

DDR4 2133 Qualified Vendors List (QVL)								
Vendors	Part No.	Size	SS/DS	Chip Brand	Timing	Voltage (V)	DIMM socket support (Optional)	
							1 DIMM	2 DIMM
SAMSUNG	M378A5143DB0-CPB	4GB	SS	Samsung	15-15-15-36	1.2	●	●
SAMSUNG	M378A1G43DB0-CPB	8GB	DS	SEC 428 BCPB	15-15-15-36	1.2	●	●
GLLOWAY	PCA-17000	4GB	SS	N/A	15-15-15-35	1.2	●	●
KINGSTON	HX421C13P8K4/16	4*4GB	SS	Hynix	15-15-15-36	1.2	●	●
PANRAM	PUD42133C138G4NJW	4*8GB	DS	N/A	13-13-13-35	1.2	●	●
PANRAM	PUD42133C134G4NJW	4*4GB	SS	N/A	13-13-13-35	1.2	●	●
CORSAIR	CMK16GX4M4A2133C15(Ver4.23)	4*4GB	SS	N/A	15-15-15-36	1.2	●	●
CRUCIAL	MT48ATF5129A4Z-2Q1A1	4GB	SS	Micron	15-15-15-36	1.2	●	●
CORSAIR	CMW43X4M1A2133C15	4GB	SS	N/A	15-15-15-36	1.2	●	●
KINGSTON	HX421C14FB/8	8GB	DS	Hynix	14-14-14-35	1.2	●	●
APACER	78.C1GM3.AF10B	8GB	DS	Hynix	16-16-16-36	1.2	●	●
KINGSTON	HX421C13S8K4/16	4*4GB	SS	Hynix	15-15-15-36	1.2	●	●
KINGSTON	KVR21N15D8/8	8GB	DS	Hynix	15-15-15-36	1.2	●	●
GALAXY	GAM4DLB1M21331BIE081C	8GB	DS	N/A	15-15-15-35	1.2	●	●
AVEKIR	AVD4U21331508G-1C0B	8GB	DS	N/A	15-15-15-35	1.2	●	●
CORSAIR	CMK16GX4M4A2133C13 (Ver5.29)	4*4GB	SS	N/A	13-15-15-28	1.2	●	●
GEL	GPR4908Z133C15DC	2*4GB	SS	Micron	15-15-15-36	1.2	●	●
KINGSTON	HX421C14FBK4/32	4*8GB	DS	Hynix	14-14-14-35	1.2	●	●
TEKISM	T4U2133B8G15-SAD	8GB	DS	SEC 446 BCPB	15-15-15-36	1.2	●	●
G.SKILL	F4-2133C150-16GRB	4*4GB	SS	Samsung	15-15-15-35	1.2	●	●
CENTURY	PCA-17000	8GB	DS	Hynix	15-15-15-36	1.2	●	●
ADATA	AX4U2133W4G15-QRZ	4*4GB	SS	N/A	15-15-15-36	1.2	●	●
TEAM	TED46G2133C15BK	8GB	DS	Hynix	15-15-15-36	1.2	●	●
ADATA	AD4U2133W8G15-B	16*8GB	DS	Hynix	15-15-15-36	1.2	●	●
CRUCIAL	CT8G4DFD8213.16FA11	4*8GB	DS	Micron	15-15-15-36	1.2	●	●
KINGSTON	KVR21E18S8/4	4GB	SS	Hynix	15-15-15-36	1.2	●	●
G.SKILL	F4-2133C155-4GNT	4GB	SS	Hynix	15-15-15-35	1.2	●	●
G.SKILL	F4-2133C155-8GNT	8GB	DS	Hynix	15-15-15-35	1.2	●	●
TEAM	TPAD4G2133HC15BK	4GB	SS	Samsung	15-15-15-36	1.2	●	●
APACER	AH108G8B13C0T7G	8GB	DS	Hynix	16-16-16-36	1.2	●	●
ASINT	SLB4M408-C0N2B 1615	8GB	DS	Hynix	15-15-15-36	1.2	●	●
PATRIOT	PSD48G2133Z	8GB	DS	PATRIOT	15-15-15-36	1.2	●	●
SAMSUNG	M378A1K43BB1-CPB	8GB	SS	Samsung	15-15-15-36	1.2	●	●
KINGSTON	HX421C14FB/8	8GB	SS	Micron	14-14-14-35	1.2	●	●
KINGSTON	HX421C14FBK/8	2*4GB	SS	Micron	14-14-14-35	1.2	●	●
KINGSTON	HX421C14FB/4	4GB	SS	Hynix	14-14-14-35	1.2	●	●
