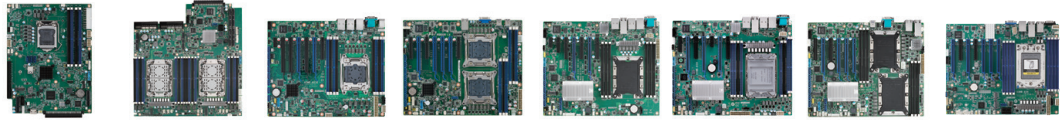


Industrial Server Boards



Model		ASMB-260	ASMB-585	ASMB-586	ASMB-587	ASMB-785	ASMB-786	ASMB-787
Form Factor		Mini-ITX	Micro ATX	MicroATX	MicroATX	ATX	ATX	ATX
Processor System	CPU	Intel® Atom® C3000 Series	Intel® Xeon® E3 v5/v6 and 6th/7th Gen. Core™ i3/i5/i7 Series	Intel® Xeon® E & 8th/9th Gen. Core™ i3/i5/i7 Series	Intel® Xeon® W and 10th Gen. Core™ i9/i7/i5/i3 series	Intel® Xeon® E3 v5/v6 and 6th/7th Gen. Core™ i3/i5/i7 Series	Intel® Xeon® E & 8th/9th Gen. Core™ i3/i5/i7 Series	Intel® Xeon® W and 10th Gen. Core™ i9/i7/i5/i3 series
	Socket	-	1 x socket LGA 1151	1 x socket LGA 1151	1 x socket LGA 1200	1 x socket LGA 1151	1 x socket LGA 1151	1 x socket LGA 1200
	Max. Speed	2.2 GHz	3.9 GHz	3.7 GHz	3.7 GHz	3.9 GHz	3.7 GHz	3.7 GHz
	L3 Cache	2 MB (based on CPU sku)	8 MB	13.5 MB	20MB	8 MB	13.5 MB	20MB
	Chipset	-	Intel® C236	Intel® C246	Intel® W480E	Intel® C236	Intel® C246	Intel® W480E
	BIOS	AMI 128 Mbit, SPI	AMI 128Mbit, SPI	AMI 256Mbit, SPI	AMI 128Mbit, SPI	AMI 128Mbit, SPI	AMI 256Mbit, SPI	AMI 256Mbit, SPI
Expansion Slot	PCI	-	-	-	-	3	-	2
	PCIe x16	-	1 (Gen3 x16 link)	1 (Gen3 x16 link)	1 (Gen3 x16 link)	1 (switchable to two x 8)	1 (switchable to two x 8)	1 (switchable to two x 8)
	PCIe x8	-	-	-	-	2 (switchable to one x 16)	2 (switchable to one x 16)	2 (switchable to one x 16)
	PCIe x4	1 (1 Gen3 x 4 link)	3 (2 Gen3 x 4 link, 1 Gen3 x 1 link)	2	2	2	2	2
	PCIe x1	-	-	1	-	-	3	1
	M.2	-	-	-	1 x M.2 22110/2280 (PCIe/SATA)	-	-	1 x M.2 2280/2242 (PCIe/SATA)
Memory	Technology	DDR4 Reg/ unbuffered 2400/ 2133/1866/ 1600 Mhz DIMM	DDR4 ECC/ non-ECC Unbuffer 1600/ 1866/2133/ 2400 MHz	DDR4 ECC/ non-ECC Unbuffer 2133/2400/ 2666 MHz	DDR4 ECC/ non-ECC Unbuffer 2400/2666 2933 MHz	DDR4 ECC/ non-ECC Unbuffer 1600/ 1866/2133/ 2400 MHz	DDR4 ECC/ non-ECC Unbuffer 2133/2400/ 2666 MHz	DDR4 ECC/ non-ECC Unbuffer 2400/2666 2933 MHz
	Max. Capacity	128 GB for RDIMM/ 64GB for UDIMM	64 GB	64 GB	128 GB	64 GB	64 GB	128 GB
	Socket	4 x 288-pin DIMM	4 x 288-pin DIMM	4 x 288-pin DIMM	4 x 288-pin DIMM	4 x 288-pin DIMM	4 x 288-pin DIMM	4 x 288-pin DIMM
Graphics	Controller	AST2500	Intel® GT2-HD Graphics	Intel® GT2-HD Graphics	Intel® GT2-HD Graphics	Intel® GT2-HD Graphics	Intel® GT2-HD Graphics	Intel® GT2-HD Graphics
