

" MW32-SP0 " Qualification Vender List

Intel CPU											
Product Name	Code Name	Q-Spec	Stepping	Cache	Bus Speed	# of Cores	Processor Base Frequency	Max Turbo Frequency	TDP	Memory Types	Processor Graphics
Intel® Xeon® E Processor											
Intel® Xeon® E-2186G	Coffee Lake Server	QNT6	U0	12MB	8 GT/s DMI3	6	3.8GHz	4.70 GHz	95W	DDR4-2666	Intel® UHD Graphics P630
Intel® Xeon® E-2176G	Coffee Lake Server	QNT8	U0	12MB	8 GT/s DMI3	6	3.7GHz	4.70 GHz	80W	DDR4-2666	Intel® UHD Graphics P630
Intel® Xeon® E-2174G	Coffee Lake Server	QPA0	U0	8MB	8 GT/s DMI3	4	3.8GHz	4.70 GHz	71W	DDR4-2666	Intel® UHD Graphics P630
Intel® Xeon® E-2146G	Coffee Lake Server	QNT9	U0	12MB	8 GT/s DMI3	6	3.5GHz	4.50 GHz	80W	DDR4-2666	Intel® UHD Graphics P630
Intel® Xeon® E-2144G	Coffee Lake Server	QP9Z	U0	8MB	8 GT/s DMI3	4	3.6GHz	4.50 GHz	71W	DDR4-2666	Intel® UHD Graphics P630
Intel® Xeon® E-2136	Coffee Lake Server	QP4C	U0	12MB	8 GT/s DMI3	6	3.3GHz	4.50 GHz	80W	DDR4-2666	
Intel® Xeon® E-2134	Coffee Lake Server	QPA1	U0	8MB	8 GT/s DMI3	4	3.5GHz	4.50 GHz	71W	DDR4-2666	
Intel® Xeon® E-2126G	Coffee Lake Server	QNTA	U0	12MB	8 GT/s DMI3	6	3.3GHz	4.50 GHz	80W	DDR4-2666	Intel® UHD Graphics P630
Intel® Xeon® E-2124G	Coffee Lake Server	QP9Y	U0	8MB	8 GT/s DMI3	4	3.4GHz	4.50 GHz	71W	DDR4-2666	Intel® UHD Graphics P630
Intel® Xeon® E-2124	Coffee Lake Server	QPA2	U0	8MB	8 GT/s DMI3	4	3.3GHz	4.50 GHz	71W	DDR4-2666	
Intel® Xeon® E-2104G	Coffee Lake Server	QNTB	U0	8MB	8 GT/s DMI3	4	3.2GHz	4.30 GHz	65W	DDR4-2666	Intel® UHD Graphics P630
8th Generation Intel® Core™ i3 Processors											
Intel® Core™ i3-8350K	Coffee Lake Desktop	QNES	B0	8MB	8 GT/s DMI3	4	4.0GHz	None	91W	DDR4-2400	Intel® UHD Graphics 630
Intel® Core™ i3-8300	Coffee Lake Desktop	QPSN	B0	8MB	8 GT/s DMI3	4	3.7GHz	None	62W	DDR4-2400	Intel® UHD Graphics 630
Intel® Core™ i3-8100	Coffee Lake Desktop	QNSK	U0	6MB	8 GT/s DMI3	4	3.6GHz	None	65W	DDR4-2400	Intel® UHD Graphics 630
Intel® Core™ i3-8100T	Coffee Lake Desktop	QPSQ	B0	6MB	8 GT/s DMI3	4	3.1GHz	None	35W	DDR4-2400	Intel® UHD Graphics 630
Intel® Pentium® Gold Processor Series											
Intel® Pentium® Processor G5600	Coffee Lake Desktop	QP5R	B0	4MB	8 GT/s DMI3	2	3.9GHz	None	54W	DDR4-2400	Intel® UHD Graphics 630
Intel® Pentium® Processor G5400	Coffee Lake Desktop	QP51	U0	4MB	8 GT/s DMI3	2	3.7GHz	None	58W	DDR4-2400	Intel® UHD Graphics 630
Intel® Pentium® Processor G5400T	Coffee Lake Desktop	QP53	U0	4MB	8 GT/s DMI3	2	3.1GHz	None	25W	DDR4-2400	Intel® UHD Graphics 630
Intel® Celeron® Processor G Series											
Intel® Pentium® Processor G4920	Coffee Lake Desktop	QP5Y	B0	2MB	8 GT/s DMI3	2	3.2GHz	None	54W	DDR4-2400	Intel® UHD Graphics 610
Intel® Pentium® Processor G4900T	Coffee Lake Desktop	QP5Z	B0	2MB	8 GT/s DMI3	2	2.9GHz	None	35W	DDR4-2400	Intel® UHD Graphics 610
Memory											
Product Name	Memory Type	Module Supplier	Size	Chip Brand	Rank	Voltage	Data Transfer Rate	Error Correction	CAS Latency	Pins	Note
PC4-17000(2133MHz / 1.2V)											
75.B93G2.G000B.4GB.UNB	DDR4	Apacer	4GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
CT4G4DFS8213.8FA1.4GB	DDR4	CRUCIAL	4GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
TS512MLH64V1H	DDR4	Transcend	4GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
84G44G83MC-21OMCALGF15T	DDR4	UMAX	4GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
AD4U2133W4G15-BHYM	DDR4	ADATA	4GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
KVR21N15S8/4	DDR4	Kingston	4GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
