

iEi®

PRODUCT SELECTION GUIDE

intel partner Titanium

Ver.2022

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Redundant Type	ACE-R4150AP ACE-R4130AP	92
IDD & PM_P	IDD-936160	

OS Support List I (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® 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 II (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 Andriod 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

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

Workstation Xeon® E3/E/W Series CPU List

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

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Workstation Xeon® E3/E/W Series CPU List

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

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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

Suppoted 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		DDR5 4800 DDR4 3200	
				i7-12700	2.10 GHz(Performance-core) 1.60 GHz(Efficient-core)	12 MB	65W				
				i7-12700E	2.10 GHz(Performance-core) 1.60 GHz(Efficient-core)	25 MB	65W				
				i7-12700TE	1.40 GHz(Performance-core) 1.00 GHz(Efficient-core)	25 MB	35W				
	Core™ i5		6/12	i5-12600K	2.80 GHz	9.5 MB	125 W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i5-12500	3.00 GHz	7.5 MB	65W				
				i5-12500E	2.90 GHz	18 MB	65W				
				i5-12500TE	1.90 GHz	18 MB	35W				
	Core™ i3		4/8	i3-12300	3.50 GHz	5 MB	60W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				i3-12100E	3.20 GHz	12 MB	60W				
				i3-12100TE	2.10 GHz	12 MB	35W				
	Pentium®		2/4	G7400E	3.60 GHz	6 MB	46W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				G7400TE	3.00 GHz	6 MB	35W				
	Celeron®		2/2	G6900E	3.00 GHz	4 MB	46W	Intel® UHD Graphics 770		DDR5 4800 DDR4 3200	
				G6900TE	2.40 GHz	4 MB	35W				

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

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

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

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

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

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

Yellow means long-term support

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

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

Yellow means long-term support

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

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

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

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

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*HM65/HM55 chipset doesn't support Intel® AMT feature

ULT/UP3 CPU List

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

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

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

Yellow means long-term support

*HM65/HM55 chipset doesn't support Intel® AMT feature

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

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

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

Yellow means long-term support

*HM65/HM55 chipset doesn't support Intel® AMT feature

TANK-XM811AIoT Developer Kit



intel partner Titanium

Model		TANK-XM811 AIoT Developer Kit
Form Factor	Color	Black C
	Dimensions (W x D x H)	137.9 x 255.4 x 230.6 mm
	System Fan	Yes
	Chassis Construction	Extruded aluminum alloys
Motherboard	CPU	Intel® Core™ i5-12500TE 1.9GHz (up to 4.3GHz, 6-Core, TDP 35W)
	Chipset	Intel® R680E
	System Memory	2 x SO-DIMM DDR4 3200MHz (2 x 8GB non-ECC pre-installed, up to 64GB, support ECC SKU)
Storage	Hard Drive	1 x 2.5" SSD bay (256GB SSD pre-installed)
I/O Interfaces	Ethernet	2 x RJ-45: 1 x Intel® I225LM 2.5GbE 1 x Intel® I225V 2.5GbE
	USB 3.2 Gen2 (10Gb/s)	8
	COM	2 x RS-232/422/485 4 x RS-232
	Digital I/O	12-bit (6-in/6-out)
	Display	1 x DP++ (up to 4096 x 2160@60Hz) 1 x HDMI (up to 4096 x 2160@30Hz)
Expansion Slots	M.2	1 x 2230 A-key (PCIe x1/ USB 2.0, support Intel® vPro) 1 x 2280 M-key (PCIe x4)
	Backplane	2 x PCIe x8 slot (total power up to 75W, support FHHL card)
Power	Power Input	DC Jack: 12V ~ 28V DC Terminal Block: 12V ~ 28V DC
	Remote Power	Terminal Block: 2-pin
Reliability	Mounting	Wall mount
	Operating Temperature	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-40°C ~ 80°C, 10% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operation Vibration	MIL-STD-810G 514.6C-1 (with SSD)
	Weight (Net/Gross)	4.6 kg/5.6 kg
	Safety / EMC	CE/FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min
OS	Supported OS	Windows® 10 IoT Enterprise/ Linux

TANK AIoT Developer Kit



intel partner Titanium

Model		TANK AIoT Developer Kit
Chassis	Color	Black C + Silver
	Dimensions (W x D x H)	121.5 x 255.2 x 205 mm (4.7" x 10" x 8")
	System Fan	Fan
	Chassis Construction	Extruded aluminum alloys
	Weight (Net/Gross)	4.2 kg (9.26 lbs)/ 6.3 kg (13.89 lbs)
Motherboard	CPU	Intel® Xeon® E3-1268LV5 2.4GHz (up to 3.4 GHz, Quad Core, TDP 35W) Intel® Core™ i7-7700T 2.9GHz (up to 3.8 GHz, Quad Core, TDP 35W) Intel® Core™ i5-7500T 2.7GHz (up to 3.3 GHz, Quad Core, TDP 35W) Intel® Core™ i7-6700TE 2.4 GHz (up to 3.4GHz, quad-core, TDP 35W) Intel® Core™ i5-6500TE 2.3 GHz (up to 3.3GHz, quad-core, TDP 35W)
	Chipset	Intel® Q170/C236 with Xeon® E3 only
	System Memory	2 x 260-pin DDR4 SO-DIMM, 8 GB pre-installed (for i5/i5KBL/i7 sku) 16 GB pre-installed (for i7KBL sku) 32 GB pre-installed (for E3 sku)
Storage	Hard Drive	2 x 2.5" SATA 6Gb/s HDD/SSD bay, RAID 0/1 support (1x 2.5" 1TB HDD pre-installed)
I/O Interfaces	USB 3.2 Gen 1	4
	USB 2.0	4
	Ethernet	2 x RJ-45 LAN1: Intel® I219LM PCIe controller with Intel® vPro™ support LAN2 (iRIS): Intel® I210 PCIe controller
	COM Port	4 x RS-232 (2 x RJ-45, 2 x DB-9 w/2.5KV isolation protection) 2 x RS-232/422/485 (DB-9)
	Digital I/O	8-bit digital I/O, 4-bit input / 4-bit output
	Display	1 x VGA 1 x HDMI/DP 1 x iDP (optional)
	Resolution	VGA: Up to 1920 x 1200@60Hz HDMI/DP: Up to 3840x2160@30Hz / 4096×2304@60Hz
	Audio	1 x Line-out, 1 x Mic-in
	TPM	1x Infineon TPM 2.0 Module
Expansions	Backplane	2 x PCIe x8
	PCIe Mini	1 x Half-size PCIe Mini slot 1 x Full-size PCIe Mini slot (supports mSATA, colay with SATA)
Power	Power Input	DC Jack: 9 V~36 V DC Terminal Block: 9 V~36 V DC
	Power Consumption	19 V@3.68 A (Intel® Core™ i7-6700TE with 8 GB memory)
	Internal Power output	5V@3A or 12V@3A
Reliability	Mounting	Wall mount
	Operating Temperature	E3-1268LV5 -20°C ~ 60°C with air flow (SSD), 10% ~ 95%, non-condensing i7-7700T -20°C ~ 35°C with air flow (SSD), 10% ~ 95%, non-condensing i5-7500T -20°C ~ 45°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 Vibration	MIL-STD-810G 514.6 C-1 (with SSD)
	Safety/EMC	CE/FCC/RoHS
OS	Supported OS	Win10/Linux Ubuntu 16.04 LTS

FLEX-BX200AI



Model		FLEX-BX200AI Series
System	CPU	Intel® Xeon® E-2278GEL 2.0GHz (up to 3.9GHz, 8-core, TDP 35W) 9th Generation Intel® Core™ i7-9700TE 1.8GHz (up to 3.8GHz, 8-core, TDP 35W) 9th Generation Intel® Core™ i5-9500TE 2.2GHz (up to 3.6GHz, 6-core, TDP 35W) 8th Generation Intel® Core™ i5-8500 3.0GHz (up to 4.1GHz, 6-core, TDP 65W)
	Chipset	Intel® C240 Series Chipsets C246 (Coffee Lake) Intel® 300 Series Chipsets Q370 (Coffee Lake)
	Memory	2 x 288-pin 2666/2400 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB
	Graphics Engine	Intel® HD Graphics Gen 9 Engines with 16 low-power execution units, supporting DX2015, OpenGL 5.X and OpenCL2.x, ES 2.0
	Ethernet	LAN1: Intel® I219LM with Intel® AMT 11.0 supported LAN2: Intel® I210 PCIe controller
	Storage	4 x Accessible 2.5” SATA 6Gb/s HDD/SSD bay (with RAID 0/1/5/10 support, LED indicator, pre-installed 1TB HDD) 1 x NGFF M.2 (2280) M-Key socket (supports NVMe SSD)
Wireless Communication	WLAN	Intel® Wireless-AC 9260 802.11ac, 2.4/5GHz (by M.2 2230)
	Bluetooth	Bluetooth V5.1
	WWAN and GNSS	M.2 3052 LTE (optional)
I/O Ports and Switches		2 x HDMI output 2 x GbE LAN (1x I219 support vPro, 1x I210) 6 x USB 3.2 Gen1 Type-A 2 x RS-232 DB-9 1 x Mic in 1 x Line out
TPM		Intel® PTT from CPU
Expansion Slots		2 x PCIe 3.0 x8 1 x PCIe 3.0 x4 1 x M.2 B-Key 3042/52 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		3 x System fan, 1 x CPU cooler
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
	Net Weight	4 kg
Environmental	Operating Temperature	-10°C ~ 50°C
	Storage Temperature	-20°C ~ 60°C
	Operating Humidity	5% ~95%, non-condensing
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak
	Shock	10G acceleration part to part (11ms)
	Safety/EMC	CE/FCC/RoHS

FLEX-BX210-Q470



Model		FLEX-BX210-Q470
System	CPU	10th Generation Intel®Core™ i9-10900TE 1.8GHz (up to 4.5GHz, 10-core, TDP 35W) 10th Generation Intel®Core™ i5-10500TE 2.3GHz (up to 3.7GHz, 6-core, TDP 35W)
	Chipset	Intel® 400 Series Chipsets (Comet Lake)
	Memory	2 x 288-pin 2933/2666 MHz dual-channel DDR4 unbuffered DIMM supporting up to 64GB Xeon W with 32GB RAM Pre-installed Core i9 with 16GB RAM Pre-installed Core i5 with 8GB RAM Pre-installed
	Graphics Engine	Intel® HD Graphics Gen 9.5 Engines with low power 16 execution unit, supports DX2015, OpenGL 5.X and OpenCL2.x, ES 2.0
	Ethernet	LAN1: Intel® I219LM with Intel® AMT 11.0 supported LAN2/LAN3: Intel® I210 PCIe controller
	Storage	4 x Accessible 2.5” HDD/SSD SATA 6Gb/s bay (RAID 0/1/5/10 supported) with LED indicator 1 x NGFF M.2 (2280) M key socket (NVMe SSD supported), pre-installed one 2.5” 1TB HDD
Wireless Communication	WLAN	Intel® AC 9260 802.11ac, 2.5/5GHz, 2T/2R (by M.2 2230) (optional)
	Bluetooth	Bluetooth V5.1
	WWAN and GNSS	M.2 3052 LTE (optional)
I/O Ports and Switches		1 x Display port output 1 x HDMI output 1 x Line out 1 x AC inlet 2 x RS-232 DB-9 1 x Mic in 4 x SMA 6 x USB 3.2 Gen1 Type-A 3 x GbE LAN (1 x I219 support vPro, 2 x I210) Power button with power LED (power on=Blue) AT/ATX mode switch Reset button
TPM		
Expansion Slots		2 x PCIe 3.0 x8 2 x PCIe 3.0 x4 1 x M.2 B-Key 3042/52 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		3 x System fan, 1 x CPU cooler
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
	Net Weight	4 kgs
Environmental	Operating Temperature	-10°C ~ 50°C
	Storage Temperature	-20°C ~ 60°C
	Operating Humidity	5% ~95%, non-condensing
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz 1.5G acceleration peak to peak
	Shock	10G acceleration part to part (11ms)
	Safety/EMC	CE/FCC/RoHS

DRPC AIoT Dev. Kit



Model		DRPC AIoT Dev. Kit
Form Factor	Dimensions	190x150x81 mm (DRPC-240AI-i5CS) 190x150x126 mm (DRPC-240AI-i5C)
	System Fan	DRPC-240AI-i5CS: fanless DRPC-240AI-i5C: with fan
Motherboard	CPU	Intel® Core™ i5-1145G7E 1.5 GHz (up to 4.1 GHz, quad core, TDP 12 ~ 28W)
	Chipset	SoC
	System Memory	2 x SO-DIMM DDR4 3200MHz (8GB pre-installed)
Storage	Hard Drive	1 x 2.5'' SATA 6Gb/s HDD/SSD bay (256GB SSD pre-installed)
I/O Interfaces	USB	2 x USB 3.2 Gen 2 2 x USB 2.0
	Ethernet	1 x RJ-45 PCIe 2.5 GbE by Intel® I225LM 3 x RJ-45 PCIe 2.5 GbE by 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)
	DIO	1 x 12-bit digital I/O (6-in/6-out) (pin header)
	Display	1 x Lockable HDMI (up to 3840 x 2160 @ 30Hz) 1 x DP++ (up to 4096 x 2160 @ 60Hz)
	TPM 2.0	Support Intel PTT
Expansion Slots	M.2	1 x 2230 A-key (PCIex1/USB 2.0) 1 x 3042/52/80 B-key (PCIex2/USB 3.2 Gen1/USB 2.0) with sim slot
	Backplane	1 x PCIe Gen3 x4 (DRPC-240AI-i5C only)
Others	Indicator	2 x LED (HDD, Power)
	Button	1 x Power button 1 x Reset button 1 x AT/ATX switch 1 x Remote power connector
Power	Power Input	3-pin terminal block: 12 ~ 28 VDC
	Remote Power	2-pin terminal block
Reliability	Mounting	DIN-Rail
	Operating Temperature	-20°C ~ 70°C with air flow (SSD)
	Storage Temperature	-40°C ~ 85°C
	Humidity	10% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis
	Operating Vibration	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)
	Safety/EMC	CE/ FCC
OS	Supported OS	Windows 10, Linux

DRPC-230-ULT5



Model		DRPC-230-ULT5-i5/S	DRPC-230-ULT5-i5	DRPC-230-ULT5-CS
Chassis	Color	Black & Silver		
	Dimensions (WxDxH)	81 x 150 x 190	127 x 150 x 190	81 x 150 x 190
	System Fan	Fanless		
	Chassis Construction	Extruded aluminum alloy		
Motherboard	CPU	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		
	System Memory	2 x SO-DIMM DDR4 2400 (8GB pre-installed)		
Storage	Hard Drive	1 x 2.5'' SATA 6Gb/s HDD/SSD bay		
I/O Interfaces	USB	6 x USB 3.2 Gen2		4 x USB 3.2 Gen2 / 2 x USB 2.0
	Ethernet	3 x RJ-45: 1 x GbE by Intel® I219 / 2 x GbE by Intel® I210		
	COM Port	4 x RS232/422/485 with AFC (DB9) 2 x RS232 (RJ-45)		
	Digital I/O	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)		
	Wireless	1 x 802.11a/b/g/n/ac (optional)		
	TPM	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 LED for Power (Green), 1 x LED for HDD (Yellow)		
Expansions	PCIe Mini	1 x Full-size with SIM card slot (PCIe/USB 3.0/SATA)		
	M.2	1 x 2230 A-key (PCIe x 1/USB 2.0)		1 x 2230 A-key (PCIe x 1)
	Backplane	-	1 x PCIe Gen3 x 4, 1 x USB 2.0	-
Power	Power Input	Terminal block: 12 ~ 24V DC (Reserved internal 40W power with 12V DC output)		
	Power Consumption	12V @ 4.98A (Intel® CoreTM i5-8365UE with 8GB memory)		
Reliability	Mounting	DIN-Rail		
	Operating Temperature	-20°C ~ 70°C with air flow (SSD), 10% ~ 95% non-condensing*		
	Storage Temperature	-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)		
	Operating Vibration	MIL-STD-810G 514.6C-1 (SSD)		
	Weight (Net/ Gross)	2.9KG/ 3.2KG	3.2KG/ 3.5KG	2.9KG/ 3.2KG
	Safety/EMC	CE/ FCC		
	Watchdog Timer	Programmable 1 ~ 255 sec/min		
OS	Supported OS	Microsoft® Windows 10, Linux		

*CPU does not throttle under 60°C

RACK-500AI-C246



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

Mustang-V100-MX8



Model	Mustang-V100-MX8
Main Chip	Eight Intel® Movidius™ Myriad™ X MA2485 VPU
Operating Systems	Ubuntu 18.04.x 16.04.x LTS 64bit, CentOS 7.4 64bit, Windows® 10 64bit
Dataplane Interface	PCI Express x4
	Compliant with PCI Express Specification V2.0
Power Consumption	Approximate 25W
Operating Temperature	-20°C~60°C
Cooling	Active fan
Dimensions Standard	Half-Height, Half-Length, Single-slot PCIe
Operating Humidity	5% ~ 90%
Power Connector	*Preserved PCIe 6-pin 12V external power
Dip Switch/LED indicator	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.openvinotoolkit.org/latest/_docs_IE_DG_Introduction.html#SupportedFW [Supported Framework Layers] https://docs.openvinotoolkit.org/latest/_docs_MO_DG_prepare_model_Supported_Frameworks_Layers.html

*TANK AIoT dev. kit PCIe 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.

Mustang-V100-MX4



Model	Mustang-V100-MX4
Main Chip	4 x Intel® Movidius™ Myriad™ X MA2485 VPU
Operating Systems	Ubuntu 18.04.x 16.04.x LTS 64bit, CentOS 7.4 64bit, Windows® 10 64bit
Dataplane Interface	PCIe Gen 2 x 2
Power Consumption	Approximate 15W
Operating Temperature	-20°C~60°C
Cooling	Active fan
Dimensions	113 x 56 x 23 mm
Operating Humidity	5% ~ 90%
Dip Switch/LED indicator	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.openvinotoolkit.org/latest/_docs_IE_DG_Introduction.html#SupportedFW [Supported Framework Layers] https://docs.openvinotoolkit.org/latest/_docs_MO_DG_prepare_model_Supported_Frameworks_Layers.html

Mustang-T100-T5

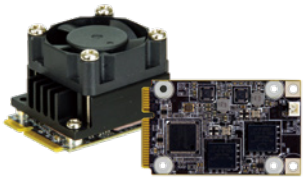


Model	Mustang-T100-T5
Main Chip	Five Coral Edge TPU™ Accelerator Module
Operating Systems	Linux: 64-bit version of Debian 10 or Ubuntu 16.04 (or newer)
	Windows: 64-bit version of Windows 10
Dataplane Interface	PCI Express Gen2 x4
Power Consumption	Approximate 15W
Operating Temperature	-20°C~55°C
Cooling Solution	Active
Dimensions	Standard half-height, half-length, single-slot PCIe card
Dip Switch/LED indicator	Identify card number
Support Framwork	Tensorflow Lite
Precision	INT8

Mustang Series







Model	Mustang-M2BM-MX2	Mustang-M2AE-MX1	Mustang-MPCIE-MX2
Main Chip	2x Intel® Movidius™ Myriad™ X MA2485 VPU	1 x Intel® Movidius™ Myriad™ X MA2485 VPU	2 x Intel® Movidius™ Myriad™ X MA2485 VPU
Operating Systems	Ubuntu 18.04 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 16.04.3 LTS 64bit, CentOS 7.4 64bit, Windows® 10 64bit
Dataplane Interface	M.2 BM Key	M.2 AE Key	miniPCIe
Power Consumption	Approximate 7W	Approximate 4.5W	Approximate 7.5W
Operating Temperature	-20°C ~ 50°C (Tested in IEI FLEX-BX200)	-20°C to 60°C	-20°C~60°C
Cooling	Active Heatsink	Active Heatsink	Active Heatsink
Dimensions	22 x 80 mm	22 x 30 mm	30 x 50 mm
Operating Humidity	5% ~ 90%	5% ~ 90%	5% ~ 90%
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.openvinotoolkit.org/latest/_docs_IE_DG_Introduction.html#SupportedFW [Supported Framework Layers] https://docs.openvinotoolkit.org/latest/_docs_MO_DG_prepare_model_Supported_Frameworks_Layers.html	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.openvinotoolkit.org/latest/_docs_IE_DG_Introduction.html#SupportedFW [Supported Framework Layers] https://docs.openvinotoolkit.org/latest/_docs_MO_DG_prepare_model_Supported_Frameworks_Layers.html	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.

