



## Ampere CPU for Altra and Altra max

Product Name	Core Name	Q-Spec	Stepping	Cache	System Bus	# of Cores	Processor Base Frequency	Max Frequency	TDP	Memory Types	Note
Ampere CPU											
Ampere Altra Max CPU M128-30	Altra Max					128	3.0 GHz	3.0 GHz	250	DDR4-3200	
Ampere Altra Max CPU M128-28	Altra Max					128	2.8 GHz	2.8 GHz	230	DDR4-3200	
Ampere Altra Max CPU M128-26	Altra Max					128	2.6 GHz	2.6 GHz	190	DDR4-3200	
Ampere Altra Max CPU M112-30	Altra Max					112	3.0 GHz	3.0 GHz	240	DDR4-3200	
Ampere Altra Max CPU M96-30	Altra Max					96	3.0 GHz	3.0 GHz	220	DDR4-3200	
Ampere Altra Max CPU M96-28	Altra Max					96	2.8 GHz	2.8 GHz	190	DDR4-3200	
Ampere Altra CPU Q80-33	Altra					80	3.25 GHz	3.25 GHz	250	DDR4-3200	max : 3250 MHz
Ampere Altra CPU Q80-30	Altra					80	3.0 GHz	3.0 GHz	210	DDR4-3200	
Ampere Altra CPU Q80-28	Altra					80	2.8 GHz	2.8 GHz	175	DDR4-3200	
Ampere Altra CPU Q80-26	Altra					80	2.6 GHz	2.6 GHz	150	DDR4-3200	
Ampere Altra CPU Q72-30	Altra					72	3.0 GHz	3.0 GHz	195	DDR4-3200	
Ampere Altra CPU Q64-33	Altra					64	3.2 GHz	3.2 GHz	220	DDR4-3200	max : 3250 MHz
Ampere Altra CPU Q64-30	Altra					64	3.0 GHz	3.0 GHz	180	DDR4-3200	
Ampere Altra CPU Q64-26	Altra					64	2.6 GHz	2.6 GHz	125	DDR4-3200	
Ampere Altra CPU Q64-22	Altra					64	2.2 GHz	2.2 GHz	95	DDR4-3200	
Ampere Altra CPU Q32-17	Altra					32	1.7 GHz	1.7 GHz	65	DDR4-3200	

