with Low power 16 execution unit, supports DX2015, OpenGL 5.X and OpenCL2.x, ES 2.0	
	Ethernet	LAN1: Intel® I225LM/I226LM controller LAN2/3: Intel® I225-V/I226-V controller	
	Storage	4 hot-swappable 2.5" HDD/SSD SATA 6Gb/s bays (support RAID 0/1/5/10), with LED indicators	
Wireless Communication	WLAN	802.11ac, 2.4/5 GHz (by M.2 2230 optional)	
	Bluetooth	Bluetooth v5.1 (optional)	
	WWAN and GNSS	M.2 3052 LTE (by M.2 3052 optional)	
I/O Interface & Buttons	I/O Interface & Buttons	1 x DP 1 x HDMI™ 3 x 2.5GbE LAN 6 x USB 3.2 Gen 1 Type-A 2 x RS-232 DB-9 1 x Mic in	1 x Line out 1 x AC inlet 4 x SMA Power button AT/ATX mode switch Reset button
	TPM	Intel PTT from CPU	
Expansions	Expansion Slots	2 x PCIe 3.0 x8 2 x PCIe 3.0 x4 1 x M.2 A-Key 2230 (PCIe 3.0 x1 & USB 2.0) 1 x M.2 M-Key 2280 (PCIe 3.0 x4) 1 x M.2 B-Key 3042/3052 (PCIe Gen3 x1 & USB 3.2 Gen1) 1 x On-board SIM card socket (push-push type) for M.2 B key	
Thermal	Thermal Solution	3 x System fan, 1 x CPU fan	
Power	Power Supply	ATX power supply, AC input - 350W power input - Input: 90VAC ~ 264VAC, 50/60Hz - Output (max.): 3.3V@14A, 5V@16A, 12V@29A, -12V@0.3A	
Watchdog Timer		Software programmable 1 ~ 255 sec/min, system reset：	
Construction	Chassis Construction	Metal	
	Mounting	Wall mount / Rack mount	
	Color	Black	
	Dimensions (LxWxH)	357 x 230 x 88 (mm)	
	Weight	4.1 kg/7.2 kg	
Environmental	Operating Temperature	-10°C ~ 50°C	
	Storage Temperature	-20°C ~ 60°C	
	Operating Humidity	5% ~ 95%, non-condensing	
	Operating Vibration	5~17Hz, 0.1 double amplitude displacement 17 ~ 640Hz 1.5G acceleration peak to peak	
	Operating Shock	10G acceleration part to part (11ms)	
	Safety/EMC	CE/FCC	

Video Transceiver

4K Low Latency Pro AV Application

Model	iSDV-200CTR
Description	4K HDR SDVoE IP combo transceiver supports 10G copper & fiber
Memory	2 x 128M16 DDR3 onboard
Video Interfaces	HDMI 2.0 supporting all resolutions up to 594MHz 4K60 RGB and 4:4:4 8-bit 4K60 4:2:2 10-bit for broadcast and medical applications 4K60 4:2:0 10-bit and 12-bit HDR
I/O Ports	1 x 1GbE LAN 1 x 10GbE LAN 1 x 10GbE SFP+ 1 x IR in 1 x IR out 1 x HDMI 2.0 in 1 x HDMI 2.0 out 1 x 3.5mm audio-in jack 1 x 3.5mm audio-out jack 4 x HID 2 x RS-232 6 x LED indicator 1 x Reset button 1 x USB switch
Control Button	2 x Trigger & Tuning: 1 x Reset button, 1 x USB switch
LCD	1 x Monochrome LCD (65 x 15 mm)
Application Mode	Transmitter / Receiver Extension / Switching / Video Wall / Multi Viewer / KVM supported
Dimension (WxDxH)	238 x 166 x 44.5 mm
Weight	1235g
Operating Humidity	20% ~ 95%, non-condensing
Operation Temperature	-20°C ~ 50°C w/o air flow -20°C ~ 60°C w/ air flow
Power	12VDC In, 3.3A
Safety & EMC	CE, FCC, CCC Certificated
Software	Free management software (iSDV Network Video Orchestrator) supported
Supported OS	Microsoft Windows 10 64-bits Microsoft Windows 11 64-bits Linux Ubuntu 18.04 LTS+ QNAP NAS QTS 5

Industry Panel PC

IEI's Panel PCs seamlessly integrate computing into diverse environments, from industrial settings to public terminals. These feature-rich devices offer high-resolution displays and touchscreens, ideal for a variety of applications including operator panels and human-machine interfaces. Built to endure extreme conditions, IEI's products undergo rigorous quality tests to ensure reliability in harsh environments. IEI is committed to high standards as an ISO-certified manufacturer.

intel. partner Titanium

Most Updated Platform

Full Range LCD

IP64 / IP65 / IP66

Multiple Standard Mounting Options

Heavy Industry Panel PCs

Front IP65-Rated

- High computing power
- Multiple I/O
- AC power-in
- PCI/PCIe expansion

Light Industry Panel PCs

Front IP64-Rated

- Narrow bezel, slim body
- Fanless
- Low power consumption
- WiFi and Bluetooth connection

IP66 Rugged Panel PC

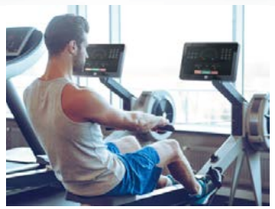
- Rugged aluminum die-casting housing
- CAN Bus
- Multiple I/O cover options:
  standard I/O cover, sealing rubber I/O cover, M12 I/O cover
- Fanless
- Wide operating temperature: -20ºC~60ºC
- Wi-Fi 6E, Bluetooth and RFID Ready

Quick Selection Guide

Size	Resolution	Intel Alder Lake-S (Desktop)	Raptor Lake-P (Mobile)	Intel Alder Lake-P (Mobile)		Intel Alder Lake-P (Mobile)		Intel Elkhart Lake (Celeron)		RISC (ARM)
7”	1024 x 600							AFL4-W07-EHL		AFL4-W07-RK3566
8”	800 x 600 (4:3)							AFL4-W08-EHL	PPC2-C08-EHL	
10.1”	1280 x 800 (16:10)			AFL4-W101-ADLP						AFL4-W10-RK3568
10.4”	800 x 600 (4:3)					PPC2-C104-ADLP		AFL4-W10-EHL	PPC2-C10-EHL	
12.1”	1024 x 768 (4:3)		UPC-F12M-RPLP	AFL4-121-ADLP		PPC2-C121-ADLP		AFL4-12-EHL	PPC2-C12-EHL	
12.1”	1280 x 800 (16:10)			AFL4-W121-ADLP				AFL4-W12-EHL		
12.3”	1920 x 720 (8:3)								PPC2-CW123-EHL	
13.3”	1920 x 1080 (16:9)			AFL4-W133-ADLP		PPC2-CW133-ADLP		AFL4-W13-EHL	PPC2-CW133-EHL	
15”	1024 x 768 (4:3)	PPC2-C15-ADL				PPC2-C150-ADLP			PPC2-C15-EHL	
15.6”	1920 x 1080 (16:9)	PPC2-CW15-ADL			AFL3-W15C-ADLP	PPC2-CW156-ADLP	PPC2-CW156A-ADLP	AFL4-W15-EHL	PPC2-CW15-EHL	
17”	1280 x 1024 (4:3)	PPC2-C17-ADL				PPC2-C170-ADLP			PPC2-C17-EHL	
18.5”	1920 x 1080 (16:9)	PPC2-CW19-ADL			AFL3-W19C-ADLP	PPC2-CW185-ADLP	PPC2-CW185A-ADLP		PPC2-CW19-EHL	
19”	1280 x 1024 (4:3)	PPC2-C19-ADL				PPC2-C190-ADLP			PPC2-C19-EHL	
21.5”	1920 x 1080 (16:9)	PPC2-CW22-ADL			AFL3-W22C-ADLP	PPC2-CW215-ADLP	PPC2-CW215A-ADLP		PPC2-CW22-EHL	
Memory		SO-DIMM	On board LPDDR4x	On board LPDDR4x	DDR4 SO-DIMM	On board LPDDR4x	DDR4 SO-DIMM	On board LPDDR4x	On board LPDDR4x	On board LPDDR4x
Storage		2.5” SATA SSD M.2 2242/2280	M.2 2280	M.2 2242 M.2 2280	2.5” SATA SSD M.2 2280	M.2 2242 M.2 2280	M.2 2280	M.2 2242 M.2 2280	2.5” SATA SSD M.2 2280	eMMC

Light Industry Panel PCs

AFOLUX, embodying affordable luxury, provides versatile and cost-effective solutions for light industrial markets such as factory automation, retail, medical, digital signage, and POS (point of sale) systems.



Key Features

Front Panel IP64-Rated

Fanless Design
Extends System Lifetime

Integrated with WiFi 6E
and Bluetooth 5.2

10-point 7H PCAP Touchscreen
with Anti-Glare Treatment

Built-in 1.2W
Speaker

Narrow Bezel and Rugged Alumi-
num Die-Casting Housing

Light Industry Panel PCs

ARM-Based Processors

LCD Size		7”	10.1”
Model		AFL4-W07-RK3566	AFL4-W10-RK3568
LCD	Resolution (WxH)	1024 x 600	1280 x 800 (16:10)
	Brightness (cd/m²)	450	420
	Contrast Ratio	800:1	1000:1
	Viewing Angle(H-V)	170° / 170°	170° / 170°
Touch	Touchscreen	PCA with USB interface (anti-UV/AG coating)	PCA with USB interface (anti-UV/AG coating)
	Touch IC	EETI EXC81 Series	PCAP with USB interface (anti-UV/AG coating)
Motherboard	SoC	Rockchip RK3566 (Quad-code Cortex-A55 up to 1.8Ghz)	Rockchip® RK3568 (Quad-cord Cortex-A55, up to 2.0 GHz)
	RAM	4GB LPDDR4/4x, up to 8GB	
	Storage	32GB eMMC NAND flash	
Wireless& Bluetooth (Option)		Wi-Fi 5 / Wi-Fi 6 & Bluetooth v5.0 (B to B connector, supporting IEI wireless module)	Wi-Fi 5 / Wi-Fi 6 & Bluetooth v5.0 (B to B connector, supporting IEI wireless module)
I/O	USB 3.0	1 x USB 3.0 Type A HOST	2 x USB 3.0 Type A (1× OTG,1× HOST)
	USB 2.0	1 x USB 2.0 Type A OTG	2 x USB2.0
	Ethernet	1 x 1GbE RJ45 By YT8521	2 x 1GbE RJ45 By YT8521SC
	UART	2 x (RS-232+422+485) by DB9 Port	2 x RS-232/485 by DB9
	HDMI	1 × HDMI 2.0 type A,Up to 4K (Android support display both screens at the same time, dabian support separate display)	1 x HDMI2.0 output
	SD Card	1 x Micro SD Slot	1 x Micro SD Slot
	Power Port	1 x 12V DC Jack	1 x 12V DC Jack
	Expansion Interface	1 x 3042/52 B-key (PCIe Gen2 x1) 1 x On-board SIM card socket (push-push type) for M.2 B key	1 x 3042/52 B-key (PCIe Gen2 x1) 1 x On-board SIM card socket (hinge type) for M.2 B key
Multimedia	Audio	1 x Speaker (1W)	1 x Speaker (1.3W)
		1 x 3.5mm Audio Jack (Line out/Mic in)	1 x 3.5mm Audio Jack (Line out/Mic in)
Indicator light and Switch	Indicator	1 x Power key with LED 1 x System Operating status indicator (built-in)	1 x Power LED 1 x Reserved LED (Programmable)
	Switch	1 x Reset key 1 x USB OTG Switch	-
Physical	Construction Material	Aluminum die casting	Aluminum
	Mounting	Panel, Wall, Stand, Arm, Rack VESA 75	Wall, Stand, Arm, VESA 75
	Color	Silver + Black	Silver+Black
	Dimensions (WxH)	180 mm x 116 mm	243.56 mm x 166.2 mm
Environment	Operating Temperature	0°C ~ 50°C	-10°C ~ 50°C with air flow
	Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C
	Humidity	10% ~ 90%@40°C (Non-condensing)	10% to 90%@40°C (non-condensing)
	IP Level	Front panel compliance IP 54	Front panel IP64
	Safety & EMC	CE, FCC, Class A	CE/EMC, FCC
	Thermal Solution	Fanless	Fanless
	Power	12V DC	12V DC
OS	OS	Debian10 (Kernel 4.19)	Android 12.0 / Linux Debian 10 (kernel 4.19)
	Watchdog	Yes	Yes

Light Industry Panel PCs

Intel® Core™ Mobile Processors

Raptor Lake-P
Alder Lake-P




LCD Display		10.1"	12.1"	12.1"	13.3"
Model		AFL4-W101-ADLP	AFL4-121-ADLP	AFL4-W121-ADLP	AFL4-W133-ADLP
LCD	Resolution (WxH)	1280 x 800 (16:10)	1024 x 768 (4:3)	1280 x 800 (16:10)	1920 x 1080 (16:9)
	Brightness (cd/m²)	350 cd/cm²	500 cd/cm²	450 cd/cm²	350 cd/cm²
	Contrast Ratio	900:1	700:1	1200:1	800:1
	LCD Color	16.2M	16.2M	16.2M	16.2M
	Viewing Angle (H-V)	170°/170°	160°/140°	170°/170°	170°/170°
	Backlight MTBF	30,000 hours	50,000 hours	50,000 hours	50,000 hours
Touch	Touchscreen	Multi-point projected capacitive type (anti-UV / anti-glare coating,support gloves)			
	Touch Controller	Surface hardness: ≥7H Projected capacitive type: EETI 80			
Mainboard	CPU (SoC)	12th Generation Intel® Core™ i7/i5/i3 Processor (Alder Lake-P) 13th Generation Intel® Core™ i7/i5/i3 Processor (Raptor Lake-P)			
	Memory	Dual-channel 8GB LPDDR4x on-board			
	Ethernet	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225-LM/I226-LM 2.5GbE controller (support Intel® AMT)			
	Expansion	1 x M.2 M key 2242 (PCIe Gen4 x4) 1 x M.2 M key 2280 (PCIe Gen4 x4)			
	I/O Ports, Switch	2 x RS-232 by DB9 2 x RS-232/422/485 by DB9 2 x 2.5GbE LAN 2 x USB 3.2 Gen2 2 x USB 3.2 Gen1 1 x USB 2.0 1 x HDMI output 1 x 12V DC Jack 1 x Power button 1 x Reset button 1 x AT/ATX switch	2 x RS-232 by DB9 2 x RS-232/422/485 by DB9 2 x 2.5GbE LAN 2 x USB 3.2 Gen2 2 x USB 3.2 Gen1 1 x USB 2.0 1 x HDMI output 1 x 12V DC Jack 1 x Power button 1 x Reset button 1 x AT/ATX switch	2 x RS-232 by DB9 2 x RS-232/422/485 by DB9 2 x 2.5GbE LAN 2 x USB 3.2 Gen2 2 x USB 3.2 Gen1 1 x USB 2.0 1 x HDMI output 1 x 12V DC Jack 1 x Power button 1 x Reset button 1 x AT/ATX switch	2 x RS-232 by DB9 2 x RS-232/422/485 by DB9 2 x 2.5GbE LAN 2 x USB 3.2 Gen2 2 x USB 3.2 Gen1 1 x USB 2.0 1 x HDMI output 1 x 12V DC Jack 1 x Power button 1 x Reset button 1 x AT/ATX switch
Wireless & Bluetooth		IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.2 (M.2 2230 E-key)			
Physical	Mounting	VESA 100, Wall, Stand and Arm	VESA 100, Wall, Stand and Arm	VESA 100, Wall, Stand and Arm	VESA 100, Wall, Stand and Arm
	Construction Material	Aluminum front cover and sheet metal rear cover			
	Enclosure Color	Silver+Black	Silver+Black	Silver+Black	Silver+Black
	TPM	Intel® Platform Trust Technology	Intel® Platform Trust Technology	Intel® Platform Trust Technology	Intel® Platform Trust Technology
	Watchdog Timer	Software Programmable support 1~255 sec. system reset			
Environment	Operating Temperature (with air flow)	-10ºC ~ 50ºC	-10ºC ~ 50ºC	-10ºC ~ 50ºC	-10ºC ~ 50ºC
	Storage Temperature	-20ºC ~ 60ºC	-20ºC ~ 60ºC	-20ºC ~ 60ºC	-20ºC ~ 60ºC
	Humidity	10% ~ 95%@40ºC, non-condensing			
	IP Level	IP 64 compliant front panel			
	Operation Vibration	MIL-STD-810G 514.6C-1(with SSD)			
	Operation Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis			
	Dimensions (H x W x D)	243.56 x 166.20 x50.95 (mm)	280.36 x 220.92 x 57.80 (mm)	295.72 x 197.80 x 57.80 (mm)	327.70 x 203.33 x 57.80 (mm)
	Net Weight	1.66kg	2.38kg	2.39kg	2.56kg
	Safety and EMC	CE, FCC Class A, UKCA	CE, FCC Class A, UKCA	CE, FCC Class A, UKCA	CE, FCC Class A, UKCA
	Thermal	Fanless	Fanless	Fanless	Fanless
Power	Power Requirement	12V DC	12V DC	12V DC	12V DC
	Power Consumption	TBD	TBD	TBD	TBD
ErP		ErP 2009/125/EC	ErP 2009/125/EC	ErP 2009/125/EC	ErP 2009/125/EC
Supported OS		Windows 10/11 IoT, Linux	Windows 10/11 IoT, Linux	Windows 10/11 IoT, Linux	Windows 10/11 IoT, Linux

Industrial Panel PCs

Light Industry Panel PCs

Intel® Core™ Mobile Processors

Raptor Lake-P
Alder Lake-P

NEW

NEW

NEW


LCD Size		15.6"	18.5"	21.5"
Model		AFL3-W15C-ADLP	AFL3-W19C-ADLP	AFL3-W22C-ADLP
LCD	Resolution	1920 x 1080 (16:10)	1920 x 1080 (16:10)	1920 x 1080 (16:10)
	Brightness (cd/m²)	450	350	350
	Contrast Ratio	800:1	1200:1	1000:1
	Viewing Angle (H-V)	178/178	170/170	178/178
	Backlight MTBF	50000	50000	50000
Touch	Touch Screen	PCAP with USB interface (anti-UV/AG coating)		
	Touch Controller	EXC3160		
Mainboard	Ethernet	LAN1: Intel® I225 LM/ I226 LM (support Intel AMT) LAN2: Intel® I225V/I226V		
	RAM	Two 260-pin 3200 MHz dual-channel DDR4 SO-DIMM (8GB pre-installed) (up to 64GB)		
	SoC	12/13th Gen Intel® Core™ Mobile i7/i5/i3 Processors (Alder Lake-P/Raptor Lake-P)		
	Audio Codec	ALC888S	ALC888S	ALC888S
	Storage	1 x 2.5" SATA 6Gb/s HDD bay	1 x 2.5" SATA 6Gb/s HDD bay	1 x 2.5" SATA 6G/s HDD bay
	Expansion	2 x M.2 2280 M-key (PCIe x4) 1 x M.2 3080 B-key (PCIe x1 or SATA) support IPMI function		
	I/O Ports & Switch	1 x RS-232 by DB9 1 x RS-232/422/485 w/ AFC by DB9 2 x 2.5GbE LAN 1 x RJ45 for IPMI 4 x USB 3.2 Gen1 1 x HDMI output 1 x 12V DC jack 1 x Power button 1 x Reset button 1 x Clear CMOS button 1 x AT/ATX switch		
Audio		AMP 3W + 3W (internal speaker)		
Camera / Microphone		2-megapixel with low light function, digital microphone		
Wireless & Bluetooth		IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.2 (M.2 2230 E-key)		
Physical	Construction Front Panel	PC + ABS Plastic		
	Mounting	VESA 75 /100mm		
	Color	Black C		
Environment	Operating Temperature (°C) (Ambient with air flow)	0 ~ 50		
	Storage Temperature (°C)	-20 ~ 60		
	Humidity	10 ~ 90RH@40°C (non-condensing)		
	IP Level	IP 64 compliant front panel		
	Safety&EMC	CE, FCC (Class A) , UKCA		
	Thermal	Fanless		
Power	Power Requirement	12V DC	12V DC	12V DC
	Power Consumption	12V@6.46A (Intel® Core i7-1270PE With 8GB DDR4 Memory)		
ErP		ErP 2009/125/EC		
Supported OS		Microsoft Windows® 10/11 IoT, Linux		

Light Industry Panel PCs

Intel® Celeron® Processors

intel
Elkhart Lake

LCD Size		7”	8”	10.1”
Model		AFL4-W07-EHL	AFL4-W08-EHL	AFL4-W10-EHL
LCD	Resolution (WxH)	1024 x 600 (16:9)	1280 x 800 (16:10)	1280 x 800 (16:10)
	Brightness (cd/m²)	450	420	350
	LCD Color	16.2M	16.7M	16.7M
	Pixel Pitch (mm)	0.1506 x 0.1432	0.135 x 0.135	0.1695 x 0.1695
	Contrast Ratio	800:1	800:1	900:1
	Viewing Angle (H-V)	170°/170°	170°/170°	170°/170°
	Backlight MTBF	20000 hours	30000 hours	30000 hours
Touch	Touch Screen	PCAP with USB interface (Anti-UV/AG coating)	PCAP with USB interface (anti-UV/AG coating)	PCA with USB interface (anti-UV/AG coating)
	Touch Controller	EETI EXC 81 Series	EETI EXC 81 Series	EETI EXC 81 Series
Mainboard	SoC	Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W	Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W	Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W
	RAM	Dual channel 8GB LPDDR4x on board	Dual channel 8GB LPDDR4x on board	Dual channel 8GB LPDDR4x on board
	Ethernet	LAN1: Intel® I225V/I226V 2.5GbE controller	LAN1: Intel® I225-V / I226-V 2.5GbE controller	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller
	Audio Codec	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S
	Storage	128G eMMC (optional)	128G eMMC (optional)	
	Expansion	1 x M.2 M key 2242 (PCIe Gen3 x1 or SATA)	1 x M.2 2242 M key (PCIe Gen3 x1 + SATA)	1 x M.2 M key 2242 (PCIe Gen3 x1 or SATA) 1 x M.2 M key 2280 (PCIe Gen3 x2)
	I/O Ports & Switch	2 x RS-232/422/485 by DB9 1 x 2.5GbE LAN 2 x USB 3.2 Gen2 1 x USB2.0 1 x HDMI output 1 x 12V DC Jack 1 x Power button 1 x Reset button 1 x AT/ATX switch		2 x RS-232 by DB9 2 x RS-232/422/485 by DB9 2 x 2.5GbE LAN 2 x USB 3.2 Gen1 3 x USB 2.0 1 x HDMI output 1 x 12V DC jack 1 x Power button 1 x Reset button 1 x AT/ATX switch
Audio		AMP 1.2W (internal speaker)	AMP 1.2 W (internal speaker)	AMP 1.2W (internal speaker)
Wireless & Bluetooth		IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.2 (M.2 2230 A Key)	IEEE 802.11 a/b/g/n/ax, Bluetooth V5.2 1 x M.2 2230 A Key Slot (PCIe + USB signal)	IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.2 (M.2 2230 A Key)
Physical	Body Material	Aluminum die casting+SECC	Aluminum die casting+SECC	Aluminum die casting+SECC
	Mounting	Wall, Stand, ARM, VESA 75	Wall, Stand, ARM, VESA 75	Wall, Stand, Arm, VESA 75/100
	Color	Silver+Black	Silver+Black	Silver+Black
Environment	Operating Temperature (°C)	-10 ~ 40	-10 ~ 50 @50%RH	-10 ~ 50
	Storage Temperature (°C)	-20 ~ 60	-20 ~ 60 @50%RH	-20 ~ 60
	Humidity	10% to 95%@40°C (non-condensing)	10% to 90%@40°C (non-condensing)	10% to 95%@40°C (non-condensing)
	Safety&EMC	CE/EMC, UKCA, FCC, RED (Class A)	CE/EMC, UKCA, FCC, RED (Class A)	CE/EMC, UKCA, FCC, RED (Class A)
	Thermal Solution	Fanless	Fanless	Fanless
	Power	12V DC	12V DC	12V DC
	IP Level	Front Panel Compliance IP64	Front panel IP64	Front Panel Compliance IP64
	Net Weight	0.740 kg	TBD	1.370 kg
ErP		ErP 2009/125/EC	ErP 2009/125/EC	ErP 2009/125/EC
Supported OS		Windows 10/11 IoT/Linux	Windows 10/11 IoT/Linux	Windows 10/11 IoT / Linux