	VRAM	DDR3 64MB	1 GB maximum shared memory with 2 GB and above system memory installed	1 GB maximum shared memory with 2 GB and above system memory installed	1 GB maximum shared memory with 2GB and above system memory installed	1 GB maximum shared memory with 2 GB and above system memory installed	1 GB maximum shared memory with 2 GB and above system memory installed	1 GB maximum shared memory with 2GB and above system memory installed
Ethernet	Interface	Gigabit & 10GBase-T Ethernet	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet
	Controller	2 x Intel® I210AT 1 x Intel® X557-AT2	1 x Intel® I219LM 3 x Intel® I210AT (G4 SKU)	1 x Intel® I219LM 3 x Intel® I210AT (G4 SKU)	1 x Intel® I219LM 3 x Intel® I210AT (G4 SKU)	1 x Intel® I219LM 3 x Intel® I210AT (G4 SKU)	1 x Intel® I219LM 3 x Intel® I210AT (G4 SKU)	1 x Intel® I219LM 3 x Intel® I210AT (G4 SKU)
	Connector	RJ-45 x 3 (1 shared with IPMI)	RJ-45 x 4 (G4 SKU)	RJ-45 x 4 (G4 SKU)	RJ-45 x 4 (G4 SKU)	RJ-45 x 4 (G4 SKU)	RJ-45 x 4 (G4 SKU)	RJ-45 x 4 (G4 SKU)
TPM		Optional	Optional	Optional	Optional	Optional	Optional	Optional
SATA	Max. Data Transfer Rate	600MB/s	600 MB/s	600 MB/s	600MB/s	600 MB/s	600 MB/s	600MB/s
	Channel	Up to 8	7	8	5	6	8	5
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / 2 / - / -	1 / 1 / 1 / -	1 / 1 / 1 / -	1 / 2 / - / -	1 / 1 / 1 / -	1 / 1 / 1 / -
	Ethernet	3	4 (G4 SKU)	4 (G4 SKU)	4 (G4 SKU)	4 (G4 SKU)	4 (G4 SKU)	4 (G4 SKU)
	USB	2 (USB3.2 Gen1)	4 (USB 3.2 Gen1)	4 (USB 3.2 Gen2)	4 (USB 3.2 Gen 2)	4 (USB 3.2 Gen1)	4 (USB 3.2 Gen2)	4 (USB 3.2 Gen 2)
	Audio	-	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out
	Serial	1 (RS-232)	1 (RS-232)	1 (RS-232 via cable)	1 (RS-232 via cable)	1 (RS-232)	1 (RS-232 via cable)	1 (RS-232 via cable)
Onboard I/O	USB	2 (USB 3.2 Gen1)	2 (USB 3.2 Gen1) 6 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 6 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 6 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 6 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 6 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 6 (USB 2.0) 1 (USB 2.0 Type A)
	Audio	-	1	1	1	1	1	1
	Serial	1	6	1	1	6	1	1
	Parallel	-	-	-	-	1	1	1
	SATA	8	7	8	5	6	8	5
Watchdog Timer	Output	System reset	System reset	System reset	System reset	System reset	System reset	System reset
	Interval	Programmable, 1~255 sec	Programmable, 1~255 sec/min	Programmable, 1~255 sec/min	Programmable, 1~255 sec/min	Programmable, 1~255 sec/min	Programmable, 1~255 sec/min	Programmable, 1~255 sec/min

