

2023

PRODUCT SELECTION GUIDE



iei®

intel
partner
Titanium

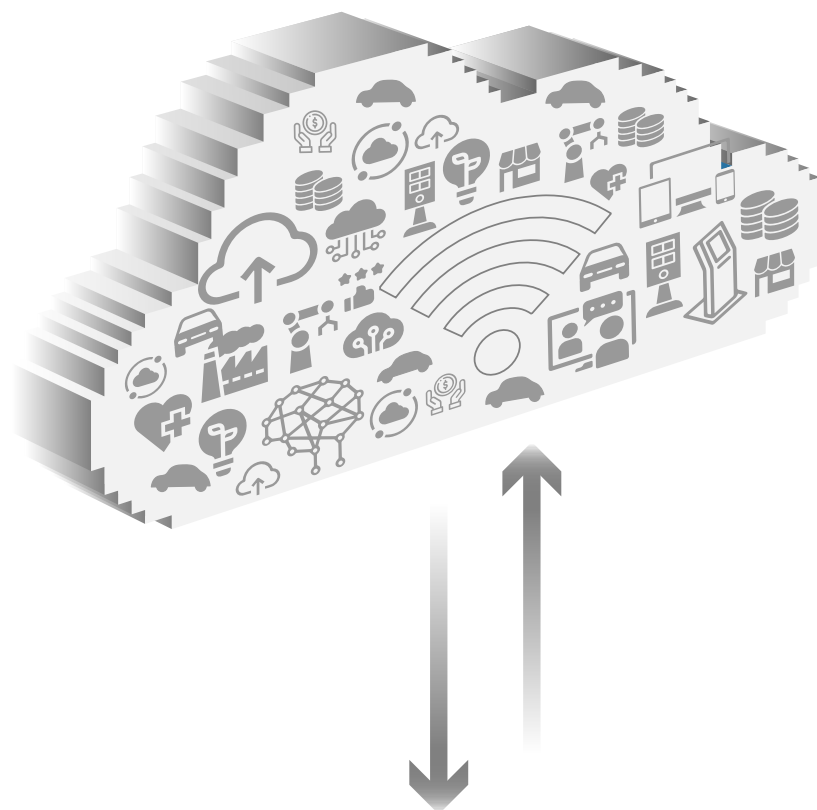


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IEI's IIoT Whitepaper

Powering IIoT Edge-Computing for Vertical Market AI, Energy and Transportation



IEI's IIoT Brochure

Leads Way into the Future of IIoT



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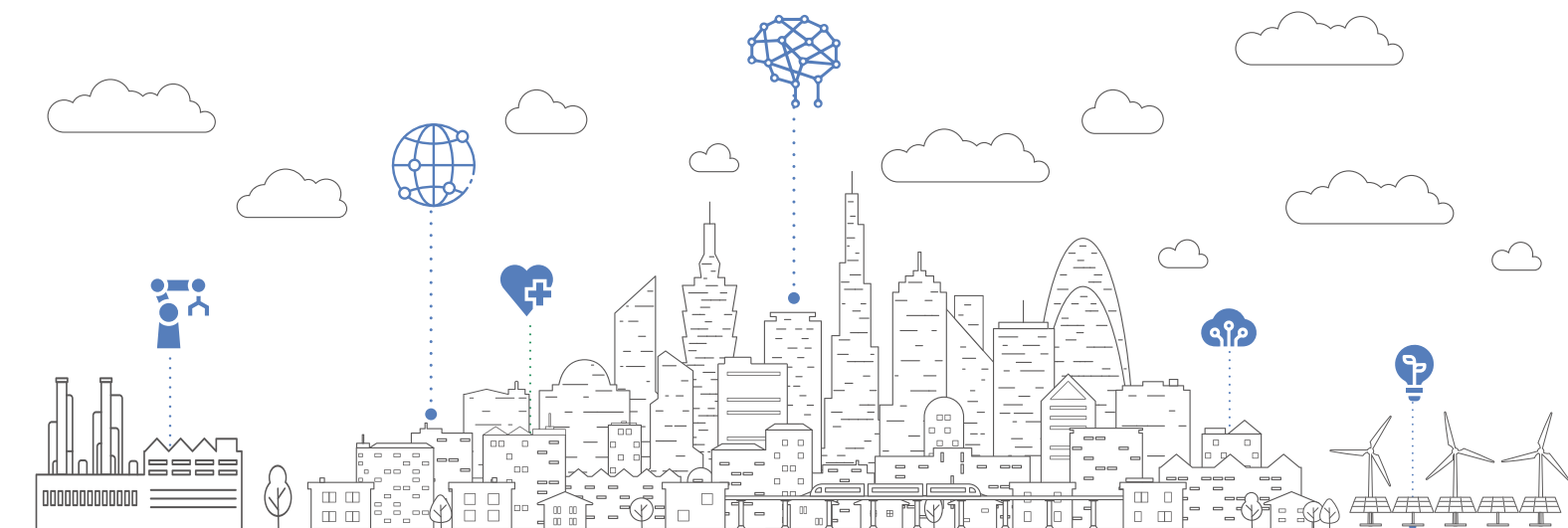
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Intelligence from Edge to Cloud

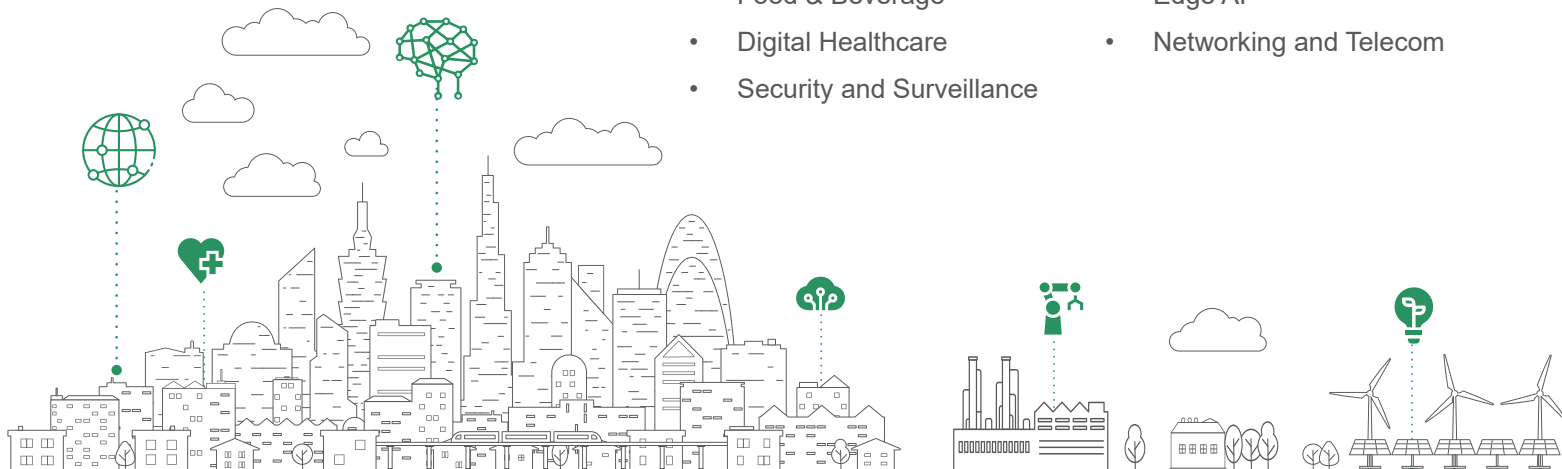
Founded in 1997, IEI Integration Corp. was founded with innovation, creation and intelligent and known as a leading solution provider committed to delivering advanced technology for edge computing, networking and healthcare IT. We offer edge-to-cloud solutions through a comprehensive technology-oriented portfolio of hardware, software, services and global logistics.

With cutting-edge technologies plus more than 25-year industry knowledge and experiences, we deliver reliable and innovative products for a wide variety of mission-critical applications. We also offer professional customized design and manufacturing services from initial product conceptualization to after-sales support, enabling customers to benefit from time-to-market, high-quality products and the best fully integrated and fit-for-purpose applications.

IEI prides our corporate value at continuous persistence on driving premium products and CSR commitment to uphold staff care, environmental protection, and social participation.

Innovator & Thought Leader

- Smart Factory
- Manufacturing Automation
- Food & Beverage
- Digital Healthcare
- Security and Surveillance
- Smart Transportation
- Energy and Environment
- Edge AI
- Networking and Telecom



We Are Group Company

IEI Group is comprised of five companies joining forces to build a solid group with international ambitions. IEI Group is an integrated group, with an edge to cloud computing, UEMS service, cloud storage and healthcare strategy designed to meet the challenges of today and tomorrow



IEI Integration Corp.
Industrial Integrated
IoT Solution Provider
Founded in 1997
Taidex 3022



Armorlink SH Corp.

Armorlink SH Corp.
Unique Electronic
Manufacturing Service
Founded in 2002



BriteMED Technology Inc.

BriteMED Technology Inc.
Intelligent Medical
System Provider
Founded in 2009



QNAP Systems, Inc.
Leading Edge Computing
Storage Provider
Founded in 2004



XINGWEI COMPUTER CO., LTD.
Professional Chassis
Manufacturer
Founded in 2002



We Are International

3 Manufacturing Sites **5** Logistics Centers **25** Countries **11** Subsidiaries



Our Production

100% Owned Manufacture

- 100% owned manufacturing facilities, and more than 1,000+ experienced R&D
- Stable global supply chain management, ensuring longer product sustainability
- Offering outstanding product quality control



Chi-Du Site in New Taipei, Taiwan



Armorlink Site in Shanghai, China



Xing-Wei Site in Kunsan, China

2023 Featured Solutions



TANK-XM81x Series

Edge AI Computer

[VISIT P.58](#)

13th Gen

Intel® Core™ Processor

Function Boost

GPU/PCIe/PCI
Performance Acceleration

Universal I/O Expansion

Support One Universal I/O Expansion for
PoE and Wireless Functionality



TANGO-3010 Series

Mini Computer

[VISIT P.69](#)

3x

2.5 GbE LAN

4K

Dual Display

2x

Storage: 2.5" HDD and NVMe SSD

Mini-Size

139 x 137 x 39.8 mm (W x D x H)

MIL-STD-810H

Ruggedized Design

Wireless

Wi-Fi 6E/Bluetooth V5.2



PUZZLE-9040 Series

Power Optimized Edge Server [VISIT P.94](#)

Up to 128-Core Density Dual 4th Gen Intel® Xeon® Scalable Processors	High Serviceability Redundant 1600W AC PSU Hot-swappable fan modules	PCIe Gen5 Storage Devices 2.5" U.2 NVMe Gen5 drives 2 x M.2 2280 NVMe Gen5
One FLFH Slot One PCIe Gen4 x16 FLFH card for FPGA or acceleration card	DDR5 16 x DDR5 DIMM slots	8 x OCP 3.0 Slots 6 x PCIe Gen5 x16 & 2 x PCIe Gen4 x16



IASO Series

Healthcare Data Acquisition Terminal [VISIT P.107](#)

10.1" 1280x800 resolution with PCAP touchscreen	Dual Programmable LED light bars	AI Audio Real-time emergency detection in the hospital lounge/ward
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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
Alder Lake S	Intel® R680									V	V					V	Linux Kernel 5.4
	Intel® H610									V	V						Linux Kernel 5.4
	Intel® Q670									V	V						Linux Kernel 5.4
	Intel® Alder Lake P									V	V						Linux Kernel 5.4
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		
			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	None	None		
			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	None	None		
			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		
			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	350 MHz	DDR3 1333/1600	
			4/8	E3-1268LV3	2.3 GHz	8 MB	45 W	Intel® HD Graphics 4600			
			4/8	E3-1270 v3	3.5 GHz	8 MB	80 W	None	-		
			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	DDR3 and DDR3L 1333/1600 at 1.5V	
			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	-	-		

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
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	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			
				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			
				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			
				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			
				G7400TE	3.00 GHz	6 MB	35W				
	Celeron®		2/2	G6900E	3.00 GHz	4 MB	46W	Intel® UHD Graphics 770			
				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			
				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			
				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			
				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			
				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			
				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			
				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					
		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					
		G6400TE	3.20 GHz	4 MB	35 W						
Celeron®	2/2	G5900E	3.20 GHz	2 MB	58 W	Intel® UHD Graphics 630					
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			
			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			
			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			
			4/4	i3-9100TE	2.20GHz	6MB	35W				
		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							
	Core™ i5	14nm Coffee Lake	6/6	i5-9600K	3.70 GHz	9MB	95W	Intel® UHD Graphics 630	350 MHz	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				H310/Q370			
			6/6	i5-8400	2.80 GHz	9MB	65W							
	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	Intel® UHD Graphics 610						
			2/4	G5500	3.80 GHz	4MB	54W							
			2/4	G5400T	3.10 GHz	4MB	35W							
			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							
Core™ i5		14nm Kaby Lake	4/8	i7-6700	3.40 GHz	8 MB	65 W	Intel® HD Graphics 630	DDR4-2133/2400, DDR3L-1333/1600 @ 1.35V					
			4/8	i7-6700TE	2.40 GHz	8 MB	35 W							
			4/4	i5-7600K	3.8GHz	6 MB	91W				Intel® HD Graphics 530			
			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							
		14 nm Skylake	4/4	i5-7400T	2.4GHz	6 MB	35W	Intel® HD Graphics 510						
			4/4	i5-7500T	2.7GHz	6 MB	35W							
			4/4	i5-7400	3.5GHz	6 MB	65W							
			4/4	i5-6600	3.30 GHz	6 MB	65 W		Intel® Iris™ Pro Graphics 580					
			4/4	i5-6600K	3.50 GHz	6 MB	91 W							
			4/4	i5-6585R	2.80 GHz	6 MB	65 W							
Core™ i3		14nm Kaby Lake	4/4	i5-6500	3.20 GHz	6 MB	65 W	Intel® HD Graphics 530	DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V					
			4/4	i5-6500T	2.50 GHz	6 MB	35 W	Intel® HD Graphics 530						
			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				Intel® HD Graphics 530			
			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	Intel® HD Graphics 610			
			2/4	G4560T	2.9GHz	3 MB	35W				
			2/4	G4560	3.5GHz	3 MB	54W				
		14nm Skylake	2/2	G4500	3.50 GHz	3 MB	51W	Intel® HD Graphics 530			
			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				
	Celeron®	14nm Kaby Lake	2/2	G3950	3.0GHz	2 MB	51W	Intel® HD Graphics 610			
			2/2	G3930TE	2.7GHz	2 MB	35W				
			2/2	G3930T	2.7GHz	2 MB	35W				
			2/2	G3930E	2.9GHz	2 MB	54W				
			2/2	G3930	2.9GHz	2 MB	51W				
		14 nm Skylake	2/2	G3920	2.90 GHz	2 MB	51 W	Intel® HD Graphics 510			
			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				
			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		
			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		
	Core™ i5		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		
	Core™ i3		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		
			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		

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							
			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		DDR3-1333, DDR3L-1333 @ 1.5V							
		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								

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			DDR3-1066		
			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					
	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

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						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	-				
Core™ i3		4/8	i5-8365UE		1.6GHz	6MB	15W	-				
		2/4	i3-8145U		2.10 GHz	4MB	15W	-				
Pentium®		2/4	i3-8145UE		2.2GHz	4MB	15W	-				
		2/4	5405U		2.3GHz	2MB	15W	Intel® UHD Graphics 610	DDR4-2133, LPDDR3-1866	-		
Celeron®		2/2	4205U		1.8GHz	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	Intel® Iris™ Plus Graphics 650			-	
	2/4			i5-7260U	2.2GHz	4MB	15W	Intel® Iris™ Plus Graphics 640			-	
	2/4			i5-7200U	2.50 GHz	3MB	15W				-	
	Core™ i3		2/4	i3-8130U	2.20 GHz	4MB	15W	Intel® HD Graphics 620			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				-
				2/2	3965U	2.2GHz	2MB	15W		Intel® HD Graphics 610		-
	Celeron®		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	200 MHz		-
	Core™ i3		2/4	i3-4010U	1.7 GHz	3 MB	15 W	4400	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	N/A	N/A		C240	
			8/16	E-2278G	3.40 GHz	16MB	80W	N/A	N/A		C246	
			6/12	E-2276G	3.80 GHz	12MB	80W	Intel® UHD Graphics P630	350MHz			
			4/8	E-2274G	4.00 GHz	8MB	83W	Intel® UHD Graphics P630	350MHz			
			6/12	E-2246G	3.60 GHz	12MB	80W	N/A	N/A		C240	
			4/8	E-2244G	3.80 GHz	8MB	71W	Intel® UHD Graphics P630	350MHz		C246	
			6/12	E-2236	3.40 GHz	12MB	80W	N/A	N/A		C240	
			4/8	E-2234	3.60 GHz	8MB	71W	Intel® UHD Graphics P630	350MHz		C246	
			6/6	E-2226GE	3.40 GHz	12MB	80W	N/A	N/A		C240	
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			DDR4-2400, LPDDR3-2133, DDR3L-1600	CM236	
	Xeon® E3	14nm Kabylake	4/8	E3-1535MV6	3.10 GHz	8 MB	45W	Intel® HD Graphics P630		DDR4-2400		CM236
			4/8	E3-1505MV6	3.00 GHz	8 MB	45 W					
			4/8	E3-1505LV6	2.20 GHz	8 MB	25 W					
			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	Intel® HD Graphics P530				
			4/8	E3-1535MV5	2.90 GHz	8 MB	45 W	Intel® Iris™ Pro Graphics P580				
			4/8	E3-1515MV5	2.80 GHz	8 MB	45 W	Intel® HD Graphics P530				
			4/8	E3-1505MV5	2.80 GHz	8 MB	45 W					

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				
			6/12	i7-8700B	3.20 GHz	12MB	65W				
			6/6	i5-8500B	3.00 GHz	9MB	65W				
			4/8	i5-8400H	2.50 GHz	8MB	45W				
			6/6	i5-8400B	2.80 GHz	9MB	65W				
	Core™ i5		4/8	i5-8300H	2.30 GHz	8MB	45W				
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				
			4/8	i7-7820EQ	3.00 GHz	8 MB	45W				
			4/8	i7-7700HQ	2.80 GHz	6 MB	45W				
	Core™ i5		4/4	i5-7442EQ	2.10 GHz	6 MB	25W				
			4/4	i5-7440HQ	2.80 GHz	6 MB	45W				
			4/4	i5-7440EQ	2.90 GHz	6 MB	45W				
			4/4	i5-7300HQ	2.50 GHz	6 MB	45W				
			Core™ i3	2/4	i3-7102E	2.10 GHz	3 MB			25W	
				2/4	i3-7100E	2.90 GHz	3 MB			35W	
	FCBGA1440		Core™ i7	14nm Skylake	4/8	i7-6820EQ	2.80 GHz			8 MB	
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				
4/8		i7-6820HK			2.70 GHz	8 MB	45 W				
4/8		i7-6820HQ			2.70 GHz	8 MB	45 W				
4/8		i7-6870HQ			2.70 GHz	8 MB	45 W				
4/8		i7-6920HQ			2.90 GHz	8 MB	45 W				
4/8		i7-6970HQ			2.80 GHz	8 MB	45 W				
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	Intel® Iris™ Pro Graphics 580			
			4/4	i5-6350HQ	2.30 GHz	6 MB	45 W				
	Core™ i3		2/4	i3-6102E	1.90 GHz	3 MB	25 W	Intel® HD Graphics 530			
			2/4	i3-6100E	2.70 GHz	3 MB	35 W				
			2/4	i3-6100H	2.70 GHz	3 MB	35 W	Intel® HD Graphics 510			
			2/2	G3900E	2.40 GHz	2 MB	35 W				
	Celeron®		2/2	G3902E	1.60 GHz	2 MB	25 W	DDR4-1866/2133, DDR3L-1333/1600 @ 1.35V			
	FCBGA1364		Core™ i7	22nm Haswell	4/8	i7-4700EC	2.7 GHz	8 MB		43 W	
4/8		i7-4700EQ			2.4 GHz	6 MB	47 W	None	400 MHz		
4/8		i7-4702EC			2 GHz	8 MB	27 W		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		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	Intel® HD Graphics 4600	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					
	Core™ i7 Extreme Edition	32nm Sandy Bridge	4/8		i7-3920XM	2.9 GHz	8 MB	55 W	-	1.3 GHz	DDR3- 1066/1333/1600						
			4/8		i7-2960XM	2.7 GHz	8 MB	55 W	-	1.3 GHz							
	Core™ i7	22nm Ivy Bridge	4/8		i7-2920XM	2.5 GHz	8 MB	55 W	-	1.3 GHz	DDR3/L-RS 1333/1600		QM77/ QM67/ HM65				
			4/8		i7-3840QM	2.8 GHz	8 MB	45 W	-	1.3 GHz							
			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						
			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	DDR3-1066/1333						
			4/8		i7-2670QM	2.2 GHz	6 MB	45 W	-	1.1 GHz							
			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								
	Core™ i5	22nm Ivy Bridge	2/4		i7-2620M	2.7 GHz	4 MB	35 W	-	1.3 GHz	DDR3/L 1333/1600	QM77/ QM67/ HM65					
			2/4		i5-3610ME	2.7 GHz	3 MB	35 W	-	950 MHz							
			2/4		i5-3360M	2.8 GHz	3 MB	35 W	-	1.2 GHz							
			2/4		i5-3320M	2.6 GHz	3 MB	35 W	-	1.2 GHz							
	Core™ i5	32nm Sandy Bridge	2/4		i5-3210M	2.5 GHz	3 MB	35 W	-	1.1 GHz	DDR3-1066/1333						
			2/4		i5-2540M	2.6 GHz	3 MB	35 W	-	1.3 GHz							
			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	PGA	i3-3120M	2.5 GHz	3 MB	35 W	-	1.1 GHz	DDR3/L-RS 1333/1600	QM77/ QM67/ HM65			
		Core™ i3	32nm Sandy Bridge		2/4		i3-3110M	2.4 GHz	3 MB	35 W	-	1 GHz					
2/4				i3-2370M	2.4 GHz		3 MB	35 W	-	1.15 GHz							
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							
			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		Quad	PGA	i7-940XM	2.13G	8M	55W	-	-	1333 MHz 1066 MHz	QM57/ HM55					
	Core™ i7				i7-920XM	2.0G	8M	55W	-	-							
					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	45nm	Dual		i7-640M	2.8G	4M	35W	-	500MHz	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	-								
					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	-								
	Celeron®				i3-330M	2.13G	3M	35W	-								
					P4600	2.0G	2M	35W	-								
					P4500	1.86G	2M	35W	-								

Industrial Motherboards & Single Board Computer & Computer-on-Module

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.



Full spectrum of
form factors



Longevity Support



Touchable BIOS



Value-added
IoT Software



High Speed
Signal Simulation



Conformal Coating
(optional)

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 Motherboard

ATX

NEW



NEW



NEW



Model	IMBA-ADL-Q670	IMBA-ADL-H610	IMBA-R680	IMBA-Q470
CPU Socket	LGA1700	LGA1700	LGA1700	LGA1200
CPU Type	12th/13th generation Alder Lake-S/ Raptor Lake-S Intel® Core™ i9/i7/i5/i3/ Pentium®/Celeron® Processor	12th/13th generation Alder Lake-S/ Raptor Lake-S Intel® Core™ i9/i7/i5/i3/ Pentium®/Celeron® Processor	12th/13th generation Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® Processor	10th/11th generation Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor
Chipset	Intel® Q670/Q670E	Intel® H610/H610E	Intel® R680E	Intel® Q470/Q470E
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)	Four 288-pin 4800 MHz dual-channel DDR5 SDRAM unbuffered DIMMs (ECC & non-ECC support) (system max. 128GB)	Four 288-pin 2933 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 128 GB)
Display Interface	Triple independent display 1 x DisplayPort 1 x HDMI 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	Triple independent display 1 x DP 1 x HDMI 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	Triple independent display 1 x DisplayPort 1 x HDMI 1 x IEI iDPM 3040 slot (only for IEI eDP/LVDS/VGA module)	Triple independent display 1 x VGA 1 x DisplayPort 1 x HDMI
Ethernet	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller	LAN1: Intel® i219 LM controller LAN2: Intel® I225V 2.5GbE controller	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller
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 (RS-485 support AFC) 4 x USB 2.0 pin header 2 x USB 3.2 Gen1 pin header 4 x RS-232 pin header	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 pin header 4 x RS-232 pin header	4 x USB 3.2 Gen 2 (Type-A) 2 x USB 3.2 Gen 1 (Type-A) 2 x RS-232/422/485 (RS-485 support AFC) 4 x USB 2.0 pin header 2 x USB 3.2 Gen1 pin header 4 x RS-232 pin header	2 x USB 2.0 1 x RS-232/422/485 2 x RS-232 2 x USB 3.2 Gen 1 (Type-A) 2 x USB 3.2 Gen 2 (Type-A) 1 x RS-232/422/485 pin header 2 x RS-232 pin header 2 x USB 3.2 Gen 1 pin header 5 x USB 2.0 pin header
Storage Interface	4 x SATA 6Gb/s (RAID 0/1/5/10 supported) 2 x M.2 (M Key, support NVME SSD)	4 x SATA 6Gb/s 2 x USB 2.0 (2x4 pin, P=2.54) 4 x RS-232 (2x5 pin, P=2.54)	6 x SATA 6Gb/s (RAID 0/1/5/10 supported) 2 x M.2 (M Key, support NVME SSD)	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)
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)	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2 x 5 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)	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)
Power Consumption	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)	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)
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			
Expansion Slot	**1 x PCIe Gen4 x16 **1 x PCIe Gen4 x4 open-end 2 x PCIe Gen4 x4 open-end 2 x PCIe Gen3 x1 1 x PCI 1 x M.2 M Key 1 x M.2 M Key	**1 x PCIe Gen4 x16 1 x PCIe Gen3 x4 open-end 2 x PCIe Gen3 x1 2 x PCI	1 x M.2 M Key 1 x M.2 M Key 2 x PCIe Gen5 x16 with x8 Signal 3 x PCIe Gen4 x4 open-end 2 x PCIe Gen3 x1	1 x M.2 A Key 1 x M.2 M Key 1 x PCIe Gen3 x16 3 x PCIe Gen3 x4 3 x PCI
CPU Cooler	19100-000319-00-RS 19100-000326-00-RS 19100-000327-00-RS 19100-000328-00-RS	19100-000323-00-RS 19100-000319-00-RS	19100-000319-00-RS 19100-000326-00-RS 19100-000327-00-RS 19100-000328-00-RS	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10

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

Industrial Motherboard

ATX



Model	IMBA-Q471	IMBA-H420	IMBA-C2460	IMBA-Q370
CPU Socket	LGA1200	LGA1200	LGA1151	LGA1151
CPU Type	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	8th/9th generation Intel® Xeon® E, Core™ i9/i7/i5/i3, Pentium® and Celeron® processor	8th/9th generation Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor
Chipset	Intel® Q470/Q470E	Intel® H420E	Intel® C246	Intel® Q370
Memory	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)	Four 288-pin 2666/2400 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (ECC & non-ECC support) (system max. 64 GB)	Four 288-pin 2666/2400 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)
Display Interface	Triple independent display 1 x VGA 1 x DisplayPort 1 x HDMI	Triple display 1 x VGA 1 x Internal DP++ 1 x HDMI	Triple independent display 1 x VGA 1 x DP++ 1 x HDMI 1 x Internal DisplayPort 90°	Triple independent display 1 x VGA 1 x DP++ 1 x HDMI 1 x Internal DisplayPort 90°
Ethernet	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller LAN3: Intel® I225V 2.5GbE controller	LAN1: Intel® I225V GbE controller	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211AT PCIe controller	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211AT PCIe controller
I/O Interface	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 pin header 2 x USB 3.2 Gen1 pin header 2 x RS-232 pin header 1 x RS-422/485 pin header	4 x USB 3.1 Gen 1 (Type-A) 2 x USB 2.0 (Type-A) 1 x RS-232 1 x KB/MS 1 x RS-232/422/485 pin header 2 x USB 2.0 pin header 4 x RS-232 pin header	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 pin header 2 x RS-232/422/485 pin header 3 x RS-232 pin header 2 x USB 3.2 Gen 1 pin header 4 x USB 2.0 pin header	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 pin header 2 x RS-232/422/485 pin header 3 x RS-232 pin header 2 x USB 3.2 Gen 1 pin header 4 x USB 2.0 pin header
Storage Interface	5 x SATA 6Gb/s (RAID 0/1/5/10 supported) 1 x M.2 (M Key, support NVMe SSD)	4 x SATA 6Gb/s (no RAID)	6 x SATA 6Gb/s (RAID 0/1/5/10 supported) 1 x M.2 (M Key,support NVME SSD)	6 x SATA 6Gb/s (RAID 0/1/5/10 supported) 1 x M.2 (M Key,support NVME SSD)
Audio	Realtek ALC888S HD Audio codec	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)	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)
Power Consumption	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)	3.3V@0.38A, 5V@9.38A, 12V@6.23A, 5VSB@0.16A (Intel® Core™ i5-8500 3.0 GHz CPU with four 16 GB 2400 MHz DDR4 memory)	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)
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			
Expansion Slot	1 x M.2 M Key 2 x PCIe Gen3 x16 with x8 Signal 3 x PCIe Gen3 x4 open-end 2 x PCIe Gen3 x1	1 x PCIe Gen3 x16 1 x PCIe Gen3 x4 4 x PCI	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 M.2 A Key 1 x M.2 M Key 2 x PCIe Gen3 x8 3 x PCIe Gen3 x4 2 x PCI
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-1156C-R20 CF-1156D-R30 CF-115XE-R10