V-COLOR	TC46G21S818-IMS	4*8GB	SS	Micron	15-15-15-36	1.2	●	●
TEAM	TED16G2133C15BK	16GB	DS	Micron	15-15-15-36	1.2	●	●
SAMSUNG	M378A5143EB1-CPB	4GB	SS	Samsung	15-15-15-36	1.2	●	●
SAMSUNG	M378A5143EB1-CPB	4GB	SS	Samsung	15-15-15-36	1.2	●	●
TEAM	TED48G2133C15BK	8GB	SS	Spectek	15-15-15-36	1.2	●	●
AMUCCELL	GRPI621033818594	8GB	DS	AMUCCELL	16-16-16-35	1.2	●	●
TIGO	TMK1U8688-2133P	8GB	SS	Micron	15-15-15-36	1.2	●	●
Xiede	1.2V-PCA-17000-1620	4GB	SS	Micron	15-15-15-36	1.2	●	●
Xiede	1.2V-PCA-17000-1620	8GB	DS	Hynix	15-15-15-36	1.2	●	●
V-COLOR	TC48G21S815	8GB	SS	Hynix	15-15-15-36	1.2	●	●
V-COLOR	TC46G21S815-IMS	8GB	SS	Micron	15-15-15-36	1.2	●	●
SAMSUNG	M378A2K43BB1CPB	16GB	DS	SEC510	15-15-15-36	1.2	●	●
G.SKILL	F4-2133C150-32DRR	4*8GB	SS	N/A	15-15-15-35	1.2	●	●
G.SKILL	F4-2133C1502-64GRR	8*8GB	SS	Hynix	15-15-15-35	1.2	●	●
CRUCIAL	CT16G4DFD8213.C16FAD1	16GB	DS	Micron	15-15-15-36	1.2	●	●
CRUCIAL	CT8G4DFD8213.C16FDR2	8GB	DS	Micron	15-15-15-36	1.2	●	●
CRUCIAL	CT14G4DF8213.C8FBD2	4GB	SS	Micron	15-15-15-36	1.2	●	●
GEL	GPR4908Z133C15DC	4GB	SS	N/A	15-15-15-36	1.2	●	●
Klevv	IM48GU88N21-FFFHMB	8GB	SS	Hynix	15-15-15-35	1.2	●	●
Klevv	IM44GU88N21-FFFHMB	4GB	SS	Hynix	15-15-15-35	1.2	●	●
Klevv	IM44GU88N21-FFFHMB	16GB	DS	Hynix	15-15-15-35	1.2	●	●
GEL	GPR432G82133C150C	8GB	SS	Micron	15-15-15-36	1.2	●	●
SK HYNIX	HMA451U6AFR8N-TF	4*4GB	SS	Hynix	15-15-15-36	1.2	●	●
GLLOWAY	STK4U2133D15041C/PCA-17000	4GB	SS	N/A	15-15-15-35	1.2	●	●
G.SKILL	F4-2133C150-64GFX	4*16GB	DS	N/A	15-15-15-36	1.2	●	●
G.SKILL	F4-2133C150-32GFX	4*8GB	SS	N/A	15-15-15-36	1.2	●	●
G.SKILL	F4-2133C155-8GDB	8GB	SS	Hynix	15-15-15-35	1.2	●	●
AVANT	AVW6451U67J521N3-SAEP	4GB	SS	SEC 549	15-15-15-36	1.2	●	●
AVANT	AVW641U67J521N2-SAEP	8GB	DS	SEC 549	15-15-15-36	1.2	●	●
SanMax	SMD4-U4G28SE-21P	4GB	SS	SEC 534	15-15-15-36	1.2	●	●
ADATA	AD4U2133W4G15-B	8*8GB	SS	Spectek	15-15-15-36	1.2	●	●
ADATA	AD4U2133W4G15-BP	8*4GB	SS	Spectek	15-15-15-36	1.2	●	●
Ramsta	R2D4N4M4G2133	4GB	SS	Micron	15-15-15-35	1.2	●	●
Ramsta	R2D4N4M4G2133	8GB	SS	Micron	15-15-15-36	1.2	●	●
APACER	AU16GB13CDYBGC	16GB	DS	APACER	15-15-15-36	1.2	●	●
Silicon power	SP906B1FU131N02	4GB	SS	Hynix	15-15-15-36	1.2	●	●
TEKISM	T4U2133B8G15-HYM	2* 8GB	DS	Hynix	15-15-15-36	1.2	●	●
TIGO	TMK4U456-2133P	4GB	SS	Hynix	15-15-15-36	1.2	●	●
HYUNDAI	HYE16G21C15	16GB	SS	Hynix	15-15-15-35	1.2	●	●

