

G.SKILL	F4-2800C6Q-16GRK	4G	SS	N/A	Heat-Sink Package	16-16-16-36	1.2V	●	●	
PATRIOT	PX416G280C6QK	4G	SS	N/A	Heat-Sink Package	16-18-18-36	1.2V	●	●	●
PANRAM	PUD42800C164G4NJW	4G	SS	N/A	Heat-Sink Package	16-18-18-36	1.25V	●	●	●
MUSHKIN	994207F	4G	SS	N/A	Heat-Sink Package	16-16-16-36	1.2V	●	●	●
KINGSTON	HX428C14PBK/32	8G	DS	N/A	Heat-Sink Package	14-15-15-39	1.35V	●	●	●
ADATA	AX4U2800316G16(XMP)	16GB	DS	-	-	16-16-16-36	1.2	●	●	●
ADATA	AX4U2800W4G17(XMP)	32GB (8x 4GB)	DS	-	-	17-17-17-36	1.2	●	●	●
ADATA	AX4U2800W8G17(XMP)	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 (4x 8GB)	DS	-	-	16-16-16-36	1.2	●	●	●
CORSAIR	CMD16GX4M4A2800C16(Ver4.23)(X	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)(X	32GB (4x 8GB)	DS	-	-	18-18-18-36	1.2	●	●	●
CORSAIR	CMK16GX4M4A2800C16(Ver4.23)(X	16GB (4x 4GB)	SS	-	-	16-16-18-36	1.2	●	●	●
CORSAIR	CMK16GX4M4A2800C16(Ver5.29)	16GB (4x 4GB)	SS	-	-	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-32GRK(XMP)	32GB (4x 8GB)	DS	-	-	16-16-16-36	1.2	●	●	●
G.SKILL	F4-2800C16Q-32GRR(XMP)	32GB (4x 8GB)	DS	-	-	16-16-16-36	1.2	●	●	●
Gell	GPR416GB2800C16QC(XMP)	16GB (4x 4GB)	SS	-	-	16-16-16-36	1.2	●	●	●
Gell	GPR432GB2800C16QC(XMP)	32GB (4x 8GB)	DS	-	-	16-16-16-36	1.2	●	●	●
Kingston	HX428C14PBK4/16(XMP)	16GB (4x 4GB)	SS	-	-	14-15-15-40-2	1.35	●	●	●
KLEVV	IMA451U6MFR8N-	4GB	SS	-	-	16-16-16-36	1.2	●	●	●
Panram	PUD42800C164G4NJW(XMP)	16GB (4x 4GB)	SS	-	-	16-18-18-36	1.25	●	●	●
AVEXIR	AVD4UZ128001604G-4COB	4G	SS	N/A	Heat-Sink Package		1.2V	●	●	●
AVEXIR	AVD4UZ128001608G-4COB	8G	DS	N/A	Heat-Sink Package		1.2V	●	●	●
CORSAIR	CMK32GX4M4A2800C16	32GB (4x 8G)	DS	N/A	Heat-Sink Package	16-18-18-36	1.2V	●	●	●
KINGSTON	HX428C14SB2K4/16	16GB (4x 4G)	SS	N/A	Heat-Sink Package	15-15-15-36	1.35V	●	●	●

DDR4 3000 Qualified Vendors List (QVL)

Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)		
								1 DIMM	2 DIMM	4 DIMM
KINGSTON	HX430C15PB2K4/16	4G	SS	N/A	Heat-Sink Package		1.35V	●	●	●
G.SKILL	F4-3000C15Q-16GRR	4G	SS	N/A	Heat-Sink Package	15-15-15-35	1.35V	●	●	●
TEAM	TCD48G3000C16ABK	8G	DS	TEAM	T4D5128HT-30	16-16-16-36	1.35V	●	●	●
TEAM	TCD44G3000C16ABK	4G	SS	TEAM	T4D5128HT-30	16-16-16-36	1.35V	●	●	●
PANRAM	PUD43000C154G4NJW	4G	SS	N/A	Heat-Sink Package	15-17-17-35	1.35V	●	●	●
KINGSTON	HX430C15PBK4/32	8G	DS	N/A	Heat-Sink Package	15-16-16-39	1.35V	●	●	●
Asint	SLA404G08-EWVHM(XMP)	4GB	SS	SK Hynix	H5AN4G8NMFRTFC	3000-15-15-	1.35	●	●	●
Asint	SLB404G08-EW1HM(XMP)	8GB	DS	-	-	16-18-18-44	1.35	●	●	●
AVEXIR	AVD4U30001504G-4CIR(XMP)	16GB (4x 4GB)	DS	-	-	15-15-15-35	1.35	●	●	●
AVEXIR	AVD4U30001608G-4CIR(XMP)	32GB (4x 8GB)	DS	-	-	16-18-18-36	1.35	●	●	●
CORSAIR	CMD16GX4M4B3000C15(Ver5.29)(X	16GB (4x 4GB)	DS	-	-	15-17-17-35	1.35	●	●	●
CORSAIR	CMD32GX4M4B3000C15(Ver4.23)(X	32GB (4x 8GB)	DS	-	-	3000-15-17-	1.35	●	●	●
CORSAIR	CMK16GX4M2B3000C15(Ver4.23)(X	16GB (2x 8GB)	DS	-	-	15-17-17-35	1.35	●	●	●
CORSAIR	CMK16GX4M4B3000C15(Ver5.29)(X	16GB (4x 4GB)	SS	-	-	15-17-17-35	1.35	●	●	●
G.SKILL	F4-3000C15Q-16GRK(XMP)	16GB (4x 4GB)	SS	-	-	15-15-15-35	1.35	●	●	●
G.SKILL	F4-3000C15Q-16GRR(XMP)	16GB (4x 4GB)	SS	-	-	15-15-15-35	1.35	●	●	●
G.SKILL	F4-3000C15Q-16GRR(XMP)	16GB (4x 4GB)	SS	-	-	15-15-15-31	1.35	●	●	●
Gell	GLR416GB3000C16QC(XMP)	16GB (4x 4GB)	SS	-	-	16-16-16-36	1.35	●	●	●
Gell	GWW416GB3000C15DC(XMP)	16GB (2x 8GB)	DS	Gell	CG4L512G88BA093L	3000-15-17-	1.35	●	●	●
Kingston	HX430C15PB2K4/16(XMP)	16GB (4x 4GB)	SS	-	-	15-16-16-39	1.35	●	●	●
KLEVV	IM44GU48A30-GIIHMC(XMP)	4GB	SS	-	-	16-18-18-36	1.35	●	●	●
panram	PUD43000C154G4NJW(XMP)	16GB (4x 4GB)	SS	-	-	15-17-17-35	1.35	●	●	●
PATRIOT	PV432G3000C6QK-PE000378(XMP)	32GB (8x 4GB)	DS	-	-	16-16-16-36	1.35	●	●	●
Team	TCD44G3000C16ABK(XMP)	4GB	SS	Samsung	K4A4G085WD	16-16-16-36	1.35	●	●	●
Team	TCD48G3000C16ABK(XMP)	8GB(4x 8GB)	DS	Team	T4D5128HT-30	16-16-16-36	1.35	●	●	●
AVEXIR	AVD4UZ130001604G-4COB	4G	SS	N/A	Heat-Sink Package		1.35V	●	●	●
AVEXIR	AVD4UZ130001608G-4COB	8G	DS	N/A	Heat-Sink Package		1.35V	●	●	●
CORSAIR	CMD32GX4M2B3000C15	32GB (2x 16G)	DS	N/A	Heat-Sink Package	15-17-17-35	1.35V	●	●	●
TEAM	TCD48G3000C15ABK		DS	SK HYNIX	H5AN4G8NMF	15-15-15-35	1.35V	●	●	●

DDR4 3200 Qualified Vendors List (QVL)

Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)		
								1 DIMM	2 DIMM	4 DIMM
PANRAM	PUD43200C164G4NJW	4G	SS	N/A	Heat-Sink Package	16-18-18-39	1.35V	●	●	●
MUSHKIN	997202F	4G	SS	N/A	Heat-Sink Package	16-16-16-36	1.35V	●	●	●
G.SKILL	F4-3200C16Q-16GRR	16GB(4GB*4)	SS	Samsung	K4A4G085WD	16-16-16-36	1.35V	●	●	●
G.SKILL	F4-3200C16Q-16GRB	16GB(4GB*4)	SS	Samsung	K4A4G085WD	16-16-16-36	1.35V	●	●	●
G.SKILL	F4-3200C16Q-16GRK	16GB(4GB*4)	SS	Samsung	K4A4G085WD	16-16-16-36	1.35V	●	●	●
AVEXIR	AVD4U32001604G-4BZ1	16GB(4GB*4)	SS	SK hynix	H5AN4G8NMF	16-18-18-36	1.35V	●	●	●
AVEXIR	AVD4U32001604G-4CIR	16GB(4GB*4)	SS	-	-	16-18-18-36	1.35V	●	●	●
CORSAIR	CMD16GX4M4A3200C16	16GB(4GB*4)	SS	-	-	16-18-18-36	1.35V	●	●	●
GEIL	GPR416GB3200C15QC	16GB(4GB*4)	SS	-	-	15-15-15-35	1.35V	●	●	●
Kingston	HX432C16PB2K4/16	16GB(4GB*4)	SS	-	-	16-16-16-39	1.35V	●	●	●
Panram	PUD43200C164G4NJW	16GB(4GB*4)	SS	-	-	16-18-18-39	1.35V	●	●	●