T13CCU02S61174	DDR4	Team	4GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
TS1GLH64V1H	DDR4	Transcend	8GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
78.C1GM3.AF10B.8GB.UNB	DDR4	Apacer	8GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
CT8G4DFD8213.16FA1.8GB	DDR4	CRUCIAL	8GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
84G48G93MC-21OMCGNGF15T	DDR4	UMAX	8GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
AD4U2133W8G15-BHYM	DDR4	ADATA	8GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
KVR21N15D8/8	DDR4	Kingston	8GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
T13D6U2S61175	DDR4	Team	8GB			1.2v	2133MHz	ECC Unbuffer		288-pin	
PC4-19200(2400MHz / 1.2V)											
KVR24N17S8/8	DDR4	Kingston	8GB			1.2v	2400MHz	ECC Unbuffer		288-pin	
KVR24N17D8/16	DDR4	Kingston	16GB			1.2v	2400MHz	ECC Unbuffer		288-pin	
PC4-21300(2666MHz / 1.2V)											
KVR26N19S8/8	DDR4	Kingston	8GB			1.2v	2666MHz	ECC Unbuffer		288-pin	
CT8G4DFS8266.8FB1	DDR4	CRUCIAL	8GB			1.2v	2666MHz	ECC Unbuffer		288-pin	
KVR26N19D8/16	DDR4	Kingston	16GB			1.2v	2666MHz	ECC Unbuffer		288-pin	
CT16G4DFD8266.16FH1	DDR4	CRUCIAL	16GB			1.2v	2666MHz	ECC Unbuffer		288-pin	
ECC PC4-17000(2133MHz / 1.2V)											
M4C0-4GSSLRCRG	DDR4	INNODISK	4GB			1.2v	2133MHz	ECC Registered		288-pin	
TS512MLH72V1H	DDR4	Transcend	4GB			1.2v	2133MHz	ECC Registered		288-pin	
78.B1GM4.AF00B	DDR4	Apacer	4GB			1.2v	2133MHz	ECC Registered		288-pin	
M4C0-8GSSMCRG	DDR4	INNODISK	8GB			1.2v	2133MHz	ECC Registered		288-pin	
TS1GLH72V1H	DDR4	Transcend	8GB			1.2v	2133MHz	ECC Registered		288-pin	
M391A1G43DB0-CPB	DDR4	SAMSUNG	8GB			1.2v	2133MHz	ECC Registered		288-pin	
M391A2K43B1-CPB	DDR4	SAMSUNG	16GB			1.2v	2133MHz	ECC Registered		288-pin	
ECC PC4-19200(2400MHz / 1.2V)											
HMA81GU7AFR8N-UH TO AA 1643	DDR4	Skhynix	8GB			1.2v	2400MHz	ECC Registered		288-pin	
HMA81GU7AFR8N-UH TO AA 1623	DDR4	Skhynix	8GB			1.2v	2400MHz	ECC Registered		288-pin	
CT8G4WFD824A.18FB1	DDR4	Crucial	8GB			1.2v	2400MHz	ECC Registered		288-pin	
KVR24E17S8/8MA	DDR4	Kingston	8GB			1.2v	2400MHz	ECC Registered		288-pin	
KVR24E17D8/16MA	DDR4	Kingston	16GB			1.2v	2400MHz	ECC Registered		288-pin	
HMA82GU7AFR8N-UH	DDR4	Skhynix	16GB			1.2v	2400MHz	ECC Registered		288-pin	
M4C0-AGS1MC3J	DDR4	Innodisk	16GB			1.2v	2400MHz	ECC Registered		288-pin	
ECC PC4-21300(2666MHz / 1.2V)											
M4C0-4GSSLCKIK-D33	DDR4	Innodisk	4GB			1.2v	2666MHz	ECC Registered		288-pin	
M4C0-8GSLCKIK-D33	DDR4	Innodisk	8GB			1.2v	2666MHz	ECC Registered		288-pin	
78.C1GSC.4050B	DDR4	Apacer	8GB			1.2v	2666MHz	ECC Registered		288-pin	
KSM26ES/8ME	DDR4	Kingston	8GB			1.2v	2666MHz	ECC Registered		288-pin	
HMA81GU7CJR8N-VK TO AC 1820	DDR4	Skhynix	8GB			1.2v	2666MHz	ECC Registered		288-pin	
KSM26ES/16ME	DDR4	Kingston	16GB			1.2v	2666MHz	ECC Registered		288-pin	
CT16G4WFD8266.18FD1	DDR4	Crucial	16GB			1.2v	2666MHz	ECC Registered		288-pin	
78.D1GSC.4010B	DDR4	Apacer	16GB			1.2v	2666MHz	ECC Registered		288-pin	
M4C0-AGS1MC1K-D33	DDR4	Innodisk	16GB			1.2v	2666MHz	ECC Registered		288-pin	
HMA82GU7CJR8N-VK TO AC 1801	DDR4	Skhynix	16GB			1.2v	2666MHz	ECC Registered		288-pin	
SATA											
Hard Drive											
Product Name	Type	Vendor	Form Factor	Format	Capacity	Interface Speed	Series	Cache	RPM	Encryption	Note
WD40EZRZ	SATA	WD	3.5-inch	512e	4 TB	6 Gb/s	WD Blue	64 MB	5400 RPM	N/A	
HUA722010CLA330	SATA	Hitachi	3.5-inch	512e	1 TB	3 Gb/s	HGST's Ultrastar A7K2000	32 MB	7200 RPM	N/A	