PUZZLE Series





Model		PUZZLE-IN005	PUZZLE-IN001	
			PUZZLE-IN001-XE	PUZZLE-IN001-i3T
Platform	Form Factor	2U	1U	
	CPU	Intel® Ice-Lake LGA-4189 Xeon® Scalable Processor	Intel® Xeon® E-2136 processor, 6C/12T, up to 4.50 GHz	8th Generation Intel® Core™ i3-8100T processor, 4C/4T, up to 3.10 GHz
	Chipset	Intel® C627A	Intel® C246	
Memory	Memory Technology	DDR4 3200 MHz ECC RDIMM / LRDIMM	2 x DDR4 2400 MHz ECC/Non-ECC UDIMM	
	Memory Capacity	Up to 1280GB (20 x 64GB)	Up to 32GB	
	Memory Socket	20 x 288-pin DIMM	2 x 288-pin DIMM	
Network and Security	Network Acceleration and Security Function	• Intel® AES New Instructions • Intel® QuickAssist Technology (Intel® QAT) • Intel® Virtualization Technology (Intel® VT) • Intel® Trusted Execution Technology (Intel® TXT)	• Intel® AES New Instructions • Intel® Software Guard Extensions (Intel® SGX) • Intel® Memory Protection Extensions (Intel® MPX) • Intel® Trusted Execution Technology	
	TPM	1 x TPM 2.0 Pin header	1 x TPM 2.0 Pin header	
IPMI	IPMI Solution	1 x iRIS-2400 module	N/A	
Networking	Ethernet IC	1 GbE NIC: Intel® i210-AT with NCSI support 1 GbE NIC: Intel® i219	1 GbE NIC: Intel® i211-AT	
	Ethernet Port	2 x 1GbE RJ-45 ports (1 x IPMI LAN)	8 x 1GbE RJ-45 LAN ports	
	Bypass	N/A	N/A	
	Network Module Slot	8 x Networking module slots	2 x PuIM module slots	
Expansion Slot	PCIe Slot	1 x PCIe Gen 4 x8 (FHHL) slot (single width)	1 x PCIe 3.0 x8 (FHHL) slot, 1 x PCIe 3.0 x4 (FHHL) slots	
	PCIe Mini Card Slot	N/A	1 x PCIe Mini card (PCIe 3.0 & SATA 3.0, USB 2.0)	
	M.2	2 x M.2 M key 2280 Support PCIe Gen 3 x4 NVMe	1 x 3042/2260 M.2 B key (SATA 3.0 / USB 3.2 Gen 1) Support SATA SSD and 4G LTE module	
Storage	Storage	4 x U.2 SSD drive bay compatible to SATA	2 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps)	
	eMMC	N/A	N/A	
	SD Card	N/A	N/A	
External I/O	VGA	1 x VGA port	N/A	
	USB	2 x USB 3.2 Gen 1 (5Gb/s) Type-A ports	2 x USB 3.2 Gen 1	
	Console	1 x RJ-45 1 x USB Type-C	1 x RJ-45	
Internal I/O	HDMI	N/A	1 x HDMI connecter (optional)	
	USB	1 x USB 2.0 pin header	4 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 1200W, 90V~264V AC	Redundant Power 300W, 90V~264V AC	
	Processor Cooling	2 x Active CPU Cooler	1 x Passive CPU Heatsink	
	System Cooling	5 x Cooling Fans with Smart Fan	4 x Cooling Fans with Smart Fan	
	Antenna Hole	N/A	1 x Antenna hole	
Physical and Environmental	Storage Temperature	-10°C ~ 50°C	-20°C ~ 75°C (-4°F ~ 167°F)	
	Operating Temperature	-20°C ~ 75°C (-4°F ~ 167°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)	438 x 650 x 88	430 x 426 x 44.2	
	Weight	23 kg	7 kg	
OS and Certifications	Certification	CE / FCC / RoHS	CE / FCC / RoHS	
	Operating System	Linux 18.04 (CentOS, Red Hat, Ubuntu, etc.) Windows Server 2019	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10	
Indicators	LCM	N/A	LCM, 2 buttons	
	LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	

PUZZLE Series





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	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)	
	eMMC	N/A		N/A	
	SD Card	N/A		N/A	
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	1 x HDMI connecter (optional)		1 x HDMI connecter (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	

PUZZLE Series





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® 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® Memory Protection Extensions (Intel® MPX) • 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® Virtualization Technology for Directed I/O (VT-d) • Intel® QuickAssist Technology (Intel® QAT)
	TPM	1 x TPM 2.0 pin header		1 x TPM 2.0 pin header	
IPMI	IPMI Solution	N/A		N/A	
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	
	Network Module Slot	N/A		N/A	
Expansion Slot	PCIe Slot	N/A		N/A	
	PCIe Mini Card Slot	1 x PCIe Mini card (PCIe 3.0, USB 2.0) with SIM slot		1 x PCIe Mini card (PCIe 3.0, USB 2.0) with SIM slot	
	M.2	1 x M.2 A key (PCIe 3.0 & USB 2.0)		1 x M.2 A key (PCIe 3.0 & USB 2.0)	
Storage	Storage	1 x SATA 3.0 + 1 x 5V power connector (for SATA DOM) 1 x M.2 M key 2260/2280 Support PCIe 3.0 x4 nVME		1 x SATA 3.0 + 1 x 5V power connector (for SATA DOM) 1 x M.2 M key 2260/2280 Support PCIe 3.0 x4 nVME	
	eMMC	1 x eMMC 32GB		1 x eMMC 32GB	
	SD Card	N/A		N/A	
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	
Internal I/O	HDMI	N/A		N/A	
	USB	N/A		N/A	
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	
	Antenna Hole	2 x Antenna hole		2 x Antenna hole	
Physical and Environmental	Storage Temperature	-20°C ~ 75°C (-4°F ~ 167°F)		-20°C ~ 75°C (-4°F ~ 167°F)	
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)		0°C ~ 40°C (32°F ~ 104°F)	
	Operating Humidity	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	
	Weight	2 kg		2 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	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	

PUZZLE Series



Model		PUZZLE-IN004				
		PUZZLE-IN004-XD1	PUZZLE-IN004-XD2	PUZZLE-IN004-XD3	PUZZLE-IN004-XD4	PUZZLE-IN004-XD5
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® QuickAssist Technology (Intel® QAT) • Intel® Virtualization Technology (Intel® VT) • Intel® Trusted Execution Technology (Intel® TXT)				
	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 3.0 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				
	Antenna Hole	1 x Antenna hole				
Physical and Environmental	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				
	Weight	7 kg				
OS and Certifications	Certification	CE / FCC / RoHS				
	Operating System	Linux Ubuntu 18.04.04 CentOS 7 / Red Hat / Fedora EPEL Microsoft Windows 10				
Indicators	LCM	LCM, 2 buttons				
	LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED				

PUZZLE Series





Model		PUZZLE-M801	PUZZLE-M901	PUZZLE-M902
Platform	Form Factor	1U	N/A	N/A
	CPU	Marvell® ARMADA® 88F8040 High-Performance CPU System on Chip, 4C, 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: SoC Marvell 88F8040 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 3.0 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 2242 M key M.2 PCIe Gen. 3 x2	1 x 2242/2280 M Key M.2 PCIe Gen. 3 x1
Storage	Storage	1 x 2.5" SATA HDD/SSD bay support SATA 3.0 (6 Gbps)	N/A	N/A
	eMMC	32GB	1 x 4GB eMMC	1 x 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	N/A	N/A
	Reset Button	1 x Reset Button	1 x Reset Factory Button	1 x Reset Factory 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 Fans with Smart Fan	Active Fan	1 system fan
	Antenna Hole	1 x Antenna hole	N/A	N/A
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		
	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
	Weight	5 kg		
OS and Certifications	Certification	CE / FCC / RoHS	CE/FCC/BSMI (BSMI safety)/VCCI, LVD	
	Operating System	Linux Ubuntu 16.04.04	OpenWrt	
Indicators	LCM	N/A	N/A	N/A
	LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED	Status/Power, WAN/LAN interface indicator	

PUZZLE Series



Model		PUZZLE-9030	PUZZLE-3034	PUZZLE-3032
Platform	Form Factor	1U	Desktop	Desktop
	CPU	2 x AMD® EPYC™ Milan 7543	Intel® Atom® C3758R 8C/8T (16M Cache, 2.4 GHz)	Intel® Atom® C3558R 4C/4T (8M Cache, 2.4 GHz)
	Chipset	Integrated in CPU	Intel® Denverton-R	Intel® Denverton-R
Memory	Memory Technology	ECC & Register DDR4 3200 MHz memory, up to 256GB per DIMM	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	RDIMM/LRDIMM: up to 4TB	Up to 64GB (based on DIMM capacity)	Up to 64GB (based on DIMM capacity)
	Memory Socket	16 x 288-pin DIMM (8 DIMM/CPU) (eight channel)	2 x 288-pin DIMM	2 x 288-pin DIMM
IPMI	IPMI Solution	1 x AST2620 (RTL8211E)	N/A	N/A
Network and Security	Network Acceleration and Security Function	N/A	• 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 i211	Intel 2.5GbE KTI225V SLNMH	Intel 2.5GbE KTI225V SLNMH
	Ethernet Port	1 x GbE RJ-45	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	PCIe Slot	2 x PCIe x16 FHHL		
	M.2	2 x M.2 M key 2280 (PCIe 4.0 x4)	• 1 x 2242 B-Key M2 slot for M2 SATA • 1 x 3052 B-Key M2 slot + SIM Card Socket for 5G/LTE Card • 2 x 2280 M-Key M2 slot for NVME	• 1 x 2242 B-Key M2 slot for M2 SATA • 1 x 3052 B-Key M2 slot + SIM Card Socket for 5G/LTE Card • 2 x 2280 M-Key M2 slot for NVME
Storage	eMMC	N/A	64GB eMMC	64GB eMMC
	U.2/SATA	2 x U.2 (PCIe 4.0 x4) or 2 x SATA 6Gb/s - (colay design)	N/A	N/A
External I/O	USB	2 x USB 3.1	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	1 x RJ-45
Power and Mechanical	Power Switch	N/A	1 x Power Button	1 x Power Button
	Reset Button	1 x Reset Button	1 x Reset Button	1 x Reset Button
	Power Input	AC Power Inlet on PSU AC 100V ~ 240V @47~63Hz	101 V ~ 240 V	100 V ~ 240 V
	Type/Watt	YM-2132EAR 90 ~ 132VAC @900W 100 ~ 132VAC @1000W 110 ~ 132VAC @1100W 180 ~ 264VAC @1300W	Open Frame DPS-60AP-5 D; Vin: 90 ~ 264VAC;71W	Open Frame DPS-60AP-5 D; Vin:90 ~ 264VAC;70W
	Processor Cooling	2 x CPU Heatsink	2 x Passive CPU Heatsink	1 x Passive CPU Heatsink
	System Cooling	6 x Individual Hot-swappable Cooling Fans	2 x Cooling Fans	2 x Cooling Fans
	Antenna Port	N/A	4 x Antenna port	3 x Antenna hole (reserved)
Physical and Environmental	Storage Temperature	-10°C ~ 50°C	-10°C ~ 50°C	-10°C ~ 50°C
	Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C (32°F ~ 104°F)
	Operating Humidity	5% ~ 90% non-condensing	5% ~ 90% non-condensing	5% ~ 90% non-condensing
	Dimensions (W x H x D) (mm)	670 x 438 x 44.2	46.65 x 285 x 236.7	46.65 x 285 x 236.6
Supported OS and Certifications	Certification	RoHS, CE/FCC, UL	CE, FCC, VCCI, RCM	CE, FCC, VCCI, RCM
	Supported OS	Linux (CentOS, Red Hat, Ubuntu, etc.)	Linux Ubuntu 18.04.05	Linux Ubuntu 18.04.05
Indicators	LCM	N/A	16 x 3 character with control keys	16 x 2 character with control keys
	LED	1 x Power / 1 x Status / 1 x Alert	1 x Power LED, 1 x Storage LED, 1 x Alert LED	1 x Power LED, 1 x Storage LED, 1 x Alert LED

2U PuIM Series





Model	PuIM-100G2SF-E810	PuIM-100G2SF-CX6	PuIM-10G4SF-XL710
Chipset	Intel® E810	Mellanox ConnectX-6 Dx	Intel® XL710
Bypass	No	No	No
Host Interface	PCIe 4.0 x8	PCIe 4.0 x16	PCIe 3.0 x8
LAN Interface	QSFP28	2 x QSFP28	SFP+
Speed	1GbE / 10GbE / 25GbE / 50GbE / 100GbE	1/10/25/40/50/100 Gb/s	1GbE/10GbE
LAN Port Number	2	2	4
Storage Temp.	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)	-20°C ~ 75°C (-4°F ~ 167°F)
Operating Temp.	0°C ~ 40°C (32°F ~ 104°F)	0°C ~ 40°C	0°C ~ 40°C (32°F ~ 104°F)
Humidity	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing	5% ~ 90% RH, non-condensing
Dimensions (mm)	165.50 (L) x 77.8 (W) x 44.2 (H)	162.2 (L) x 74 (W) x 41.85 (H)	165.50 (L) x 77.8 (W) x 44.2 (H)
Certification	RoHS	CE / FCC / RoHS	CE / FCC / RoHS





Model	PuIM-10G4SF-XL710-BP	PuIM-1G4SF-I350	PuIM-1G8SF-I350
Chipset	Intel® XL710	Intel® I350-AM4	Intel® I350-AM4
Bypass	Yes, two pairs	No	No
Host Interface	PCIe 3.0 x8	2 PCIe 2.0 x4	2 PCIe 2.0 x4
LAN Interface	SFP+	SFP	SFP
Speed	1GbE/10GbE	GbE	GbE
LAN Port Number	4	4	8
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	RoHS






Model	PuIM-1G4T-I350	PuIM-1G4T-I350-BP	PuIM-1G8T-I350	PuIM-1G8T-I350-BP
Chipset	Intel® I350-AM4	Intel® I350-AM4	Intel® I350-AM4	Intel® I350-AM4
Bypass	No	Yes, two pairs	No	Yes, four pairs
Host Interface	2 PCIe 2.0 x4	2 PCIe 2.0 x4	2 PCIe 2.0 x4	2 PCIe 2.0 x4
LAN Interface	RJ-45	RJ-45	RJ-45	RJ-45
Speed	GbE	GbE	GbE	GbE
LAN Port Number	4	4	8	8
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	CE / FCC / RoHS	CE / FCC / RoHS	CE / FCC / RoHS	CE / FCC / RoHS

1U PuIM Series




Model	PuIM-10G4SF-XL710	PuIM-10G4SF-XL710-BP
Chipset	Intel® XL710	Intel® XL710
Bypass	No	Yes, two pairs
Host Interface	PCIe 3.0 x8	PCIe 3.0 x8
LAN Interface	SFP+	SFP+
Speed	1GbE/10GbE	1GbE/10GbE
LAN Port Number	4	4
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	CE / FCC / RoHS	RoHS





Model	PuIM-10G4T-AQC107	PuIM-1G4SF-I350	PuIM-1G8SF-I350
Chipset	Aquantia AQC107	Intel® I350-AM4	Intel® I350-AM4
Bypass	No	No	No
Host Interface	4 PCIe 3.0 x2	2 PCIe 2.0 x4	2 PCIe 2.0 x4
LAN Interface	RJ-45	SFP	SFP
Speed	10GBASE-T/ 5GBASE-T/ 2.5GBASE-T/ 1000BASE-T/ 100BASE-TX	GbE	GbE
LAN Port Number	2	4	8
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	RoHS







Model	PuIM-1G4T-I350	PuIM-1G4T-I350-BP	PuIM-1G8T-I350	PuIM-1G8T-I350-BP	PuIM-1G8T-BCM5720
Chipset	Intel® I350-AM4	Intel® I350-AM4	Intel® I350-AM4	Intel® I350-AM4	Broadcom BCM5720
Bypass	No	Yes, two pairs	No	Yes, four pairs	No
Host Interface	2 PCIe 2.0 x4	2 PCIe 2.0 x4	2 PCIe 2.0 x4	2 PCIe 2.0 x4	4 PCIe 2.0 x2
LAN Interface	RJ-45	RJ-45	RJ-45	RJ-45	RJ-45
Speed	GbE	GbE	GbE	GbE	GbE
LAN Port Number	4	4	8	8	8
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	CE / FCC / RoHS	CE / FCC / RoHS	CE / FCC / RoHS	CE / FCC / RoHS	RoHS

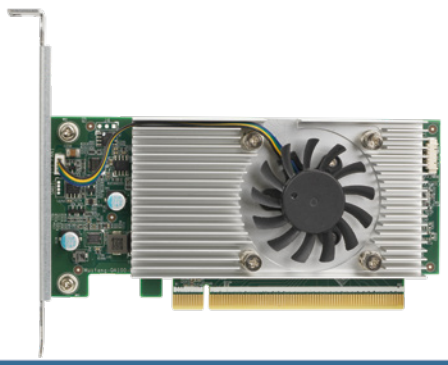
1U PuIM Series





Model	PuIM-2P1M	PuIM-M2-2S
Interface	1 PCIe 3.0 x4	2 PCIe 3.0 x4
Onboard IC	ASM1812 (PCIe Gen 2 x4) FL1100EX (PCI-E To USB 3.0 (4 Port))	N/A
M.2	1 x 2230/2242 M.2 B key (PCIe 2.0, USB 3.2 Gen 1) with SIM card slot	2 x M key 2260/2280/22110 (PCIe 3.0 x4/NVMe)
PCIe	2 x PCIe Mini (PCIe 2.0, USB 2.0) with SIM card slot	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

IASO



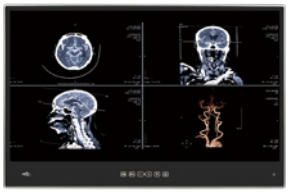
Model		IASO-W10B-N6210
LCD Specifications	LCD Size	10.1"
	Max. Resolution (W/H)	1280 x 800
	Brightness (cd/m²)	400
	Contrast Ratio	800:1
	LCD Color	16.7M (RGB 6-bit + Hi-FRC)
	Pixel Pitch (H/V)	0.1695 x 0.1695 mm
	Viewing Angle (H/V)	178˚/178˚
	Backlight MTBF (hrs)	30,000 (LED backlight)
Touch	Touchscreen	Projected capacitive type with 10-point multi-touch and optical bonding
	Touch Controller	EETI
	Surface Hardness	6H
System	CPU Support	Intel® Celeron® N6210 (Elkhart Lake, 6.5W TDP)
	LAN Controller	1 x Intel® I225 Ethernet Controller
	RAM	1 x DDR4 SO-DIMM slot
	Storage	1 x M.2 2242 M key (PCIe/SATA signal)
	Audio	AMP 1W + 1W (internal speaker)
	Camera & Microphone	1 x Digital microphone
	I/O Port	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-232/422/485 1 x Audio jack (TRRS) 1 x 2.5GbE supporting PoE (with 1.5kV isolation) 2 x USB 3.2 Gen 1 (5Gb/s)
	LED	2 x LED light bar
	Wi-Fi & Bluetooth	IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.0 (M.2 2230 A-E key)
Physical	Construction Material	Front: PC Rear cover: ABS+PC plastic (ENH2900)
	Mounting	Wall, Stand and Arm; VESA 75/100 compliant
	Weight (Net)	1.85 kg
	Dimensions (LxWxH)	261 x 196.4 x 40 mm
Environment	Operating Temperature	-20°C – 40°C
	Storage Temperature	-20°C – 60°C
	Humidity	10% – 95% (non-condensing)
	Vibration	1G
	Shock	Operating shock: 5G peak acceleration (11ms duration) Non-operating shock: 15G peak acceleration (11ms duration)
	IP Level	Front: IP65
	Thermal	Fanless
Power	Power Input	12V DC input
	Power Adapter	65W medical grade power adapter
	PoE	Class 5 (IEEE802.3bt) 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)