DDR4 3300 Qualified Vendors List (QVL)

Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)		
								1 DIMM	2 DIMM	4 DIMM
G.SKILL	F4-3300C16Q-16GRKD	4G	SS	N/A	Heat-Sink Package	16-16-16-36	1.35V	●	●	●
G.SKILL	F4-3300C16Q-16GRK	16GB(4GB*4)	SS	Samsung	K4A4G085WD	16-16-16-36	1.35V	●	●	●
G.SKILL	F4-3300C16D-8GTZ	8GB(4GB*2)	SS	Samsung	K4A4G085WD	16-18-18-38	1.35V	●	●	●
CORSAIR	CMD16GX4M4B3300C16	16GB(4GB*4)	SS	Samsung	K4A4G085WD	16-18-18-36	1.35V	●	●	●

DDR4 3333 Qualified Vendors List (QVL)

Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)		
								1 DIMM	2 DIMM	4 DIMM
G.SKILL	F4-3333C16Q-16GRKD	4G	SS	N/A	Heat-Sink Package	16-16-16-36	1.35V	●	●	●
G.SKILL	F4-3333C16D-8GTZ	8GB(4GB*2)	SS	Samsung	K4A4G085WD	16-18-18-38	1.35V	●	●	●
G.SKILL	F4-3333C16Q-16GRK	16GB(4GB*4)	SS	Samsung	K4A4G085WD	16-16-16-36	1.35V	●	●	●
CORSAIR	CMD16GX4M4B3333C16 ver4.23	16GB(4GB*4)	SS	Samsung	K4A4G085WD	16-18-18-36	1.35V	●	●	●
A-DATA	AX4U3333W4G16	16GB(4GB*4)	SS	SK hynix	H5AN4G8NMF	16-16-16-36	1.35V	●	●	●

DDR4 3400 Qualified Vendors List (QVL)

Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)		
								1 DIMM	2 DIMM	4 DIMM
GEIL	GLWR416GB3400C16AQC	4GB	SS	N/A	Heat-Sink Package	16-18-18-36	1.35V	●	●	●

G.SKILL	F4-3400C16Q-16GRBD	4G	SS	N/A	Heat-Sink Package	16-18-18-38	1.35V	•		
G.SKILL	F4-3400C16D-16GVK	16GB (4x 8G)	DS	N/A	Heat-Sink Package	16-18-18-38	1.35V	•	•	•
CORSAIR	CMD16GX4M4B3400C16 ver. 4.23	16GB(4GB*4)	SS	Samsung	K4A4G085WD	16-18-18-38	1.35V	•	•	

DDR4 3466 Qualified Vendors List (QVL)

Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)		
								1 DIMM	2 DIMM	4 DIMM
G.SKILL	F4-3466C16Q-16GVK	4G	SS	N/A	Heat-Sink Package	16-18-18-38	1.35V	•		
G.SKILL	F4-3466C16D-8GRK	8GB(4GB*2)	SS	Samsung	K4A4G085WD	16-18-18-38	1.35V	•	•	
G.SKILL	F4-3466C16D-8GTZ	8GB(4GB*2)	SS	Samsung	K4A4G085WD	16-18-18-38	1.35V	•	•	
G.SKILL	F4-3466C16D-8GVK	8GB(4GB*2)	SS	Samsung	K4A4G085WD	16-18-18-38	1.35V	•	•	
CORSAIR	CMD16GX4M4B3466C18	4G	SS	N/A	Heat-Sink Package		1.35V	•	•	•

DDR4 4000 Qualified Vendors List (QVL)

Vendors	Part No.	Size	SS/DS	Chip Brand	Chip NO.	Timing	Voltage	DIMM socket support (Optional)		
								1 DIMM	2 DIMM	4 DIMM
G.SKILL	F4-4000C19D-8GTZ	8GB (2x 4G)	SS	N/A	Heat-Sink Package	19-21-21-41	1.35V	•	•	

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 **blue** slots or the **black** slots as one pair of Dual-channel memory configuration
- **4 DIMM:** Supports 4 modules inserted into both the **blue** and **black** slots as two pairs of Dual-channel memory configuration

*Supports Intel® Extreme Memory Profile (XMP)

*Due to Intel® chipset limitation, DDR4 2133 MHz and higher memory modules on XMP mode will run at the maximum transfer rate of DDR4 2133 Mhz.

*The maximum memory frequency supported varies by processor

-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.