DT01ACA300	SATA	TOSHIBA	3.5-inch	512e	3 TB	6 Gb/s	DT01ACA	64 MB	7200 RPM	N/A	
WD20EZR	SATA	WD	3.5-inch	512e	2 TB	6 Gb/s	WD Caviar Green	64 MB	IntelliPower	N/A	
WD10EZX	SATA	WD	3.5-inch	512e	1 TB	6 Gb/s	WD Caviar Blue	64 MB	7200 RPM	N/A	
WD1003FZEX	SATA	WD	3.5-inch	512e	1 TB	6 Gb/s	Barracuda	64 MB	7200 RPM	N/A	
ST2000DM001	SATA	Seagate	3.5-inch	512e	2TB	6 Gb/s	Barracuda	64 MB	7200 RPM	N/A	
MD04ACA500	SATA	TOSHIBA	3.5-inch	512e	5TB	6 Gb/s	MD04ACA	128 MB	7200 RPM	N/A	
WD6001FZWX	SATA	WD	3.5-inch	512e	6TB	6 Gb/s	WD Black	128 MB	7200 RPM	N/A	
ST8000AS0002	SATA	Seagate	3.5-inch	512e	8TB	6 Gb/s	Archive HDD	128MB	5900 RPM	N/A	
ST500LM000	SATA	Seagate	2.5-inch	512e	500 GB	6 Gb/s	Laptop Thin SSHD	64 MB	5400 RPM	N/A	
MQ01ABD100	SATA	TOSHIBA	2.5-inch	512e	1 TB	6 Gb/s		8 MB	5400 RPM	N/A	
WD5000LPVX	SATA	WD	2.5-inch	512e	500 GB	6 Gb/s	WD Caviar Black	8 MB	5400 RPM	N/A	
WD10JPVX	SATA	WD	2.5-inch	512e	1 TB	6 Gb/s	WD Caviar Black	8 MB	5400 RPM	N/A	
ST1000LM014	SATA	Seagate	2.5-inch	512e	1 TB	6 Gb/s	Laptop Thin SSHD	64 MB	5400 RPM	N/A	
WD10JFCX(NAS HDD)	SATA	WD	2.5-inch	512e	1 TB	6 Gb/s	NASware 2.0	16 MB	5400 RPM	N/A	
WD10JPLX	SATA	WD	2.5-inch	512e	1 TB	6 Gb/s	WD Black	16 MB	7200 RPM	N/A	
WD10JFCX(NAS HDD)	SATA	WD	2.5-inch	512e	1TB	6 Gb/s	NASware 3.0	32 MB	7200 RPM	N/A	
ST500VT000	SATA	Seagate	2.5-inch	512e	500GB	6 Gb/s	Video HDD	32 MB	7200 RPM	N/A	
MQ02ABD100H	SATA	TOSHIBA	2.5-inch	512e	1TB	6 Gb/s	Hybrid drive	64 MB	5400 RPM	N/A	
ST500LM021	SATA	Seagate	2.5-inch	512e	500GB	6 Gb/s	Laptop Thin HDD	32 MB	7200 RPM	N/A	
WD10J31X	SATA	WD	2.5-inch	512e	1TB / 8GB NAND	6 Gb/s	WD Blue SSHD	64 MB	5400 RPM	N/A	
HTS721010A9E630	SATA	HGST	2.5-inch	512e	1TB	6 Gb/s	Travelstar 7K1000	32 MB	7200 RPM	N/A	
HTS541010A9E680	SATA	HGST	2.5-inch	512e	1TB	6 Gb/s	Travelstar 5K1000	8M	5400 RPM	N/A	
MQ03ABB200	SATA	TOSHIBA	2.5-inch	512e	2TB	6 Gb/s	MQ03ABB	16 MB	5400 RPM	N/A	