Industrial Motherboard

ATX



Model	IMBA-H310	IMBA-C2360-i2	IMBA-Q170-i2	IMBA-H112
CPU Socket	LGA1151	LGA1151	LGA1151	LGA1151
CPU Type	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	6th/7th generation Intel® Core™ i7/i5/ i3, Pentium® and Celeron® processor	6th/7th generation Intel® Core™ i7/i5/ i3, Celeron® and Pentium® processor
Chipset	Intel® H310	Intel® C236	Intel® Q170	Intel® H110
Memory	2 x 288-pin 2666/2400 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	4 x 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (ECC & non-ECC support) (system max. 64 GB)	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)
Display Interface	Triple independent display 1 x DVI-D 1 x VGA 1 x Internal 180° Type-C DP	Triple independent display 1 x HDMI 2.0 1 x DVI-D 1 x VGA 1 x iDP 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
Ethernet	LAN1: Intel® I219LM with Intel® AMT 11.0 support LAN2: Intel® I211 AT PCIe controller	LAN1: Intel® I219LM with Intel® AMT 11.0 support LAN2: Intel® I210-AT PCIe controller with NCSI support	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
I/O Interface	1 x LPT 1 x RS-232/422/485 (RS-485 support AFC) 2 x KB/MS 4 x USB 2.0 4 x USB 3.2 Gen 1 5 x RS-232	1 x KB/MS 2 x USB 2.0 4 x USB 3.2 Gen 1 Type A 1 x KB/MS pin header 4 x RS-232 pin header 1 x LPT pin header 4 x USB 2.0 pin header 2 x USB 3.2 Gen 1 pin header 2 x RS-232/422/485 pin header	1 x KB/MS 2 x USB 2.0 4 x USB 3.2 Gen 1 Type A 1 x KB/MS pin header 4 x RS-232 pin header 1 x LPT pin header 4 x USB 2.0 pin header 2 x USB 3.2 Gen 1 pin header 2 x RS-232/422/485 pin header	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 pin header 1 x RS-232/422/485 pin header 1 x LPT pin header 1 x internal USB 2.0 (type A) 4 x RS-232 pin header 2 x USB 2.0 pin header
Storage Interface	4 x SATA 6Gb/s (no RAID)	6 x SATA 6Gb/s (RAID 0/1/5/10 supported)	6 x SATA 6Gb/s (RAID 0/1/5/10 supported)	3 x SATA 6Gb/s
Audio	Realtek ALC888S HD Audio codec			
Digital I/O	8-bit programmable I/O (8-bit GPIO is for programming I/O)			N/A
Power Consumption	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)	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)
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 PCIe x16 (Gen3) 1 x PCIe x4 (Gen2) 4 x PCI	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) 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
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-1156C-R20 CF-1156D-R30 CF-115XE-R10

Industrial Motherboard

ATX



Model	IMBA-H110	IMBA-C2260	IMBA-Q870	IMBA-H810
CPU Socket	LGA1151	LGA1150	LGA1150	LGA1150
CPU Type	6th/7th generation Intel® Core™ i7/i5/i3, Celeron® and Pentium® processor	4th generation Intel® Xeon® E3, Core™ i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	4th generation Intel® Core™ i7/i5/i3 Pentium® and Celeron® processor
Chipset	Intel® H110	Intel® C226	Intel® Q87	Intel® H81
Memory	2 x 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	4 x 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM ECC and non-ECC unbuffered DIMMs (system max. 32 GB)	4 x 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 32 GB)	2 x 240-pin 1333/1600 MHz dual-channel DDR3 SDRAM unbuffered DIMM (system max. 16 GB)
Display Interface	Dual independent display support 1 x DVI-I 1 x HDMI 1 x iDP interface	Dual display support 1 x VGA 1 x iDP interface	Triple display support 1 x VGA 1 x DVI-D 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® I219V PHY LAN2: Intel® I211 PCIe controller	LAN1: Intel® I217LM with Intel® AMT 9.0 support LAN2: Intel® I210-AT PCIe controller with NCSI support	LAN1: Intel® I217LM with Intel® AMT 9.0 support LAN2: Intel® I210-AT PCIe controller with NCSI support	LAN1: Intel® I217-LM with Intel® AMT 9.0 support LAN2: Intel® I211-AT PCIe controller
I/O Interface	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 pin header 2 x RS-232 pin header 1 x LPT pin header 2 x USB 2.0 pin header 1 x RS-232/422/485 pin header 1 x internal USB 2.0 (type A)	1 x KB/MS 4 x USB 2.0 1 x RS-232 4 x USB 3.2 Gen 1 Type A 1 x KB/MS pin header 1 x RS-422/485 pin header 1 x LPT pin header 4 x RS-232 pin header 4 x USB 2.0 pin header	1 x KB/MS 2 x USB 3.2 Gen 1 Type A 1 x RS-232 4 x USB 2.0 1 x KB/MS pin header 2 x USB 3.2 Gen 1 pin header 1 x LPT pin header 4 x RS-232 pin header 4 x USB 2.0 pin header 1 x RS-422/485 pin header	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 pin header 1 x internal USB 2.0 (180° Type-A) 1 x LPT pin header 3 x RS-232 pin header 1 x RS-422/485 pin header 4 x USB 2.0 pin header 2 x SATA 6Gb/s 2 x SATA 3Gb/s
Storage Interface	4 x SATA 6Gb/s	6 x SATA 6Gb/s (RAID 0/1/5/10 supported) 1 x mSATA (colay SATA port 6) (support SATA 6Gb/s signal only)	6 x SATA 6Gb/s (RAID 0/1/5/10 supported) 1 x mSATA (colay SATA port 6) (support SATA 6Gb/s signal only)	2 x SATA 3Gb/s 2 x SATA 6Gb/s
Audio	Realtek ALC888S HD Audio codec			
Digital I/O	8-bit programmable I/O (8-bit GPIO is for programming I/O)			
Power Consumption	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@0.57A, 5V@4.50A, 12V@0.14A, Vcore_12V@5.20A, 5VSB@0.19A (Intel® E3-1240 v3 3.4GHz CPU with 16 GB (four 4 GB) 1333 MHz DDR3 memory)	3.3V@0.66A, 5V@4.34A, 12V@0.16A, Vcore_12V@4.01A, 5VSB@0.21A (Intel® Core™ i7-4770K 3.90 GHz CPU with four 1333 MHz 4 GB DDR3 DDR3 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	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: -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) 1 x PCIe x16 (Gen3) 6 x PCI	1 x PCIe x16 slot 3 x PCIe x4 slot Default setting: 1 x PCIe x8, 2 x PCIe x4 Optional setting: 1 x PCIe x16 by BIOS setting 1 x PCIe x1 slot 2 x PCI slot	1 x PCIe x16 slot (Gen 3) 1 x PCIe x4 slot 1 x PCIe x1 slot 4 x PCI slots	1 x PCIe x16 2 x PCIe x1 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-115XE-R10	CF-115XA-R10 CF-115XE-R10	CF-115XA-R10 CF-115XE-R10

Industrial Motherboard

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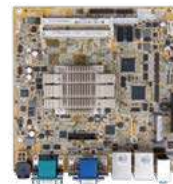
Model	IMB-ADL-Q670	IMB-ADL-H610	IMB-H110	IMB-Q870	IMB-H810
CPU Socket	LGA1700	LGA1700	LGA1151	LGA1150	LGA1150
CPU Type	12th/13th generation Alder Lake-S/Raptor Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor	12th/13th generation Alder Lake-S/Raptor Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor	6th generation Intel® Core™ i7/i5/i3, Celeron® and Pentium® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor
Chipset	Intel® Q670/Q670E	Intel® H610/H610E	Intel® H110	Intel® Q87	Intel® H81
Memory	Four 288-pin 3200 MHz Dual-Channel DDR4 SDRAM Unbuffered DIMMs supported (system max. 64GB)	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)	Four 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 32 GB)	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 LVDS 1 x iDP	Triple display support 1 x VGA 1 x DVI-D 1 x HDMI 1 x iDP interface	Triple display support 1 x VGA1 1 x VGA2 1 x iDP interface
Ethernet	LAN1: Intel® I225LM 2.5GbE controller LAN2: Intel® I225-V 2.5GbE controller	LAN1: Intel® i219 LM controller LAN2: Intel® I225V 2.5GbE controller	Dual LAN: RTL 8111GN controller	LAN1: Intel® I217LM with Intel® AMT 9.0 support LAN2: Intel® I210-AT PCIe controller with NCSI support	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 pin header 8 x RS-232 pin header	2 x USB 3.2 Gen2(Type-A) 2 x USB 3.2 Gen1(Type-A) 4 x USB 2.0 (Type-A) 2 x RS-232/422/485 (RS-485 support AFC) 2 x USB 2.0 pin header 4 x RS-232 pin header	4 x USB 3.2 Gen 1 Type A 6 x USB 2.0 1 x KB/MS pin header 2 x RS-232/422/485 pin header 1 x LPT pin header 2 x USB 2.0 pin header 10 x RS-232 pin header	1 x KB/MS 2 x USB 3.2 Gen 1 Type A 1 x RS-232 4 x USB 2.0 1 x KB/MS pin header 1 x RS-422/485 pin header 4 x RS-232 pin header 2 x USB 3.2 Gen 1 pin header 4 x USB 2.0 pin header	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 1 x M.2 (M Key, support NVME SSD)	4 x SATA 6Gb/s (RAID 0/1 supported)	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)	2 x SATA 6Gb/s 2 x SATA 3Gb/s (AHCI supported)
Audio	Realtek ALC888S HD Audio codec	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec	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	8-bit programmable I/O (8-bit GPIO is for programming 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 (two 8GB) 2133 MHz DDR4 memory)	3.3V@0.53A, 5V@4.96A, 12V@0.12A, Vcore_12V@3.95A, 5VSB@0.18A (Intel® Core™ i7-4770K 3.90 GHz CPU with 16 GB four 1333 MHz 4 GB DDR3 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: 0°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 2 x PCIe Gen4 x4 open-end 1 x PCIe Gen3 x1 2 x M.2 M Key	**1 x PCIe Gen4 x16 1 x PCIe Gen3 x4 open-end 2 x PCIe Gen3 x1 1 x M.2 M Key	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 x4 1 x PCIe x1 1 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	19100-000319-00-RS 19100-000326-00-RS 19100-000327-00-RS 19100-000328-00-RS	CF-115XA-R10 CF-115XE-R10	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 Motherboard

Mini-ITX

Intel® Platform

NEW


Model	KINO-EHL-J6412	tKINO-AL	tKINO-BW	KINO-DBT	eKINO-BT
CPU Socket	On Board	On Board	On board	On board	On board
CPU Type	Intel® Celeron® J6412 on-board SoC	Intel® Atom™/Celeron®/Pentium® on-board SoC	Intel® Pentium®/Celeron® on-board SoC	Intel® Atom™/Celeron® on-board SoC (Code name: Bay Trail)	Intel® Atom™/Celeron® on-board SoC (Code name: Bay Trail)
Chipset	Intel® Celeron® J6412 on-board SoC	Intel® Atom™/Celeron®/Pentium® on-board SoC	Intel® Pentium®/Celeron® on-board SoC	Intel® Atom™/Celeron® on-board SoC	Intel® Atom™/Celeron® on-board SoC
Memory	Onboard LPDDR4x-3200MHz 8GB (system max. 16GB)	2 x 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	2 x 204-pin 1600/1333 MHz dual-channel DDR3L SDRAM SO-DIMMs (support up to 8 GB)	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)
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 2 x DP++ 1 x eDP	Triple independent display supported 1 x HDMI/DP 1 x VGA 1 x 18/24-bit dual-channel LVDS	Dual independent display supported 1 x VGA 1 x DVI-I	Dual display supported 1 x VGA 2 x 18/24-bit dual-channel LVDS
Ethernet	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller	Dual LAN: RTL8111	Dual LAN: Realtek RTL8111G PCIe controller	Dual LAN: Realtek RTL8111HN PCIe controller	Dual LAN: Realtek RTL8111E PCIe controller
I/O Interface	2 x USB 3.2 Gen 2 (Type A) 2 x USB 2.0 (Type A) 2 x RS-232 4 x USB 2.0 (pin header) 4 x RS-422/485 (pin header)	4 x USB 3.2 Gen 1 Type A 2x RS-232/422/485 pin header 1 x KB/MS pin header 4 x RS-232 pin header 2 x USB 2.0 pin header	4 x USB 3.2 Gen 1Type A 1 x KB/MS pin header 2 x RS-232/422/485 pin header 4 x RS-232 pin header 2 x USB 2.0 pin header	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 2 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
Storage Interface	1 x SATA 6Gb/s 1 x M.2 (B key, support NVMe SSD)	2 x SATA 6Gb/s 1 x 8 GB eMMC (optional)	2 x SATA 6Gb/s 1 x mSATA 1 x microSD slot	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
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2 x 5 pin)	Realtek ALC269 HD Audio codec	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 digital I/O	8-bit programmable digital I/O	8-bit programmable digital I/O	8-bit programmable digital I/O
Power Consumption	12V@2.78A (Intel® Celeron® J6412 2.0GHz with 8GB 3200MHz LPDDR4X memory and EUP enabled)	12V@2.58A (Intel® Pentium® N4200 CPU with two 8GB 1600MHz DDR3L memory)	12V@1.61A (Intel® Celeron® N3710 CPU with two 4 GB 1600 MHz DDR3L memory)	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)
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: -20°C ~ 70°C (-4°F ~ 158°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 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 PCIe x1 1 x Full/Half-size PCIe Mini card 1 x M.2 B key	1 x PCIe x1 1 x PCIe Mini card	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
CPU Cooler	Cooler/Heatsink	Heatsink	Heatsink	Heatsink	Heatsink

Industrial Motherboard

Mini-ITX

Intel® Platform

NEW


Model	KINO-ADL-H610	KINO-ADL-P	KINO-TGL-U	KINO-DH420	KINO-DH310
CPU Socket	LGA1700	On Board	On Board	LGA1200	LGA1151
CPU Type	12th/13th generation Alder Lake-S/Raptor Lake-S Intel® Core™ i9/i7/i5/i3/Pentium®/Celeron® Processor	12th Gen. Intel® mobile Alder Lake-P on-board processor	Intel® 11th Gen. Core™ i7/i5/i3, Celeron® UP3 processor (code name: Tiger Lake)	10th generation Intel® Core™ i9/i7/i5/i3/Pentium® and Celeron® processor	8th generation Intel® Core™ i7/i5/i3 Pentium® and Celeron® processor
Chipset	Intel® H610/H610E	-	-	Intel® H420E	Intel® H310
Memory	2 x 260-pin 3200 MHz dual-channel DDR4 SDRAM unbuffered SO-DIMMs supported (system max. 64GB)	2 x 260-pin 3200 MHz DDR4 SO-DIMM (system max. 64GB)	2 x 260-pin 3200 MHz DDR4 SO-DIMM (system max. 64GB)	2 x 260-pin 2933 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)	2 x 260-pin 2666/2400 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)
Display Interface	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)	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® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller	LAN1: Intel® I225LM 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller LAN3: Intel® I225V 2.5GbE controller	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller LAN3: Intel® I225V 2.5GbE controller	Dual LAN: RTL8111H
I/O Interface	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 (RS-485 support AFC) 2 x USB 2.0 pin header 4 x RS-232 pin header	4 x USB 3.2 Gen 2 (Type A) 2 x RS-232/422/485 4 x USB 2.0 pin header 4 x RS-232 pin header	4 x USB 3.2 Gen 2 (Type A) 1 x RS-232/422/485 pin header 2 x USB 2.0 pin header 5 x RS-232 pin header	2 x RS-232 2 x USB 2.0 4 x USB 3.2 Gen 1 Type A 1 x RS-232 pin header 1 x RS-422/485 pin header 2 x USB 2.0 pin header	4 x USB 3.2 Gen 1 Type A 2 x RS-232 1 x KB/MS pin header 1 x RS-422/485 pin header 1 x RS-232 pin header 4 x USB 2.0 pin header
Storage Interface	2 x SATA 6Gb/s 1 x M.2 (M Key, support NVMe SSD)	2 x SATA 6Gb/s 1 x M.2 (M key, support NVMe SSD) 1 x M.2 (B key, support NVMe SSD)	2 x SATA 6Gb/s 1 x M.2 (M key, support NVMe SSD)	2 x SATA 6Gb/s (No RAID) 1 x M.2 (B key, support NVMe SSD)	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 (2 x 5 pin)	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2 x 5 pin)	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec
Digital I/O	1 x 12-bit digital I/O (2x7 pin, P=2.0)	12-bit programmable I/O (12-bit GPIO is for programming 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)	8-bit programmable digital I/O
Power Consumption	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)	12V@5.09A, 19V@3.25A, 24V@2.58A, 28V@2.23A, (12 th 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 with one 8 GB 2933 MHz DDR4 SO-DIMM)	12V@12.408A (Intel® Core™ i7-10900E 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: 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: 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: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95% non-condensing
Expansion Slot	**1 x PCIe Gen4 x16 1 x M.2 M key 1 x M.2 A key	1 x PCIe x4 slot, open-ended 1 x M.2 A key 1 x M.2 B key 1 x M.2 M key	1 x PCIe x8 slot, open-ended (PCIe Gen3 x4 signal) 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 PCIe Gen3 x16 1 x M.2 B key 1 x M.2 A key	1 x PCIe Gen3 x16 1 x M.2 M key 1 x M.2 A key
CPU Cooler	19100-000323-00-RS 19100-000319-00-RS	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

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

Industrial Motherboard

Mini-ITX

Intel® Platform

Zhaoxion Platform



Model	KINO-DH110	KINO-DAL	KINO-DQM170	KINO-AQ170	KINO-DH810	KINO-KX
CPU Socket	LGA1151	On Board	On board	LGA1151	LGA1150	On Board
CPU Type	6th/7th generation Intel® Core™ i7/i5/i3 Pentium® and Celeron® processor	Intel® Atom™/Celeron®/Pentium® on-board SoC	6th generation Intel® Core™ i7/i5/i3 and Celeron® processor	6th/7th generation Intel® Core™ i7/i5/i3, Pentium® and Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Zhaoxin Kaixian KX-6000 series 8-core processor Zhaoxin KX-U6580/U6780A on-board SoC
Chipset	Intel® H110	Intel® Atom™/Celeron®/Pentium® on-board SoC	Intel® QM170	Intel® Q170	Intel® H81	Zhaoxin ZX-200
Memory	2 x 260-pin 2666/2400 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)	2 x 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	2 x 260-pin 2133 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)	2 x 260-pin 2133 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)	2 x 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	Triple independent display 1 x VGA 1 x HDMI 1 x 18/24-bit dual-channel LVDS	Triple independent display supported 1 x HDMI 2.0 2 x HDMI 1.4 1 x LVDS	Triple independent display supported 1 x HDMI 2.0 1 x HDMI/DP 1 x VGA 1 x iDP interface	Dual display supported 1 x VGA 1 x DVI-I 1 x iDP interface	Dual independent display 1 x VGA 1 x DVI-I
Ethernet	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211 PCIe controller	LAN1: Intel® I211 PCIe controller LAN2: Intel® I211 PCIe controller	LAN1: Intel® I219-LM with Intel® AMT 11.0 support LAN2: Intel® I211 PCIe controller	LAN1: Intel® I211 PCIe controller LAN2: Intel® I219LM with Intel AMT 11.0 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 pin header 2 x RS-232 pin header 4 x USB 2.0 pin header	4 x USB 3.2 Gen 1 Type A 2x RS-232/422/485 1 x internal USB 2.0 (180° Type-A) 1 x KB/MS pin header 4 x RS-232 pin header 4 x USB 2.0 pin header	4 x USB 3.2 Gen 1 Type A 1 x RS-232 1 x KB/MS pin header 2 x RS-232/422/485 pin header 3 x RS-232 pin header 4 x USB 2.0 pin header	1 x KB/MS 4 x USB 3.2 Gen 1 Type A 2 x USB 2.0 2 x RS-232/422/485 pin header 4 x RS-232 pin header 4 x USB 2.0 pin header	2 x USB 2.0 4 x USB 3.2 Gen 1 Type A 2 x RS-232 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	1 x KB/MS 4 x USB 3.2 Gen 1 Type A 10 x USB 2.0 10 x RS-232 pin header
Storage Interface	2 x SATA 6Gb/s	2 x SATA 6Gb/s 1 x 8 GB eMMC (optional)	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)	2 x SATA 6Gb/s	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)
Audio	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec	Realtek ALC888S HD Audio codec
Digital I/O	8-bit programmable digital I/O	8-bit programmable digital I/O	8-bit programmable digital I/O	8-bit programmable digital I/O	8-bit programmable digital I/O	N/A
Power Consumption	12V@12.16A (3.4GHz Intel® Core™ i7-6700 with two 8GB 2133MHz 16GB DDR4 memory)	12V@3.62A (Intel® Pentium® N4200 CPU with two 8GB 1600MHz DDR3L memory)	12V@5.08A (Intel® Core™ i7-6820EQ, 3.5GHz CPU with 16 GB (two 8 GB) 2133 MHz 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 Environment	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95% non-condensing	Temperature Range: KINO-DAL: -20°C ~ 70°C (-4°F ~ 158°F) KINO-DALW2: -40°C ~ 85°C (-40°F ~ 185°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: -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 Full-size PCIe Mini card 1 x M.2 B key 1 x PCIe x16	1 x PCIe x1 1 x Full/Half-size PCIe Mini card 1 x M.2 B key	1 x PCIe x16 1 x Full-size PCIe Mini card 1 x Half-size PCIe Mini card 1 x M.2 2230 (A key)	1 x PCIe x8 1 x Full-size PCIe Mini card	1 x Full-size PCIe Mini card slot 1 x PCIe x1 slot	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	Heatsink	Heatsink	CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-115XA-R10 CF-115XE-R10	Cooler

Single-Board-Computer

4" EPIC

NEW



NEW



Model	NANO-ADL-P	NANO-ULT5	NANO-EHL
CPU Socket	On board	On board	On board
CPU Type	12th Gen. Intel® mobile Alder Lake-P onboard SoC	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Celeron® J6412 on-board SoC
Chipset	12th Gen. Intel® mobile Alder Lake-P on board SoC	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Celeron® J6412 on-board SoC
Memory	On-board LPDDR4x 3200 MHz 8GB (system max. 16GB)	2 x 260-pin 2400/2133 MHz Dual-channel DDR4, SO-DIMM (system max. 32 GB)	On-board Dual channel LPDDR4x 8GB (system max. 16GB)
Display Interface	Quadruple independent display 2 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 x DP 1 x Internal LVDS	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)
Ethernet	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller	1 x PCIe GbE LAN Intel® i211 controller 1 x PCIe GbE LAN Intel® i219 controller	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller
I/O Interface	4 x USB 3.2 Gen 2 (Type-A) 4 x USB 2.0 pin header 2 x RS-232/422/485 pin header 4 x RS-232 pin header	1 x TPM (2 x 10 pin SPI interface) 1 x RS-422/485 pin header (Support Auto Flow Control over RS-485) 1 x RS-232 1 x RS-232 pin header 4 x USB 3.2 Gen 2	2 x USB 3.2 Gen2 (Type-A) 2 x USB 2.0 (Type-A) 2 x USB 2.0 pin header 4 x RS-232 pin header 2 x RS-232/422/485 pin header
Storage Interface	1 x SATA 6Gb/s 1 x M.2 (B Key, support NVMe SSD)	2 x SATA 6Gb/s with 5V SATA power connector 1 x M.2 (M Key with SATA/PCIe interface) (Celeron with M.2 M Key PCIe only)	1 x SATA 6Gb/s with 5V SATA power connector 1 x iSATA
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2 x 5 pin)	Realtek ALC888S HD Audio codec 1 x Analog audio	1 x iAUDIO (2 x 5 pin, support IEI AC-KIT-888HD Module)
Digital I/O	12-bit Digital I/O (2x7 pin)	8-bit programmable digital I/O	
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@6.62A (4.6 GHz Intel® Core™ i7-8665UE CPU with two 16 GB 2666 MHz DDR4 memory modules)	12V@2.75A (Intel® Celeron® J6412 CPU with 8 GB 3200 MHz LPDDR4x memory, max. loading, EuP mode disabled)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset		
Operating Environment	Temperature Range: 0°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	Temperature Range: 0°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slots	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 PCIe Gen3 x4 slot	1 x Full-size PCIe Mini slot 1 x M.2 A key 1 x M.2 M key 1 x SIM card	1 x M.2 B Key (2280/2242) 1 x M.2 A Key (2230) 1 x PCIe x4 slot (PCIe Gen3 x2) (x2 or x1+x1)
CPU Cooler	Heat Spreader	Heat Spreader	Heat Spreader

Single-Board-Computer

4" EPIC / PC/104-Plus



Model	NANO-ULT3	NANO-AL	NANO-BT	PM-BT
CPU Socket	On board	On board	On board	On board
CPU Type	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Atom®/Celeron®/Pentium® on-board SoC	Intel® Atom®, Celeron® SoC	Intel® Atom®/Celeron® SoC (Code name: Bay Trail)
Chipset	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Atom®/Celeron®/Pentium® on-board SoC	Intel® Atom®/Celeron® on-board SoC	Intel® Atom®/Celeron® SoC
Memory	2 x 260-pin 2133/1867 MHz dual-channel DDR4 SO-DIMMs (system max. 32 GB)	1 x 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	1 x 204-pin 1333/1066 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	1 x 204-pin 1066/1333 MHz DDR3L SO-DIMM (system max. 8 GB)
Display Interface	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	Dual display supported 1 x VGA 1 x HDMI 1 x 18/24-bit dual-channel LVDS	Dual display supported 1 x VGA 1 x 18/24-bit single-channel LVDS
Ethernet	LAN1: Intel® I219-LM PHY with Intel® AMT 11.0 supported LAN2: Intel® I211-AT PCIe GbE controller	Dual LAN: Intel® I210-IT/I211-AT PCIe controller	LAN1: Intel® I210-AT PCIe controller with NCSI support LAN2: Intel® I211-AT PCIe controller	GbE by Intel® I210 Ethernet PHY
I/O Interface	1 x PS/2 KB/MS pin header 1 x RS-232/422/485 pin header 2 x RS-232 pin header 2 x USB 2.0 pin header 4 x USB 3.2 Gen 1	1 x PS/2 KB/MS pin header 2 x RS-232/422/485 pin header 4 x RS-232 pin header 2 x USB 2.0 2 x USB 2.0 pin header 2 x USB 3.2 Gen 1	1 x PS/2 KB/MS 1 x RS-422/485 pin header 1 x USB 3.2 Gen 1 3 x RS-232 pin header 1 x USB 2.0 2 x USB 2.0 pin header	2 x RS-232/422/485 pin header 3 x USB 2.0 pin header
Storage Interface	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 1 x M.2 (B Key) (SATA only)	2 x SATA 3Gb/s with 5V SATA power connector	1 x SATA 3Gb/s with 5V SATA power connector On-board SSD (optional)
Audio	Realtek ALC888S HD Audio codec			N/A
Digital I/O	8-bit programmable digital I/O			1 x 8-bit DIO
Power Consumption	12V@2.48A (Intel® Core™ i3-6100U CPU)	12V@2.13 A (Intel® Pentium® N4200 CPU with one 8GB 1600MHz DDR3L memory)	12V@1.52A (Intel® Atom® Processor J1900 CPU 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			Software programmable and supports 1~255 sec. system reset
Operating Environment	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	Temperature Range: -20°C ~ 60°C (for J1900/N2930/N2807) Relative Humidity: -40°C ~ 85°C (for E38xx)
Expansion Slots	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 (w/ Micro SIM holder)	1 x Full-size PCIe Mini card slot with mSATA support 1 x PCI-104 slot	1 x Full-size PCIe Mini slot (support mSATA) 1 x PC/104-Plus (ISA+PCI)
CPU Cooler	Heat Spreader	Heatsink	Heatsink	Heatsink