2 DIMM Slots

For each DRAM channel (A,B), make sure to install the DRAM module to gray slot first.

• 1 DIMM: Supports one (1) module inserted into any gray slot as Single-channel memory configuration.

• 2 DIMMs: Supports two (2) modules inserted into one pair of gray slots as one pair of Dual-channel memory configuration.

- Make sure to install the memory modules from the gray slots first.

- 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.

- 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.

- DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel® 8th Generation 6-core or higher processors.



DDR4 2400 Qualified Vendors List (QVL)									
APACER	AH00G0B24C017G	8GB	SS	Micron	16-16-16-36	1.2	●	●	●
GEL	GASB416GB2400C160C	4GB	SS	Micron	16-16-16-36	1.2	●	●	●
GEL	GASB432GB2400C160C	8GB	SS	N/A	16-16-16-36	1.2	●	●	●
TIGOO	TMKU80868-2400U	8GB	SS	Hynix	17-17-17-39	1.2	●	●	●
APACER	AU160GB24CEY80C	16GB	DS	APACER	17-17-17-39	1.2	●	●	●
GEL	GLS48GB2400C160C	4GB	SS	N/A	17-16-16-36	1.2	●	●	●
GLOWAY	TYP8U2400E17042C	8GB	SS	Micron	17-17-17-39	1.2	●	●	●
Asgard	VML41UE-MICU2BQ1	8GB	SS	N/A	17-17-17-39	1.2	●	●	●
silicon power	SP008GBL FLJ240802	8GB	SS	Hynix	17-17-17-39	1.2	●	●	●
GelL	GLS48GB2400C160C	4GB	SS	Micron	17-16-16-36	1.2	●	●	●
TIGOO	TMKU4G455-2400U	4GB	SS	TIGOO	17-17-17-39	1.2	●	●	●
TIGOO	TMKUJGF68-2400U	16GB	DS	TIGOO	17-17-17-39	1.2	●	●	●
HYUNDAI	HYE4G24C17	4GB	SS	Hynix	17-17-17-39	1.2	●	●	●
HYUNDAI	HYE8G24C17	8GB	SS	Hynix	17-17-17-39	1.2	●	●	●
Apacer	AU160GB24CEY80C	16GB	DS	Micron	17-17-17-39	1.2	●	●	●
MAXSUN	MSD48G24Q3	8GB	DS	Micron	17-17-17-39	1.2	●	●	●
TECLAST	TLD4G24A30	4GB	DS	Micron	17-17-17-39	1.2	●	●	●
TECLAST	TLD8G24A30	8GB	DS	Micron	17-17-17-39	1.2	●	●	●
Kingston	KVR24N17S8/8G-SP	8GB	SS	Micron	17-17-17-39	1.2	●	●	●
ADATA	AD4U2400W8G17-B	4GB	SS	SK Hynix	15-15-15-35	1.2	●	●	●
ADATA	AD4U2400W8G17-B	8GB	DS	SK Hynix	15-15-15-35	1.2	●	●	●
ADATA	AX4U2400316G16-DRD(XMP)	16GB	DS	SK Hynix	16-16-16-39	1.2	●	●	●
ADATA	AX4U2400316G16-SBF(XMP)	16GB	DS	SK Hynix	15-15-15-36	1.2	●	●	●
ADATA	AX4U240038G16-BR2(XMP)	8GB	SS	SK Hynix	16-16-16-39	1.2	●	●	●
ADATA	AX4U240038G16-SBF(XMP)	8GB	SS	SK Hynix	16-16-16-39	1.2	●	●	●
ADATA	AX4U2400W8G16-BR2(XMP)	8GB	DS	SK Hynix	15-15-15-36	1.2	●	●	●
ADATA	AX4U2400W8G16-DRD(XMP)	8GB	DS	SK Hynix	16-16-16-39	1.2	●	●	●