Solid State Drive

Product Name	Type	Vendor	Form Factor	Format	Capacity	Interface Speed	Series	Chip	RPM	Encryption	Note
DS-USSD240G-E100	SATA	HIKVISION	2.5-inch	3D NAND	240 GB	6 Gb/s	E100 series	Maxiotek 8115	N/A	N/A	
MX300	SATA	Crucial	2.5-inch	3D NAND	240 GB	6 Gb/s	MX300	3D NAND flash	N/A	N/A	
Ultra II 240GB	SATA	Sandisk	2.5-inch	TLC (SanDisk)	240 GB	6 Gb/s	Ultra II	Marvell 88SS9190	N/A	N/A	
SSDSC2BP240G4	SATA	Intel	2.5-inch	MLC (Intel)	240 GB	6 Gb/s	730 Series	Intel PC29AS21CA0	N/A	N/A	
HyperX Savage	SATA	Kingston	2.5-inch	TLC (SanDisk)	240 GB	6 Gb/s	HyperX Savage	Phison PS3110-S10	N/A	N/A	
A400	SATA	Kingston	2.5-inch	MLC (?)	240 GB	6 Gb/s	SSDNOW	ZCh	N/A	N/A	
PX-256M6V	SATA	Plextor	2.5-inch	MLC (Toshiba)	256 GB	6 Gb/s	M6V	SMI 2246en	N/A	N/A	
AP256GAS510SB	SATA	Apacer	2.5-inch	MLC (Micron)	256 GB	6 Gb/s	AS510S	PHISON PS3108-S8	N/A	N/A	
SHFS37A/240G	SATA	Kingston	2.5-inch	MLC (Micron)	240 GB	6 Gb/s	HyperX Fury	SandForce SF-2281	N/A	N/A	
SSB240GTLC4-SA-AF	SATA	Wyvo	2.5-inch	TLC (Toshiba)	240 GB	6 Gb/s	APS1	PHISON PS3110-S10C-12	N/A	N/A	
HLACC2033A-F0	SATA	Fujitsu	2.5-inch	MLC (Micron)	240 GB	6 Gb/s	F200	Phison S8 ( PS3108-S8-I)	N/A	N/A	
S70	SATA	Silicon Power	2.5-inch	MLC (Toshiba)	240 GB	6 Gb/s	Slim S70	SandForce SF-2281 / Phison PS3110-S10-X	N/A	N/A	
NEO N600	SATA	KLEVV	2.5-inch	TLC	240 GB	6 Gb/s			N/A	N/A	
PBT240GS25SSDR PE000389	SATA	PATRIOT	2.5-inch	TLC (Toshiba)	240 GB	6 Gb/s	Blast	Phison S8 / Phison PS3110-S10C-12	N/A	N/A	
HDT5724	SATA	Toshiba	2.5-inch	TLC (Toshiba)	240 GB	6 Gb/s	Q300	Toshiba TC358790 / TC58NC1000GSB-00	N/A	N/A	
MU III	SATA	LITEON	2.5-inch	TLC	240 GB	6 Gb/s			N/A	N/A	
SSBP240GTTCD-S10C	SATA	Phison	2.5-inch	MLC (?)	240GB	6 Gb/s	PS3110	Phison PS3110-S10-X	N/A	N/A	
ASU800SS-256GT	SATA	ADATA	2.5-inch	3D TLC	256GB	6 Gb/s	SU800	Silicon Motion SM2258	N/A	N/A	
PX-128S2C S2C-128GB	SATA	Plextor	2.5-inch	TLC (SK Hynix)	128GB	6 Gb/s	S2C	SMI SM2258G AB	N/A	N/A	
MZ-7KE256BW	SATA	Samsung	2.5-inch	Samsung 3D V-NAND	256GB	6 Gb/s	850 PRO	Samsung 3-core MEX Controller	N/A	N/A	
TS128GSSD420K	SATA	Transcend	2.5-inch	Multi-Level Cell (MLC)	128GB	6 Gb/s	MLC (?)	SSD420K	N/A	N/A	
SU800	SATA	ADATA	2.5-inch	3D NAND	256GB	6 Gb/s	Ultimate SU800		N/A	N/A	
ST2000LX001	SATA	Seagate	2.5-inch	MLC	8GB SSD21TB HDD	6 Gb/s			N/A	N/A	