Single-Board-Computer

3.5" WAFER



Model	WAFAER-IMX8MP	WAFAER-RK3588	WAFAER-RK3568	WAFAER-ULT3	WAFAER-ULT2-I1
CPU Socket	On board	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)	Intel® Mobile ULT processor (Code name: Kaby Lake)	Intel® Mobile ULT processor (Code name: Broadwell)
Chipset	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	Intel® Mobile ULT processor	Intel® Lynx Point SoC
Memory	4 GB LPDDR4-3200, up to 8GB	8GB LPDDR4x	2/4 GB LPDDR4/4X-1866, up to 8GB 16/32GB Emmc NAND FLASH	1 x 260-pin 2133MHz single-channel DDR4 SDRAM SO-DIMM On-board DDR4 memory (optional 4GB/8GB support)	2 x 204-pin 1600/1333 MHz dual-channel DDR3L SO-DIMMs (system max. 16 GB)
Display Interface	1 x MIPI DSI 4 lanes (40-pin 0.5mm FPC 90°)	1 x MIPI DSI / 1 x LVDS out	1x HDMI2.0 Type A , Up to 4K 1 x MIPI DSI 4 Lanes (40Pin 0.5mm FPC 90°) 1 x eDP1.3 (30Pin 0.5mm FPC 90°)	Triple independent display 1 x VGA 1 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 18/24-bit dual-channel LVDS 1 x iDP interface
Ethernet	LAN1: Motorcomm YT8521S 1GbE controller LAN2: Motorcomm YT8521S 1GbE controller	LAN1: REALTEK RTL8125B 2.5GbE controller LAN2: Motorcomm YT8521SC 1GbE controller	2x 1GbE RJ45 By YT8521	1 x Intel® I219LM 1 x Intel® I211AT	LAN1: Intel® I218LM PHY with Intel® AMT 9.0 support LAN2: Intel® I210-AT PCIe GbE 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) GPIO 8 bit (4 in / 4 out, pin header)	1 x GbE LAN 1 x 2.5 GbE LAN 1 x USB 3.2 Gen1 Type-C with DP (OS update) 1 x USB 3.2 Gen1 Type A 2 x USB 2.0 Type A UART (2x9 pin header) I²C (1 x pin header, 3.3V) SATA (1 x SATA 6Gb/s) SPI (1 x pin header, 3.3V) 5 x GPIO via pin header (3.3V TTL level) 1 x DC jack	1 x DB9 Port 2 x RS-232+RS485 2 x 1GbE RJ45 By YT8521 2 x USB 3.0 Type A 3 x USB 2.0 HOST (1x4 with FRAME,180° P=1.25mm,2x4Pin pin header p= 2.0 mm) 1 x MIPI CSI 4 Lanes (30pin 0.5mm FPC) 1xI2C Connector For TP (8pin ,90°P=0.5mm) 1 x Console port 1 x M.2 B Key 1 x NANO SIM CARD Slot	2 x RS-232/422/485 pin header 4 x USB 3.2 Gen 1 2 x USB 2.0 pin header	1 x PS/2 KB/MS pin header 1 x RS-232 2 x RS-232 pin header 1 x RS-422/485 pin header 2 x USB 2.0 pin header 2 x USB 3.2 Gen 1
Storage Interface	16GB eMMC NAND flash, up to 128GB	32GB of eMMC NAND Flash	1xMicro SD Slot	1 x SATA 6Gb/s with 5V SATA power connector	2 x SATA 6Gb/s with 5V power connector
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 2pin Socket for Speaker (1x 1.3W) 1 x MIC (Wire to Board,WAFER 1 x 2pin, DIP, 180°P=1.25mm)	N/A	N/A
Digital I/O	GPIO 8 bit (4 in / 4 out, pin header)	14-bit DIO (7 in / 7 out, pin header)	14-bit GPIO (7in/7out,2x8pin header)	8-bit programmable digital I/O	8-bit programmable digital I/O
Power Consumption	Maximum 36W	-	12V DC IN	12V@4.27A (Intel® Core™ i7-6600U up to 3.4GHz CPU with 16GB (16GB x1) DDR4-2133 memory running in 3.0GHz)	12V@2.72A (Intel® Core™ i5-4300U CPU with two 8 GB 1600 MHz DDR3 memory)
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: 0°C ~ 60°C (32°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: -20°C ~ 60°C (-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
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 Full-size PCIe Mini slot (w/ SATA signal, support mSATA) 1 x Full-size PCIe Mini slot (w/ SIM card slot support)	1 x Full-size PCIe Mini card slot (supports mSATA)
Recommended CPU Cooler	Heatsink	Heatsink		Heat Spreader	Heat Spreader

Single-Board-Computer

3.5" WAFER



Model	WAFER-TGL	WAFER-ULT5	WAFER-ADL-P	WAFER-JL	WAFER-EHL-J6412
CPU Socket	On board	On board	On board	On board	On board
CPU Type	Intel® Mobile ULT processors (Code name: Tiger Lake)	Intel® Mobile ULT processor (Code name: Whiskey Lake)	12th Gen. Intel® mobile Alder Lake-P on board SoC	Intel® Celeron® N5105 on-board SoC (Code name: Jasper Lake)	Intel® Celeron® J6412 on-board SoC
Chipset	Intel® Mobile ULT processors	Intel® Mobile ULT processor	12th Gen. Intel® mobile Alder Lake-P on board SoC	Intel® Celeron® N5105 on-board SoC	Intel® Celeron® J6412 on-board SoC
Memory	1 x 260-pin 3200 MHz DDR4 SO-DIMM (system max. 32GB)	1 x 260-pin 2400MHz DDR4 SDRAM SO-DIMM single channel	On-board LPDDR4x 3200 MHz 8GB	1 x 260-pin 2933 MHz DDR4 SO-DIMM (system max. 16GB)	On-board LPDDR4x-3200 MHz 8GB (system max. 16GB)
Display Interface	Quad independent display 2 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	Quadruple independent display 2 x HDMI 1.4a 2 x DP 1.4a	Dual independent display 1 x DP 1.4 1 x HDMI 1.4	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)
Ethernet	3 x PCIe 2.5 GbE with Intel i225-V/LM	LAN1: Intel® I211AT LAN2: Intel® I211AT LAN3: Intel® I219LM	2 x Intel® I225V 2.5GbE controller	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller LAN3: Intel® I225V 2.5GbE controller	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller
I/O Interface	4 x USB 3.2 Gen 2 2 x USB 2.0 pin header 2 x RS-232/422/485 pin header 1 x RS-232 pin header	1 x RS-232 pin header 1 x RS-232/422/485 pin header (support Auto Flow Control over RS-485) 4 x USB 3.2 Gen 2 2 x USB 2.0 pin header	4 x USB 2.0 (2x4 pin, P=2.0) 2 x RS-232/422/485 (2 x 5 pin, P=2.0) 4 x RS-232 (2 x 5 pin, P=2.0)	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 Type A 4 x USB 2.0 pin header 2 x RS-232/422/485 pin header
Storage Interface	2 x SATA 6Gb/s 1 x M.2 (B Key, support NVMe SSD)	1 x SATA 6Gb/s with 5V SATA power connector	1 x SATA 6Gb/s	1 x SATA 6Gb/s	1 x SATA 6Gb/s 1 x M.2 (B Key, support NVMe SSD)
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	N/A	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)	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)
Digital I/O	1 x 12-bit digital I/O (2x7 pin)	8-bit programmable digital I/O	1 x 12-bit Digital I/O (2x7 pin)	1 x 12-bit digital I/O (2x7 pin)	1 x 12-bit digital I/O (2x7 pin)
Power Consumption	12V@4.0A (11th Gen Intel® Core™ i5-1145G7E 2.6GHz with 8GB 3200MHz DDR4 memory and EUP enabled)	12V@3.38A (Intel® Core™ i7-8665UE up to 1.7GHz CPU with 16GB 2666MHz DDR4 memory)	TBD	12V@2.45A (Intel® Pentium® Silver N6000 3.30 GHz TDP 6W with one 16GB 2933MHz DDR4 SO-DIMM)	12V@3.14A (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: 0°C ~ 60°C (32°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	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
Expansion Slot	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 slot (w/ SATA signal, support mSATA) 1 x M.2 slot with A key 2230	1 x M.2 A Key for WIFI & BT 2230 1 x M.2 M Key 2242/2280 1 x M.2 B Key W/ SIM Header 3042 1 x PCIe x4 (x4 & x2+x2 & x1+x1+x1+x1)	1 x M.2 A key 1 x M.2 B key w/ SIM holder	1 x M.2 A key 1 x M.2 B key 1 x PCIe x4 slot
Recommended CPU Cooler	Heat Spreader	Heat Spreader	Heat Spreader	Heat Spreader	Heat Spreader

Single-Board-Computer

3.5" WAFER



Model	WAFER-AL	WAFER-BW	WAFER-BT-E38001W2	WAFER-BT
CPU Socket	On board	On board	On board	On board
CPU Type	Intel® Celeron®/Pentium® on-board SoC (Code name: Apollo Lake)	Intel® Pentium®/Celeron® SoC (Code name: Braswell)	Intel® Atom® SoC (Code name: Bay Trail)	Intel® Atom®/Celeron® SoC (Code name: Bay Trail)
Chipset	Intel® Celeron®/Pentium® on-board SoC	Intel® Pentium®/Celeron® SoC	Intel® Atom® SoC	Intel® Atom®/Celeron® on-board SoC
Memory	1 x 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	1 x 204-pin 1600/1333 MHz single-channel DDR3L SDRAM unbuffered SO-DIMM slot (system max. 8 GB)	On-board DDR3L memory 2GB for E3825 4GB for E3845	1 x 204-pin 1066/1333 MHz dual-channel DDR3L SO-DIMMs (system max. 8 GB)
Display Interface	Triple independent display 1 x VGA 1 x DP++ 1 x 18/24-bit dual-channel LVDS 1 x iDP	Triple independent display 2 x HDMI 1 x 18/24-bit dual-channel LVDS	Dual display supported 1 x VGA 1 x 18/24-bit dual-channel LVDS 1 x iDP interface	Dual display supported 1 x VGA 1 x 18/24-bit dual-channel LVDS 1 x iDP interface
Ethernet	LAN1: Realtek RTL8111 controller LAN2: Realtek RTL8111 controller	LAN1: Realtek RTL8111GN controller LAN2: Realtek RTL8111GN controller	LAN1: Intel® I210-IT PCIe controller LAN2: Intel® I211-IT PCIe controller	LAN1: Intel® I210-AT PCIe controller with NCSI support LAN2: Intel® I211-AT PCIe controller
I/O Interface	2 x RS-232 pin header 2 x RS-232/422/485 pin header 2 x USB 3.2 Gen 1 4 x USB 2.0 pin header	1 x PS/2 KB/MS pin header 2 x RS-232/422/485 pin header 1 x RS-232 3 x RS-232 pin header 2 x USB 3.2 Gen 1 4 x USB 2.0 pin header	1 x PS/2 KB/MS pin header 1 x RS-422/485 pin header 1 x RS-232 1 x USB 2.0 1 x USB 3.2 Gen 1 4 x USB 2.0 pin header	1 x PS/2 KB/MS pin header 1 x RS-232 1 x RS-422/485 pin header 2 x RS-232 pin header 1 x USB 3.2 Gen 1 1 x USB 2.0 4 x USB 2.0 pin header
Storage Interface	2 x SATA 6Gb/s with 5V SATA power connector	2 x SATA 6Gb/s with 5V SATA power connector (no RAID) 1 x eMMC4.51 (optional)	2 x SATA 3Gb/s with 5V SATA power connector (no RAID)	2 x SATA 3Gb/s with 5V SATA power connector (no RAID)
Audio	Realtek ALC888S HD Audio codec			
Digital I/O	8-bit programmable digital I/O			
Power Consumption	12V@2.57A (Intel® Pentium® N4200 up to 2.5GHz with 8GB DDR3L memory)	12V@1.52A (Intel® Pentium® processor N3710 with 8 GB 1600MHz DDR3L memory)	12V@1.332A (Intel® Atom E3840 Processor 1.91GHz with one 2 GB 1333 MHz DDR3 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 ~ 70°C (-4°F~158°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: -40°C ~ 85°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	2 x Full/Half-size PCIe Mini card slot (one supports mSATA, the other one with SIM holder)	2 x Full/Half-size PCIe Mini card slot (one with SIM holder)	2 x Full-size PCIe Mini card slot (one supports mSATA)	1 x Full-size PCIe Mini card slot (supports mSATA) 1 x Half-size PCIe Mini card slot (except for ECO sku)
Recommended CPU Cooler	Heatsink	Heat Spreader	Heatsink	Heat Spreader

Single-Board-Computer

2.5" Pico-ITX

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Model	HYPER-RK3566	HYPER-EHL	HYPER-AL	HYPER-BW	HYPER-BT
CPU Socket		On board	On board	On board	On board
CPU Type	Rockchip RK3566 (Quad-code Cortex-A55 Up to 1.8Ghz)	Intel® Celeron® J6412/N6210 on-board SoC	Intel® Celeron® SoC Code name: Apollo Lake	Intel® Pentium®/Celeron® SoC (Code name: Braswell)	Intel® Atom®/Celeron® SoC Code name: Bay Trail
Chipset	Rockchip RK3566	Intel® Celeron® J6412/N6210 on-board SoC	Intel® Celeron® SoC	Intel® Pentium®/Celeron® SoC	Intel® Atom®/Celeron® SoC
Memory	2/4 GB LPDDR4/4X-1866, up to 8GB/16/32GB Emmc NAND FLASH	On-board LPDDR4x-3200 MHz 4GB (system max. 8GB)	1 x 204-pin 1866/1600MHz single-channel DDR3L SDRAM unbuffered SO-DIMM slot (system max. 8GB)	1 x 204-pin 1600/1333 MHz single-channel DDR3L SDRAM unbuffered SO-DIMM slot (system max. 8 GB)	1 x 204-pin 1600/1333 MHz single-channel DDR3L SDRAM unbuffered SO-DIMM slot (system max. 8 GB)
Display Interface	1 x HDMI2.0 output port 1x LVDS Port 1x 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 HDMI 1 x LVDS	Dual independent display 2 x Mini HDMI	Dual independent display 1 x VGA 1 x iDP interface
Ethernet	1x 1GbE RJ45 By YT8521	LAN1: Intel® I225V 2.5GbE controller	LAN1: Realtek RTL8111H controller LAN2: Realtek RTL8111H controller	LAN: Realtek RTL8111GN controller	LAN: Intel® I211-AT PCIe GbE controller
I/O Interface	2 x 5Pin Pin Header [2x (RS232+RS485)] 1x 1GbE RJ45 By YT8521 1x USB 3.0 HOST+USB2.0 OTG) Type A 2x USB 2.0 HOST (With 1x4 FRAME, 180°, P=1.25mm) B TO B Connector for IEI module, Support WIFI5/6 and BT V5.0 1xTP-I2C(8pin 2.0mm FPC) 1xConsole port	2 x USB 3.2 Gen 2 (Type-A) 2 x USB 2.0 pin header 1 x RS-232/422/485 pin header	1 x RS-232 pin header 2 x USB 2.0 pin header 2 x USB 3.2 Gen 1	1 x RS-232 pin header 1 x USB 3.2 Gen 1 1 x USB 2.0 2 x USB 2.0 pin header	1 x RS-232 pin header 1 x USB 3.2 Gen 1 1 x USB 2.0 2 x USB 2.0 pin header
Storage Interface	1xMicro SD Slot	1 x iSATA 6Gb/s 1 x M.2 (M Key, support NVMe SSD)	1 x SATA 6Gb/s with 5V SATA power connector (no RAID)	1 x SATA 6Gb/s with 5V SATA power connector (no RAID)	1 x SATA 3Gb/s with 5V SATA power connector (no RAID)
Audio	N/A	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)	10 pin header on board support 7.1 channel HD Audio by IEI AC-KIT-888S-R10 kit		Realtek ALC888S HD Audio codec
Digital I/O	8-bit GPIO (4 in/out, pin header)	1 x 8-bit DIO (1x10 pin, P=1.25)	8-bit programmable digital I/O		8-bit programmable digital I/O
Power Consumption	TBD	12V@ 2.07A (Intel® Celeron® J6412 CPU with 4 GB 3200 MHz LPDDR4x memory, max. loading, EuP mode enabled)	12V@2.36A (Intel® Celeron® processor N3350 with 8 GB 1600 MHz DDR3L memory)	12V@1.52A (Intel® Pentium® processor N3710 with 8 GB 1600 MHz DDR3L memory)	12V@1.35A (Intel® Celeron® processor J1900 with one 8 GB 1333 MHz DDR3L memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset				
Operating Environment	Operating Temperature: 0°C ~ 60°C with air flow Storage Temperature: -20°C ~ 70°C	Temperature Range: 0°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	1 x M.2 A key 2230 1 x M.2 B key 2242	1 x M.2 (B key)	N/A
CPU Cooler	Heatsink	Heatsink	Heat Spreader	Heatsink	Heat Spreader

Computer-on-Modules

COM Express



Computer on Module	COM Express Type 6	COM Express Type 6	COM Express Type 6
COM Express Size	Compact: 95 mm x 95 mm	Basic: 125 mm x 95 mm	304.8 mm x 243.8 mm (12" x 9.6")
Model	ICE-ULT3	ICE-BT-T6	ICE-DB-T6R
CPU	6th generation Intel® mobile ULT on-board SoC Intel® Core™ i7-6600U (up to 3.4GHz, dual-core, 4MB cache, TDP=15W) Intel® Core™ i3-6100U (up to 2.3GHz, dual-core, 3MB cache, TDP=15W) Intel® Celeron® processor 3955U (up to 2.0GHz, dual-core, 2MB cache, TDP=15W)	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 260-pin 2133/1866 MHz dual-channel DDR4 non-ECC unbuffered SO-DIMM support up to 32GB	2 x 204-pin 1333/1066 MHz dual-channel DDR3L SDRAM unbuffered SO-DIMMs support up to 8 GB	-
BIOS	UEFI BIOS	UEFI BIOS	-
Graphic Engine	Intel® HD Graphics Gen 9 support for DX11/12, OCL 2.x, OGL 4.3/4.4, ES 2.0 Decode/Encode for HEVC, VP8, VP9 2, VDENC	Intel® HD Graphics Gen 7 Engine with 4 execution units, supporting DX11.1, OpenGL 4.2 and OpenCL1.2	-
Display Output	1 x DDI: DisplayPort/HDMI/DVI 1 x DDI: DP to VGA via CH7517 (1 x Optional DisplayPort / HDMI/DVI up to 1 x DDI: Embedded DP (Option with 1 x Dual Channel LVDS 18/24 bit via CH7511B)	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® Clarkville-V I219LM Support Intel® AMT 11.0	Intel® I210 GbE controller	-
I/O Interface	2 x RS-232 (2-Wire) to base board 4 x USB 2.0 to base board 4 x USB 3.2 Gen 1 (5Gb/s) to base board (with 4 x USB 2.0) 2 x SATA 6Gb/s signal to base board	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	High Definition Audio interface to baseboard	Realtek ALC888S HD Audio codec (Line-in, Line-out, Mic)
SMBus	YES, to baseboard	Yes, to baseboard	1 x SMBus (1x4 pin)
I²C	YES, to baseboard	Yes, to baseboard	1 x I²C (1x4 pin)
LPC	YES, to baseboard	Yes, to baseboard	-
Expansion	1 x PCIe x1 signal to base board (Via PCIe x16 channel) 8 x PCIe x1 signal to base board	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 (MINIPCI-E1 with mSATA support, colay with SATA_4)
Watchdog Timer	Software programmable, supports 1~255 sec. system reset	Software programmable, supports 1~255 sec. system reset (by EC)	Software programmable supports 1~255 sec system reset
eMMC	eMMC 5.0 (optional)	-	-
GPIO	8 bit GPIO, to baseboard	Yes, to baseboard	8-bit GPIO
TPM	Through baseboard	-	-
Power Supply	12V: 12V±5%, 5VSB: 5V±5%, RTC Battery: 2.0-3.3V	-	ATX / AT Power Supply 24+4 pins
Power Consumption	+12V@2.57A, 5VSB@0.04A, 5V@0.02A (Intel® Core™ i7-6600U with two 8GB 2400 MHz DDR4 memory)	+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	-20°C ~ 60°C
Operating Humidity	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing	5% ~ 95 non-condensing
Dimension	95 mm x 95 mm	125 mm x 95 mm	5% ~ 95 non-condensing
Weight	GW: 600g / NW: 250g	GW: 600g / NW: 200g	GW:650g / NW:430g
Safety	CE/FCC compliant	CE/FCC compliant	CE/FCC compliant

Computer-on-Modules

Qseven™

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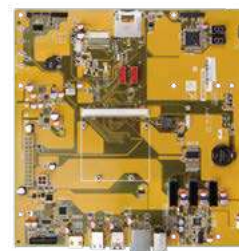


Model	iQ7-EHL
Size	QSeven 2.1
CPU	Intel® Celeron® J6412 on-board SoC (up to 2.6GHz, quad-core, 1.5M Cache, TDP=10W)
Memory	On-board LPDDR4x 3200 MHz 8GB (system max. 16GB)
BIOS	UEFI BIOS
Graphics Engine	Intel® UHD Graphics
Display Interfaces	Double independent display signal to baseboard 1 X DP 1.4a: 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 256G)
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	1x Fan control signal to baseboard
Temperature	0°C ~ 60°C
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 (2 x 5, 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	0°C ~ 60°C
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™

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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 HAD 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	0°C ~ 60°C
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 (1*9 pin, P=1.25)
DIO	1 x 6-bit GPIO (2 x 4 pin)
CAN	2 x CAN Bus pin header (2*3 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 (2 x 7 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	0°C ~ 60°C
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

PEMUX Full-Size SBC



Model	PEMUX-XEW1	
Form Factor	PEMUX Full-size CPU card (12 layers)	
CPU	LGA2066 socket supports Intel® Xeon W processor	
Chipset	Intel® C422	
Memory	4 x 288-pin Dual-Channel DDR4 ECC RDIMM/LRDIMM supported up to 256GB	
BIOS	UEFI BIOS	
Super I/O	Fintek F81216D	
EC	iWDD	
Display Output	1 x VGA port (from IPMI)	
Ethernet	LAN1: 1 GbE NIC: Intel® i210-AT with NCSI support LAN2: 10 GbE NIC: Aquantia AQC107	
External I/O Interface	2 x USB 2.0 4 x USB 3.2 Gen 1 (5Gb/s)	
Internal I/O Interface	1 x M.2 M Key (2280, PCIe Gen3 x4) 1 x USB DOM header 2 x mini SAS 8643 (for 8 x SATA 6GB/s) 2 x RS-232 pin header 2 x USB 3.2 Gen 1 pin header	
Front Panel	1 x Front Panel (Power LED, HDD LED, Speaker, Power Button, Reset Button)	
Audio	Supports by IEI AC-KIT-888S-R10 audio kit (2 x 5 pin)	
TPM	1 x TPM (2 x 10-pin)	
SMBus	1 x SMBus to backplane	
Expansion	56-Lane PCIe signal via golden finger	
Watchdog Timer	software Programmable support 1~255 sec. System reset	
Fan Connector	1 x 4-pin Smart fan connector (CPU fan) 2 x 4-pin Smart fan connector (System CPU fan)	
Power Supply	5V/12V, AT/ATX support	
Operating Temperature	-20°C ~ 40°C	
Operating Humidity	5% ~ 95%, non-condensing	
Dimensions	338.58 mm x 150.5 mm	
Weight	700g	

PEMUX Backplane

Accelerate to the Future

Server grade backplane accommodates multiple PCIe x8 and PCIe x4 add-on cards. It is specially designed for intensive AI computing applications such as deep learning and inference engine that requires more numbers of PCIe slot for accelerator cards. Given the multiple PCIe slots support, it provides a more efficiency solution for end-users.