✓: supported, -: not supported, Δ: optional

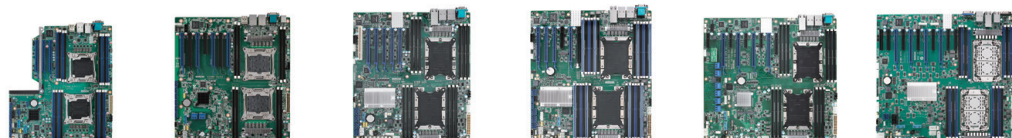


- 1 IoT Software Solutions
- 2 Intelligent Systems
- 3 SKY Servers
- 4 AI & Advanced Computer Vision
- 5 Intelligent HMI and Monitors
- 6 Automation Computers
- 7 Intelligent Transportation Platforms
- 8 Mission Critical CompactPCI Platforms
- 9 Utility and Energy Solutions
- 10 EtherCAT Solutions and Automation Controllers
- 11 Intelligent Motion Control Solutions
- 12 High Speed DAQ Solutions
- 13 Industrial Communication
- 14 Intelligent Edge DAQ Devices
- 15 Remote I/O, Wireless I/O & Sensors
- 16 Serial Communication

Model		ASMB-610	ASMB-622	ASMB-813	ASMB-823	ASMB-815	ASMB-816	ASMB-825	ASMB-830
Form Factor		Proprietary	Proprietary	ATX	ATX	ATX	ATX	ATX	ATX
Processor System	CPU	Intel® Xeon® W & 10th Gen. Core™ i9/i7/i5/i3 processors	Intel® Xeon® 3rd Gen Scalable Series	Intel® Xeon® E5-1600 v3/v4 and 2600 v3/v4 Series	Intel® Xeon® E5-2600 v3/v4 Series	Intel® Xeon® Scalable/2nd Gen Scalable Series	Intel® Xeon® 3rd Gen Scalable Series	Intel® Xeon® Scalable/2nd Gen Scalable Series	AMD EPYC™ 7003 Series
	Socket	1 x socket LGA 1200	2 x socket LGA 4189-P+	1 x socket LGA 2011-R3	2 x socket LGA 2011-R3	1 x socket LGA 3647-P0	1 x socket LGA 4189-P+	2 x socket LGA 3647-P0	1 x socket LGA 4094
	Max. Speed	3.5 GHz	3.6 GHz	3.7 GHz	3.5 GHz	3.6 GHz	3.6 GHz	3.6 GHz	3.6 GHz
	Front Side Bus	-	UPI 11.2 GT/s	QPI 9.6GT/s	QPI 9.6GT/s	UPI 10.4 GT/s	UPI 11.2 GT/s	UPI 10.4 GT/s	-
	L3 Cache	20MB	42MB	30 MB	30 MB	38.5 MB	42MB	38.5 MB	Max 256MB
	Chipset	W480E	Intel® C621A	Intel® C612	Intel® C612	Intel® C620	Intel® C621A	Intel® C620	N/A
	BIOS	AMI SPI 256 Mbit	AMI SPI 256 Mbit	AMI 128 Mbit, SPI	AMI 128 Mbit, SPI	AMI 256 Mbit, SPI	AMI SPI 256 Mbit	AMI 256 Mbit, SPI	AMI SPI 256 Mbit
Expansion Slot	PCIe x16	1 (switchable to two x 8)	4	2 (switchable to four x8)	4	2 (switchable to four x 8)	3	4	5
	PCIe x8	-	4	1	2	1	1	2	2
	PCIe x4	2	-	1	1 (x 8 slot with x 4 link)	1	2	-	-
	PCIe x1	-	-	1	-	1	1	-	-
	M.2	1 x M.2 2280	1 x M.2 2280	-	-	1 x M.2 2280 (PCIe/SATA)	1 x M.2 2280/22110 (PCIe/ SATA)	1 x M.2 2280 (PCIe/SATA)	2 x M.2 2280/22110 (PCIe/SATA) 1 x (PCIe only)
Memory	Technology	DDR4 ECC/ non-ECC Unbuffer 2400/2666/2933 MHz	DDR4 3200/2933/2666 MHz RDIMM, Intel Optane DCPMM	DDR4 REG 2400/2133/1866/1600 MHz DIMM	DDR4 REG 2400/2133/1866/1600 MHz DIMM	DDR4 2933/2666/2400/2133 MHz RDIMM, Intel Optane DCPMM	DDR4 3200/2933/2666 MHz RDIMM, Intel Optane DCPMM	DDR4 2933/2666/2400/2133 MHz RDIMM, Intel Optane DCPMM	DDR4 3200/2933/2666 MHz RDIMM