Optical Disk Device

Product Name	Type	Vendor	Form Factor	Buffer Memory	Write Speed	Read Speed	Access Time	Note
DVD-231DW	Serial ATA 2.6	Pioneer	5.25-inch	198K Bytes	DVD-ROM 18X CD-ROM 40X	NA		Random Seek Time DVDROM: 100ms CDROM: 95ms
DVR-S19LBK	Serial ATA 2.6	Pioneer	5.25-inch	2M Bytes	DVD+R: 24X DVD-RAM: 12X DVD-R/R DL: 12X DVD+RW: 8X DVD-RW: 6X CD-R: 40X CD-RW: 32X	DVD-ROM (SL) , DVD+R: 16X DVD+RW/RW: 13X DVD-ROM(DL),DVD-R/R DL: 12X DVD-RAM: 12X CD-ROM , CD-R , CD-RW: 40X		TBD
IHAS324	Serial ATA 2.6	LITEON	5.25-inch	TBD	DVD-R: 24X DVD-R: 24X DVD+R DL: 8X DVD-R DL: 8X DVD-RAM: 6X CD-R: 48X	DVD-ROM: 16X DVD+RW: 8X DVD-RW: 6X CD-ROM: 48X CD-RW: 24X	140ms	
DV-W524GSB	Serial ATA 2.6	TEAC	5.25-inch	2M Bytes	DVD+R (single layer): 24x DVD+RW: 8x DVD+R DL: 12x DVD-R: 6x DVD-RW: 12x DVD-RAM: 5x CD-R: 48x CD-RW: 32x	DVD-ROM: 16x CD-ROM: 48x DVD-RAM: 5x		TBD
BDR-S07XLT	Serial ATA 2.6	Pioneer	5.25-inch	4M Bytes	BD-ROM: 10X BD-RE SL/DL: 10X/6X BD-R SL/DL: 10X/8X BD-R LTH: 6X DVD-ROM SL: 16X DVD-ROM DL: 12X DVD-R/R: 16X DVD-R DL / DVD+R DL: 12X DVD-RW/ DVD+RW: 12X DVD-RAM: 5X CD-ROM: 40X CD-R: 40X CD-RW: 24X	BD-R/ BD-R DL 12X ,10X ,8X ,6X ,4X,2X BD-RE SL/DL: 2X BD-R LTH: 6X ,4X , 2X DVD-R: 16X ,12X ,8X , 6X , 4X , 2X , 1X DVD-R DL: 8X ,6X ,4X , 2X DVD-RW: 6X , 4X , 2X , 1X DVD+R: 16X ,12X ,8X , 6X , 4X , 2,4X DVD+R DL: 8X ,6X ,4X , 2,4X DVD+RW: 8X ,6X ,4X , 3,3X , 2,4X DVD-RAM: 5X , 3X , 2X CD-R: 40X ,32X ,24X , 16X , 10X , 4X CD-RW: 24X ,16X ,10X ,4X	Average Seek Time BD: 180 mms DVD (L/RW): 170 mms CD: 160 mms Random Seek Time BD: 160 mms DVD (L/RW): 150 mms CD: 140 mms	