Light Industry Panel PCs

Intel® Celeron® Processors

intel
Elkhart Lake

LCD Size		12.1”	12.1”	13.3”	15.6”
Model		AFL4-12-EHL	AFL4-W12-EHL	AFL4-W13-EHL	AFL4-W15-EHL
LCD	Resolution (WxH)	1024 x 768 (4:3)	1280 x 800 (16:10)	1920 x1080 (16:9)	1920 x1080 (16:9)
	Brightness (cd/m²)	500	500	350	450
	LCD Color	16.7M	16.7M	16.7M	16.2M
	Pixel Pitch (mm)	0.24 x 0.24	0.1695 x 0.1695	0.153 x 0.153	0.179 x 0.179
	Contrast Ratio	700:1	1200:1	1000:1	800:1
	Viewing Angle (H-V)	170°/170°	170°/170°	176°/176°	178°/178°
	Backlight MTBF	30,000 hours	50000 hours	50000 hours	50000
Touch Panel	Touch Screen	PCA with USB interface (anti-UV/AG coating)			
	Touch IC	EETI EXC 81 Series	EETI EXC 81 Series	EETI EXC 81 Series	EETI EXC 81 Series
Motherboard	SoC	Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W			Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W
	RAM	Dual channel 8GB LPDDR4x on board			Dual channel 8GB LPDDR4x on board (up to 32GB)
	Ethernet	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225V/I226V 2.5GbE controller			LAN1: Intel® I225-V/I226-V LAN2: Intel® I225-V/I226-V
	Audio Codec	Realtek ALC888S			
	Expansion & Storage	1 x M.2 M key 2242 (PCIe Gen3 x1 or SATA) 1 x M.2 M key 2280 (PCIe Gen3 x2)			1 x M.2 M key 2242 (PCIe Gen3 x1 + SATA) 1 x M.2 M key 2280 (PCIe Gen3 x2)
	I/O Ports & Switch	2 x RS-232 by DB9 2 x RS-232/422/485 by DB9 2 x 2.5GbE LAN 2 x USB 3.2 Gen1 3 x USB 2.0 1 x HDMI output 1 x 12V DC jack 1 x Power button 1 x Reset button 1 x AT/ATX switch			2 x RS-232 by DB9 2 x RS-422/485 by DB9 2 x 2.5GbE RJ45 2 x USB 3.2 Gen2 3 x USB 2.0 1 x HDMI output 1 x 12V DC jack 1 x Power button 1 x Reset button 1 x AT/ATX switch
Speaker		AMP 1.2W (internal speaker)	AMP 1.2W (internal speaker)	AMP 1.2W (internal speaker)	AMP 1.2W (internal speaker)
Wireless & Bluetooth		IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.2 (M.2 2230 A Key)			IEEE 802.11 a/b/g/n/ax, Bluetooth V5.2 1 x M.2 2230 A Key Slot (PCIe + USB signal)
Physical	Body Material	Aluminum die casting+SECC	Aluminum die casting	Aluminum die casting	Aluminum die casting+SECC
	Mounting	Wall, Stand, Arm, VESA 75/100	Wall, Stand, Arm, VESA 75/100	Wall, Stand, Arm, VESA 75/100	Wall, Stand, ARM, VESA 75/100
	Color	Silver+Black	Silver+Black	Silver+Black	Silver+Black
Environment	Operating Temperature (°C)	-10 ~ 50	-10 ~ 50	-10 ~ 50	-10 ~ 50@50%RH
	Storage Temperature (°C)	-20 ~ 60	-20 ~ 60	-20 ~ 60	-20 ~ 60@50%RH
	Humidity	10% to 95%@40°C (non-condensing)			10% to 90%@40°C (non-condensing)
	Safety&EMC	CE/EMC, UKCA, FCC, RED (Class A)			
	Thermal Solution	Fanless			
	Power Input	12V DC			
	IP Level	Front Panel Compliance IP64	Front Panel Compliance IP64	Front Panel Compliance IP64	Front panel IP64
	Net Weight	2.041 kg	2.140 kg	2.270 kg	
ErP		ErP 2009/125/EC			
OS		Windows 10/11 IoT / Linux	Windows 10/11 IoT / Linux	Windows 10/11 IoT / Linux	Windows 10/11 IoT / Linux

Industrial Panel PCs

Light Industry Panel PC

Intel® Celeron® Processor

Apollo Lake

LCD Size		7”	10.1”	12.1”
Model		AFL3-W07A-AL	AFL3-W10A-AL	AFL3-12A-AL
LCD	Resolution	1024 x 600 (16:9)	1280 x 800 (16:10)	1024 x 768 (4:3)
	Brightness (cd/m²)	500	350	500
	Contrast Ratio	700:1	800:1	700:1
	Viewing Angle (H-V)	150 / 145	170 / 170	160 / 160
	Backlight MTBF	20000	15000	50000
Touch	Touch Screen	PCAP with USB interface (anti-UV/AG coating)		
	Touch Controller	EETI 80H60	EXC3146	EXC3146
Mainboard	CPU	Intel® Celeron® N3350 (2M Cache, up to 2.4 GHz) TDP 6W	Intel® Celeron® Processor J3455 (2M Cache, up to 2.3 GHz) TDP 10W	
	RAM	one 204-pin 1866MHz DDR3L DIMMs support up to 8GB		
	Ethernet	LAN1: Intel® I211 + LAN2: Intel® I211	LAN1: Intel® I211 + LAN2: Intel® I211	
	Audio Codec	Realtek ALC 888S		
Storage		1 x M.2 B+M key 2242 slot (USB/SATA signal)	1 x M.2 B+M key 2242 slot (USB/SATA signal)	*1 x 2.5” SATA 3Gb/s HDD bay (optional one of the two) 1 x M.2 B+M key 2242 slot (USB/SATA signal)
I/O Ports & Switch		2 x GbE LAN 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x 12V DC Jack 1 x Power button 1 x Reset button 1 x Clear CMOS button 1 x AT/ATX switch	1 x RS-232/422/485 by RJ45 1 x RS-232 by DP9 2 x GbE LAN 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x HDMI output 1 x 9V~30V DC jack 1 x Power button 1 x Line out 1 x Reset button 1 x Clear CMOS button 1 x AT/ATX switch	
PoE Support		Onboard PoE at	Yes (option single channel)	
Audio		AMP 2W (internal speaker)	AMP 2W + 2W	AMP 3W + 3W (internal speaker)
Camera / Microphone		N/A	2-megapixel with low light function, digital microphone	
Wireless & Bluetooth		IEEE 802.11 a/b/g/n/ac, Bluetooth V4.2 (1 x M.2 A key 2230)	IEEE 802.11 a/b/g/n/ac, Bluetooth V4.1 M.2 slot A+E key 2230 slot (PCIe/USB signal)	
Physical	Construction Front Panel	PC + ABS Plastic		
	Mounting	Panel, Wall, Stand and Arm VESA 75mm x 75mm		Panel, Wall, Stand and Arm VESA 75mm x 75mm, 100mm x 100mm
	Color	Black C		
	Dimensions (W x H x D)(mm)	191 x 127 x 43	262 x 181 x 42	304 x 243 x 44
	Cut-out Dimensions (W x H)	182 x 111	236 x 149	243 x 205
	Net/Gross Weight (kgs)	0.73/1.81	1.06/2.58	1.92/3.95
Environment	Operating Temperature (°C) (Ambient with air flow)	-20°C ~ 50°C		
	Storage Temperature (°C)	-20°C ~ 60°C		
	Humidity	10% to 95% (non-condensing)		
	IP Level	IP 65 compliant front panel		
	Safety & EMC	CE / FCC class A		
	Thermal Solution	Fanless		
Power	Power Requirement	12V/3A	9 ~ 30V, 4~1, 2A	9 ~ 30V, 6.67~2A
ErP		ErP 2009/125/EC		
Supported OS		Microsoft Windows® 10, Linux		

Light Industry Panel PCs

Intel® Celeron® Processors

Bay Trail

LCD Size		7”	8.4”
Model		AFL3-W07A-BT	AFL3-08A-BT
LCD	Size	7”	8.4”
	Resolution	1024 x 600 (16:9)	800 x 600 (4:3)
	Brightness (cd/m²)	500	350
	Contrast Ratio	700:1	600:1
	LCD Color	16.2M	16.2M
	Pixel Pitch (mm)	0.0635 (H) x 0.1905 (V)	0.213 (H) x 0.213 (V)
	Viewing Angle (H-V)	150° / 145°	160° / 140°
	Backlight MTBF(hrs)	20000 hrs	50000 hrs
Touch	Touch Screen	Projected capacitive with USB interface (anti-UV / anti-glare coating)	5-wire resistive with RS-232 interface (anti-glare coating) Projected capacitive with USB interface (anti-UV / anti-glare coating)
	Touch Controller	EETI EXC3160	PenMount DMC 9000/EETI EXC3146
Motherboard	CPU	Intel® Celeron® N2807 (dual core, 1.58 GHz)	Intel® Celeron® J1900 (quad core, 2.0 GHz)
	RAM	2GB DDR3L onboard RAM	One 204-pin 2 GB 1333MHz single-channel, 2GB DDR3L SO-DIMM pre-installed (system max. 8GB)
	Ethernet	2 x PCIe GbE by RTL8111HN-CG	2 x PCIe GbE by RTL8111HN-CG controller
	Audio Codec	Realtek ALC 888S	
Storage		mSATA	
I/O Ports & Switch		2 x RS-232 COM port (DB-9 connector) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x GbE LAN 1 x Power button 1 x Reset button 1 x AT/ATX switch 1 x 9-30V Lockable power jack	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB-9 connector) (RI/5V/12V) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x RJ-45 for GbE LAN 1 x Power button 1 x Audio port (line-out) 1 x Reset button 1 x AT/ATX switch 1 x 9-30V DC Lockable power jack
Audio		AMP 2W (internal speaker, left channel output)	AMP 2W + 2W (internal speaker)
Camera and Microphone		N/A	2-megapixel with low light function, digital microphone
Wireless & Bluetooth		IEEE 802.11 a/b/g/n/ac / Bluetooth 4.2 half-size mini-PCIe slot (PCIe / USB signal)	
OSD Function		Software OSD	
Physical	Front Panel Construction	PC + ABS Plastic	
	Mounting	Panel, Wall, Stand, Arm, Rack VESA 75mm x 75mm	
	Color	Black C	
	Dimensions (WxHxD) (mm)	191 x 127 x 43	233 x 175 x 50
	Cut-out Dimensions (WxH) (mm)	182 x 111	207 x 143
	Net/Gross Weight (kgs)	0.73/1.81	0.8/2.44
Environment	Operating Temperature (°C) (Ambient with air flow)	-20°C ~ 50°C	-15°C ~ 55°C
	Storage Temperature (°C)	-20°C ~ 60°C	-20°C ~ 65°C
	Humidity	10% to 95% (non-condensing)	
	IP Level	IP 65 compliant front panel	IP 64 compliant front panel
	Safety & EMC	CE / FCC	
	Thermal Solution	Fanless	
Power	Power Requirement	9 V ~ 30 V DC	
	Power Consumption	12V@2.08 (Intel® N2807 CPU with 2GB 1333 MHz DDR3L memory)	12V@2A (Intel® J1900 CPU with 2GB 1333 MHz DDR3L memory)

Light Industry Panel PCs

Intel® Celeron® Processors

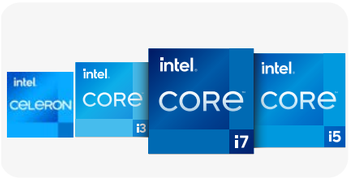
intel.
Bay Trail

LCD Size		10.1”	12.1”
Model		**AFL3-W10A-BT**	**AFL3-12A-BT**
LCD	Size	10.1”	12.1”
	Resolution	1280 x 800 (16:10)	1024 x 768 (4:3)
	Brightness (cd/m²)	350	500
	Contrast Ratio	800:1	700:1
	LCD Color	16.2M	16.2M
	Pixel Pitch (mm)	0.1695 (H)×0.1695 (V)	0.240 (H) x 0.240 (V)
	Viewing Angle (H-V)	170º / 170º	160º / 140º
	Backlight MTBF(hrs)	15000 hrs	50000 hrs
Touch	Touch Screen	Projected capacitive with USB interface (anti-UV / anti-glare coating)	5-wire resistive with RS-232 interface (anti-glare coating) Projected capacitive with USB interface (anti-UV / anti-glare coating)
	Touch Controller	EETI EXC3146	PenMount DMC9000/ EETI EXC3146
Motherboard	CPU	Intel® Celeron® J1900 (quad core, 2.0 GHz)	
	RAM	One 204-pin 2 GB 1333MHz single-channel, 2GB DDR3L SO-DIMM pre-installed (system max. 8GB)	
	Ethernet	2 x PCIe GbE by RTL8111HN-CG controller	
	Audio Codec	Realtek ALC 888S	
Storage		1 x mSATA	1 x mSATA 1 x 2.5” SATA 3Gb/s HDD bay
I/O Ports & Switch		1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB-9 connector)(RI/5V/12V) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 2 x RJ-45 for GbE LAN 1 x Power button 1 x Audio port (line-out) 1 x Reset button 1 x AT/ATX switch 1 x 9-30V DC lockable power jack	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB-9 connector)(RI/5V/12V) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 2 x RJ-45 for GbE LAN 1 x Power button 1 x Audio port (line-out) 1 x Reset button 1 x AT/ATX switch 1 x 9-30V lockable power jack
Audio		AMP 2W + 2W (internal speaker)	AMP 3W + 3W (internal speaker)
Camera and Microphone		2-megapixel with low light function, digital microphone	
Wireless		IEEE 802.11 a/b/g/n/ac / Bluetooth 4.2 half-size mini-PCIe slot (PCIe / USB signal)	IEEE 802.11a/b/g/n/ac half-size mini-PCIe slot (PCIe signal)
OSD Function		Software OSD	
Physical	Front Panel Construction	PC + ABS Plastic	
	Mounting	Panel, Wall, Stand, Arm, Rack VESA 75mm x 75mm	Panel, Wall, Rack, Stand and Arm VESA 75mm x 75mm / 100mm x 100mm
	Color	Black C	
	Dimensions (WxHxD) (mm)	262 x 181 x 42	304 x 243 x 44
	Cut-out Dimensions (WxH) (mm)	236 x 149	243 x 205
	Net/Gross Weight (kgs)	1.06/2.58	1.92/3.95
Environment	Operating Temperature (Ambient with air flow)	-10°C ~ 50°C	-20°C ~ 50°C
	Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C
	Humidity	10% to 95% (non-condensing)	
	IP Level	IP 64 compliant front panel	
	Safety & EMC	CE / FCC	
	Thermal Solution	Fanless	
Power	Power Requirement	9 V ~ 30 V DC	
	Power Consumption	12V@2.3A (Intel® J1900 CPU with 2GB 1333 MHz DDR3L memory)	12V@3.58A (Intel® J1900 CPU with 2GB 1333 MHz DDR3L memory)

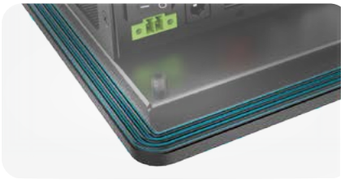
Heavy Industry Panel PCs

The PPC 2 series Panel PCs are designed for heavy-duty industrial tasks needing strong computing capabilities. They feature Intel® Core™ processors, Intel® UHD Graphics, and a PCIe slots, which boost their functionality. With energy optimization, these PCs excel in various applications such as edge AI, industrial automation, and machine vision.

Key Features



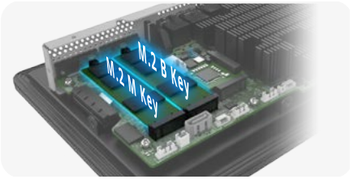
Intel® Core™ Desktop and Intel® Celeron® Processors



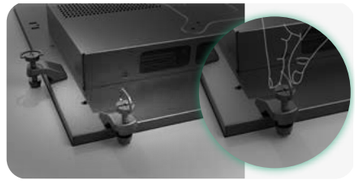
Front IP65 Ingress Protection

Expand AI Capability with High-bandwidth PCIe Gen4 x16

Graphical BIOS Interface

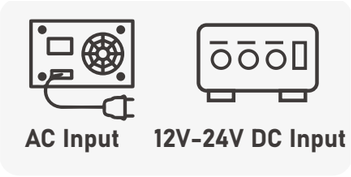


M.2 B Key & M.2 M Key



Toolless Panel Mounting Design

-10°C to 60°C Wide Operating Temperature (EHL models)



AC-In or 12V-24V DC Power Input Maximizes Industrial Convenience

10-Point 7H PCAP Touchscreen with Anti-Glare Treatment

Heavy Industry Panel PCs

Intel® Core™ Desktop Processors

Alder Lake-S

LCD Size	15”	15.6”	17”
Model	PPC2-C15-ADL	PPC2-CW15-ADL	PPC2-C17-ADL
Max. Resolution	1024 x 768 (4:3)	1920 x 1080 (16:9)	1280 x 1024 (5:4)
Brightness	400 cd/m²	450 cd/m²	350 cd/m²
Contrast Ratio	800:1	500:1	800:1
LCD Color	16.2M	16.2M	16.7M
Pixel Pitch (mm)	0.297 x 0.297	0.252 x 0.252	0.26 x 0.26
Viewing Angle (H-V)	160°/150°	170°/160°	170°/160°
Backlight MTBF	70,000 hours	50,000 hours	50,000 hours
CPU	12th Gen Intel® Core™ i9/i7/i5/i3 and Pentium® Processor (LGA1700)		
Chipset	Intel® H610		
Graphics Engine	New Intel® Xe Graphics architecture with SRIOV, Genlock		
Display Output	1 x HDMI 2.0		
Memory	Two 260-pin 3200 MHz dual-channel DDR4 SO-DIMM (max. 64GB)		
Touchscreen	Multi-point projected capacitive type Surface hardness: ≥7H		
Touch Controller	Projected capacitive type: EETI 80		
Storage	1 x 2.5” SATA HDD bay		
Ethernet	LAN1: Intel® I225 + LAN2: Intel® I225		
Expansion	1 x PCIe Gen4 x16 slot with x16 signal 1 x M.2 E-Key 2230 (PCIe Gen3 x1 + CNVIo + USB 2.0) 1 x M.2 M Key 2242/2280 NVMe (PCIe Gen3 x4)		
Mounting	VESA 100mm x 100mm Panel, Wall, Rack, Stand and Arm		
Construction Material	Aluminum front cover and sheet metal rear cover		
Enclosure Color	Black C		
I/O Ports, Switches and Buttons	1 x HDMI 2.0 2 x 2.5GbE RJ45 2 x USB 2.0 (Type-A) 2 x USB 3.2 Gen1 (Type-A) (5Gb/s) 2 x USB 3.2 Gen2 (Type-A) (10Gb/s) 1 x RS-232/422/485 (RS-485 support AFC) 4 x RS-232 1 x AC input 1 x Power switch 1 x Clear CMOS button 1 x Reset button 1 x AT/ATX switch		
Power Supply	AC input ATX power supply 250W power supply - Input: 100V~240V AC, 47Hz-63Hz - Output (max.): 3.3V@6A, 5V@12A, 12V@17A, -12V@0.5A,+5Vsb@2A Support AT/ATX mode, ErP/EuP Compliant		
Thermal Solution	Smart fan (2 x CPU fan, 2 x System fan)		
TPM	Intel® Platform Trust Technology		
Watchdog Timer	Software Programmable Support 1~255 sec. system reset		
Operating Temperature (with air flow)	-10ºC ~ 60ºC		
Storage Temperature	-20ºC ~ 60ºC		
Humidity	10% ~ 95%@40, non-condensing		
IP Level	IP 65 compliant front panel		
Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)		
Operating Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis		
Safety and EMC	CE, FCC Class A, UKCA		
ErP	ErP 2009/125/EC		
Dimensions (H x W x D) (mm)	378.5 x 303 x 76.16	400.70 x 253.90 x 86.45	408.40 x 341.40 x 84.70
Net Weight	5.715 kg	5.64 kg	5.73 kg

Heavy Industry Panel PCs

Intel® Core™ Desktop Processors

Alder Lake-S

LCD Size	18.5”	19”	21.5”
Model	PPC2-CW19-ADL	PPC2-C19-ADL	PPC2-CW22-ADL
Max. Resolution	1920 x 1080 (16:9)	1280 x 1024 (5:4)	1920 x 1080 (16:9)
Brightness	350 cd/m²	450 cd/m²	350 cd/m²
Contrast Ratio	1000:1	1000:1	1000:1
LCD Color	16.7M	16.7M	16.7M
Pixel Pitch (mm)	0.3 x 0.3	0.294 x 0.294	0.3 x 0.3
Viewing Angle (H-V)	170°/160°	170°/160°	170°/160°
Backlight MTBF	50,000 hours	50,000 hours	50,000 hours
CPU	12th Gen Intel® Core™ i9/i7/i5/i3 and Pentium® Processor (LGA1700)		
Chipset	Intel® H610		
Graphics Engine	New Intel® Xe Graphics architecture with SRIOV, Genlock		
Display Output	1 x HDMI 2.0		
Memory	Two 260-pin 3200 MHz dual-channel DDR4 SO-DIMM (max. 64GB)		
Touchscreen	Multi-point projected capacitive type Surface hardness: ≥7H		
Touch Controller	Projected capacitive type: EETI 80		
Storage	1 x 2.5” SATA HDD bay		
Ethernet	LAN1: Intel® I225 + LAN2: Intel® I225		
Expansion	1 x PCIe Gen4 x16 slot with x16 signal 1 x M.2 E-Key 2230 (PCIe Gen3 x1 + CNVIo + USB 2.0) 1 x M.2 M Key 2242/2280 NVMe (PCIe Gen3 x4)		
Mounting	VESA 100mm x 100mm Panel, Wall, Rack, Stand and Arm		
Construction Material	Aluminum front cover and sheet metal rear cover		
Enclosure Color	Black C		
I/O Ports, Switches and Buttons	1 x HDMI 2.0 2 x 2.5GbE RJ45 2 x USB 2.0 (Type-A) 2 x USB 3.2 Gen1 (Type-A) (5Gb/s) 2 x USB 3.2 Gen2 (Type-A) (10Gb/s) 1 x RS-232/422/485 (RS-485 support AFC) 4 x RS-232 1 x AC input 1 x Power switch 1 x Clear CMOS button 1 x Reset button 1 x AT/ATX switch		
Power Supply	AC input ATX power supply 250W power supply - Input: 100V~240V AC, 47Hz-63Hz - Output (max.): 3.3V@6A, 5V@12A, 12V@17A, -12V@0.5A,+5Vsb@2A Support AT/ATX mode ErP/EuP Compliant		
Thermal Solution	Smart fan (2 x CPU fan, 2 x System fan)		
TPM	Intel® Platform Trust Technology		
Watchdog Timer	Software Programmable Support 1~255 sec. system reset		
Operating Temperature (with air flow)	-10ºC ~ 60ºC	-10ºC ~ 60ºC	-10ºC ~ 50ºC
Storage Temperature	-20ºC ~ 60ºC		
Humidity	10% ~ 95%@40, non-condensing		
IP Level	IP 65 compliant front panel		
Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)		
Operating Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis		
Safety and EMC	CE, FCC Class A, UKCA		
ErP	ErP 2009/125/EC		
Dimensions(H x W x D) (mm)	468.80 x 288.20 x 82	447.4 x 372.4 x 82.2	550.40 x 358.40 x 81.66
Net Weight	6.965 kg	7.66 kg	8.205 kg

Heavy Industry Panel PCs

Intel® Core™ Desktop Processors

intel
Haswell

LCD Size		15"	17"
Model		PPC-F15A-H81	PPC-F17A-H81
LCD	LCD Display	15" (4:3)	17" (5:4)
	Max. Resolution	1024 (W) x 768 (H)	1280 (W) x 1024 (H)
	Brightness (cd/m²)	450	350
	Contrast Ratio	800 : 1	800 : 1
	LCD Color	16.2M	16.7M
	Pixel Pitch (mm)	0.297 x 0.297	0.26 x 0.26
	Viewing Angle (H-V)	160° / 150°	170° / 160°
	Backlight MTBF (hrs)	70000	50000
Motherboard	SBC Model	FPPCMB-H81-R10	
	CPU	LGA1150 Intel® 4th generation Core™ i7/i5, Pentium® or Celeron® processor with up to 65W TDP	
	Chipset	Intel® H81	
	RAM	Support 2 x 204-pin 1066/1333/1600 MHz dual-channel DDR3 SO-DIMM slots (max. 16GB)	
Touch	Touchscreen & Controller	5-wire resistive single touch window, 3H/Penmount 9000 (Anti-glare Surface) 10-point Projected capacitive touch window, 6H/EETI EXC3188 (Anti-UV, Anti-glare Surface)	
Input Interfaces	I/O Ports & Switch	2 x RJ-45 LAN Port 2 x USB 3.2 Gen 1 (5Gb/s) 4 x USB 2.0 1 x HDMI output 4 x RS-232 1 x RS-422/485 1 x MIC-in 1 x Line-out	
	Expansion	1 x Full-size/half-size PCIe Mini card (PCIe and USB signal) 1 x Full-size/half-size PCIe Mini card (PCIe , USB and mSATA signal)	
Wireless LAN		802.11 b/g/n (optional)	
Storage		1 x 2.5" HDD/SSD drive bay 1 x mSATA	
Physical	Construction Material	Aluminum front cover and sheet metal rear cover	
	Mounting	Panel mount, rack mount, 100x100 VESA mount	
	Enclosure Color	Black C	
	Dimensions (mm)	303 x 378.5 x 68.7	341.4 x 408.4 x 73.8
	Cutout Dimensions (mm)	285.6 x 361.1	323 x 390
	Net/ Gross Weight (kg)	5.6/ 8.3	7.5/10.7
Environment	Operating Temperature (with air flow)	-10°C ~ 50°C	
	Storage Temperature	-20°C ~ 60°C	
	Humidity	10% to 95% (non-condensing)	
	IP Level	Front IP 65	
	Safety and EMC	CE & FCC certified	
Power Supply	AC Input	AC input ATX power supply - P/N: 63030-010220-100-RS - 220W power supply - Input: 90VAC-264VAC, 50/60Hz - Output (max.): 3.3V@10A, 5V@14A, 12V@14A, -12V@0.3A	
Power Consumption		80W	100W