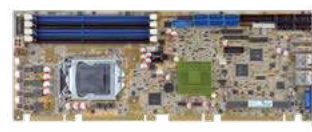


Model Name		PEMUX-DB-10S1	PEMUX-DB-8S1
Total Slots		11	9
PCIe Lanes	x16		2 (Gen 3.0)
	x8	4 (Gen 3.0)	
	x4	6 (Gen 3.0)	6 (Gen 3.0)
	x1		
PSU type		24+8pin ATX	24+8pin ATX
Chsaais Option		RACK-360G RACK-3000G	RACK-360G RACK-3000G

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

Slot SBCs and Passive Backplanes

PICMG 1.3 Full-Size SBC



Model	SPCIE-C246	SPCIE-C236	SPCIE-C2260-i2
CPU Socket	LGA1151	LGA1151	LGA 1150
CPU Type	Intel® Xeon® E, 8th/9th generation Core™ i9/i7/i5/i3, Pentium®, Celeron® processor	Intel® Xeon® E3, Core™ i3, Pentium®, Celeron® processor	Intel® Xeon® E3, 4th/5th generation Core™ i3, Pentium®, Celeron® processor
Chipset	Intel® C246	Intel® C236	Intel® C226
Memory	Four 288-pin 2666MHz dual-channel DDR4 SDRAM unbuffered DIMMs support up to 128GB ECC & non-ECC	Four 288-pin 1866/2133 MHz Dual-Channel DDR4 ECC & non-ECC unbuffered DIMM supported up to 64GB	Four 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 32 GB)
Display Interface	Dual display supported 1 x HDMI 1 x DP	Triple 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® I211AT PCIe controller	LAN1: Intel® I219LM Clarkville-V with Intel® AMT 11.0 supported LAN2: Intel® I210 PCIe controller	LAN1 : Intel® I217LM PCIe controller LAN2: Intel® I210AT PCIe controller
I/O Interface	2 x USB 3.2 Gen 1 (Type-A) 1 x USB 2.0 (Type-A) 1 x KB/MS pin header 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 6-pin wafer for KB/MS 1 x LPT pin header 2 x RS-232 pin header 2 x RS-232/422/485 pin header 2 x USB 3.2 Gen 1 pin header 1 x USB 2.0 (180° Type-A) 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 RS-422/485 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 4 x RS-232 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)	6 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 programmable digital I/O		
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)	5V@3.22A, 12V@6.81A, 3.3V@1.21A, 5VSB@0.18A (Intel® Xeon® E3-1275 v5 3.60 GHz CPU with 64GB (four 16GB) 2133 MHz DDR4 memory)	5V@3.55A, 12V@0.37A, Vcore_12V@7.61A, 3.3V@1.55A, 5VSB@0.13A (Intel® E3-1240 v3 3.4GHz CPU with 16 GB (four 4GB) 1333 MHz DDR3 memory)
Watchdog Timer	Software programmable 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 M key 16-lanes PCIe via golden finger 4-lanes PCIe 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 M Key	1 x PCIe x16 & 4 x PCIe x1 signal via golden finger 4 x PCI signal via golden finger 1 x Full-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

Slot SBCs and Passive Backplanes

PICMG 1.3 Full-Size SBC



Model	PCIE-Q470	PCIE-Q370	PCIE-Q170	PCIE-H810	PCIE-Q870-i2
CPU Socket	LGA1200	LGA1151	LGA1151	LGA 1150	LGA 1150
CPU Type	10th/11th Gen Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor	8th/9th generation Intel® Core™ i9/i7/i5/i3, Pentium®, Celeron® processor	6th/7th generation Intel® Core™ i9/i7/i5/i3, Pentium®, Celeron® processor	4th/5th generation Intel® Core™ i9/i7/i5/i3, Pentium®, Celeron® processor	4th/5th generation Intel® Core™ i9/i7/i5/i3, Pentium®, Celeron® processor
Chipset	Intel® Q470 / Q470E	Intel® Q370	Intel® Q170	Intel® H81	Intel® Q87
Memory	Four 288-pin 2933 MHz dual-channel DDR4 SDRAM Unbuffered DIMMs (system Max. 128 GB)	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)	Four 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 32 GB)
Display Interface	1 x HDMI 1.4	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	Dual display supported 1 x VGA 1 x iDP interface
Ethernet	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211-AT PCIe controller	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I210 PCIe controller	LAN1: Realtek RTTL8111E PCIe controller LAN2: Realtek RTTL8111E PCIe controller	LAN1: Intel® I217LM with Intel® AMT 9.0 support LAN2: Intel® I210-AT PCIe controller with NCSI support
I/O Interface	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	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	2 x USB 3.2 Gen 1 (Type-A) 1 x KB/MS pin header 1 x LPT pin header 1 x RS-422/485 pin header 2 x USB 3.2 Gen 1 pin header 4 x RS-232 pin header 4 x USB 2.0 (Golden finger) 4 x USB 2.0 pin header
Storage Interface	4 x SATA 6Gb/s (RAID 0/1/5/10 supported)	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	6 x SATA 6Gb/s (RAID 0, 1, 5, 10 supported)
Audio	Supports by IEI AC-KIT-888S-R10 audio kit				
Digital I/O	12-bit digital I/O (2x7 pin)	8-bit programmable digital I/O			
Power Consumption	3.3V@1.04A, 5V@8.61A, 12V@12.33A (Intel® Core™ i9-11900K CPU with 4 GB 3200 MHz DDR4 memory)	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)	5V@3.55A, 12V@0.37A, Vcore_12V@7.61A, 3.3V@1.55A, 5VSB@0.13A (3.4GHz Intel® Qual CoreCPU with four GB 1333 MHz DDR3 memory)
Watchdog Timer	Software programmable 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: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing			
Expansion Slot	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	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)	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	CF-1150SA-R10 CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11	CF-1150SA-R10 CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11

Slot SBCs and Passive Backplanes

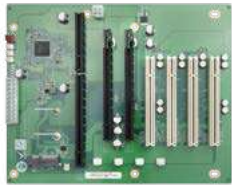
PICMG 1.3 Half-Size SBC



Model	HPCIE-Q470	HPCIE-C236	HPCIE-Q170
CPU Socket	LGA1200	LGA 1151	LGA 1151
CPU Type	10th/11th Gen Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor (up to 65W)	Intel® Xeon® E3 v5/v6, 6th/7th Gen Intel® Core™ i3, Pentium® or Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor
Chipset	Intel® Q470 / Q470E	Intel® C236	Intel® Q170
Memory	Two 260-pin 2933 MHz dual-channel DDR4 SO-DIMMs (system max. 64GB)	Two 260-pin 1866/2133 MHz dual-channel DDR4 SO-DIMMs (system max. 32 GB)	Two 260-pin 1866/2133 MHz dual-channel DDR4 SO-DIMMs (system max. 32 GB)
Display Interface	1 x HDMI 1.4	Dual display supported 1 x VGA 1 x iDP interface	Dual display supported 1 x VGA 1 x iDP interface
Ethernet	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225V 2.5GbE controller	LAN1 : Intel® I219LM PCIe controller LAN2: Intel® I211AT PCIe controller	LAN1: Intel® I219-LM with Intel® AMT 11.0 support LAN2: Intel® I211-AT Ethernet controller
I/O Interface	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	2 x USB 3.2 Gen 1 (Type-A) 1 x KB/MS pin header 4 x USB 2.0 pin header 2 x RS-232/422/485 pin header	2 x USB 3.2 Gen 1 (Type-A) 1 x KB/MS pin header 2 x RS-232/422/485 pin header 4 x USB 2.0 pin header
Storage Interface	2 x SATA 6Gb/s (RAID 0/1 supported) 1 x M.2 (M Key)	1 x mSATA (SATA & USB signal) 2 x SATA 6Gb/s (RAID 0/1 supported)	1 x mSATA (SATA & USB signal) 2 x SATA 6Gb/s (RAID 0/1 supported)
Audio	1 x iAUDIO, support IEI AC-KIT-888S audio kit (2 x 5 pin)	Supports by IEI AC-KIT-888S-R10 audio kit	
Digital I/O	12-bit digital I/O (2 x 7 pin)	8-bit programmable digital I/O	
Power Consumption	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)	5V@0.13A, 12V@7.89A, 3.3V@0.10A, 5VSB@0.20A (Intel® Xeon® E3-1275 v5 3.60 GHz with two 16 GB 2133 MHz DDR4 memory)	5V@0.15A, 12V@8.39A, 3.3V@0.11A, 5VSB@0.21A (Intel® Core™ i7-6700K 4.0GHz with two 16 GB 2133 MHz DDR4 memory)
Watchdog Timer	Software programmable supports 1~255 sec. system reset		
Operation Environment	Temperature Range: 0°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	16-lanes PCIe via golden finger 4-lanes PCIe via golden finger 1 x M.2 (A Key) 1 x M.2 (M Key)	16-lanes PCIe via golden finger 4-lanes PCIe via golden finger 1 x Full/Half-size PCIe Mini card slot (supports mSATA)	16-lanes PCIe via golden finger 4-lanes PCIe via golden finger 1 x Full/Half-size PCIe Mini card slot (supports 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

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

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	x16 *	1 (Gen 2.0)	1	1 (Gen 2.0)
	Slots	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		

 PAC series wall-mount chassis

 4U/5U rack-mount chassis

 1U/2U rack-mount chassis



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	x16 *	1 (Gen 2.0)	1 (Gen 3.0)	1 (Gen 3.0)
	Slots	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.



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



Model	IP-6S-RS	IP-6SA-RS	IP-10S-RS
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

Slot SBCs and Passive Backplanes

PCI/PX Backplane

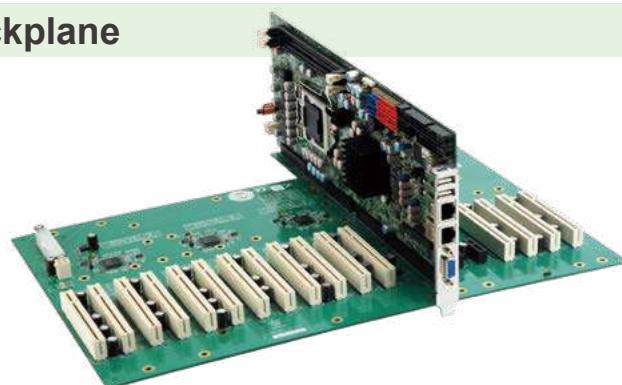
PICMG 1.0 Full-Size SBC Backplane

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 ROCKY series 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-8S-RS-R40	PCI-10S-RS-R41	PX-10S-RS-R50
Total Slot	8	10	10
PCI Slot	4	4	7
ISA Slot	4	5	3
PSU Type	ATX/AT	ATX/AT	ATX/AT
Chassis	N/A	PAC-125G	PAC-125G



Model	PCI-12S-RS-R40	PCI-14S-RS-R40	PCI-14S3-RS-R40
Total Slot	12	14	14
PCI Slot	4	4	4
ISA Slot	7	9	9
PSU Type	ATX/AT	ATX/AT	ATX/AT
Chassis	RACK-3000G	N/A	RACK-305G RACK-360G RACK-3000G



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

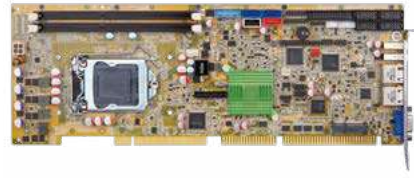
Slot SBCs and Passive Backplanes

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 Type A 1 x USB 3.2 Gen 1 Type A 1 x KB/MS pin header 1 x USB 2.0 (180° Type-A) 1 x LPT pin header 2 x RS-232 pin header 1 x RS-422/485 pin header 4 x USB 2.0 pin header 1 x mSATA 2 x SATA 3Gb/s
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	2 x USB 2.0 Type A 1 x KB/MS pin header 1 x LPT pin header 2 x USB 3.2 Gen 1 pin header 1 x RS-422/485 pin header 4 x RS-232 pin header 1 x USB 2.0 (180° Type-A) 4 x USB 2.0 pin header 2 x SATA 6Gb/s 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® I225 controller 9kB jumbo frame IEEE 802.3at, IEEE1588	Intel® I225 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



NEW



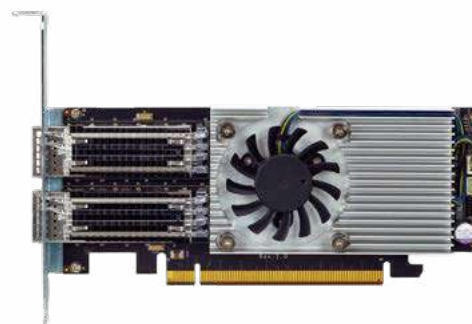
Model	iRIS2-2600	iRIS2-2620
Form Factor	M.2 B Key 3080 socket type	M.2 B Key 3080 socket type
Dimensions (LxWxH) (mm)	30mm x 80mm x 7.6mm	30mm x 80mm x 7.6mm
Display Output	Display Port: Display Port Connector	Display Port: Display Port Connector
Ethernet	Description: 10/100/1000Mbps	Description: 10/100/1000Mbps
iRIS	IPMI 2.0 Based Management Hardware Health Monitor LDAP Support Media Redirection Remote Power Control User Management Web-based Configuration	IPMI 2.0 Based Management Hardware Health Monitor LDAP Support Media Redirection Remote Power Control User Management Web-based Configuration
Operating Temperature	-10°C ~ 60°C	-10°C ~ 60°C
Humidity	5% ~ 95%, non-condensing	5% ~ 95%, non-condensing

Peripherals

Industrial I/O Expansion Module

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)
- ◆ RoHS compliant



MPCIE-DLAN

- ◆ Form Factor
PCI Express Mini card
- ◆ BIOS
UEFI BIOS
- ◆ Ethernet Controller
Dual Intel® I210-IT
- ◆ Speed
10/100/1000Mbps
- ◆ External Connector
2 x 8-pin RJ-45
- ◆ Power Supply: 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
- ◆ Operating Temperature
-10°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions (LxW) : 51 mm x 30 mm
- ◆ Weight: 55g
- ◆ Safety: CE/FCC compliant



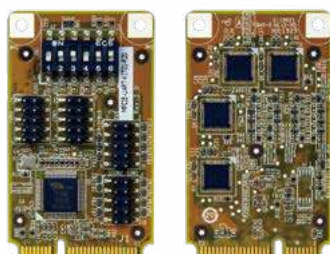
MPCIE-LAN

- ◆ Form Factor
PCI Express Mini card
- ◆ Ethernet Controller
Realtek RTL8111E
- ◆ Speed
10/100/1000Mbps
- ◆ External Connector
1 x 8-pin RJ-45
- ◆ Compatible OS
Windows 2000/ XP/ Server 2003/ Server
2008/ Vista/ 7
Linux kernel version 2.6.32 or later
- ◆ Power Supply
On board 3.3V
- ◆ Operating Temperature
-10°C ~ 70°C
- ◆ Operating Humidity
5% ~ 95%, non-condensing
- ◆ Dimensions (LxW)
51 mm x 30 mm
- ◆ Weight: 70g
- ◆ Safety: CE/FCC compliant



MPCIE-UART-KIT01

- ◆ Form Factor
PCI Express Mini card
- ◆ PCI Express Bridge to Quad Serial Port:
Fintek F81504
- ◆ Buffer/Transceiver Series
F81439
- ◆ IO
4 x RS-232/422/485 connector (2x5 pin)
- ◆ Operating Temperature
0°C ~ 60°C
- ◆ Operating Humidity
5% ~ 95%, non-condensing
- ◆ Dimensions (LxW)
51 mm x 30 mm
- ◆ Weight
GW: 100g / NW: 50g
- ◆ Safety
CE/FCC compliant



MPCIE-UART-KIT02

- ◆ Form Factor
PCI Express Mini card
- ◆ PCI Express Bridge to Quad Serial Port:
Fintek F81504
- ◆ Buffer/Transceiver Series
F81439
- ◆ IO
2 x RS-232/422/485 (2x5 pin header)
2 x 8 bit GPIO (2x5 pin header)
- ◆ Operating Temperature
0°C ~ 60°C
- ◆ Operating Humidity
5% ~ 95%, non-condensing
- ◆ Dimensions (LxW)
51 mm x 30 mm
- ◆ Weight
GW: 100g / NW: 50g
- ◆ Safety
CE/FCC compliant



Peripherals

Trusted Platform Module

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



WiFi Module

EMB-WIFI-KIT

- ◆ Model Name
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

SACFA-KIT01

- ◆ CFAST™ socket
- ◆ 7-pin SATA data connector, and a female 17-pin power CFAST™ connector



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



Display Extension Modules

iDPM-LVDS

- ◆ Form Factor: iDPM 3040 slot (IEI-defined B key)
- ◆ Display Output
1 x LVDS 24-bit dual-channel
- ◆ Display IC
Chrontel - CH7511B (DP to LVDS)
- ◆ Power
On board 3.3V ~ 12V
- ◆ Operating Temperature
0°C ~ 60°C
- ◆ Operating Humidity
5% ~ 95 non-condensing
- ◆ Dimensions: 40 mm x 30 mm
- ◆ Safety: CE/FCC compliant



iDPM-eDP

- ◆ Form Factor: iDPM 2240 slot (IEI-defined B key)
- ◆ Internal Connector
1 x eDP connector (1 x 40 pin)
- ◆ Power
On board 3.3V ~ 12V
- ◆ Operating Temperature
0°C ~ 60°C
- ◆ Operating Humidity
5% ~ 95%, non-condensing
- ◆ Dimensions (LxW) 40 mm x 22 mm
- ◆ Safety: CE/FCC compliant



Peripherals

Display Extension Modules

iDPM-DP

NEW

- ◆ Form Factor
iDPM 2240 slot (IEI-defined B key)
- ◆ Internal Connector
1 x DP connector
- ◆ Power
On board 3.3V ~ 12V
- ◆ Operating Temperature
0°C ~ 60°C
- ◆ Operating Humidity
5% ~ 95%, non-condensing
- ◆ Dimensions
22 mm x 40 mm
- ◆ Safety
CE/FCC compliant



iDPM-VBO

NEW

- ◆ Form Factor
iDPM 3040 slot (IEI-defined B key)
- ◆ Internal Connector
1 x 52 pin V-BY-ONE header
- ◆ Power
On board 3.3V ~ 12V
- ◆ Operating Temperature
0°C ~ 60°C
- ◆ Operating Humidity
5% ~ 95%, non-condensing
- ◆ Dimensions
30 mm x 40 mm
- ◆ Safety
CE/FCC compliant



iDPM-VGA

- ◆ Form Factor: iDPM 2240 slot (IEI-defined B key)
- ◆ Display Output
1 x VGA pin-header
- ◆ Power
On board 3.3V ~ 12V
- ◆ Operating Temperature
0°C ~ 60°C
- ◆ Operating Humidity
5% ~ 95%, non-condensing
- ◆ Dimensions (LxW): 40mm x 22mm
- ◆ Safety: CE/FCC compliant



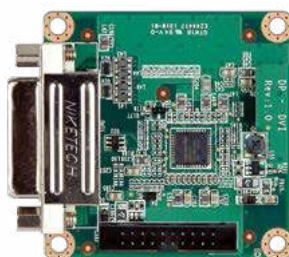
DP-LVDS

- ◆ Display Input: 1 x IEI iDP connector
- ◆ Display Output: 1 x LVDS 24-bit dual-channel
- ◆ Display IC: Chronitel - CH7511B (DP to LVDS)
- ◆ Temperature: -10°C ~ 60°C
- ◆ Humidity: 5% ~ 95 non-condensing
- ◆ Dimensions: 60 mm x 50 mm



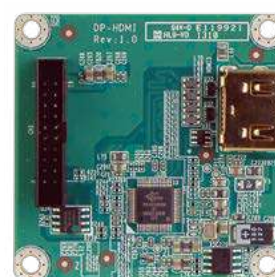
DP-DVI

- ◆ Display Input: 1 x IEI iDP connector
- ◆ Display Output: 1 x DVI
- ◆ Display IC: Parade - PS161 (DP to HDMI / DVI)
- ◆ Temperature: -10°C ~ 60°C
- ◆ Humidity: 5% ~ 95 non-condensing
- ◆ Dimensions: 50 mm x 50 mm



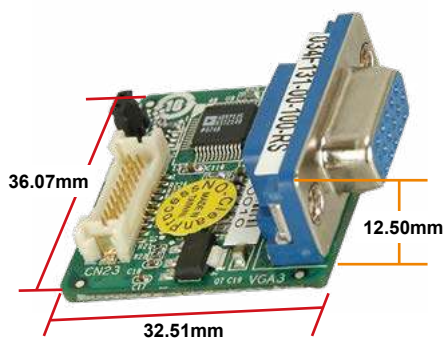
DP-HDMI

- ◆ Display Input: IEI iDP connector
- ◆ Display Output: 1 x HDMI 1.3a
- ◆ Display IC: Parade - PS161 (DP to HDMI 1.3a)
- ◆ Temperature: -10°C ~ 60°C
- ◆ Humidity: 5 ~ 95% non-condensing
- ◆ Dimensions: 50 mm x 50 mm



LVDS-VGA-R10

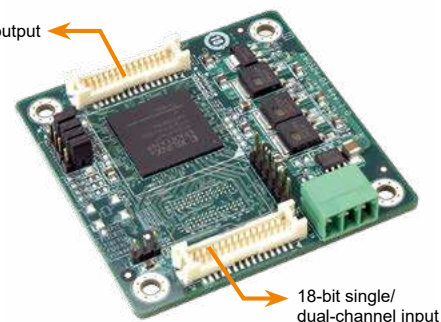
- ◆ Provide 2nd VGA option for dual VGA display
- ◆ Resolution adjusted by BIOS: Support 1024x768, 800x600, 640x480
- ◆ 18-bit LVDS to VGA converter board



LVDS24-01

- ◆ Resolution supports up to 1280x1024
- ◆ Support below configuration:
 - » Single-channel 18-bit to single-channel 24-bit
 - » Single-channel 18-bit to dual-channel 24-bit
 - » Dual-channel 18-bit to dual-channel 24-bit
- * Note: The module does not support dual-channel 18-bit to single-channel 24-bit conversion.

24-bit dual-channel output

18-bit single/
dual-channel input

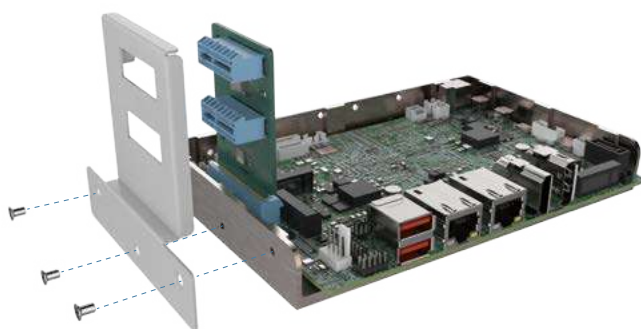
Peripherals

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

NEW

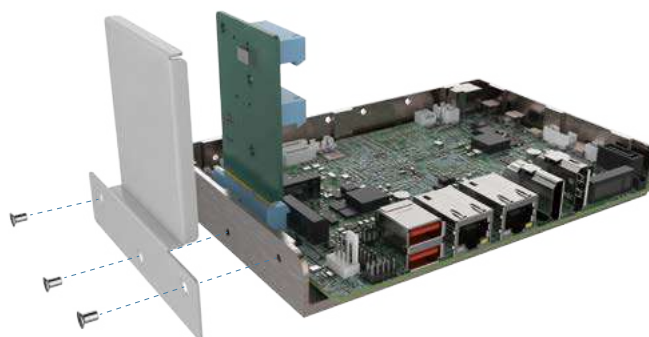
IEI's latest 2.5"/3.5"/4" SBCs feature a PCIe x4/x2slot, which is a new design for IEI compact single board computer to expand functionality providing easy integration of PoE, video capture or I/O cards with a compatible riser card.

Outwards-facing PCIe Expansion



Although it may take up more space, the outwards-facing expansion 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 is suitable for installation where space is limited. With higher height to increase spacing between boards, the riser card can ensure efficient heat dissipation for space-constrained applications.



Motherboard	Riser Card	Description of Riser Card
WAFFER-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
WAFFER-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

Peripherals

PCIe Expansion Riser Cards for IEL 2.5"/3.5"/4" SBC

NEW



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 * 60 mm	40 mm * 65 mm	40 mm * 60 mm	40 mm * 65 mm
Applicable Motherboards	WAFLR-EHL-J6412C	WAFLR-EHL-J6412C	NANO-EHL-J6412C	NANO-EHL-J6412C



Model	HPR-L2S-R10	HPR-L4S-R10	NWR2-L2S-R10	NWR2-R2S-R10
Input	PCIe x4	PCIe x4	PCIe x4	PCIe x4
Output	Two PCIe x2	Four 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
Humidity	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing	5 ~ 95% non-condensing
Direction	Left side	Left side	Left side	Right side
Dimensions:	50 mm * 58 mm	44 mm * 90 mm	55 mm * 60 mm	55 mm * 60 mm
Applicable Motherboards	HYPER-EHL	HYPER-EHL	WAFLR-ADL-P	WAFLR-ADL-P



Model	NWR2-L2S-N-R10	NWR2-R2S-N-R10	HPR-R2S-R10	HPR-R4S-R10
Input	PCIe x4	PCIe x4	PCIe x4	PCIe x4
Output	Two PCIe x2	Two PCIe x2	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	Right side	Right side	Right side
Dimensions:	55 mm * 60 mm	55 mm * 60 mm	43 mm * 60 mm	43 mm * 83 mm
Applicable Motherboards	NANO-ADL-P	NANO-ADL-P	HYPER-EHL	HYPER-EHL

Industrial Chassis

Mini-ITX Motherboard Chassis



Model		EBC-3300	EBC-3220
Platform		Case only	Case only
Chassis	Color	Black	Black
	Dimensions (WxDxH) (mm)	190 x 190 x 43	190 x 180 x 55
	System Fan	--	1 x 4 cm
	Chassis Construction	Heavy duty metal	Heavy duty metal
Motherboard	Motherboard Model	EBC-3300-BW-R10: tKINO-BW	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
	SBC Size (mm)	Mini-ITX (170 x 170)	Mini-ITX (170 x 170)
Storage	Hard Drive	1 x 2.5" SATA HDD/SSD drive bay	1 x 2.5" SATA HDD/SSD drive bay
	CF Card/CFast	N/A	N/A
	SD Card	Refer to SBC	Refer to SBC
I/O Interfaces	PS2 (KB/MS)	N/A	N/A
	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	N/A
	PCIe Mini	Refer to SBC	Refer to SBC
	Others	1 x E-Window	N/A
Power	Power Input	12V DC	12V DC
	Power Supply	12V DC	12V DC
Reliability	Mounting	VESA 100, wall mount	VESA 100, wall mount
	Operating Temperature	-10°C ~ 50°C	-10°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	1 kg/2 kg

Industrial Chassis

Mini-ITX Motherboard Chassis



Model		EBC-3100	EBC-3000
Platform		Case only	Case only
Chassis	Color	Black	Black
	Dimensions (WxDxH) (mm)	260 x 250 x 156	280 x 230 x 88
	System Fan	1 x 8 cm	1 x 6 cm
	Chassis Construction	Heavy duty metal with plastic front panel	Heavy duty metal with plastic front panel
Motherboard	Motherboard Model	KINO-AQ170	KINO-AQ170
	SBC Size (mm)	Mini-ITX (170 x 170)	Mini-ITX (170 x 170)
Storage	Hard Drive	1 x 3.5" SATA HDD space	1 x 3.5" SATA HDD space
	CF Card/CFast	Refer to SBC	Refer to SBC
	SD Card	Refer to SBC	Refer to SBC
I/O Interfaces	PS2 (KB/MS)	Refer to SBC	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	1 x Full-height expansion slot	N/A
	PCIe Mini	Refer to SBC	Refer to SBC
	Others	N/A	N/A
Power	Power Input	90~264V AC	90~264V AC
	Power Supply	ACE-A618C 180W ACE-A627A 270W	ACE-A618C 180W ACE-A627A 270W
Reliability	Mounting	Desktop, wall mount	Desktop, wall mount
	Operating Temperature	0°C ~ 50°C	0°C ~ 50°C
	Operating Shock	Half-sine wave 3G, 11ms 3 shocks per axis	Half-sine wave 3G, 11ms 3 shocks per axis
	Operating Vibration	MIL-STD-810F 514.5C-1	MIL-STD-810F 514.5C-1
	Weight (Net/Gross)	2.5 kg/3.9 kg	2.5 kg/3.9 kg

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	○	○	○	○		2					1U	449	44	431	○	
	RACK-220G	○	○	○	○		2	○				PS/2	487.5	88	431	○	○
	RACK-305G	○	○	○	○	○	2	○				PS/2 or mini redundant	413	176	431	○	○
	RACK-360G	○	○	○	○	○	2	○				PS/2 or mini redundant	435.5	176	431	○	○
	RACK-3000G	○	○	○	○			○				PS/2 or mini redundant	520	176	431	○	○
	RACK-500AI	○	○	○	○		2					1U	440.2	221.3	110.6	(Navy Blue & Black)	
	ECA-300	○	○	○	○		2		6			1U	291	162	365	○	
	ECA-200	○	○	○	○		2		6			1U	310	162	310	○	
	ECA-100	○	○	○	○		2			4	2	1U	320	480.5	210		○
	PAC-1000G	○	○	○	○							PS/2	421	176	232	○	
	PAC-106G	○	○	○	○		2					1U	400	175.5	166		○
	PAC-1700G	○	○	○	○							PS/2	433	253.7	192.4	○	
	PAC-125G	○	○	○	○		2	○				PS/2	420	176	321		○
	PAC-53GH	○	○	○	○		2					1U	218	200	95		○
	PR-1500G	○	○	○	○		2					1U	254	132	286		○
	PAC-700G	○	○	○	○		2	○				1U	279	176	321	○	

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

IEI Systems Product Family



Box Computer

TANK-XM811

13th Generation Intel® Core™ Desktop Processors
(codename: Raptor Lake-S)

TANK-XM810

11th Generation Intel® Core™ Desktop Processors
(codename: Rocket Lake-S)

DIN-Rail Computer

DRPC-240

11th Gen Intel® Core™ Mobile Processors
(codename: Tiger Lake-UP3)

DRPC-242

12th Gen Intel® Core™ Mobile Processors
(codename: Alder Lake-P)

DRPC-124

Intel® Celeron® Processor
J6412 (codename: Elkhart Lake)

DRPC-W

11th Gen Intel® Core™ Mobile Processors (codename: Tiger Lake-UP3)

Compact Computer

IDS-330

12th Gen Intel® Core™ Mobile Processors
(codename: Alder Lake-P)

ITG-100

Intel® Atom™ Processor X5-E3930
(codename: Apollo Lake)

Mini Computer

TANGO-7010

12th Generation Intel® Core™ Desktop Processors
(codename: Alder Lake-S)

TANGO-3010

Intel® Celeron® Processor
J6412 (codename: Elkhart Lake)

**4K Low Latency
Pro AV Application**

Ultra-Compact Computer

ulBX-260

Intel® Celeron® Processor J6412
(codename: Elkhart Lake)

Rackmount Computer

FLEX-BX210

11th Generation Intel® Core™ Desktop Processors
(codename: Rocket Lake-S)

