

X99-M WS Series Memory DDR4 non-ECC UDIMM Qualified Vendors List (QVL)

DDR4 3200 Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								2 DIMM	4 DIMM
CORSAIR	CMD16GX4M4B3200C16	16GB (4x 4GB)	SS	-	Heat-Sink Package	16-18-18-36	1.35V	●	●
Kingston	HX432C16PBK4/16	16GB (4x 4GB)	SS	-	H5AN4G8NMFR	16-16-16-39	1.35V	●	●
AVEXIR	AVD4U32001604G-4M	16GB (4x 4GB)	SS	-	Heat-Sink Package	16-18-18-36	1.35V	●	●

DDR4 3000 Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								2 DIMM	4 DIMM
Asint	SLA404G08-EWWHMX	16GB (4x 4GB)	SS	Skhynix	H5AN4G8NMFR	15-15-15-44	1.35V	●	●
Panram	PUD43000C154G4NJW	16GB (4x 4GB)	SS	-	Heat-Sink Package	15-17-17-35	1.35V	●	●
G-Skill	PC4-24000 4GX4	16GB (4x 4GB)	SS	-	Heat-Sink Package	15-15-15-35	1.35V	●	●
CORSAIR	CMD16GX4M4B3000C15	16GB (4x 4GB)	SS	-	Heat-Sink Package	15-17-17-35	1.35V	●	●
Asint	SLB404G08-EW1HMX	16GB (4x 4GB)	SS	-	Heat-Sink Package	16-18-18-44	1.35V	●	●

DDR4 2800 Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								2 DIMM	4 DIMM
ADATA	AX4U2800W4G17	32GB (8x 4GB)	DS	-	-	17-17-17-36	1.2	●	●
ADATA	AX4U2800W8G17	8GB	DS	-	-	15-15-15-36	1.2	●	●
Apacer	78.BAGM8.AF20B(XMP)	4GB	SS	-	-	17-17-17-36	-	●	●
Apacer	78.CAGM8.AF30B(XMP)	8GB	DS	-	-	17-17-17-36	-	●	●
AVEXIR	AVD4U28001504G-4CIR(XMP)	4GB	SS	-	-	15-15-15-35	1.35	●	●
AVEXIR	AVD4U28001608G-4CIR(XMP)	32GB (8x 4GB)	DS	-	-	16-16-16-36	1.2	●	●
CORSAIR	CMD16GX4M4A2800C16(Ver4.23)(XMP)	16GB (4x 4GB)	SS	-	-	16-18-18-36	1.2	●	●
CORSAIR	CMD16GX4M4A2800C16(Ver5.29)	16GB (4x 4GB)	SS	-	-	16-18-18-36	1.2	●	●
CORSAIR	CMD32GX4M4A2800C16(Ver5.29)(XMP)	32GB (4x 8GB)	DS	-	-	18-18-18-36	1.2	●	●
CORSAIR	CMK16GX4M4A2800C16(Ver4.23)(XMP)	16GB (4x 4GB)	SS	-	-	16-16-18-36	1.2	●	●
CORSAIR	CMK16GX4M4A2800C16(Ver5.29)	16GB (4x 4GB)	SS	-	-	16-18-18-36	1.2	●	●
CORSAIR	CMK32GX4M4A2800C16(Ver5.29)(XMP)	32GB (4x 8GB)	DS	-	-	16-18-18-36	1.2	●	●
G.SKILL	F4-2800C15Q2-64GRK(XMP)	64GB (8x 8GB)	DS	-	-	15-16-16-35	1.25	●	●
G.SKILL	F4-2800C16Q-16GRR(XMP)	16GB (4x 4GB)	SS	-	-	16-16-16-36	1.2	●	●
G.SKILL	F4-2800C16Q-32GRR(XMP)	32GB (4x 8GB)	DS	-	-	16-16-16-36	1.2	●	●
Kingston	HX428C14PBK4/16(XMP)	16GB (4x 4GB)	SS	-	-	14-15-15-40-28	1.35	●	●
Panram	PUD42800C164G4NJW(XMP)	16GB (4x 4GB)	SS	-	-	2800-16-18-18-36	1.25	●	●