BH30N	Serial ATA 2.6	Hitachi/LG	5.25"	4M Bytes	BD-R (SL/DL): 10w/8x BD-RE (SL/DL): 2w/2x DVD-R: 16x DVD-R DL: 8x DVD-RW: 6x DVD-RAM: 12x DVD+R: 16x DVD+R DL: 8x DVD+RW: 8x CD-R: 48x CD-RW: 24x	BD-ROM (SL/DL): 10w/8x BD-R: 6x BD-RE (SL/DL): 10w/8x BD-RE (SL/DL): 8w/6x BD-RE: 4.8x DVD-ROM (SL/DL): 16x/12x DVD-R (SL/DL): 16x/12x DVD-RW (SL): 12x DVD+R (SL/DL): 16w/12x DVD+RW (SL): 12x DVD-RAM: 12x DVD-Video: 4.8x CD-R/RW/ROM: 48w/40w/48x CA-DA (DAE): 40x 80 mm CD: 16x	180ms
UJ8A2	7+6 pin Serial ATA	HP	Slimline	TBD	Write CD-R 24x CLV, 24x CLV, 24x ZCLV, 24x CAV Write CD-RW Multi Speed: 24x CLV High Speed: 24x CLV Ultra Speed: 24x ZCLV Ultra Speed plus: 24x ZCLV Write DVD+R/R- 8x max. CAV Write DVD+R/R- Double Layer 8x max. ZCLV Write DVD+RW 8x max. ZCLV Write DVD-RW 8x max. ZCLV Write DVD-RAM 8x max. PCAV (Ver. 2.2)	Read CD-ROM/ R/ RW 24x max. CAV Read CD-ROM/ R/ RW 24x max. CAV Read Digital Audio Extraction (DAE) 24x max. CAV Read DVD-ROM (Single Layer / Dual Layer) 8x max. CAV Read DVD+R 8x max. CAV Read DVD+R Double Layer 8x max. CAV Read DVD+RW 8x max. CAV Read DVD-R 8x max. CAV Read DVD-R Double Layer 8x max. CAV Read DVD-RW 8x max. CAV Read DVD-Video (CSS title) 8x max. CAV Read DVD-RAM 8x max. PCAV (Ver. 2.2)	TBD
DL-8A4SH	7+6 pin Serial ATA	PLDS	Slimline	0.75M Bytes	Max. 24X CD-R PCAV Max. 24X CD-RW ZCLV Max. 8X DVD-RW ZCLV Max. 8X DVD+RW ZCLV Max. 8X DVD-R PCAV Max. 8X DVD+R PCA Max. 6X DVD+R9 ZCLV Max. 6X DVD+R9 ZCLV Max. 5X DVD-RAM PCAV	Max. 24X CD-ROM CAV Max. 8X DVD-ROM CAV reading	CD 1/3 Stroke: 130ms Random Access: 130ms Full Stroke: 250ms DVD 1/3 Stroke: 130ms Random Access: 130ms Full Stroke: 250ms