Video Transceiver

iSDV-200CTR

BlueRiver® AVP2000T

Box Computer

NEW



NEW



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**



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

Box Computer

Flexible Expansion via PCIe/PCI Slot



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 Computer



Model		TANK-880-Q370	TANK-871-Q170
Chassis	Color	Black C + Silver	Black C + Silver
	Dimensions (WxDxH) (mm)	169 x 255.2 x 225	82.2 x 255.2 x 204
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloys	Extruded aluminum alloys
Motherboard	CPU	8th Gen Intel® Core™ CPU & Intel® Core™ i7-9700TE 1.8 GHz (up to 3.8 GHz, 8-core, TDP 35W) Intel® Core™ i5-9500TE 2.2 GHz (up to 3.6 GHz, 6-core, TDP 35W)	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® Q370	Intel® Q170
	System Memory	2 x SO-DIMM DDR4 2666/ 2400 MHz (8GB pre-installed) (up to 64GB)	2 x SO-DIMM DDR4 2666 (4GB pre-installed) (up to 32GB)
IPMI	iRIS Solution	N/A	1 x iRIS-2400 (optional)
Storage	Hard Drive	4 x 2.5" SATA 6Gb/s HDD/SSD bay (RAID 0/1/5/10 support)	2 x 2.5" SATA 6Gb/s HDD/SSD bay (RAID 0/1 support)
I/O Interfaces	USB	6 x USB 3.2 Gen 1	4 x USB 3.2 Gen 1 4 x USB 2.0
	Ethernet	3 x RJ-45: 1 x GbE by Intel® I219 2 x GbE by Intel® I210	2 x RJ-45: LAN1: GbE by Intel® I219LM LAN2 (iRIS): GbE by Intel® I210
	COM Port	3 x RS-232/422/485 with AFC (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 HDMI (up to 3840x2160@30Hz) 1 x DP (up to 4096x2304@60Hz)	1 x VGA (up to 1920 x 1200@60Hz) 1 x HDMI/DP (up to 3840x2160@30Hz/4096x2304@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 802.11a/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 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	1 x 2230 A-key (PCIe x2/USB 2.0) 2 x 2280 M-key (PCIe x2)	N/A
	Backplane	1 x PCIe x16 1 x PCIe x1 2 x PCIe x4	N/A
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@3.6A (Intel® Core™ i7-8700T with 8GB memory)	19V@3.68 A (Intel® Core™ i7-6700TE with 8 GB memory)
	Internal Power Connector	12V@10A	5V@3A or 12V@3A
Reliability	Mounting	Wall mount	Wall mount
	Operating Temperature	-20°C ~ 60°C with air flow (SSD) 10% ~ 95% non-condensing	i7-6700TE: -20°C ~ 45°C with air flow (SSD), 10% ~ 95% non-condensing i5-6500TE: -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 (SSD)	MIL-STD-810G 514.6 C-1 (SSD)
	Weight (Net/Gross)	5.4 kg/8.45 kg	3.5 kg/4.5 kg
	Safety/EMC	CE/FCC	CE/FCC/KC
OS	Supported OS	Microsoft Windows 10 / Windows 11 / Linux	Microsoft® Windows® 8 Embedded, Microsoft® Windows® Embedded Standard 7 E, Microsoft® Windows® 10 IoT Enterprise

Box Computer



Model		TANK-870-Q170	TANK-870e-H110	TANK-610-BW
Chassis	Color	Black C + Silver	Dark silver purple + Silver	Black C + Silver
	Dimensions (WxDxH) (mm)	2-slot: 121.5 x 255.2 x 205 4-slot: 154.8 x 255.2 x 205	132.6 x 255.2 x 190	184 x 200.6 x 58.2
	System Fan	Fanless	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloys	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)	Intel® Celeron® N3160 1.6 GHz (up to 2.24 GHz, quad-core, TDP 6W)
	Chipset	Intel® Q170	Intel® H110	SoC
	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)	2 x DDR3L SO-DIMM(2GB pre-installed)(up to 8GB)
IPMI	iRIS Solution	1 x iRIS-2400 (optional)	N/A	N/A
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	1 x 2.5" SATA 6Gb/s HDD/SSD Bay
	USB	4 x USB 3.2 Gen 1 / 4 x USB 2.0	4 x USB 3.2 Gen1	4 x USB 3.2 Gen1
I/O Interfaces	Ethernet	2 x RJ-45: LAN1: GbE by Intel® I219LM LAN2 (iRIS): GbE by Intel® I210	2 x RJ-45: 2 x GbE by RTL8111G	2 x RJ-45: 2 x 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 with 2.5kV isolation)	2 x RS-232/422/485 with AFC 6 x RS-232
	Digital I/O	8-bit Digital I/O (4-in/ 4-out)	N/A	N/A
	Display	1 x VGA (up to 1920 x 1200@60Hz) 1 x HDMI/DP (up to 3840x2160@30Hz/4096x2304@60Hz) 1 x iDP (optional)	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)
	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 802.11 a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)
	TPM	1 x TPM 2.0 (2 x 10 pin) (optional)	N/A	N/A
	PCIe Mini	1 x Half-size (PCIe/ USB 2.0) 1 x Full-size (PCIe/ USB 2.0/ SATA)	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)
Expansions	Backplane	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)	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
	Power Input	DC Jack: 9 ~ 36V DC Terminal Block: 9 ~ 36V DC	DC Jack: 9 ~ 36V DC Terminal Block: 9 ~ 36V DC	DC Jack: 9 ~ 36V DC Terminal Block: 9 ~ 36V DC
Power	Power Consumption	19V@3.68 A (Intel® Core™ i7-6700TE with 8 GB memory)	19V@3.44A (Intel® Core™ i7-6700TE with 8GB memory)	12V@1.49A (Intel® Celeron® N3160 with 4GB DDR3L memory)
	Internal Power Connector	5V@3A or 12V@3A		Wall mount, VESA 100
Reliability	Mounting	Wall mount	Wall mount & DIN Rail	
	Operating Temperature	i7-6700TE: -20°C ~ 45°C with air flow (SSD), 10% ~ 95% non-condensing i5-6500TE: -20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing	-20°C ~ 50°C with air flow (SSD), 10% ~ 95% non-condensing	-40°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)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6 C-1 (SSD)	MIL-STD-810G 514.6C-1 (SSD)	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	2-slot: 4.2 kg/6.3 kg 4-slot: 4.5 kg/6.5 kg	2.8 kg/4.3 kg	2.2 kg/3 kg
	Safety/EMC	CE/FCC/KC	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	Microsoft® Windows 8 Embedded, Microsoft® Windows® Embedded Standard 7 E

DIN-Rail Computer



Model		DRPC-240-TGL-U	DRPC-230-ULT5
Chassis	Color	Black	Black & Silver
	Dimensions (WxDxH)(mm)	81 x 150 x 190	Non-slot: 81 x 150 x 190 One-slot: 127 x 150 x 190
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Celeron® 6305/6305E 1.8 GHz (dual-core, TDP 15W) Intel® Core™ i5-1145G7E 1.5 GHz (up to 4.1 GHz, quad-core, TDP 15W) Intel® Core™ i7-1185G7E 1.8 GHz (up to 4.4 GHz, quad-core, TDP 15W)	Intel® Core™ i5-8365UE 1.6 GHz (up to 4.1 GHz, quad-core, TDP 15W) Intel® Celeron® 4205U 1.8 GHz (dual-core, TDP 15W)
	Chipset	SoC	SoC
	System Memory	2 x SO-DIMM DDR4 3200 MHz (8 GB pre-installed) (up to 64GB)	2 x SO-DIMM DDR4 2400 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	2 x USB 3.2 Gen 2 2 x USB 2.0	i5 model: 6 x USB 3.2 Gen 2 Celeron model: 4 x USB 3.2 Gen 2, 2 x USB 2.0
	Ethernet	4 x RJ-45: 1 x 2.5 GbE by Intel® I225LM 3 x 2.5 GbE by Intel® I225V (colay I225LM) * Support optional PoE af module	3 x RJ-45: 1 x GbE by Intel® I219 2 x GbE by Intel® I210
	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) 2 x RS-232 (RJ-45)
	Digital I/O	12-bit Digital I/O (6-in/ 6-out)	8-bit Digital I/O (4-in/ 4-out)(pin header)
	Display	1 x HDMI (up to 3840 x 2160@30Hz) 1 x DP++ (up to 4096 x 2304@60Hz)	1 x HDMI (up to 3840 x 2160@30Hz) 1 x DP (up to 4096 x 2304@60Hz)
	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 (2 x 10 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)
	PCIe Mini	N/A	1 x Full-size with SIM card slot (PCIe/USB 3.0/SATA)
Expansions	M.2	1 x 2230 A-key (PCIe x1/USB 2.0) 1 x 3042/52/80 B-key (PCIe x2/USB 3.0/USB 2.0) 1 x On-board SIM card socket (hinge type) for M.2 B key	i5 model: 1 x 2230 A-key (PCIe x1/USB 2.0) Celeron model: 1 x 2230 A-key (PCIe x1)
	Backplane	1 x PCIe Gen 3 x4	One-slot: 1 x PCIe Gen 3 x4, 1 x USB 2.0
	Power Input	Terminal block: 12 ~ 28V DC	Terminal block: 12 ~ 24V DC
Power	Power Consumption	12V @ 6.98A (Intel® Core™ i5-1145G7E with 8GB memory)	12V @ 4.98A (Intel® Core™ i5-8365UE with 8GB memory)
	Remote PWR	2-pin Terminal block	N/A
	Mounting	DIN-Rail	DIN-Rail
Reliability	Operating Temperature	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing	-20°C ~ 60°C with air flow, 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	Non-slot: 2.9 kg/ 3.2 kg One-slot: 3.2 kg/ 3.5 kg
	Safety/EMC	CE/ FCC	CE/ FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
	Supported OS	Microsoft Windows 10 / Windows 11, Linux	Microsoft Windows 10 / Windows 11, Linux

DIN-Rail Computer



Model		DRPC-242-ADL-P-CCS	DRPC-242-ADL-P-i3CS	DRPC-242-ADL-P-i5CS	DRPC-242-ADL-P-i7CS
Chassis	Dimensions	81 x 150 x190			
	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™ i5-1240P (up to 4.4GHz, 12-core, 28W TDP)	Intel® Core™ i7-1260P (up to 4.7GHz, 12-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 2.5GbE by Intel® I225LM support iAMT 2 x 2.5GbE by Intel® I225V (colay I225LM)			
	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 Power	4-pin 60w @12V			
	Consumption	12V@4.46A (Intel® Core™ i7-1260P with DDR4 8GB memory)			
Reliability	Mounting	Din-rail			
	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 / 2.66KG			
	Safety/EMC	CE, FCC, UKCA			
OS	Supported OS	Microsoft® Windows 10 / 11, Linux			

DIN-Rail Computer



Model		DRPC-124-EHL	DRPC-130-AL	DRPC-120-BT
Chassis	Color	Black	Black	Black
	Dimensions (WxDxH) (mm)	159 x 132.5 x 35	58.75 x 130 x 174	74.08 x 140 x 171.5
	System Fan	Fanless	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Celeron® J6412 2.0 GHz (up to 2.6 GHz, quad-core, TDP 10W)	Intel® Atom® x5-E3930 1.3 GHz (up to 1.8 GHz, dual-core, TDP 6.5W)	Intel® Atom® E3845 1.91 GHz (quad-core, TDP 10W)
	Chipset	SoC	SoC	SoC
	System Memory	LPDDR4X onboard 8GB (max. 16GB)	1 x SO-DIMM DDR3L 1333/1600 (4GB pre-installed) (up to 8GB)	1 x SO-DIMM DDR3L 1066 (2GB pre-installed) (up to 8GB)
IPMI	iRIS Solution		N/A	1 x iRIS-2400 (optional)
Storage	Hard Drive		1 x 2.5" SATA 6Gb/s HDD/SSD bay	1 x 2.5" SATA 3Gb/s HDD/SSD bay
	eMMC	eMMC 5.1 64GB/128GB (optional)	1 x eMMC 5.0 (optional, up to 32GB)	N/A
I/O Interfaces	USB	2 x USB 3.2 Gen2 2 x USB 2.0	4 x USB 3.2 Gen 1	2 x USB 3.2 Gen 1 2 x USB 2.0
	Ethernet	1 x RJ-45 PCIe GbE by I210 controller 3 x RJ-45 PCIe 2.5 GbE by I225V controller	2 x RJ-45: 2 x GbE by Intel® I211	2 x RJ-45: 1 x GbE by Intel® I211 1 x GbE by Intel® I210
	COM Port	1x RS-232/422/485 (DB9) (optional)	4 x RS-232/422/485 with AFC (DB9)	2 x RS-232/422/485 with AFC (DB9 with 3kV isolation) 2 x RS-232 (DB9 with 3kV isolation)
	Digital I/O		8-bit Digital I/O (4-in/ 4-out)	8-bit Digital I/O (4-in/ 4-out)
	CAN-bus		1 x Port support two CAN-bus (DB9 with 2.5kV isolation)	N/A
	Display	1 x HDMI 1.4B	2 x HDMI (up to 3840 x 2160@30Hz)	1 x HDMI (up to 1920 x 1200@60Hz) 1 x VGA (up to 1920 x 1200@60Hz)
	Wireless		1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)
	TPM	Intel PTT	1 x TPM 2.0 (2 x 10 pin) (optional)	N/A
	Motor Connector		N/A	N/A
	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 Power LED (green), 1 x HDD LED (yellow)	1 x Power button, 1 x Reset button, 1 x AT/ATX switch
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) 1 x Full-size (PCIe/USB 2.0/SATA)
	M.2	1 x 2242 B-key (PCIe x2) 1 x 2242 B-key (SATA) 1 x 2280 M-key (PCIe x2)	N/A	N/A
Power	Power Input	2-pin Terminal block: 12-28 VDC	Terminal block: 12 ~ 24V DC	Terminal block: 9 ~ 30V DC
	Power Consumption	12V@3.05 (Intel® Celeron® J6412 with 8GB DDR4 Memory)	12V @ 2.88 A (Intel® Atom® x5-E3930 with 4GB memory)	12V @ 2.1 A (Intel® Atom® E3845 with 2GB memory)
	Remote PWR		Terminal block: PSON	N/A
Reliability	Mounting	DIN-Rail, Wall Mount	DIN-Rail	DIN-Rail
	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	-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	-40°C ~ 85°C with air flow (SSD), 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 (M.2)	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 (M.2)	MIL-STD-810G 514.6C-1 (SSD)	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	0.78kg /1.2kg	1.4 kg / 2.5 kg	1.4 kg / 2.5 kg
	Safety/EMC	CE, FCC, UKCA	CE/ FCC	CE/ FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows® 10/11, Linux	Microsoft® Windows 10, Linux	Microsoft® 8, Microsoft® Windows® Embedded Standard 7 E

Din-Rail Computer



Model		DRPC-W-TGL-U	DRPC-W-JL	DRPC-W-EHL
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® 6305/6305E 1.8 GHz (dual-core, TDP 15W)	Intel® Jasper Lake Celeron® N5105 2.0 GHz (up to 2.9 GHz, quad-core, TDP=10W)	Intel® Atom® 6000 series (Elkhart Lake platform) Intel® Celeron® J6412 2.0 GHz (up to 2.6 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)	Onboard LPDDR4x 8G (up to 16GB)
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD bay		
	eMMC	N/A	N/A	N/A
	Micro SD	N/A	N/A	N/A
I/O Interfaces	USB	4 x USB 3.2	2 x USB 3.2	2 x USB 3.2
	Ethernet	3 x 2.5GbE	3 x 2.5GbE	2 x 2.5GbE
	COM Port	2 x RS-232/422/485 (optional)	2 x RS-232/422/485 (optional)	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	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		
Expansions	PCIe Mini	N/A	N/A	N/A
	M.2	1 x 2230 M.2 A Key (PCIe Gen3 x1 & USB2.0) 1 x 3042/3052 M.2 B Key (PCIe Gen3 x2) 1 x On-board SIM card socket (hinge type) for M.2 B key 1 x M.2 2240/3040 B key slot (only for IEI M.2 eDP/LVDS module)	1 x 2230 M.2 A Key (PCIe Gen3 x1 & USB2.0) 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	1 x 2230 M.2 A Key (PCIe Gen3 x1 & USB2.0) 1 x 3042 M.2 B Key (PCIe Gen3 x2) 1 x On-board SIM card socket (hinge type) for M.2 B key 1 x M.2 2240/3040 B key slot (only for IEI M.2 eDP/LVDS module)
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)	12V@2.5A (Intel® J6412 with 4GB 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, 3 shocks per axis		
	Operating Vibration	MIL-STD-810F 514.5C-2		
	Weight (Net/Gross)	0.98/1.2 kg	0.91/1.16 kg	0.92/1.16 kg
	Safety/EMC	CE/ FCC/UKCA		
	Watchdog Timer	Programmable 1 ~ 255 sec/min		
OS	Supported OS	Microsoft® Windows 10/11, Linux		

Ultra-Compact Computer

NEW


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)	1 x SO-DIMM DDR3L 1600 (2GB pre-installed)(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
	SATADOM	N/A	N/A
	eMMC	1 x eMMC (optional)	N/A
	Micro SD	N/A	N/A
I/O Interfaces	USB	4 x USB 3.2 Gen2 2 x USB 2.0 (optional)*	4 x USB 3.2 Gen 1
	Ethernet	2 x RJ-45 PCIe 2.5 GbE by I225V controller	2 x RJ-45: 2 x GbE by Intel® I211
	COM Port	1x RS-232/422/485 (DB9) 1x 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 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@3.6 (Intel® Celeron® J6412 with 8GB DDR4 Memory)	12V @ 2A (Intel® Celeron® N3160 with 2GB memory)
Reliability	Mounting	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	470g/ 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

* USB & COM expansion is applicable only when 2.5-inch hard disk is not installed

Compact Computer



Model		IDS-330-ADL-P	ITG-100-AL
Chassis	Color	Black	Blue & Silver
	Dimensions (WxDxH) (mm)	176 x 115.6 x 55.2	Single layer: 137 x 102.8 x 36.2 Dual layer: 137 x 102.8 x 56.2
	System Fan	Fanless (Fan optional)	Fanless
	Chassis Construction	ABS Plastic+Aluminum	Extruded aluminum alloy
Motherboard	CPU	Intel® Core™ i5-1235U (up to 4.4GHz, 10-core, 15W TDP) Intel® Core™ i7-1255U (up to 4.7GHz, 10-core, 15W TDP)	Intel® Atom® x5-E3930 1.3 GHz (up to 1.8 GHz, dual-core, TDP 6.5W)
	Chipset	SOC	SoC
	System Memory	LPDDR4X onboard 8GB (max 16GB)	1 x SO-DIMM DDR3L 1600/1867 (2GB pre-installed)(up to 8GB)
Storage	Hard Drive	1 x M.2 B key 3042/52/80 with SIM slot (PCIe x1 / USB 2.0 / SATA)	1 x 2.5" SATA 6Gb/s HDD/SSD bay
	SATADOM		N/A
	eMMC		1 x eMMC5.0 (up to 32GB)(optional)
	Micro SD	1 x 2280 M-key (PCIe Gen4 x4)	1 x Micro SD slot (optional)
I/O Interfaces	USB	4 x USB 3.2 Gen 2	2 x USB 3.2 Gen 1 2 x USB 2.0 (optional)
	Ethernet	2 x 2.5GbE by Intel® I225V (colay I225LM)	2 x RJ-45: 2 x GbE by Intel® I211
	COM Port	1 x RS-232/422/485 with AFC (DB9)	2 x RS-232/422/485 with AFC (DB9/RJ-45) 2 x RS-232 (optional)
	Digital I/O		8-bit Digital I/O (4-in/ 4-out)(optional)
	Display	4 x HDMI 1.4b with CEC (up to 4096 x 2160@30Hz)	1 x VGA (up to 1920 x 1080@60Hz)
	Audio		N/A
	Wireless		1 x 802.11a/b/g/n/ac (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)	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	PCIe Mini		1 x Full-size (PCIe/USB 2.0/SATA)
	M.2	1 x 2230 E-key (PCIe x1 / USB 2.0) Support Vpro	1 x 2230 A-key (PCIe x1/USB 2.0)
Power	Power Input	DC Jack: 12 VDC	Terminal block: 12 V DC
	Power Consumption	12V@4.25A (Intel® i7-1255U with 8GB DDR4 memory)	12V @ 1A (Intel® Atom® E3930 with 2GB memory)
Reliability	Mounting	Wall mount, VESA 75/100	DIN-Rail/ Wall-mount
	Operating Temperature	-10°C ~ 40°C with air flow, 10% ~ 95%, non-condensing	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% noncondensing
	Storage Temperature	-20°C ~ 60°C with air flow, 10% ~ 90%, non-condensing	-30°C ~ 70°C with air flow (SSD), 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 (SSD)
	Operating Vibration	10-500 Hz, 1.04 Grms, random, 1 hr/axis	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/ Gross)	0.94 / 1.7 kg	Single layer: 0.67g/ 1.03 kg Dual layer: 0.86g/ 1.22 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 10 / Windows 11, Linux

Compact Computer



Model		IDS-310-AL-N1	IDS-310-AL-J1
Chassis	Color	Brown & Silver	Brown & Silver
	Dimensions (WxDxH)(mm)	137 x 102.8 x 38.1	137 x 102.8 x 52.1
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Celeron® N3350 1.1 GHz (up to 2.4 GHz, dual-core, TDP 6W)	Intel® Celeron® J3455 1.5 GHz (up to 2.3 GHz, quad-core, TDP 10W)
	Chipset	SoC	SoC
	System Memory	1 x SO-DIMM DDR3L (4GB pre-installed)(up to 8GB)	1 x SO-DIMM DDR3L (4GB pre-installed)(up to 8GB)
Storage	Hard Drive	1 x SATA 6Gb/s connector	1 x SATA 6Gb/s connector
	Micro SD	1 x Micro SD slot (optional)	1 x Micro SD slot (optional)
I/O Interfaces	USB	3 x USB 3.2 Gen 1	3 x USB 3.2 Gen 1
	Ethernet	2 x RJ-45: 2 x GbE by RTL8111	2 x RJ-45: 2 x GbE by RTL8111
	RS-232/422/485	1 x RS-232/422/485 with AFC	1 x RS-232/422/485 with AFC
	Display	3 x HDMI 1.4b (3840 x 2160@30Hz)	3 x HDMI 1.4b (3840 x 2160@30Hz)
	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	Optional	Optional
Expansions	PCIe Mini	1 x Full-size with SIM card slot (PCIe/USB 2.0/SATA)	1 x Full-size with SIM card slot (PCIe/USB 2.0/SATA)
	M.2	1 x 2230 A-key (PCIe x1/USB 2.0)	1 x 2230 A-key (PCIe x1/USB 2.0)
Power	Power Input	DC Jack: 12V DC	DC Jack: 12V DC
	Power Consumption	12V @ 1.9A (Intel® Celeron® N3350 with 4GB memory)	12V @ 2.2A (Intel® Celeron® J3455 with 4GB memory)
Reliability	Mounting	VESA 75/100/Wall mount (optional)	VESA 75/100/Wall mount (optional)
	Operating Temperature	-20°C ~ 60°C with air flow (mSATA), 10% ~ 95% non-condensing	-20°C ~ 60°C with air flow (mSATA), 10% ~ 95% non-condensing
	Storage Temperature	-30°C ~ 80°C with air flow, 10% ~ 90% non-condensing	-30°C ~ 80°C with air flow, 10% ~ 90% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (mSATA)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (mSATA)
	Operation Vibration	MIL-STD-810G 514.6C-1 (mSATA)	MIL-STD-810G 514.6C-1 (mSATA)
	Weight (Net/ Gross)	680g/1.4 kg	950g/1.7 kg
	Safety / EMC	CE/FCC Class A/BSMI	CE/FCC Class A/BSMI
	Watchdog timer	Programmable 1~255 sec/min	Programmable 1~255 sec/min
OS	Supported OS	Microsoft® Windows® 10, Linux	Microsoft® Windows® 10, Linux

Industrial Mini PC

NEW



NEW



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 onboard 8GB (up to 16GB)	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 RJ-45 2.5 GbE by I225V controller	2 x USB3.2 Gen 2 USB3.2 Gen1
	USB	2 x USB 3.2 Gen2 2 x USB 2.0	3 x 2.5GbE by Intel® I225V controller
	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 WIFI 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	With VESA 75/100 conversion bracket (60.6 x 115.5 mm)	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	1.29 / 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

Rackmount Computer



Model		FLEX-BX210-Q470
Chassis	Color	Black
	Dimensions (WxDxH) (mm)	357 x 230 x 88
	System Fan	System Fan x3, CPU Cooler x1
	Chassis Construction	Metal Housing
Motherboard	CPU	10th/11th Generation Intel® Core™ processor (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	Q470/Q470E
	System Memory	2 x 288-pin 2933/2666 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB
	Storage	Hard Drive
I/O Interfaces	USB	4 x 2.5" SATA 6Gb/s HDD/SSD bay
	Ethernet	6 x USB 3.2 Gen.1
	COM Port	3 x RJ-45: 1 x GbE by Intel® I225LM 2 x GbE by Intel® I225V
	Display	2 x RS-232
	Audio	1 x HDMI (up to 3840 x 2160@30Hz) 1 x DP (up to 4096 x 2304@60Hz)
	Wireless	1 x Line-out, 1 x Mic-in
	TPM	1 x 802.11a/b/g/n/ac (optional)
	Other	Intel PTT from CPU
	Expansions	1 x M.2 A-Key (2230 for Wi-Fi) Optional 1 x M.2 B-Key 3042/52 socket (with SIM card slot, supporting 5G/LTE; supports PCIe 3.0 x1 & USB 3.0 Gen 1) 1 x M.2 M Key 2280 socket (supports PCIe 3.0 x4)
	Backplane	2 x PCIe 3.0 x8 (x16 Slot) 2 x PCIe 3.0 x4
Power	Power Input	2 x PCIe 3.0 x8 (x16 Slot)
	Power Consumption	2 x PCIe 3.0 x4
Reliability	Mounting	100 ~ 240V AC
	Operating Temperature	100 ~ 240V AC @ 6 ~ 3A
	Storage Temperature	Wall mount / Rack mount
	Operating Shock	-10°C ~ 50°C (with air flow), 10% ~ 95% (non-condensing)
	Operating Vibration	-20°C ~ 60°C, 10% ~ 95% (non-condensing)
	Weight (Net/Gross)	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Safety/EMC	MIL-STD-810G 514.6C-1 (SSD)
	Watchdog Timer	4.1KG/7.2KG
	Supported OS	CE/ FCC
		Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows 10 / 11, Linux

Video Transceiver

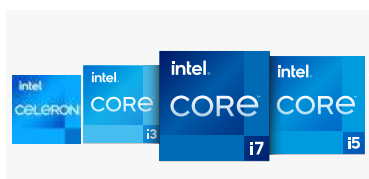
4K Low Latency
Pro AV Application



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 USB HID 2 x RS-232 6 x LED indicator 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 10/11 WSL2, Linux Ubuntu 18.04 LTS+

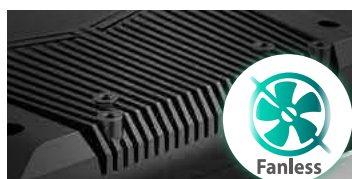
Light Industry Panel PC Product Family

AFOLUX, standing for affordable luxury, is designed to provide versatile, cost-effective solutions for light industrial markets such as factory automation, retail, medical, digital signage and POS (point of sale). It is fanless with aluminum casing, looks stylish like a tablet, and offers a variety of performance levels. Built with optimized PCAP touchscreen, rich I/O and advanced wireless communication capability by the latest technology – Wi-Fi 6E and Bluetooth 5.2, the AFL4 series is ideal for IoT applications requiring high-speed connectivity, large embedded RAM, and power efficiency.



Different Processor Performance for Different Project Requirements

- Intel® Celeron® Processor J6412
- 12th Gen Intel® Core™ Mobile i7/i5/i3 Processors



Fanless Design Extends System Lifetime

Fins that expel heat are effective in maintaining a stable temperature inside a system, while avoiding the use of ventilation that may allow harmful particles to enter.