Apacer	78.816MS.409B	4x 8GB	SS	Samsung	17-17-17-39	-	●	●	●
Apacer	78.816MS.4010B	4x 8GB	DS	Samsung	17-17-17-39	-	●	●	●
Apacer	EK.08G2T.GEC(XMP)	8GB	SS	Micron	17-17-17-39	-	●	●	●
Apacer	VML41UE-MICU2BQ1	8GB	SS	SK Hynix	17-17-17-39	-	●	●	●
Asgard	WML41UE-MICU2BQ1	2GB	SS	Micron	17-17-17-39	1.2	●	●	●
CORSAIR	CMK16GX4M4A2400C14(Ver4.23)(XMP)	4x 4GB	SS	-	14-16-16-31	1.2	●	●	●
CORSAIR	CMK32GX4M4A2400C14(Ver4.23)(XMP)	4x 8GB	DS	-	14-16-16-31	1.2	●	●	●
CORSAIR	CMK16GX4M2A2400C14(Ver3.31)(XMP)	2x 8GB	DS	Micron	15-15-15-36	1.2	●	●	●
CORSAIR	CMK16GX4M2A2400C14(Ver4.21)(XMP)	2x 8GB	DS	Samsung	14-16-16-31	1.2	●	●	●
CORSAIR	CMK16GX4M2A2400C14(Ver3.31)(XMP)	2x 8GB	SS	Micron	16-16-16-39	1.2	●	●	●
CORSAIR	CMK16GX4M4A2400C14(Ver4.23)(XMP)	4x 4GB	SS	-	14-16-16-31	1.2	●	●	●
CORSAIR	CMK16GX4M4A2400C14(Ver5.20)(XMP)	4x 4GB	SS	SK Hynix	14-16-16-31	1.2	●	●	●
CORSAIR	CMK32GX4M4A2400C14(Ver4.23)(XMP)	4x 8GB	DS	-	14-16-16-31	1.2	●	●	●
CORSAIR	CMK32GX4M4A2400C14(Ver3.31)(XMP)	4x 8GB	SS	Micron	15-15-15-36	1.2	●	●	●
CORSAIR	CMK64GX4M4A2400C14(Ver3.31)(XMP)	4x 16GB	DS	Micron	15-15-15-36	1.2	●	●	●
CORSAIR	CMK64GX4M4A2400C14(Ver4.31)(XMP)	4x 16GB	DS	Samsung	15-15-15-36	1.2	●	●	●
CORSAIR	CMK8GX4M2A2400C14(Ver3.11)(XMP)	2x 4GB	DS	Micron	14-16-16-31	1.2	●	●	●
crucial	BL51604D240F5B.16FBD(XMP)	16GB	DS	Micron	16-16-16-39	1.2	●	●	●
crucial	BL564D240F5B.8FBD(XMP)	4GB	SS	Micron	16-16-16-39	1.2	●	●	●
crucial	BL564D240F5B.8FBD(XMP)	8GB	SS	Micron	16-16-16-39	1.2	●	●	●
crucial	CT16G4DFD824A.C16FDR1	16GB	DS	Micron	17-17-17-39	1.2	●	●	●
G.SKILL	F4-2400C14Q2-128GR(XMP)	8x 16GB	DS	Samsung	14-14-14-34	1.2	●	●	●
G.SKILL	F4-2400C14Q2-128GR(XMP)	8x 16GB	DS	Samsung	15-15-15-36	1.2	●	●	●
G.SKILL	F4-2400C15Q-16GR(XMP)	4x 4GB	SS	Micron	15-15-15-35	1.2	●	●	●
G.SKILL	F4-2400C15Q2-128GR(XMP)	8x 16GB	DS	Samsung	15-15-15-35	1.2	●	●	●
G.SKILL	F4-2400C15Q2-128GV(XMP)	8x 16GB	DS	SK Hynix	15-15-15-36	1.2	●	●	●
G.SKILL	F4-2400C15Q2-64GR(XMP)	8x 8GB	DS	Samsung	15-15-15-35	1.2	●	●	●
G.SKILL	F4-2400C15Q-32GR(XMP)	4x 8GB	DS	Micron	15-15-15-35	1.2	●	●	●
GelL	GASB416GB2400C160C	4GB	SS	Micron	16-16-16-36	1.2	●	●	●
GelL	GFR432GB2400C16D(XMP)	16GB	SS	Micron	16-16-16-36	1.2	●	●	●
GelL	GLS48GB2400C160C(XMP)	4GB	SS	Micron	16-16-16-36	1.2	●	●	●
GelL	GPR416GB2400C150C(XMP)	4x 4GB	SS	Samsuono	15-15-15-35	1.2	●	●	●