Heavy Industry Panel PCs

Intel® Core™ Mobile Processors

NEW

NEW

NEW

LCD Size	10.4"	12.1"	13.3"
Model	PPC2-C104-ADLP	PPC2-C121-ADLP	PPC2-CW133-ADLP
Resolution (WxH)	800 x 600 (4:3)	1024 x 768 (4:3)	1920 x 1080 (16:10)
Brightness	400 cd/m²	500 cd/m²	350
Contrast Ratio	700:1	1000:1	1000:1
LCD Color	16.2M	16.2M	16.7M
Viewing Angle (H-V)	160°/140°	178°/178°	176°/176°
Backlight MTBF	30,000 hours	30,000 hours	30,000 hours
CPU (SoC)	Support 12th/13th Generation Intel® Alder Lake-P Core™ i7/i5/i3 Processor		
Memory	On-board dual-channel LPDDR4x 8GB (system max. 32GB)		
Touchscreen	PCAP with USB interface (anti-UV/AG coating)		
Touch Controller	Surface hardness: ≥7H Projected capacitive type: EETI 80		
Ethernet	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225-LM/I226-LM 2.5GbE controller (support Intel® AMT)		
Expansion	1 x M.2 M key 2242 (PCIe Gen4 x4) 1 x M.2 M key 2280 (PCIe Gen4 x4)		
Mounting	VESA 100, Panel, Wall, Rack, Stand and Arm		
Construction Material	Aluminum front cover and sheet metal rear cover		
Enclosure Color	Silver+Black		
I/O Ports & Switch	2 x RS-232 by DB9 1 x HDMI output 2 x USB 3.2 Gen2 2 x RS-232/422/485 by DB9 1 x 12V DC jack 2 x USB 3.2 Gen1 2 x 2.5GbE LAN 1 x Power button 1 x USB 2.0 1 x Reset button 1 x AT/ATX switch	2 x RS-232 by DB9 1 x HDMI output 2 x USB 3.2 Gen2 2 x RS-232/422/485 by DB9 1 x 12V DC jack 2 x USB 3.2 Gen1 2 x 2.5GbE LAN 1 x Power button 1 x USB 2.0 1 x Reset button 1 x AT/ATX switch	2 x RS-232 by DB9 1 x HDMI output 2 x USB 3.2 Gen2 2 x RS-232/422/485 by DB9 1 x 12V DC jack 2 x USB 3.2 Gen1 2 x 2.5GbE LAN 1 x Power button 1 x USB 2.0 1 x Reset button 1 x AT/ATX switch
Thermal Solution	Fanless		
Power Input	12V DC		
Power Consumption	12V@4.72A (Intel® Core™ i7-1270PE with 8GB LPDDR4)	12V@5.09A (Intel® Core™ i7-1270PE with 8GB LPDDR4)	12V@5.12A (Intel® Core™ i7-1270PE with 8GB LPDDR4)
TPM	Intel® Platform Trust Technology		
Watchdog Timer	Software Programmable support 1~255 sec. system reset		
Operating Temperature (with air flow)	-10ºC ~ 50ºC	-10ºC ~ 50ºC	-10ºC ~ 50ºC
Storage Temperature	-20ºC ~ 60ºC	-20ºC ~ 60ºC	-20ºC ~ 60ºC
Humidity	10% ~ 95%@40ºC, non-condensing		
IP Level	IP65 compliant front panel		
Safety and EMC	CE, FCC Class A, UKCA		
Operation Vibration	MIL-STD-810G 514.6C-1(with SSD)		
Operation Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis		
Dimensions (H x W x D)	285.20 x 232.40 x 57.50 (mm)	322.20 x 262.20 x 59.8 (mm)	327.70 x 203.33 x 69.6 (mm)
Net Weight	2.56 kg	2.97 kg	TBD
ErP	ErP 2009/125/EC		
OS	Windows 10/11 IoT, Linux		

Heavy Industry Panel PCs

Intel® Core™ Mobile Processors

LCD Size	15"	15.6"	17"
Model	PPC2-C150-ADLP	PPC2-CW156-ADLP	PPC2-C170-ADLP
Resolution (WxH)	1024 x 768 (4:3)	1920 x1080 (16:9)	1280 x 1024 (5:4)
Brightness	400 cd/m²	450 cd/m²	350 cd/m²
Contrast Ratio	800:1	800:1	800:1
LCD Color	16.2M	16.2M	16.7M
Viewing Angle (H-V)	176°/176°	178°/178°	170°/160°
Backlight MTBF	70,000 hours	50,000 hours	50,000 hours
CPU (SoC)	Support 12th/13th Generation Intel® Alder Lake-P Core™ i7/i5/i3 Processor		
Memory	On-board dual-channel LPDDR4x 8GB (system max. 32GB)		
Touchscreen	PCAP with USB interface (anti-UV/AG coating)		
Touch Controller	Surface hardness: ≥7H Projected capacitive type: EETI 80		
Ethernet	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225-LM/I226-LM 2.5GbE controller (support Intel® AMT)		
Expansion	1 x M.2 M key 2242 (PCIe Gen4 x4) 1 x M.2 M key 2280 (PCIe Gen4 x4)		
Mounting	VESA 100, Panel, Wall, Rack, Stand and Arm		
Construction Material	Aluminum front cover and sheet metal rear cover		
Enclosure Color	Silver+Black		
I/O Ports, Switch	2 x RS-232 by DB9 1 x HDMI output 2 x USB 3.2 Gen2 2 x RS-232/422/485 by DB9 1 x 12V DC Jack 2 x USB 3.2 Gen1 2 x 2.5GbE LAN 1 x Power button 1 x USB 2.0 1 x Reset button 1 x AT/ATX switch	2 x RS-232 by DB9 1 x HDMI output 2 x USB 3.2 Gen2 2 x RS-232/422/485 by DB9 1 x 12V DC Jack 2 x USB 3.2 Gen1 2 x 2.5GbE LAN 1 x Power button 1 x USB 2.0 1 x Reset button 1 x AT/ATX switch	2 x RS-232 by DB9 1 x HDMI output 2 x USB 3.2 Gen2 2 x RS-232/422/485 by DB9 1 x 12V DC Jack 2 x USB 3.2 Gen1 2 x 2.5GbE LAN 1 x Power button 1 x USB 2.0 1 x Reset button 1 x AT/ATX switch
Thermal Solution	Fanless		
Power Input	12V DC		
Power Consumption	12V@5.56A (Intel® Core™ i7-1270PE with 8GB LPDDR4)	12V@5.86A (Intel® Core™ i7-1270PE with 8GB LPDDR4)	12V@4.63A (Intel® Core™ i7-1270PE with 8GB LPDDR4)
TPM	Intel® Platform Trust Technology		
Watchdog Timer	Software Programmable support 1~255 sec. system reset		
Operating Temperature (with air flow)	-10ºC ~ 50ºC	-10ºC ~ 50ºC	-10ºC ~ 50ºC
Storage Temperature	-20ºC ~ 60ºC	-20ºC ~ 60ºC	-20ºC ~ 60ºC
Humidity	10% ~ 95%@40ºC, non-condensing		
IP Level	IP65 compliant front panel		
Safety and EMC	CE, FCC Class A, UKCA		
Operation Vibration	MIL-STD-810G 514.6C-1(with SSD)		
Operation Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis		
Dimensions (H x W x D)	375.80 x 303.00 x 61.00 (mm)	400.10 x 253.30 x 66.25 (mm)	408.40 x 341.40 x 66.00 (mm)
Net Weight	4.125 kg	3.89 kg	4.890 kg
ErP	ErP 2009/125/EC		
OS	Windows 10/11 IoT, Linux		

Heavy Industry Panel PCs

Intel® Core™ Mobile Processors

LCD Size	18.5"	19"	21.5"
Model	PPC2-CW185-ADLP	PPC2-C19-ADLP	PPC2-CW215-ADLP
Resolution (WxH)	1920 x 1080 (16:9)	1280 x1024 (5:4)	1920 x 1080 (16:9)
Brightness	350 cd/m²	450 cd/m²	350 cd/m²
Contrast Ratio	1000:1	1000:1	1000:1
LCD Color	16.2M	16.2M	16.7M
Viewing Angle (H-V)	170°/170°	178°/178°	178°/178°
Backlight MTBF	50,000 hours	50,000 hours	50,000 hours
CPU (SoC)	Suppot 12th/13th Genertion Intel® Alder Lake-P Core™ i7/i5/i3 Processor		
Memory	On-board dual-channel LPDDR4x 8GB (system max. 32GB)		
Touchscreen	PCAP with USB interface (anti-UV/AG coating)		
Touch Controller	Surface hardness: ≥7H Projected capacitive type: EETI 80		
Ethernet	LAN1: Intel® I225V/I226V 2.5GbE controller LAN2: Intel® I225-LM/I226-LM 2.5GbE controller (support Intel® AMT)		
Expansion	1 x M.2 M key 2242 (PCIe Gen4 x4) 1 x M.2 M key 2280 (PCIe Gen4 x4)		
Mounting	VESA 100, Panel, Wall, Rack, Stand and Arm		
Construction Material	Aluminum front cover and sheet metal rear cover		
Enclosure Color	Silver+Black		
I/O Ports & Switch	2 x RS-232 by DB9 1 x HDMI output 2 x USB 3.2 Gen2 2 x RS-232/422/485 by DB9 1 x 12V DC jack 2 x USB 3.2 Gen1 2 x 2.5GbE LAN 1 x Power button 1 x USB 2.0 1 x Reset button 1 x AT/ATX switch	2 x RS-232 by DB9 1 x HDMI output 2 x USB 3.2 Gen2 2 x RS-232/422/485 by DB9 1 x 12V DC jack 2 x USB 3.2 Gen1 2 x 2.5GbE LAN 1 x Power button 1 x USB 2.0 1 x Reset button 1 x AT/ATX switch	2 x RS-232 by DB9 1 x HDMI output 2 x USB 3.2 Gen2 2 x RS-232/422/485 by DB9 1 x 12V DC jack 2 x USB 3.2 Gen1 2 x 2.5GbE LAN 1 x Power button 1 x USB 2.0 1 x Reset button 1 x AT/ATX switch
Thermal Solution	Fanless		
Power Input	12V DC		
Power Consumption	12V@5.60A (Intel® Core™ i7-1270PE with 8GB LPDDR4)	12V@6.03A (Intel® Core™ i7-1270PE with 8GB LPDDR4)	12V@5.87A (Intel® Core™ i7-1270PE with 8GB LPDDR4)
TPM	Intel® Platform Trust Technology		
Watchdog Timer	Software Programmable support 1~255 sec. system reset		
Operating Temperature (with air flow)	-10ºC ~ 50ºC	-10ºC ~ 50ºC	-10ºC ~ 50ºC
Storage Temperature	-20ºC ~ 60ºC	-20ºC ~ 60ºC	-20ºC ~ 60ºC
Humidity	10% ~ 95%@40ºC, non-condensing		
IP Level	IP65 compliant front panel		
Safety and EMC	CE, FCC Class A, UKCA		
Operation Vibration	MIL-STD-810G 514.6C-1(with SSD)		
Operation Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis		
Dimensions (H x W x D)	468.80 x 288.2 x 67.8 (mm)	447.40 x 372.4 x 67.26(mm)	550.40 x 358.4 (mm)
Net Weight	5.05 kg	5.635 kg	6.48 kg
ErP	ErP 2009/125/EC		
OS	Windows 10/11 IoT, Linux		

Heavy Industry Panel PCs

Intel® Core™ Mobile Processors

Alder Lake-P

LCD Size	15.6”	18.5”	21.5”
Model	PPC2-CW156A-ADLP	PPC2-CW185A-ADLP	PPC2-CW215A-ADLP
Resolution (WxH)	1920 x 1080 (16:9)	1920 x 1080 (16:9)	1920 x 1080 (16:9)
Brightness	450 cd/m²	350 cd/m²	350 cd/m²
Contrast Ratio	800:1	1200:1	1000:1
LCD Color	16.2M	16.7M	16.7M
Pixel Pitch (mm)	0.179 x 0.179	0.21 x 0.21	0.248 x 0.248
Viewing Angle (H-V)	178°/178°	170°/170°	178°/178°
Backlight MTBF	50,000 hours	50,000 hours	50,000 hours
CPU (SoC)	12th Gen. Intel® Alder Lake-P Core™ i7/i5/i3 processor 13th Gen. Intel® Raptor Lake-P Core™ i7/i5/i3 processor		
Memory	Two 260-pin 3200 MHz dual-channel DDR4 SO-DIMM (8GB pre-installed, up to 64GB)		
Storage	1 x 2.5” SSD bay		
Touchscreen	PCAP with USB interface (anti-UV/AR coating)		
Touch Controller	EETI EXC 81 Series		
Ethernet	LAN1: I225-LM / I226-LM (support Intel AMT) LAN2: Intel® I225V/I226V		
Expansion	2 x M.2 2280 M-key (PCIex4) 1 x M.2 3080 B-key (PCIex 1 or SATA) support IPMI function 1 x M.2 2230 E-key (PCIex 1 + USB)		
I/O Ports & Switch	1 x RS-232 by DB9 1 x RS-232/422/485/ AFC by DB9 2 x 2.5GbE LAN 1 x RJ45 for IPMI 4 x USB 3.2 Gen1 1 x HDMI output 1 x 12V DC jack 1 x Power button 1 x Reset button 1 x Clear CMOS button 1 x AT/ATX switch		
Mounting	VESA 75/100 Panel, Wall, Rack, Stand and Arm		
Construction Material	Aluminum die casting+SECC		
Enclosure Color	Black		
Power Input	12V DC		
Power Input	96W Power adapter		
Thermal	Fanless		
TPM	Intel® Platform Trust Technology		
Watchdog Timer	Software Programmable support 1~255 sec. system reset		
Operating Temperature (°C) (Ambient with air flow)	-20ºC ~ 60ºC (60@50RH)		
Storage Temperature (°C)	-20ºC ~ 70ºC (70ºC@20%RH)		
Humidity	10 ~ 90RH (40°C@90RH) (non-condensing)		
Operating Vibration	Operation: Random Vibration Mode, MIL-STD-810G 514.6C-1 (with SSD) Non-OP (Sine Vibration Mode) IEC-60068-2-06		
Operating Shock	Operation: IEC68-2-27 5 G, 11ms, 100 shocks Non-OP: IEC68-2-27 15 G, 11ms, 100 shocks		
IP Level	Front panel IP65 compliant		
Safety & EMC	CE/EMC, FCC, UKCA		
Dimensions (H x W x D)	TBD	TBD	TBD
Net Weight	TBD	TBD	TBD
ErP	ErP 2009/125/EC		
OS	Microsoft® Windows 10/11 IOT Linux		

Industrial Panel PCs

Heavy Industry Panel PCs

Intel® Celeron® Processors

Elkhart Lake

LCD Size	8”	10.4”	12”
Model	PPC2-C08-EHL	PPC2-C10-EHL	PPC2-C12-EHL
Resolution (WxH)	800 x 600 (4:3)	800 x 600 (4:3)	1024 x 768 (4:3)
Brightness	500 cd/m²	400 cd/m²	500 cd/m²
Contrast Ratio	500:1	700:1	1000:1
LCD Color	262K	16.2M	16.2M
Pixel Pitch (mm)	0.2025 x 0.0675	0.264 x 0.264	0.24 x 0.24
Viewing Angle (H-V)	140°/120°	160°/140°	160°/140°
Backlight MTBF	50,000 hours	30,000 hours	50,000 hours
CPU (SoC)	Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W		
Memory	Dual channel 8GB LPDDR4x on board		
Touchscreen	Multi-point projected capacitive type (anti-UV / anti-glare coating, support gloves) Surface hardness: ≥7H		
Touch Controller	Projected capacitive type: EETI 80		
Storage	N/A	N/A	1 x 2.5” HDD/SSD drive bay
Ethernet	2 x 2.5GbE LAN via Intel I225-V		
Expansion	1 x M.2 2242/2280 B key (PCIe Gen3 x1 + USB 3.0) 1 x M.2 2242 M key (PCIe Gen3 x2)		
Mounting	VESA 75 Panel, Wall, Stand and Arm	VESA 75/100 Panel, Wall, Rack, Stand and Arm	
Construction Material	Aluminum front cover and sheet metal rear cover		
Enclosure Color	Black		
I/O Ports, Switches and Buttons	1 x HDMI output 2 x RJ-45 2.5GbE 2 x USB 3.2 Gen 2x1 (10Gb/s) 2 x USB 2.0 1 x RS-232/422/485 1 x RS-232 1 x 12V-24V power jack 1 x Power terminal block (2-pin) 1 x AT/ATX switch 1 x Power button 1 x Reset button 1 x Clear CMOS button	1 x HDMI output 2 x 2.5GbE RJ-45 2 x USB 3.2 Gen 2x1 (10Gb/s) 2 x USB 2.0 1 x RS-232/422/485 1 x RS-232 1 x 12V-24V power jack 1 x Power terminal block (2-pin) 1 x AT/ATX switch 1 x Power button 1 x Reset button 1 x Clear CMOS button PPC2-XIO-03-R10: 1 x RS-232 DB9 1 x M.2 B key 2242/2280 (PCIe Gen3 x 2 + USB 2.0)	1 x HDMI output 2 x 2.5GbE RJ-45 2 x USB 3.2 Gen 2x1 (10Gb/s) 2 x USB 2.0 1 x RS-232/422/485 1 x RS-232 1 x 12V-24V power jack 1 x Power terminal block (2-pin) 1 x AT/ATX switch 1 x Power button 1 x Reset button 1 x Clear CMOS button PPC2-XIO-01-R10: 2 x USB 2.0 2 x RS-232 DB9 1 x M.2 B key 2242/2280 (PCIe Gen3 x 2 + USB 2.0)
Power Input	12 V ~ 24 V DC		
Power Adapter	36W power adapter	36W power adapter	60W power adapter
Thermal Solution	Fanless		
TPM	Intel® Platform Trust Technology		
Watchdog Timer	Software Programmable support 1~255 sec. system reset		
Operating Temperature (with air flow)	-10ºC ~ 60ºC		
Storage Temperature	-20ºC ~ 60ºC		
Humidity	10% ~ 90%@40ºC, non-condensing		
Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)		
Operating Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis		
IP Level	IP 65 compliant front panel		
Safety and EMC	CE, FCC Class A		
ErP	ErP 2009/125/EC		
Dimensions (H x W x D) (mm)	222.2 x 182.2 x 49.7	285.2 x 232.4 x 49.9	322.2 x 262.2 x 53
Net Weight	1.610KG	2.335KG	3.095KG

Heavy Industry Panel PCs

Intel® Celeron® Processors

Elkhart Lake

LCD Size	12.3”	13.3”	15”	15.6”
Model	PPC2-CW123-EHL	PPC2-CW133-EHL	PPC2-C15-EHL	PPC2-CW15-EHL
Resolution (WxH)	1920 x 720 (8:3)	1920 x 1080 (16:9)	1024 x 768 (4:3)	1920 x 1080 (16:9)
Brightness	850 cd/cm²	350cd/cm²	450 cd/m²	400cd/m²
Contrast Ratio	1500:1	1000:1	800:1	500:1
LCD Color	16.7M	16.7M	16.2M	16.2M
Pixel Pitch (mm)	0.152 x 0.152	0.153 x 0.153	0.297 x 0.297	0.252 x 0.252
Viewing Angle (H-V)	170°/170°	176°/176°	160°/150°	170°/160°
Backlight MTBF	30,000 hours	30,000 hours	70,000 hours	50,000 hours
CPU (SoC)	Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W			
Memory	Dual channel 8GB LPDDR4x on board			
Touchscreen	Multi-point projected capacitive type (anti-UV / anti-glare coating,support gloves) Surface hardness: ≥7H			
Touch Controller	Projected capacitive type: EETI 80			
Storage	-	-	1 x 2.5” HDD/SSD drive bay	1 x 2.5” HDD/SSD drive bay
Ethernet	2 x 2.5GbE LAN via Intel I225-V			
Expansion	1 x M.2 2242/2280 B key (PCIe Gen3 x1 + USB 3.0) 1 x M.2 2242 M key (PCIe Gen3 x2)			
Mounting	VESA 75 mm x 75 mm Panel, Wall, Stand and Arm	VESA 75 mm x 75 mm Panel, Wall, Rack, Stand and Arm	VESA 75/100 Panel, Wall, Rack, Stand and Arm	VESA 75/100 Panel, Wall, Rack, Stand and Arm
Construction Material	Aluminum front cover and sheet metal rear cover			
Enclosure Color	Black			
I/O Ports, Switches and Buttons	1 x HDMI output 2 x RJ-45 2.5GbE 2 x USB 3.2 Gen 2x1 (10Gb/s) 2 x USB 2.0 1 x RS-232/422/485 1 x RS-232 1 x 12V-24V power jack 1 x Power terminal block (2-pin) 1 x AT/ATX switch 1 x Power button 1 x Reset button 1 x Clear CMOS button	1 x HDMI output 2 x RJ-45 2.5GbE 2 x USB 3.2 Gen 2x1 (10Gb/s) 2 x USB 2.0 1 x RS-232/422/485 1 x RS-232 1 x 12V-24V power jack 1 x Power terminal block (2-pin) 1 x AT/ATX switch 1 x Power button 1 x Reset button 1 x Clear CMOS button PPC2-XIO-01-R10: 2 x USB 2.0 2 x RS-232 DB9 1 x M.2 B key 2242/2280 (PCIe Gen3 x 2 + USB 2.0)	1 x HDMI output 2 x 2.5GbE RJ-45 2 x USB 3.2 Gen 2x1 (10Gb/s) 2 x USB 2.0 1 x RS-232/422/485 1 x RS-232 1 x 12V-24V power jack 1 x Power terminal block (2-pin) 1 x AT/ATX switch 1 x Power button 1 x Reset button 1 x Clear CMOS button PPC2-XIO-02-R10: 2 x USB 2.0 3 x RS-232 DB9 1 x M.2 B key 2242/2280 (PCIe Gen3 x 2 + USB 2.0)	
Power Input	12 V ~ 24 V DC			
Power Adapter	60W power adapter	60W power adapter	60W power adapter	60W power adapter
Thermal Solution	Fanless			
TPM	Intel® Platform Trust Technology			
Watchdog Timer	Software Programmable support 1~255 sec. system reset			
Operating Temperature (with air flow)	-10ºC ~ 50ºC	-10ºC ~ 60ºC	-10ºC ~ 60ºC	-10ºC ~ 60ºC
Storage Temperature	-20ºC ~ 60ºC			
Humidity	10% ~ 90%@40ºC, non-condensing			
Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)			
Operating Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis			
IP Level	IP 65 compliant front panel			
Safety and EMC	CE, FCC Class A			
ErP	ErP 2009/125/EC			
Dimensions (H x W x D) (mm)	323.43 x 147.91 x 52.50	327.70 x 203.33 x 61.50	378.5 x 303 x 53.2	400.10 x 253.30 x 58.45
Net Weight	TBD	TBD	3.940 kg	3.875 kg

Industrial Panel PCs

Heavy Industry Panel PCs

Intel® Celeron® Processors

Elkhart Lake

LCD Size	17”	19”	18.5”	21.5”
Model	PPC2-C17-EHL	PPC2-C19-EHL	PPC2-CW19-EHL	PPC2-CW22-EHL
Resolution (WxH)	1280 x 1024 (5:4)	1280 x 1024 (5:4)	1920 x 1080 (16:9)	1920 x 1080 (16:9)
Brightness	350 cd/m²	450 cd/m²	350cd/m²	350cd/m²
Contrast Ratio	800:1	1000:1	1200:1	1000:1
LCD Color	16.7M	16.7M	16.7M	16.7M
Pixel Pitch (mm)	0.26 x 0.26	0.294 x 0.294	0.213 x 0.213	0.248 x 0.248
Viewing Angle (H-V)	160°/140°	178°/178°	170°/170°	178°/178°
Backlight MTBF	50,000 hours	50,000 hours	50,000 hours	50,000 hours
SBC Model	PPC2MB2-EHL-RC-R10+PPC2-XIO-04-R10			
CPU (SoC)	Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W			
Memory	8GB dual-channel on-board LPDDR4/LPDDR4x			
Touchscreen	Multi-point projected capacitive type (anti-UV / anti-glare coating, support gloves) Surface hardness: ≥7H			
Touch Controller	Projected capacitive type: EETI 80			
Storage	1 x 2.5” HDD/SSD drive bay			
Ethernet	2 x 2.5GbE LAN via Intel I225-V / I226-V			
Expansion	1 x M.2 2242/2280 B key (PCIe Gen3 x1 + USB 3.0) 1 x M.2 2242 M key (PCIe Gen3 x2)			
Mounting	VESA 75/100 Panel, Wall, Rack, Stand and Arm			
Construction Material	Aluminum front cover and sheet metal rear cover			
Enclosure Color	Black			
I/O Ports, Switches and Buttons	1 x HDMI output 2 x 2.5GbE RJ-45 2 x USB 3.2 Gen 2x1 (10Gb/s) 2 x USB 2.0 1 x RS-232/422/485 1 x RS-232 1 x 12V-24V power jack 1 x Power terminal block (2-pin)	1 x AT/ATX switch 1 x Power button 1 x Reset button 1 x Clear CMOS button PPC2-XIO-02-R10: 2 x USB 2.0 3 x RS-232 DB9 1 x M.2 B key 2242/2280 (PCIe Gen3 x 2 + USB 2.0)		
Power Input	12 V ~ 24 V DC			
Power Adapter	60W power adapter			
Thermal Solution	Fanless			
TPM	Intel® Platform Trust Technology			
Watchdog Timer	Software Programmable support 1~255 sec. system reset			
Operating Temperature (with air flow)	-10ºC ~ 60ºC	-10ºC ~ 60ºC	-10ºC ~ 60ºC	-10ºC ~ 50ºC
Storage Temperature	-20ºC ~ 60ºC			
Humidity	10% ~ 90%@40ºC			
Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)			
Operating Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis			
IP Level	IP 65 compliant front panel			
Safety and EMC	CE, FCC Class A			
ErP	ErP 2009/125/EC			
Dimensions (H x W x D) (mm)	408.40 x 341.40 x 61.80	447.40 x 372.40 x 59.20	468.80 x 288.20 x 59.40	550.40 x 358.40 x 58.50
Net Weight	4.830 kg	5.745 kg	5.096 kg	6.330 kg