POCm2



Model		POCm2-W22C-TGL	
LCD Specifications	LCD Size	21.5" (16:9)	
	Max. Resolution (W/H)	1920 x 1080	
	Brightness (cd/m²)	350	
	Contrast Ratio	1000:1	
	LCD Color	16.7M (RGB 6-bit + Hi-FRC)	
	Pixel Pitch (H/V)	0.24795 x 0.24795 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	11th Gen Intel® mobile ULT(UP3) on-board processor Intel® Core™ i5-1145G7E (Tiger Lake ULT platform) Intel® Core™ i7-1185G7E (Tiger Lake ULT platform)	
	LAN Controller	2 x Intel® I225 Ethernet Controller	
	RAM	2 x SO-DIMM DDR4 3200MHz (system max. 128GB)	
	Storage	2 x M.2 2242/60/80 M key (PCIe+SATA) with RAID	
	Audio	2 x 2W speaker	
	I/O Port	Bottom 1 x DC jack 1 x HDMI output 1 x DC output (12V/19V/24V) 1 x USB Type-C (DP + USB 5V/3A) 1 x Audio jack 2 x USB 2.0 2 x 2.5GbE LAN port 4 x USB 3.2 Gen 2 (10Gb/s) port	Other 1 x Barcode scanner (optional)
System	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 Programmable button	
	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/SATA)	
	LED	1 x Power indicator 1 x RFID indicator 2 x Battery indicator 2 x LED reading light	
	Wi-Fi & Bluetooth	IEEE 802.11ax 2T2R module (Wi-Fi 6E) with BT v5.0 (M.2 2230 A-E key)	
Physical	Construction Material	Front bezel: Aluminum Rear cover: ABS+PC plastic (ENH2900)	
	Mounting	Wall, Stand and Arm; VESA 75/100 compliant	
	Weight (net)	Under 6.8 kg (without battery)	
	Dimensions (LxWxH)	507.5 x 335.5 x 71 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	Power Input	19V DC input	
	Power Adapter	150W medical power adapter	
	Battery	2 slots for Li-ion battery pack	
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)	

POCi





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/m²)	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 × 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	Power Input	19V DC input	
	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)	

POCm





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/m²)	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°
	Backlight MTBF (hrs)	30,000 (LED backlight)	
Touch	Touchscreen	Projected capacitive type with 10-point multi-touch	
	Touch Controller	EETI	
	Surface Hardness	6H	
System	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	
	Thermal	Fanless	
Power	Power Input	19V DC input	
	Power Adapter	150W medical power adapter	
	Battery	3 slots for Li-ion battery packs	
Certification	EMC & Safety	CE, FCC Class B Part18 IEC 60601-1: 2005+AMD1:2012 (Edition 3.1) IEC 60601-1-2: 2014 (Edition 4.0)	

POC





Model		POC-17C-ULT3	POC-W24C-ULT3
LCD Specifications	LCD Size	17" (5:4)	24" (16:9)
	Max. Resolution (W / H)	1280 x 1024	1920 x 1080
	Brightness (cd/m²)	350	250
	Contrast Ratio	1000:1	1000:1
	LCD Color	16.7M (RGB 6-bit + Hi-FRC)	16.7M (RGB 6-bit + Hi-FRC)
	Pixel Pitch (H / V)	0.264 x 0.264 mm	0.2745 x 0.2745 mm
	Viewing Angle (H / V)	170°/160°	178°/178°
	Backlight MTBF (hrs)	30,000 (LED backlight)	30,000 (LED backlight)
Touch	Touchscreen	Projected capacitive type with 10-point multi-touch	Projected capacitive type with 10-point multi-touch
	Touch Controller	EETI	EETI
	Surface Hardness	6H	6H
System	CPU Support	6th Gen Intel® mobile ULT Core™ i7-6600U / Core™ i5-6300U / Celeron® 3855U	6th Gen Intel® mobile ULT Core™ i7-6600U / Core™ i5-6300U / Celeron® 3855U 7th Gen Intel® mobile ULT Kaby Lake on-board SoC (By project base)
	RAM	2 x 260-pin 2400/2133MHz dual-channel DDR4 SO-DIMM, 4GB pre-installed (system max.32GB)	2 x 260-pin 2400/2133MHz dual-channel DDR4 SO-DIMM, 4GB pre-installed (system max. 32GB)
	Storage	1 x mSATA (E-Window) 2 x 2.5" SATA 6Gb/s accessible HDD bay with RAID 0, 1 (RAID is only supported by Core™ i5 and Core™ i7)	1 x mSATA (E-Window) 1 x 2.5" SATA 6Gb/s HDD/SDD bay
	Audio	2 x 2W speaker	2 x 3W speaker
	Camera & Microphone	2-megapixel CMOS front-facing camera with auto-focus and digital microphone	5-megapixel CMOS front-facing camera with auto-focus and digital microphone
	I/O Port	1 x HDMI output 1 x 12V – 28V DC jack 1 x RS-232/422/485 1 x RJ-11 for 1D/2D barcode reader	2 x GbE LAN port 4 x USB 3.2 Gen 1 (5Gb/s) port 4 x USB 2.0 port (2 on the side)
	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 Touch lock button for cleaning	Combinations: 1 x Lock/Unlock OSD 1 x Power on/off
	Expansion	1 x E-Window slot (full-size PCIe Mini slot with PCIe/mSATA/USB)	1 x PCIe Mini reserved for E-Window expansion
	LED	1 x RFID indicator	1 x RFID indicator
	Wi-Fi & Bluetooth	IEEE 802.11a/b/g/n/ac 2T2R module with BT V4.1 (M.2 2230 A-E key)	IEEE 802.11a/b/g/n/ac 2T2R module with BT v4.1 (M.2 2230 A-E key)
Other Features	Auto-dimming	Yes	Yes
	Light Sensor	-	Ambient light sensor for panel brightness adjustment
Physical	Construction Material	ABS+PC plastic with anti-bacterial material	ABS+PC plastic with anti-bacterial material
	Mounting	Wall, Stand and Arm; VESA 75/100 compliant	Wall, Stand and Arm; VESA 75/100 compliant
	Weight (Net)	6.0 kg	7.5 kg
	Dimensions (LxWxH)	435 x 376 x 64.5 mm	594.6 x 379.6 x 60.68 mm
Environment	Operating Temperature	0°C – 40°C	0°C – 40°C
	Storage Temperature	-20°C – 65°C	-20°C – 60°C
	Humidity	10% – 95% (non-condensing)	10% – 95% (non-condensing)
	Vibration	1G	1G
	Shock	Operating shock: 5G peak acceleration (11ms duration) Non-operating shock: 15G peak acceleration (11ms duration)	Operating shock: 5G peak acceleration (11ms duration) Non-operating shock: 15G peak acceleration (11ms duration)
	IP Level	Front: IP65	Front: IP65
	Thermal	Fanless	Fanless
Power	Power Input	19V DC input	19V DC input
	Power Adapter	150W medical power adapter	150W medical power adapter
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 IEC 60601-1: 2005+AMD1: 2012 (Edition 3.1) IEC 60601-1-2: 2014 (Edition 4.0)

HTB Series





DESIGN AWARD 2022

Model		HTB-100-HM170	HTB-210-Q470
Chassis	Color	Silver + grayish blue	White
	Dimension (LxWxH)	294 x 209 x 90.2 mm	140 x 306.7 x 171 mm
	Thermal	Fanless	Smart fan
	Chassis Construction	Extruded aluminum alloy	Metal housing (SECC)
Motherboard	CPU	Intel® Core™ i5-6442EQ (6M cache, up to 2.70GHz, 25W) Intel® Core™ i7-6822EQ (8M cache, up to 2.80GHz, 25W)	Intel® Core™ i5-10500TE (6-core, 35W TDP)
	Chipset	Intel® HM170	Intel® Q470
	System Memory	2 x 260-pin DDR4 SO-DIMM (4GB pre-installed, system max. 32GB)	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	1 x 2.5" SATA HDD/SSD bay
I/O Interfaces	USB	2 x USB 2.0 4 x USB 3.2 Gen 1 (5Gb/s)	1 x USB Type-C (USB/DP) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 (front side)
	Ethernet	2 x RJ-45 PCIe GbE by Intel® I211 controller	2 x Intel® I225-V PCIe controller (2.5GbE)
	COM Port	2 x RS-232 (DB-9, with 2.5 kV isolation) 2 x RS-232/422/485 (DB-9, with 2.5 kV isolation)"	1 x RS-232/422/485
	Display	1 x VGA 1 x HDMI 2.0 1 x iDP (optional)	1 x HDMI
	Resolution	VGA: up to 1920 x 1200 @60HZ HDMI 2.0: up to 4096 x 2160 @60Hz	HDMI: up to 4096 x 2304 @30Hz
	Audio	1 x Mic-in 1 x Line-in 1 x Line-out Realtek ALC662, 5.1-channel High Definition Audio (HDA)	-
	Wireless	1 x 802.11a/b/g/n/ac 2T2R (optional)	-
	Others	-	1 x Power button 1 x AT/ATX switch
Expansions	PCIe	1 x PCIe x16	1 x PCIe 3.0 x4 1 x PCIe 3.0 x16
	PCIe Mini	1 x Half-size PCIe Mini 1 x Full-size PCIe Mini (supports mSATA, colay with SATA)	-
	M.2	1 x M.2 1630/2230/3030 A-E key (PCIe x2/USB 2.0)	1 x M.2 2230 A key (PCIe x2 and USB 2.0) 1 x M.2 2280 M key (PCIe x4 and SATA)
	Acceleration Card (optional)	-	Quadro P2200 (75W) NVIDIA Tesla T4 (75W)
Power	Power Input	12V – 28V DC	19V DC
	Power Consumption	19V @4.4A (Intel® Core™ i7-6822EQ with 4GB memory)	19V @4.8A
	Adapter	90V – 264V AC input, 19V DC output; 150W	100V – 240V AC input, 19V DC output, 180W
Reliability	Mounting	Wall mount	-
	Operating Temperature	0°C – 40°C, with air flow (SSD)	0°C – 40°C
	Operating Humidity	10% – 95% (non-condensing)	10% – 95% (non-condensing)
	Storage Temperature	-40°C – 70°C, with air flow (SSD)	-20°C – 60°C
	Storage Humidity	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
	Operation Vibration	MIL-STD-810G 514.6 C-1 (with SSD)	MIL-STD-810G 514.6C-1 (with SSD)
	Weight (Net/Gross)	2.2 kg/3.0 kg	2.8 kg
Certification	Safety/EMC	CE, FCC class B part 18 IEC 62304 IEC 60601-1 V3.1 IEC 60601-1-2 V4.0 ISO 14971:2007	UL/cUL FCC Part15B EN 62368-1 Ed.2 + RMF EN 55032 + EN 55035
OS	Supported OS	Microsoft Windows 10, Microsoft Embedded Standard 7	Windows 11, Windows 10, Linux

AXON-mPOWER



Model		AXON-mPOWER
Battery	Battery Pack Type	2 x 3S3P Lithium-ion batteries
	Battery Pack Capacity	2 x 7800 mAh (2 x 87Wh) 2 batteries support 6 – 12 hours runtime (depending on system power consumption)
	Normal Voltage	11.1 V
	Battery Life Time	300 cycles > 70%
	Charge Time	210 mins. from 5% – 95% (2A charge for each battery pack)
	Charge Voltage	12.6 V
	Continuous Charge Current	2 A for each battery
	Continuous Discharge Current	5 A (each battery pack's discharge power < 55.5W at 40 °C)
	Maximum Discharge Current	7 A (each battery pack's discharge power < 77.7W at 25 °C)
	Discharge Cut-off Voltage	8.25 V
Power	DC-out Power	110W maximal
	Built-in Power Supply	Power input: 100V – 240V Type/Watt: Medical, 150W
I/O Interface	DC-out 1	12V/15V/19V/24V (80 watts)
	DC-out 2	12V/15V/19V/24V (15 watts)
	USB Type-C	5V/3A (15 watts)
	USB Type-A	Engineering port (for app read/write)
	AC-in	C13 connector
LED Indicator	Normal	Blue: Battery capacity is above 25% (non-AC mode) / battery is fully charged (AC mode) Orange: Battery capacity is 25% – 10% Blinking Orange: Battery capacity is less than 10% Off: sleep mode / battery error / non-IEI battery / without battery
	Charging	Blinking Blue: 0% – 94% charged Blue: 95% – 100% charged
	Full Charge Capacity (FCC)	Battery FCC < 50% - Charging: blinking purple - Fully charged: solid purple
Physical	Weight (Net)	4 kg (with 2 batteries)
	Dimensions (LxWxH)	195 x 180 x 94.1 mm
Environment	Operating Temperature	0°C – 40°C
	Operating Humidity	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
Certification	Battery Pack	UN38.3, UL2054, IEC62133
	EMC & Safety	IEC 60601-1 IEC 60601-1-2 (Edition 4.0)

POCm-DOCKING-6BAY



TAIWAN EXCELLENCE 2020

Model		POCm-DOCKING-6BAY-R10
Chassis	Color	White
	Dimension (LxWxH)	274 x 253.3 x 122.85 mm
	Thermal	Active fan
	Chassis Construction	NCT metal housing
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
Physical	Weight (Net)	-
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

Transportation System





Model		IVS-200-ULT2	IVS-110-AL
Chassis	Color	Blue C	Black
	Dimensions (WxDxH) (mm)	290 x 225 x 69	261 x 170 x 60
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Core™ i5-5350U 1.8 GHz (up to 2.9 GHz, dual-core, TDP 15W) Intel® Celeron® 3765U 1.9 GHz (dual-core, TDP 15W)	Intel® Atom™ x7-E3950 1.6 GHz (up to 2.0 GHz, quad-core, TDP 12W)
	Chipset	SoC	SoC
	System Memory	2 x SO-DIMM DDR3L 1600/1866 (4GB pre-installed)(up to 16GB)	1 x SO-DIMM DDR3L 1600/1866 (4GB pre-installed)(up to 8GB)
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD/SSD removable bay	1 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	N/A	1 x eMMC5.0 (optional)
Communication	WLAN	802.11 a/b/g/n/ac (optional)	802.11 a/b/g/n/ac (optional)
	Bluetooth	Bluetooth 2.1 (optional)	BT 4.0/3.0+HS (optional)
	WWAN	WCDMA/HSDPA/HSUPA (optional)	WCDMA/HSDPA/HSUPA (optional)
	GPS	N/A	On-board GPS
I/O Interfaces	USB	2 x USB 3.2 Gen1 2 x USB 2.0	4 x USB 3.2 Gen1
	Ethernet	4 x RJ-45: 1 x GbE by Intel® I218 3 x GbE by Intel® I211	1 x RJ-45: 1 x GbE by Intel® I210
	COM Port	2 x RS232/422/485 with AFC (DB9) 4 x RS232 (DB9)	1 x RS232/422/485 with AFC (DB9)
	Digital I/O	8-bit Digital I/O (4-in/ 4-out)(pin header)	16-bit Digital I/O (8-in/ 8-out)
	OBD-II	N/A	1 x OBD-II/J1939 (DB9)
	Display	1 x HDMI (up to 3840 x 2160@30Hz) 1 x VGA (up to 1920 x 1600@60Hz)	1 x HDMI (up to 3840 x 2160@30Hz) 1 x VGA (up to 1920 x 1600@60Hz)
	Audio	1 x Line-out, 1 x Mic-in	1 x Line-out
	Antenna	1 x 3G, 1 x BT, 1 x Wi-Fi	1 x 3G, 1 x GPS, 1 x BT, 1 x Wi-Fi
	Other	1 x Power button, 1 x Reset button, 1 x AT/ATX Switch, 1 x ACC Switch, 1 x LED for Power (Red), 1 x LED for Storage (Green)	1 x Power Button, 1 x LED for HDD, 1 x LED for Wi-Fi, 2 x LED for SIM
Expansions	PCIe Mini	1 x Full-size with SIM card slot (PCIe/USB2.0) 1 x Full-size (PCIe/USB 2.0/SATA)	1 x Full/Half-size with SIM card slot (PCIe/USB 2.0) 1 x Full/Half-size with SIM card slot (PCIe/USB 2.0) 1 x Half-size (PCIe/USB 2.0)
Power	Power Input	DC Jack: 9 ~ 36V DC	Cigarette lighter power cable: 9 ~ 36V DC
	Power Consumption	12V @ 2.1A (Intel® i5-5350U with 4GB memory)	12V @ 5A (Intel® x7-E3950 with 8GB memory)
Reliability	Mounting	VESA 100	Wall-mount/ VESA 100
	Operating Temperature	-20 ~ 60°C with air flow, 10% ~ 95% non-condensing	-30 ~ 70°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-40 ~ 80°C with air flow, 10% ~ 95% non-condensing	-40 ~ 80°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-810F 514.5C-2 (SSD)
	Weight (Net/Gross)	1.3KG/ 1.45KG	2.4KG/ 3.8KG
	Safety/EMC	CE/ FCC/ E-Mark	CE/ FCC/ E-Mark
	IP Rating	N/A	IP 4X compliant
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows Embedded 8, Microsoft® Windows Embedded Standard 7 E	Microsoft® Windows 10

FLEX System



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 (65W TDP up to 125W) 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	4 x 2.5" SATA 6Gb/s HDD/SSD bay
	eMMC	N/A
	Micro SD	N/A
I/O Interfaces	USB	6 x USB 3.2 Gen.1
	Ethernet	3 x RJ-45: 1 x GbE by Intel® I225LM 2 x GbE by Intel® I225V
	COM Port	2 x RS-232
	Digital I/O	N/A
	CAN-bus	N/A
	Display	1 x HDMI (up to 3840 x 2160@30Hz) 1 x DP (up to 4096 x 2304@60Hz)
	Audio	1 x Line-out, 1 x Mic-in
	Wireless	1 x 802.11a/b/g/n/ac (optional)
	TPM	Intel PTT from CPU
	Other	1 x Power switch wits LED 1 x AT/ATX switch 1 x Reset button 1 x HDD LED
Expansions	PCIe Mini	N/A
	M.2	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 x 4
Power	Power Input	100 ~ 240V AC
	Power Consumption	100 ~ 240V AC @ 6 ~ 3A
Reliability	Mounting	Wall mount / Rack mount
	Operating Temperature	-10°C ~ 50°C (with air flow), 10% ~ 95% (non-condensing)
	Storage Temperature	-20°C ~ 60°C, 10% ~ 95% (non-condensing)
	Operating Shock	Half-sine wave shock 5G, 11ms, 100 shocks per axis (SSD)
	Operating Vibration	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	4.1KG/7.2KG
	Safety/EMC	CE/ FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows 10 / 11, Linux