Integrated with WiFi 6E and Bluetooth 5.2

Provide high data transmission through the internal 2T2R antennas



Rugged Aluminum Die- Casting Housing

- Excellent Thermal conductivity
- High corrosion resistance
- Durable hardness



Built-in 1.2W Speaker

- One side 1.2W speaker
- Perfect for multimedia, kiosk content



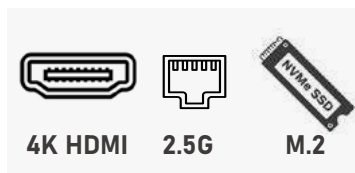
Aluminum Narrow Bezel

The panel PCs feature a 3mm narrow aluminum bezel and narrow touchscreen edge design



Responsive PCAP Touch Technologies

- 10-point multi-touch PCAP touchscreen
- 7H hardness glass with exceptional scratch resistance
- Anti-UV, anti-glare coating
- Accurately gloved hand and wet hand operation



High-Speed I/O Ports & 4K Display

- 2.5Gb Ethernet, USB 3.2 Gen 2 (10 Gbps)
- M.2 NVMe M-Key
- True 4K HDMI 1.4b (4096x2160 @30Hz)



Front Panel IP64 Waterproof

Water spray and light rain against the enclosure will have no harmful effect.

Selection Guide

Size (Resolution)	7" (1024 x 600)	10.1" (1280 x 800)	12.1" (1024 x 768)	12.1" (1280 x 800)	13.3" (1920 x 1080)
12th Gen Intel® Core™ Mobile Processors (Alder Lake-P)		AFL4-W101-ADLP	AFL4-121-ADLP	AFL4-W121-ADLP	AFL4-W133-ADLP
Intel® Celeron® Processor J6412 (Elkhart Lake)	AFL4-W07-EHL	AFL4-W10-EHL	AFL4-12-EHL	AFL4-W12-EHL	AFL4-W13-EHL

Light Industry Panel PC

Intel® Core™ Mobile Processors



NEW



NEW



NEW



NEW



LCD Size		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	500	500	350
	Contrast Ratio	900:1	1200:1	1200:1	800:1
	Viewing Angle (H-V)	170/170	170/170	170/170	170/170
	Backlight MTBF	30000 hours	50000 hours	50000 hours	50000 hours
Touch	Touch Screen	PCAP with USB interface (anti-UV/AR coating)			
	Touch Controller	EETI EXC 81 Series			
Mainboard	SoC	12th Generation Intel® Core™ i7/i5/i3 Processor (Alder Lake-P)			
	RAM	Dual channel 8GB LPDDR4x on board			
	Ethernet	LAN1: Intel® I225V 2.5GbE controller LAN2: Intel® I225-LM 2.5GbE controller (support Intel® AMT)			
	Audio Codec	Realtek ALC888S			
	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-232/422/4852 x 2.5GbE RJ45 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			
Audio		AMP 1.2W (internal speaker)			
Wireless & Bluetooth		IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.2 (M.2 2230 E-key)			
Physical	Construction Front Panel	Aluminum die casting+SECC			
	Mounting	Wall, Stand , Arm, VESA 100			
	Color	Silver+Black			
Environment	Operating Temperature (°C) (Ambient with air flow)	-10 ~ 50			
	Storage Temperature (°C)	-20 ~ 60			
	Humidity	10% to 95%@40°C (non-condensing)			
	IP Level	IP64 compliant front panel			
	Safety & EMC	CE/EMC, FCC, RED (Class A)			
	Thermal Solution	Fanless			
	Power	12V DC			
	Operation Vibration	MIL-STD-810G 514.6C-1 (with SSD)			
	Operation Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis			
ErP		ErP 2009/125/EC			
OS		Windows 10/11 IoT, Linux			

Light Industry Panel PC

Intel® Core™ Mobile Processors



LCD Size		15.6”	18.5”	21.5”
Model		AFL3-W15C-ULT5	AFL3-W19C-ULT5	AFL3-W22C-ULT5
LCD	Resolution	1366 x 768 (16:9)	1366 x 768 (16:9)	1920 x 1080 (16:9)
	Brightness (cd/m²)	300	450	250
	Contrast Ratio	500:1	1000:1	1000:1
	Viewing Angle (H-V)	170°/160°	170°/160°	170°/160°
	Backlight MTBF (hrs)	50000	30000	30000
Touch	Touch Screen	PCAP with USB interface (anti-UV/AG coating)		
	Touch Controller	EXC3160		
Mainboard	CPU	8th Generation Intel® Core™ i5-8365UE (15W) on-board processor (ULT)		
	Memory	Two 260-pin 2400MHz dual-channel DDR4 SO-DIMMs supporting up to 32 GB		
	Ethernet	LAN1 & LAN2: Intel® I211; LAN3: Intel® I219		
	Audio Codec	Realtek ALC 888S		
Storage		1 x M.2 M-key 2280 PCIe 3.0 x4 (PCIe/SATA Signal)		
		1 x 2.5" SATA 3Gb/s HDD bay		
I/O Ports & Switch		2 x PoE GbE LAN (optoal IEEE802.3af/at/bt) 1 x GbE LAN 4 x USB 3.2 Gen.2 1 x HDMI output 1 x RS-232/422/485 1 x RS-232 1 x 12V DC jack 1 x Power button 1 x AT/ATX switch		
PoE Support		Optional PoE 802.3 bt by GPOE-PD-BT01-R10 PoE module		
Audio		AMP 3W + 3W (internal speaker)		
Camera / Microphone		2-megapixel with low light function, digital microphone		
Wireless & Bluetooth		IEEE 802.11 a/b/g/n/ac, Bluetooth V4.1 M.2 A key 2230 slot (PCIe/USB signal)		
Physical	Construction Front Panel	PC + ABS Plastic		
	Mounting	Panel, Wall, Stand and Arm VESA 75mm x 75mm, 100mm x 100mm		
	Color	Black C		
	Dimensions (W x H x D) (mm)	396 x 250 x 64	470 x 290 x 70	528 x 336 x 68
	Cut-out Dimensions (W x H)	369 x 226	443 x 261	502 x 303
	Net/Gross Weight (kgs)	4.5/6.5	7.3/10	8.27/11.27
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 64 compliant front panel		
	Safety & EMC	CE / FCC class A		
	Thermal Solution	Fanless		
Power	Power Requirement	12V, 8A		
		PoE IEEE802.3af/at/bt (redundancy, power load-sharing)		
ErP		ErP 2009/125/EC		

Light Industry Panel PC

Intel® Celeron® Processor



LCD Size		7”	10.1”	12.1”	12”	13.3”
Model		AFL4-W07-EHL	AFL4-W10-EHL	AFL4-W12-EHL	AFL4-12-EHL	AFL4-W13-EHL
LCD	Resolution (WxH)	1024 x 600 (16:10)	1280 x 800 (16:10)	1280 x 800 (16:10)	1024 x 768 (4:3)	1920 x1080 (16:10)
	Brightness (cd/m²)	450	350	500	500	350
	LCD Color	16.2M	16.7M	16.7M	16.7M	16.7M
	Pixel Pitch (mm)	0.1506 x 0.1432	0.1695 x 0.1695	0.1695 x 0.1695	0.24 x 0.24	0.153 x 0.153
	Contrast Ratio	700:1	900:1	1200:1	1200:1	800:1
	Viewing Angle (H-V)	150°/145°	170°/170°	170°/170°	170°/170°	170°/170°
	Backlight MTBF	20000 hours	30000 hours	50000 hours	50,000 hours	50000 hours
Touch	Touch Screen	PCAP with USB interface (anti-UV/AG coating)				
	Touch Controller	EETI EXC 81 Series				
Motherboard	SoC	Intel® Celeron® Processor J6412 1.5M Cache, up to 2.60 GHz / TDP 10W				
	RAM	Dual channel 8GB LPDDR4x on board				
	Ethernet	LAN1: Intel® I225V 2.5GbE controller	LAN1: Intel ® I225V 2.5GbE controller LAN2: Intel ® I225V 2.5GbE controller			
	Audio Codec	Realtek ALC888S				
	Storage	128GB eMMC (optional)	N/A			
	Expansion	1 x M.2 2242 M key (PCIe Gen3 x1 + SATA)	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-232/422/485 1 x 2.5GbE LAN 2 x USB 3.2 Gen2 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 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			
Audio		AMP 1.2 W (internal speaker)				
Wireless & Bluetooth		IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.2 (M.2 2230 E-key)				
Physical	Construction Material	Aluminum die casting+SECC				
	Mounting	Wall , Stand , ARM, VESA 75	Wall, Stand, ARM, VESA 75/100			
	Color	Silver+Black				
Environment	Operating Temperature (°C) (Ambient with air flow)	-10 ~ 40	-10 ~ 50			
	Storage Temperature (°C)	-20 ~ 60				
	Humidity	10% to 95%@40°C (non-condensing)				
	Operating Shock	Half-sine wave shock 5G; 11ms; 100 shocks per axis				
	Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)				
	IP Level	IP 64 compliant front panel				
	Safety & EMC	CE/EMC, UKCA, FCC, RED (Class A)				
	Termal Solution	Fanless				
	Power	12V				
ErP		ErP 2009/125/EC				
OS		Windows 10 IoT/Linux				

Light Industry Panel PC

Intel® Celeron® Processor



LCD Size		7"		10.1"	12.1"	15.6"
Model		AFL3-W07A-AL	AFL3-W07A-AL2	AFL3-W10A-AL	AFL3-12A-AL	AFL3-W15A-AL
LCD	Resolution	1024 x 600 (16:9)		1280 x 800 (16:10)	1024 x 768 (4:3)	1366 x 768 (16:9)
	Brightness (cd/m²)	500		350	500	300
	Contrast Ratio	700:1		800:1	700:1	500:1
	Viewing Angle (H-V)	150 / 145		170 / 170	160 / 160	170 / 160
	Backlight MTBF	20000		15000	50000	50000
Touch	Touch Screen	PCAP with USB interface (anti-UV/AG coating)		PCAP with USB interface (anti-UV/anti-glare coating)		
	Touch Controller	EETI 80H60		EXC3146	EXC3146	EXC3160
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	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 GbE LAN 2 x USB 3.2 Gen1 (5Gb/s) 1 x RS-232/422/485 (by DB9) 1 x HDMI 1 x 12 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 jcak 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		Optional PoE 802.3 bt by AFL3-PD-BT01-KIT01-R10 PoE module		
Audio		AMP 2W (internal speaker)		AMP 2W + 2W	AMP 3W + 3W (internal speaker)	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)				
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	396 x 250 x 53
	Cut-out Dimensions (W x H)	182 x 111		236 x 149	243 x 205	273 x 226
	Net/Gross Weight (kgs)	0.73/1.81		1.06/2.58	1.92/3.95	3.3/5.6
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		IP 64 compliant front panel		
	Safety & EMC	CE / FCC class A				
	Termal Solution	Fanless				
Power	Power Requirement	12V only		9V ~ 30V		
ErP		ErP 2009/125/EC				

Light Industry Panel PC

Intel® Celeron® Processor



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 PC

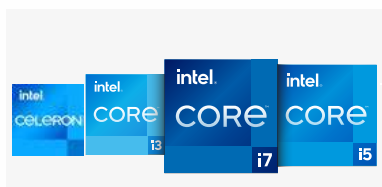
Intel® Celeron® Processor



LCD Size		10.1"	12.1"	15.6"
Model		AFL3-W10A-BT	AFL3-12A-BT	AFL3-W15A-BT
LCD	Size	10.1"	12.1"	15.6"
	Resolution	1280 x 800 (16:10)	1024 x 768 (4:3)	1366 x 768 (16:9)
	Brightness (cd/m ²)	350	500	400
	Contrast Ratio	800:1	700:1	500:1
	LCD Color	16.2M	16.2M	16.2M
	Pixel Pitch (mm)	0.1695 (H) x 0.1695 (V)	0.240 (H) x 0.240 (V)	0.240 (H) x 0.240 (V)
	Viewing Angle (H-V)	170° / 170°	160° / 140°	170° / 160°
	Backlight MTBF(hrs)	15000 hrs	50000 hrs	50000 (LED backlight)
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)	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	PenMount DMC9000 / EETI EXC3188
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	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) (R1/5V/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) (R1/5V/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	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB-9 connector) (R1/5V/12V) 2 x USB 2.0 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 Audio port (line-out) 1 x 9-30V lockable power jack
Audio		AMP 2W + 2W (internal speaker)	AMP 3W + 3W (internal speaker)	AMP 3W + 3W (internal speakers)
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)	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	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	396 x 250 x 53
	Cut-out Dimensions (WxH) (mm)	236 x 149	243 x 205	273 x 226
	Net/Gross Weight (kgs)	1.06/2.58	1.92/3.95	3.3/5.6
Environment	Operating Temperature (Ambient with air flow)	-10°C ~ 50°C	-20°C ~ 50°C	-20°C ~ 50°C
	Storage Temperature	-20°C ~ 60°C	-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)	12V@4.16A (Intel® J1900 CPU with 2GB 1333 MHz DDR3 memory)

Heavy Industry Panel PC Product Family

The PPC2 panel PC series is designed for heavy industrial uses that need high degree of computing. Integrated with 12th Gen Intel® Core™ processor, the panel PC supports up to 64GB DDR4 memory, Intel® UHD Graphics and a PCIe Gen4 x16 slot for expansion of functionality. Its IP65 projected capacitive touchscreen with anti-glare/UV coating not only ensures readability and durability, but also allows gloved/wet hand operation. Moreover, the built-in power supply with AC input simplifies power delivery to the system and maximizes energy efficiency for diverse applications such as edge AI, industrial automation or machine vision.



12th Gen Intel® Core™ Desktop and Intel® Celeron® Processors

- 12th Gen Intel® Core™ i7/i5/i3 Desktop Processors
- Intel® Celeron® Processor J6412



Front IP65 Ingress Protection

Rugged aluminum die-casting front bezel framed with strong waterproof gasket seal on the back to protect against pressure water



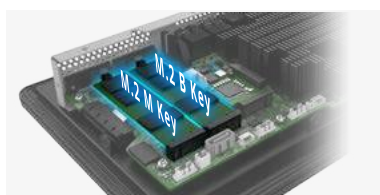
Expand AI Capability with High-bandwidth PCIe Gen4 x16

Hardware acceleration by graphics cards and AI accelerators. (PPC2-Cxx-ADL series)



Graphical BIOS Interface

The graphical BIOS interface can be navigated with fingers, no keyboard and mouse are required to operate.



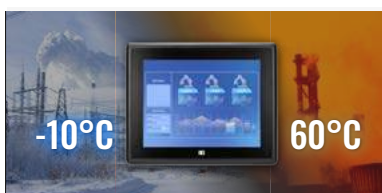
M.2 B Key & M.2 M Key

Dual M.2 ultra-high-speed expansion supporting SSD & AI accelerator to enhance efficiency. (PPC2-Cxx-EHL series)



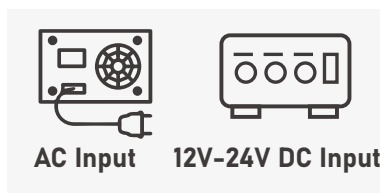
Toolless Panel Mounting Design

The easy to use panel mount kit can be fastened by hand and no screwdriver required.



-10°C to 60°C Wide Operating Temperature

Dual M.2 ultra-high-speed expansion supporting SSD & AI accelerator to enhance efficiency. (PPC2-Cxx-EHL series)



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

- Built-in 250W 90~264VAC PSU (PPC2-Cxx-ADL series)
- 12-24V DC input with lockable terminal block (PPC2-Cxx-EHL series)



Resilient, Responsive PCAP Touch Technologies

- 10-point multi-touch PCAP touchscreen
- 7H hardness glass
- Anti-UV, anti-glare coating, support gloves and wet hands operation

Selection Guide

Size (Resolution)	8" (800 x 600)	10.4" (800 x 600)	12.1" (1024 x 768)	15" (1024 x 768)	15.6" (1920 x 1080)	17" (1280 x 1024)	19" (1280 x 1024)	18.5" (1920 x 1080)	21.5" (1920 x 1080)
12th Gen Intel® Core™ Desktop Processors				PPC2-C15-ADL	PPC2-CW15-ADL	PPC2-C17-ADL	PPC2-C19-ADL	PPC2-CW19-ADL	PPC2-CW22-ADL
Intel® Celeron® Processor J6412	PPC2-C08-EHL	PPC2-C10-EHL	PPC2-C12-EHL	PPC2-C15-EHL	PPC2-CW15-EHL	PPC2-C17-EHL	PPC2-C19-EHL	PPC2-CW19-EHL	PPC2-CW22-EHL

Heavy Industry Panel PC

Intel® Core™ Desktop Processors



NEW



NEW



NEW



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	450 cd/m ²	400 cd/m ²	350 cd/m ²
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)	-10°C ~ 60°C		
Storage Temperature	-20°C ~ 60°C		
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 PC

Intel® Core™ Desktop Processors

intel
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)	1280x 1024 (5:4)	1920x 1080 (16:9)
Brightness	400 cd/m ²	350 cd/m ²	350 cd/m ²
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)	-10°C ~ 60°C		
Storage Temperature	-20°C ~ 60°C		
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	9 kg

Heavy Industry Panel PC

Intel® Core™ Desktop Processors



LCD Size		15"	17"
Model		PPC-F15A-H81	PPC-F17A-H81
Display	LCD Size	15" (4:3)	17"
	Max. Resolution	1024 (W) x 768 (H)	1280 (W) x 1024 (H)
	Brightness (cd/m²)	450	350
	Contrast Ratio	800 : 1	1000 : 1
	LCD Color	16.2M	16.7M
	Pixel Pitch (mm) (HxV)	0.297 x 0.297	0.26 x 0.26
	Viewing Angle (V/ H)	160° / 150°	170° / 160°
	Backlight MTBF (hrs)	70000	50000
Touch	Touchscreen	5-wire resistive single touch window, 3H (Anti-glare Surface) 10-point Projected capacitive touch window, 6H (Anti-UV, Anti-glare Surface)	
	Touch Controller	Penmount DMC 9000 EETI EXC3188	
Motherboard	CPU	4th generation Intel® Core™ i7/ i5, Pentium® and Celeron® processor, up to TDP 65W CPU	4th generation Intel® Core™ i7/ i5, Pentium® and Celeron® processor, up to TDP 65W CPU
	Chipset	N/A	Intel® H81
	RAM	2 x 204-pin DDR3 SO-DIMM slots (max. 16GB)	2 x 204-pin DDR3 SO-DIMM slots (max. 16GB)
	Ethernet	1 x PCIe GbE by Intel® I210 controller 1 x PCIe GbE by Intel® I211 controller	
	Audio Codec	Realtek ALC888S	
I/O Ports and Switches		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 1 x VGA output 1 x AC/DC power plug (DC model is by build to order manufacturing) 1 x AT/ATX switch 1 x Clear CMOS 1 x Reset button 1 x Power 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 1 x VGA output 1 x AC/DC power plug (DC model is by build to order manufacturing) 1 x AT/ATX switch 1 x Clear CMOS 1 x Reset button 1 x Power switch
Drive Bay	HDD Drive Bay	1 x 2.5" HDD bay	1 x 2.5" SATA HDD bay with anti-shook
	SSD	mSATA	
Expansion Slot		1 x Full-size PCIe Mini card 1 x Full-size PCIe Mini card co-lay mSATA	
System Cooling		Active fan	Active fan
Environment	Operating Temperature	-10°C~50°C (14°F~122°F)	
	Storage Temperature	-20°C~60°C (-4°F~140°F)	

Heavy Industry Panel PC

Intel® Core™ Mobile Processors



LCD Size		15"	15.6"	17"	18.5"
Model		PPC-F15D-ULT5	PPC-FW15D-ULT5	PPC-F17D-ULT5	PPC-FW19D-ULT5
TFT LCD	LCD Size	15"	15.6"	17"	18.5"
	Max. Resolution	1024 x 768	1366x768	1280 x 1024	1366 x 768
	Brightness (cd/m ²)	450	400	350	400
	Contrast Ratio	800:1	500:1	1000:1	1000:1
	LCD Color	16.2M	16.2M	16.7M	16.7M
	Pixel Pitch (mm)	0.29 x 0.29	0.252 x 0.252	0.26 x 0.26	0.3 x 0.3
	Viewing Angle (H/V)	160°/150°	170°/160°	170°/160°	170°/160°
	Backlight MTBF (Hrs)	70,000	50,000	50,000	50,000
Touch Screen	Touchscreen Type	Projected capacitive type with 10-point multitouch and anti-glare coating			
	Touch Controller	EETI EXC3000			
System	CPU	8th Generation Intel® Core™ i5-8365UE 4.10GHz 8th Generation Intel® Celeron® 4305UE 2.00GHz			
	Memory	2 x 260-pin 2400 MHz dual-channel DDR4 unbuffered SO-DIMM supporting up to 32GB			
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, 4K codec decode			
	Ethernet	2 x Intel® I211, 1 x Intel® I219			
Storage		2.5" HDD/SSD SATA 6Gb/s bay			
I/O Ports and Switches		4 x USB 3.2 Gen 2 (10Gbps) 1 x HDMI output 1 x RS-232/422/485 1 x RS-232 3 x GbE LAN (2 for PoE PD GbE LAN)	1 x 12V DC jack 1 x Power switch with LED indicator (blue) 1 x AT/ATX switch 1 x Line-out 1 x Reset button	4 x USB 3.2 Gen 2 (10Gbps) 1 x HDMI output 1 x RS-232/422/485 1 x RS-232 3 x GbE LAN (2 for PoE PD GbE LAN)	1 x 12V DC jack 1 x Power switch with LED indicator (blue) 1 x AT/ATX switch 1 x Line-out 1 x Reset button
Expansion Slots		1 x NGFF M.2 2230 A Key (PCIe x1, USB signal) 1 x NGFF M.2 2280 M Key (support PCIe 3.0 x4 NVMe) 2 x PoE PD module socket (by IEL pin definition)			
Thermal Solution		Fanless			
Watchdog Timer		Software Programmable support 1~255 sec. system reset			
Construction	Dimensions (mm) (WxHxD)	378.5 x 303 x 75	400.1 x 253.3 x 77.1	408.4 x 341.4 x 75.6	469.8 x 289.2 x 76.9
	Cutout Dimensions (W x H) (mm)	361.1 x 285.6	379.1 x 232.3	391 x 324	447.8 x 257.2
	Net Weight (kg)	6.1	7.1	7.2	7.3
	Color	PANTONE 296 C			
	Front Frame	Aluminum die-casting			
	Rear Cover	Sheet metal			
	Mounting	Wall mount, Panel mount, Rack mount			
Environmental	Operating Temp.	-10°C ~ 50°C (with air flow)			
	Storage Temp.	-20°C ~ 60°C			
	Humidity	10% ~ 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 class A			
Power Input		12V DC input			

Heavy Industry Panel PC

Intel® Celeron® Processor



LCD Size	8”		10.4”		12”		15”		15.6”		
Model	PPC2-C08-EHL		PPC2-C10-EHL		PPC2-C12-EHL		PPC2-C15-EHL		PPC2-CW15-EHL		
Resolution	800 x 600 (4:3)		800 x 600 (4:3)		1024 x 768 (4:3)		1024 x 768 (4:3)		1920 x 1080 (16:9)		
Brightness	500 cd/m²		400 cd/m²		500 cd/m²		450 cd/m²		400cd/m²		
Contrast Ratio	500:1		700:1		700:1		800:1		500:1		
LCD Color	262K		16.2M		16.2M		16.2M		16.2M		
Pixel Pitch (mm)	0.2025 x 0.0675		0.264 x 0.264		0.24 x 0.24		0.297 x 0.297		0.252 x 0.252		
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		
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		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 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 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		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)		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	36W power adapter		36W power adapter		60W power adapter		60W power adapter		60W power adapter		
Termal Solution	Fanless										
TPM	Intel® Platform Trust Technology										
Watchdog Timer	Software Programmable support 1~255 sec. system reset										
Operating Temperature (with air flow)	-10°C ~ 60°C										
Storage Temperature	-20°C ~ 60°C										
Humidity	10% ~ 90%@40°C, 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		378.5 x 303 x 53.2		400.10 x 253.30 x 58.45		
Net Weight	1.610KG		2.335KG		3.095KG		3.940KG		3.875KG		

Heavy Industry Panel PC

Intel® Celeron® Processor



LCD Size	17"	19"	18.5"	21.5"
Model	PPC2-C17-EHL	PPC2-C19-EHL	PPC2-CW19-EHL	PPC2-CW22-EHL
Resolution	1280 x 1024 (5:4)	1280 x 1024 (5:4)	1920 x 1080 (16:9)	1920 x 1080 (16:9)
Brightness	350 cd/m ²	350 cd/m ²	400cd/m ²	400cd/m ²
Contrast Ratio	800:1	1000:1	1000:1	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	0.3 x 0.3	0.3 x 0.3
Viewing Angle (H-V)	170°/160°	170°/160°	170°/160°	170°/160°
Backlight MTBF	50,000 hours	50,000 hours	50,000 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			
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 75/100 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)	-10°C ~ 60°C			
Storage Temperature	-20°C ~ 60°C			
Humidity	10% ~ 90%@40°C			
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	4.830KG	5.745KG	5.096KG	6.330KG

Heavy Industry Panel PC



LCD Size		8”	10.4”	12”	15”	17”
Model		PPC-F08B-BT	PPC-F10B-BT	PPC-F12B-BT	PPC-F15B-BT	PPC-F17B-BT
Display	Resolution	800 x 600 (4:3)	800 x 600 (4:3)	1024 x 768 (4:3)	1024 x 768 (4:3)	1280 x 1024 (4:3)
	Brightness (cd/m²)	500	400	600	450	350
	Contrast Ratio	500 : 1	700 : 1	700 : 1	800 : 1	1000 : 1
	LCD Color	16.2M	16.2M	16.2M	16.2M	16.7M
	Pixel Pitch (mm) (HxV)	0.2025 x 0.0675	0.264 x 0.264	0.24 x 0.24	0.297 x 0.297	0.26 x 0.26
	Viewing Angle (V/H)	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
Touch	TouchScreen	5-wire resistive type flat touchscreen, 3H		5-wire resistive single touch window, 3H (Anti-glare Surface) 10-point Projected capacitive touch window, 6H (Anti-UV, Anti-glare Surface)		
	Touch Controller	PenMount DMC9000		Penmount DMC 9000 EETI EXC3188		
Motherboard	CPU	Intel® Celeron® J1900 on-board SoC, quad-core, 2GHz		Intel® Celeron® quad-core J1900 SoC, 2GHz		
	Chipset	N/A	N/A	N/A	Intel® H81	N/A
	RAM	1 x 204-pin DDR3L SO-DIMM slot (max. 8GB)		2 x 204-pin 1066/1333 MHz DDR3L SO-DIMM supported (max. 8GB)		
	Ethernet	2 x RTL 8111HN		1 x PCIe GbE by Intel® I210 controller 1 x PCIe GbE by Intel® I211 controller		
	Audio Codec	REALTEK ALC888S				
I/O Ports and 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 (DB-9 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 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 DC jack (4-pin) 1 x Terminal block 1 x Microphone & speaker 1 x power switch
Drive Bay	HDD Drive Bay	N/A	1 x 2.5" HDD bay	1 x 2.5" HDD bay	1 x 2.5" HDD bay	1 x 2.5" SATA HDD bay with anti-shook
	SSD	mSATA				
Expansion Slot		1 x Full-size PCIe Mini slot (with mSATA/PCIe/USB signal) 1 x Half-size PCIe Mini slot for Wi-Fi modules		1 x Full-size PCIe Mini card 1 x Full-size PCIe Mini card co-lay mSATA		
System Cooling		Fanless				
Environment	Operating Temperature	-10°C~50°C (14°F~122°F)				
	Storage Temperature	-20°C~60°C (-4°F~140°F)				