Heavy Industry Panel PCs

Intel® Celeron® Processors

intel.
Bay Trail

LCD Size		8"	10.4"	12"	15"	17"
Model		**PPC-F08B-BT**	**PPC-F10B-BT**	**PPC-F12B-BT**	**PPC-F15B-BT**	**PPC-F17B-BT**
LCD	Resolution (WxH)	800 x 600 (4:3)	800 x 600 (4:3)	1024 x 768 (4:3)	1024 x 768 (4:3)	1280 x 1024 (5:4)
	Brightness (cd/m²)	500	400	600	450	350
	Contrast Ratio	500:1	700:1	700 : 1	800 : 1	800 : 1
	LCD Color	16.2M	16.2M	16.2M	16.2M	16.7M
	Pixel Pitch (mm)	0.2025 (H) x 0.0675 (V)	0.264 (H) x 0.264 (V)	0.24 x 0.24	0.297 x 0.297	0.26 x 0.26
	Viewing Angle (H-V)	140° / 120°	160° / 140°	160° / 140°	160° / 150°	170° / 160°
	Backlight MTBF	50,000 hours	30,000 hours	50,000 hours	70,000 hours	50,000 hours
Motherboard	CPU	Intel® Celeron® J1900 quad-core on-board SoC, 2GHz		Intel® Celeron® processor J1900 (2M cache, up to 2.42 GHz)		
	RAM	1 x 204-pin DDR3L SO-DIMM slots (max. 8GB)		2 x 204-pin DDR3L SO-DIMM slot (max. 8GB), pre-installed with 2GB		
Touch	Touchscreen & Controller	5-wire resistive type flat touchscreen, PenMount DMC9000, 3H		5-wire resistive single touch window, 3H/Penmount DMC9000 (Anti-glare Surface) 10-point Projected capacitive touch window, 6H/EETI EXC3188 (Anti-UV, Anti-glare Surface)		
Input Interfaces	I/O Ports & Switches	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB-9 connector) (RI/5V/12V) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x GbE LAN 1 x Power switch 1 x Reset button 1 x AT/ATX switch 1 x Audio port (line-out) 1 x 9 V~30 V lockable power jack	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB9 connector) (RI/5V/12V) 2 x USB 2.0 2 x USB 3.2 Gen 1 (5Gb/s) 2 x GbE LAN 1 x Power switch 1 x Reset button 1 x AT/ATX switch 1 x Audio port (line-out) 1 x 9 V~30 V lockable power jack	2 x RJ-45 LAN port 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x HDMI 2 x RS-232 1 x RS-232/422/485 1 x VGA 1 x 9 V~36 V DC jack (4-pin) 1 x 9 V~36 V DC terminal block 1 x Line-out 1 x Power switch	2 x RJ-45 LAN port 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x HDMI 2 x RS-232 1 x RS-232/422/485 1 x VGA 1 x 9 V~36 V DC jack (4-pin) 1 x 9 V~36 V DC terminal block 1 x Line-out 1 x Power switch	2 x RJ-45 LAN port 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 1 x HDMI 2 x RS-232 1 x RS-232/422/485 1 x VGA 1 x 9 V~36 V DC jack (4-pin) 1 x 9 V~36 V DC terminal block 1 x Line-out 1 x Power switch
Expansion		1 x Full-size/half-size PCIe Mini slot (mSATA/PCIe/USB signal) 1 x Half-size PCIe Mini slot (PCIe signal only)		1 x Full-size PCIe Mini slot (mSATA/PCIe/USB signal) 1 x Full-size/half-size PCIe Mini slot (PCIe/USB signal)		
Wireless LAN		802.11 b/g/n (optional)		802.11 b/g/n (optional)		
Storage	SSD	mSATA	mSATA	-	-	-
	HDD	N/A	1 x 2.5" HDD bay	-	-	-
Physical	Mounting	Stand, panel mount, VESA 75x75	Stand, panel mount, VESA 75x75/100x100	Panel mount, rack mount, VESA 100x100		
	Enclosure Color	Black C				
	Dimensions (mm)	182.2 x 222.2 x 44	232.4 x 285.2 x 44	262.2 x 322.2 x 47.2	303 x 378.5 x 46.2	341.4 x 408.4 x 51.8
	Net Weight	1.17 kg	1.77 kg	3.2 kg	4.1 kg	5 kg
	Cut-out Dimensions (mm)	207 x 154	267.2 x 214.4	244.8 x 304.8	285.6 x 361	323 x 390
Environment	Operating Temperature (with air flow)	-10°C~50°C (14°F~122°F)				
	Storage Temperature	-20°C~60°C (-4°F~140°F)				
	Humidity	10% to 95% (non-condensing)				
	IP Level	IP 65 compliant front panel				
	Safety and EMC	CE & FCC Class A certified				
Power	Power Adapter	P/N: 63040-010036-210-RS, 36W Power Adapter Input: 90 - 264V AC, 50/60Hz Output: 12V DC		P/N: 63040-010060-220-RS, 60W Power Adapter Input: 90 ~ 264V AC, 50/60Hz Output: 12V DC		
	Power Requirement	9 ~ 30V DC		9 V~36 V DC		
	Power Consumption	28W	34W	40W	41W	42W

UPC series

12.1" RUGGED IP66 PANEL PC

The UPC series industrial Panel PC features all-around IP66 water and dust resistance, embedded antennas, and a fanless, sturdy aluminum housing, ideal for logistics, food and beverage, and pharmaceutical industries.

All-Around IP66 Rated Protection

Aluminum Die-Casting Construction

M12 Ports

WiFi/ Bluetooth/ RFID

The panel PC is compact yet features abundant I/O options for various applications, allowing users to customize interfaces as needed.

Model		UPC-F12M1-RPLP
LCD	Size	12.1" (4:3)
	Resolution (WxH)	1024 x 768
	Brightness (cd/m²)	600
	LCD Color	16.2M
	Pixel Pitch (mm)	0.24 x 0.24
	Contrast Ratio	1000 : 1
	Viewing Angle (H-V)	178°/178°
	Backlight MTBF	50,000 hours
Touch	Touch Screen	PCAP with USB interface (anti-UV/AG coating)
	Touch Controller	ILITEK: ILI2520
Motherboard	SoC	Intel® Raptor Lake-P Core™ i3-1315URE SoC Processor (15W)
	RAM	Dual channel 8GB LPDDR4x on board (up to 32 GB)
	Ethernet	LAN1: Intel ® I226IT 2.5GbE controller LAN2: Intel ® I226IT 2.5GbE controller
	Storage	1 x M.2 M key 2280 (PCIe Gen4 x4)
	Expansion	1 x M.2 B key 3042/3052/3080 (SATA & PCIe Gen4 x1 & USB 3.0) 1 x M.2 M key 2280 (PCIe Gen4 x4)
	I/O Ports & Switch	2 x 8-pin M12A female connector for two USB 2.0 1 x 8-pin M12A female connector for COM (RS-232/422/485) 1 x 8-pin M12X female connector for GbE LAN (2.5G) I225LM 1 x 5-pin M12A female connector for CAN Bus 1 x 5-pin M12 male connector for DC jack / terminal (9V~36V DC)
Connectivity	RFID	Reserved RFID antenna area (optional)
	Wireless & Bluetooth	IEEE 802.11 a/b/g/n/ax, Bluetooth V5.2 (optional) 1 x M.2 2230 E key Slot (PCIe + USB signal)
Physical	Construction	Aluminum die-casting
	Mounting	VESA 100mm x 100mm
	Net Weight	5kg
	Dimensions (W x L x D) (mm)	316 x 279 x 76
Environment	Operating Temperature (Ambient with air flow)	-20°C ~ 60°C
	Storage Temperature	-20°C ~ 70°C
	Humidity	10% to 95% @40°C (non-condensing)
	Operating Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis
	Operating Vibration	MIL-STD-810F 514.5G-1 (with SSD)
	IP Level	Full IP66
	Safety&EMC	CE/FCC
	Thermal Solution	Fanless
	Power	9 ~ 36V
ErP		ErP 2009/125/EC
OS		Windows 10/11 IoT; Linux

Front - Accessible OSD Buttons

The front-accessible OSD lets you easily control brightness, volume, and power on/off.

HDMI, VGA, DP Video Interfaces

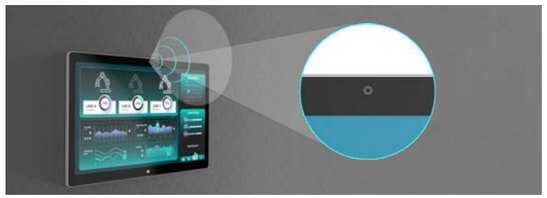
The DM2 series offers different display interfaces, such as HDMI, VGA, and DP, to suit various requirements.

Anti-Glare and Anti-UV PCAP Touchscreen

With anti-glare and anti-UV coating, the 10-point touchscreen can display clearly without reflection.

IP65-rated Front Panel Protection

With the IP65 front panel protection rating, this series is more durable and rugged, ensuring reliable operation in harsh industrial environments.



Built-in Camera

The DM2 series, equipped with a built-in camera, is perfectly suited for AI facial recognition applications.

Front Speakers

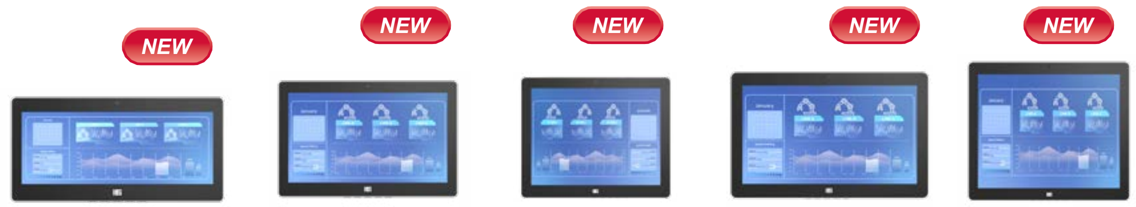
The speakers are positioned at the front to guarantee clear sound delivery, even when panel-mounted.

NextGen Industrial Monitors

LCD Size	10.1”	10.4”	12.1”	12.1”	12.1”	12.1”
Model	DM2-W101G(L)	DM2-104E(L)	DM2-121E(L)	DM2-121E(L)-HL	DM2-W121G(L)	DM2-W121G(L)-HL
Brightness (cd/m²)	400	350	500	1000	500	1000
Max Resolution (WxH)	1280 x 800 (16:10)	1024 x 768 (4:3)	1024 x 768 (4:3)	1024 x 768 (4:3)	1280 x 800 (16:10)	1280 x 800 (16:10)
Contrast Ratio	800 : 1	1000 : 1	1000 : 1	1000 : 1	1200 : 1	1000 : 1
LCD Color	16.7M	16.7M	16.7M	16.7M	16.7M	16.7M
Viewing Angle (H-V)	178°/178°	176°/176°	178°/178°	178°/178°	170°/170°	170°/170°
Backlight MTBF (hrs)	20,000 hours	50,000 hours	50,000 hours	50,000 hours	30,000 hours	50,000 hours
Touch Screen	10-point projected capacitive touch window (anti-UV, anti-glare surface)					
Touch Controller	Capacitive: LiTek					
I/O Ports and Switches	1 x VGA (DB-15) 1 x Line out 1 x HDMI 1 x DisplayPort 1.1 1 x USB 3.2 Gen1 Type-B 1 x 9V-36V DC jack 4 x USB 3.2 Gen1 Type-A * 1 x 3-pin terminal block					
OSD Keypad	5-key membrane OSD keypad					
Camera	Standard configuration*					
Speaker	2 x 2W AMP (internal speaker)*					
Construction Material	Aluminum front frame and sheet metal rear cover					
Mounting	Panel mount, rack mount, VESA 100					
Enclosure Color	Silver+Black					
Dimensions (LxWxH) (mm)	251 x 180.95 x 49.30	256.60 x 208.20 x 49.30	279.86 x 237.50 x 49.3	279.86 x 237.50 x 49.3	298 x 218.59 x 49.30	298 x 218.59 x 49.30
Cutout Dimensions (mm)	241.80 x 157.80	247.4 x 185	270.50 x 214.10	270.50 x 214.10	288.60 x 195.10	288.60 x 195.10
Operating Temperature	-20°C ~ 60°C (with air flow)					
Storage Temperature	-20°C ~ 60°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C
Humidity	10% to 95%@40°C (non-condensing) (50%@60°C)					
Vibration	MIL-STD-810F 514.5C-1					
Shock	Operating: Half-sine wave shock 5G; 11ms; 100 shocks per axis Non-operating: Half-sine wave shock 15G; 11ms; 100 shocks per axis					
IP Level	IP 65 compliant front panel					
Safety & EMC	CE/FCC/UKCA Class B					
Power Input	9~36V DC					
Power Cord	EU					

*L (Lite) sku without camera, speaker and four USB Type-A

NextGen Industrial Monitors



High Brightness

LCD Size	12.3”	13.3”	15”	15.6”	17”
Model	**DM2-UW123J(L)**	**DM2-W133K(L)**	**DM2-150E(L)**	**DM2-W156K(L)**	**DM2-170H(L)**
Brightness (cd/m²)	850	350	350	450	350
Max Resolution (WxH)	1920 x 720 (8:3)	1920 x 1080 (16:9)	1024 x 768 (4:3)	1920 x 1080 (16:9)	1280 x 1024 (5:4)
Contrast Ratio	1000 : 1	800 : 1	1000 : 1	800 : 1	800 : 1
LCD Color	16.7M	16.7M	16.2M	16.2M	16.2M
Viewing Angle (H-V)	170°/170°	176°/176°	178°/178°	178°/178°	160°/170°
Backlight MTBF (hrs)	30,000 hours	30,000 hours	50,000 hours	50,000 hours	50,000 hours
Touch Screen	10-point projected capacitive touch window (anti-UV, anti-glare surface)				
Touch Controller	Capacitive: LiTek				
I/O Ports and Switches	1 x VGA (DB-15) 1 x Line out 1 x HDMI 1 x DisplayPort 1.1 1 x USB 3.2 Gen1 Type-B 1 x 9V-36V DC jack 4 x USB 3.2 Gen1 Type-A * 1 x 3-pin terminal block				
OSD Keypad	5-key membrane OSD keypad				
Camera	Standard configuration*				
Speaker	2 x 2W AMP (internal speaker)*				
Construction Material	Aluminum front frame and sheet metal rear cover				
Mounting	Panel mount, rack mount, VESA 100				
Enclosure Color	Black				
Dimensions (LxWxH) (mm)	326.60 x 160.60 x 49.4	333.04 x 215.88 x 51.41	353.80 x 287.08 x 50.30	391.50 x 250 x 49.6	385.60 x 331.60 x 50.50
Cutout Dimensions (mm)	310.80 x 141.00	314.34 x193.55	335.60 x 264.88	373.30 x 269	367.40 x 309.60
Operating Temperature	-20°C ~ 60°C (with air flow)				
Storage Temperature	-20°C ~ 70°C				
Humidity	10% to 95%@40°C (non-condensing) (50%@60°C)				
Vibration	MIL-STD-810F 514.5C-1				
Shock	Operating:Half-sine wave shock 5G; 11ms; 100 shocks per axis Non-operating:Half-sine wave shock 15G; 11ms; 100 shocks per axis				
IP Level	IP 65 compliant front panel				
Safety & EMC	CE/FCC/UKCA Class B				
Power Input	9~36V DC				
Power Cord	EU				

*L (Lite) sku without camera, speaker and four USB Type-A

NextGen Industrial Monitors

LCD Size	19”	18.5”	21.5”	23.8”
Model	**DM2-190H(L)**	**DM2-W185K(L)**	**DM2-W215K(L)**	**DM2-W238K(L)**
Brightness (cd/m²)	450	350	350	350
Max Resolution (WxH)	1280 x 1024 (5:4)	1920 x 1080 (16:9)	1920 x 1080 (16:9)	1920 x 1080 (16:9)
Contrast Ratio	1000 : 1	1000 : 1	1000 : 1	1000 : 1
LCD Color	16.7M	16.7M	16.7M	16.7M
Viewing Angle (H-V)	178°/178°	170°/170°	178°/178°	178°/178°
Backlight MTBF (hrs)	50,000 hours	50,000 hours	50,000 hours	30,000 hours
Touch Screen	10-point projected capacitive touch window (anti-UV, anti-glare surface)			
Touch Controller	Capacitive: LiTek			
I/O Ports and Switches	1 x VGA (DB-15) 1 x Line out 1 x HDMI 1 x DisplayPort 1.1 1 x USB 3.2 Gen1 Type-B 1 x 9V-36V DC jack 4 x USB 3.2 Gen1 Type-A * 1 x 3-pin terminal block	1 x VGA (DB-15) 1 x Line out 1 x HDMI 1 x DisplayPort 1.1 1 x USB 3.2 Gen1 Type-B 1 x 9V-36V DC jack 4 x USB 3.2 Gen1 Type-A * 1 x 3-pin terminal block	1 x VGA (DB-15) 1 x Line out 1 x HDMI 1 x DisplayPort 1.1 1 x USB 3.2 Gen1 Type-B 1 x 9V-36V DC jack 4 x USB 3.2 Gen1 Type-A * 1 x 3-pin terminal block	1 x VGA (DB-15) 1 x Line out 1 x HDMI 1 x DisplayPort 1.1 1 x USB 3.2 Gen1 Type-B 1 x 9V-36V DC jack 4 x USB 3.2 Gen1 Type-A * 1 x 3-pin terminal block
OSD Keypad	5-key membrane OSD keypad			
Camera	Standard configuration*			
Speaker	2 x 2W AMP (internal speaker)*			
Construction Material	Aluminum front frame and sheet metal rear cover			
Mounting	Panel mount, rack mount, VESA 100			
Enclosure Color	Black			
Dimensions (LxWxH) (mm)	424.50 x 361.57 x 51.2	458.40 x 288.80 x 50.50	519.40 x 327.00 x 50.50	571.40 x 354.50 x 51.20
Cutout Dimensions (mm)	406.30 x 337.57	438.20 x 262.80	501 x 302	553.20 x 332.50
Operating Temperature	-20°C ~ 60°C (with air flow)	-20°C ~ 60°C (with air flow)	0°C ~ 50°C (with air flow)	0°C ~ 50°C (with air flow)
Storage Temperature	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 60°C	-20°C ~ 60°C
Humidity	10% to 95%@40°C (non-condensing) (50%@60°C)			
Vibration	MIL-STD-810F 514.5C-1			
Shock	Operating:Half-sine wave shock 5G; 11ms; 100 shocks per axis Non-operating:Half-sine wave shock 15G; 11ms; 100 shocks per axis	Operating:Half-sine wave shock 5G; 11ms; 100 shocks per axis Non-operating:Half-sine wave shock 10G; 11ms; 100 shocks per axis	Operating:Half-sine wave shock 5G; 11ms; 100 shocks per axis Non-operating:Half-sine wave shock 15G; 11ms; 100 shocks per axis	Operating:Half-sine wave shock 5G; 11ms; 100 shocks per axis Non-operating:Half-sine wave shock 10G; 11ms; 100 shocks per axis
IP Level	IP 65 compliant front panel			
Safety & EMC	CE/FCC/UKCA Class B			
Power Input	9~36V DC			
Power Cord	EU			

*L (Lite) sku without camera, speaker and four USB Type-A

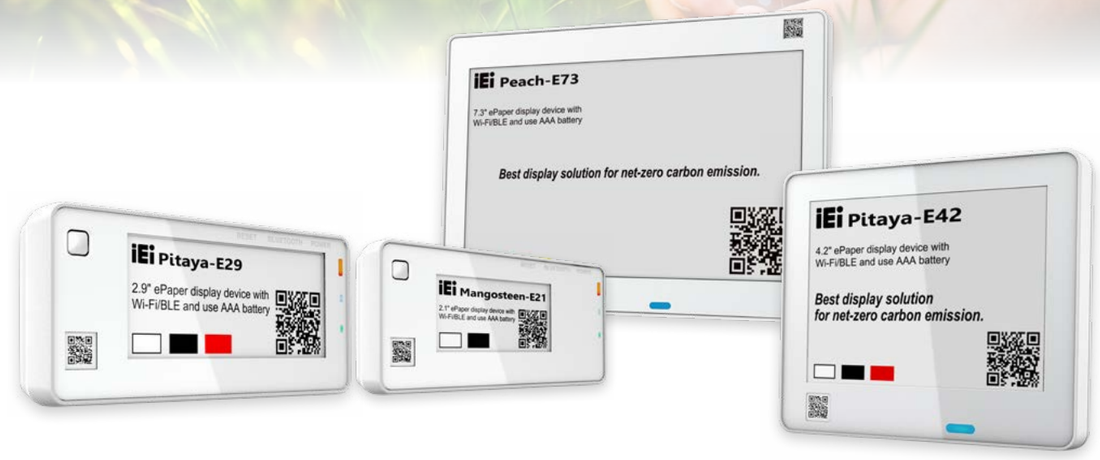
Industrial Monitors

LCD Size		8”	12.1"	15"	15.6”
Model		DM-F08A	DM-F12A	DM-F15A	DM-FW15A
Display	Max. Resolution	800 x 600 (4:3)	1024 x 768 (4:3)	1024 x 768 (4:3)	1366 x768 (16:9)
	Brightness (cd/m²)	500	600	500	400
	Contrast Ratio	500:1	700 : 1	800 : 1	500:1
	LCD Color	262K	16.2M	16.2M	16.2M
	Pixel Pitch (mm)	0.0675 x 0.2025	0.24 x 0.24	0.29 x 0.29	0.252 x 0.252
	Viewing Angle (H-V)	140°/120°	160° /140°	160° / 150°	170° / 160°
	Backlight MTBF (Hrs)	50,000 hours	50,000 hours	70,000 hours	50,000 hours
Touchscreen & Controller		5-wire resistive single touch window/ Penmount 6000	5-wire resistive single touch window/ Penmount 6000 (Anti-glare Surface) 10-point Projected capacitive touch window, 6H/EETI EXC3188 (Anti-UV, Anti-glare Surface)		
I/O Ports		1 x VGA (DB-15) 1 x DVI 1 x USB 2.0 (touch) 1 x RS-232 (reserved for resistive touch ATO) 1 x Lockable 12V DC jack	1 x VGA (DB-15) 1 x HDMI 1 x DisplayPort 1.1 1 x USB 2.0 (touch) 1 x RS-232 (reserved for resistive touch ATO) 1 x Lockable 9V-36V DC jack 1 x 9V-36V terminal block		
OSD	OSD Button	5-key membrane OSD keypad	7-key membrane OSD keypad		
	Smart OSD Software	Smart OSD Software			
Physical	Construction Material	Aluminum front frame and sheet metal rear cover			
	Mounting	Panel Mount/ Rack Mount 75 x 75 VESA Mount	Panel Mount/ Rack Mount 100 x 100 VESA Mount		
	Enclosure Color	Black C			
	Dimensions (mm)	222.2 x 182.2 x 42.7	262.2 x 322.2 x 40.5	303 x 378.5 x 43.2	400.1 x 253.3 x 52.9
	Cutout Dimensions (mm)	206 x 154	244.8 x 304.8	285.6 x 361.1	379.1 x 232.3
	Weight (kg) Net/ Gross	1.33 / 4.5	2.7 / 4.9	3.5 / 5.5	4 / 6.5
Environment	Operating Temperature (with air flow)	-20°C ~ 60°C (with air flow)			
	Storage Temperature	-20°C ~ 70°C			
	Humidity	10% to 95% (non-condensing)			
	IP Level	IP 65 compliant front panel			
	Safety and EMC	CE & FCC certified			
Power Input		12V DC	9V~36V DC		
Power consumption		12V @ 0.5A	9V @ 2.2A 36V @ 0.5A	9V @ 1.6A 36V @ 0.4A	9V @ 1.3 36V @ 0.33