Industrial Automation System







Model		TANK-XM811	TANK-XM810	TANK-880-Q370
Chassis	Color	Black C	Black C	Black C + Silver
	Dimensions (WxDxH) (mm)	230.6 x 256.04 x 76.2	230.6 x 256.04 x 76.2	169 x 255.2 x 225
	System Fan	Fanless	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloys	Extruded aluminum alloys	Extruded aluminum alloys
Motherboard	CPU	12th 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)	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)
	Chipset	R680E	Q470/Q470E	Intel® Q370
	System Memory	2 x SO-DIMM DDR4 3200 MHz (8GB pre-installed) (up to 64GB)	2 x SO-DIMM DDR4 2933 MHz (up to 64GB)	2 x SO-DIMM DDR4 2666/ 2400 MHz (8GB pre-installed) (up to 64GB)
IPMI	iRIS Solution	N/A	N/A	N/A
Storage	Hard Drive	1 x 2.5" SATA 6Gb/s HDD/SSD bay	1 x 2.5" SATA 6Gb/s HDD/SSD bay	4 x 2.5" SATA 6Gb/s HDD/SSD bay (RAID 0/1/5/10 support)
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	6 x USB 3.2 Gen 1
	Ethernet	2 x RJ-45 2 x I225V 2.5GbE (colay I225LM)	2 x RJ-45 2 x I225V 2.5GbE (colay I225LM)	3 x RJ-45: 1 x GbE by Intel® I219 2 x GbE by Intel® I210
	COM Port	2 x RS-232/422/485, 4 x RS-232	2 x RS-232/422/485, 4 x RS-232	3 x RS-232/422/485 with AFC (DB-9 with 2.5kV isolation)
	Digital I/O	12-bit Digital I/O (6-in/6-out) DB15	12-bit Digital I/O (6-in/6-out) DB15	8-bit Digital I/O (4-in/ 4-out)
	Display	1 x DP++ 1 x HDMI	1 x DP++ 1 x HDMI	1 x HDMI (up to 3840x2160@30Hz) 1 x DP (up to 4096×2304@60Hz)
	Audio	N/A	N/A	1 x Line-out, 1 x Mic-in
	Wireless	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)	1 x 802.11a/b/g/n/ac (optional)
	TPM	Support Intel® PTT function	Support Intel® PTT function	1 x TPM 2.0 (2 x 10 pin) (optional)
Expansions	PCIe Mini	Optional	Optional	1 x Full-size (PCIe/ USB 2.0/ SATA)
	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)	1 x 2230 A-key (PCIe x2/USB 2.0) 2 x 2280 M-key (PCIe x2)
	Backplane	Optional	Optional	1 x PCIe x16 1 x PCIe x1 2 x PCIe x4
Power	Power Input	12 ~ 28V DC	12 ~ 28V DC	DC Jack: 9 ~ 36V DC Terminal Block: 9 ~ 36V DC
	Power Consumption	12V @ 8.8A (Intel® Core™ i9-12900TE with 16GB memory)	12V @ 8A (Intel® Core™ i9-10900TE with 8GB memory)	19V@3.6A (Intel® Core™ i7-8700T with 8GB memory)
	Internal Power Connector	N/A	N/A	12V@10A
Reliability	Mounting	Wall mount	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	-20ºC ~ 60°C with air flow (SSD) 10% ~ 95% non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms 100 shocks per axis (SSD)	Half-sine wave shock 5G, 11ms 100 shocks per axis (SSD)	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)	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/Gross)	3.33 kg/3.7 kg	3.2 kg/3.5 kg	5.4 kg/8.45 kg
	Safety/EMC	CE/FCC	CE/FCC	CE/FCC
OS	Supported OS	Windows 10 / Windows 11 IoT Enterprise/ Linux	Windows 10 / Windows 11 IoT Enterprise/ Linux	Microsoft Windows 10 / Windows 11 / Linux

Industrial Automation System





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

Industrial Automation System





Model		TANK-870e-H110	TANK-610-BW
Chassis	Color	Dark silver purple + Silver	Black C + Silver
	Dimensions (WxDxH) (mm)	132.6 x 255.2 x 190	184 x 200.6 x 58.2
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloys	Extruded aluminum alloys
Motherboard	CPU	7th Gen Intel® Core™ CPU & Intel® Core™ i7-6700TE 2.4 GHz (up to 3.4 GHz, quad-core, TDP 35) Intel® Core™ i5-6500TE 2.3 GHz (up to 3.3 GHz, quad-core, TDP 35)	Intel® Celeron® N3160 1.6 GHz (up to 2.24 GHz, quad-core, TDP 6W)
	Chipset	Intel® H110	SoC
	System Memory	2 x SO-DIMM DDR4 2666 (4GB pre-installed)(up to 32GB)	2 x DDR3L SO-DIMM (2GB pre-installed)(up to 8GB)
Storage	Hard Drive	2 x 2.5" SATA 6Gb/s HDD/SSD bay	1 x 2.5" SATA 6Gb/s HDD/SSD Bay
I/O Interfaces	USB	4 x USB 3.2 Gen1	4 x USB 3.2 Gen1
	Ethernet	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 with 2.5kV isolation)	2 x RS-232/422/485 with AFC 6 x RS-232
	Digital I/O	N/A	N/A
	Display	1 x VGA (up to 1920 x 1200@60Hz) 1 x HDMI (up to 3840 x 2160@30Hz)	1 x VGA (up to 1920 x 1200@60Hz) 1 x HDMI (up to 3840 x 2160@30Hz)
	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 802.11a/b/g/n/ac (optional)
	TPM	N/A	N/A
Expansions	PCIe Mini	1 x Full-size (PCIe/ USB 2.0) 1 x Full-size (PCIe/ USB 2.0/ SATA)	1 x Half-size (PCIe/USB 2.0) 1 x Full-size (PCIe/SATA)
	M.2	N/A	N/A
	Backplane	3A: 1 x PCIe x16, 2 x PCI 3B: 1 x PCIe x16, 1 x PCIe x4, 1 x PCI 3C: 3 x PCI	N/A
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@3.44A (Intel® Core™ i7-6700TE with 8GB memory)	12V@1.49A (Intel® Celeron® N3160 with 4GB DDR3L memory)
Reliability	Mounting	Wall mount & Din Rail	Wall mount, VESA 100
	Operating Temperature	-20ºC ~ 50°C with air flow (SSD), 10% ~ 95% non-condensing	-40ºC ~ 60°C with air flow(SSD), 10% ~ 95% non-condensing
	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)	2.8 kg/4.3 kg	2.2 kg/3 kg
	Safety/EMC	CE/FCC/KC	CE/FCC/KC
OS	Supported OS	Microsoft® Windows® 8 Embedded, Microsoft® Windows® Embedded Standard 7 E, Microsoft® Windows® 10 IoT Enterprise	Microsoft® Windows 8 Embedded, Microsoft® Windows® Embedded Standard 7 E

DIN-Rail Embedded System







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 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 (up to 32GB)	1 x DDR4 2933 MHz SO-DIMM (up to 16GB)	Onboard LPDDR4 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 (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 M.2 2230 A key slot for Wi-Fi & BT 1 x M.2 2242/3052 B key slot for 5G (PCIe x2) 1 x M.2 2240/3040 B key slot (only for IEI M.2 eDP/LVDS module)	1 x M.2 2230 A key slot 1 x M.2 3042/2280 B key slot for 5G, w/ SIM slot (PCIe)	1 x M.2 2230 A key slot for Wi-Fi & BT 1 x M.2 2242/3052 B key slot for 5G (PCIe x2) 1 x M.2 2240/3040 B key slot (only for IEI M.2 eDP/LVDS module)
	Backplane	N/A	N/A	N/A
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)
	Remote PWR	N/A	N/A	N/A
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		
	Watchdog Timer	Programmable 1 ~ 255 sec/min		
OS	Supported OS	Microsoft® Windows 10/11, Linux		

DIN-Rail Embedded System





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 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) Support in-band ECC	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
	eMMC	N/A	N/A
	Micro SD	N/A	N/A
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)
Expansions	PCIe Mini	N/A	1 x Full-size with SIM card slot (PCIe/USB 3.0/SATA)
	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)	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	Power Input	Terminal block: 12 ~ 28V DC	Terminal block: 12 ~ 24V DC
	Power Consumption	12V @ 6.98A (Intel® Core™ i5-1145G7E with 8GB memory)	12V @ 4.98A (Intel® Core™ i5-8365UE with 8GB memory)
	Remote PWR	N/A	N/A
Reliability	Mounting	DIN-Rail	DIN-Rail
	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
OS	Supported OS	Microsoft Windows 10 / Windows 11, Linux	Microsoft Windows 10 / Windows 11, Linux

DIN-Rail Embedded System





Model		DRPC-130-AL	DRPC-120-BT
Chassis	Color	Black	Black
	Dimensions (WxDxH) (mm)	58.75 x 130 x 174	74.08 x 140 x 171.5
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	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
	System Memory	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	1 x eMMC 5.0 (optional, up to 32GB)	N/A
I/O Interfaces	USB	4 x USB 3.2 Gen 1	2 x USB 3.2 Gen 1 2 x USB 2.0
	Ethernet	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	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	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	1 x TPM 2.0 (2 x 10 pin) (optional)	N/A
	Motor Connector	N/A	N/A
	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
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	N/A	N/A
Power	Power Input	Terminal block: 12 ~ 24V DC	Terminal block: 9 ~ 30V DC
	Power Consumption	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	DIN-Rail
	Operating Temperature	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-40°C ~ 85°C 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 (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)	1.4 kg/ 2.5 kg	1.4 kg/ 2.5 kg
	Safety/EMC	CE/ FCC	CE/ FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft® Windows 10, Linux	Microsoft® 8, Microsoft® Windows® Embedded Standard 7 E

Compact Size Embedded System

Fanless





Model		ITG-100-AL	uIBX-250-BW
Chassis	Color	Blue & Silver	Black
	Dimensions (WxDxH) (mm)	Single layer: 137 x 102.8 x 36.2 Dual layer: 137 x 102.8 x 56.2	137 x 102.8 x 52
	System Fan	Fanless	Fanless
	Chassis Construction	Extruded aluminum alloy	Extruded aluminum alloy
Motherboard	CPU	Intel® Atom® x5-E3930 1.3 GHz (up to 1.8 GHz, dual-core, TDP 6.5W)	Intel® Celeron® N3160 1.6 GHz (up to 2.24 GHz, quad-core, TDP 6W)
	Chipset	SoC	SoC
	System Memory	1 x SO-DIMM DDR3L 1600/1867 (2GB pre-installed)(up to 8GB)	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 eMMC5.0 (up to 32GB)(optional)	N/A
	Micro SD	1 x Micro SD slot (optional)	N/A
I/O Interfaces	USB	2 x USB 3.2 Gen 1 2 x USB 2.0 (optional)	4 x USB 3.2 Gen 1
	Ethernet	2 x RJ-45: 2 x GbE by Intel® I211	2 x RJ-45: 2 x GbE by Intel® I211
	COM Port	2 x RS-232/422/485 with AFC (DB9/RJ-45) 2 x RS-232 (optional)	2 x RS-232/422/485 with AFC (RJ-45)
	Digital I/O	8-bit Digital I/O (4-in/ 4-out)(optional)	N/A
	Display	1 x VGA (up to 1920 x 1080@60Hz)	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 (optional)	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 LED for Power (Green), 1 x LED for HDD (Yellow)	1 x Power Button, 1 x Reset Button, 1 x AT/ATX Switch, 1 x LED for HDD (Green)
Expansions	PCIe Mini	1 x Full-size (PCIe/USB 2.0/SATA)	1 x Full-size (PCIe/USB 2.0/SATA)
	M.2	1 x 2230 A-key (PCIe x 1/USB 2.0)	N/A
Power	Power Input	Terminal block: 12 V DC	DC Jack: 12V DC
	Power Consumption	12V @ 1A (Intel® Atom® E3930 with 2GB memory)	12V @ 2A (Intel® Celeron® N3160 with 2GB memory)
Reliability	Mounting	DIN-Rail/ Wall-mount	Wall-mount/ VESA 75
	Operating Temperature	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% noncondensing	-20°C ~ 60°C with air flow (SSD), 10% ~ 95% non-condensing
	Storage Temperature	-30°C ~ 70°C with air flow (SSD), 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	MIL-STD-810G 514.6C-1 (SSD)	MIL-STD-810G 514.6C-1 (SSD)
	Weight (Net/ Gross)	Single layer: 0.67g/ 1.03 kg Dual layer: 0.86g/ 1.22 kg	470g/ 1.4 kg
	Safety/EMC	CE/ FCC	CE/ FCC
	Watchdog Timer	Programmable 1 ~ 255 sec/min	Programmable 1 ~ 255 sec/min
OS	Supported OS	Microsoft Windows 10 / Windows 11, Linux	Microsoft® Windows 8, Microsoft® Embedded Standard 7 E

Digital Signage Embedded System





Model		IDS-310-AL-N1	IDS-310-AL-J1
Chassis	Color	Brown & Sliver	Brown & Sliver
	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

SBC Embedded System





Model		ECN-360A-ULT3	ECW-281B-BT
Chassis	Color	Black	Black
	Dimensions (WxDxH) (mm)	255 x 130 x 75	229 x 132 x 64
	System Fan	Fanless	Fanless
	Chassis Construction	SECC	Aluminum alloy with heavy duty metal
Motherboard	Motherboard Model	NANO-ULT3	WAFER-BT
	SBC Size (mm)	EPIC (165 x 115)	3.5" (146 x 102)
	CPU	Intel® Core™ i5-6300U Intel® Celeron® 3955U	Intel® Celeron® J1900 quad-core 2.42GHz
	Chipset	N/A	SoC
	System Memory	Two 260-pin 2133/1866 MHz dual-channel DDR4 SO-DIMMs support up to 32GB, Pre-install 4GB DDR4	One 204-pin 1333/1066 MHz single-channel DDR3L SO-DIMM supports up to 4 GB, Pre-install 2GB DDR3L
IPMI	iRIS Solution	N/A	N/A
Storage	Hard Drive	2 x 2.5" SATA HDD/SSD bay (No RAID support)	1 x 2.5" SATA 3Gb/s HDD/SSD bay
	CF Card/CFast	N/A	N/A
I/O Interfaces	USB 3.2 Gen 1	4	1
	USB 2.0	N/A	3
	Ethernet	LAN1: Intel® I219-LM LAN2: Intel® I211-AT	LAN 1: PCIe GbE by Intel® I210 controller LAN 2: PCIe GbE by Intel® I211 controller
	COM Port	1 x RS-232/422/485 2 x RS-232	3 x RS-232 1 x RS-422/485
	Digital I/O	8-bit digital I/O	8-bit digital I/O (4-bit input, 4-bit output)
	Display	2 x HDMI	1 x VGA
	Resolution	HDMI: up to 4096x2160@24Hz	VGA: 2560x1600@60Hz
	Audio	1 x Line-out	1 x Line out
	Wireless	2 x 802.11b/g/n (optional)	1 x 802.11b/g/n
Expansions	PCIe Mini	1 x Full-size PCIe Mini card slot (with SIM holder & mSATA support) 1 x Half-size PCIe Mini card slot	1 x Full-size PCIe Mini card slot (supports mSATA) 1 x Half-size PCIe Mini card
Power	Power Input	DC 12V (Optional 9~36V) Power 1: DC jack Power 2: Terminal block(for optional 9~36V only)	DC jack: 12 V DC 3-pin terminal: 9 V~36 V DC
	Power Consumption	12 V@2.4 A (Intel® i5-6300U with 4GB DDR4 memory)	12V@1.45A (Intel® Celeron® J1900 CPU and one 8 GB 1333 MHz DDR3 memory)
Reliability	Mounting	Wall mount, VESA 100	Wall mount, VESA 100
	Operating Temperature	-20°C~60°C with air flow (SSD), 5% ~ 95%, non-condensing	-20°C~60°C with air flow (SSD), 10% ~ 95%, non-condensing
	Operating Shock	Half-sine wave shock 5G, 11ms, 3 shocks per axis	Half sine wave 5G, 11ms 3-axis (non-operational)
	Operating Vibration	MIL-STD-810F 514.5C-2 (with SSD)	MIL-STD-810F 514.5C-1 (HDD)
	Weight (Net/Gross)	2.2 kg/3 kg	2.1 kg / 3.9 kg

*Systems with hard drive meet MIL-STD-810F 514.5C-1 specifications. SSD/CF systems meet MIL-STD-810F 514.5C-2 specifications.

PoE AFOLUX GEN. 3 PPC

Intel® Celeron® N3350/J3455 Processors



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	Size	7”		10.1”	12.1”	15.6”
	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 RS232/422/485 (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		On board 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				
	Thermal Solution	Fanless				
Power	Power Requirement	12V only		9V ~ 30V		
ErP		ErP 2009/125/EC				

PoE AFOLUX GEN. 3 PPC

8th Generation Intel® Core™ i5 Processor





LCD Size		15.6”	18.5”	21.5”
Model		AFL3-W15C-ULT5	AFL3-W19C-ULT5	AFL3-W22C-ULT5
LCD	Size	15.6”	18.5”	21.5”
	Resolution	1366 x 768 (16:9)	1366 x 768 (16:9)	1920 x 1080 (16:9)
	Brightness (cd/m²)	300	250	250
	Contrast Ratio	500:1	1000:1	1000:1
	Viewing Angle (H-V)	170º/160º	170º/160º	170º/160º
	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 (optioal 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		

AFOLUX GEN. 3 PPC

Intel® Celeron® N2807/J1900 Processors





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	450
	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)	150º / 145º	160º / 140º
	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)

AFOLUX GEN. 3 PPC

Intel® Celeron® J1900 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/m²)	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)×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) (RI/5V/12V) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 2 x RJ-45 for GbE LAN 1 x Power Button 1 x Audio port (line-out) 1 x Reset button 1 x AT/ATX switch 1 x 9-30V DC lockable power jack	1 x RS-232 COM port (RJ-45 connector) 1 x RS-232/422/485 COM port (DB-9 connector) (RI/5V/12V) 2 x USB 3.2 Gen 1 (5Gb/s) 2 x USB 2.0 2 x RJ-45 for GbE LAN 1 x Power Button 1 x Audio port (line-out) 1 x Reset button 1 x AT/ATX switch 1 x 9-30V lockable power jack	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 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)

PPC-F Series

8th Genertion Intel® Core™/Intel® Celeron® 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 x768	1366x768	1280 x 1024	1366 x 768
	Brightness (cd/m²)	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 Genertion Intel® Core™ i5-8365UE 4.10GHz 8th Genertion 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 IEI 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			

PPC-F Series

Intel® Celeron® J1900 Processor



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	LCD Size	8” (4:3)	10.4”	12” (4:3)	15” (4:3)	17”
	Max. Resolution	800 (W) x 600 (H)	800 (W) x 600 (H)	1024 (W) x 768 (H)	1024 (W) x 768 (H)	1280 (W) x 1024 (H)
	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 (hrs)	50000	30000	50000	70000	50000
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 Driver 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)				

PPC-F Series

4th generation Intel® Core™ i7/ i5, Pentium® and Celeron® 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 Driver 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)	

Marine Panel PC



Model		S19A-QM87	S24A-QM87
Display	LCD Size	19”	24”
	Max. Resolution	1280 x 1024	1920 x 1080
	Brightness (cd/m²)	300	300
	Contrast Ratio	2000:1	5000:1
	LCD Color	16.7M	16.7M
	Pixel Pitch (mm) (HxV)	0.294 x 0.294	276.75 x 276.75
	Viewing Angle (V/H)	178° / 178°	178° / 178°
	Backlight MTBF (hrs)	50000	50000
Touch	Touchscreen	Projected capacitive touch with USB interface, 6H	
Motherboard	CPU	Intel® 22nm 4th Generation Mobile Core™ i5-4400E 2.7GHz processor	
	Chipset	Intel® QM87	Intel® QM87
	RAM	Two 204-pin 1600/1333 MHz dual-channel DDR3 SDRAM support up to 16GB	
	Ethernet	GbE1: Intel® I217LM with Intel® AMT 9.0 support GbE2: Intel® I210-AT PCIe controller	
	Audio Codec	N/A	N/A
I/O Ports and Switches		3 x USB 2.0 2 x USB 3.2 Gen 1 (5Gb/s) 1 x VGA 1 x DVI-D 1 x HDMI 1 x PS/2 (through Y-type cable supporting KB/MS) 2 x CAN-bus 2.0B, 3-pin terminal block (2.5KV isolation protection) 1 x DB-9 RS-232 (non-isolated) , 4 x DB-9 RS-232/422/485 (2.5KV isolation protection) 2 x RJ-45 GbE LAN with teaming support (2KV isolation protection) 1 x Mic-in 1 x Line-out 1 x Line-in 2 x Antenna SMA hole (reserved) 1 x Isolated 9V ~ 36V DC 3-pin terminal block 1 x Power button	
Drive Bay	SSD	2 x SSD Bay & 1 x CFast	2 x SSD Bay & 1 x CFast
Expansion Slot		2 x PCIe Mini card	2 x PCIe Mini card
System Cooling		Fanless	Fanless
Environment	Operating Temperature	-15°C to 55°C (5% to 95% RH)	
	Storage Temperature	-20°C to 60°C	
IP Rating		Front IP 66 / Rear IP 22	