2 DIMM Slots

For each DRAM channel (A,B), make sure to install the DRAM module to gray slot first.

- 1 DIMM: Supports one (1) module inserted into any gray slot as Single-channel memory configuration.
- 2 DIMMs: Supports two (2) modules inserted into one pair of gray slots as one pair of Dual-channel memory configuration.

- Make sure to install the memory modules from the gray slots first.
- 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.
- 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.
- DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel® 8th Generation 6-core or higher processors.

DDR4 2666 Qualified Vendors List (QVL)								DIMM socket support (Optional)	
Vendors	Part No.	Size	SS/DS	Chip Brand	Timing	Voltage(V)		1 DIMM	2 DIMM
CORSAIR	CMK16GX4M4A2666C16 (Ver5.29)	4*4GB	SS	N/A	16-18-18-35	1.2	*	*	*
CORSAIR	CMK32GX4M4A2666C15(Ver5.29)	4*8GB	DS	N/A	15-17-17-35	1.2	*	*	*
MUSHKIN	997132F	2*4GB	SS	N/A	15-15-15-35	1.2	*	*	*
KINGSTON	HX426C13PBK4/2	4*8GB	DS	Hynix	15-15-15-35	1.35	*	*	*
KINGSTON	HX426C15FBK4/32	4*8GB	DS	Hynix	15-17-17-35	1.2	*	*	*
CORSAIR	CMK128GX4M8A2666C15	4*16GB	DS	N/A	15-17-17-35	1.2	*	*	*
KINGSTON	HX426C15FBK4/16	4*4GB	SS	Hynix	15-17-17-35	1.2	*	*	*
CRUCIAL	BL56G4D26BF8EA8FAD	4GB	SS	Micron	16-18-18-36	1.2	*	*	*
CRUCIAL	BL56G4D26AF16FAD	8GB	DS	Micron	16-17-17-36	1.2	*	*	*
AVEXIR	AVD4U2126661504G-4COB	4*4GB	SS	N/A	15-15-15-36	1.2	*	*	*
AVEXIR	AVD4U2126661508G-4COB	4*8GB	DS	N/A	15-15-15-36	1.2	*	*	*
CRUCIAL	BLT4G4D26AFTA8FADG	4GB	SS	Micron	16-17-17-36	1.2	*	*	*
KLEVV	IM44G16MFR8N-C F0	8GB	DS	N/A	15-15-15-35	1.2	*	*	*
KINGSTON	HX426C13S2K4/2	4*8GB	DS	Hynix	15-15-15-36	1.35	*	*	*
KINGSTON	HX426C13S2K4/16	4*4GB	SS	Hynix	15-15-15-36	1.35	*	*	*
PNY	MD16GK4D4266615AXR	4*4GB	SS	N/A	15-15-15-35	1.2	*	*	*
AVEXIR	AVD4U2126661504G-4IPROG	4*4GB	DS	N/A	15-15-15-35	1.2	*	*	*
AVEXIR	AVD4U2126661508G	2*4GB	DS	N/A	15-15-15-35	1.2	*	*	*
CORSAIR	CMU32GX4M4A2666C16 (Ver5.20)	2*16GB	DS	Samsung	16-18-18-35	1.2	*	*	*
CORSAIR	CMK32GX4M4A2666C16(Ver3.20)	4*8GB	DS	N/A	16-18-18-35	1.2	*	*	*
CORSAIR	CMK16GX4M4A2666C16 (Ver3.31)	2*8GB	SS	Micron	16-18-18-35	1.2	*	*	*
CORSAIR	CMK32GX4M4A2666C16 (Ver5.30)	2*16GB	DS	N/A	16-18-18-35	1.2	*	*	*
CORSAIR	CMK16GX4M4A2666C15 (Ver5.20)	4*4GB	SS	N/A	15-17-17-35	1.2	*	*	*
CORSAIR	CMK64GX4M4A2666C16 (Ver5.3)	4*16GB	DS	Hynix	16-18-18-35	1.2	*	*	*
CORSAIR	CMK32GX4M4A2666C15 (Ver5.20)	4*8GB	DS	Hynix	15-17-17-35	1.2	*	*	*
TEAM	TPRD416G2666C15B8K	16GB	DS	Samsung	15-17-17-35	1.2	*	*	*
TEAM	TPVD4G2666C15B8K	8GB	DS	Samsung	15-17-17-35	1.2	*	*	*
TEAM	TC04G2666C15B8K	4GB	SS	Hynix	15-17-17-35	1.2	*	*	*
HyperX	HX426C15FBK2/16	2*8GB	DS	Micron	15-17-17-35	1.2	*	*	*
KleVV	IM48G18B8N26-FFFHMZ	8GB	SS	Hynix	15-15-15-35	1.2	*	*	*
KleVV	IM44G18B26-FFFHMZ	16GB	DS	Hynix	15-15-15-35	1.2	*	*	*
KleVV	IM44G18B26-FFFHAZ	4GB	SS	Hynix	15-15-15-35	1.2	*	*	*
CORSAIR	CMK16GX4M4A2666C16(Ver5.30)	8GB	SS	Hynix	16-18-18-35	1.2	*	*	*
ADATA	AX4U2666W4G16-BRZ	4GB	SS	Hynix	16-16-16-39	1.2	*	*	*
ADATA	AX4U2666W8G16-QRZ	4*8GB	DS	Hynix	16-16-16-39	1.2	*	*	*
crucial	BL56G4D26BF8C.16F8B2	8GB	DS	N/A	16-18-18-38	1.2	*	*	*
crucial	BL56G4D26BF8C.16F8B2	16GB	DS	Micron	16-18-18-38	1.2	*	*	*
crucial	BL56G4D26BF8C.8F8B2	4GB	SS	N/A	16-18-18-38	1.2	*	*	*
CORSAIR	CMK128GX4M8A2666C16(Ver5.33)	8*16GB	DS	Hynix	16-18-18-36	1.2	*	*	*