Industrial Monitors

Industrial Monitors

LCD Size		17"	18.5”	19”	21.5"	23.8"
Model		DM-F17A	DM-FW19A	DM-F19A	DM-F22A	DM-F24A
Display	Max. Resolution	1280 x 1024 (5:4)	1366 x 768 (16:9)	1280x 1024 (5:4)	1920x 1080 (16:9)	1920x 1080 (16:9)
	Brightness (cd/m²)	350	400	350	250	250
	Contrast Ratio	1000 : 1	1000 : 1	1000 : 1	1000 : 1	3000 : 1
	LCD Color	16.7M				
	Pixel Pitch (mm)	0.26 x 0.26	0.3 x 0.3	0.294 x 0.294	0.25 x 0.25	0.28 x 0.28
	Viewing Angle (H-V)	170° / 160°			170° / 160°	178° / 178°
	Backlight MTBF (Hrs)	50000			30000	30000
Touchscreen & Controller		5-wire resistive single touch window, 3H/Penmount 6000 (Anti-glare Surface) 10-point Projected capacitive touch window, 6H/EETI EXC3188 (Anti-UV, Anti-glare Surface)			10-point Projected capacitive touch window, 6H/EETI EXC3188 (Anti-UV, Anti-glare Surface)	
I/O Ports		1 x VGA (DB-15) 1 x DVI (F19A only) 1 x HDMI (F17A & FW19A only) 1 x DisplayPort 1.1 1 x USB 2.0 (touch) 1 x RS-232 (reserved for resistive touch ATO) 1 x Lockable 9V-36V DC jack 1 x 9V-36V terminal block			1 x VGA (DB-15) 1 x HDMI 1 x DisplayPort 1.1 1 x USB 2.0 (touch) 1 x RS-232 (reserved for resistive touch ATO) 1 x Lockable 9V-36V DC jack 1 x 9V-36V terminal block	
OSD	OSD Button	7-key membrane OSD keypad				
	Smart OSD Software	Smart OSD Software				
Physical	Construction Material	Aluminum front frame and sheet metal rear cover				
	Mounting	Panel Mount/ Rack Mount 100 x 100 VESA Mount			Panel Mount 100 x 100 VESA Mount	Panel Mount 100 x 100 VESA Mount
	Enclosure Color	Black C				
	Dimensions (mm)	341.4 x 408.4 x 49.3	468.8 x 288.2 x 48.9	372.4 x 447.4 x 49.57	358.4 x 550.4 x 49.1	382 x 600 x 49.4
	Cutout Dimensions (mm)	324 x 391	447.8 x 267.2	430 x 355	340 x 532	358.6 x 576.6
	Weight (kg) Net/Gross	4.4 / 7.1	5 / 8.1	5.4 /8.4	6.3 / 9.6	7.6 / 10.9
Environment	Operating Temperature (with air flow)	-20°C ~ 60°C (with air flow)			-10°C ~ 50°C	-10°C ~ 50°C
	Storage Temperature	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 70°C	-20°C ~ 60°C	-20°C ~ 60°C
	Humidity	10% to 95% (non-condensing)				
	IP Level	IP 65 compliant front panel				
	Safety and EMC	CE & FCC certified				
Power input		9V~36V DC				
Power consumption		9V @ 2.6A 36V @ 0.6A	9V @ 1.33A 36V @ 0.35A	9V @ 3.3A 36V @ 0.8A	9V @ 2.5A 36V @ 0.6A	9V @ 3.4A 36V @ 0.8A



Applications system

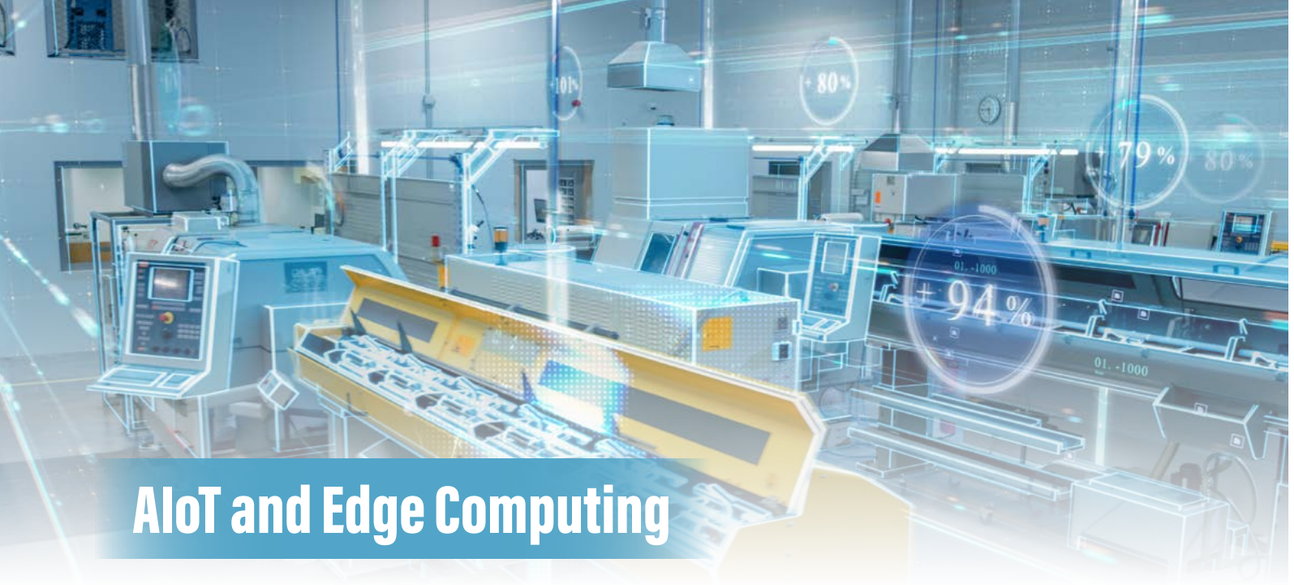
IEI's Low Carbon Emission Display Solution is a sustainable and cost-effective way to reduce carbon emissions. This innovative management system enables companies to save on printing paper materials and energy costs, resulting in a lower carbon footprint. Unlike traditional LCD displays and paper, this next-generation solution uses an energy-efficient low carbon emission display that is both eco-friendly and visually stunning. By combining a low-cost ePaper panel with an energy-efficient controller board, IEI solution achieves exceptional image quality while consuming significantly less power.

IEI ditherPrint Standalone Application Software

Low Carbon Emission Display Solution

Products	Peach-E73	Pitaya-E42	Pitaya-E29	Pitaya-E21
Active Area	7.3"	4.2"	2.9"	2.13"
Resolution	800 x 480	400 x 300	128 x 296	122 x 250
Wireless	Wi-Fi / BLE	Wi-Fi / BLE	Wi-Fi / BLE	Wi-Fi / BLE
Connector	USB Type-C	USB Type-C	NA	NA
LED	2 colors	2 colors	3 colors	3 colors
Keys	Power / BLE / Reset	Power / BLE / Reset	Power / BLE / Reset / Programmable x1	Power / BLE / Reset / Programmable x1
Battery	AAAx6	AAAx6	AAAx2	AAAx2
EPD Colors	BWRY	BWR	BWR	BWR
Image Update Time (25°C typ)	14 sec	14 sec	14 sec	14 sec
Best Optic Temperature Range	15°C ~ 35°C	15°C ~ 35°C	15°C ~ 35°C	15°C ~ 35°C
Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C

Products	Mangosteen-E29	Mangosteen-E21
Active Area	2.9"	2.13"
Resolution	128 x 296	122 x 250
Wireless	Wi-Fi / BLE	Wi-Fi / BLE
Connector	NA	NA
LED	3 colors	3 colors
Keys	Power / BLE / Reset / Programmable x1	Power / BLE / Reset / Programmable x1
Battery	AAAx2	AAAx2
EPD Colors	BW	BW
Image Update Time (25°C typ)	2 sec	2 sec
Best Optic Temperature Range	0°C ~ 50°C	0°C ~ 50°C
Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C

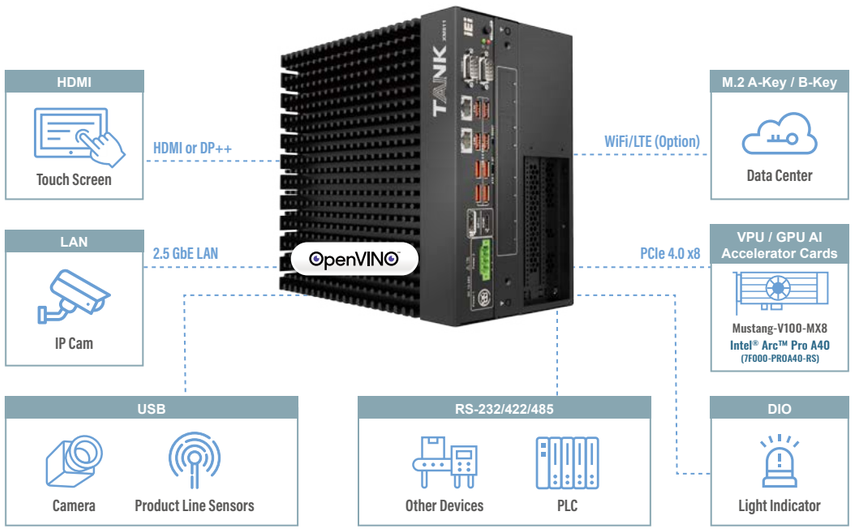


AIoT and Edge Computing

The new series of AIoT developer kit - TANK-XM811AI-RPL AIoT Developer Kit is equipped with the 13th & 14th generation Intel® Core™ processor and the Intel® R680E chipset. This new processor uses Intel® 7 process technology and offers up to 24 cores with 32 threads with Intel® Hybrid Technology for outstanding multi-threaded performance. The TANK-XM811AI-RPL AIoT Developer Kit delivers low latency, high network, and data transmission speed with the support of PCI Express 4.0 for double throughput, and provides optional Wi-Fi 6E capability. It has rich I/O design, including dual independent 4K display ports (HDMI and DP++), six COM ports, eight USB 3.2 Gen 2 ports, two 2.5GbE LAN ports, and also two PCIe x8 slots. Furthermore, it allows for extra I/O expansion cards, such as PoE LAN, M.2 A-Key or B-key to support various applications at edge AI.

Additionally, the TANK-XM811AI-RPL AIoT Developer Kit is integrated with Intel® Iris® Xe graphics, which offers greater GPU computing performance and speed for users. Powered by Intel® Distribution of OpenVINO™ Toolkit and Intel® Arc® Graphics Card to improve AI performance, you can enjoy next-gen AI applications in automating business, inference computing, and data analysis.

Exploring Vision AI with TANK-XM811AI-RPL AIoT Developer Kit



AIoT Dev. Kit

NEW

Model		TANK-XM811 AIoT_RPL Refresh	TANK-XM811 AIoT_RPL
Form Factor	Color	Black	
	Dimension (W x D x H)	137.9 x 255.4 x 230.6 mm	
	Fan/Fanless	Fan	
	Chassis Construction	Extruded aluminum alloys	
Motherboard	CPU	Intel® Core™ i9-14900T 1.1GHz (up to 5.1GHz, 24-Core (8P+16E), TDP 35W) Intel® Core™ i7-14700T 1.3GHz (up to 5.0GHz, 16-Core (8P+12E), TDP 35W)	Intel® Core™ i9-13900TE 1.0GHz (up to 5.0GHz, 24-Core (8P+16E), TDP 35W) Intel® Core™ i7-13700TE 1.1GHz (up to 4.8GHz, 16-Core (8P+8E), TDP 35W)
	Chipset	Intel® R680E	
	System Memory	2 x SO-DIMM DDR4 3200MHz (2 x 16GB non-ECC Pre-installed, up to 64GB, support ECC SKU)	
Storage	Hard Drive	13th (RPL): 1 x 2.5" HDD/SSD bay (256GB SSD pre-installed) 14th (RPL Refresh): 1 x 2.5" HDD/SSD bay (512GB SSD pre-installed)	
I/O Interfaces	Ethernet	2 x RJ45: 1 x Intel I226LM 2.5GbE 1 x Intel I226-V 2.5GbE (Note: I225-LM/-V 2.5GbE on previous motherboard version)	
	USB 3.2 Gen 2 (10Gb/s)	8	
	COM	2 x RS-232/422/485 4 x RS-232	
	Digital I/O	12-bit (6-in/6-out)	
	Display	1 x DP++ (up to 4096 x 2160@60Hz) 1 x HDMI (up to 4096 x 2160@30Hz)	
Expansion Slots	M.2	1 x 2230 A-key (PCIe x1/ USB 2.0 support Intel® vPro) 1 x 2280 M-key (PCIe x4)	
	Backplane	2 x PCIe x8 slot (total power up to 75W, support FHHL card)	
Power	Power Input	DC Jack: 12V ~ 28V DC Terminal Block: 12V ~ 28V DC	
	Remote Power	Terminal Block: 2-Pin	
Reliability	Mounting	Wall mount	
	Operating Temperature	-20°C ~ 60°C with air flow (with SSD), 10% ~ 95%, non-condensing	
	Storage Temperature	-40°C ~ 80°C, 10% ~ 95%, non-condensing	
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (with SSD)	
	Operation Vibration	MIL-STD-810G 514.6C-1 (with SSD)	
	Weight (Net / Gross)	4.6kg / 5.6kg	
	Safety / EMC	CE / FCC	
	Watchdog Timer	Programmable 1 ~ 255 sec/min	
OS	Supported OS	Windows® 10 IoT Enterprise / Linux	

AIoT Dev. Kit

Model		TANK-XM811 AIoT_ADL
Form Factor	Color	Black C
	Dimension (W x D x H)	137.9 x 255.4 x 230.6 mm
	Fan/Fanless	Fan (in expansion chassis)
	Chassis Construction	Extruded aluminum alloys
Motherboard	CPU	Intel® Core™ i5-12500TE 1.9GHz (up to 4.3GHz, 6-Core, TDP 35W)
	Chipset	Intel® R680E
	System Memory	2 x SO-DIMM DDR4 3200MHz (2 x 8GB non-ECC Pre-installed, up to 64GB, support ECC SKU)
Storage	Drive Bays	1 x 2.5” HDD/SSD bay (256GB SSD pre-installed)
I/O Interfaces	Ethernet	2 x RJ45: 1 x Intel® I225LM 2.5GbE 1 x Intel® I225V 2.5GbE
	USB 3.2 Gen 2 (10Gb/s)	8
	COM	2 x RS-232/422/485 4 x RS-232
	Digital I/O	12-bit (6-in/6-out)
	Display	1 x DP++ (up to 4096 x 2160@60Hz) 1 x HDMI (up to 4096 x 2160@30Hz)
Expansion Slots	M.2	1 x 2230 A-key (PCIe Gen3 x1/ USB 2.0 support Intel® vPro) 1 x 2280 M-key (PCIe Gen3 x4)
	Backplane	1 x PCIe Gen4 x16 (PCIe x8 signal) - support dual slot card 1 x PCIe Gen4 x16 (PCIe x8 signal) - Intel Arc Pro A40 pre-installed (Maximum total 75W for add-on card power consumption and support FHHL card)
Power	Power Input	DC Jack: 12V ~ 28V DC Terminal Block: 12V ~ 28V DC
	Remote Power	Terminal Block: 2-pin
Reliability	Mounting	Wall mount
	Operating Temperature	0°C ~ 40°C with air flow (SSD + Discrete Graphics)
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (with SSD + Discrete Graphics)
	Operation Vibration	MIL-STD-810G 514.6C1 (with SSD + Discrete Graphics)
	Weight (Net / Gross)	5.02 kg/ 6.02 kg
	Safety / EMC	CE / FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min
OS	Supported OS	Windows® 10/11 IoT Enterprise / Linux (Ubuntu 22.04 IoT)

Model		RACK-500AI-C246
Form Factor	Color	Navy blue and black
	Dimensions (WxDxH)	440.2 mm x 110.6 mm x 221.3 mm
	System Fan	System fan & CPU fan
	Chassis Construction	Heavy duty metal
Motherboard	CPU	Intel® Xeon® E-2176G CPU (3.70 GHz, 6-core, TDP 80W)
	Chipset	Intel® C246
	System Memory	Four 288-pin 2666MHz dual-channel DDR4 SDRAM unbuffered DIMMs support up to 64GB ECC & non-ECC (2 x 8GB pre-installed)
	Display Output	Dual display supported 1 x HDMI (up to 4096 x 2304@30Hz) 1 x Internal DisplayPort (up to 4096 x 2304@60Hz)
Storage	Hard Drive	1 x Removable 3.5” SATA 6Gb/s drive bay (hot-swappable)
	M.2	1 x 2280 M key (PCIe x4)
I/O Interfaces	Ethernet	LAN1: Intel® I219LM PHY LAN2: Intel® I211-AT PCIe controller (co-lay I210-AT)
	USB 3.2	2 x Internal USB 3.2 Gen1 (2x10 pin)
	USB 2.0	6 (pin header)
	RS-232	3 (pin header)
	RS-422/485	1 (1x4 pin, p=2.0)
	Expansion	1 x PCIe Gen3 x16 slot 1 x PCIe Gen3 x4 slot *To install dual-slot PCIe add-on cards (max. length 338mm), the CPU cooler must be changed (P/N: 19100-000238-00-RS).
Power	Power Input	ATX power (350W)
	PCIe Expansion Card (GPU/ Add-on Cards) Recommendation	Total maximum up to 150W (80W CPU with 16GB memory, 350W ATX power) Total maximum up to 180W (35W CPU with 16GB memory, 350W ATX power)
Reliability	Mounting	Rack mount
	Operating Temperature	-20°C~+50°C
	Storage Temperature	-30°C~+60°C
	Relative Humidity	10% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis
	Operation Vibration	MIL-STD-810G 514.6C-1
	Weight (Net/ Gross)	8 kg/11 kg
	Safety/EMC	CE/FCC
OS	Supported OS	Microsoft Windows 10 / Windows 11, Linux

AIoT Dev. Kit

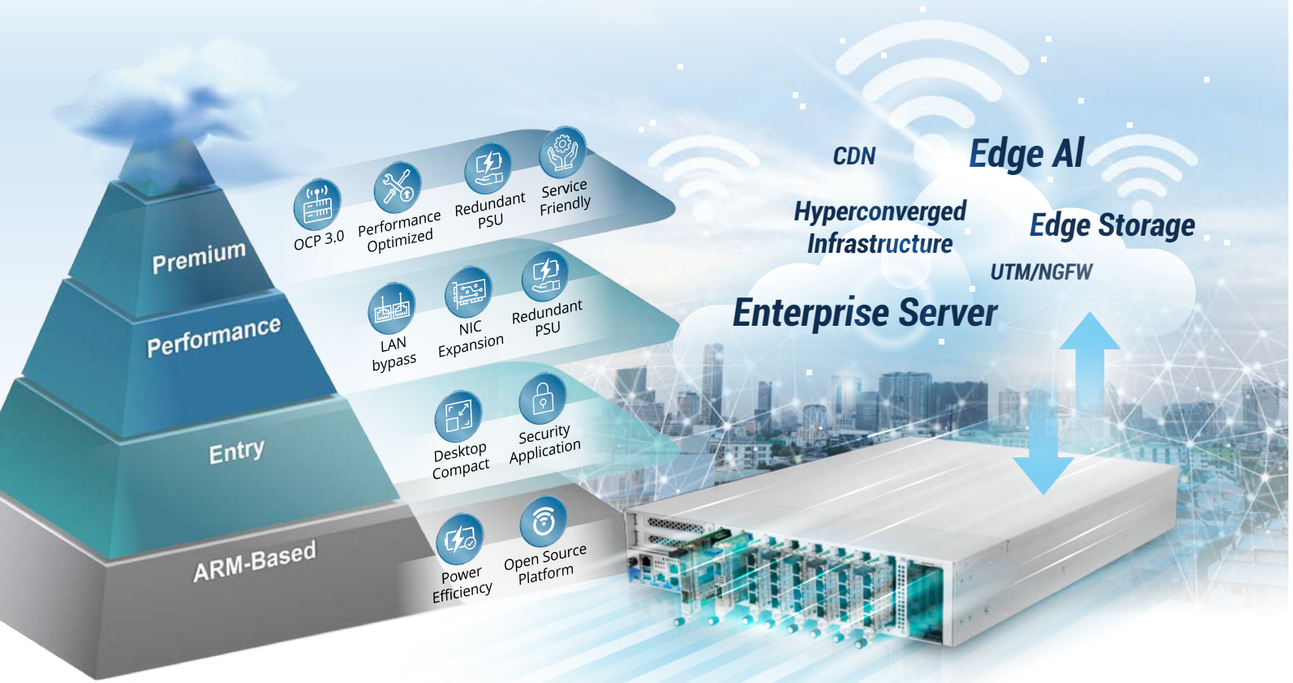
Model		FLEX-BX210AI Series
System	CPU	Intel® Xeon® W-1290TE 1.8GHz (up to 4.5GHz, 10-core, TDP 35W) Intel® 10th Generation Core™ i9-10900TE 1.8GHz (up to 4.5GHz, 10-core, TDP 35W) Intel® 10th Generation Core™ i5-10500TE 2.3GHz (up to 3.7GHz, 6-core, TDP 35W)
	Chipset	Intel® 400 Series Chipsets (Comet Lake)
	Memory	2 x 288-pin 2933/2666 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB Xeon W with 32GB RAM pre-installed Core i9 with 16GB RAM pre-installed Core i5 with 8GB RAM pre-installed
	Graphics Engine	Intel® HD Graphics Gen 9.5 Engines with Low power 16 execution unit, supports DX2015, OpenGL 5.X and OpenCL2.x, ES 2.0
	Ethernet	LAN1: Intel® I219LM with Intel® AMT 11.0 supported LAN2/LAN3: Intel® I210 PCIe controller
Storage	Storage	4 x Accessible 2.5” HDD/SSD SATA 6Gb/s bay with LED indicator (with RAID 0/1/5/10 support); pre-installed one 2.5” 1TB HDD 1 x NGFF M.2 (2280) M key socket (supports NVMe SSD)
Wireless Communication	WLAN	Intel® AC 9260 802.11ac, 2.5/5GHz, 2T/2R (by M.2 2230)
	Bluetooth	Bluetooth V5.1
	WWAN and GNSS	M.2 3042 LTE (optional)
I/O Ports and Switches	I/O Ports and Switches	1 x DisplayPort output 1 x HDMI output 3 x GbE LAN (1x I219 support vPro, 2x I210) 6 x USB 3.2 Gen1 Type-A 2 x RS-232 DB-9 1 x Mic in 1 x Line out 1 x AC inlet 4 x SMA Power button with power LED (power on=Blue) AT/ATX mode switch Reset button
	TPM	TPM 2.0 (pre-installed)
Expansion Slots	Expansion Slots	2 x PCIe Gen3 x8 2 x PCIe Gen3 x4 1 x M.2 B-key 2242 socket (with SIM slot for 3G/LTE, supports PCIe Gen3 x1 & USB 3.2 Gen1) 1 x M.2 M-Key 2280 socket (supports PCIe Gen3 x4)
Thermal Solution	Thermal Solution	3 x System fan, 1 x CPU cooler
Power Supply	Power Supply	AC input ATX power supply - 350W Power supply - Input: 90VAC~264VAC, 50/60Hz - Output (max.): 3.3V@14A, 5V@16A, 12V@29A, -12V@0.3A
Watchdog Timer	Watchdog Timer	Software programmable support 1~255 sec. system reset
Construction	Chassis Construction	Metal housing
	Mounting	Wall/Rack mount
	Color	Black
	Dimensions (LxDxH) (mm)	357 x 230 x 88
	Net Weight	4 kgs
Environmental	Operating Temperature	-10°C ~ 50°C
	Storage Temperature	-20°C ~ 60°C
	Operating Humidity	5% ~95%, non-condensing
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak
	Shock	10G acceleration part to part (11ms)
	Safety/EMC	CE/FCC/RoHS

Model		DRPC-240-TGL TSN/TCC
Form Factor	Dimensions	190 x 150 x 81 mm (DRPC-240AI-i5RCS-R10) 190 x 150 x 126 mm (DRPC-240AI-i5RC-R10)
	System Fan	Fanless (DRPC-240AI-i5RCS-R10) Fan (DRPC-240AI-i5RC-R10)
Motherboard	CPU	Intel® Core™ i5-1145GRE Processor 1.50GHz (up to 4.10GHz, quad core, TDP 12W to 28W)
	Chipset	SoC
	System Memory	2 x SO-DIMM DDR4 3200MHz (8GB pre-installed, up to 64GB)
Storage	Hard Drive	1 x 2.5” SATA 6Gb/s HDD/SSD bay (256GB SSD pre-installed)
I/O Interfaces	USB	2 x USB 3.2 Gen 2 2 x USB 2.0
	Ethernet	1 x RJ-45 PCIe 2.5 GbE via Intel® I225LM 3 x RJ-45 PCIe 2.5 GbE via Intel® I225V (colay i225LM) (Optional PoE at power board)
	COM	2 x RS-232 (DB9 with 2.5KV isolation, 1 reserved for TGPIO and console port) 2 x DB9 RS-422/485 with AFC (DB9 with 2.5KV isolation)
	DIO	1 x 12-bit digital I/O (6-in/6-out) (pin header)
	Display	1 x Lockable HDMI (up to 3840 x 2160 @ 30Hz) 1 x DP++ (up to 4096 x 2160 @ 60Hz)
	TPM 2.0	Supports Intel® Platform Trust Technology (Intel® PTT)
Expansion Slots	M.2	1 x 2230 A-key (PCIe x1 / USB 2.0) 1 x 3042/52/80 B-key (PCIe x2 / USB 2.0) with SIM slot
	Backplane	1 x PCIe Gen3 x4 (DRPC-240AI-i5RC only)
Others	Indicator	2 x LED (HDD, Power)
	Button	1 x Power button 1 x Reset button 1 x AT/ATX switch 1 x Remote power connector
Power	Power Input	3-pin terminal block: 12 ~ 28 VDC
	Remote Power	2-pin terminal block
Reliability	Mounting	DIN-Rail
	Operating Temperature	-20°C ~ 60°C with air flow (with SSD)
	Storage Temperature	-40°C ~ 85°C
	Humidity	10% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (with SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)
	Weight	1.5kg / 2.9kg (DRPC-240AI-i5RCS-R10) 1.9kg / 3.3kg (DRPC-240AI-i5RC-R10)
	Safety/EMC	CE/ FCC
OS	Supported OS	Windows 10, Linux

Network Appliances

As technology evolves, so do cybersecurity trends, with data breaches, ransomware attacks, and hacks becoming increasingly commonplace. AI plays a crucial role in enhancing network security by analyzing data to identify threats, automating tasks, and providing real-time insights into global threats, thus strengthening defenses.