4K HDR SDVoE IP Combo Transceiver



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+

Mobile Tablet PC



Model		MODAT-800A
Display and Touch	LCD Size	8"
	Brightness (cd/m²)	500
	Max. Resolution	1280 x 800
	Viewing Angle	85°/85°/85°/85°
	Touchscreen	5-point PCAP touch (Surface hardness 6H)
	Contrast	800:1
System	CPU	MediaTek MT6765 Helio P35 Octa-core 64-bit Cortex-A53 2.3 GHz
	Operating System	Android 11
	Memory	6GB LPDDR4
	ROM	128GB eMMC
Communication	WLAN	802.11 a/b/g/n and ac (2.4GHz/5GHz)
	Bluetooth	Bluetooth v5.0+EDR
	Modem	GSM: B2/1900;B3/1800;B5/850;B8/900 3G: WCDMA (B1/2100;B5/850;B8/900); EVDO (BC0); SCDMA 4G LTE: FDD-LTE (B1/2100;B3/1800;B7/2600;B20/800;B2/1900;B4/AWS;B5/850;B8/900;B12/700;B17/700b;B13/700c) TDD-LTE (B38, B39, B40, B41)
	GNSS	GPS/BeiDou/GLONASS/Galileo (Could be 2 kinds of the 4; Default: GPS and BeiDou)
Data Collection	NFC	ISO/IEC 14443A/B MIFARE JIS X 6319-4 (FeliCa1) ISO/IEC 18092 ISO/IEC 15693
	Camera	13-megapixel auto focus rear camera with LED flash 5-megapixel front-facing camera
	Fingerprint	MODAT-800A-MT65-R10: fingerprint lock MODAT-800A-MT65-A-R10: FBI-certified fingerprint reader MODAT-800A-MT65-B-R10: CNAS-certified fingerprint reader
Sensors		3D accelerator GYRO-Sensor Electronic compass proximity sensor ambient light sensor
Battery Status LED		Red/Green (Red light shows the battery is being charged; Blinking red light shows the battery is low <15%; Green light shows the battery is full >90%)
Buttons		(1) Power button, Volume up, Volume down (2) 2 programmable buttons (3) PCAP buttons: Home, Menu, Back
I/O Interface	Audio	2 x 1.5W speaker 1 x 3.5 mm audio jack for headset 1 x Receiver microphone 2 x Analog microphone
	USB	USB OTG 2.0 by either USB Type-C connector or USB Type-A connector
	Charging Interface	USB Type-C
	SIM Card / SD Card Slot	Dual Nano SIM card (dual standby) or one Nano SIM + one microSD up to 64GB
	Power Adapter	Optional: 20W USB Type-C wall charger compatible with USB Power Delivery 3.0 Input: 100-240V, 50/60Hz, 0.5A Output: 5V@3A, 9V@2A, 12V@1.5A (20W max.)
	Battery	16, 000mAh Li-Polymer Battery (59.2Wh, 3.7V)
Environmental	Operating Temperature	0°C ~ 50°C for discharging, and active CPU throttling at a higher temperature 0°C ~ 40°C for charging, and 16°C ~ 40°C for fast charging
	Storage Temperature	-20°C ~ 60°C
	Drop Survival	1.2 meter
	IP Level	IP54
	Color	Case: Pantone Black C and Pantone Medium Blue C Touch screen: Pantone Black C and Pantone 431C
	Dimensions (L x W x H)	277.32 x 159.76 x 27.61 (mm)
Power Input	Weight	1 kg
EMC and Safety		Conform to CE/FCC ESD: ±10KV AIR; ±6KV CONTACT

Heavy Industrial Monitor



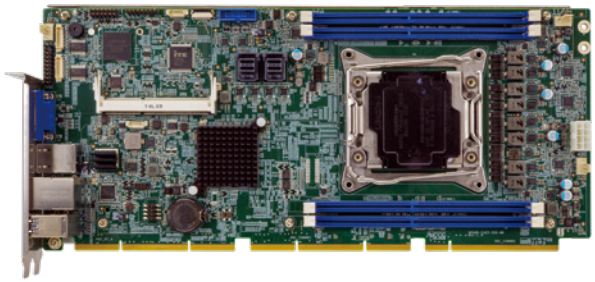
Model		DM-F65A	DM-F08A	DM-F12A	DM-F15A	DM-FW15A
LCD	LCD Display	6.5" (4:3)	8" (4:3)	12.1" (4:3)	15" (4:3)	15.6" (16:9)
	Max. Resolution	640 (W) x 480 (H)	800 x 600	1024 (W) x 768 (H)	1024 (W) x 768 (H)	1366 (W) x768 (H)
	Brightness (cd/m²)	800	500	600	500	400
	Contrast Ratio	600:1	500:1	700 : 1	800 : 1	500:1
	LCD Color	16.2M	262K	16.2M	16.2M	16.2M
	Pixel Pitch (mm)	0.207 x 0.207	0.0675 x 0.2025	0.24 x 0.24	0.29 x 0.29	0.252 x 0.252
	Viewing Angle (H-V)	160° / 140°	140°/120°	160° /140°	160° / 150°	170° / 160°
	Backlight MTBF (Hrs)	50000	50000	50000	70000	50000
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)	191.8 x 154.36 x 42.88	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)	180 x 140	206 x 154	244.8 x 304.8	285.6 x 361.1	379.1 x 232.3
	Weight (kg) Net/ Gross	1.1 / 2.6	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	12V @ 0.5A	9V @ 2.2A 36V @ 0.5A	9V @ 1.6A 36V @ 0.4A	9V @ 1.3 36V @ 0.33

Heavy Industrial Monitor



Model		DM-F17A	DM-FW19A	DM-F19A	DM-F22A	DM-F24A
LCD	LCD Display	17" (5:4)	18.5" (16:9)	19" (5:4)	21.5" (16:9)	23.8" (16:9)
	Max. Resolution	1280 (W) x 1024 (H)	1366 (W) x 768 (H)	1280 (W) x 1024 (H)	1920 (W) x 1080 (H)	1920 (W) x 1080 (H)
	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

PEMUX-XEW1



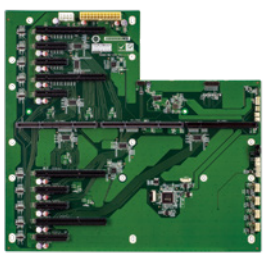
Form Factor	PEMUX Full-size CPU card (12 layers)
CPU	LGA2066 socket supports Intel® Xeon W processor
Chipset	Intel® C422
Memory	Four 288-pin Dual-Channel DDR4 ECC RDIMM/LRDIMM supported up to 256GB
BIOS	UEFI BIOS
Super I/O	Fintek F81216D
EC	iWDD
Display Output	1 x VGA port (from IPMI)
Ethernet	LAN1: 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

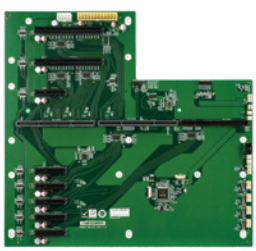
Front Panel	1 x Front Panel (Power LED, HDD LED, Speaker, Power Button, Reset Button)
Audio	Supports by IEI AC-KIT-888S-R10 audio kit (2 x 5 pin)
TPM	1 x TPM (2 x 10-pin)
SMBus	1 x SMBus to backplane
Expansion	56-Lane PCIe signal via golden finger
Watchdog Timer	software Programmable support 1~255 sec. 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

PICMG 1.3 Half-Size Single Board Computers

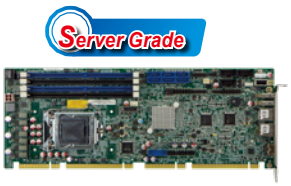


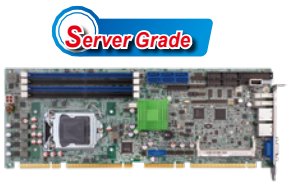


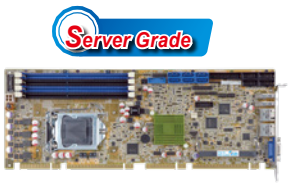


Model	HPCIE-Q470	HPCIE-C236	HPCIE-Q170
CPU Socket	LGA1200	LGA 1151	LGA 1151
CPU Type	10th/11th Gen Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor (up to 65W)	Intel® Xeon® E3 v5/v6, 6th/7th Gen Intel® Core™ i3, Pentium® or Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor
Chipset	Intel® Q470 / Q470E	Intel® C236	Intel® Q170
Memory	2 x 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 (up to 4096 x 2160@30Hz)	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 (colay with I225-LM) LAN2: Intel® I225V 2.5GbE controller (colay with I225-LM)	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	1 x 6-pin wafer for KB/MS 2 x RS-232/422/485 2 x USB 3.2 Gen 1 4 x USB 2.0
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: 0ºC ~ 60ºC Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20ºC ~ 60ºC (-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

PICMG 1.3 Full-Size Single Board Computers







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(Co-lay I210-AT)	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	1 x 6-pin wafer for KB/MS 1 x LPT 2 x RS-232 2 x RS-232/422/485 4 x USB 3.2 Gen 1 7 x USB 2.0	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: -20ºC ~ 60ºC (-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

PICMG 1.3 Full-Size Single Board Computers

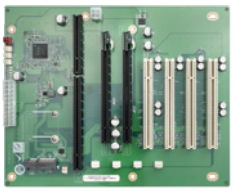


Model	PCIE-Q470	PCIE-Q370	PCIE-Q170	PCIE-H810	PCIE-Q870-i2
CPU Socket	LGA1200	LGA1151	LGA1151	LGA 1150	LGA 1150
CPU Type	10th/11th Gen I ntel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor (up to 65W)	8th/9th generation Intel® Core™ i9/i7/5/i3, Pentium®,Celeron® processor	6th/7th generation Intel® Core™ i9/i7/5/i3, Pentium®,Celeron® processor	4th/5th generation Intel® Core™ i9/i7/5/i3, Pentium®,Celeron® processor	4th/5th generation Intel® Core™ i9/i7/5/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 support up to 64GB	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 (up to 4096 x 2160@30Hz)	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 (colay with I225-LM) LAN2: Intel® I225V 2.5GbE controller (colay with I225-LM)	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211-AT PCIe controller (colay I210-AT)	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: 0ºC ~ 60ºC (32°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20ºC ~ 60ºC (-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

PICMG 1.3 Passive Backplane

Half-Size SBC Backplane



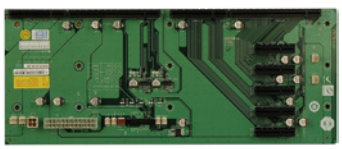


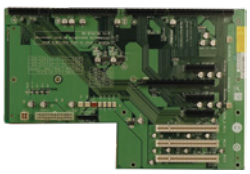
Backplane	Model	HPXE2-5S1	HPXE2-8S1
Total Slot		5	8
Expansion Slots	PCIe x16	1 (Gen 3.0)	
	PCIe x8		2 (Gen 3.0)
	PCI	2	4
PSU Type		24+4-pin ATX	24+4-pin ATX
Chassis Option		PR-1500G	PAC-125G
		N/A	RACK-3000G RACK-360G
Note		ATX power	ATX power

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

PICMG 1.3 Passive Backplane

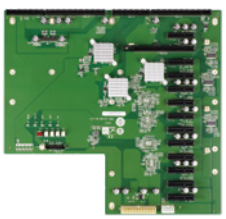
Server Grade SBC Backplane





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

PICMG 1.3 Passive Backplane

Full-Size SBC Backplane



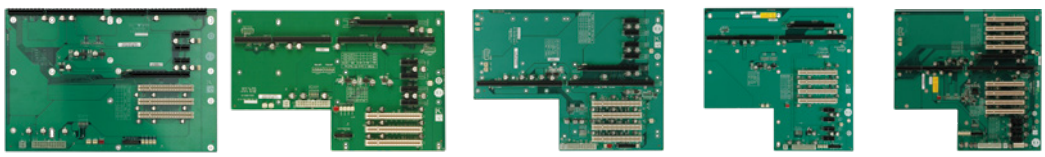
PICMG 1.3 (PCIe+PCI)	Model		PE-2SD1	PE-3S1	PE-4S	PE-5S	PE-5S2
Total Slot			2	5	4	5	5
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1 (Gen 3.0)	1	1 (Gen 2.0)	1 (Gen 2.0)
		x4		1 (Gen 3.0)	1	1 (Gen 2.0)	
		x1					3 (Gen 2.0)
	PCI-X Slots						
	PCI Slots				1	2	
USB Connectors by Pin Header			4		4	4	4
PSU Type			24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis			RACK-1150-PE	RACK-500AI	N/A	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-6S	PE-6S2	PE-6SD	PE-6SD3	PE-7S
Total Slot			6	6	5	5	7
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)
		x4		1 (Gen 2.0)		1 (Gen 2.0)	
		x1	2 (Gen 2.0)		3 (Gen 2.0)		2 (Gen 2.0)
	PCI-X Slots						
	PCI Slots		2	3		2	3
USB Connectors by Pin Header			4	4	4	4	4
PSU Type			24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis			RACK-305G RACK-360G RACK-3000G PAC-1700G PAC-125 G	PAC-106G PAC-1000G	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



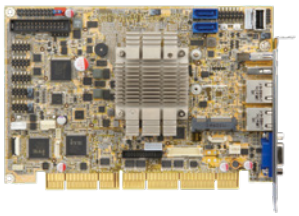
PICMG 1.3 (PCIe+PCI)	Model		PE-8S	PE-9S	PE-10S	PE-10S2	PXE-13S
Total Slot			8	9	10	10	13
Expansion Slots	PCIe Slots	x16 *	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 2.0)	1 (Gen 3.0)
		x4					
		x1	3 (Gen 2.0)	4 (Gen 2.0)	4 (Gen 2.0)	4 (Gen 2.0)	3 (Gen 3.0)
	PCI-X Slots						
	PCI Slots		3	3	4	4	8
USB Connectors by Pin Header			4	4	4	4	4
PSU Type			24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX
Chassis			PAC-125G	N/A	RACK-305G RACK-360G RACK-3000G	RACK-3000G RACK-305G RACK-360G	RACK-3000G RACK-305G RACK-360G
Note							PCIe to PCI Bridge Backplane

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.

PCISA-BT

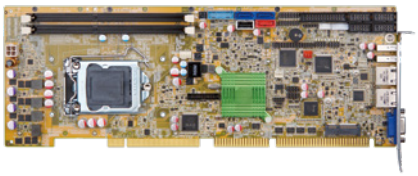
Half-size PCISA Single Board Computers



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 (up to 2560x1600@60Hz) 1 x 18/24-bit dual-channel LVDS (up to 1920x1200@60Hz) (optional, MOQ: 100 pcs/lot) 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 2560x1600@60Hz)
Ethernet	LAN1: Intel® I211-AT PCIe controller LAN2: Intel® I211-AT PCIe controller
External I/O Interface	1 x USB 2.0 1 x USB 3.2 Gen 1 (5Gb/s)
Internal I/O Interface	1 x KB/MS (1x6 pin) 1 x USB 2.0 (180° Type-A) 1 x LPT (2x13 pin) 2 x RS-232 (2x5 pin, P=2.54) 1 x mSATA 2 x SATA 3Gb/s 1 x RS-422/485 (1x4 pin, P=2.0) 4 x USB 2.0 (2x4 pin, P=2.54)
Audio	Support 7.1 channel HD Audio by IEI AC-KIT-888S-R10 kit 1 x Front Audio (2x5 pin)
TPM	1 x TPM (2x10 pin)
SMBus	1 x SMBus (1x4 pin)
I²C	1 x I²C (1x4 pin)
Infrared Interface	1 x Infrared interface (1x5 pin)
Expansion	1 x microSD socket 1 x PCIe Mini slot PCI and ISA signal via golden finger
Watchdog Timer	Software programmable supports 1~255 sec. system reset
Digital I/O	8-bit digital I/O (2x5 pin)
Fan Connector	1 x CPU smart fan (1x4 pin) 1 x System smart fan (1x3 pin)
Power Supply	5V/12V, AT/ATX support
Power Consumption	5V@1.55A,12V@0.74A (Intel® Atom™ E3845 1.91GHz CPU with one 8 GB 1333 MHz memory)
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Dimensions	185 mm x 128 mm
Weight	GW: 1000g / NW: 250g
CE/FCC	Compliant

WSB-H810

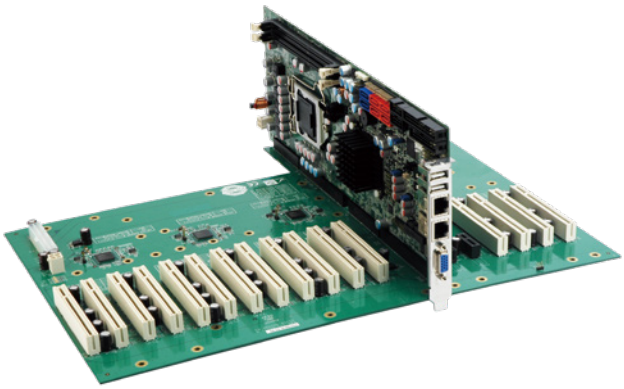
PICMG 1.0 Full-Size Single Board Computer



Model	WSB-H810
CPU	4th generation LGA 1150 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor supported
Chipset	Intel® H81
Memory	Twp 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
External I/O Interface	2 x USB 2.0
Internal I/O Interface	1 x KB/MS (1x6 pin) 2 x SATA 6Gb/s 1 x LPT (2x13 pin) 2 x USB 3.2 Gen 1 (5Gb/s) (2x10 pin) 1 x RS-422/485 (1x4 pin, P=2.0) 4 x RS-232 (2x5 pin, P=2.54) 1 x USB 2.0 (180° Type-A) 4 x USB 2.0 (2x4 pin, P=2.54) 1 x SATA 3Gb/s (AHCI supported, no RAID)
Front Panel	1 x Front panel (2x7 pin, power LED, HDD LED, speaker, power button, reset button)
LAN LED	2 x LAN LED (1x2 pin)
Digital I/O	8-bit digital I/O (2x5 pin)
TPM	1 x TPM (2x10 pin)
SMBus	1 x SMBus (1x4 pin)
I²C	1 x I²C (1x4 pin)
Infrared Interface	1 x Infrared Interface (1x5 pin)
Expansion	1 x Full-size PCIe Mini card slot (support mSATA) PCI and ISA signal via golden finger
Watchdog Timer	Software programmable supports 1~255 sec. system reset
Fan Connector	1 x CPU smart fan (1x4 pin) 1 x System smart fan (1x3 pin)
Power Supply	5V/12V, AT/ATX support
Power Consumption	5V@3.4A, 12V@0.36A, Vcore_12V@7.48A, 3.3V@1.42A, 5VSB@0.13A (Intel® Core™ i7-4770K 3.90 GHz CPU with 8 GB (two 4 GB) 1333 MHz DDR3 memory)
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-30°C ~ 70°C
Operating Humidity	5% ~ 95%, non-condensing
Dimensions	338 mm x 122 mm
Weight: GW	1000g / NW: 260g
CE/FCC	compliant

PCI/PX Series

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

PCISA Half-Size SBC Backplane

Supports PCI and ISA slot on one backplane! For half-size PCISA series single board computers

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

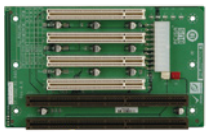
RoHS Ready



RoHS Ready

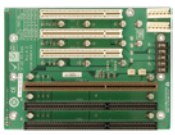


RoHS Ready



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

RoHS Ready



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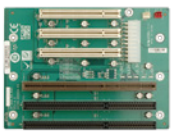

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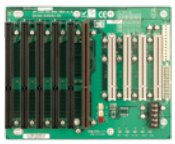
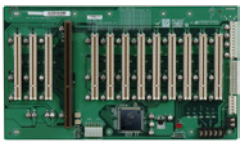