CORSAIR	CMR16GX4M4A2666C15(Ver5.30)	2*8GB	SS	Hynix	16-18-18-35	1.2	*	*	*
CORSAIR	CMR64GX4M8A2666C15(Ver5.30)	8*8GB	SS	N/A	16-18-18-35	1.2	*	*	*
HyperX	HX426C15FBK4/4	4*16GB	DS	Hynix	16-18-18-39	1.2	*	*	*
G.SKILL	F4-2666C16Q2-64GRB	8*8GB	SS	Hynix	16-16-16-36	1.2	*	*	*
HyperX	HX426C15B8K/28	8*16GB	DS	N/A	15-16-16-35	1.2	*	*	*
HyperX	HX426C13PB3/8	4*8GB	SS	N/A	13-15-15-35	1.35	*	*	*
HyperX	HX426C13PB3K2/16	4*8GB	SS	N/A	13-15-15-35	1.35	*	*	*
HyperX	HX424C12PB3/8	4*8GB	SS	N/A	13-15-15-35	1.35	*	*	*
HyperX	HX424C12PB3K2/16	4*8GB	SS	N/A	13-15-15-35	1.35	*	*	*
HyperX	HX424C12PB3K4/2	4*8GB	SS	N/A	13-15-15-35	1.35	*	*	*
HyperX	HX426C13PB3/16	4*16GB	DS	Hynix	13-15-15-35	1.35	*	*	*
HyperX	HX426C13PB3K2/32	4*16GB	DS	Hynix	13-15-15-35	1.35	*	*	*
HyperX	HX424C12PB3K4/64	4*16GB	DS	Hynix	13-15-15-35	1.35	*	*	*
HyperX	HX424C12PB3/16	4*16GB	DS	Hynix	13-15-15-35	1.35	*	*	*
HyperX	HX424C12PB3K2/32	4*16GB	DS	Hynix	13-15-15-35	1.35	*	*	*
CRUCIAL	BL56G4D26BF8C.8F8B2	8GB	SS	Micron	16-18-18-38	1.2	*	*	*
CRUCIAL	BL56G4D26BF8C.8F8B2	8GB	SS	Micron	16-18-18-38	1.2	*	*	*
MICRON	MTA8ATF16G4AZ-26GH1	8GB	SS	Hynix	19-19-19-43	1.2	*	*	*
TIGOO	TKK6866-2666N	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
ADATA	AX4U266638G16-BRS	8*8GB	SS	Hynix	16-16-16-39	1.2	*	*	*
ADATA	AD4U266638G19-B	8*8GB	SS	N/A	19-19-19-43	1.2	*	*	*
ADATA	AD4U2666316G19-B	16*16GB	DS	N/A	19-19-19-43	1.2	*	*	*
PANRAM	WU2666PS-16G	2*16GB	DS	Hynix	16-18-18-35	1.2	*	*	*
PANRAM	WU12666PS-8G	2*8GB	DS	panram	15-18-18-35	1.2	*	*	*
Team	TPD416G2666HC19B8K	16GB	DS	Micron	19-19-19-43	1.2	*	*	*
Team	TED416G2666C1901	16GB	DS	Micron	19-19-19-43	1.2	*	*	*
Team	TPRD416G2666HC1901	16GB	DS	Micron	19-19-19-43	1.2	*	*	*
Team	TPD416G2666HC1901	16GB	DS	Micron	19-19-19-43	1.2	*	*	*
Team	TPRD432G2666HC19DC01	16GB	DS	Micron	19-19-19-43	1.2	*	*	*
Team	TPRD432G2666HC19DC01	16GB	DS	Micron	19-19-19-43	1.2	*	*	*
Team	TPD464G2666HC190C01	16GB	DS	Micron	19-19-19-43	1.2	*	*	*
Team	TPD464G2666HC190C01	16GB	DS	Micron	19-19-19-43	1.2	*	*	*
Team	TPD48G2666HC19B8K	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TED48G2666C1901	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPRD48G2666HC1901	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPD48G2666HC1901	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPRD416G2666HC19DC01	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPRD416G2666HC19DC01	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPD416G2666HC190C01	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPD432G2666HC190C01	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPD432G2666HC190C01	8GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPD44G2666HC19B8K	4GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TED44G2666C1901	4GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPRD44G2666HC1901	4GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPD44G2666HC1901	4GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TED48G2666C19DC01	4GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPRD48G2666HC19DC01	4GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPD48G2666HC19DC01	4GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TED416G2666C190C01	4GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPRD416G2666HC190C01	4GB	SS	N/A	19-19-19-43	1.2	*	*	*
Team	TPD416G2666HC190C01	4GB	SS	N/A	19-19-19-43	1.2	*	*	*