Our network appliance solutions, the IEI PUZZLE series, support digital transformation across various industries and environments, playing a key role in SD-WAN deployment, network security, edge computing, and data center operations. Our range includes versatile platforms, from budget-friendly, compact tabletop solutions to high-performance 1U rackmount servers and scalable 2U systems, meeting the needs of businesses and service providers of all sizes, and supporting critical applications from data center operations to edge computing.



Alliance Partners

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Premium Network Appliances

Model		PUZZLE-9040	PUZZLE-9030	PUZZLE-7050
Platform	Form Factor	2U	1U	1U rackmount
	CPU	2 x 4th Gen Intel® Xeon® Scalable processors (Code Name: Sapphire Rapids) Supporting TDP 350W	2 x AMD EPYC™ Milan Series	1 x 4th Gen AMD EPYC™ 8004 Series Processor
	Chipset	Intel® C741	Integrated in CPU	Integrated in CPU
Memory	Memory Technology	16 x DDR5 4800MHz ECC RDIMM Slot	16 x DDR4 4800 MHz ECC RDIMM Slot	12 x DDR5 up to 4800MHz ECC RDIMM Slots (6 channels)
	Memory Capacity	Based on DIMM capacity	Based on DIMM capacity	Based on DIMM capacity
	Memory Socket	16 x 288-pin DDR5 DIMM	16 x 288-pin DDR4 DIMM	12 x 288-pin DDR5 DIMM
Network and Security	Network Acceleration and Security Function	Next-gen Intel® Quick Assist Technology, DLB, AMX/TMUL, DSA, 5G ISA, BFloat16 SGX with Integrity, MKTME - 128 Keys, Platform Firmware Resilience (PFR) with Peripheral Device Attestation Hardware Enforced Execution Controls: Hypervisor-Managed Linear Address Translation (HLAT), Control Flow Enforcement Technology (CET), VM Denial of Service Prevention	N/A	N/A
	TPM	1 x TPM 2.0 pin header	1 x TPM 2.0 pin header	1 x TPM 2.0 pin header
BMC	BMC Solution	1 x M.2 Socket B Key support IEI iRIS2 BMC module, 1 x 1GbE RJ45 for BMC port	1 x AST2620	1 x M.2 Socket B Key support IEI iRIS2 BMC module, 1 x 1GbE RJ45 for BMC port (Optional)
Networking	Ethernet IC	Intel 10G Dual Port X710 Intel 1G Dual Port I350	Intel I210	2 x Intel 1G I210-AT
	Ethernet Port	2 x GbE RJ45 ports 1 x GbE RJ45 LOM/BMC port 2 x 10GbE SFP+	1 x GbE RJ45	2 x GbE RJ45 ports 1 x GbE RJ45 BMC port
	Network Module Slot	Support up to 8 x Standard OCP 3.0 Network Module	Support up to 4 x OCP 3.0 PulM Network Module (PulM-100G2SF-CX6)	Support up to 2 x Standard OCP 3.0 Network Module
Expansion Slot	PCIe Slot	1 x PCIe x16 FHFL	1x PCIe x16 FHHL	1 x PCIe x16 FHFL
	M.2	N/A	N/A	1 x B key for BMC module (support IEI iRIS2 BMC module)
Storage	Storage	2 x External 2.5" removable trays (Supports 2.5" U.2 PCIe x4 NVMe) 1 x 2280 M-Key (PCIe Gen4 x4)	2 x U.2 (PCIe Gen4 x4) 2.5" NVMe SSD or 2 x SATA 3.0 3.5" HDD 2 x M.2 M key 2280 (PCIe Gen4 x4)	2 x External 2.5" removable trays (Supports 2.5" U.2 PCIe x4 NVMe) 2 x M.2 2280 M-Key (PCIe Gen4 x4)
	USB	2 x USB 3.0 Type-A	2 x USB 3.1 Type A	2 x USB 3.0 Type-A
	Console	1x USB Type C and 1x RJ45 auto-switching console port	1 x RJ45	1 x USB Type C 1 x RJ45 auto-switching console port
Power and Mechanical	Power Switch	Rear: 1 x Power button	N/A	Rear: 1 x Power button
	Reset Button	Front: 1 x Reset button	1 x Reset button	Front: 1 x Reset button
	Power Input	90 V ~ 264 V	90~264V AC	90 V ~ 264 V
	Type/Watt	2000W CRPS redundant power	1300W redundant power	Dual CRPS redundant power
	Processor Cooling	2 x Passive CPU Heatsinks	2 x CPU Heatsinks	1 x Passive CPU Heatsink
	System Cooling	4 x System fans	6 x Individual hot-swappable cooling fans	3 x System fans, 1 x fan reserved
	Antenna Hole	N/A	N/A	N/A
Physical and Environmental	Storage Temperature	-10°C ~ 50°C	-10°C ~ 50°C	-10°C ~ 50°C
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	5% ~ 90% non-condensing	5% ~ 90% non-condensing	5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	438 x 623 x 88.5	438 x 670 x 44.2	430 x 521 x 44.2
	Weight	< 25 kg	12.1 kg	< 10 kg
Certifications	Certification	By customer request	By customer request	By customer request
	Supported Operating System	Ubuntu, Linux based OS	Ubuntu, Linux based OS	Ubuntu, Linux based OS
Indicators	LCM	N/A	N/A	Optional
	LED	1 x Power LED, 1 x HDD Activity LED, 1 x Alert LED, 1 x PSU LED, 1 x Location LED 2 x PSU LED, 1 x Location LED	1 x Power LED 1 x Status LED 1 x Alert LED	1 x Power LED, 1 x Alert LED, 1 x Storage LED,1 x Location LED, 2 x PSU LED

Premium Network Appliances

		PUZZLE-7030A	PUZZLE-IN005	PUZZLE-IN004
Platform	Form Factor	1U	2U	1U
	CPU	Intel® Xeon® D-1700 Processor series	Intel® Ice-Lake LGA-4189 Xeon® Scalable Processor	Intel® Xeon® D-2145NT processor 8-core, 11M cache 1.90 GHz Intel® Xeon® D-2146NT processor 8-core, 11M cache, 2.30 GHz Intel® Xeon® D-2177NT Processor 14-core, 19.25M Cache, 1.90 GHz Intel® Xeon® D-2187NT processor 16-core, 22M cache, 2.00 GHz
	Chipset	Integrated in CPU	Intel® C627A	Integrated in CPU
Memory	Memory Technology	4 x DDR4 2400/2933 MHz ECC UDIMM/ RDIMM	DDR4 3200 MHz ECC RDIMM / LRDIMM	DDR4 2133/2400 MHz ECC RDIMM/LRDIMM
	Memory Capacity	Based on DIMM capacity	Up to 1280GB (20 x 64GB)	RDIMM up to 256 GB LRDIMM up to 512 GB
	Memory Socket	4 x 288-pin DDR4 DIMM slots	20 x 288-pin DIMM	8 x 288-pin DIMM
Network and Security	Network Acceleration and Security Function	• Intel® AES New Instructions • Intel® Software Guard Extensions (Intel® SGX) • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Trusted Execution Technology	• Intel® AES New Instructions • Intel® QuickAssist Technology (Intel® QAT) • Intel® Virtualization Technology (Intel® VT) • Intel® Trusted Execution Technology (Intel® TXT)	• Intel® AES New Instructions • Intel® Software Guard Extensions (Intel® SGX) • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Trusted Execution Technology
	TPM	1 x TPM 2.0 pin header	1 x TPM 2.0 pin header	1 x TPM 2.0 pin header
BMC	BMC Solution	1 x M.2 Socket B Key support IEI iRIS2 BMC module, 1 x 1GbE RJ45 for BMC port	1 x iRIS-2600 module	N/A
Networking	Ethernet IC	Intel® I226V 2.5GbE	1GbE NIC: Intel® I210-AT with NCSI support 1GbE NIC: Intel® I219	1GbE NIC: Intel® I211-AT 10 GbE: Intel® X722 integrated in CPU
	Ethernet Port	8 x 2.5 GbE RJ45 LAN ports 5 x 10 GbE SFP+	2 x 1GbE RJ45 ports (1 x BMC LAN)	8 x 1GbE RJ45 LAN ports 4 x 10 GbE SFP+
	Network Module Slot	Support up to 1 x Standard OCP 3.0	8 x IEI PulM network module slots	1 x IEI PulM network module slot
Expansion Slot	PCIe Slot	1 x PCIe Gen4 x 8 or 2 x PCIe Gen4 x 4	1 x PCIe Gen4 x8 (FHHL) slot (single width)	1 x PCIe Gen3 x8 (FHHL) slot (double width)
	M.2	1 x B key for BMC module (support IEI iRIS2 BMC module)	N/A	N/A
Storage	Storage	2 x 2.5" SSD/HDD Bay: support SATA 3.0 (6 Gbps) 2 x M.2 2280 M-key (PCIe Gen3 x2)	4 x U.2 SSD drive bay support SATA 3.0 (6 Gbps) 2 x M.2 M key 2280 support PCIe Gen3 x4 NVMe	2 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps) 1 x M.2 M key 2260/2280 support PCIe Gen3 x4 NVMe
	USB	2 x USB 3.0	2 x USB 3.2 Gen 1 (5Gb/s) Type-A ports	1 x USB 2.0 1 x USB 3.2 Gen 1
	Console	1 x RJ45 1 x USB Type-C	1 x RJ45 1 x USB Type-C	1 x RJ45
Power and Mechanical	Power Switch	Rear: 1 x Power Button	1 x Power Switch	1 x Power switch
	Reset Button	Front: 1 x Reset Button	1 x Reset Button	1 x Reset button
	Power Input	90 V ~ 264 V	100 V ~ 240 V	100 V ~ 240 V
	Type/Watt	320W redundant power	1200W redundant power 90V~264V AC	300W redundant power
	Processor Cooling	1 x Passive CPU heatsink	2 x Active CPU cooler	1 x Passive CPU heatsink
	System Cooling	4 x System fans	5 x Smart cooling fans	4 x Smart cooling fans
	Antenna Hole	1 x Antenna hole	N/A	1 x Antenna hole
Physical and Environmental	Storage Temperature	-10°C ~ 50°C	-10°C ~ 50°C	-20°C ~ 75°C (-4°F ~ 167°F)
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	5% ~ 90% non-condensing	5% ~ 90% non-condensing	5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	436.2 x 454.3 x 44.2	438 x 650 x 88	430 x 426 x 44.2
	Weight	8 kg	23 kg	7 kg
Certifications	Certification	By customer request	CE / FCC / RoHS	CE / FCC / RoHS
	Supported Operating System	Ubuntu, Linux based OS	Linux 18.04 (CentOS, Red Hat, Ubuntu, etc.) Windows Server 2019	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10
Indicators	LCM	LCM, 2 buttons	N/A	LCM, 2 buttons
	LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED

Performance Network Appliances

		PUZZLE-5060	PUZZLE-5050	PUZZLE-5030
Platform	Form Factor	1U rackmount	1U rackmount	1U
	CPU	AMD Ryzen 7000 & 8000	1 x 13th Gen Intel® Core™ I Processors (Code Name: Raptor Lake)	Intel® Xeon® E Processor (Codename: Rocket Lake)
	Chipset	AMD 600 series	Intel® Q670E	Intel® C256
Memory	Memory Technology	4 x DDR5 4800MHz DIMM slots	4 x DDR5 4800MHz non-ECC UDIMM	DDR4 3200 MHz ECC / non-ECC UDIMM
	Memory Capacity	Based on DIMM capacity	Based on DIMM capacity	Up to 128GB
	Memory Socket	4 x 288-pin DDR5 UDIMM	4 x 288-pin DDR5 UDIMM	4 x 288-pin DIMM
Network and Security	Network Acceleration and Security Function	N/A	N/A	• Intel® AES New Instructions • Intel® Software Guard Extensions (Intel® SGX) • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Virtualization Technology (Intel® VT) • Intel® Virtualization Technology for Directed I/O (VT-d) • Intel® Trusted Execution Technology • Functionality depends on the CPU used.
	TPM	1 x TPM 2.0 pin header	1 x TPM 2.0 pin header	1 x TPM 2.0 pin header
BMC	BMC Solution	1 x M.2 Socket B Key support IEI iRIS2 BMC module 1 x 1GbE RJ45 for BMC port	1 x M.2 Socket B Key support IEI iRIS2 BMC module 1 x 1GbE RJ45 for BMC port	N/A
Networking	Ethernet IC	Intel® I210	Intel® I210-AT	Intel® I225V
	Ethernet Port	8 x 1 GbE RJ45 ports	10 x 1 GbE RJ45 ports	8 x 2.5 GbE RJ45 LAN ports, 2-pair bypass, Port 1 support WOL
	Network Module Slot	2 x IEI PulM network module slots	2 x IEI PulM network module slots	2 x IEI PulM network module slots
Expansion Slot	PCIe Slot	N/A	N/A	1x Standard PCIe Slot: PCIe Gen4 x8 (FHHL) 1x Standard PCIe Slot: PCIe Gen4 x4 (FHHL)
	M.2	1 x B key for BMC module (support IEI iRIS2 BMC module)	1 x B key for BMC module (support IEI iRIS2 BMC module)	1 x M.2: M key 2260/2280 support PCIe Gen4 x2 or SATA 6Gb/s
Storage	Storage	2 x U.2 2.5" NVMe SSD	2 x U.2 SATA SSD	2 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps)
	USB	2 x USB 3.0 Type-A	2 x USB 3.0 Type-A	2 x USB 3.0
	Console	1 x RJ45 console port	1 x RJ45 console port	1 x RJ45
Power and Mechanical	Power Switch	Rear: 1 x Power button	Rear: 1 x Power button	1 x Power switch
	Reset Button	Front: 1 x Reset button	Front: 1 x Reset button	1 x Reset button
	Power Input	100 V ~ 240 V	100 V ~ 240 V	100 V ~ 240 V
	Type/Watt	Dual CRPS redundant power	Dual CRPS redundant power	300W AC redundant PSU
	Processor Cooling	1 x Passive CPU Heatsink	1 x Passive CPU Heatsink	1 x Passive CPU Heatsink
	System Cooling	4 x System fans	4 x System fans	3 x Smart cooling fans 1 x System fan
	Antenna Hole	N/A	N/A	1 x Antenna hole (reserved)
Physical and Environmental	Storage Temperature	-10°C ~ 50°C	-10°C ~ 50°C	-10°C ~ 50°C
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	5% ~ 90% non-condensing	5% ~ 90% non-condensing	5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	430 x 414.2 x 44.2	430 x 414.2 x 44.2	430 x 426 x 44.2
	Weight	<10 kg	6.3 kg	10 kg
Certifications	Certification	By customer request	By customer request	CE/FCC/RoHS
	Supported Operating System	Ubuntu Linux	Ubuntu Linux	Support Linux (CentOS, Ubuntu, etc.)
Indicators	LCM	N/A	N/A	16 x 2 character with 2 control buttons
	LED	1 x System LED, 1 x Storage LED	1 x System LED, 1 x Storage LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED

Performance Network Appliances

		PUZZLE-IN002	PUZZLE-IN001	PUZZLE-IN001A
Platform	Form Factor	1U	1U	1U
	CPU	8th Generation Intel® Core™ i3-8100T processor, 4C/4T, up to 3.10 GHz Intel® Pentium® Gold G5400T processor, 2C/4T, up to 3.10 GHz	Intel® Xeon® E-2136 processor, 6C/12T, up to 4.50 GHz 8th Generation Intel® Core™ i3-8100T processor, 4C/4T, up to 3.10 GHz	Intel® Xeon® E-2136 processor, 6C/12T, up to 4.50 GHz 8th Generation Intel® Core™ i3-8100T processor, 4C/4T, up to 3.10 GHz
	Chipset	Intel® H310	Intel® C246	Intel® C246
Memory	Memory Technology	2 x DDR4 2400 MHz Non-ECC UDIMM	2 x DDR4 2400 MHz ECC/Non-ECC UDIMM	4 x DDR4 2400 MHz ECC/Non-ECC UDIMM
	Memory Capacity	Up to 32GB	Up to 32GB	Up to 64GB
	Memory Socket	2 x 288-pin DIMM	2 x 288-pin DIMM	4 x 288-pin DIMM
Network and Security	Network Acceleration and Security Function	• Intel® AES New Instructions • Intel® Software Guard Extensions (Intel® SGX) • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Trusted Execution Technology	• Intel® AES New Instructions • Intel® Software Guard Extensions (Intel® SGX) • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Trusted Execution Technology	• Intel® AES New Instructions • Intel® Software Guard Extensions (Intel® SGX) • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Trusted Execution Technology
	TPM	1 x TPM 2.0 pin header	1 x TPM 2.0 pin header	1 x TPM 2.0 pin header
Networking	Ethernet IC	1GbE RJ45: Intel® I211	1GbE NIC: Intel® I211-AT	8 x 5GbE NIC: AQC 111C
	Ethernet Port	6 x 1GbE RJ45 LAN ports	8 x 1GbE RJ45 LAN ports	8 x 5GbE RJ45 LAN ports
	Network Module Slot	N/A	2 x IEI PuIM network module slots	2 x IEI PuIM network module slots
Expansion Slot	PCIe Slot	1 x PCIe Gen3 x16 (FHHL) slot (double width)	1 x PCIe Gen3 x8 (FHHL) slot, 1 x PCIe Gen3 x4 (FHHL) slots	1 x PCIe Gen3 x8 (FHHL) slot, 1 x PCIe Gen3 x4 (FHHL) slots
	M.2	1 x M.2 A key (Gen2 & USB 2.0)	1 x 3042/2260 M.2 B key (SATA 6Gb/s / USB 3.2 Gen 1) Support SATA SSD and 4G LTE module	1 x 3042/2260 M.2 B key (SATA 6Gb/s / USB 3.2 Gen 1) Support SATA SSD and 4G LTE module
Storage	Storage	2 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps)	2 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps) (RAID 0/1 support)	2 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps)
	USB	2 x USB 3.2 Gen 1 (5Gb/s)	2 x USB 3.2 Gen 1 (5Gb/s)	2 x USB 3.2 Gen 1 (5Gb/s)
	Console	1 x RJ45	1 x RJ45	1 x RJ45
Power and Mechanical	Power Switch	1 x Power switch	1 x Power switch	1 x Power switch
	Reset Button	1 x Reset button	1 x Reset button	1 x Reset button
	Power Input	100 V ~ 240 V	100 V ~ 240 V	100 V ~ 240 V
	Type/Watt	ATX power 250W 90V~264V AC	300W redundant power, 90V~264V AC	300W redundant power, 90V ~ 264V AC
	Processor Cooling	1 x Passive CPU heatsink	1 x Passive CPU heatsink	1 x Passive CPU heatsink
	System Cooling	4 x Smart cooling fans	4 x Smart cooling fans	4 x Smart cooling fans
	Antenna Hole	1 x Antenna hole	1 x Antenna hole	1 x Antenna hole
Physical and Environmental	Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	5% ~ 90% non-condensing	5% ~ 90% non-condensing	5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	430 x 320 x 44.2	430 x 426 x 44.2	430 x 426 x 44.2
	Weight	5 kg	7 kg	7 kg
Certifications	Certification	CE / FCC / RoHS	CE / FCC / RoHS	CE / FCC / RoHS
	Supported Operating System	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10
Indicators	LCM	LCM, 2 buttons	LCM, 2 buttons	LCM, 2 buttons
	LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED

Entry Network Appliances

		PUZZLE-1100	PUZZLE-3034	PUZZLE-3032
Platform	CPU	1 x Intel® Amston® Lake processors supporting TDP 25W	Intel® Atom® C3758R 8C/8T (16M Cache, 2.4 GHz)	Intel® Atom® C3558R 4C/4T (8M cache, 2.4 GHz)
	Chipset	Integrated in CPU	Intel® Denverton-R	Intel® Denverton-R
Memory	Memory Technology	1 x DDR5 SO-DIMM slot	2 x DDR4 2400 MHz Non-ECC UDIMM Default: 1 x UDIMM 8GB	2 x DDR4 2400 MHz non-ECC UDIMM Default: 1 x UDIMM 8GB
	Memory Capacity	Based on SO-DIMM capacity	Up to 64GB (based on DIMM capacity)	Up to 64GB (based on DIMM capacity)
	Memory Socket	1 x 260-pin DDR5 SO-DIMM	2 x 288-pin DIMM	2 x 288-pin DIMM
Network and Security	Network Acceleration and Security Function	N/A	• Intel® AES New Instructions • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Trusted Execution Technology • Intel® QuickAssist Technology (Intel® QAT)	• Intel® AES New Instructions • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Trusted Execution Technology • Intel® QuickAssist Technology (Intel® QAT)
	TPM	1 x TPM 2.0 pin header	N/A	N/A
BMC	BMC Solution	1 x IEI iRIS4 Connector IPMI 2.0 BMC module (Optional)	N/A	N/A
Networking	Ethernet IC	4 x Intel 1GbE I210-AT	Intel 2.5GbE KTI225V SLNMH	Intel 2.5GbE KTI225V SLNMH
	Ethernet Port	4 x GbE RJ45 ports 1 x RJ45 for BMC module (IEI iRIS module)	8 x 2.5GbE RJ45 LAN ports 4 x 10GbE, SFP+	8 x 2.5GbE RJ45 LAN ports 2 x 10GbE, SFP+
	Network Module Slot	N/A	N/A	N/A
Expansion Slot	PCIe Slot	1 x PCIe Mini for WiFi module	N/A	N/A
	M.2	1x M.2 B key slot for 5G module	1 x 2242 B key slot for M.2 SATA 1 x 3052 B key slot + SIM card socket for 5G/ LTE card	1 x 2242 B key slot for M.2 SATA 1 x 3052 B key slot + SIM card socket for 5G/ LTE card
Storage	Storage	1 x 2240/2280 B-Key SATA SSD (PCIe Gen3 x1)	64GB eMMC 2 x 2280 M key slots for NVMe	64GB eMMC 2 x 2280 M key slots for NVMe
	USB	2 x USB 3.0 Type-A	2 x USB 3.0	2 x USB 3.0
	Console	1 x USB Type-C	1 x RJ45	1 x RJ45
Power and Mechanical	Power Switch	Rear: 1 x Power Button	1 x Power button	1 x Power button
	Reset Button	Rear: 1 x Reset Button	1 x Reset button	1 x Reset button
	Power Input	1 x 12V DC jack	100 V ~ 240 V	100 V ~ 240 V
	Type/Watt	12V/5A AC-DC power adaptor	Open-frame DPS-60AP-5 D; Vin: 90 ~ 264VAC; 70W	Open-frame DPS-60AP-5 D; Vin: 90 ~ 264VAC; 70W
	Processor Cooling	12W: fanless 25W: fan and heatsink	1 x Passive CPU heatsink	1 x Passive CPU heatsink
	System Cooling	N/A	2 x Cooling fans	2 x Cooling fans
	Antenna Hole	8 x Antenna hole (reserved)	3 x Antenna hole (reserved)	3 x Antenna hole (reserved)
Physical and Environmental	Storage Temperature	-10°C ~ 50°C	-10°C ~ 50°C	-10°C ~ 50°C
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	5% ~ 90% non-condensing	5% ~ 90% non-condensing	5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	224.5 x 170 x 42.5	285 x 236.6 x 46.65	285 x 236.6 x 46.65
	Weight	3 kg	3.5 kg	3.5 kg
Certifications	Certification	By customer request	CE / FCC / RoHS	CE / FCC / RoHS
	Supported Operating System	Linux Ubuntu	Linux Ubuntu 18.04	Linux Ubuntu 18.04
Indicators	LCM	N/A	16 x 2 character with control keys	16 x 2 character with control keys
	LED	1 x Power LED, 1 x 5G LED, 1 x WiFi LED, 1 x Alert LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED

Entry Network Appliances

		PUZZLE-IN003A	PUZZLE-IN003B
Platform	Form Factor	Desktop	Desktop
	CPU	Intel® Atom® processor C3558 8M cache, up to 2.20 GHz	Intel® Atom® processor C3758 16M cache, up to 2.20 GHz
	Chipset	Integrated in CPU	Integrated in CPU
Memory	Memory Technology	DDR4 2133 MHz ECC (by CPU) or non-ECC UDIMM, support DDR4 RDIMM	DDR4 2133 MHz ECC (by CPU) or non-ECC UDIMM, support DDR4 RDIMM
	Memory Capacity	UDIMM up to 64GB / RDIMM up to 128GB	UDIMM up to 64GB / RDIMM up to 128GB
	Memory Socket	2 x 288-pin DIMM	4 x 288-pin DIMM
Network and Security	Network Acceleration and Security Function	• Intel® AES New Instructions • Intel® Software Guard Extensions (Intel® SGX) • Intel® Virtualization Technology for Directed I/O (VT-d) • Intel® QuickAssist Technology (Intel® QAT)	• Intel® AES New Instructions • Intel® Software Guard Extensions (Intel® SGX) • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Virtualization Technology for Directed I/O (VT-d) • Intel® QuickAssist Technology (Intel® QAT)
	TPM	1 x TPM 2.0 pin header	1 x TPM 2.0 pin header
Networking	Ethernet IC	1GbE NIC: Intel® I211-AT 1GbE PHY: Marvell® 88E1543	1GbE NIC: Intel® I211-AT 1GbE PHY: Marvell® 88E1512 10 GbE: Intel® X553 integrated in CPU
	Ethernet Port	4 x GbE from Intel® I211-AT 4 x GbE from Marvell® 88E1543	4 x 1GbE from Intel® I211-AT 2 x 1GbE from Marvell® 88E1512 2 x 10 GbE SFP+
	Bypass	2 bypass segments	N/A
	Network Module Slot	N/A	N/A
Expansion Slot	PCIe Slot	N/A	N/A
	M.2	1 x M.2 A key (PCIe Gen3 & USB 2.0)	1 x M.2 A key (PCIe Gen3 & USB 2.0)
Storage	Storage	1 x SATA 6Gb/s + 1 x 5V power connector (for SATA DOM) 1 x M.2 M key 2260/2280 supporting PCIe Gen3 x4 NVMe	1 x SATA 6Gb/s + 1 x 5V power connector (for SATA DOM) 1 x M.2 M key 2260/2280 supporting PCIe Gen3 x4 NVMe
	USB	1 x USB 2.0 1 x USB 3.2 Gen 1	1 x USB 2.0 1 x USB 3.2 Gen 1
	Console	1 x RJ45	1 x RJ45
Power and Mechanical	Power Switch	1 x Power switch	1 x Power switch
	Reset Button	1 x Reset button	1 x Reset button
	Power Input	1 x DC jack	1 x DC jack
	Type/Watt	12 V DC-in, 60W	12 V DC-in, 60W
	Processor Cooling	Passive CPU heatsink	Passive CPU heatsink
	System Cooling	Fanless	Two system fans
	Antenna Hole	2 x Antenna hole	2 x Antenna hole
Physical and Environmental	Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	5% ~ 90% non-condensing	5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	225 x 206 x 44.2	225 x 206 x 44.2
	Weight	2 kg	2 kg
Certifications	Certification	CE / FCC / RoHS	CE / FCC / RoHS
	Supported Operating System	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10
Indicators	LCM	N/A	N/A
	LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED

ARM-Based Network Appliances

		PUZZLE-200	PUZZLE-100
Platform	Form Factor	Desktop	Desktop
	CPU	Marvell® CN10208 8-core 2.1GHz	Marvell® A7K 88F7040 ARM v8 quad-core 1.4GHz
	Chipset	Integrated in CPU	Integrated in CPU
Memory	Memory Technology	1 x DDR5 SO-DIMM slot	DDR4 1333MHz non-ECC
	Memory Capacity	Based on DIMM capacity	2GB
	Memory Socket	1 x 260-pin DDR5 SO-DIMM	On-board
Network and Security	Network Acceleration and Security Function	N/A	N/A
	TPM	N/A	N/A
BMC	BMC Solution	1 x IEI iRIS3 IPMI connector for IPMI module (optional) 1x RJ45 for BMC module (IEI iRIS module)	N/A
Networking	Ethernet IC	Marvell® 88E6393X, 88E2111	Marvell® 88E6352, 88E1512
	Ethernet Port	6 x GbE RJ45 ports 2 x 2.5GbE RJ45 port 2 x 10GbE SFP+ port	LAN: 5 x GbE RJ45 ports WAN: 1 x GbE RJ45 port
	Network Module Slot	N/A	N/A
Expansion Slot	PCIe Slot	N/A	N/A
	M.2	N/A	N/A
Storage	Storage	1 x eMMC 32GB	1 x eMMC 4GB
	USB	1 x USB 3.0 Type-A	1 x USB 3.0 Type-A
	Console	1 x USB Type C	1 x USB Type C
Power and Mechanical	Power Switch	N/A	Rear: 1 x Power button
	Reset Button	Side: 1 x Reset button	Front: 1 x Reset button
	Power Input	1 x 12V DC jack	1 x 12V DC jack
	Type/Watt	12V/6A AC-DC power adaptor	12V/3.3A AC-DC power adaptor
	Processor Cooling	Fanless	Fanless
	System Cooling	Fanless	Fanless
	Antenna Hole	N/A	N/A
Physical and Environmental	Storage Temperature	-10°C ~ 50°C	-10°C ~ 50°C
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	5% ~ 90% non-condensing	5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	190 x 150 x 70	209.9 x 151.2 x 38.1
	Weight	TBD	0.6 kg
Certifications	Certification	By customer request	CE, FCC, VCCI, BSMI
	Supported Operating System	Linux Ubuntu	Linux Ubuntu
Indicators	LCM	N/A	N/A
	LED	Front: 1 x Power LED, 1 x Information LED	Front: 1 x Power LED, 1 x Network LED, 1 x Information LED

ARM-Based Network Appliances



		PUZZLE-M902	PUZZLE-M901	PUZZLE-M801
Platform	Form Factor	N/A	N/A	1U
	CPU	Marvell® CN9130 quad-core ARMv8 Cortex-A72 @ up to 2200 MHz	Marvell® CN9130 quad-core ARMv8 Cortex-A72 @ up to 2200 MHz	Marvell® ARMADA® 88F8040 quad-core System-on-Chip processor, 2.0GHz
	Chipset	Integrated in CPU	Integrated in CPU	Integrated in CPU
Memory	Memory Technology	N/A	N/A	DDR4 2400 MHz ECC/Non-ECC/RDIMM
	Memory Capacity	4GB	4GB	Up to 16GB
	Memory Socket	N/A	N/A	1 x 288-pin DIMM
Network and Security	Network Acceleration and Security Function	N/A	N/A	• Configurable packet processor • HW offload for networking • Acceleration engines for storage, networking and security • Public Key Processor (RSA/DH/ECC) • Secure Storage • Secure boot
Networking	Ethernet IC	Aquantia AQR112R Aquantia AQR113	Aquantia AQR112R Aquantia AQR112C Aquantia AQR112	1GbE PHY: Marvell® 88E1512P 10GbE PHY: SoC Marvell® 88F8040
	Ethernet Port	2 x 2.5GbE LAN integrated in CPU via PHY Aquantia AQR112R 4 x 2.5GbE LAN via Marvell® 88F8215 (PHY: Aquantia AQR112R) 1 x 10GbE LAN integrated in CPU via PHY Aquantia AQR113 2 x 10GbE LAN via Marvell® 88F8215 (PHY: Aquantia AQR113)	1 x 2.5GbE LAN integrated in CPU via PHY Aquantia AQR112R 1 x 2.5GbE LAN integrated in CPU via PHY Aquantia AQR112C 1 x 2.5GbE LAN integrated in CPU via PHY Aquantia AQR112 1 x 2.5GbE LAN via Marvell® 88F8215 (PHY: Aquantia AQR112R) 1 x 2.5GbE LAN via Marvell® 88F8215 (PHY: Aquantia AQR112C) 1 x 2.5GbE LAN via Marvell® 88F8215 (PHY: Aquantia AQR112)	2 x 10 GbE SFP+ 4 x 1GbE RJ45 LAN ports
Expansion Slot	PCIe Slot	N/A	N/A	1 x PCIe x16 (FHHL) slot (PCIe Gen3 x2 signal)
	M.2	M.2 2242/2280 M key (PCIe Gen3 x1)	M.2 2242 M key (PCIe Gen3 x2)	1 x M.2 B Key (3042/2260) (SATA 6Gb/s and USB 3.2 Gen 1) Support SATA SSD or 4G LTE module (USB signal)
Storage	Storage	1 x 4GB eMMC	1 x 4GB eMMC	1 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps)
	USB	USB 3.2 Gen 1 (5Gb/s)	USB 3.2 Gen 1 (5Gb/s)	2 x USB 3.2 Gen 1 (5Gb/s)
	Console	N/A	N/A	1 x RJ45
Power and Mechanical	Power Switch	N/A	N/A	1 x Power switch
	Reset Button	1 x Reset to factory default	1 x Reset to factory default	1 x Reset button
	Power Input	12V DC	12V DC	100 V ~ 240 V
	Type/Watt	36W power adaptor	36W power adaptor	ATX power 250W 90V~264V AC
	Processor Cooling	N/A	N/A	1 x Active CPU heatsink with fan
	System Cooling	1 x System fan	Active fan	2 x Smart cooling fans
	Antenna Hole	N/A	N/A	1 x Antenna hole
Physical and Environmental	Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	5% ~ 95% non-condensing, wet bulb: 27˚C	5% ~ 95% non-condensing, wet bulb: 27˚C	5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	226 x140 x 50.5	166.4 x 145.7 x 34	430 x 320 x 44.2
	Weight	3.6 kg	3.6 kg	5 kg
Certifications	Certification	CE/FCC/BSMI (BSMI safety)/VCCI, LVD	CE/FCC/BSMI (BSMI safety)/VCCI, LVD	CE / FCC / RoHS
	Supported Operating System	OpenWrt	OpenWrt	Linux Ubuntu 16.04.04
Indicators	LED	Status/Power, WAN/LAN interface indicator	Status/Power, WAN/LAN interface indicator	1 x Power LED, 1 x Storage LED, 1 x Alert LED

Network Modules

For 2U Rack Mount System



	PuIM-100G2SF-E810	PuIM-10G2SF/T-X710	PuIM-10G4SF/T-XL710
Chipset	Intel® E810	Intel® X710	Intel® XL710
Bypass	N/A	N/A	N/A
Host Interface	PCIe Gen4 x8	PCIe Gen3 x8	PCIe Gen3 x8
LAN Interface	QSFP28	SFP+	SFP+
Speed	1GbE / 10GbE / 25GbE / 50GbE / 100GbE	1GbE/10GbE	1GbE/10GbE
LAN Port Number	2	2	4
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Humidity	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)



	PuIM-10G4SF/T-XL710-BP	PuIM-1G4SF/T-I350	PuIM-1G8SF/T-I350
Chipset	Intel® XL710	Intel® I350-AM4	Intel® I350-AM4
Bypass	Two pairs	N/A	N/A
Host Interface	PCIe Gen3 x8	PCIe Gen2 x4	2 PCIe Gen2 x4
LAN Interface	SFP+	SFP	SFP
Speed	1GbE/10GbE	1GbE	1GbE
LAN Port Number	4	4	8
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Humidity	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)




	PuIM-1G4T/T-I350	PuIM-1G4T/T-I350-BP	PuIM-1G8T/T-I350	PuIM-1G8T/T-I350-BP
Chipset	Intel® I350-AM4	Intel® I350-AM4	Intel® I350-AM4	Intel® I350-AM4
Bypass	N/A	Two pairs	N/A	Four pairs
Host Interface	PCIe Gen2 x4	PCIe Gen2 x4	2 PCIe Gen2 x4	2 PCIe Gen2 x4
LAN Interface	RJ45	RJ45	RJ45	RJ45
Speed	1GbE	1GbE	1GbE	1GbE
LAN Port Number	4	4	8	8
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Humidity	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)

Network Modules

For 1U Rack Mount System

	PuIM-100G2SF-CX6	PuIM-40G2SF-XL710
Chipset	Mellanox ConnectX-6	Intel® XL710
Bypass	N/A	N/A
Host Interface	PCIe Gen4 x16	PCIe Gen3 x8
LAN Interface	QSFP28	QSFP+
Speed	1GbE / 10GbE / 25GbE / 50GbE / 100GbE	1GbE/ 10GbE/ 40GbE
LAN Port Number	2	2
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Humidity	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing
Dimensions (mm)	162.2 (L) x 74 (W) x 41.85 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)

	PuIM-10G2SF-X710	PuIM-10G4SF-XL710	PuIM-10G4SF-XL710-BP
Chipset	Intel® X710	Intel® XL710	Intel® XL710
Bypass	N/A	N/A	Two pairs
Host Interface	PCIe Gen3 x8	PCIe Gen3 x8	PCIe Gen3 x8
LAN Interface	SFP+	SFP+	SFP+
Speed	1GbE/ 10GbE	1GbE/10GbE	1GbE/10GbE
LAN Port Number	2	4	4
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Humidity	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)

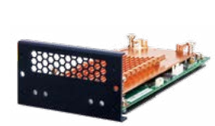
	PuIM-1G4SF-I350	PuIM-1G8SF-I350
Chipset	Intel® I350-AM4	Intel® I350-AM4
Bypass	N/A	N/A
Host Interface	PCIe Gen2 x4	2 PCIe Gen2 x4
LAN Interface	SFP	SFP
Speed	GbE	GbE
LAN Port Number	4	8
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Humidity	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)

Network Appliances

Network Modules

For 1U Rack Mount System

	PuIM-1G4T-I350	PuIM-1G4T-I350-BP	PuIM-1G8T-I350
Chipset	Intel® I350-AM4	Intel® I350-AM4	Intel® I350-AM4
Bypass	N/A	two pairs	N/A
Host Interface	PCIe Gen2 x4	PCIe Gen2 x4	2 PCIe Gen2 x4
LAN Interface	RJ45	RJ45	RJ45
Speed	GbE	GbE	GbE
LAN Port Number	4	4	8
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Humidity	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)



	PuIM-1G8T-I350-BP	PuIM-2P1M	PuIM-M2-2S
Chipset	Intel® I350-AM4	Integrated in CPU	Integrated in CPU
Bypass	Four pairs	N/A	N/A
Host Interface	2 PCIe Gen2 x4	1 PCIe Gen3 x4	2 PCIe Gen3 x4
LAN Interface	RJ45	ASM1812 (PCIe Gen2 x4) FL1100EX (PCIe to USB 3.0, 4-port)	N/A
Speed	GbE	1 x 2230/2242 M.2 B key (PCIe Gen2, USB 3.2 Gen1) with SIM card slot	2 x M key 2260/2280/22110 (PCIe Gen3 x4/NVMe)
LAN Port Number	8	2 x PCIe Mini (PCIe Gen2, USB 2.0) with SIM card slot	N/A
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Humidity	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)

Storage Servers

Perform High Reliability with Flexible Scalability

IEI provides high-reliability rackmount enterprise storage server systems that support multiple OS. Our storage server series, available in 1U and 2U form factors, accommodate 4 to 8 drive bays.

Applications Include:

- Software-defined Storage (SDS)
- Big Data
- Cloud Hosting Workloads
- Backup Server
- Multimedia Server

	GRAND-RE	GRAND-GL
CPU	AMD Ryzen™ Embedded V1500B quad-core 2.2 GHz processor	Intel® Celeron® N5095 4-core/4-thread processor, burst up to 2.9 GHz
Encryption Acceleration	AES-NI	AES-NI
Memory	2 x SO-DIMM DDR4 Maximum 64GB (2 x 32GB)	2 x SO-DIMM (Max. 8GB)
Drive Bay	8 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs	4 x 3.5"/2.5" SATA 6Gb/s HDDs/SSDs
LAN Port	2 x 2.5GbE LAN	2 x 2.5GbE LAN
PCIe Slot	1 x PCIe Gen3 x8	N/A
USB Ports	1 x USB 3.2 Gen1 Type-A port 2 x USB 3.2 Gen2 Type-C port 1 x USB 3.2 Gen2 Type-A port	2 x External USB 2.0 2 x External USB 3.2 Gen2
HDMI™ Output	Optional via a PCIe graphics card	1 x HDMI™ 1.4b
LED Indicator	Status/Power, LAN, USB, Drive 1 - 8	Power/Status, LAN, USB, HDD1-4, M.2 SSD 1 - 2
Button	Power/Status, Reset	Power, Reset
Form Factor	2U Short Depth Rackmount	1U Short Depth Rackmount
Dimension (W x L x H) (mm)	432 x 297.4 x 88.6	430 x 292.1 x 43.3
Net Weight	9.15 kg	5.9 kg
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
Relative Humidity	5% ~ 95% RH non-condensing, wet bulb: 27°C	5% to 95% non-condensing, wet bulb: 27°C
Power Supply	300W (x2), 100-240V AC, 50/60 Hz	100W PSU, 100-240V
Fan	3 x 60mm	3 x 40 mm

Medical Computers

IASO

Data Acquisition Terminal for Enhancing Patient Satisfaction and Caregiver Productivity

IASO-W07A-N6210

7" with Intel® Celeron® N6210 Processor

IASO-W10B-N6210

10.1" with Intel® Celeron® N6210 Processor

IASO-W10B-IMX8M

10.1" with NXP i.MX 8M Mini Quad-core Cortex-A53 Processor

HTB

Medical Box PCs for Enhancing Inferencing in Healthcare Edge AI

HTB-210-Q470

10th Generation Intel® Core™ i7 / i5 Processor

HTB-150-N6210

Intel® Celeron® N6210 Processor

HTB-230D-R680E

Intel® Core™ i9 processor

POCm

Mobile Point-of-Care Terminal for Non-Powered Medical Carts

POCm-W24C-RPL

24" with 13th Gen Intel® Core™ i5/ i7 Mobile Processor

POCm-W22C-RPL

22" with 13th Gen Intel® Core™ i5/ i7 Mobile Processor

AXON

Medical Grade Uninterruptible Power System

AXON-mPOWER

In-line DCUPS (no latency in power transfer)

POCi

Intelligent Point-of-Care Terminal for Critical Care

POCi-W24C-RPL

24” with 13th Gen Intel® Core™ i5/ i7 Mobile Processor

POCi-W22C-RPL

22” with 13th Gen Intel® Core™ i5/ i7 Mobile Processor

MPOCm

Mobile Medical Monitor

MPOCm-W24

24" with 3 hot-swappable batteries

Data Acquisition Terminal

Model		IASO-W07A-N6210	IASO-W10B-N6210	IASO-W10B-IMX8M
LCD Specifications	LCD Size	7"	10.1"	
	Max. Resolution (W/H)	1024 x 600	1280 x 800	
	Brightness (cd/m²)	450	400	
	Contrast Ratio	800:1	800:1	
	LCD Color	-	16.7M (RGB 6-bit + Hi-FRC)	
	Pixel Pitch (H/V)	-	0.1695 x 0.1695 mm	
	Viewing Angle (H/V)	170˚/170˚	178˚/178˚	
	Backlight MTBF (hrs)	20,000	30,000 (LED backlight)	
Touch	Touchscreen	PCAP	Projected capacitive type with 10-point multi-touch and optical bonding	
	Touch Controller	EETI	EETI	
	Surface Hardness	-	6H	
System	CPU Support	Intel® Celeron® Processor N6210	Intel® Celeron® N6210 (Elkhart Lake, 6.5W TDP)	NXP i.MX 8M Mini (Quad-core Cortex-A53 up to 1.8 GHz)
	LAN Controller	Intel® I225-V	Intel® I225-V	Motorcomm YT8521
	RAM	On-board LPDDR4x 8G	1 x DDR4 SO-DIMM	On-board 4GB LPDDR4x, up to 8GB
	Storage	32GB on-board eMMC	1 x M.2 2242 M key slot (PCIe/SATA signal)	1 x microSD slot
	Audio	1 x AMP 1.5W speaker	AMP 1W	AMP 0.5W
	Camera & Microphone	1 x Digital microphone		
	I/O Port	1 x 12V DC jack 1 x HDMI out 1 x Reset switch 1 x Clear CMOS switch 1 x AT/ATX switch 2 x GbE LAN 6 x USB 3.2 Gen 1 (Type A)	1 x HDMI output 1 x Reset button 1 x Power button 1 x 12V DC jack 1 x AT/ATX switch 1 x Clear CMOS 1 x RS-232 1 x Audio jack (TRRS) 1 x GbE supporting PoE (ErP is not supported in PoE mode) 2 x USB 3.2 Gen 1 (5Gb/s)	1 x Reset button 1 x Power button 1 x 12V DC jack 1 x RS-232 1 x Audio jack (TRRS) 1 x GbE LAN optional supporting PoE 2 x USB 2.0 Type A
	LED	Power LED	2 x LED light bar (each light bar has 10 programmable RGB LED with IEC62471 certification)	2 x LED light bar
	Wi-Fi & Bluetooth	IEEE 802.11 a/b/g/n/ac/ax, Intel® Wi-Fi 6 AX200, Bluetooth V5.0	IEEE 802.11 ax 2T2R module (Intel® Wi-Fi 6E AX210) with BT v5.0 (M.2 2230 A/E key)	WiFi 802.11 a/b/g/n/ac/ax with Bluetooth V5.0
Physical	Construction Material	Front: PC; Rear cover: PC/ABS plastic		
	Mounting	VESA 75 x 75 mm	Wall, Stand and Arm; VESA 75 x 75 mm	
	Weight (Net / Gross)	0.72 kg / 1.65 kg	1.49 kg / 2.86 kg	1.49 kg / 2.86kg
	Dimensions (LxWxH)	190.9 x 127.3 x 43.4 mm	261 x 196.4 x 40 mm	
Environment	Operating Temperature	0°C – 40°C		
	Storage Temperature	-20°C – 60°C		
	Humidity	10% – 95% (non-condensing)		
	Vibration	1G		
	Shock	Operating shock: 5G peak acceleration (11ms duration); Non-operating shock: 15G peak acceleration (11ms duration)		
	IP Level	-	Front: IP65	
	Thermal	Fanless		
Operating System	Supported OS	Windows 10; Windows 11; Linux Ubuntu		Android 12
Power	Power Input	-	12V DC input	
	Power Adapter	65W medical grade power adapter		
	PoE	-	Class 4 (IEEE802.3 at) PD device w/o loading taken on I/O Class 5 (IEEE802.3 bt) PD device w/ full loading taken on I/O	
Expansion	Expansion	1 x M.2 2230 A key slot (PCIe + USB) 1 x M.2 2280 M key slot (SATA)	-	
Certification	EMC & Safety	CE, FCC Class B Part18 IEC 60601-1: 2005+AMD2:2021 (Edition 3.2) IEC 60601-1-2: 2014 (Edition 4.0)	CE, TUV CB, ICES-001, FCC Part 18 Class B UL 60601-1, IEC/EN 60601-1, IEC/EN 60601-1-2	CE,FCC Class B Part 15B, EN 55032 2015+A11:2020, EN 55035 2017+A11:2020 EN / IEC 62368-1

Intelligent Point-of-Care Terminal

Model		POCi-W22C-RPL	POCi-W24C-RPL
Display	Display Size	21.5" (16:9)	23.8" (16:9)
	Resolution	1920 x 1080	
	Brightness (cd/m²)	350	
	Contrast Ratio	1000:1	
	LCD Color	16.7M (RGB 8-bit)	
	Pixel Pitch	0.24795 (H) x 0.24795 (V) mm	0.2745 (H) x 0.2745 (V) mm
	Viewing Angle (H/V)	178˚ / 178˚	
	Backlight MTBF (hrs)	50,000 (LED backlight)	30,000 (LED backlight)
Touch	Touchscreen	Projected capacitive type with 10-point multi-touch	
	Touch Controller	EETI	
	Surface Hardness	6H	
	Coating	Chemical etching AG	
Processor	Processor	13th Gen Intel® Core™ i5-1340PE/ i7-1370PE	
LAN	LAN Controller	2 x Intel® I226 Ethernet Controller	
	Storage	2 x M.2 2280 M key (PCIe) with RAID	2 x M.2 2280 M key (PCIe) with RAID
	RAM	2 x 262-pin 4800MT/s dual-channel DDR5 SO-DIMM slots (system max. 64GB)	
Expansion	Expansion	1 x PCIe x2, 1 x M.2 2230 A-E key (PCIe+USB), 2 x M.2 2280 M key (PCIe/ SATA) with RAID	
Audio	Speaker	2 x 2W speaker	
	Microphone	1 x Digital microphone	
Wireless	Wi-Fi	IEEE 802.11ax 2T2R module (Wi-Fi 6E) (M.2 2230 A-E key)	
	Bluetooth	Bluetooth V5.2	
I/O	I/O	Bottom 1 x AC jack 1 x HDMI output 1 x USB Type-C (DP + USB 5V/3A) 1 x Combo audio-out/mic-in 2 x RS-232 2 x 2.5GbE LAN port 4 x USB 3.2 Gen 2 (10Gb/s) port	Side 2 x USB 2.0 port
Button	Button	1 x Power on/off	
On-Screen Display (OSD)	On-Screen Display (OSD)	1 x Power on/off 1 x Reading light on/off 1 x Brightness up	1 x Brightness down 1 x LCD & touch lock on/off 1 x DICOM mode app on/off (optional)
Physical	Thermal	Fanless	
	Construction Material	Front bezel: Aluminum, Rear cover: ABS+PC plastic	
	Mounting	Wall, Stand and Arm; VESA 75/100 compliant	
	Weight (Net) (kg)	6.9 kg	8.1 kg
	Dimensions (LxWxH)	507.5 x 335.5 x 64.5 mm	567 x 370.6 x 63.9 mm
Power	Input	85V – 264V AC	
	Power Adapter	150W medical power adapter (optional)	
	Built-in Power Supply	150W, 85V – 264V AC, medical power supply	
Environment	Operating Temperature	0°C – 40°C	
	Storage Temperature	-20°C – 60°C	
	Humidity	10% – 95% (non-condensing)	
	Vibration	1G	
	Operating shock	5G peak acceleration (11ms duration)	
	Non-operating shock	10G peak acceleration (11ms duration)	
	IP Level	Front: IP66	
Operating System	Supported OS	Windows 11; Linux Ubuntu	
Certification	EMC & Safety	CE, FCC Class B Part18 IEC 60601-1: 2005+AMD1:2012 (Edition 3.1) IEC 60601-1-2: 2014 (Edition 4.0)	