DDR4 2666 Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								2 DIMM	4 DIMM
AVEXIR	AVD4U26661504G-4CIR(XMP)	4GB	SS	-	-	15-15-15-35	1.2	●	●
AVEXIR	AVD4U26661608G-4CIR(XMP)	32GB (8x 4GB)	DS	-	-	16-16-16-36	1.2	●	●
CORSAIR	CMD16GX4M4A2666C15(Ver4.23)(XMP)	16GB (4x 4GB)	SS	-	-	15-17-17-35	1.2	●	●
CORSAIR	CMD16GX4M4A2666C16(Ver4.23)(XMP)	16GB (4x 4GB)	SS	-	-	16-18-18-35	1.2	●	●
CORSAIR	CMD16GX4M4A2666C16(Ver5.29)(XMP)	16GB (4x 4GB)	SS	-	-	16-18-18-35	1.2	●	●
CORSAIR	CMD32GX4M4A2666C15(Ver4.23)(XMP)	32GB (4x 8GB)	DS	-	-	15-17-17-35	1.2	●	●
CORSAIR	CMD32GX4M4A2666C15(Ver5.29)	32GB (4x 8GB)	DS	-	-	15-17-17-35	1.2	●	●
CORSAIR	CMD32GX4M4A2666C16(Ver4.23)(XMP)	32GB (4x 8GB)	DS	-	-	16-18-18-35	1.2	●	●
CORSAIR	CMK16GX4M4A2666C15(Ver4.23)(XMP)	16GB (4x 4GB)	SS	-	-	15-17-17-35	1.2	●	
CORSAIR	CMK16GX4M4A2666C15(Ver5.29)	16GB (4x 4GB)	SS	-	-	15-17-17-35	1.2	●	●
CORSAIR	CMK16GX4M4A2666C16(Ver4.23)(XMP)	16GB (4x 4GB)	SS	-	-	16-18-18-35	1.2	●	●
CORSAIR	CMK16GX4M4A2666C16(Ver5.29)(XMP)	16GB (4x 4GB)	SS	-	-	16-18-18-35	1.2	●	●
CORSAIR	CMK32GX4M4A2666C15(Ver4.23)(XMP)	32GB (4x 8GB)	DS	-	-	15-17-17-35	1.2	●	●
CORSAIR	CMK32GX4M4A2666C15(Ver5.29)(XMP)	32GB (4x 8GB)	DS	-	-	15-17-17-35	1.2	●	●
CORSAIR	CMK32GX4M4A2666C16(Ver5.29)(XMP)	32GB (4x 8GB)	DS	-	-	16-16-18-35	1.2	●	●
CORSAIR	CMK32GX4M4A2666C16R(Ver4.23)(XMP)	32GB (4x 8GB)	DS	-	-	16-18-18-35	1.2	●	●
G.SKILL	F4-2666C15Q-16GRR(XMP)	16GB (4x 4GB)	SS	-	-	15-15-15-35	1.2	●	●
G.SKILL	F4-2666C15Q-32GRR(XMP)	32GB (4x 8GB)	DS	-	-	15-15-15-35	1.2	●	●
G.SKILL	F4-2666C16Q2-64GRB(XMP)	64GB (8x 8GB)	DS	-	-	16-16-16-36	1.2	●	●
ISDT	IMA41GU6MFR8N-CF0(XMP)	8GB	DS	ISDT	I5AN4G8NMFR	15-15-15-35	1.2	●	●
ISDT	IMA451U6MFR8N-CF0(XMP)	4GB	SS	ISDT	I5AN4G8NMFR	15-15-15-35	1.2	●	●
Team	TCD44G2666C15ABK(XMP)	4GB	SS	Samsung	K4A4G085WD	15-15-15-35	1.2	●	●
Team	TCD48G2666C15ABK(XMP)	32GB(4x 8GB)	DS	Team	TCD48G2666C15ABK	15-15-15-35	1.2	●	●