## Memory (Memory actually maximum frequency will follow memory controller's spec of CPU you used)

Product Name	Memory Type	Module Supplier	Size	Chip Brand	Rank	Voltage	Data Transfer Rate	Error Correction	CAS Latency	Pins	Note
RDIMM											
MTA36ASF4G72PZ-3G2E2	DDR4	Micron	16GB	Micron-Rambus	2Rx4	1.2v	3200MHz	ECC Registered	24	288-pin	
M393A4G43AB3-CWE	DDR4	Samsung	32GB	Samsung-IDT	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A2K40CB2-CTD6Q	DDR4	Samsung	16GB	Samsung-Montage	1Rx4	1.2v	2666MHz	ECC Registered	19	288-pin	
M393A8K40B22-CWD6Q	DDR4	Samsung	64GB	Samsung	2S2Rx4	1.2v	2666MHz	ECC Registered	19	288-pin	
M393A8G40MB2-CTD7Q	DDR4	Samsung	64GB	Samsung-IDT	2Rx4	1.2v	2666MHz	ECC Registered	19	288-pin	
MTA9ASF1G72PZ-3G2R1VI	DDR4	Micron	8GB	Micron	1Rx8	1.2v	3200MHz	ECC Registered	19	288-pin	
CT32G4RFD4266.36FD1	DDR4	CRUCIAL	32GB	Micron	2Rx4	1.2v	2666MHz	ECC Registered	19	288-pin	
GT32G4RFD4266-2G6D1.001	DDR4	CRUCIAL	32GB	Micron	2Rx4	1.2v	2666MHz	ECC Registered	19	288-pin	
CT32G4RFD4266-2G6H1.001	DDR4	CRUCIAL	32GB	Micron	2Rx4	1.2v	2666MHz	ECC Registered	19	288-pin	
HMA84GR7AFR4N-VKT3	DDR4	SKhynix	32GB	SKhynix-Montage	2Rx4	1.2v	2666MHz	ECC Registered	19	288-pin	
M393A2K43DB2-CVFBQ	DDR4	Samsung	16GB	Samsung-IDT	2Rx8	1.2v	2933MHz	ECC Registered	21	288-pin	
M393A4K40DB2-CVFBQ	DDR4	Samsung	32GB	Samsung-IDT	2Rx4	1.2v	2933MHz	ECC Registered	21	288-pin	
M393A8G40AB2-CVFBY	DDR4	Samsung	64GB	Samsung-IDT	2Rx4	1.2v	2933MHz	ECC Registered	21	288-pin	
M393A2K43EB3-CWEBQ	DDR4	Samsung	16GB	Samsung-IDT	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
CT16G4RFD8293.18FE1	DDR4	CRUCIAL	16GB	Micron	2Rx8	1.2v	2933MHz	ECC Registered	21	288-pin	
MTA9ASF2G72PZ-2G9E1UI	DDR4	Micron	16GB	Micron-Rambus	1Rx8	1.2v	2933MHz	ECC Registered	21	288-pin	
CT32G4RFD4293-2G9E2.001	DDR4	CRUCIAL	32GB	Micron	2Rx4	1.2v	2933MHz	ECC Registered	21	288-pin	
MTA36ASF4G72PZ-2G9E2TG	DDR4	Micron	32GB	Micron-Montage	2Rx4	1.2v	2933MHz	ECC Registered	21	288-pin	
MTA18ASF4G72PDZ-2G9E1TI	DDR4	Micron	32GB	Micron-Montage	2Rx8	1.2v	2933MHz	ECC Registered	21	288-pin	
MTA18ASF4G72PDZ-3G2F1UI	DDR4	Micron	32GB	Micron-Rambus	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA36ASF8G72PZ-2G9E1TI	DDR4	Micron	64GB	Micron-Montage	2Rx4	1.2v	2933MHz	ECC Registered	21	288-pin	
HMA82GR7CJR8N-WM T4	DDR4	SKhynix	16GB	SKhynix-Montage	2Rx8	1.2v	2933MHz	ECC Registered	21	288-pin	
HMA84GR7CJR4N-WM T4	DDR4	SKhynix	32GB	SKhynix-IDT	2Rx4	1.2v	2933MHz	ECC Registered	21	288-pin	
HMAA8GR7MJR4N-WM T4	DDR4	SKhynix	64GB	SKhynix-Montage	2Rx4	1.2v	2933MHz	ECC Registered	21	288-pin	
KSM29RD8/16HDR	DDR4	Kingston	16GB	SKhynix-Rambus	2Rx8	1.2v	2933MHz	ECC Registered	21	288-pin	
KSM29RD4/32HDR	DDR4	Kingston	32GB	SKhynix-Rambus	2Rx4	1.2v	2933MHz	ECC Registered	21	288-pin	
NT16GA72D8PBX3P-IX	DDR4	Nanya	16GB	Nanya-IDT	2Rx8	1.2v	2933MHz	ECC Registered	21	288-pin	
NT32GA72D4NBX3P-IX	DDR4	Nanya	32GB	Nanya-Montage or IDT	2Rx4	1.2v	2933MHz	ECC Registered	21	288-pin	
HMA82GR7DJR8N-XN T8	DDR4	SKhynix	16GB	SKhynix-Rambus	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
HMA82GR7DJR8N-XN TG	DDR4	SKhynix	16GB	SKhynix-IDT	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
HMA84GR7DJR4N-XN T4	DDR4	SKhynix	32GB	SKhynix-Montage	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
HMAA8GR7AJR4N-XN TG	DDR4	SKhynix	64GB	SKhynix-IDT	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
CT16G4RFD832A-3G2E1.001	DDR4	Crucial	16GB	Micron-Rambus	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA9ASF2G72PZ-3G2E1TI	DDR4	Micron	16GB	Micron-Montage	1Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA18ASF4G72PDZ.3G2B2TI	DDR4	Micron	32GB	Micron-Montage	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA36ASF4G72PZ-3G2J3UI	DDR4	Micron	32GB	Micron-Rambus	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA36ASF4G72PZ-3G2E7VI	DDR4	Micron	32GB	Micron-IDT	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA36ASF8G72PZ-3G2E1VI	DDR4	Micron	64GB	Micron-IDT	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA18ASF4G72PDZ-3G2E1TI	DDR4	Micron	32GB	Micron	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	