M.2 M key

Product Name	Type	Vendor	Form Factor	Interface	Capacity	Controller	Note
MZVPV128HDM (NVMe)	M Key	Samsung	2280	PCIe Gen3.0 x 4	128GB	Samsung SM951	
MZHPV128HDM	M Key	Samsung	2280	PCIe Gen3.0 x 4	128GB	Samsung SM951	
MZVPV512HDM (NVMe)	M Key	Samsung	2280	PCIe Gen3.0 x 4	512GB	Samsung SM951	
Me.262 256GB M.2	M Key	EZLINK	2280	PCIe Gen2.0 x 2	256GB	Marvell 88SS9183	
PX-256M8PeG (NVMe)	M Key	Plextor	2280	PCIe Gen3.0 x 4	256GB	Marvell 88SS1093	
SHPM2280P2/240G	M Key	Kingston	2280	PCIe Gen2.0 x 4	240GB	Marvell 88SS9293	
RVD400-M2280-128G (NVMe)	M Key	TOSHIBA	2280	PCIe Gen3.0 x 4	128GB	TOSHIBA TC58NCP070GSB	
MZVPW128HEGM (NVMe)	M Key	Samsung	2280	PCIe Gen3.0 x 4	128GB	Samsung SM961	
MZVKW512HMJP (NVMe)	M Key	Samsung	2280	PCIe Gen3.0 x 4	512GB	Samsung SM961	
SSDPEKKW512G7 (NVMe)	M Key	Intel	2280	PCIe Gen3.0 x 4	512GB	Intel 600p - SMI N02N25	
AP240GZ280 (NVMe)	M Key	Apacer	2280	PCIe Gen3.0 x 4	240GB	PHISON PS5007-E7	
SKC1000/480G (NVMe)	M Key	Kingston	2280	PCIe Gen3.0 x 4	480GB	PHISON PS5007-E7	
SKC1000/240G (NVMe)	M Key	Kingston	2280	PCIe Gen3.0 x 4	240GB	PHISON PS5007-E7	
SX8000NP (NVMe)	M Key	ADATA	2280	PCIe Gen3.0 x 4	256GB	SMI SM2260G	
TS128GTE850 (NVMe)	M Key	Transcend	2280	PCIe Gen3.0 x 4	128GB	SMI SM2260G	
WDS256G1X0C (NVMe)	M Key	WD	2280	PCIe Gen3.0 x 4	256GB	Marvell 88SS1093	
MEMPEK1J016GA	M Key	Intel	2280	PCIe Gen3.0 x 4	NVMe	NVMe (Optane Stony Beach2)	
MEMPEI1J016GA	M Key	Intel	2280	PCIe Gen3.0 x 4	NVMe	NVMe (Optane Stony Beach2)	
MEMPEK1J032GA	M Key	Intel	2280	PCIe Gen3.0 x 4	NVMe	NVMe (Optane Stony Beach2)	
PH240GPM280SSDR	M Key	Patriot	2280	PCIe Gen3.0 x 4	NVMe	NVMe	

Graphics Card

Product Name	Bus Support	Memory Bandwidth (GB/sec)	Interface	OpenGL	Microsoft DirectX	Graphics Card Power (W)	NVIDIA SLI / AMD CrossFire Ready	Note
Nvidia GeForce™								
GV-N210D3-1GI	PCI Express 2.0	8 GB/s	PCIe x16	3.1	DX10.1	30.5W	No	
GV-N460SE-1GI	PCI Express 2.0	108.8 GB/s	PCIe x16	4.1	DX12	160W	Yes (2-way)	
GV-N750OC-2GI	PCI Express 3.0	80 GB/s	PCIe x16	4.4	DX11.2	55 W	No	
GV-N730D3-2GI	PCI Express 2.0	14.4 GB/s	PCIe x16	4.4	DX12	23 W	No	
GV-N960WF2OC-2GD	PCI Express 3.0	112 GB/s	PCIe x16	4.4	12 API with Feature Level 12_1	120 W	Yes (2-way)	
GV-N970G1 GAMING-4GD	PCI Express 3.0	224 GB/s	PCIe x16	4.4	12 API with Feature Level 12_1	145 W	Yes (4-way)	
GV-N980WF3OC-4GD	PCI Express 3.0	224 GB/s	PCIe x16	4.4	12 API with Feature Level 12_1	165W	Yes (4-way)	
GV-N980G1 GAMING-4GD	PCI Express 3.0	224 GB/s	PCIe x16	4.4	12 API with Feature Level 12_1	165W	Yes (4-way)	
GV-N1070G1 GAMING-8GD	PCI Express 3.0	256 GB/s	PCIe x16	4.5	12 API with Feature Level 12_1	180 W	Yes	
GV-N1080G1 GAMING-8GD	PCI Express 3.0	192 GB/s	PCIe x16	4.5	12 API with Feature Level 12_1	180 W	Yes	
GV-N1050TG1 GAMING-4GD	PCI Express 3.0	112 GB/s	PCIe x16	4.5	12 API with Feature Level 12_1	75 W	No	
GV-N1060WF2OC-3GD	PCI Express 3.0	192 GB/s	PCIe x16	4.5	12 API with Feature Level 12_1	120 W	No	
GV-N1030D5-2GL	PCI Express 3.0		PCIe x16	4.5	DX12	30 W	No	
AMD Radeon™								
RX 470 G1 Gaming 4G	PCI Express 3.0	211 GB/s	PCIe x16	4.5	DX12	120W	Yes	
GV-R726XOC-2GD	PCI Express 3.0	104 GB/s	PCIe x16	4.3	DX12		No	
GV-R724OC-2GI	PCI Express 3.0	72 GB/s	PCIe x16	4.3	DX12		No	
GV-R725OC-2GI	PCI Express 3.0	480.5 GB/s	PCIe x16	4.3	DX12		No	
GV-RX550D5-2GD	PCI Express 3.0	112 GB/s	PCIe x16	4.5	DX12	50 W	No	
GV-RX460WF2OC-2GD	PCI Express 3.0	112 GB/s	PCIe x16	4.5	DX12	70 W	Yes	