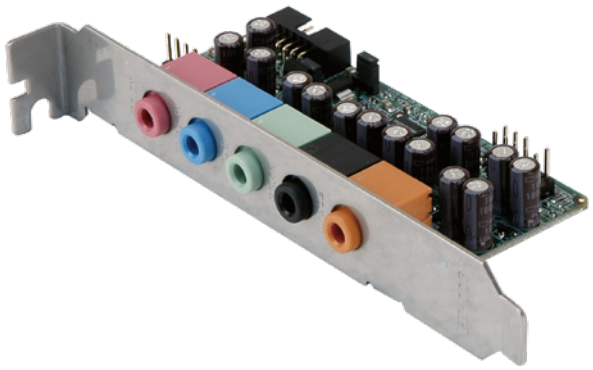
RoHS Ready



Model	IP-6S-RS	IP-6SA-RS	IP-10S-RS	IPX-13S-RS
Total Slot	6	6	10	13
PCI Slot	3	3	4	12
ISA Slot	2	2	5	
PSU Type	AT	ATX	ATX/AT	ATX/AT
Chassis	PAC-1000G	PAC-106G PAC-1000G	PAC-125G	RACK-305G RACK-360G RACK-3000G

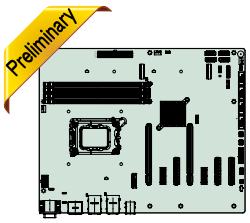
PAC series wall-mount chassis 4U rack-mount chassis

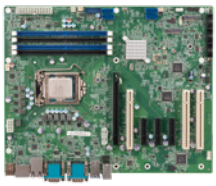
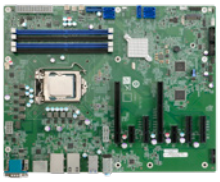
AC-KIT-888S



- Realtek ALC888S HD Audio codec IC supported
- Five audio jacks for microphone, 7.1+2-channel high definition audio input and output
- High performance 7.1+2-channel high definition audio board provides 7.1-channel sound playback and multiple streaming through the front panel stereo outputs
- Digital to Analog Converter (DAC) with 97dB Signal to Noise Ratio (SNR)
- Analog to Digital Converter (ADC) with 90dB Signal to Noise Ratio (SNR)
- All the Digital to Analog Converter (DAC) supports 44.1k/48k/96k/192kHz sampling rate
- All the Analog to Digital Converter (ADC) supports 44.1k/48k/88.2k/96k/192kHz sample rate
- Driver supports Windows® 2000/2003/XP/Vista/7/10 (32/64 bits) and Linux (Ubuntu or Debian)
- CE/FCC compliant

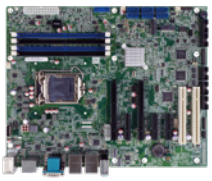
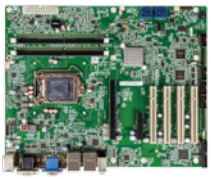
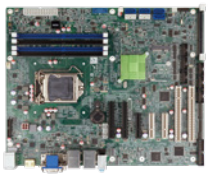
ATX




Model	IMBA-R680	IMBA-Q470	IMBA-Q471	IMBA-H420
CPU Socket	LGA1700	LGA1200	LGA1200	LGA1200
CPU Type	12th/13th generation Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® Processor	10th/11th generation Intel® Core™ i9/i7/5/i3, Pentium® and Celeron® processor	10th/11th Generation LGA1200 Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processors	10th/11th generation Intel® Core™ i9/i7/i5/i3, Celeron® and Pentium® processor
Chipset	Intel® R680E	Intel® Q470/Q470E	Intel® Q470/Q470E	Intel® H420E
Memory	Four 288-pin 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)	Four 288-pin 2933 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 128 GB)	Two 288-pin 2933 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max.64GB)
Display Interface	Triple independent display 1 x 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	Triple independent display 1 x VGA 1 x DisplayPort 1 x HDMI	Triple display 1 x VGA 1 x Internal DP++ 1 x HDMI
Ethernet	LAN1: Intel® I225V 2.5GbE 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 LAN3: Intel® I225V 2.5GbE controller	LAN1: Intel® I225V GbE controller
I/O Interface	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	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
Storage Interface	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)	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)
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2 x 5 pin)	Realtek ALC888S HD Audio codec		
Digital I/O	12-bit programmable I/O (12-bit GPIO is for programming I/O)	8-bit programmable I/O (8-bit GPIO is for programming I/O)	12-bit programmable I/O (12-bit GPIO is for programming I/O)	8-bit programmable I/O (8-bit GPIO is for programming I/O)
Power Consumption	TBD	3.3V@1.36A, 5V@14.16A, 12V@7.5A (Intel® Core™ i9-10900E CPU with four 32 GB 3200 MHz DDR4 memory)	3.3V@1.1A, 5V@3.359A, 12V@2.18A, 5VSB@0.12A (Intel® Core™ i5-10500TE CPU with four 8 GB 2933 MHz DDR4 DIMMs)	3.3V@0.84A, 5V@8.12A, 12V@3.77A, 5VSB@0A (Intel® Core™ i5-10500TE CPU with two 32 GB 2933 MHz DDR4 memory, EuP mode enabled)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operation Environment	Temperature Range: 0°C ~ 60°C (32°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing			
Expansion Slot	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	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
CPU Cooler	TBD	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

ATX


Model	IMBA-C2460	IMBA-Q370	IMBA-H310	IMBA-C2360-i2	IMBA-Q170-i2
CPU Socket	LGA1151	LGA1151	LGA1151	LGA1151	LGA1151
CPU Type	8th/9th generation Intel® Xeon® E, Core™ i9/i7/5/i3, Pentium® and Celeron® processor	8th/9th generation Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor	8th/9th generation Intel® Core™ i9/i7/5/i3, Pentium® and Celeron® processor	6th/7th generation Intel® Xeon® E3 v5/v6, Core™ i3, Pentium®, Celeron® processor	6th/7th generation Intel® Core™ i7/i5/i3, Pentium® and Celeron® processor
Chipset	Intel® C246	Intel® Q370	Intel® H310	Intel® C236	Intel® Q170
Memory	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)	Two 288-pin 2666/2400 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	Four 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (ECC & non-ECC support) (system max. 64 GB)	Four 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)
Display Interface	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°	Triple independent display 1 x DVI-D 1 x VGA 1 x Internal 180º 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
Ethernet	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211AT PCIe controller	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211AT PCIe controller	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
I/O Interface	2 x USB 3.2 Gen 2 (Type-A) 2 x USB 3.2 Gen 1 (Type-A) 1 x PS/2 KB/MS 2 x USB 2.0 1 x RS-232 1 x KB/MS 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	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
Storage Interface	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)	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)
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@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)	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)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset				
Operation Environment	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing				
Expansion Slot	1 x M.2 A Key 1 x M.2 M Key 2 x PCIe Gen3 x8 3 x PCIe Gen3 x4 2 x PCI	1 x M.2 A Key 1 x M.2 M Key 2 x PCIe Gen3 x8 3 x PCIe Gen3 x4 2 x PCI	1 x PCIe x16 (Gen3) 1 x PCIe x4 (Gen2) 4 x PCI	1 x Full-size PCIe Mini card (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
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	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10

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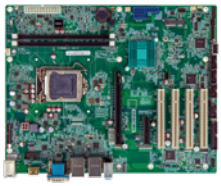
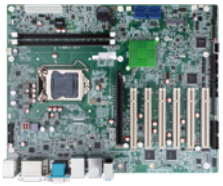

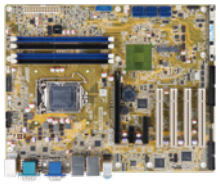

Model	IMBA-H112	IMBA-H110	IMBA-C2260	IMBA-Q870
CPU Socket	LGA1151	LGA1151	LGA1150	LGA1150
CPU Type	6th/7th generation Intel® Core™ i7/i5/ i3, Celeron® and Pentium® processor	6th/7th generation Intel® Core™ i7/i5/ i3, Celeron® and Pentium® processor	4th generation Intel® Xeon® E3, Core™ i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor
Chipset	Intel® H110	Intel® H110	Intel® C226	Intel® Q87
Memory	Two 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	Two 288-pin 2133 MHz dual-channel DDR4 SDRAM unbuffered DIMMs (system max. 64 GB)	Four 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM ECC and non-ECC unbuffered DIMMs (system max. 32 GB)	Four 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 32 GB)
Display Interface	Dual independent display support 1 x VGA 1 x HDMI 1 x iDP interface	Dual independent display support 1 x DVI-I 1 x HDMI 1 x iDP interface	Dual 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
Ethernet	LAN1: Intel® I219V PHY LAN2: Intel® I211 PCIe controller	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
I/O Interface	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 2.0pin header	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
Storage Interface	3 x SATA 6Gb/s	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)
Audio	Realtek ALC888S HD Audio codec			
Digital I/O	N/A	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 (4.0 GHz Intel® Core™ i7-6700K CPU with two 8 GB 2133 MHz DDR4 memory)	3.3V@1.53A, 5V@2.95A, 12V@8.38A, 5VSB@3.2A (Intel® Core™ i7 6700K 4.0GHz CPU with 16GB (two 8GB) 2133 MHz DDR4 memory)	3.3V@0.57A, 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)
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	
Expansion Slot	1 x Full-size PCIe Mini card (support mSATA) 1 x PCIe x16 (Gen3) 1 x PCIe x4 (Gen3) 4 x PCI	1 x Full-size PCIe Mini card (support mSATA) 1 x PCIe x16 (Gen3) 6 x PCI	1 x PCIe 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
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-115XE-R10	CF-115XA-R10 CF-115XE-R10

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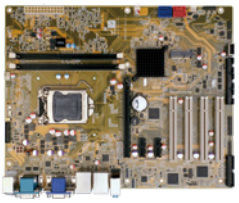




Model	IMBA-H810	IMB-H110	IMB-Q870	IMB-H810
CPU Socket	LGA1150	LGA1151	LGA1150	LGA1150
CPU Type	4th generation Intel® Core™ i7/i5/i3 Pentium® and Celeron® processor	6th generation Intel® Core™ i7/i5/i3, Celeron® and Pentium® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor
Chipset	Intel® H81	Intel® H110	Intel® Q87	Intel® H81
Memory	Two 240-pin 1333/1600 MHz dual-channel DDR3 SDRAM unbuffered DIMM (system max. 16 GB)	Two 288-pin 2133MHz Dual-channel DDR4 SDRAM Unbuffered DIMM supported up to 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	Dual independent display support 1 x DVI-D 1 x VGA 1 x iDP interface	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® I217-LM with Intel® AMT 9.0 support LAN2: Intel® I211-AT PCIe 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	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	4 x USB 3.2 Gen 1Type 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-232pin 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 2.0pin 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	2 x SATA 3Gb/s 2 x SATA 6Gb/s	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			
Digital I/O	8-bit programmable I/O (8-bit GPIO is for programming I/O)	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@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)	3.3V@ 0.93A, 5V@2.99A, 12V@6.88A, 5VSB@0.02A (Intel® Core™ i7-6700K 4.0GHz CPU with 16GB (two 8GB) 2133 MHz DDR4 memory)	3.3V@0.53A, 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: -20°C ~ 60°C (-4°F~140°F) Relative Humidity: 5% ~ 95% non-condensing			
Expansion Slot	1 x PCIe x 16 2 x PCIe x 1 4 x PCI 1 x PCIe Mini (support mSATA)	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	CF-115XA-R10 CF-115XE-R10	CF-115XA-R10 CF-115XE-R10	CF-115XA-R10 CF-115XE-R10	CF-115XA-R10 CF-115XE-R10

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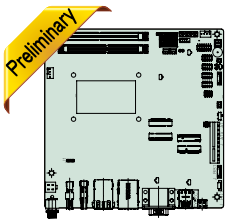




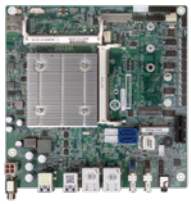





Model	KINO-ADL-P	KINO-EHL-J6412	KINO-TGL-U	KINO-DH420	KINO-KX
CPU Socket	On Board	On Board	On Board	LGA1200	On Board
CPU Type	12th Gen. Intel® mobile Alder Lake-P on-board processor	Intel® Celeron® J6412 on-board SoC	Intel® 11th Gen. Core™ i7/i5/ i3, Celeron® UP3 processor (code name: Tiger Lake)	10th generation Intel® Core™ i9/i7/5/i3/Pentium® and Celeron® processor	Zhaoxin Kaixian KX-6000 series 8-core processor Zhaoxin KX-U6580/U6780A on-board SoC
Chipset	12th Gen. Intel® mobile Alder Lake-P on-board processor	Intel® Celeron® J6412 on-board SoC	Intel® 11th Gen. Core™ i7/i5/ i3, Celeron® UP3 processor (code name: Tiger Lake)	Intel® H420E	Zhaoxin ZX-200
Memory	Two 260-pin 3200 MHz DDR4 SO-DIMM (system max.64GB)	Onboard LPDDR4x-3200MHz 4GB (system max. 8GB)	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 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)
Display Interface	Quadruple independent display 1 x HDMI 1.4 1 x DP 1.4 2 x Type-C DP with Thunderbolt 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 1 x VGA 1 x DVI-I
Ethernet	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	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	LAN1: Realtek RTL8111H PCIe GbE controller LAN2: Realtek RTL8111H PCIe GbE controller
I/O Interface	3 x USB 3.2 Gen 2 (Type A) 2 x USB4 (Type C) 2 x RS-232/422/485 4 x USB 2.0 pin header 4 x RS-232 pin header	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 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	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	1 x SATA 6Gb/s 1 x M.2 (B key, support NVMe SSD)	2 x SATA 6Gb/s	2 x SATA 6Gb/s (No RAID) 1 x M.2 (B 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 (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	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)	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)	N/A
Power Consumption	TBD	TBD	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@3.38A, 3.3V@0.62A, 5V@9.81A, 5VSB@0.03A (Zhaoxin KX-U6580 2.5 GHz CPU with 8 GB 2400 MHz DDR4 memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset				
Operation Enviornment	Temperature Range: 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 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 x4 slot, open-ended 1 x M.2 A key 1 x M.2 B key w/ SIM holder	1 x PCIe x8 slot, open-ended (PCIe Gen3 x4 signal)	1 x PCIe x16 (Gen3) 1 x M.2 (B key) 1 x M.2 (A key)	1 x PCIe x16 slot (x8 Gen3 signal) 1 x Full-size PCIe Mini Slot
CPU Cooler	Cooler/Heatsink	Cooler/Heatsink	Cooler/Heatsink	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	Cooler

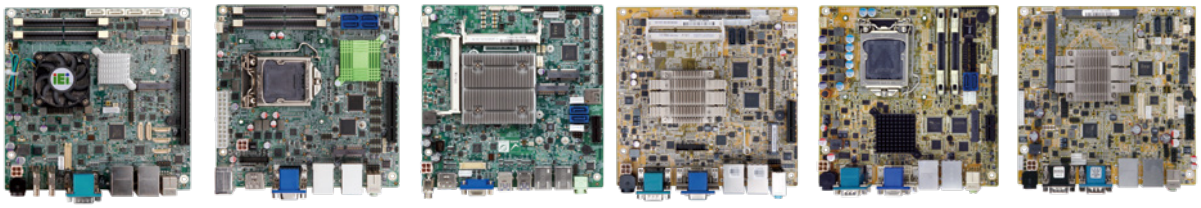
Mini-ITX



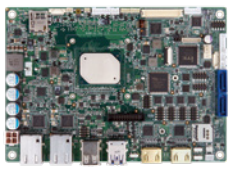
Model	KINO-DH310	KINO-DH110	KINO-DAL	tKINO-AL
CPU Socket	LGA1151	LGA1151	On Board	On Board
CPU Type	8th generation Intel® Core™ i7/i5/i3 Pentium® and Celeron® processor	6th/7th generation Intel® Core™ i7/i5/ i3 Pentium® and Celeron® processor	Intel® Atom™/Celeron®/ Pentium® on-board SoC	Intel® Atom™/Celeron®/Pentium® on-board SoC
Chipset	Intel® H310	Intel® H110	Intel® Atom™/Celeron®/Pentium® on-board SoC	Intel® Atom™/Celeron®/Pentium® on-board SoC
Memory	2 x 260-pin 2666/2400 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)	2 x 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	2 x 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)
Display Interface	Dual independent display 2 x HDMI 1 x internal DisplayPort (180°)	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 2 x DP++ 1 x eDP
Ethernet	Dual LAN: RTL8111H	LAN1: Intel® I219LM PCIe controller LAN2: Intel® I211 PCIe controller	LAN1: Intel® I211 PCIe controller LAN2: Intel® I211 PCIe controller	Dual LAN: RTL8111
I/O Interface	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	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 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
Storage Interface	2 x SATA 6Gb/s	2 x SATA 6Gb/s	2 x SATA 6Gb/s 1 x 8 GB eMMC (optional)	2 x SATA 6Gb/s 1 x 8 GB eMMC (optional)
Audio	Realtek ALC888S HD Audio codec			Realtek ALC269 HD Audio codec
Digital I/O	8-bit programmable digital I/O			
Power Consumption	12V@11.32A (Intel® Core™ i7-8700 up to 4.60 GHz CPU with two 8GB 2666MHz DDR4 memory)	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@2.58A (Intel® Pentium® N4200 CPU with two 8GB 1600MHz DDR3L memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operation Enviornment	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95% non-condensing		Temperature Range: 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 ~ 70°C (-4°F ~ 158°F) Relative Humidity: 5% ~ 95% non-condensing
Expansion Slot	1 x PCIe x16 1 x M.2 M key (2280, PCIe Gen2 x2 only) 1 x M.2 A Key (2230, PCIe x1 & USB 2.0)	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 x1 1 x Full/Half-size PCIe Mini card 1 x M.2 B key
CPU Cooler	CF-115XA-R10 CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	Heatsink	Heatsink

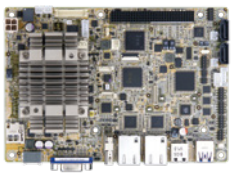
Mini-ITX



Model	KINO-DQM170	KINO-AQ170	tKINO-BW	KINO-DBT	KINO-DH810	eKINO-BT
CPU Socket	On board	LGA1151	On board	On board	LGA1150	On board
CPU Type	6th generation Intel® Core™ i7/i5/i3 and Celeron® processor	6th/7th generation Intel® Core™ i7/i5/i3, Pentium® and Celeron® processor	Intel® Pentium®/ Celeron® on board SoC	Intel® Atom™/Celeron® on board SoC (Code name: Bay Trail)	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Intel® Atom™/Celeron® on board SoC (Code name: Bay Trail)
Chipset	Intel® QM170	Intel® Q170	Intel® Pentium®/ Celeron® on-board SoC	Intel® Atom™/Celeron® on-board SoC	Intel® H81	Intel® Atom™/Celeron® on-board SoC
Memory	Two 260-pin 2133 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)	Two 260-pin 2133 MHz dual-channel DDR4 SDRAM SO-DIMMs (system max. 64 GB)	Two 204-pin 1600/1333 MHz dual-channel DDR3L SDRAM SO-DIMMs (support up to 8 GB)	Two 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)	Two 204-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 16 GB)	Two 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 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	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 1 x DVI-I 1 x iDP interface	Dual display supported 1 x VGA 2 x 18/24-bit dual-channel LVDS
Ethernet	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: Realtek RTL8111G PCIe controller	Dual LAN: Realtek RTL8111HN PCIe controller	Dual LAN: Intel® I211-AT PCIe controller	Dual LAN: Realtek RTL8111E PCIe controller
I/O Interface	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	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 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	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 1 x mSATA 1 x microSD slot	2 x SATA 3Gb/s 1 x microSD slot (E38xx sku only)	2 x SATA 6Gb/s	2 x SATA 3Gb/s 1 x microSD card 1 x CFast slot
Audio	Realtek ALC888S HD Audio codec					
Digital I/O	8-bit digital I/O			8-bit digital I/O	8-bit programmable digital I/O	
Power Consumption	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@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@6.03A (Intel® Core™ i7-4770K 3.90 GHz CPU with two 1333 MHz 4 GB DDR3 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 Enviornment	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 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 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	1 x Full-size PCIe Mini card slot 1 x PCIe x1 slot
CPU Cooler	Heatsink	CF-1156C-R20 CF-1156D-R30 CF-115XE-R10	Heatsink	Heatsink	CF-115XA-R10 CF-115XE-R10	Heatsink