	Max. Capacity	128 GB REG DIMM	1 TB REG DIMM	256 GB REG DIMM	192 GB REG DIMM	768 GB REG DIMM	1 TB REG DIMM	768 GB REG DIMM	512GB REG DIMM
	Socket	4 x 288-pin DIMM	16 x 288-pin DIMM	8 x 288-pin DIMM	6 x 288-pin DIMM	6 x 288-pin DIMM	8 x 288-pin DIMM	6 x 288-pin DIMM	8 x 288-pin DIMM
Graphics	Controller	AST 2600	AST2510/ AST2500	AST1400/ AST2400	AST1400/ AST2400	AST2510/ AST2500	AST2510/ AST2500	AST2510/ AST2500	AST2500
	VRAM	DDR4 4Gb	DDR4 4Gb	DDR3 64MB	DDR3 64MB	DDR4 4Gb	DDR4 4Gb	DDR4 4Gb	DDR4 4Gb
Ethernet	Interface	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet	Gigabit Ethernet	Gigabit & 10GBase-T Ethernet	Gigabit & 10GBase-T Ethernet	Gigabit & 10GBase-T Ethernet	Gigabit & 10GBase-T Ethernet
	Controller	1 x Intel® I350AM4	1 x Intel® I350AM4	2 x Intel® I210AT	2 x Intel® I210AT	2 x Intel® I210AT 1 x Intel® X557-AT2 1 x Realtek 8201EL	2 x Intel® I210AT 1 x Intel® X550-AT2 1 x Realtek 8201F	2 x Intel® I210AT 1 x Intel® X557-AT2	2 x Intel® I210AT 1 x Intel® X550-AT2 1 x Realtek 8201F
	Connector	RJ-45 x 5 (1 dedicated for IPMI)	RJ-45 x 5 (1 dedicated for IPMI)	RJ-45 x 3 (1 dedicated for IPMI)	RJ-45 x 3 (1 shared with IPMI)	RJ-45 x 5 (1 dedicated for IPMI)	RJ-45 x 5 (1 dedicated for IPMI)	RJ-45 x 4 (1 shared with IPMI)	RJ-45 x 5 (1 dedicated for IPMI)
TPM		Optional	Optional	Optional	Optional	Optional	Optional	Optional	Optional
SATA	Max. Data Transfer Rate	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s
	Channel	3	4	8	9	9	8	9	9
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -
	Ethernet	4	4	2	2	4 (T2 SKU)	4 (T2 SKU)	4 (T2 SKU)	4 (T2 SKU)
	USB	2 (USB 3.2 Gen2)	2 (USB 3.2 Gen1)	4 (USB 3.2 Gen1) 2 (USB 2.0)	4 (USB 3.2 Gen1)	4 (USB 3.2 Gen1) 2 (USB 2.0)	4 (USB 3.2 Gen1) 2 (USB 2.0)	2 (USB 3.2 Gen1)	2 (USB 3.2 Gen1)
	Serial	1 (RS-232)	1 (RS-232)	1 (RS-232)	-	1 (RS-232)	1 (RS-232)	1 (RS-232)	1 (RS-232)
	PS/2	-	-	2	-	-	-	-	-
Onboard I/O	USB	2 (USB 3.2 Gen1) 1 (USB 3.2 Gen2 Type A)	2 (USB 3.2 Gen1) 2 (USB 3.0 Gen1 Type A)	2 (USB 3.2 Gen1) 2 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 2 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 4 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 4 (USB 2.0) 1 (USB 2.0 Type A)	4 (USB 3.2 Gen1) 4 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 1 (USB 3.2 Gen1 Type A)
	Audio	-	-	1	1	1	1	1	-
	Serial	1	1	1	1	1	1	1	1
	SATA	3	4 (in 1 x SFF-8643)	8	9	8	8	8	9
Watchdog Timer	Output	System reset	System reset	System reset	System reset	System reset	System reset	System reset	System reset
	Interval	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec

✓: supported, -: not supported, Δ: optional

Industrial Server Boards



Model		ASMB-913	ASMB-923	ASMB-925	ASMB-935	ASMB-975	ASMB-976
Form Factor		EATX	EATX	EATX	EATX	Proprietary	Proprietary
Processor System	CPU	Intel® Xeon® E5-2600 v3/v4 Series	Intel® Xeon® E5-2600 v3/v4 Series	Intel® Xeon® Scalable/2nd Gen Scalable Series	Intel® Xeon® Scalable/2nd Gen Scalable Series	Intel® Xeon® Scalable/2nd Gen Scalable Series	Intel® Xeon® 3rd Gen Scalable Series
	Socket	2 x socket LGA 2011-R3	2 x socket LGA 2011-R3	2 x socket LGA 3647-P0	2 x socket LGA 3647-P0	2 x socket LGA 3647-P0	2 x socket LGA 4189-P+
	Max. Speed	3.5 GHz	3.5 GHz	3.6 GHz	3.6 GHz	3.6 GHz	3.7 GHz
	Front Side Bus	QPI 9.6GT/s	QPI 9.6GT/s	UPI 10.4 GT/s	UPI 10.4 GT/s	UPI 10.4 GT/s	UPI 11.2 GT/s
	L3 Cache	30 MB	30 MB	38.5 MB	38.5 MB	38.5 MB	42MB
	Chipset	Intel® C612	Intel® C612	Intel® C620	Intel® C620	Intel® C620	Intel® C621A
	BIOS	AMI 128 Mbit, SPI	AMI 128 Mbit, SPI	AMI 256 Mbit, SPI	AMI 256 Mbit, SPI	AMI 256 Mbit, SPI	AMI SPI 256 Mbit
Expansion Slot	PCI	-	-	1	-	-	-
	PCIe x 16	4 (1 for PME)	4	5	5	4	4
	PCIe x 8	-	2	1	1	1	7
	PCIe x 4	-	1	-	-	4	-
	M.2	-	-	-	1 x M.2 2280 (PCIe/SATA)	2 x M.2 2242 (SATA)	1 x M.2 2280 (PCIe/SATA) 1 x M.2 2280 (PCIe)
Memory	Technology	DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM	DDR4 REG 2400/2133/1866/1600/1333 MHz DIMM	DDR4 2933/2666/2400/2133 MHz RDIMM, Intel Optane DCPMM	DDR4 2933/2666/2400/2133 MHz RDIMM, Intel Optane DCPMM	DDR4 2933/2666/2400/2133 MHz RDIMM, Intel Optane DCPMM	DDR4 3200/2933/2666 MHz RDIMM, Intel Optane DCPMM
	Max. Capacity	512 GB REG DIMM	256 GB REG DIMM	1.5 TB REG DIMM	3 TB REG DIMM	1.5 TB REG DIMM	2 TB REG DIMM
	Socket	16 x 288-pin DIMM	8 x 288-pin DIMM	12 x 288-pin DIMM	24 x 288-pin DIMM	12 x 288-pin DIMM	16 x 288-pin DIMM
Graphics	Controller	AST1400/AST2400	AST1400/AST2400	AST2510/AST2500	AST2510/AST2500	AST2510/AST2500	AST2510/AST2500
	VRAM	DDR3 64MB	DDR3 64MB	DDR4 4Gb	DDR4 4Gb	DDR4 4Gb	DDR4 4Gb
Ethernet	Interface	Gigabit Ethernet	Gigabit Ethernet	Gigabit & 10GBase-T Ethernet	Gigabit & 10GBase-T Ethernet	Gigabit & 10GBase-T Ethernet	Gigabit & 10GBase-T Ethernet
	Controller	4 x Intel® I210AT	2 x Intel® I210AT	2 x Intel® I210AT 1 x Intel® X557-AT2	2 x Intel® I210AT 1 x Intel® X557-AT2	2 x Intel® I210AT 1 x Intel® X557-AT2	2 x Intel® I210AT 1 x Intel® X550-AT2
	Connector	RJ-45 x 4 (1 shared with IPMI)	RJ-45 x 3 (1 dedicated for IPMI)	RJ-45 x 4 (1 shared with IPMI)	RJ-45 x 4 (1 shared with IPMI)	RJ-45 x 4 (1 shared with IPMI)	RJ-45 x 5 1 x Realtek 8201F (1 dedicated for IPMI)
TPM		Optional	Optional	Optional	Optional	Optional	Optional
SATA	Max. Data Transfer Rate	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s
	Channel	8	10	8	10	14	10
Rear I/O	VGA/DVI/HDMI/DP	1 / - / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -	1 / - / - / -
	Ethernet	4	2	4 (T2 SKU)	4 (T2 SKU)	4 (T2 SKU)	4 (T2 SKU)
	USB	2 (USB 3.2 Gen1) 2 (USB 2.0)	2 (USB 3.2 Gen1) 2 (USB 2.0)	4 (USB 3.2 Gen1)	4 (USB 3.2 Gen1)	4 (USB 3.2 Gen1)	2 (USB 3.2 Gen1)
	Serial	1 (RS-232)	1 (RS-232)	1 (RS-232)	1 (RS-232)	1 (RS-232)	1 (RS-232)
	PS/2	-	2	-	-	-	-
	Onboard I/O	USB	2 (USB 3.2 Gen1) 2 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 2 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 4 (USB 2.0) 1 (USB 2.0 Type A)	2 (USB 3.2 Gen1) 4 (USB 2.0) 1 (USB 2.0 Type A)	4 (USB 3.2 Gen1) 2 (USB 2.0) 1 (USB 2.0 Type A)
Watchdog Timer	Audio	1	1	1	1	1	1
	Serial	1	1	1	1	1	1
SATA	Output	8	10	8	10	12	10
	Interval	System reset	System reset	System reset	System reset	System reset	System reset
Watchdog Timer	Output	System reset	System reset	System reset	System reset	System reset	System reset
	Interval	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min	Programmable, 1 ~ 255 sec/min

✓: supported, -: not supported, Δ: optional