MTA18ASF2G72PDZ-3G2J3	DDR4	Micron	16GB	Micron	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA18ASF4G72PZ-3G2F1TI	DDR4	Micron	32GB	Micron	1Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A2K43DB3-CWEBQ	DDR4	Samsung	16GB	Samsung-IDT	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A2K40DB3-CWEGQ	DDR4	Samsung	16GB	Samsung-Rambus	1Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A4K40DB3-CWECQ	DDR4	Samsung	32GB	Samsung-Montage	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A4K40DB3-CWEBQ	DDR4	Samsung	32GB	Samsung-IDT	1Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A4K40DB3-CWEGQ	DDR4	Samsung	32GB	Samsung-Rambus	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A8G40AB2-CWEBQ	DDR4	Samsung	64GB	Samsung-IDT	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A8G40AB2-CWECO	DDR4	Samsung	64GB	Samsung-Montage	1Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393AAG40M32-CAEBQ	DDR4	Samsung	128GB	Samsung	2S2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A4K40EB3-CWE	DDR4	Samsung	32GB	Samsung	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A4G43BB4-CWEBY	DDR4	Samsung	32GB	Samsung-IDT	1Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
M393A8G40BB4-CWE	DDR4	Samsung	64GB	Samsung	2Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
KSM32RS8/16MER	DDR4	Kingston	16GB	Micron-Rambus	1Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
KSM32RD4/32HDR	DDR4	Kingston	32GB	SKhynix-Rambus	1Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
KSM32RS4/32MER	DDR4	Kingston	32GB	Micron-Rambus	1Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
AD4R3200716G22-BHYA	DDR4	ADATA	16GB	SKhynix-Montage	1Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA36ASF4G72PZ-3G2R1UI	DDR4	Micron	32GB	Micron-Rambus	1Rx4	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA18ASF2G72PDZ-3G2R1UI	DDR4	Micron	16GB	Micron-Rambus	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA18ASF2G72PDZ-3G2R1V1	DDR4	Micron	16GB	Micron-IDT	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	
MTA18ASF2G72PDZ-3G2R1T1	DDR4	Micron	16GB	Micron-Rambus	2Rx8	1.2v	3200MHz	ECC Registered	22	288-pin	