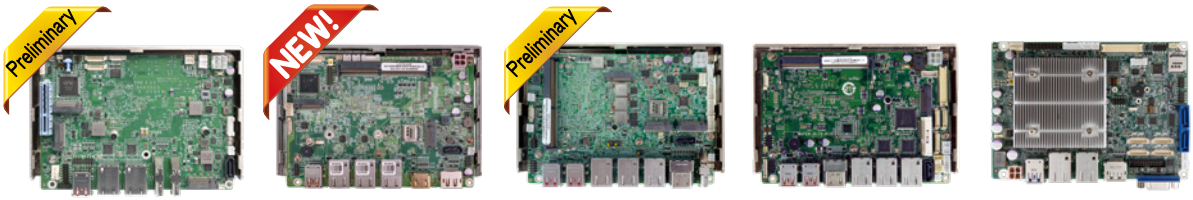
EPIC NANO



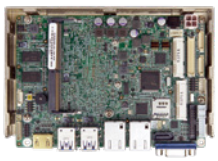
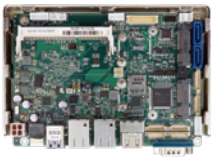
Model	NANO-ULT5	NANO-AL	NANO-ULT3	NANO-BT
CPU Socket	On board	On board	On board	On board
CPU Type	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Atom®/Celeron®/Pentium® on-board SoC	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Atom®, Celeron® SoC
Chipset	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Atom®/Celeron®/Pentium® on-board SoC	Intel® Core™ i7/i5/i3, Celeron® ULT processor	Intel® Atom®/Celeron® on-board SoC
Memory	2 x 260-pin 2400/2133 MHz Dual-channel DDR4, SO-DIMM (system max. 32 GB)	1 x 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)	2 x 260-pin 2133/1867 MHz dual-channel DDR4 SO-DIMMs (system max. 32 GB)	1 x 204-pin 1333/1066 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)
Display Interface	Triple independent displays 1 x HDMI 1 x DP 1 x Internal LVDS	Triple independent display 2 x HDMI 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 1 x iDP interface	Dual display supported 1 x VGA 1 x HDMI 1 x 18/24-bit dual-channel LVDS
Ethernet	1 x PCIe GbE LAN Intel® i211 controller 1 x PCIe GbE LAN Intel® i219 controller	Dual LAN: Intel® I210-IT/I211-AT PCIe controller	LAN1: Intel® I219-LM PHY with Intel® AMT 11.0 supported LAN2: Intel® I211-AT PCIe GbE controller	LAN1: Intel® I210-AT PCIe controller with NCSI support LAN2: Intel® I211-AT PCIe controller
I/O Interface	1 x TPM (2x10 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	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 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 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
Storage Interface	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)	2 x SATA 6Gb/s with 5V SATA power connector 1 x M.2 (B Key) (SATA only)	2 x SATA 6Gb/s with 5V SATA power connector 1 x 8 GB eMMC (optional)	2 x SATA 3Gb/s with 5V SATA power connector
Audio	Realtek ALC888S HD Audio codec 1 x Analog audio	Realtek ALC888S HD Audio codec		
Digital I/O	8-bit programmable digital I/O			
Power Consumption	12V@6.62A (4.6 GHz Intel® Core™ i7-8665UE CPU with two 16 GB 2666 MHz DDR4 memory modules)	12V@2.13 A (Intel® Pentium® N4200 CPU with one 8GB 1600MHz DDR3L memory)	12V@2.48A (Intel® Core™ i3-6100U CPU)	12V@1.52A (Intel® Atom® Processor J1900 CPU with one 8 GB 1333 MHz DDR3L memory)
Watchdog Timer	Software programmable and supports 1~255 sec. system reset			
Operating Environment	Temperature Range: -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: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: NANO-BT-i1: -20°C ~ 60°C (-4°F ~ 140°F) NANO-BTW2: -40°C ~ 85°C (-40°F ~ 185°F) Relative Humidity: 5% ~ 95% non-condensing
Expansion Slots	1 x Full-size PCIe Mini slot 1 x M.2 slot with 2230 A key 1 x M.2 slot with 2280 M key 1 x SIM card	1 x Full/Half-size PCIe Mini slot (w/ Micro SIM holder)	1 x Full-size PCIe Mini card slot (with SIM holder & mSATA support) 1 x Half-size PCIe Mini card slot	1 x Full-size PCIe Mini card slot with mSATA support 1 x PCI-104 slot
CPU Cooler	Heat Spreader	Heatsink	Heat Spreader	Heatsink

3.5" WAFER



Model	WAFER-EHL-J6412	WAFER-JL	WAFER-TGL	WAFER-ULT5	WAFER-AL
CPU Socket	On board	On board	On board	On board	On board
CPU Type	Intel® Elkhart Lake Processor Non-PSE SKU Intel® Celeron® J6412 on-board SoC (up to 2.6GHz, quad-core, 1.5M Cache, TDP=10W)	Intel® Celeron® N5105 on-board SoC (Code name: Jasper Lake)	Intel® Mobile ULT processors (Code name: Tiger Lake)	Intel® Mobile ULT processor (Code name: Whiskey Lake)	Intel® Celeron®/Pentium® on-board SoC (Code name: Apollo Lake)
Chipset	Intel® Elkhart Lake Processor Non-PSE SKU Intel® Celeron® J6412 on-board SoC (up to 2.6GHz, quad-core, 1.5M Cache, TDP=10W)	Intel® Celeron® N5105 on-board SoC	Intel® Mobile ULT processors	Intel® Mobile ULT processor	Intel® Celeron®/Pentium® on-board SoC
Memory	On-board LPDDR4x-3200 MHz 4GB (system max. 16GB)	1 x 260-pin 2933 MHz DDR4 SO-DIMM (system max. 16GB)	1 x 260-pin 3200 MHz DDR4 SO-DIMM (system max. 32GB)	1 x 260-pin 2400MHz DDR4 SDRAM SO-DIMM single channel	1 x 204-pin 1866/1600 MHz single-channel DDR3L SO-DIMM (system max. 8 GB)
Display Interface	Triple independent display 1 x HDMI 2.0 (up to 4096x2160 @ 60Hz) 1 x DP 1.4 (up to 4096x2160 @ 60Hz) 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	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	Triple independent display 1 x VGA 1 x DP++ 1 x 18/24-bit dual-channel LVDS 1 x iDP
Ethernet	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	3 x PCIe 2.5 GbE with Intal i225-V/LM	LAN1: Intel® I211AT LAN2: Intel® I211AT LAN3: Intel® I219LM	LAN1: Realtek RTL8111 controller LAN2: Realtek RTL8111 controller
I/O Interface	2 x USB 3.2 Gen 2 Type A 4 x USB 2.0 pin header 2 x RS-232/422/485 pin header	2 x RS-232 pin header 2 x USB 2.0 pin header 2 x USB 3.2 Gen 2	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	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
Storage Interface	1 x SATA 6Gb/s	1 x SATA 6Gb/s	2 x SATA 6Gb/s	1 x SATA 6Gb/s with 5V SATA power connector	2 x SATA 6Gb/s with 5V SATA power connector
Audio	1 x iAUDIO, support IEI AC-KIT-888S Audio Module (2x5 pin)			N/A	Realtek ALC888S HD Audio codec
Digital I/O	12-bit programmable I/O (12-bit GPIO is for programming 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	
Power Consumption	TBD	12V@2.45A (Intel® Pentium® Silver N6000 3.30 GHz TDP 6W with one 16GB 2933MHz DDR4 SO-DIMM)	TBD	12V@3.38A (Intel® Core™ i7-8665UE up to 1.7GHz CPU with 16GB 2666MHz DDR4 memory)	12V@2.57A (Intel® Pentium® N4200 up to 2.5GHz with 8GB DDR3L memory)
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: 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	Temperature Range: -20°C ~ 70°C (-4°F~158°F) Relative Humidity: 5% ~ 95%, non-condensing
Expansion Slot	1 x M.2 A key 1 x M.2 B key 1 x PCIe x4 (PCIe Gen3 x2 signal (x2 or x1+x1)	1 x M.2 A key (PCIe Gen3 x1/USB 2.0 signal) 1 x M.2 B key w/ SIM holder (PCIe Gen3 x2/USB 2.0 signal)	1 x M.2 A key (PCIe Gen3 x1/USB 2.0 signal) 1 x M.2 B key w/ SIM holder (PCIe Gen3 x2/USB 2.0 signal)	1 x Full-size PCIe Mini slot (w/ SATA signal, support mSATA) 1 x M.2 slot with A key 2230	2 x Full/Half-size PCIe Mini card slot (one supports mSATA, the other one with SIM holder)
Recommended CPU Cooler	Heatsink	Heat Spreader	Heat Spreader	Heat Spreader	Heatsink

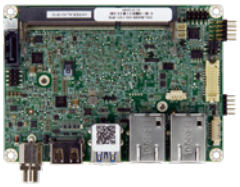
3.5" WAFER




Model	WAFER-ULT3	WAFER-BW	WAFER-ULT2-i1	WAFER-BT-E38001W2	WAFER-BT
CPU Socket	On board	On board	On board	On board	On board
CPU Type	Intel® Mobile ULT processor (Code name: Kaby Lake)	Intel® Pentium®/Celeron® SoC (Code name:Braswell)	Intel® Mobile ULT processor (Code name: Broadwell)	Intel® Atom® SoC (Code name: Bay Trail)	Intel® Atom®/Celeron® SoC (Code name: Bay Trail)
Chipset	Intel® Mobile ULT processor	Intel® Pentium®/Celeron® SoC	Intel® Lynx Point SoC	Intel® Atom® SoC	Intel® Atom®/Celeron® on-board SoC
Memory	1 x 260-pin 2133MHz single-channel DDR4 SDRAM SO-DIMM On-board DDR4 memory (optional 4GB/8GB support)	1 x 204-pin 1600/1333 MHz single-channel DDR3L SDRAM unbuffered SO-DIMM slot (system max. 8 GB)	2 x 204-pin 1600/1333 MHz dual-channel DDR3L SO-DIMMs (system max. 16 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 HDMI 1 x 18/24-bit dual-channel LVDS 1 x iDP interface for HDMI, LVDS, VGA, DVI, DP	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	Dual display supported 1 x VGA 1 x 18/24-bit dual-channel LVDS 1 x iDP interface
Ethernet	1 x Intel® I219LM 1 x Intel® I211AT	LAN1: Realtek RTL8111GN controller LAN2: Realtek RTL8111GN controller	LAN1: Intel® I218LM PHY with Intel® AMT 9.0 support LAN2: Intel® I210-AT PCIe GbE 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-232/422/485 pin header 4 x USB 3.2 Gen 1 2 x USB 2.0 pin header	1 x PS/2 KB/MS pin header 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-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	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	1 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 6Gb/s with 5V power connector	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	N/A	Realtek ALC888S HD Audio codec			
Digital I/O	8-bit programmable digital I/O				
Power Consumption	12V@4.27A (Intel® Core™ i7-6600U up to 3.4GHz CPU with 16GB (16GB x1) DDR4-2133 memory running in 3.0GHz)	12V@1.52A (Intel® Pentium® processor N3710 with 8 GB 1600MHz DDR3L memory)	12V@2.72A (Intel® Core™ i5-4300U CPU with two 8 GB 1600 MHz DDR3 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 ~ 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: -10°C ~ 60°C (14°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	1 x Full-size PCIe Mini slot (w/ SATA signal, support mSATA) 1 x Full-size PCIe Mini slot (w/ SIM card slot support)	2 x Full/Half-size PCIe Mini card slot (one with SIM holder)	1 x Full-size PCIe Mini card slot (supports mSATA)	2 x Full-size PCIe Mini card slot (one supports mSATA)	1 x Full-size PCIe Mini card slot (supports mSATA) 1 x Half-siza PCIe Mini card slot (except for ECO sku)
Recommended CPU Cooler	Heat Spreader	Heat Spreader	Heat Spreader	Heatsink	N/A

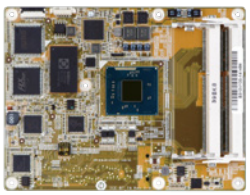
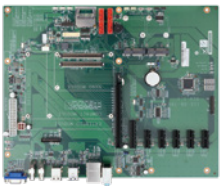
PC/104, Pico-ITX



Model	PM-BT	HYPER-AL	HYPER-BW	HYPER-BT
CPU Socket	On board	On board	On board	On board
CPU Type	Intel® Atom®/Celeron® SoC (Code name: Bay Trail)	Intel® Celeron® SoC Code name: Apollo Lake	Intel® Pentium®/Celeron® SoC (Code name:Braswell)	ntel® Atom®/Celeron® SoCCode name:BayTrail
Chipset	Intel® Atom®/Celeron® SoC	Intel® Celeron® SoC	Intel® Pentium®/Celeron® SoC	Intel® Atom®/Celeron® SoC
Memory	1 x 204-pin 1066/1333 MHz DDR3L SO-DIMM (system max. 8 GB)	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	Dual display supported 1 x VGA 1 x 18/24-bit single-channel LVDS	Dual independent dispaly 1 x HDMI 1 x LVDS	Dual independent dispaly 2 x Mini HDMI	Dual independent dispaly 1 x VGA 1 x iDP interface
Ethernet	GbE by Intel® I210 Ethernet PHY	LAN1: Realtek RTL8111H controller LAN2: Realtek RTL8111H controller	LAN: Realtek RTL8111GN controller	LAN: Intel® I211-AT PCIe GbE controller
I/O Interface	2 x RS-232/422/485 (2x5, P=2.0) 3 x USB 2.0 (1x4 pin, P=1.25)	N/A		
Storage Interface	1 x SATA 3Gb/s with 5V SATA power connector On-board SSD (optional)	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
Audio	N/A	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)
Digital I/O	1 x 8-bit DIO	10 pin header on board support 7.1 channel HD Audio by IEI AC-KIT-888S-R10 kit		Realtek ALC888S HD Audio codec
Power Consumption	5V@1.70A (Intel® Celeron® J1900 CPU with 8GB memory)	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	Temperature Range: -20°C ~ 60°C (for J1900/N2930/N2807) Relative Humidity: -40°C ~ 85°C (for E38xx)	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing		
Expansion Slot	1 x Full-size PCIe Mini slot (support mSATA) 1 x PC/104-Plus (ISA+PCI)	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	Heat Spreader	Heatsink	Heat Spreader

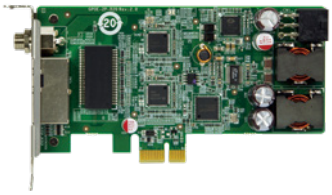
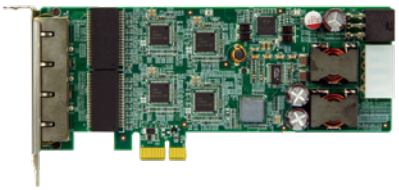
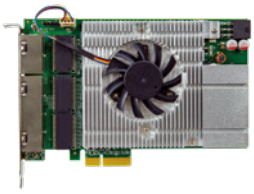
Computer on Module

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	Two 260-pin 2133/1866 MHz dual-channel DDR4 non-ECC unbuffered SO-DIMM support up to 32GB	Two 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 (up to 3840x2160@60Hz) 1 x DDI: DP to VGA via CH7517 (1 x Optional DisplayPort / HDMI/DVI up to 1920x1200@60Hz) 1 x DDI: Embedded DP (up to 3840x2160@60Hz) (Option with 1 x Dual Channel LVDS 18/24 bit via CH7511B)(up to 1920x1200@60Hz)	1 x VGA (up to 2560x1600@60Hz) 1 x DDI: (DP up to 2560x1600@60Hz / HDMI up to 1920x1080@60Hz) 1 x LVDS: 18/24-bit dual-channel LVDS (up to 1920x1200@60Hz)	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 (MINIPCIE1 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

Peripherals

Power over Ethernet cards

Model	GPOE-2P	GPOE-4P	GPOE-6P
Interface	PCI Express® x1	PCI Express® x1	PCI Express® x4
Ethernet	Intel® I211AT controller 9kB jumbo frame IEEE 802.3az, IEEE1588	Intel® I211AT 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 (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)	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°C ~ 60°C
Storage Temperature	-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
Dimensions	130 mm x 65 mm	160 mm x 65 mm	169.44 mm x 106.65 mm
Weight	110g	110g	286g
Compliant	CE/FCC	CE/FCC	CE/FCC

EMB-WIFI-KIT

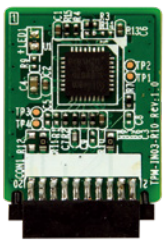
◆ Model Name
EMB-WIFI-KIT
◆ Standard
IEEE 802.11a/b/g/n/ac, Wi-Fi compliant / Bluetooth4.0 Standard
◆ Major chipset
Realtek RTL8821AE
◆ Antenna
2x standard U.FL Connector
◆ Frequency range
Wi-Fi: 2.4GHz/5GHz, BT: 2402MHz~2483MHz
◆ Modulation
Wi-Fi: 802.11a/g/n/ac: OFDM
802.11b: CCK(11, 5.5Mbps), DQPSK(2Mbps), 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

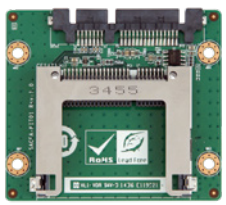
TPM-IN03

◆ 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



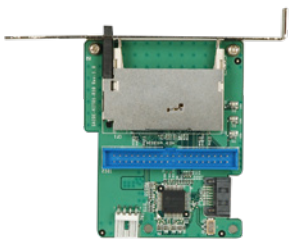
SATA to CFast™ Converter Board (SACFA-KIT01-R10)

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



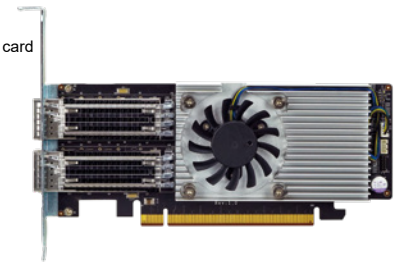
SATA to IDE/CF Type II Converter Board (SAIDE-KIT01-R10)

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



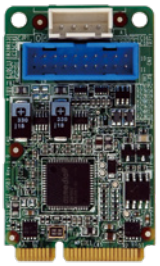
Peripherals

LAN-100G2SF-E810



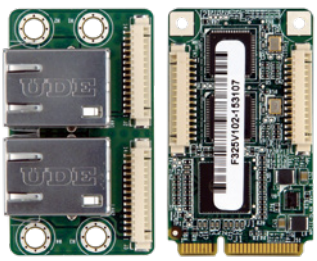
- Form Factor
  Low profile PCI Express® add-on card
- NIC
  Intel® E810
- LAN Interface
  QSFP28
- Speed
  100GbE
- LAN Ports
  2 x LAN ports
- Host Interface
  1 x PCIe Gen4 x16
- Storage Temperature
  -20°C ~ 75°C (-4°F ~ 167°F)
- Operating Temperature
  0°C ~ 40°C (32°F ~ 104°F)
- Operating Humidity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

MPCIE-USB3



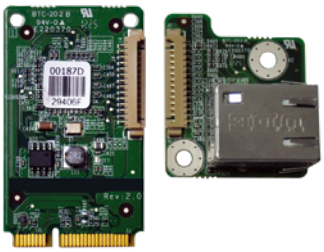
- Form Factor
  PCI Express Mini card
- USB 3.2 Gen 1 (5Gb/s) Controller
  Asmedia ASM1042A
- Internal Connector
  1 x box header (2x10 pin)
- Power Jack
  1 x 4-pin box header
- Compatible OS
  Windows® XP/Server 2003/Server 2008/ Vista/7/8.1/10
  Linux kernel version 2.6.32 above
- Operating Temperature
  -10°C ~ 60°C
- Operating Humidity
  5% ~ 95%, non-condensing
- Dimensions (LxW)
  50 mm x 30 mm
- Weight: 70g
- Safety: CE/FCC compliant