Industrial Monitors



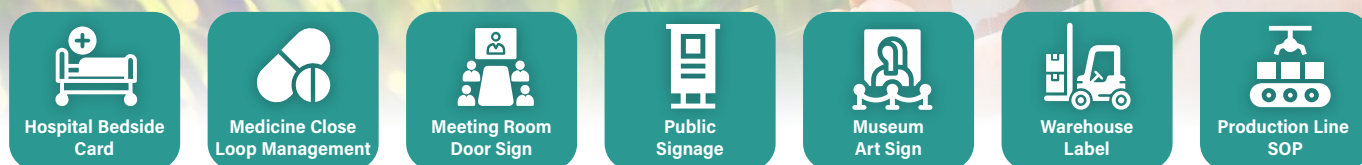
LCD Size		8"	12.1"	15"	15.6"
Model		DM-F08A	DM-F12A	DM-F15A	DM-FW15A
Display	Max. Resolution	800 x 600 (4:3)	1024 x 768 (4:3)	1024 x 768 (4:3)	1366 x768 (16:9)
	Brightness (cd/m²)	500	600	500	400
	Contrast Ratio	500:1	700 : 1	800 : 1	500:1
	LCD Color	262K	16.2M	16.2M	16.2M
	Pixel Pitch (mm)	0.0675 x 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



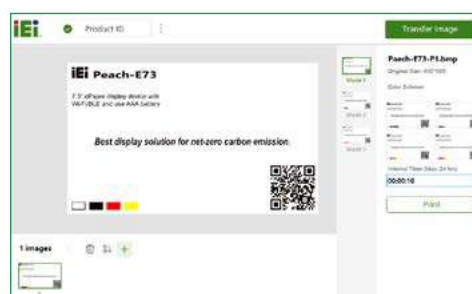
LCD Size		17"	18.5"	19"	21.5"	23.8"
Model		DM-F17A	DM-FW19A	DM-F19A	DM-F22A	DM-F24A
Display	Max. Resolution	1280 x 1024 (5:4)	1366 x 768 (16:9)	1280x 1024 (5:4)	1920x 1080 (16:9)	1920x 1080 (16:9)
	Brightness (cd/m²)	350	400	350	250	250
	Contrast Ratio	1000 : 1	1000 : 1	1000 : 1	1000 : 1	3000 : 1
	LCD 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

IEI Peach-E73 ePaper Display Specification



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



Supports slide rail bracket installation

Specifications	Peach-E73
Active area	7.3"
Resolution	800 x 480
Display Type	Electro-Phoretic Display (EPD)
Dimension (mm)	186.1 (L) x 133.1 (W) x 19.5 (D)
Wireless	IEEE 802.11b/g/n (2.4 GHz WiFi) / Bluetooth® 5 (LE)
Connector	USB Type-C
LED	2 colors
Keys	Power / BLE / Reset
Battery	AAA x 6 (Not included in the product)
Colors	BWRY
Image Update Time (25°C typ)	18 sec
Best Optic Temperature Range	15°C ~ 35°C
Storage Temperature	-20°C ~ 60°C

AI Developer Kit

NEW



Model		TANK-XM811 AIoT_RAL	TANK-XM811 AIoT_ADL
Form Factor	Color	Black C	Black C
	Dimension (W x D x H)	137.9 x 255.4 x 230.6 mm	137.9 x 255.4 x 230.6 mm
	System Fan	Fan	Fan
	Chassis Construction	Extruded aluminum alloys	Extruded aluminum alloys
Motherboard	CPU	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)	Intel® Core™ i5-12500TE 1.9GHz (up to 4.3GHz, 6-Core, TDP 35W)
	Chipset	Intel® R680E	Intel® R680E
	System Memory	2 x SO-DIMM DDR4 3200MHz (2 x 16GB non-ECC pre-installed, up to 64GB, support ECC SKU)	2 x SO-DIMM DDR4 3200MHz (2 x 8GB non-ECC pre-installed, up to 64GB, support ECC SKU)
Storage	Hard Drive	1 x 2.5" HDD/SSD bay (256GB SSD pre-installed)	1 x 2.5" 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	2 x RJ45: 1 x Intel® I225LM 2.5GbE 1 x Intel® I225V 2.5GbE
	USB 3.2 Gen 2 (10Gb/s)	8	8
	COM	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 (6-in/6-out)	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)	1 x DP++ (up to 4096 x 2160@60Hz) 1 x HDMI (up to 4096 x 2160@30Hz)
	Backplane	2 x PCIe x8 slot (total power up to 75W, support FHHL card)	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	DC Jack: 12V ~ 28V DC Terminal Block: 12V ~ 28V DC
	Remote Power	Terminal Block: 2-Pin	Terminal Block: 2-Pin
Reliability	Mounting	Wall mount	
	Operating Temperature	-20°C ~ 60°C with air flow (with SSD), 10% ~ 95%, non-condensing	-20°C ~ 60°C with air flow (with SSD), 10% ~ 95%, non-condensing
	Storage Temperature	-40°C ~ 80°C, 10% ~ 95%, non-condensing	-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)	MIL-STD-810G 514.6C-1 (with SSD)
	Weight (Net / Gross)	4.6kg / 5.6kg	4.6kg / 5.6kg
	Safety / EMC	CE / FCC	CE / FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min	
OS	Supported OS	Windows® 10 IoT Enterprise / Linux	Windows® 10 IoT Enterprise / Linux

AI Developer Kit



Model		RACK-500AI-C246
Chassis	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

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
Storage	Ethernet	LAN1: Intel® I219LM with Intel® AMT 11.0 supported LAN2/LAN3: Intel® I210 PCIe controller
	Storage	4 x accessible 2.5" HDD/SSD SATA 6 Gb/s bay (with RAID 0/1/5/10 support) with LED indicator 1 x NGFF M.2(2280) M Key socket (support NVMe SSD) Pre-installed 1 x 2.5" 1TB HDD
Wireless Communication	WLAN	Intel® AC 9260 802.11ac, 2.5/5GHz, 2T/2R (by M.2 2230)
	Bluetooth	Bluetooth V5.1
I/O Ports and Switches	WWAN and GNSS	M.2 3042 LTE (optional)
	I/O Ports and Switches	1 x Display port 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
Expansion Slots	TPM	TPM 2.0 (pre-installed)
	Expansion Slots	2 x PCIe 3.0 x8 2 x PCIe 3.0 x4 1 x M.2 B-Key 2242 socket (with SIM slot for 3G/LTE, supports PCIe 3.0 x1 & USB 3.2 Gen1) 1 x M.2 M-Key 2280 socket (supports PCIe 3.0 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	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
Environmental	Net Weight	4 kgs
	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	Safety/EMC	CE/FCC/RoHS

AI Developer Kit

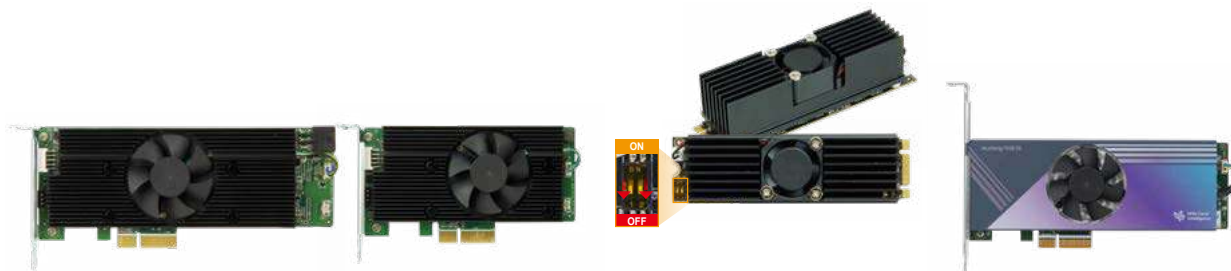


NEW



Model		DRPC-240AI 11th gen core	DRPC-240-TGL TSN/TCC
Form Factor	Dimensions	190x150x81 mm (DRPC-240AI-i5CS) 190x150x126 mm (DRPC-240AI-i5C)	190x150x81mm (DRPC-240AI-i5RCS-R10) 190x150x126mm (DRPC-240AI-i5RC-R10)
	System Fan	DRPC-240AI-i5CS: fanless DRPC-240AI-i5C: with fan	DRPC-240AI-i5RCS-R10: fanless DRPC-240AI-i5RC-R10: with fan
Motherboard	CPU	Intel® Core™ i5-1145G7E 1.5 GHz (up to 4.1 GHz, quad core, TDP 12 ~ 28W)	Intel® Core™ i5-1145GRE Processor 1.50GHz (up to 4.10GHz, quad core, TDP 12W to 28W)
	Chipset	SoC	SoC
	System Memory	2 x SO-DIMM DDR4 3200MHz (8GB pre-installed)	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)	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	2 x USB 3.2 Gen 2 2 x USB 2.0
	Ethernet	1 x RJ-45 PCIe 2.5 GbE by Intel® I225LM 3 x RJ-45 PCIe 2.5 GbE by Intel® I225V (colay i225LM) (Optional PoE at power board)	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) 2 x DB9 RS-422/485 with AFC (DB9 with 2.5KV isolation)	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)	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)	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)	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 3.2 Gen1 / USB 2.0) with SIM slot	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-i5C only)	1 x PCIe Gen3 x4 (DRPC-240AI-i5RC only)
Others	Indicator	2 x LED (HDD, Power)	2 x LED (HDD, Power)
	Button	1 x Power button 1 x Reset button 1 x AT/ATX switch 1 x Remote power connector	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	3-pin terminal block: 12 ~ 28 VDC
	Remote Power	2-pin terminal block	2-pin terminal block
Reliability	Mounting	DIN-Rail	DIN-Rail
	Operating Temperature	-20°C ~ 70°C with air flow (SSD)	-20°C ~ 60°C with air flow (with SSD)
	Storage Temperature	-40°C ~ 85°C	-40°C ~ 85°C
	Humidity	10% ~ 95%, non-condensing	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 (with SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)	MIL-STD-810G 514.6C-1 (with SSD)
	Weight	1.5 kg/ 2.9 kg (DRPC-240AI-i5CS) 1.9 kg/ 3.3 kg (DRPC-240AI-i5C)	1.5kg / 2.9kg (DRPC-240AI-i5RCS-R10) 1.9kg / 3.3kg (DRPC-240AI-i5RC-R10)
	Safety/EMC	CE/ FCC	CE/ FCC
OS	Supported OS	Windows 10, Linux	Windows 10, Linux

Acceleration Card



Model	Mustang-V100-MX8	Mustang-V100-MX4	Mustang-M2BM-MX2	Mustang-T100-T5
Main Chip	8 x Intel® Movidius™ Myriad™ X MA2485 VPU	4 x Intel® Movidius™ Myriad™ X MA2485 VPU	2 x Intel® Movidius™ Myriad™ X MA2485 VPU	5 x Coral Edge TPU
Operating Systems	Ubuntu 18.04.x 16.04.x LTS 64bit, CentOS 7.4 64bit, Windows® 10 64bit	Ubuntu 18.04.x 16.04.x LTS 64bit, CentOS 7.4 64bit, Windows® 10 64bit	Ubuntu 18.04 LTS 64bit, CentOS 7.4 64bit, Windows® 10 64bit	Linux: 64-bit version of Debian 10 or Ubuntu 16.04 (or newer) Windows: 64-bit version of Windows 10
Dataplane Interface	PCI Express x4 Compliant with PCI Express Specification V2.0	PCIe Gen 2 x2	M.2 BM Key	PCI Express Gen2 x4
Power Consumption	Approximate 25W	Approximate 15W	Approximate 7W	Approximate 15W
Operating Temperature	-20°C~60°C	-20°C~60°C	-20°C ~ 50°C (Tested in IEI FLEX-BX200)	-20°C~55°C
Cooling	Active fan	Active fan	Active Heatsink	Active
Dimensions Standard	Half-Height, Half-Length, Single-slot PCIe	113 x 56 x 23 mm	22 x 80 mm	Standard half-height, half-length, single-slot PCIe card
Operating Humidity	5% ~ 90%	5% ~ 90%	5% ~ 90%	-
Power Connector	*Preserved PCIe 6-pin 12V external power	-	-	-
Support Framework	-	-	-	Tensorflow Lite
DIP Switch/LED indicator	Identify card number	Identify card number	-	Identify card number
Support Topology	AlexNet, GoogleNetV1/V2, MobileNet SSD, MobileNetV1/V2, MTCNN, Squeezenet1.0/1.1, Tiny Yolo V1 & V2, Yolo V2, ResNet-18/50/101 * For more topologies support information please refer to Intel® OpenVINO™ Toolkit official website. [Supported Models] https://docs.openvino toolkit.org/latest/_docs_IE_DG_Introduction.html#SupportedFW [Supported Framework Layers] https://docs.openvino toolkit.org/latest/_docs_MO_DG_prepare_model_Supported_Frameworks_Layers.html			-

*The PCIe slot of the TANK AIoT Dev. Kit slot provides 75W power, this feature is preserved for user in case of different system configuration.

Warning: DO NOT install the Mustang-V100-MX8 into the TANK AIoT Dev. Kit before shipment. It is recommended to ship them with their original boxes to prevent the Mustang-V100-MX8 from being damaged.

IEI Networking Product Family

The next gen. network appliance, the PUZZLE series, is an uCPE solution consisting of software virtual network functions running on a standard operating system hosted on an open server. Universal CPE (uCPE) is one of the most compelling use cases of Network Function Virtualization (NFV). Virtualization is the process of creating a software-based, or virtual, representation of something, such as virtual applications, servers, storage and networks. Network functions virtualization or NFV is a network architecture concept.

IEI's PUZZLE system can provide an open universal customer premises equipment (uCPE) solution that offers realtime software-defined wide-area network (SD-WAN) services that support both x86 and ARM architectures with any additional virtual network functions (VNF) services.



Intel® Xeon® Scalable Processors

9000 and 7000 Series

- PUZZLE-9040
- PUZZLE-7030A
- PUZZLE-9030
- PUZZLE-IN005
- PUZZLE-IN004

Intel® Xeon® E and Intel® Core™ Processors

5000 Series

- PUZZLE-5030
- PUZZLE-IN001A
- PUZZLE-IN002
- PUZZLE-IN001

Intel® Atom® and Intel® Celeron® Processors

3000 and 1000 Series

- PUZZLE-3032
- PUZZLE-3034
- PUZZLE-IN003A
- PUZZLE-IN003B

Marvell® Processors

- PUZZLE-M801
- PUZZLE-M902
- PUZZLE-M901

Network Appliance

Premium Network Appliances

NEW



NEW



Model		PUZZLE-9040	PUZZLE-7030A
Platform	Form Factor	2U	1U
	CPU	2x 4th Gen Intel Xeon Scalable processors (Code Name: Sapphire Rapids) Supporting TDP 350W	Intel® Xeon® D 1700 Processor series
	Chipset	Intel® C741	Integrated in CPU
Memory	Memory Technology	16 x DDR5 4800MHz ECC RDIMM Slot	4 x DDR4 2400M/2933Hz ECC UDIMM/RDIMM
	Memory Capacity	Based on DIMM capacity	Up to 256GB (based on DIMM capacity)
	Memory Socket	16 x 288-pin DDR5 DIMM	4 X288-pin 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	- 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
IPMI	IPMI Solution	1 x M.2 Socket B Key with IEI iRIS2 IPMI module, 1 x 1 GbE RJ45 for IPMI port	1 x M.2 Socket B Key with IEI iRIS2 IPMI module, 1 x 1 GbE RJ45 for IPMI port
Networking	Ethernet IC	Intel X710 10G Dual Port Intel I350 1G Dual Port I350	Intel KT1225V 2.5GbE
	Ethernet Port	2 x 1 GbE RJ45 for Ethernet port 2 x10GbE SFP+ for Ethernet port	8 x 2.5 GbE RJ45 LAN ports 5 x10 GbE SFP+
	Bypass	N/A	N/A
	Network Module Slot	Support up to 8* Standard OCP 3.0	Support up to 1* Standard OCP 3.0
Expansion Slot	PCIe Slot	1 x PCIe x16 FHFL	1 x PCIe Gen4 x 8 or 2 x PCIe Gen4 x 4
	M.2	N/A	3 x M.2(NGFF) : 1 x B key for IPMI module (support IEI iRIS2 IPMI module)
Storage	Storage	2x External 2.5" Removable Trays (Supports 2.5" U.2 PCIe x4 NVMe) 2x 2280 M-Key (PCIe 4.0 x4)	2 x 2.5" SSD/HDD Bay : support SATA 3.0 (6 Gbps) 2 x 2280 M-Key (PCIe 3.0 x2)
	USB	2x USB 3.0 Type-A	2x USB 3.0 Type-A
	Console	1x USB type C and 1x RJ45 auto-switching console port	1x USB type C and 1x RJ45 auto-switching console port
Power and Mechanical	Power Switch	Rear: 1 x Power Button	Rear: 1 x Power Button
	Reset Button	Front: 1 x Reset Button	Front: 1 x Reset Button
	Power Input	90 V ~ 264 V	90 V ~ 264 V
	Type/Watt	Redundant Power; 1600W, 90V ~ 264V AC	Redundant PSU 320W, 90V ~ 264V AC
	Processor Cooling	2 x Passive CPU Heatsink	3 x Cooling Fans with Smart Fan 1 x System Fan
	System Cooling	4 x System FANS	3x System Fans
Physical and Environmental	Storage Temperature	-10°C ~ 50°C	-10°C ~ 50°C
	Operating Temperature	0 ~ 40 °C (32 ~ 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)	438 x 88.5 x 623	436.2 x 454.3 x 44.2
	Weight	< 25Kg	7kg
Certifications	Certification	By customer request	By customer request
	Supported Operating System	Ubuntu, Linux based OS	Ubuntu, Linux based OS
Indicators	LCM	N/A	LCM, 2 buttons
	LED	Front: 1 x Power LED, 1 x HDD Activity LED 1 x Alert LED, 1 x PSU LED 1 x Location LED Rear: 2 x PSU LED, 1 x Location LED	Front: 1 x Power LED, 1 x Storage LED, 1 x Alert LED

Network Appliance

Premium Network Appliances



Model		PUZZLE-9030	PUZZLE-IN005
Platform	Form Factor	1U	2U
	CPU	2 x AMD EPYC Milan Series	Intel® Ice-Lake LGA-4189 Xeon® Scalable Processor
	Chipset	Integrated in CPU	Intel® C627A
Memory	Memory Technology	ECC & Register DDR4 3200 MHz memory, up to 256GB per DIMM	DDR4 3200 MHz ECC RDIMM / LRDIMM
	Memory Capacity	RDIMM/LRDIMM: up to 4TB	Up to 1280GB (20 x 64GB)
	Memory Socket	16 x 288-pin DIMM (8 DIMM/CPU) (eight channel)	20 x 288-pin DIMM
Network and Security	Network Acceleration and Security Function	N/A	- Intel® AES New Instructions - Intel® QuickAssist Technology (Intel® QAT) - Intel® Virtualization Technology (Intel® VT) - Intel® Trusted Execution Technology (Intel® TXT)
	TPM	1 x TPM 2.0 Pin header	1 x TPM 2.0 Pin header
IPMI	IPMI Solution	1 x AST2620	1 x iRS-2400 module
Networking	Ethernet IC	Intel i210	1 GbE NIC: Intel® i210-AT with NCSI support 1 GbE NIC: Intel® i219
	Ethernet Port	1 x GbE RJ-45	2 x 1GbE RJ-45 ports (1 x IPMI LAN)
	Bypass	N/A	N/A
	Network Module Slot	Support up to 4*OCP 3.0 PuIM Network Module (PuIM-100G2SF-CX6)	8 x Networking module slots
Expansion Slot	PCIe Slot	1x PCIe x16 FHHL	1 x PCIe Gen 4 x8 (FHHL) slot (single width)
	PCIe Mini Card Slot	N/A	N/A
	M.2	2 x M.2 M key 2280 (PCIe Gen4 x4)	2 x M.2 M key 2280 Support PCIe Gen 3 x4 NVMe
Storage	Storage	2 x U.2 (PCIe 4.0 x4) 2.5" NVMe SSD or 2 x SATA 3.0 3.5" HDD	4 x U.2 SSD drive bay compatible to SATA
	eMMC	N/A	N/A
	SD Card	N/A	N/A
External I/O	VGA	N/A	1 x VGA port
	USB	2 x USB 3.1	2 x USB 3.2 Gen 1 (5Gb/s) Type-A ports
	Console	1 x RJ-45	1 x RJ-45 1 x USB Type-C
Internal I/O	HDMI	N/A	N/A
	USB	N/A	1 x USB 2.0 pin header
Power and Mechanical	Power Switch	-	1 x Power Switch
	Reset Button	1 x Reset Button	1 x Reset Button
	Power Input	AC Power Inlet on PSU AC 100V ~ 240V @47~63Hz	100 V ~ 240 V
	Type/Watt	Redundant Power 1300W, 90~264V AC	Redundant Power 1200W, 90V~264V AC
	Processor Cooling	2 x CPU Heatsink	2 x Active CPU Cooler
	System Cooling	6 x Individual Hot-swappable Cooling Fans	5 x Cooling Fans with Smart Fan
	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)	-20°C ~ 75°C (-4°F ~ 167°F)
	Operating Humidity	5% ~ 90% non-condensing	Relative humidity: 5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	670 x 438 x 44.2	438 x 650 x 88
	Weight	-	23 kg
OS and Certifications	Certification	By customer request	CE / FCC / RoHS
	Operating System	Linux (CentOS, Red Hat, Ubuntu, etc.)	Linux 18.04 (CentOS, Red Hat, Ubuntu, etc.) Windows Server 2019
Indicators	LCM	N/A	N/A
	LED	1 x Power / 1 x Status / 1 x Alert	1 x Power LED, 1 x Storage LED, 1 x Alert LED

Network Appliance

Premium Network Appliances



Model		PUZZLE-IN004				
Platform	Form Factor	1U				
	CPU	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-2166NT processor 12-core, 16.5M Cache, 2.00 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				
Memory	Memory Technology	DDR4 2133/2400 MHz ECC DDR4 RDIMM/LRDIMM				
	Memory Capacity	RDIMM up to 256 GB LRDIMM up to 512 GB				
	Memory Socket	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				
	TPM	1 x TPM 2.0 pin header				
Networking	Ethernet IC	1 GbE NIC: Intel® i211-AT 10 GbE: Intel® X722 integrated in CPU				
	Ethernet Port	8 x 1GbE RJ-45 LAN ports 4 x 10 GbE SFP+				
	Bypass	N/A				
	Network Module Slot	1 x PULM module slot				
Expansion Slot	PCIe Slot	1 x PCIe 3.0 x8 (FHHL) slot (double width)				
	PCIe Mini Card Slot	1 x PCIe Mini (PCIe +USB 2.0) with SIM card				
	M.2	1 x M.2 M key 2260/2280 support PCIe Gen3 x4 NVMe				
Storage	Storage	2 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps)				
External I/O	VGA	N/A				
	USB	1 x USB 2.0 1 x USB 3.2 Gen 1				
	Console	1 x RJ-45				
Internal I/O	HDMI	N/A				
	USB	N/A				
Power and Mechanical	Power Switch	1 x Power switch				
	Reset Button	1 x Reset button				
	Power Input	100 V ~ 240 V				
	Type/Watt	Redundant power 300W, 90V ~ 264V AC				
	Processor Cooling	1 x Passive CPU heatsink				
	System Cooling	4 x Cooling fans with smart fan				
Physical and Environmental	Antenna Hole	1 x Antenna hole				
	Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)				
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)				
	Operating Humidity	Relative humidity: 5% ~ 90% non-condensing				
	Dimensions (W x L x H) (mm)	430 x 426 x 44.2				
OS and Certifications	Weight	7 kg				
	Certification	CE / FCC / RoHS				
Indicators	Operating System	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10				
	LCM	LCM, 2 buttons				
	LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED				

Network Appliance

Performance-Level Network Appliances



Model		PUZZLE-IN001		PUZZLE-5030
		PUZZLE-IN001-XE	PUZZLE-IN001-i3T	
Platform	Form Factor	1U		1U
	CPU	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 Processor (Codename: Rocket Lake)
	Chipset	Intel® C246		Intel® C256
Memory	Memory Technology	2 x DDR4 2400 MHz ECC/Non-ECC UDIMM		DDR4 3200 MHz ECC / non-ECC UDIMM
	Memory Capacity	Up to 32GB		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® 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® Virtualization Technology (Intel® VT)
	TPM	1 x TPM 2.0 Pin header		1 x TPM 2.0 pin header
Networking	Ethernet IC	1 GbE NIC: Intel® i211-AT		Intel® I225V-AT
	Ethernet Port	8 x 1GbE RJ-45 LAN ports		8 x 2.5 GbE RJ-45 LAN ports, two pairs bypass, Port 1 support WOL
	Network Module Slot	2 x PuIM module slots		Site A: 1 x PCIe x8 or 2 x PCIe x4 Site B: 2 x PCIe x4 or 4 x PCIe x2
Expansion Slot	PCIe Slot	1 x PCIe 3.0 x8 (FHHL) slot, 1 x PCIe 3.0 x4 (FHHL) slots		1 x Standard PCIe Slot: PCIe Gen4 x8 (FHHL) 1 x Standard PCIe Slot: PCIe Gen4 x4 (FHHL)
	PCIe Mini Card Slot	1 x PCIe Mini card (PCIe 3.0 & SATA 3.0, USB 2.0)		1 x PCIe Mini slot with SIM card slot (PCIe Gen3 x1)
	M.2	1 x 3042/2260 M.2 B key (SATA 3.0 / USB 3.2 Gen 1) Support SATA SSD and 4G LTE module		1 x M.2: M key 2260/2280 support PCIe Gen4 x2 or SATA 6Gb/s
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)
External I/O	USB	2 x USB 3.2 Gen 1		2 x USB 3.0
	Console	1 x RJ-45		1 x RJ45
Internal I/O	HDMI	1 x HDMI connector (optional)		1 x HDMI 2.0a connector
	USB	4 x USB 2.0 (pin header)		2 x USB 2.0
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	100 V ~ 240 V		100 V ~ 240 V
	Type/Watt	Redundant Power 300W, 90V~264V AC		300W AC Redundant PSU
	Processor Cooling	1 x Passive CPU Heatsink		1 x Passive CPU Heatsink
	System Cooling	4 x Cooling Fans with Smart Fan		3x Cooling Fans with Smart Fan 1 x System Fan
	Antenna Hole	1 x Antenna hole		1 x Antenna hole (reserved)
Physical and Environmental	Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)		-10°C ~ 50°C
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)		0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	Relative humidity: 5% ~ 90% non-condensing		5% ~ 90% non-condensing
	Dimensions (W x L x H) (mm)	430 x 426 x 44.2		430 x 426 x 44.2
	Weight	7 kg		10 kg
OS and Certifications	Certification	CE / FCC / RoHS		CE/FCC/RoHS
	Operating System	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10		Support Linux (CentOS, Ubuntu, etc.)
Indicators	LCM	LCM, 2 buttons		16 x 2 character with 2 control 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

Network Appliance

Performance-Level Network Appliances



Model		PUZZLE-IN001A		PUZZLE-IN002	
		PUZZLE-IN001A-XE	PUZZLE-IN001A-i3T	PUZZLE-IN002-i3T	PUZZLE-IN002-PGT
Platform	Form Factor	1U			
	CPU	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	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
	Chipset	Intel® C246		Intel® H310	
Memory	Memory Technology	4 x DDR4 2400 MHz ECC/Non-ECC UDIMM		DDR4 2400 MHz Non-ECC UDIMM	
	Memory Capacity	Up to 64GB		Up to 32GB	
	Memory Socket	4 x 288-pin DIMM		2 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	
	TPM	1 x TPM 2.0 Pin header		1 x TPM 2.0 pin header	
IPMI	IPMI Solution	N/A		N/A	
Networking	Ethernet IC	8 x 5GbE NIC: AQC 111C		1 GbE NIC: Intel® i211-AT	
	Ethernet Port	8 x 5GbE RJ-45 LAN ports		6 x 1GbE RJ-45 LAN ports	
	Bypass	N/A		N/A	
	Network Module Slot	2 x PULM module slots		N/A	
Expansion Slot	PCIe Slot	1 x PCIe 3.0 x8 (FHHL) slot 1 x PCIe 3.0 x4 (FHHL) slots		1 x PCIe 3.0 x16 (FHHL) slot (double width)	
	PCIe Mini Card Slot	1 x PCIe Mini card (PCIe 3.0 & SATA 3.0, USB 2.0)		1 x PCIe Mini card (SATA 3.0, USB 2.0) with SIM slot	
	M.2	1 x 3042/2260 M.2 B key (SATA 3.0 / USB 3.2 Gen 1) Support SATA SSD and 4G LTE module		1 x M.2 A key (PCIe 2.0 & USB 2.0)	
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)	
External I/O	VGA	N/A		N/A	
	USB	2 x USB 3.2 Gen 1		2 x USB 3.2 Gen 1	
	Console	1 x RJ-45		1 x RJ-45	
Internal I/O	HDMI	N/A	1 x HDMI Connector (optional)	1 x HDMI connector (optional)	
	USB	4 x USB 2.0 (pin header)		2 x USB 2.0 (pin header)	
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	100 V ~ 240 V		100 V ~ 240 V	
	Type/Watt	Redundant Power 300W, 90V ~ 264V AC		ATX Power 250W, 90V ~ 264V AC	
	Processor Cooling	1 x Passive CPU Heatsink		1 x Passive CPU heatsink	
	System Cooling	4 x Cooling Fans with Smart Fan		4 x Cooling Fans with Smart Fan	
	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)	
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)		0°C ~ 40°C (32°F ~ 104°F)	
	Operating Humidity	Relative humidity: 5% ~ 90% non-condensing		Relative humidity: 5% ~ 90% non-condensing	
	Dimensions (W x L x H) (mm)	430 x 426 x 44.2		430 x 320 x 44.2	
	Weight	7 kg		5 kg	
OS and Certifications	Certification	CE / FCC / RoHS		CE / FCC / RoHS	
	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	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	