DDR4 2400 Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								2 DIMM	4 DIMM
AVEXIR	AVD4U24001604G-4CIR(XMP)	4GB	SS	-	-	16-16-16-36	1.2	●	●
AVEXIR	AVD4U24001608G-4M	32GB (8x 4GB)	DS	SK Hynix	H5AN4G8NMFRTFC	16-16-16-39	1.2	●	●
AVEXIR	AVD4U24001608G-4M(XMP)	32GB (8x 4GB)	DS	SK Hynix	H5AN4G8NMFRTFC	16-16-16-36	1.2	●	●
CORSAIR	CMD16GX4M4A2400C14(Ver4.23)(XMP)	16GB (4x 4GB)	SS	-	-	14-16-16-31	1.2	●	●
CORSAIR	CMD32GX4M4A2400C14(Ver4.23)(XMP)	32GB (4x 8GB)	DS	-	-	14-16-16-31	1.2	●	●
CORSAIR	CMK16GX4M4A2400C14(Ver4.23)(XMP)	16GB (4x 4GB)	SS	-	-	14-16-16-31	1.2	●	●
CORSAIR	CMK32GX4M4A2400C14(Ver4.23)(XMP)	32GB (4x 8GB)	DS	-	-	14-16-16-31	1.2	●	●
Crucial	BLS4G4D240FSA.8FAD	4GB	SS	-	-	16-16-16-40	1.2	●	●
crucial	BLS4G4D240FSA.8FAR(XMP)	4GB	SS	-	-	17-10-10-39-2	1.2	●	●
Crucial	BLS8G4D240FSA.16FAD	8GB	DS	-	-	16-16-16-40	1.2	●	●
crucial	BLS8G4D240FSA.16FAR(XMP)	8GB	DS	-	-	17-10-10-39-2	1.2	●	●
G.SKILL	F4-2400C15Q-16GRR	16GB (4x 4GB)	SS	-	-	15-15-15-35	1.2	●	●
G.SKILL	F4-2400C15Q-32GRR	32GB (4x 8GB)	DS	-	-	15-15-15-35	1.2	●	●
Kingston	HX424C12PB2K4/16	16GB (4x 4GB)	SS	-	-	15-15-15-36	1.2	●	●
Panram	PUD42400C154G4NJW	16GB (4x 4GB)	SS	-	-	2400-15-15-15-35	1.2	●	●
Panram	PUD42400C158G4NJW	32GB (4x 8GB)	DS	-	-	2400-15-15-15-35	1.2	●	●
Team	TED44GM2400C16BK	4GB	SS	Samsung	K4A4G085WD	16-16-16-39	1.2	●	●
Team	TED48GM2400C16BK	8GB	DS	Samsung	K4A4G085WD	16-16-16-39	1.2	●	●
V-color	TD4G8C17-UH	4GB	SS	V-color	DW3J0460HM	2400-15-15-15-36	1.2	●	●