2 DIMM Slots

For each DRAM channel (A,B), make sure to install the DRAM module to gray slot first.

\* 1 DIMM: Supports one (1) module inserted into any gray slot as Single-channel memory configuration.

\* 2 DIMMs: Supports two (2) modules inserted into one pair of gray slots as one pair of Dual-channel memory configuration.

- Make sure to install the memory modules from the gray slots first.

- 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.

- 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.

- DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel® 8th Generation 6-core or higher processors.



DDR4 3200 Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Timing	Voltage(V)	<a href="#">See Page</a>	DIMM socket support (Optional)	
								1 DIMM	2 DIMM
PANRAM	PUD43200C164G4NJW	4* 4GB	SS	N/A	16-18-18-39	1.35	DDR4-2666	●	●
MUSHKIN	99720ZF	2*4GB	SS	N/A	15-15-15-36	1.2	DDR4-2666	●	●
G.SKILL	F4-3200C16D-8GVKB	2*4GB	SS	Samsung	16-18-18-38	1.35	DDR4-2666	●	●
APACER	78 8AGMD AF209	2*4GB	SS	Hynix	16-16-16-36	1.35	DDR4-2666	●	●
PATRIOT	PV48G320C6K	2*4GB	SS	N/A	16-16-16-36	1.35	DDR4-2666	●	●
HyperX	HX432C16PB3K4/32	4*8GB	SS	Hynix	16-18-18-36	1.35	DDR4-2666	●	●
ADATA	AX43200W8G16-BGZ	8GB	DS	Samsung	16-16-16-36	1.35	DDR4-2666	●	●
TEAM	TFWD416G3200C16CRBK	16GB	DS	Samsung	16-18-18-38	1.35	DDR4-2666	●	●
TEAM	TFWD8G3200C16CRBK	8GB	DS	Samsung	16-18-18-38	1.35	DDR4-2666	●	●
G.SKILL	F4-3200C16D-16GTZR	2*8GB	SS	N/A	18-18-18-38	1.35	DDR4-2666	●	●
G.SKILL	CMD32GX4M2C3200C16(Ver5.39)	4*8GB	SS	Samsung	14-14-14-34	1.35	DDR4-2666	●	●
CORSAIR	CMK16GX4M2B3200C16(Ver4.24)	2*16GB	DS	Hynix	16-18-18-36	1.35	DDR4-2666	●	●
CORSAIR	CMU16GX4M2C3200C16(Ver5.39)	8*8GB	SS	N/A	16-18-18-36	1.35	DDR4-2666	●	●
Team	CMK32GX4M2B3200C16(Ver5.39)	8GB	SS	Hynix	16-18-18-38	1.35	DDR4-2666	●	●
CORSAIR	CMK6GX4M8B3200C16(Ver4.31)	2*8GB	DS	Samsung	16-18-18-36	1.35	DDR4-2666	●	●
G.SKILL	CMK16GX4M2B3200C16(Ver4.24)	2*8GB	DS	N/A	16-16-16-36	1.35	DDR4-2666	●	●
CORSAIR	CMU16GX4M2C3200C16(Ver5.39)	2*8GB	SS	Hynix	16-18-18-36	1.35	DDR4-2666	●	●
G.SKILL	F4-3200C16D-8GRKB	8GB	SS	N/A	16-18-18-39	1.35	DDR4-2666	●	●
CORSAIR	CMU32GX4M2C3200C16(Ver5.39)	2*16GB	DS	Hynix	16-18-18-36	1.35	DDR4-2666	●	●
Hyper X	HX432C16PB3K2/16	2*8GB	SS	Hynix	16-18-18-36	1.35	DDR4-2666	●	●

- 2 DIMM Slots  
 For each DRAM channel (A,B), make sure to install the DRAM module to gray slot first.  
 • 1 DIMM: Supports one (1) module inserted into any gray slot as Single-channel memory configuration.  
 • 2 DIMMs: Supports two (2) modules inserted into one pair of gray slots as one pair of Dual-channel memory configuration.
- Make sure to install the memory modules from the gray slots first.  
 - 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  
 - 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.  
 - DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel® 8th Generation 6-core or higher processors.

DDR4 3300 Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Timing	Voltage(V)	<a href="#">See Page</a>	DIMM socket support (Optional)	
								1 DIMM	2 DIMM
ADATA	AX43333W4G16-QGZ	4*8GB	SS	N/A	16-16-16-36	1.35	DDR4-2666	●	●
HyperX	HX432C16PB3K2/16	2*8GB	SS	N/A	16-18-18-36	1.35	DDR4-2666	●	●
G.SKILL	F4-3300C16Q-16GRK	4*8GB	SS	Hynix	16-16-16-36	1.35	DDR4-2666	●	●
CORSAIR	CMR32GX4M4C3333C16(Ver4.31)	4*8GB	SS	Samsung	16-18-18-35	1.35	DDR4-2666	●	●

- 2 DIMM Slots  
 For each DRAM channel (A,B), make sure to install the DRAM module to gray slot first.  
 • 1 DIMM: Supports one (1) module inserted into any gray slot as Single-channel memory configuration.  
 • 2 DIMMs: Supports two (2) modules inserted into one pair of gray slots as one pair of Dual-channel memory configuration.
- Make sure to install the memory modules from the gray slots first.  
 - 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  
 - 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.  
 - DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel® 8th Generation 6-core or higher processors.