MPCIE-DLAN



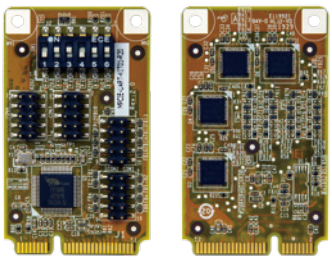
- Form Factor
  PCI Express Mini card
- BIOS
  UEFI BIOS
- Ethernet Controller
  Dual Intel® I210-IT
- Speed
  10/100/1000Mbps
- External Connector
  2 x 8-pin RJ-45
- Power Supply: On board 3.3V
- Compitable OS
  Windows XP/Server 2003/ Server 2008/ Vista/ 7 /8.1/10
  Linux kernel version 2.6.32 or 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



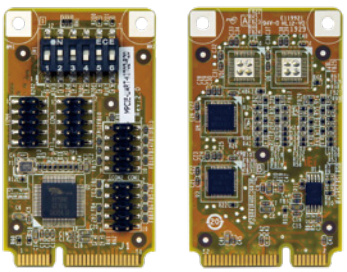
- Form Factor
  PCI Express Mini card
- Ethernet Controller
  Realtek RTL8111E
- Speed
  10/100/1000Mbps
- External Connector
  1 x 8-pin RJ-45
- Compitable OS
  Windows 2000/ XP/ Server 2003/ Server 2008/ Vista/ 7
  Linux kernel version 2.6.32 or later
- Power Supply
  On board 3.3V
- Operating Temperature
  -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-R20



- 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-R20

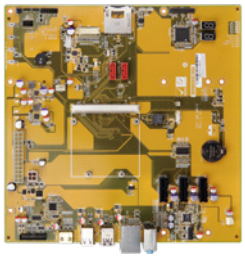


- Form Factor
  PCI Express Mini card
- PCI Express Bridge to Quad Serial Port:
  Fintek F81504
- Buffer/Transceiver Series
  F81439
- IO
  2 x RS-232/422/485 (2x5 pin header)
  2 x 8 bit GPIO (2x5 pin header)
- Operating Temperature
  0°C ~ 60°C
- Operating Humidity
  5% ~ 95%, non-condensing
- Dimensions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

Peripherals







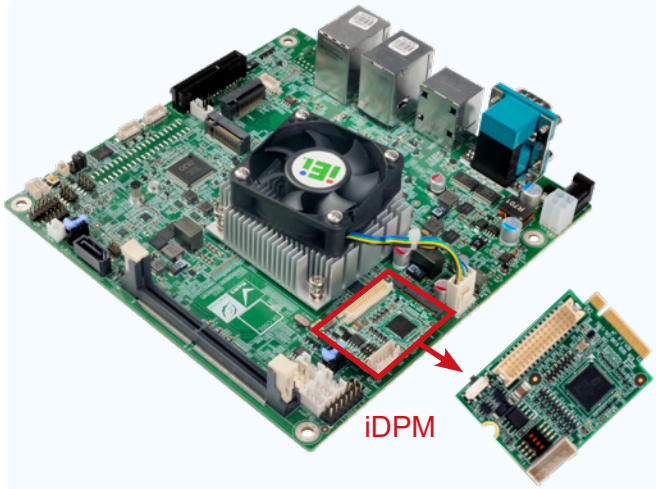
Model	iQ7-BT
CPU	Intel® Atom™ E3845 on-board SoC (1.91GHz, quad-core, 2MB cache, TDP=10W) Intel® Atom™ E3825 on-board SoC (1.33GHz, dual-core, 1MB cache, TDP=6W)
Memory	2 GB soldered-down 1333/1066 MHz DDR3L memory (up to 4 GB)
BIOS	UEFI BIOS
Graphics Engine	Intel® HD Graphics Gen 7 Engine with 4 execution 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

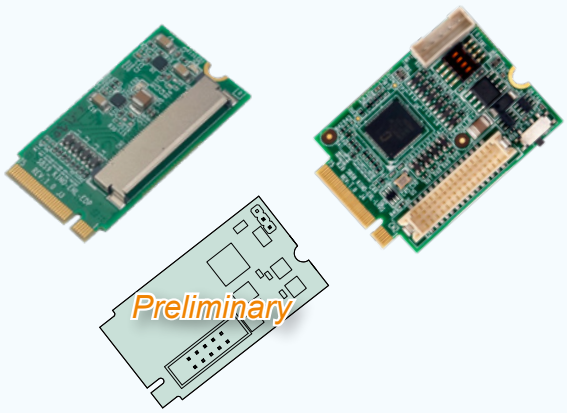
IEI iDPM Introduction

iDPM (IEI Embedded DisplayPort Module)

The iDPM connector is provided on the IEI products. Through the IEI iDPM converter cards, the iDPM connector can support different display specifications, such as VGA, DisplayPort, and LVDS.



Flexible Display Output Options



Easy Installation in the Chassis

iDPM Supported Models		
IMBA-R680	KINO-ADL-P	KINO-EHL-J6412
KINO-TGL	WAFER-EHL-J6412	WAFER-TGL

iDPM-LVDS

- Form Factor
  M.2 B Key 3040
- 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



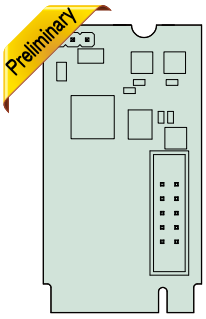
iDPM-eDP

- Form Factor
  M.2 B Key 2240
- 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



iDPM-VGA

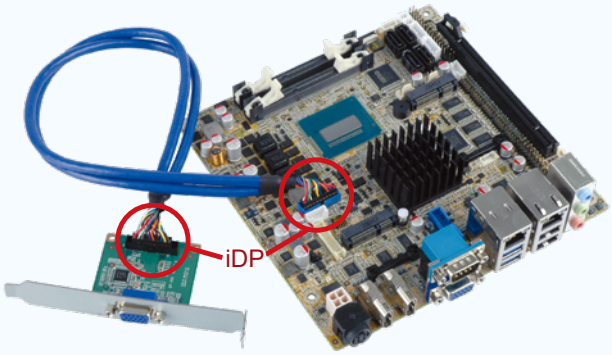
- Form Factor
  M.2 B Key 2240
- Display Output
  1 x VGA pin-header
- Power
  On board 3.3V ~ 12V
- Operating Temperature
  0°C ~ 60°C
- Operating Humidity
  5% ~ 95%, non-condensing
- Dimensions (LxW)
  40mm x 22mm
- Safety:
  CE/FCC compliant



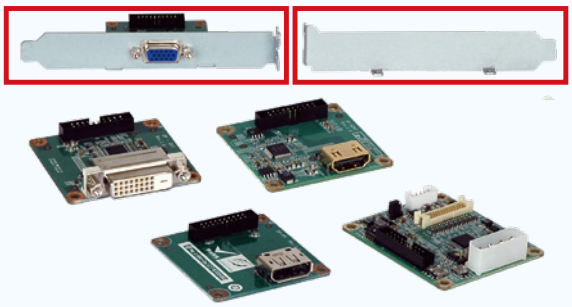
IEI iDP Introduction

iDP (IEI Internal DisplayPort)

The iDP connector is provided on the IEI products. Through the IEI iDP converter cards, the iDP connector can support different display specifications, such as VGA, HDMI, DVI-D and LVDS.



Flexible Display Output Options



iDP converter cards with brackets

Easy Installation on the Chassis

iDP Supported Models			
HPCIE-C236	IMBA-Q170-i2	KINO-DH110	WAFER-AL
HPCIE-Q710	IMBA-H110	KINO-AQ170	WAFER-ULT3/ULT4
SPCIE-C236	IMBA-Q870-i2	KINO-DH810	WAFER-BTW2
PCIE-Q170	IMBA-C2260-i2	KINO-DQM871-i1	WAFER-BT-i1
SPCIE-C2260-i2	IMB-H110	KINO-ABT-i2	WAFER-ULT/ULT2-i1
PCIE-Q870-i2	IMB-Q870-i2	NANO-AL/ALW2	WAFER-KBN-i1
IMBA-C2360-i2	IMB-H810-i2	NANO-ULT3	

IEI iDP Introduction

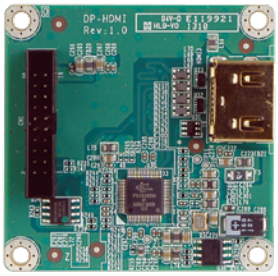
DP-DP

◆ Display Input: 1 x IEI iDP connector
◆ Display Output: 1 x DisplayPort
◆ Temperature: -20°C ~ 60°C
◆ Humidity: 5 ~ 95% non-condensing
◆ Dimensions: 50 mm x 50 mm



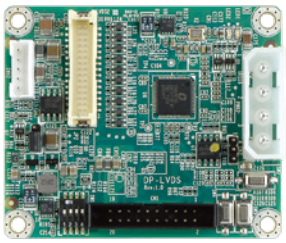
DP-HDMI

◆ 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



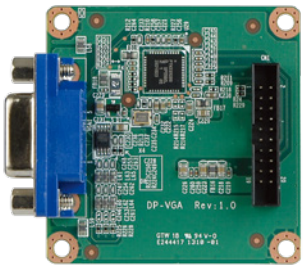
DP-LVDS

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



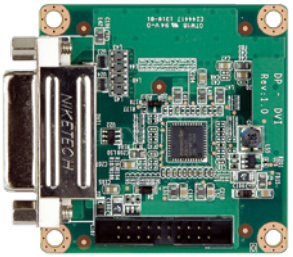
DP-VGA

◆ Display Input: 1 x IEI iDP connector
◆ Display Output: 1 x VGA
◆ Display IC: NXP - PTN3392 (DP to VGA)
◆ Temperature: -10°C ~ 60°C
◆ Humidity: 5% ~ 95 non-condensing
◆ Dimensions: 50 mm x 50 mm



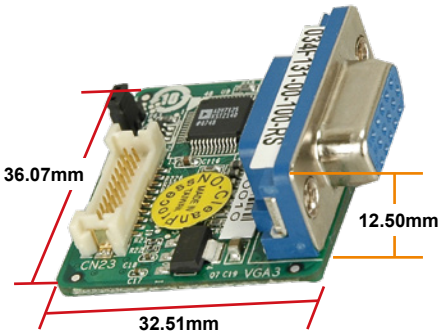
DP-DVI

◆ 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



LVDS-VGA-R10

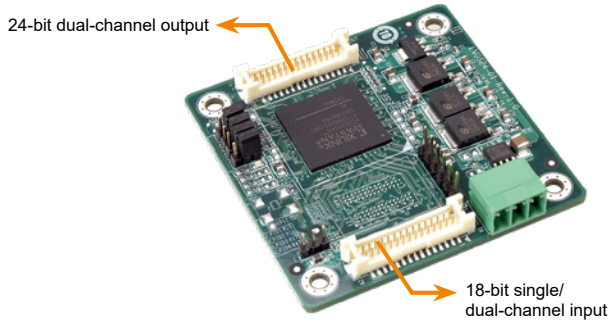
◆ Provide 2nd VGA option for dual VGA display
◆ Resolution adjusted by BIOS: Support 1024x768, 800x600, 640x480
◆ 18-bit LVDS to VGA converter board



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.



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	

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

Chassis Selection Guide

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

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

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

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

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

1U/2U Type

- **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	Output Current Range					Efficiency	ErP	Operating Temperature	Safety	Dimensions (mm)
			Voltage	+3.3 V	+5 V	+12 V	-12 V	+5 Vsb					
	**ACE-A630C**	300W ATX -	90 ~ 265 VAC	12 A (0 A)	14 A (0 A)	25 A (0.1 A)	0.5 A	3 A	80 PLUS BRONZE 87%	V	0°C ~ 50°C	CB/UL/ TUV/CCC/ CE/FCC	150 x 81.5 x 40.5
	**ACE-A622C**	220W ATX -	90 ~ 264 VAC	10 A (0.1 A min.)	14 A (0.2 A min.)	14 A (0.6 A min.)	0.3 A	2.5 A	80 PLUS SILVER 85%	V	0°C ~ 50°C	CB/UL/ TUV/ CCC/ CE/FCC	150 x 81.5 x 40.5
	**ACE-A618C**	180W ATX -	90 ~ 264 VAC	10 A (0.1 A min.)	14 A (0.2 A min.)	10 A (0.6 A min.)	0.3 A	2.5 A	80 PLUS 85%	V	0°C ~ 50°C	CB/UL/ TUV/CCC/ CE/FCC	150 x 81.5 x 40.5
	**ACE-A615C**	150W ATX -	90 ~ 264 VAC	10 A (0.1 A min.)	14 A (0.2 A min.)	10 A (0.6 A min.)	0.3 A	2.5 A	80 PLUS SILVER 85%	V	0°C ~ 50°C	CB/UL/ TUV/CCC/ CE/FCC	150 x 81.5 x 40.5
	**ACE-716AP**	150W AT PFC	85 ~ 265 VAC	18 A (1 A min.)	4 A	0.5 A	1 A		75%		-20°C ~ 70°C	UL TUV CE	198 x 97 x 40.5

1U DC Input

Products	Model No.	Watt AT/ATX PFC	Input Range	Output Current Range					Efficiency	Operating Temperature	Safety	Dimensions (mm)
			Voltage	+3.3 V	+5 V	+12 V	-12 V	+5 Vsb				
	**ACE-A4520D**	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

- **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 AT/ ATX PFC	Input Range	Output Current Range						Efficiency	ErP	Operating Temperature	Safety
			Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb				
	**ACE-A160B**	600W ATX PFC	90~264 VAC	25 A (0 A)	25 A (0.2 A)	V1: 16 A (0.05 A) V2: 16 A (0 A) V3: 16 A (0 A) V4: 16 A (0 A)	0.5 A (0 A)	0.5 A	4 A	80 PLUS BRONZE 82%	v	0°C ~ 50°C	CB / UL / TUV CCC / CE / FCC
	Medical **ACE-4840APM**	400W ATX PFC	90~265 VAC	30 A (0.5 A min.)	30 A (0.3 A min.)	V1: 17 A (1 A min.) V2: 17 A (1 A min.)	0.3 A	0.8 A	2 A	68%		0°C ~ 50°C	CB / UL CCC / VDE
	**ACE-A140B**	400W ATX PFC	90~264 VAC	21 A (0 A)	16 A (0.2 A)	V1: 17 A (0.05 A) V2: 17 A (0 A)	0.1 A (0 A)	0.5 A	3 A	80 PLUS GOLD 87%	v	-5°C ~ 50°C	CB / UL / TUV CCC / CE / FCC
	**ACE-A140B-S**	400W ATX PFC	90~264 VAC	21 A (0 A)	16 A (0.2 A)	V1: 17 A (0.05 A) V2: 17 A (0 A)	0.1 A (0 A)	0.5 A	3 A	80 PLUS GOLD 87%	v	-5°C ~ 50°C	CB / UL / TUV CCC / CE / FCC
	**ACE-A130C**	300W ATX PFC	90~264 VAC	19 A (0 A)	16 A (0.2 A)	V1: 17 A (0.05 A) V2: 17 A (0 A)	0.1 A (0 A)	0.5 A (0 A)	3 A (0 A)	80 PLUS GOLD 87%	v	0°C ~ 50°C	CB / UL / TUV CCC / CE / FCC
	**ACE-A130C-S**	300W ATX PFC	90~264 VAC	19 A (0 A)	16 A (0.2 A)	V1: 17 A (0.05 A) V2: 17 A (0 A)	0.1 A (0 A)	0.5 A (0 A)	3 A (0 A)	80 PLUS GOLD 87%	v	0°C ~ 50°C	CB / UL / TUV CCC / CE / FCC

Adapter Type

- **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 Type

AC Input													
Product	Model No.	Watt AT/ATX PFC	Input Range	Output Current Range						Efficiency	Operating Temperature	Safety	Dimensions (mm)
			Voltage	+3.3 V	+5 V	+12 V	-5 V	-12 V	+5 Vsb				
	**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

IDD & PM_P Series

Model No.	Dimensions	Maximum Output Power	Input Voltage	Maximum Output Current						
				12V	5V	3.3V	-12V	5VSB	16V	20V
IDD-936160	25 mm x 82 mm	60 W	9 ~ 36 V	5 A	-	-	-	-	-	-

Naming Conventions:

IDD xx - 630 4 120 A

- ATX On/Off Support
- Output Wattage
- Output Voltage Number
- Input Voltage Range
- Extra Features
- Industry DC to DC Converter

Dedicated Engineering Team - Professional

Our dedicated team offers application-specific integrated solutions and will design 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



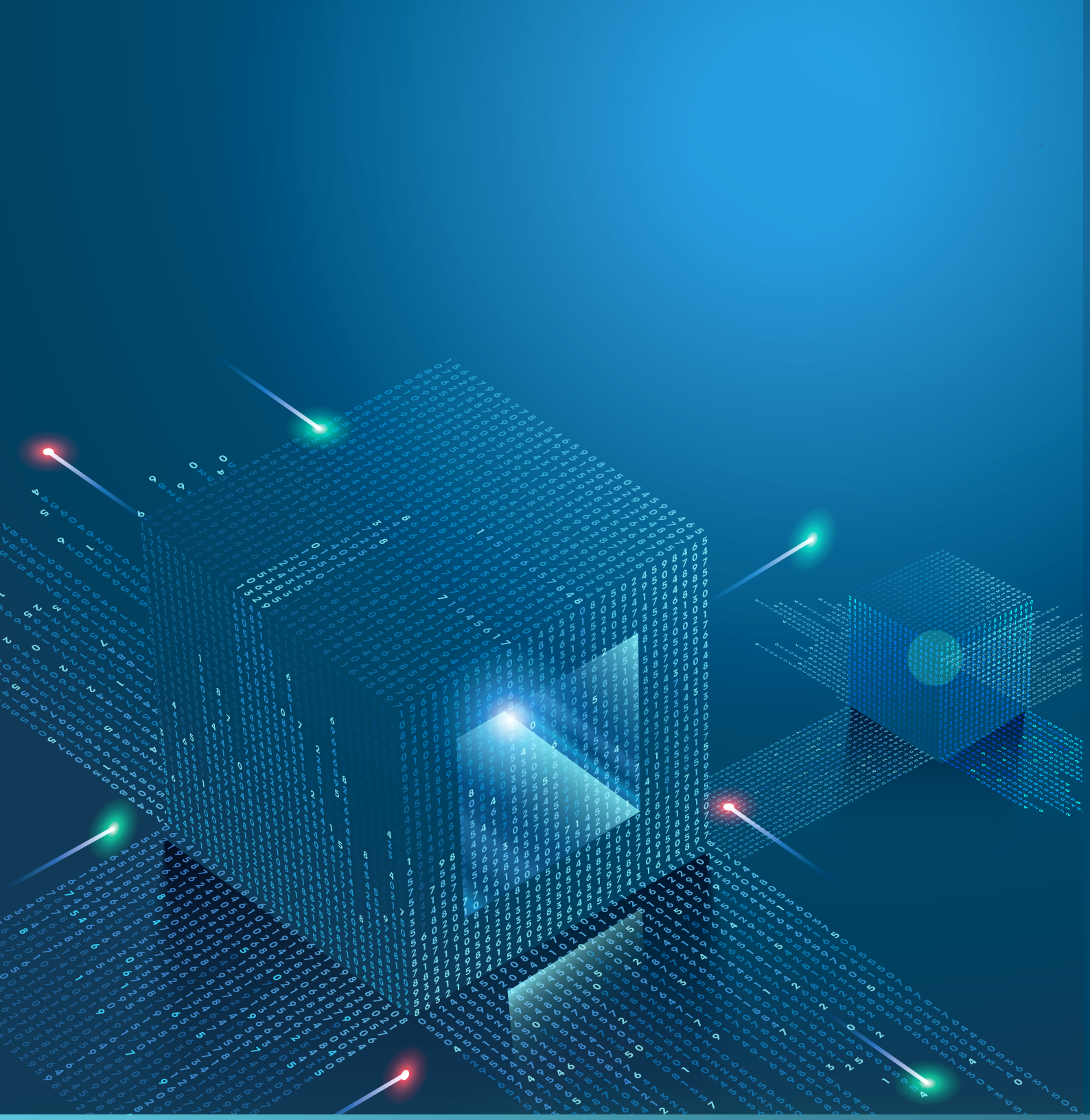
Timing/Noise Analyzer Chroma 6011



Electronic Load Chroma 6312 Series



Power Analyzer Chroma 6632



*Specifications are subject to change without prior notice.

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