DDR4 2133 Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)	
								2 DIMM	4 DIMM
ADATA	AD4U2133W4G15-B	4GB	SS	SK Hynix	H5AN4G8NMFRTFC	15-15-15-36	-	●	●
ADATA	AD4U2133W8G15	8GB	DS	SK Hynix	H5AN4G8NMFRTFC	15-15-15-36	1.2	●	●
Apacer	78.B1GM3.AF00B	4GB	SS	SK Hynix	H5AN4G8NMFRTFC	15-15-15-36	1.2	●	●
Apacer	78.C1GM3.AF10B	8GB	DS	SK Hynix	H5AN4G8NMFRTFC	15-15-15-36	1.2	●	●
AVEXIR	AVD4U21331504G-4M	4GB	SS	AVEXIR	512X8DDR4	15-15-15-35	1.2	●	●
Century	CD8G-D4U2133	8GB	DS	SK Hynix	H5AN4G8NMFRTFC	15-15-15-36	-	●	●
CORSAIR	CMK16GX4M4A2133C13(Ver4.23)(XMP)	16GB (4x 4GB)	SS	-	-	13-15-15-28	1.2	●	●
CORSAIR	CMK32GX4M4A2133C13(Ver4.23)(XMP)	32GB (4x 8GB)	DS	-	-	13-15-15-28	1.2	●	●
CORSAIR	CMK64GX4M8A2133C13(Ver4.23)(XMP)	64GB (8x 8GB)	DS	-	-	13-15-15-28	1.2	●	●
CORSAIR	CMV4GX4M1A2133C15	4GB	SS	-	-	15-15-15-36	1.2	●	●
CORSAIR	CMV8GX4M1A2133C15	8GB	DS	-	-	15-15-15-36	1.2	●	●
G.SKILL	F4-2133C15Q-16GRR	16GB (4x 4GB)	SS	-	-	15-15-15-35	1.2	●	●
G.SKILL	F4-2133C15Q-32GRR	32GB (4x 8GB)	DS	-	-	15-15-15-35	-	●	
ISDT	IMA41GU6MFR8N-TF0	8GB	DS	ISDT	I5AN4G8NMFR	15-15-15-35	1.2	●	●
ISDT	IMA451U6MFR8N-TF0	4GB	SS	ISDT	I5AN4G8NMFR	15-15-15-35	1.2	●	●
Panram	PUD42133C134G4NJW	16GB (4x 4GB)	SS	-	-	2133-13-13-13-35	1.2	●	●
Panram	PUD42133C138G4NJW	32GB (4x 8GB)	DS	-	-	2133-13-13-13-35	1.2	●	●
Panram	PUD42133C154G2VS	8GB (2x 4GB)	SS	SK Hynix	H5AN4GBNMFRTFC	2133-15-15-15-36	1.2	●	●
panram	PUD42133C154GNJK	4GB	SS	-	-	15-15-15-36	1.2	●	●
Panram	PUD42133C158G2VS	16GB (2x 8GB)	DS	SK Hynix	H5AN4GBNMFRTFC	2133-15-15-15-36	1.2	●	●
panram	PUD42133C158GNJK	8GB	DS	-	-	15-15-15-36	1.2	●	●
Samsung	M378A1G43DB0-CPB	8GB	DS	Samsung	K4A4G085WD	15-15-15-36	-	●	●
SanMax	SMD-4G28HP-21P	4GB	SS	SK Hynix	H5AN4G8NMFRTFC	15-15-37-2	-	●	●
SanMax	SMD-8G28HP-21P	8GB	DS	SK Hynix	H5AN4G8NMFRTFC	15-15-37-2	-	●	●
SK Hynix	HMA82GU6MFR8N-TF	16GB	DS	SK Hynix	H5AN8G8NMFRTFC	15-15-15-36	-	●	●
SUPER TALENT	FBU2B008GM	8GB	DS	Micron	D9RGQ	15-15-15-36	1.2	●	●
Team	TED44GM2133C15ABK	4GB	SS	SK Hynix	H5AN4G8NMFRTFC	15-15-15-36	1.2	●	●
Transcend	TS1GLH64V1H	8GB	DS	Samsung	K4A4G085WD	2133-15-15-15-37	-	●	●
Transcend	TS512MLH64V1H	4GB	SS	Samsung	K4A4G085WD	2133-15-15-15-37	-	●	●
UMAX	84G44G93MC-21OMCALGF15	4GB	SS	Micron	D9RGQ	15-15-15-36	-	●	●
UMAX	84G48G93MC-21OMCGNGF15	8GB	DS	Micron	D9RGQ	15-15-15-36	-	●	●

4 DIMM Slots

- **1 DIMM**: Supports one module inserted in any slot as Single-channel memory configuration
- **2 DIMM**: Supports one pair of modules inserted into either the **gray** slots or the **black** slots as one pair of Dual-channel memory configuration
- **4 DIMM**: Supports 4 modules inserted into both the **gray** and **black** slots as two pairs of Dual-channel memory configuration

-When installing total memory of 4GB capacity or more, Windows 32-bit operation system may only recognize less than 3GB. Hence, a total installed memory of less than 3GB is recommended.

-It is recommended to install the memory modules from the slots for better overclocking capability.

-The default DIMM frequency depends on its Serial Presence Detect (SPD), which is the standard way of accessing information from a memory module. Under the default state, some memory modules for overclocking may operate at a lower frequency than the vendor-marked value.

-Memory module with memory frequency higher than 2133 MHz and its corresponding timing or the loaded XMP Profile is not the JEDEC memory standard. The stability and compatibility of these memory modules depend on the CPU's capabilities and other installed devices.

-Always install DIMMs with the same CAS latency. For optimal compatibility, we recommend that you install memory modules of the same version or date code (D/C) from the same vendor. Check with the retailer to get the correct memory modules.