DDR4 3400 Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Timing	Voltage(V)	<a href="#">See Page</a>	DIMM socket support (Optional)	
								1 DIMM	2 DIMM
GEBL	GLWR416GB3400C16AQC	4*4GB	SS	N/A	16-18-18-36	1.35	DDR4-2666	●	●
G.SKILL	F4-3400C16Q-16GRBD	4*4GB	SS	Samsung	16-18-18-38	1.35	DDR4-2666	●	●
G.SKILL	F4-3466C16Q-16GVK	4*4GB	SS	N/A	16-18-18-38	1.35	DDR4-2666	●	●
CORSAIR	CMD16GX4M4B3466C18 (Ver4.23)	4*4GB	SS	N/A	18-19-19-39	1.35	DDR4-2666	●	●
PATRIOT	CMDB32GX4M2B3466C16(Ver4.31)	2*4GB	SS	Samsung	17-18-18-38	1.35	DDR4-2666	●	●
CORSAIR	CMU32GX4M4C3400C16R (Ver5.20)	4*8GB	SS	Samsung	16-18-18-36	1.35	DDR4-2666	●	●
CORSAIR	CMDB32GX4M2B3466C18(Ver4.31)	2*16GB	DS	Samsung	16-18-18-36	1.35	DDR4-2666	●	●
CORSAIR	CMR16GX4M2C3466C16(Ver4.31)	2*8GB	SS	Samsung	16-18-18-36	1.35	DDR4-2666	●	●
G.SKILL	F4-3466C16Q2-64GTZ	8*8GB	SS	N/A	16-18-18-38	1.35	DDR4-2666	●	●

- 2 DIMM Slots  
 For each DRAM channel (A,B), make sure to install the DRAM module to gray slot first.  
 • 1 DIMM: Supports one (1) module inserted into any gray slot as Single-channel memory configuration.  
 • 2 DIMMs: Supports two (2) modules inserted into one pair of gray slots as one pair of Dual-channel memory configuration.
- Make sure to install the memory modules from the gray slots first.  
 - 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  
 - 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.  
 - DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel® 8th Generation 6-core or higher processors.

DDR4 3600+ Qualified Vendors List (QVL)									
Vendors	Part No.	Size	SS/DS	Chip Brand	Timing	Voltage(V)	<a href="#">See Page</a>	DIMM socket support (Optional)	
								1 DIMM	2 DIMM
G.SKILL	F4-3600C17Q-16GVK	4*4GB	SS	N/A	17-19-18-38	1.35	DDR4-2666	●	●
GALAXY	HOF4CALCS3600K17LD162C	2*8GB	SS	Samsung	17-18-18-38	1.35	DDR4-2666	●	●
CORSAIR	CMDB32GX4M2B3600C18 (Ver4.24)	2*4GB	SS	Samsung	18-19-19-39	1.35	DDR4-2666	●	●
CORSAIR	CMDB32GX4M2B3733C17 (Ver4.24)	2*4GB	SS	N/A	17-19-19-39	1.35	DDR4-2666	●	●
G.SKILL	F4-3866C18Q-16GTZ	4*4GB	SS	Samsung	18-22-22-42	1.35	DDR4-2666	●	●
G.SKILL	F4-4000C19D-8GTZ	2*4GB	SS	Samsung	19-21-21-41	1.35	DDR4-2666	●	●
G.SKILL	F4-4000C19D-16GTZSW	2*8GB	SS	Samsung	19-21-21-41	1.35	DDR4-2666	●	●
G.SKILL	F4-4266C19D-16GTZKW	2*8GB	SS	Samsung	19-19-19-39	1.4	DDR4-2666	●	●
G.SKILL	F4-4400C19D-16GTZSW	2*8GB	SS	Samsung	19-19-19-39	1.4	DDR4-2666	●	●
G.SKILL	F4-4600C19D-16GTZWC	2*8GB	SS	Samsung	19-23-23-43	1.5	DDR4-2666	●	●
G.SKILL	F4-4600C19D-16GTZKKA	2*8GB	SS	Samsung	19-19-19-39	1.45	DDR4-2666	●	●
GALAXY	HOF4CALCS3600K17LD162C	2*8GB	SS	Samsung	17-18-18-38	1.35	DDR4-2666	●	●
KINGSTON	HX432C17PB3K4/32	4*8GB	SS	Samsung	17-18-18-39	1.35	DDR4-2666	●	●

- 2 DIMM Slots  
 For each DRAM channel (A,B), make sure to install the DRAM module to gray slot first.  
 • 1 DIMM: Supports one (1) module inserted into any gray slot as Single-channel memory configuration.  
 • 2 DIMMs: Supports two (2) modules inserted into one pair of gray slots as one pair of Dual-channel memory configuration.
- Make sure to install the memory modules from the gray slots first.  
 - 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  
 - 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.  
 - DDR4 2666MHz and higher memory modules will run at max. 2666MHz on Intel® 8th Generation 6-core or higher processors.