**HDD / U.2 / M.2 (SATS/ SAS HDD may need RAID Card support and please check if the model support NVMe )**

Product Name	Type	Vendor	Form Factor	Format	Capacity	Interface Speed	Series	Cache	RPM	Encryption	FW
SATA HDD											
ST1000NX0313	SATA	Seagate	2.5"	512E	1TB	6Gb/s	Exos 7E2000 (Enterprise Capacity V.3)	128MB	7200	N/A	SN05
ST2000NX0243	SATA	Seagate	2.5"	4Kn	2TB	6Gb/s	Exos 7E2000 (Enterprise Capacity V.3)	128MB	7200	N/A	NN02
SATA SSD											
MTFDDAK3T8TDS-1AW1ZABYY (5300 PRO)	SSD	Micron	2.5"	SATA	3.84TB	6Gb/s					
MTFDDAK1T9TDS-1AW1ZABYY (5300 PRO)	SSD	Micron	2.5"	SATA	1.92TB	6Gb/s					
MZ-7LH1T9NE 883 DCT Series	SSD	Samsung	2.5"	SATA	1.92TB	6Gb/s					
MZ7LH3T8HMLT PM883 Series	SSD	Samsung	2.5"	SATA	3.84TB	6Gb/s					
SSDSC2K8019T8 D3-S4510 Series	SSD	Intel	2.5"	SATA	1.92TB	6Gb/s					
SSDSC2K6019T801 D3-S4610 Series	SSD	Intel	2.5"	SATA	1.92TB	6Gb/s					
SSDSC2K8480G801 D3-S4510 Series	SSD	Intel	2.5"	SATA	480GB	6Gb/s					
SSDSC2K6480G801 D3-S4610 Series	SSD	Intel	2.5"	SATA	480GB	6Gb/s					
SSDSC2K8038T801 D3-S4510 Series	SSD	Intel	2.5"	SATA	3.84TB	6Gb/s					
XA960LE10063	SSD	Seagate	2.5"	SATA	960GB	6Gb/s					
KHK61RSE960G	SSD	Toshiba	2.5"	SATA	960GB	6Gb/s					
MZ7LH7T6HMLA-00005 PM883 Series	SSD	Samsung	2.5"	SATA	7.68TB	6Gb/s					
MZ7L3960HCJR-00A07 Samsung PM893 Series	SSD	Samsung	2.5"	SATA	960GB	6Gb/s					
MZ7LH960HAJR-00005 Samsung PM883 Series	SSD	Samsung	2.5"	SATA	960GB	6Gb/s					
MZ7L33T8HBLT-00A07 PM893 Series	SSD	Samsung	2.5"	SATA	3.84TB	6Gb/s					
U.2 NVME SSD											
SSDPE2KE032T801 P4610 Series	U.2	Intel	2.5"	SFF8639(NVMe)	3.2TB	PCIe Gen3 x4					
SSDPE2KX020T801 P4510 Series	U.2	Intel	2.5"	SFF8639(NVMe)	2TB	PCIe Gen3 x4					
SSDPE2KX010T801 P4510 Series	U.2	Intel	2.5"	SFF8639(NVMe)	1TB	PCIe 3.1 x4, NVMe					
SSDPE2KX040T8 P4510 Series	U.2	Intel	2.5"	SFF8639(NVMe)	4TB	PCIe 3.1 x4, NVMe					
SSDPE2KX010T8 DC P4510 Series	U.2	Intel	2.5"	SFF8639(NVMe)	1.0TB	PCIe 3.1 x4, NVMe					FW: VDV10131
MZWLL3T2HAJQ PM1725b Series	U.2	Samsung	2.5"	SFF8639(NVMe)	3.2TB	PCIe Gen3 x4					
MZQLW1T9HMJP PM963 Series	U.2	Samsung	2.5"	SFF8639(NVMe)	1.92TB	PCIe Gen3 x4					
MZ-QLB1T9N 983 DCT Series	U.2	Samsung	2.5"	SFF8639(NVMe)	1.92TB	PCIe Gen3 x4					
MZWLJ3T8HBL5 PM1733 Series	U.2	Samsung	2.5"	SFF8639(NVMe)	3.84TB	PCIe Gen4 x4					This device speed based on Backplane Board speed
MZQLB1T9HAJR-00007 Samsung PM983 Series	U.2	Samsung	2.5"	SFF8639(NVMe)	1.92TB	PCIe Gen3 x4					
MZQLB3T8HALS-00007 Samsung PM983 Series	U.2	Samsung	2.5"	SFF8639(NVMe)	3.84TB	PCIe Gen3 x4					
MZQL2960HCJR-00A07 Samsung PM9A3 Series	U.2	Samsung	2.5"	SFF8639(NVMe)	960GB	PCIe Gen4 x4					This device speed based on Backplane Board speed
MZQL23T8HCJS-00A07 Samsung PM9A3 Series	U.2	Samsung	2.5"	SFF8639(NVMe)	3.84TB	PCIe Gen4 x4					This device speed based on Backplane Board speed
MZQL27T6HBLA-00A07 Samsung PM9A3 Series	U.2	Samsung	2.5"	SFF8639(NVMe)	7.68TB	PCIe Gen4 x4					This device speed based on Backplane Board speed
MTFDHBE1T6TDG 7300 Max Series	U.2	Micron	2.5"	SFF8639(NVMe)	1.6TB	PCIe Gen3 x4					
KCD51LUG960G CD5 Series	U.2	KIOXIA	2.5"	SFF8639(NVMe)	960GB	PCIe Gen3 x4					
PS5012-E12	U.2	PHISON	2.5"	SFF8639(NVMe)	1.92TB	PCIe Gen3 x4					
MZ-QLB960NE Samsung PM883 Series	U.2	Samsung	2.5"	SFF8639(NVMe)	960GB	PCIe Gen3 x4					
U.3 NVME SSD											
KCM61RUL3T84 CM6-R Series	U.3	KIOXIA	2.5"	SFF8639(NVMe)	3.84TB	PCIe Gen4 x4					This device speed based on Backplane Board speed
M.2 NVME SSD											