PCIe Card

Product Name	Type	Vendor	Form Factor	Interface	Chipset	Note
Sound Card						
XONAR D2X	PCIe	ASUS	PCI-E 3.0	PCIe x1	AV200	
Sound Blaster X-Fi Xtreme Audio	PCIe	Creative	PCI-E 3.0	PCIe x1		
LAN Card						
EXPI8301CTBLK	PCIe	Intel	PCI-E 3.0	PCIe x1	WG82574L	
GC-WB867D-I	PCIe	GIGABYTE	PCI-E 3.0	PCIe x1	Intel® Dual Band Wireless-AC 8260	

USB Card						
PTU302A PCI-E USB 3.0 2 Port	PCIe	伽利略	PCI-E 3.0	PCIe x1	NEC Renesas 720202	
UTB300	PCIe	Uptech	PCI-E 3.0	PCIe x4	ASMEDIA ASM1061 & ASM1042	
NA-U31A-AKT	PCIe	Uptech	PCI-E 3.0	PCIe x4	ASMedia ASM1142	
SATA/RAID Card						
Rocket 640L	PCIe	Uptech	PCI-E 3.0	PCIe x4	640L	
RocketRAID 620	PCIe	High Point	PCI-E 3.0	PCIe x4	620	
RocketRAID 2680SGL	PCIe	High Point	PCI-E 3.0	PCIe x4	2680SGL	
TX4660	PCIe	Promise	PCI-E 3.0	PCIe x4	2680SGL	
TV Card						
E650F	PCIe	Compro	PCI-E 3.0	PCIe x1	Conexant CX23885-14Z	
M.2 Card						
HyperX Predator	PCIe	HyperX	PCI-E 3.0	PCIe x1	M.2 PCIe G2x4 SOLID-STATE	
PSU						
Product Name	Vendor	Input Voltage	Wattage	Application	Efficiency	Note
RS-450-ACAA-D3	CoolMaster	100/240v	450W	Desktop	80Gold	
EMG800EWT, 80PLUS GOLD	Enermax	100/240v	800W	Desktop	N/A	
CX430	CORSAIR	100/240v	430W	Desktop	N/A	
GP-PB500	GIGABYTE	100/240v	500W	Desktop	N/A	
ST-1000E-AZ	Seventeam	100/240v	1000w	Desktop	N/A	
100-GD-0550	EVGA	100/241v	550W	Desktop	N/A	
FSP250-60HEN	FSP	220v	250W	Desktop	80Gold	
GPS-300AB-100 AH	Delta	220v	300W	Desktop	80Gold	
SSP-650RT Active PFC F3	Seasonic	100/240v	650W	Desktop	80Gold	
FSP450-50ERN	FSP	100/240v	450W	Desktop	80Gold	
ST-500PFL	Seventeam	100/240v	500W	Desktop	80Gold	
iPower90	AcBel	100/240v	400W	Desktop	N/A	
PS-TR2-0500NPC	Thermaltake	100/240v	500W	Desktop	N/A	
FSP1200-50AAG	FSP	100/240v	500W	Desktop	N/A	
SF-500P14HE	SuperFlower	100/240v	500W	Desktop	N/A	
NE450C	ANTEC	100/240v	450W	Desktop	N/A	
GPS-650FB A REV:00F	CORSAIR	100/240v	430W	Desktop	N/A	