Network Appliance

Entry-Level Network Appliances



Model		PUZZLE-3034	PUZZLE-3032
Platform	Form Factor	Desktop	Desktop
	CPU	Intel® Atom® C3758R 8C/8T (16M Cache, 2.4 GHz)	Intel® Atom® C3558R 4C/4T (8M Cache, 2.4 GHz)
	Chipset	Intel® Denvertion-R	Intel® Denvertion-R
Memory	Memory Technology	2 x DDR4 2400 MHz Non-ECC UDIMM Default: 2 x UDIMM 8GB	2 x DDR4 2400 MHz Non-ECC UDIMM Default: 1 x UDIMM 8GB
	Memory Capacity	Up to 64GB (based on DIMM capacity)	Up to 64GB (based on DIMM capacity)
	Memory Socket	2 x 288-pin DIMM	2 x 288-pin DIMM
IPMI	IPMI Solution	N/A	N/A
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
Networking	Ethernet IC	Intel 2.5GbE I225V	Intel 2.5GbE I225V
	Ethernet Port	8 x 2.5 GbE RJ-45 LAN ports 4 x 10 GbE, SFP+	8 x 2.5GbE RJ-45 LAN ports 2 x 10 GbE, SFP+
Expansion Slot	M.2	1 x M.2 2242 B-key for M.2 SATA 1 x M.2 3052 B-key + SIM card socket for 5G/LTE card 2 x M.2 2280 M-key for NVMe	1 x M.2 2242 B-key for M.2 SATA 1 x M.2 3052 B-key + SIM card socket for 5G/LTE card 2 x M.2 2280 M-key for NVMe
Storage	eMMC	64GB eMMC	64GB eMMC
	U.2/SATA	N/A	N/A
External I/O	USB	2 x USB 3.0 (support UPS equipment only)	2 x USB 3.0 (support UPS equipment only)
	Console	1 x RJ-45	1 x RJ-45
Power and Mechanical	Power Switch	1 x Power Button	1 x Power Button
	Reset Button	1 x Reset Button	1 x Reset Button
	Power Input	101 V ~ 240 V	100 V ~ 240 V
	Type/Watt	Open Frame DPS-60AP-5 D; Vin: 90 ~ 264VAC;71W	Open Frame DPS-60AP-5 D; Vin:90 ~ 264VAC;70W
	Processor Cooling	1 x Passive CPU Heatsink	1 x Passive CPU Heatsink
	System Cooling	2 x Cooling Fans	2 x Cooling Fans
	Antenna Port	3 x Antenna hole (reserved)	3 x Antenna hole (reserved)
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 H x D) (mm)	46.65 x 285 x 236.6	46.65 x 285 x 236.6
Supported OS and Certifications	Certification	CE, FCC	CE, FCC
	Supported OS	Linux Ubuntu 18.04.05	Linux Ubuntu 18.04.05
Indicators	LCM	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

Network Appliance

Entry-Level Network Appliances



Model		PUZZLE-IN003A		PUZZLE-IN003B	
		PUZZLE-IN003A-C1	PUZZLE-IN003A-C3	PUZZLE-IN003B-C0	PUZZLE-IN003B-C1
Platform	Form Factor	Desktop			
	CPU	Intel® Atom® processor C3558 8M cache, up to 2.20 GHz	Intel® Atom® Processor C3336 4M Cache, 1.50 GHz	Intel® Atom® processor C3758 16M cache, up to 2.20 GHz	Intel® Atom® processor C3558 8M 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	1 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)	
		- Intel® Virtualization Technology for Directed I/O (VT-d) - Intel® Virtualization Technology (VT-x) - Intel® QuickAssist Technology (Intel® QAT)		- Intel® AES New Instructions - Intel® Software Guard Extensions (Intel® SGX) - Intel® Virtualization Technology for Directed I/O (VT-d) - Intel® QuickAssist Technology (Intel® QAT)	
Networking	Ethernet IC	1 GbE NIC: Intel® i211-AT 1 GbE PHY: Marvell 88E1543		1 GbE NIC: Intel® i211-AT 1 GbE 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 GbE from Intel® i211-AT 2 x GbE from Marvell 88E1543	4 x 1GbE from Intel® i211-AT 2 x 1GbE from Marvell 88E1512 2 x 10 GbE SFP+	
	Bypass	Yes, 2 bypass segments	Yes, 1 bypass segments	N/A	
Expansion Slot	PCIe Mini Card Slot	1 x PCIe Mini card (PCIe Gen3, USB 2.0) with SIM slot		1 x PCIe Mini card (PCIe Gen3, USB 2.0) with SIM slot	
	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 support 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 support PCIe Gen3 x4 NVMe	
	eMMC	1 x eMMC 32GB		1 x eMMC 32GB	
External I/O	VGA	N/A		N/A	
	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 RJ-45		1 x RJ-45	
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	Fanless
Physical and Environmental	Antenna Hole	2 x Antenna hole		2 x Antenna hole	
	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	Relative humidity: 5%~90% non-condensing		Relative humidity: 5%~90% non-condensing	
	Dimensions (W x L x H) (mm)	225 x 206 x 44.2		225 x 206 x 44.2	
OS and Certifications	Weight	2 kg		2 kg	
	Certification	CE / FCC / RoHS		CE / FCC / RoHS	
	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	

Network Appliance

ARM-Based Network Appliances



Model		PUZZLE-M801	PUZZLE-M901	PUZZLE-M902
Platform	Form Factor	1U	N/A	N/A
	CPU	Marvell® ARMADA® 88F8040 high-performance quad-core System-on-Chip processor, 2.0GHz	Marvell® CN9130 quad-core ARMv8 Cortex-A72 @ up to 2200 MHz	
	Chipset	Integrated in CPU	Integrated in CPU	Integrated in CPU
Memory	Memory Technology	DDR4 2400 MHz ECC/Non-ECC/RDIMM	N/A	N/A
	Memory Capacity	Up to 16 GB	4GB	4GB
	Memory Socket	1 x 288-pin DIMM	N/A	N/A
Network and Security	Network Acceleration and Security Function	• Configurable packet processor • HW offload for networking • Acceleration engines for storage, networking and security • Public Key Processor (RSA/DH/ECC) • Secure Storage • Secure boot	N/A	N/A
	TPM	N/A	N/A	N/A
Networking	Ethernet IC	10 GbE PHY: From SoC 1 GbE PHY: Marvell 88E1512P	Aquantia AQR112R Aquantia AQR112C Aquantia AQR112	Aquantia AQR112R Aquantia AQR113
	Ethernet Port	4 x 1GbE RJ-45 LAN ports 2 x 10 GbE SFP+	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 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)
Expansion Slot	PCIe Slot	1 x PCIe x16 (FHHL) slot PCIe Gen3 x2 signal	N/A	N/A
	PCIe Mini Card Slot	N/A	N/A	N/A
	M.2	1 x M.2 B Key (3042/2260) (SATA 3.0 and USB 3.2 Gen 1) Support SATA SSD or 4G LTE module (USB signal)	1 x M.2 2242 M key (PCIe Gen3 x2)	1 x M.2 2242/2280 M key (PCIe Gen3 x1)
Storage	Storage	1 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps)	N/A	N/A
	eMMC	32GB	4GB eMMC	4GB eMMC
	SD Card	N/A	N/A	N/A
External I/O	VGA	N/A	N/A	N/A
	USB	2 x USB 3.2 Gen 1	N/A	N/A
	Console	1 x RJ-45	N/A	N/A
Internal I/O	HDMI	N/A	N/A	N/A
	USB	1 x USB 2.0	USB 3.2 Gen 1 (5Gb/s)	USB 3.2 Gen 1 (5Gb/s)
Power and Mechanical	Power Switch	1 x Power Switch	1 x Reset Button	1 x Reset Button
	Reset Button	1 x Reset Button	1 x Factory reset button	1 x Factory reset button
	Power Input	100 V ~ 240 V	1 x DC jack	1 x DC jack
	Type/Watt	ATX Power 250W, 90V ~ 264V AC	12 V DC-in, 36W	12 V DC-in, 36W
	Processor Cooling	1 x Active CPU heatsink with fan	Passive CPU heatsink	Passive CPU heatsink
	System Cooling	2 x Cooling fan with smart fan	Active fan	1 system fan
Physical and Environmental	Antenna Hole	1 x Antenna hole	N/A	N/A
	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	Relative humidity: 5% ~ 90% non-condensing		
	Dimensions (W x L x H) (mm)	430 x 320 x 44.2	166.4 x 145.7 x 34	226 x 140 x 50.5
OS and Certifications	Weight	5 kg		
	Certification	CE / FCC / RoHS	CE/FCC/BSMI (BSMI safety)/VCCI, LVD	
Indicators	Operating System	Linux Ubuntu 16.04.04	OpenWrt	
	LCM	N/A	N/A	N/A
Indicators	LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	Status/Power, WAN/LAN interface indicator	

Network Module

100GbE / 40GbE Network Module



Model	PuIM-100G2SF-E810	PuIM2-100G2SF-CX6	PuIM-40G2SF-XL710
Chipset	Intel® E810	Mellanox CX6	Intel® XL710
Host Interface	1x PCIe Gen4 x8	PCIe 4.0 x16	1x PCIe Gen3 x8
Site (A/B)	IN005 Only	PUZZLE-9030 only	A/B
LAN	QSFP28	QSFP28	RJ45
Speed	100GbE	100GbE	GbE
LAN Port Number	2	2	4
Compatible Model	IN005 Only	PUZZLE-9030 only	IN001/001A/IN004/IN006
HW Code	F684	F679	F800

10GbE Network Module



Model	PuIM-10G4T-AQC107	PuIM-10G4SF-XL710-BP	PuIM-10G4SF-XL710	PuIM-10G2SF-X710
Chipset	Aquantia AQC107	Intel® XL710	Intel® XL710	Intel® Ethernet Controller X710-BM2
Bypass	No	Yes, two pairs	No	No
Host Interface	4 x PCIe Gen3 x2	1 x PCIe Gen3 x8	1x PCIe Gen3 x8	1x PCIe Gen3 x8
Site (A/B)	B	A	A	A
Speed	10GBASE-T/ 5GBASE-T/ 2.5GBASE-T/ 1000BASE-T/ 100BASE-TX	4 x Fiber (Fiber LC (SR or LR))	1GbE/10GbE	1GbE/ 10GbE
LAN Port Number	4	4	4	2
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)
Compatible Model	IN001/001A/5030 - Site B	IN001/001A/IN004/5030 - Site A	IN001/001A/IN004/5030 - Site A	IN001/001A/IN004/5030 - Site A
HW Code			F549	

Network Module

1GbE Network Module



Model	PuIM-1G8T-BCM5720	PuIM-1G4T-I350	PuIM-1G4T-I350-BP	PuIM-1G8T-I350
Chipset	Broadcom BCM5720	Intel® I350-AM4	Intel® I350-AM4	Intel® I350-AM4
Bypass	No	Yes (by sku)	Yes, two pairs	No
Host Interface	4x PCIe Gen2 x2	2x PCIe Gen2 x4	2x PCIe Gen2 x4	2x PCIe Gen2 x4
Site (A/B)	B	A/B	A/B	A/B
LAN Interface	RJ-45	RJ-45	RJ-45	RJ-45
Speed	GbE	GbE	GbE	GbE
LAN Port Number	8	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)	-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)
Certification	RoHS	CE / FCC / RoHS	CE / FCC / RoHS	CE / FCC / RoHS



Model	PuIM-1G8T-I350-BP	PuIM-1G4SF-I350	PuIM-1G8SF-I350	PuIM-1G4SF-I350-BP
Chipset	Intel® I350-AM4	Intel® I350-AM4	Intel® I350-AM4	Intel® I350
Bypass	Yes, four pairs	No	No	Yes, 10GbE SR/LR fiber support two pairs bypass
Host Interface	2 PCIe Gen2 x4	2 PCIe Gen2 x4	2 PCIe Gen2 x4	2x PCIe Gen2 x4
Site (A/B)	A/B	A/B	A/B	A/B
LAN Interface	RJ-45	SFP	SFP	SFP
Speed	GbE	GbE	GbE	GbE
LAN Port Number	8	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)
Certification	CE / FCC / RoHS	RoHS	RoHS	RoHS

Network Module

Expansion Proprietary Smart NIC Module



Model	PuIM-2P1M	PuIM-M2-2S
Interface	2 PCIe Gen3 x4	2 PCIe Gen3x4
Onboard IC	ASM1812 (PCIe Gen2 x4) FL1100EX (PCIe to USB 3.0 (4 ports))	N/A
M.2	1 x M.2 (NGFF) 3042/2260 M.2 B key (PCIe/USB2.0(for LTE)/USB3.0)	2 x M key 2260/2280/22110 (PCIe Gen3 x4/NVMe)
PCIe	2 PCIe 3.0 x4	N/A
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	
Humidity	5% ~ 90% RH, non-condensing	
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)	
Certification	RoHS	RoHS

Network Accelerator Card



Model	Mustang-QA100-C627
Chipset	Intel® C627 Chipset
Interface	PCIe Gen3 x16
Cooling	Active cooling
Operating Temperature	0°C ~ 40°C
Storage Temperature	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	0% ~ 90%, non-condensing
Dimension (mm)	144.27(L) x 68.9(W) x 15.43(H)
Certification	RoHS
Operating System Support	Linux

Servers



Model	GRAND-GL-04B
CPU	Intel® Celeron® N5095 4-core/4-thread processor, burst up to 2.9 GHz
System Memory	2 x SO-DIMM slots (system max. 8GB)
PCIe Slot	1 x PCIe Gen2 x2 slot
Storage	4x 3.5-inch SATA 6Gb/s, 3Gb/s Trays 2 x M.2 2280 PCIe Gen 3 x1 slots
USB	2 x Type A USB 3.2 Gen 2
LAN Ports	2 x 2.5GbE LAN port
HDMI Output	1 x HDMI 1.4b
LED Indicators	Power/Status, LAN, USB, HDD1-4, M.2 SSD 1-2
Buttons	Power, Reset
Form Factor	1U, rack mountable
Dimensions	43.3 × 482.6 × 321.33 mm
Net Weight	4.35 kg
Temperature	0 to 40°C (32 to 104°F),
Relative Humidity	5~95% R.H.
Power Supply	100W PSU, 100-240V
Fan	3 x 40mm



Model	GRAND-RE-08C
CPU	AMD Ryzen™ Embedded V1500B 4-core/8-thread 2.2 GHz processor
System memory	Maximum 64 GB (2 x 32 GB) 2 x SODIMM DDR4 Support ECC memory
PCIe Slot	1 x PCIe Gen3 x8
Storage	"8 x 3.5-inch SATA 6Gb/s, 3Gb/s Trays 2 x M.2 2280 PCIe Gen 3 x1 slots"
USB	4 (2 x Type A, 2 x Type C)
LAN Ports	2 x 2.5GbE LAN port
HDMI Output	N/A
LED Indicators	HDD 1-8, Status, LAN, USB, Power
Buttons	Power/Status, Reset
Form Factor	2U Rackmount
Dimensions	89 × 482 × 297.4 mm
Net Weight	7.61 kg
Temperature	0 to 40°C (32 to 104°F),
Relative Humidity	5 ~ 95% RH non-condensing, wet bulb: 27°C
Power Supply	300W (x2), 100-240V AC, 50/60 Hz
Fan	3 x 60mm, 12VDC

IEI Healthcare Product Family



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

POCm-W24C-ULT3

24" with 6th Gen Intel® Core™ i5/ i7 Mobile Processor

POCm-W22C-ULT3

22" with 6th Gen Intel® Core™ i5/ i7 Mobile Processor



POCi

Intelligent Point-of-Care Terminal for Critical Care

POCi-W24C-ULT5

24" with 8th Generation Intel® Core™ i7 / i5 Processor

POCi-W22C-ULT5

22" with 8th Generation Intel® Core™ i7 / i5 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



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



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/m ²)	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® 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 / I226-V	Intel® I225-V	1 x GbE RJ45 Motorcomm YT8521 with optional PoE
	RAM	Onboard 8GB LPDDR4x	1 x DDR4 SO-DIMM slot	1 x 4GB LPDDR4X-3200, up to 8GB
	Flash		-	32GB eMMC NAND flash, up to 128GB
	Storage	32GB on-board eMMC	1 x M.2 2242 M key slot (PCIe/SATA signal)	1 x Micro SD slot
	Audio	1 x AMP 1.5W speaker	AMP 1W + 1W (internal speaker)	2 x 0.5W (internal speaker)
	Camera & Microphone		1 x Digital microphone	-
	I/O Port	1 x 12V DC jack 1 x HDMI out 1 x Reset button 1 x Power switch 1 x AT/ATX switch 2 x GbE LAN 6 x USB 3.2 Gen1 (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 RS-232 1 x Audio jack (TRRS) 1 x GbE supporting PoE (ErP is not supported in PoE mode) 2 x USB 3.2 Gen1 (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 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)	
	Wi-Fi & Bluetooth	IEEE 802.11 a/b/g/n/ax, Intel® Wi-Fi 6E AX210 Bluetooth V5.2	IEEE 802.11 ax 2T2R module (Intel® Wi-Fi 6E AX210) with BT v5.0 (M.2 2230 A-E key)	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 75/100 compliant	
	Weight (Net / Gross)		1.49 kg / 2.86 kg	TBD
	Dimensions (LxWxH)	261 x 196.4 x 40	261 x 196.4 x 40 mm	
Environment	Operating Temperature	0°C – 40°C	0°C – 40°C	-
	Storage Temperature	-20°C – 60°C	-20°C – 60°C	
	Humidity	10% – 95% (non-condensing)	10% – 95% (non-condensing)	
	Vibration	1G	1G	
	Shock	15G peak acceleration (11ms duration) 5G peak acceleration (11ms duration)	Operating shock: 5G peak acceleration (11ms duration) Non-operating shock: 15G peak acceleration (11ms duration)	
	IP Level		Front: IP65	
	Termal	Fanless	Fanless	
	Power Input		12V DC input	
Power	Power Adapter	65W medical grade power adapter	65W medical grade power adapter	
	PoE	Windows 10; Windows 11; Linux Ubuntu	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	
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)	CE, FCC Class B Part18, UL 60601-1, IEC/EN 60601-1, IEC/EN 60601-1-2	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



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/m ²)	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 (Raptor Lake-P)	
	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	Side
		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	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 Input	19V DC input	
Power	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 Point-of-Care Terminal



Model		POCm-W22C-ULT3	POCm-W24C-ULT3
LCD Specifications	LCD Size	21.5" (16:9)	23.8" (16:9)
	Max. Resolution (W/H)	1920 x 1080	
	Brightness (cd/m ²)	250	
	Contrast Ratio	1000:1	
	LCD Color	16.7M (RGB 6-bit + Hi-FRC)	
	Pixel Pitch (H/V)	0.24825 x 0.24825 mm	0.2745 x 0.2745 mm
	Viewing Angle (H/V)	170°/160°	178°/178°
Touch	Backlight MTBF (hrs)	30,000 (LED backlight)	
	Touchscreen	Projected capacitive type with 10-point multi-touch	
	Touch Controller	EETI	
System	Surface Hardness	6H	
	CPU Support	6th Gen Intel® mobile ULT Core™ i7-6600U / Core™ i5-6300U / Celeron® 3855U	
	LAN Controller	1 x Intel® I211 Ethernet Controller 1 x Intel® I219 Ethernet Controller (AMT 12.x supported by i7/i5 SKUs)	
	RAM	2 x 260-pin 2400/2133MHz dual-channel DDR4 SO-DIMM, 4GB pre-installed (system max. 32GB)	
	Storage	1 x 2.5" accessible SATA HDD bay 2 x M.2 2280 M key (PCIe/SATA) with RAID	
	Audio	2 x 2W speaker	
	Camera & Microphone	5-megapixel CMOS front-facing camera with auto-focus and digital microphone	
	I/O Port	Bottom 1 x DC jack 1 x Digital mic 2 x HDMI output 2 x GbE LAN port 2 x RS-232/422/485 4 x USB 3.2 Gen 1 (5Gb/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 Full-size/Half-size PCIe Mini (PCIe+USB)	
	LED	1 x RFID indicator 1 x Power indicator 3 x Battery indicator (color: blue/red)	
	Wi-Fi & Bluetooth	IEEE 802.11a/b/g/n/ac 2T2R module with BT v4.2 (M.2 2230 A-E key)	
Physical	Construction Material	ABS+PC plastic with anti-bacterial material	
	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 71mm	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	
Power	Thermal	Fanless	
	Power Input	19V DC input	
	Power Adapter	150W medical power adapter	
Certification	Battery	3 slots for Li-ion battery packs	
	EMC & Safety	CE, FCC Class B Part18 IEC 60601-1: 2005+AMD1:2012 (Edition 3.1) IEC 60601-1-2: 2014 (Edition 4.0)	

Medical Power Station



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	2.2 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 (green/red)
	Charging	Charging battery: red
	Full Charge Capacity (FCC)	Fully charged battery: green
Chassis	Color	White
	Dimension (LxWxH)	274 x 253.3 x 122.85 mm
	Termal	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	Battery Pack	-
	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

Model		MPOCm-W24
LCD Specifications	LCD Size	23.8"
	Max. Resolution (W/H)	1920 x 1080
	Brightness (cd/m²)	250
	Contrast Ratio	1000:01:00
	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°
Touch	Backlight MTBF (hrs)	30,000 (LED backlight)
	Touchscreen	Projected capacitive type with 10-point multi-touch
	Touch Controller	EETI
System	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 (45 watts sustained, maximum of 55 watts) DC OUT2: 5V, 12V, 15V, 19V, 24V (10 watts sustained, 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
	Termal	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)

Intelligent Point-of-Care Terminal



Model		POCi-W22C-ULT5	POCi-W24C-ULT5
LCD Specifications	LCD Size	21.5" (16:9)	23.8" (16:9)
	Max. Resolution (W/H)	1920 x 1080	
	Brightness (cd/m ²)	350	
	Contrast Ratio	1000:1	
	LCD Color	16.7M (RGB 6-bit + Hi-FRC)	
	Pixel Pitch (H/V)	0.24795 x 0.24795 mm	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 (80H84)	
	Surface Hardness	6H	
	Coating	Chemical AG etching	
System	CPU Support	Intel® Core™ i5-8365UE (Whiskey Lake ULT platform) Intel® Core™ i7-8665UE (Whiskey Lake ULT platform)	
	LAN Controller	1 x Intel® I211 Ethernet Controller 1 x Intel® I219 Ethernet Controller (AMT 12.x supported by i7/i5 SKUs)	
	RAM	2 x 260-pin 2400/2133MHz dual-channel DDR4 SO-DIMM, 4GB pre-installed (system max. 64GB)	
	Storage	1 x M.2 2242/60/80 M key (PCIe x4) 1 x 2.5" accessible SATA HDD/SSD bay	
	Audio	2 x 2W speaker	
	I/O Port	Bottom 1 x DC jack 1 x HDMI output 1 x Isolated 1.5kV RS-232 1 x Combo audio-out/mic-in 1 x Isolated Gigabit LAN (I211) 1 x Isolated Gigabit LAN (I219 supports Intel® vPro) 4 x USB 3.2 Gen 2 (10Gb/s) port	Side 2 x USB 2.0 port
	OSD Function	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)
	Expansion	1 x PCIe x4	
	LED	1 x RFID indicator (optional) 2 x LED reading light	
	Wi-Fi & Bluetooth	IEEE 802.11ax 2T2R module (Wi-Fi 6) with BT v5.0 (M.2 2230 A-E key)	IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.0 (M.2 2230 A-E key)
Physical	Construction Material	Front bezel: Aluminum die-casting Rear cover: ABS+PC plastic (chemical resistant)	
	Mounting	Wall, Stand and Arm; VESA 75/100 compliant	
	Weight (Net)	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
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: IP66	
	Thermal	Fanless	
	Power Input	19V DC input	
Power	Power Adapter	150W medical power adapter	
	Battery	3S3P Li-ion battery pack, 11.1V, 7800mAh (optional)	
	Built-in Medical Power	150W, 85V – 264V AC, medical power supply (optional)	
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)	

Medical Box PC



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
	Dimensions (LxWxH)	137 x 102.8 x 36 mm
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, FCC Class B Part18, UL 60601-1, IEC/EN 60601-1, IEC/EN 60601-1-2

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
Expansions	Others	1 x Power button 1 x AT/ATX switch
	PCIe	1 x PCIe 3.0 x4 slot 1 x PCIe 3.0 x16 slot
Power	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 Input	19V DC
Chassis	Power Consumption	19W @4.8A
	Power Adapter	100V – 240V AC input, 19V DC output, 180W
	Color	White
Reliability	Dimension (LxWxH)	140 x 306.7 x 171 mm
	Thermal	Smart Fan
	Chassis Construction	Metal Housing (SECC)
	Operating Temperature	0°C – 40°C
Certification	Operating Humidity	10% – 95% (non-condensing)
	Storage Temperature	-20°C – 60°C
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis
	Operating Vibration	MIL-STD-810G 514.6C-1 (with SSD)
	Weight (Net)	2.8 kg
OS	Supported OS	Windows 11, Windows 10, Linux

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 specs, please refer to official certification

1U AC Input													
Products	Model No.	Watt AT/ATX PFC	Input Range Voltage	Output Current Range					Efficiency	ErP	Operating Temperature	Safety	Dimensions (mm)
				+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	 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	 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	 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	 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 Voltage	Output Current Range					Efficiency	Operating Temperature	Safety	Dimensions (mm)	
				+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 specs, please refer to official certification

AC Input													
Product	Model No.	Watt ATX PFC	Input Range Voltage	Output Current Range						Efficiency	ErP	Operating Temperature	Safety
				+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	 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	 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	 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)	 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)	 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 specs, please refer to official certification

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 Voltage	Output Current Range						Efficiency	Operating Temperature	Safety	Dimensions (mm)
	ACE-R4150AP	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
	ACE-R4130AP	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-i102-6S-R10	backup time	200sec (exp 60w@25°C power consumption)
Battery type	Supercapacitor	I/O connector	2 x 10Pin LED connect or 1 x 4 Pin DC IN 1 x 4 Pin DC OUT 2 x relay (6pin) 1 x USB2.0 Type-A 1 x Debug 3pin 1 x FW Flash 14pin 2 x Power btn 2pin
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 284V±10% Vout 24V	Operating Temperature	-40°C ~ 60°C
Output Power	150W	Storage Temperature	-40°C ~ 70°C
LED indication	Green		

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	-	-
	NEW 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 dedicated team offers application-specific integrated solutions and designs a customized product that will put you out in front of the competition.

Our solutions include standard/non-standard voltages, isolated/non-isolated, any form factor, power sequencing, battery chargers, electromechanical interference protection, Thermal management, remote on/off and I/O interface.



Advanced Test Equipment – Precision & Reliability



Timing/Noise Analyzer Chroma 6011



Electronic Load Chroma 6312 Series



Power Analyzer Chroma 6632

Pursuing Great Technology to Create Intelligent life



*Specifications are subject to change without prior notice.

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