Mobile Point-of-Care Terminal

NEW

NEW

Model		POCm-W22C-RPL	POCm-W24C-RPL
LCD Specifications	LCD Size	21.5" (16:9)	23.8" (16:9)
	Max. Resolution (W/H)	1920 x 1080	
	Brightness (cd/m²)	350	
	Contrast Ratio	1000:1	
	LCD Color	16.7M (RGB 8-bit)	
	Pixel Pitch (H/V)	0.24795 (H) x 0.24795 (V) mm	0.2745 (H) x 0.2745 (V) mm
	Viewing Angle (H/V)	178°/178°	
	Backlight MTBF (hrs)	50,000 (LED backlight)	30,000 (LED backlight)
Touch	Touchscreen	Projected capacitive type with 10-point multi-touch	
	Touch Controller	EETI	
	Surface Hardness	6H	
System	CPU Support	13th Gen Intel® Core™ i5-1340PE/ i7-1370PE	
	LAN Controller	2 x Intel® I225 Ethernet Controller	
	RAM	2 x 262-pin 4800MT/s dual-channel DDR5 SO-DIMM slots (system max. 64GB)	
	Storage	1 x 2.5" accessible SATA HDD bay. 2 x M.2 2280 M key (PCIe) with RAID	
	Audio	2 x 2W speaker	
	Microphone	1 x Digital microphone	
	Camera	8-megapixel CMOS front-facing camera	
	I/O Port	Bottom 1 x DC jack 1 x Digital mic 1 x HDMI output 1 x USB Type-C (DP + USB 5V/3A) 1 x DC output (12V/19V/24V, 20-watt) 2 x 2.5GbE LAN port 1 x RS-232/422/485 port 4 x USB 3.2 Gen 2 (10Gb/s) port	Side 1 x Mic in 1 x Audio out 2 x USB 2.0 port
	OSD Function	1 x Power on/off 1 x Volume up 1 x Volume down	1 x Brightness up 1 x Brightness down 1 x LCD on/off and touch lock for cleaning
	Expansion	1 x PCIe Mini (PCIe) 1 x M.2 2230 A-E key (PCIe+USB)	2 x M.2 2260/80 B-M key (PCIe)
	LED	1 x RFID indicator 1 x Power indicator	3 x Battery indicator (color: blue/red)
	Wi-Fi & Bluetooth	IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.2 (M.2 2230 A-E key)	
Physical	Construction Material	ABS+PC plastic (ENH2900)	
	Mounting	Wall, Stand and Arm; VESA 75/100 compliant	
	Weight (Net)	7.07 kg (without battery), 8.43 kg (with 3 batteries)	8.18 kg (without battery), 9.53 kg (with 3 batteries)
	Dimensions (LxWxH)	543 x 350 x 71 mm	594.6 x 379.6 x 71 mm
Environment	Operating Temperature	0°C – 40°C	
	Storage Temperature	-20°C – 60°C	
	Humidity	10% – 90% (non-condensing)	
	Vibration	1G	
	Shock	Operating shock: 5G peak acceleration (11ms duration) Non-operating shock: 10G peak acceleration (11ms duration)	
	IP Level	Front: IP65	
	Thermal	Fanless	
Power	Power Input	19V DC input	
	Power Adapter	150W medical power adapter	
	Battery	3 slots for Li-ion battery packs	
Certification	EMC & Safety	CE, FCC Class B Part18 EN 60601-1: 2006/A1:2013 (Edition 3.1) EN 60601-1-2: 2015 (Edition 4.0)	

Mobile Medical Monitor

NEW

Model		MPOCm-W24
LCD	LCD Size	23.8"
	Max. Resolution (W/H)	1920 x 1080
	Brightness (cd/m²)	250
	Contrast Ratio	1000:1
	LCD Color	16.7M (RGB 6-bit + Hi-FRC)
	Pixel Pitch (H/V)	0.2745 x 0.2745 mm
	Viewing Angle (H/V)	178°/178°
	Backlight MTBF (hrs)	30,000 (LED backlight)
Touch	Touchscreen	Projected capacitive type with 10-point multi-touch
	Touch Controller	EETI
	Surface Hardness	6H
Audio		2 x 3W speaker
I/O Port		1 x HDMI-in 1 x DC-in jack 1 x USB 2.0 (black, Type-B) for Touch 1 x USB 3.2 Gen 1 (blue, Type-B) 2 x USB 3.2 Gen 1 (blue, Type-A) 2 x Wi-Fi SMA connector (main/aux) 2 x Variable voltage DC power output for external devices (55W in total) DC OUT1: 19V, 24V (maximum of 55 watts) DC OUT2: 5V, 12V, 15V, 19V, 24V (maximum of 50 watts) *To use battery power, at least 2 batteries must be installed and the DC outputs must work properly.
OSD Function		1 x LCD on/off 1 x Volume up 1 x Volume down 1 x Brightness up 1 x Brightness down 1 x OSD menu key
LED		1 x Power indicator 3 x Battery indicator (color: blue/orange)
Battery Management APP		EC UART to USB, output to the box PC
Physical	Construction Material	ABS+PC plastic with anti-bacterial material
	Mounting	Wall, Stand and Arm; VESA 75/100 compliant
	Weight (Net)	8.18 kg (without battery) 9.53 kg (with 3 batteries)
	Dimensions (LxWxH)	594.6 x 379.6 x 63.2 mm
Environment	Operating Temperature	0°C – 40°C
	Storage Temperature	-20°C – 60°C
	Humidity	10% – 90% (non-condensing)
	Vibration	1G
	Shock	Operating shock: 5G peak acceleration (11ms duration) Non-operating shock: 10G peak acceleration (11ms duration)
	IP Level	Front: IP65
	Thermal	Fanless
Power	Power Input	19V DC input (4-pin)
	Power Adapter	150W medical power adapter
	Battery	Up to 3 hot-swappable TC-202 batteries
Certification	EMC & Safety	CE, FCC Class B Part 18 EN 60601-1: 2006/A1:2013 (Edition 3.1) EN 60601-1-2: 2015 (Edition 4.0)

Medical IoT Gateway

Model		HTB-150-N6210
Processor	Processor	Intel® Celeron® Processor N6210
LAN	LAN Controller	Intel® I225-V
System	Storage	On-board eMMC 32GB
	RAM	On-board LPDDR4x 8GB
Expansion	Expansion	1 x M.2 2230 A key slot (PCIe + USB) 1 x M.2 2280 M key slot (PCIe)
Wireless	Wi-Fi	IEEE 802.11a/b/g/n/ax, Intel® Wi-Fi 6E AX210 (optional)
	Bluetooth	v5.2
I/O	Front I/O	1 x Power on/off switch (with power LED) 1 x Reset button 1 x Clear CMOS 1 x AT/ATX switch 4 x USB 3.2 Gen 2 (Type A)
	Rear I/O	1 x 12V DC jack 1 x RS-232 1 x HDMI out 2 x GbE LAN
LED Indicator	LED Indicator	Power LED
Physical	Thermal	Fanless
	Construction Material	Extruded aluminum alloys
	Mounting	VESA 75 x 75 mm
	Weight (Net) (kg)	0.688
	Weight (Gross) (kg)	1.84
	Dimensions (LxWxH) (mm)	137 x 102.8 x 36
Power	Power Adapter	65W medical grade power adapter
Environment	Operating Temperature	0°C – 40°C
	Storage Temperature	-20°C – 60°C
	Humidity	10% – 95% (non-condensing)
	Vibration	1G
	Operating Shock	5G peak acceleration (11ms duration)
	Non-operating Shock	15G peak acceleration (11ms duration)
Operating System	Supported OS	Windows 10; Windows 11; Linux Ubuntu
Certification	EMC & Safety	CE, TUV CB, RCM, ICES-001 FCC Part 18 Class B UL 60601-1, IEC/EN 60601-1 IEC/EN 60601-1-2

Medical AI Computing

NEW

Model		HTB-230D-R680E
Display	Display Size	10.1"
	Resolution	1920 x 1200
	Brightness (cd/m²)	600
	Contrast Ratio	900:1
	LCD Color	16.7M (8bit)
	Pixel Pitch (mm)	0.03764 x 0.11292
	Viewing Angle (H/V)	160°/160°
Touch	Touchscreen	Projected capacitive type with 10-point multi-touch
	Touch Controller	ILI
	Surface Hardness	6H
Processor	Processor	Intel® Core™ i9 processor
	Chipset	Intel® R680E
	GPU	Compatible with NVIDIA Quadro RTX Ampere series GPU
LAN	LAN Controller	Intel® I225-V
System	Storage	M.2 2280 NVMe Gen4 x4 SSD
	RAM	4 x 288-pin dual-channel DDR5 U-DIMM (up to 4400MHz), ECC & non-ECC un-buffered memory (system max. 128GB)
Expansion	Expansion	1 x PCIe Gen4 x16 slot for GPU 2 x PCIe Gen4 x4 slot for add-on cards 1 x M.2 2280 PCIe Gen4 x4 M key slot for SSD
Speaker	Speaker	2 x 3W speaker
I/O	Front I/O	2 x USB 3.2 Gen 2 (10Gb/s)
	Rear I/O	1 x HDMI output 1 x AC IN 1 x Speaker 1 x Microphone 2 x 2.5 GbE LAN 4 x USB 3.2 Gen 2 (10Gb/s)
Button	Button	1 x System power button (with power LED) 1 x Power supply switch
LED Indicator		Power LED
Physical	Color	White
	Thermal	Smart fan
	Chassis Construction	NCT(N); SECC
	Weight (Net) (kg)	7.68
	Dimensions (LxWxH) (mm)	310 x 203 x 390
Power	Input	115V AC – 264V AC medical grade ATX power
	Output	700W medical power adapter
Environment	Operating Temperature	0°C – 40°C
	Storage Temperature	-20°C – 65°C
	Humidity	10% – 95% (non-condensing)
	Vibration	1G
	Operating Shock	5G peak acceleration (11ms duration)
	Non-operating Shock	15G peak acceleration (11ms duration)
Operating System		Windows 11; Linux Ubuntu
Certification	EMC & Safety	CE, FCC Class B Part18, UL 60601-1, IEC/EN 60601-1, IEC/EN 60601-1-2

AI Box PC

TAIWAN EXCELLENCE 2023

DESIGN AWARD 2022

Model		HTB-210-Q470
Motherboard	CPU	Intel® Core™ i5-10500TE (6-core, 35W TDP) Intel® Core™ i7-10700TE (8-core, 35W TDP)
	Chipset	Intel® Q470
	System Memory	2 x 260-pin 2666/2133MHz dual-channel DDR4 SO-DIMM ECC & non-ECC unbuffered (system max. 128GB)
Storage	Hard Drive	1 x 2.5" SATA HDD/SSD bay
I/O Interfaces	USB	1 x USB Type-C (5Gbps, w/o ALT mode) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 (front side)
	Ethernet	2 x Intel® I225-V PCIe controller (2.5GbE)
	COM Port	1 x RS-232/422/485
	Display	1 x HDMI
	Resolution	HDMI: up to 4096 x 2304 @30Hz
	Others	1 x Power button 1 x AT/ATX switch
Expansions	PCIe	1 x PCIe Gen3 x4 slot 1 x PCIe Gen3 x16 slot
	M.2	1 x M.2 2230 A key (PCIe x2 and USB 2.0) 1 x M.2 2280 M key (PCIe x4 and SATA)
Power	Power Input	19V DC
	Power Consumption	19V @4.8A
	Power Adapter	100V – 240V AC input, 19V DC output, 180W
Chassis	Color	White
	Dimension (LxWxH)	140 x 306.7 x 171 mm
	Thermal	Smart fan
	Chassis Construction	Metal housing (SECC)
Reliability	Operating Temperature	0°C – 40°C
	Operating Humidity	10% – 95% (non-condensing)
	Storage Temperature	-20°C – 60°C
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis
	Operation Vibration	MIL-STD-810G 514.6C-1 (with SSD)
	Weight (Net)	2.8 kg
Certification	Safety / EMC	UL/ cUL FCC Part 15B EN 62368-1 Ed.2 + RMF EN 55032 + EN 55035
OS	Supported OS	Windows 11, Windows 10, Linux

Medical Power

TAIWAN EXCELLENCE 2020

Model		POCm-DOCKING-6BAY-R10
Battery	Battery Type	TC-202 (7800mAh)
	Battery Bay	6
	Charge Time	255W, Vin: 100 – 240V AC, Vout: 15V DC 3 – 3.5 hours from 0 – 100% (TC-202)
	Maximum Charge Voltage	12.6V
	Maximum Charge Current	2 A/bay
Power	Power Connector	6-pin Molex power connector
	Power Switch	AT power switch
LED Indicator	Normal	1 x Power LED (orange) 6 x Battery LED (blue/ orange)
Chassis	Color	White
	Dimension (LxWxH)	274 x 253.3 x 122.85 mm
	Thermal	Active fan
	Chassis Construction	NCT metal housing
Environment	Operating Temperature	0°C – 40°C
	Storage Temperature	-20°C – 60°C
	Operating Humidity	20 – 90%, non-condensing
	Storage Humidity	10 – 95%, non-condensing
Certification	EMC & Safety	CE EMC: EN 55032 + EN 55024) FCC part 15B report (one final test mode) UL/CB: 60950-1 & 62368 (covering 2 UL standards/ UL 60950-1 + UL 62368) 2 IEC standards/IEC 60950-1 + IEC 62368

NEW

Model		AXON-mPOWER-R10
I/O	I/O	1 x LAN: Web-based, specification 10/100Mbps with RJ-45 connection, Cat. 5 cable 2 x DC outputs DC out 1: 12V/15V/19V/24V (max: 100W*) DC out 2: 12V/15V/19V/24V (max: 100W*) * DC out 1 + DC out 2 ≤ 125W 1 x USB Type C: 5V/ 3A (Max: 15W) 1 x USB Type A (HID) 1 x AC-in: C13 connector 1 x Power on/off button
LED Indicator	LED Indicator	1 x System status LED 3 x Battery LED 2 x DC output LED
Physical	Thermal	Smart Fan
	Mounting	VESA 100 x 100 mm
Battery	Battery Pack Type	3 x 3S3P cells Lithium-ion battery
	Battery Pack Capacity	3 x 9000 mAh (3 x 97Wh) 3 x 7800 mAh (3 x 87Wh)
	Normal Voltage	10.8 V
	Battery Life Time	260 cycles > 70%
	Charge Voltage	12.6 V
	Continuous Charge Current	2 A for each battery
	Continuous Discharge Current	5 A (discharge power of each battery pack < 55.5W at 40°C)
	Maximum Discharge Current	7 A (discharge power of each battery pack < 77.7W at 25°C)
	Discharge Cut-off Voltage	9 V
Power	Input	100 – 240 VAC
	Built-in Power Supply	260W medical
Environment	Operating Temperature	0°C – 40°C
	Storage Temperature	-20°C – 60°C
	Humidity	10% – 95% (non-condensing)
	Vibration	1G
	Operating Shock	5G peak acceleration (11ms duration)
	Non-operating Shock	15G peak acceleration (11ms duration)
Certification	EMC & Safety	FCC Part 15B EN 62368-1 Ed.2 (60601-1 Compatible) EN 55032 + EN 55035 (60601-1-2 Compatible) Battery Pack: UN38.3, IEC62133, IEC62368-1

1U/2U Power Supply

- **Safety (ITE Standard)** - CB IEC 62368, UL 62368, CSA C 22.2 No. 62368, TUV EN 62368
- **Safety (Medical Standard)** - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
- **EMI** - Meets EN 55032, FCC Part 15, CISPR 32 Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
- **EMS** - Meets EN 55024, EN 61000-4-2/3/4/5/6/8/11

*For detailed information, please refer to official specifications

1U AC Input

Products	Model No.	Watt AT/ATX PFC	Input Range	Output Current Range					Efficiency	ErP	Operating Temperature	Safety	Dimensions (mm)
			Voltage	+3.3 V	+5 V	+12 V	-12 V	+5 Vsb					
	**63030-010300-000-RS**	300W ATX -	90 ~ 265 VAC	12 A (0 A)	14 A (0 A)	25 A (0.1 A)	0.5 A	3 A	80 PLUS BRONZE 87%	V	0°C ~ 50°C	CB/UL/ TUV/CCC/ CE/FCC	150 x 81.5 x 40.5
	**63030-010220-010-RS**	220W ATX -	90 ~ 264 VAC	10 A (0.1 A min.)	14 A (0.2 A min.)	14 A (0.6 A min.)	0.3 A	2.5 A	80 PLUS SILVER 85%	V	0°C ~ 50°C	CB/UL/ TUV/ CCC/ CE/FCC	150 x 81.5 x 40.5
	**63030-010180-000-RS**	180W ATX -	90 ~ 264 VAC	10 A (0.1 A min.)	14 A (0.2 A min.)	10 A (0.6 A min.)	0.3 A	2.5 A	80 PLUS 85%	V	0°C ~ 50°C	CB/UL/ TUV/CCC/ CE/FCC	150 x 81.5 x 40.5
	**63030-010150-000-RS**	150W ATX -	90 ~ 264 VAC	10 A (0.1 A min.)	14 A (0.2 A min.)	10 A (0.6 A min.)	0.3 A	2.5 A	80 PLUS SILVER 85%	V	0°C ~ 50°C	CB/UL/ TUV/CCC/ CE/FCC	150 x 81.5 x 40.5

1U DC Input

Products	Model No.	Watt AT/ATX PFC	Input Range	Output Current Range					Efficiency	Operating Temperature	Safety	Dimensions (mm)
			Voltage	+3.3 V	+5 V	+12 V	-12 V	+5 Vsb				
	**63030-010250-060-RS**	250W ATX -	24 VDC (18 ~ 36 VDC)	10 A	14 A	18 A (0.05A min.)	0.3 A	2.5 A	80%	0°C ~ 50°C	CB UL TUV CCC NEMKO CE FCC	150 x 81.5 x 40.5

PS/2 Power Supply

- **Safety (ITE Standard)** - CB IEC 62368, UL 62368, CSA C 22.2 No. 62368, TUV EN 62368
- **Safety (Medical Standard)** - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
- **EMI** - Meets EN 55032, FCC Part 15, CISPR 32 Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
- **EMS** - Meets EN 55024, EN 61000-4-2/3/4/5/6/8/11

*For detailed information, please refer to official specifications

AC Input

Product	Model No.	Watt AT/ ATX PFC	Input Range	Output Current Range						Efficiency	ErP	Operating Temperature	Safety
			Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb				
	**63010-010600-010-RS**	600W ATX PFC	90~264 VAC	25 A (0 A)	25 A (0.2 A)	V1: 16 A (0.05 A) V2: 16 A (0 A) V3: 16 A (0 A) V4: 16 A (0 A)	0.5 A (0 A)	0.5 A	4 A	80 PLUS BRONZE 82%	v	0°C ~ 50°C	CB / UL / TUV CCC / CE / FCC
	**63010-010400-020-RS**	400W ATX PFC	90~264 VAC	21 A (0 A)	16 A (0.2 A)	V1: 17 A (0.05 A) V2: 17 A (0 A)	0.1 A (0 A)	0.5 A	3 A	80 PLUS GOLD 87%	v	-5°C ~ 50°C	CB / UL / TUV CCC / CE / FCC
	**63010-010400-010-RS**	400W ATX PFC	90~264 VAC	21 A (0 A)	16 A (0.2 A)	V1: 17 A (0.05 A) V2: 17 A (0 A)	0.1 A (0 A)	0.5 A	3 A	80 PLUS GOLD 87%	v	-5°C ~ 50°C	CB / UL / TUV CCC / CE / FCC
	**63010-010300-020-RS**	300W ATX PFC	90~264 VAC	19 A (0 A)	16 A (0.2 A)	V1: 17 A (0.05 A) V2: 17 A (0 A)	0.1 A (0 A)	0.5 A (0 A)	3 A (0 A)	80 PLUS GOLD 87%	v	0°C ~ 50°C	CB / UL / TUV CCC / CE / FCC
	**63010-010300-030-RS**	300W ATX PFC	90~264 VAC	19 A (0 A)	16 A (0.2 A)	V1: 17 A (0.05 A) V2: 17 A (0 A)	0.1 A (0 A)	0.5 A (0 A)	3 A (0 A)	80 PLUS GOLD 87%	v	0°C ~ 50°C	CB / UL / TUV CCC / CE / FCC

Power Adapter

- **Safety (ITE Standard)** - CB IEC 62368, UL 62368, CSA C 22.2 No. 62368, TUV EN 62368
- **Safety (Medical Standard)** - CB IEC 60601, UL 60601, CSA C 22.2 No. 60601, TUV EN 60601
- **EMI** - Meets EN 55032, FCC Part 15, CISPR 32 Meets EN 61000-3-2, EN 61000-3-3 (PFC function)
- **EMS** - Meets EN 55024, EN 61000-4-2/3/4/5/6/8/11

*For detailed information, please refer to official specifications

AC Input										
Product	Model No.	Watt	Input Range	Output Current Range		Plug Type	Efficiency	Operating Temperature	Safety	Dimensions (mm)
			Voltage	+12 V	+19 V					
	**FSP150-ABAN3**	150W	90~264 VAC	10 A	7.89A		87%	0°C ~ 40°C	UL/TUV CCC/CE/ GS/PSE/KC/BSMI	75.6 x 151.3 x 25.4
	**FSP120-AHAN3**	120W	90~264 VAC	10 A			87%	0°C ~ 40°C	UL/TUV CCC/CE/ GS/PSE/KC/BSMI	75.6 x 151.3 x 25.4
	**FSP096-AHAN3**	96W	90~264 VAC	8 A			88%	0°C ~ 40°C	UL/TUV/CCC/CE/ GS/PSE/KC/BSMI/ RCM	75.6 x 151.3 x 25.4
	**FSP090-DBBN3**	90W	90~264 VAC		4.74 A		88%	0°C ~ 40°C	UL/TUV/CCC/ CE/GS/PSE/ KC/BSMI/RCM/PSE	51 x 129 x 30.9
	**FSP065-RBBN3**	65W	90~264 VAC		3.42 A		89.54%	0°C ~ 40°C	UL/TUV/CCC/CE/ BSMI/PSE/PSB/GS/ EAC/NOM/RCM/ IRAM/Nrcan/Nemko	46.3 x 108.3 x 30
	**FSP060-DHAN3**	60W	90 ~ 264 VAC	5V			85%	0°C ~ 40°C	UL/TUV/CCC/ GS/ PSE/RCM/ CE/KC / BSMI	62 x 110 x 31.5
	**FSP036-RHBN3**	36W	90 ~ 264 VAC	3 A			88.3%	0°C ~ 40°C	UL/TUV/CCC/GS/ CE/BSMI/PSE/RCM/ KC	37.8 x 89.8 x 27

Redundant Power Supply

AC Input														
Product	Model No.	Watt AT/ATX PFC	Input Range	Output Current Range						Efficiency	Operating Temperature	Safety	Dimensions (mm)
			Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb				
	**63050-010500-010-RS**	500W ATX PFC	90 ~ 264 VAC	20A (0A min.)	20A (0A min.)	40A (1A min.)	0.3 A (0A min.)	0.5 A (0A min.)	3 A	84%	0°C ~ 50°C	CB, UL, TUV, CCC, CE, FCC	150 × 84× 190
	**63050-040300-020-RS**	300W ATX PFC	90 ~ 264 VAC	18 A (1 A min.)	25 A (3 A min.)	16 A (2 A min.)	0.5A	0.5 A	2 A (0.1 A min.)	65%	0°C ~ 50°C	CB, UL, TUV, CCC, CE, FCC	150 × 84 × 190

Supercapacitor UPS Module

Model	RHEA-I660A-R10
Battery type	Supercapacitor
Capacity	3V 600F x6pcs
Expected Lifespan	>10 years @3V 25
Lifecycle	500000 charging/discharging cycles
Input Voltage	12V or 19V or 24V
Output Voltage	Vin 12V±10%, Vout 12V Vin 19V±10%, Vout 19V Vin 24V±10%, Vout 24V
Output Power	150W
LED Indication	Green

backup Time	200sec (exp 60w@25°C power consumption)
I/O Connector	2 x LED connect (10-pin) 1 x DC-in (4-pin) 1 x DC-out (4-pin) 2 x Relay (6-pin) 1 x USB 2.0 Type-A 1 x Debug (3-pin) 1 x FW flash (14-pin) 2 x Power button (2-pin)
Operating Temperature	-40°C ~ 60°C
Storage Temperature	-40°C ~ 70°C

DC/DC Converter Module

Product	Model No.	Dimensions	Maximum Output Power	Input Voltage	Maximum Output Current		
					12V	19V	24V
	**IDD-936160**	25 mm x 82 mm	60 W	9 ~ 36 V	5 A	-	-
	**IDD-636160S**	45 mm x 95 mm	160W	9 ~ 36 V	13.3A*	8.4A*	6.7A*

*The IDD-636160S offers three selectable output voltages of 12V/19V/24V DC. Its max. output current depends on the selected output voltages.

Dedicated Engineering Team - Professional

Our committed team specializes in crafting application-specific integrated solutions tailored to your needs, ensuring you stay ahead of the competition. Our offerings encompass a range of features including standard and non-standard voltages, isolated and non-isolated configurations, diverse form factors, precise power sequencing, battery chargers, electromechanical interference protection, thermal management solutions, remote on/off functionality, and versatile I/O interfaces.

Advanced Test Equipment – Precision & Reliability

Timing/Noise Analyzer Chroma 6011

Electronic Load Chroma 6312 Series

Power Analyzer Chroma 6632

*Specifications are subject to change without prior notice.

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