DELL PRECISION™ TOWER 3000 SERIES- TOWER 3620, 3420

Technical Guidebook

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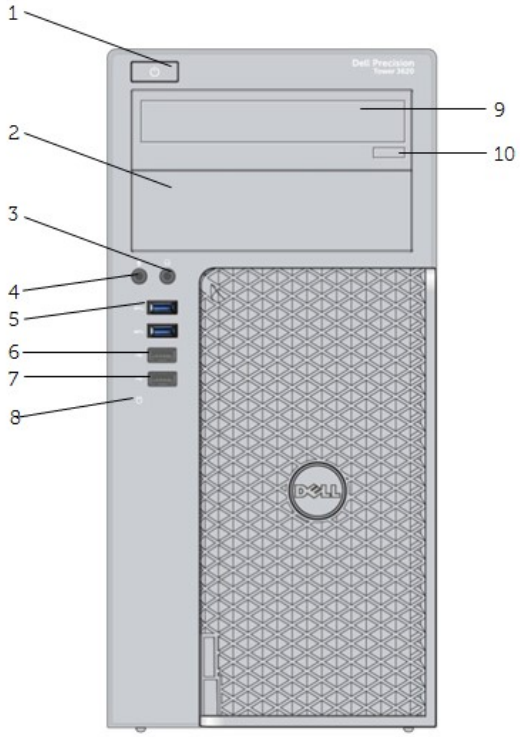

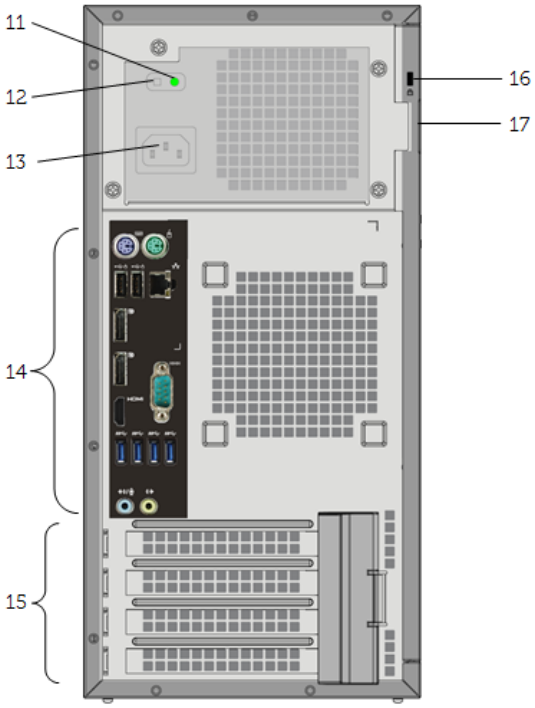

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1	Power Button, Power Light	6	USB 2.0 Connector
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3	Headphone Connector	8	Hard Drive Activity Light
4	Microphone Connector	9	Optical Drive (optional)
5	USB 3.0 Connectors (2)	10	Optical Drive Eject Button

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14	Back Panel Connectors		

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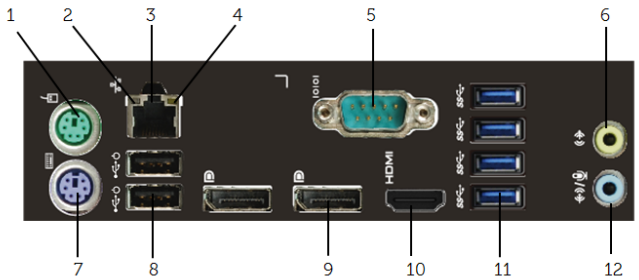
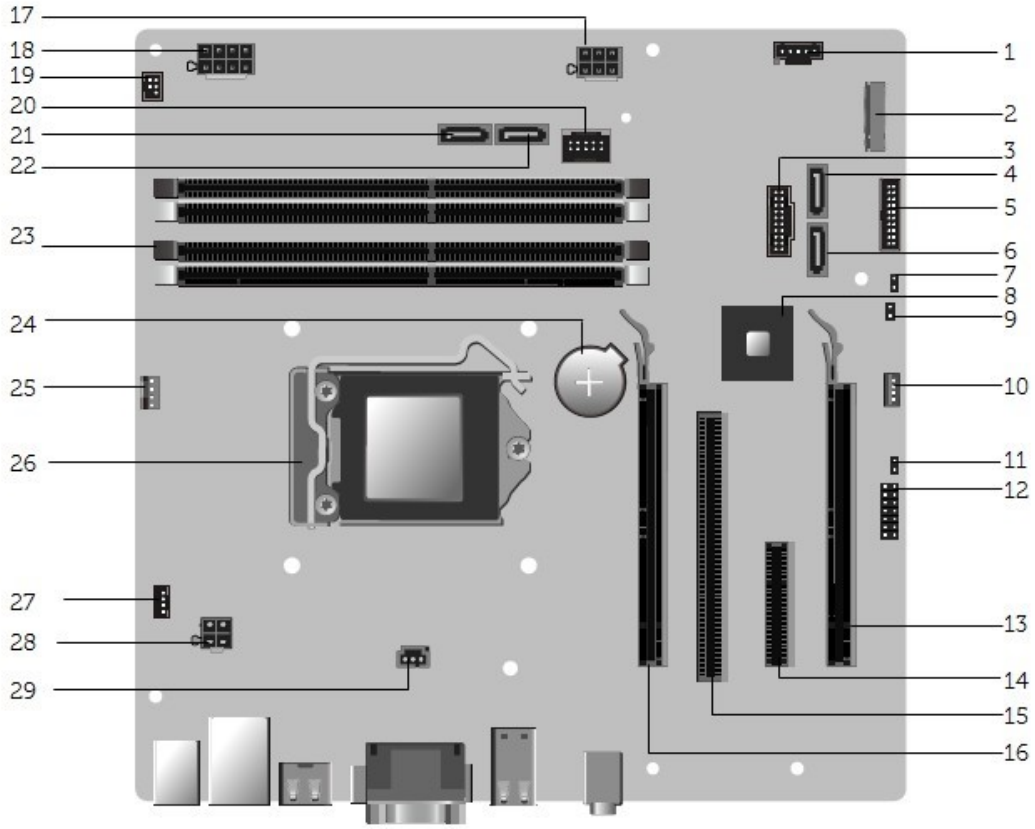
2	Link Integrity Light	8	USB2.0 Connectors (2) with Smart Power on
3	Network Connector	9	DisplayPort Connector(2)
4	Network Activity Light	10	HDMI Connector
5	Serial Connector	11	USB3.0 Connectors (4)
6	Line-out Connector	12	Line-in/Microphone Con-nector



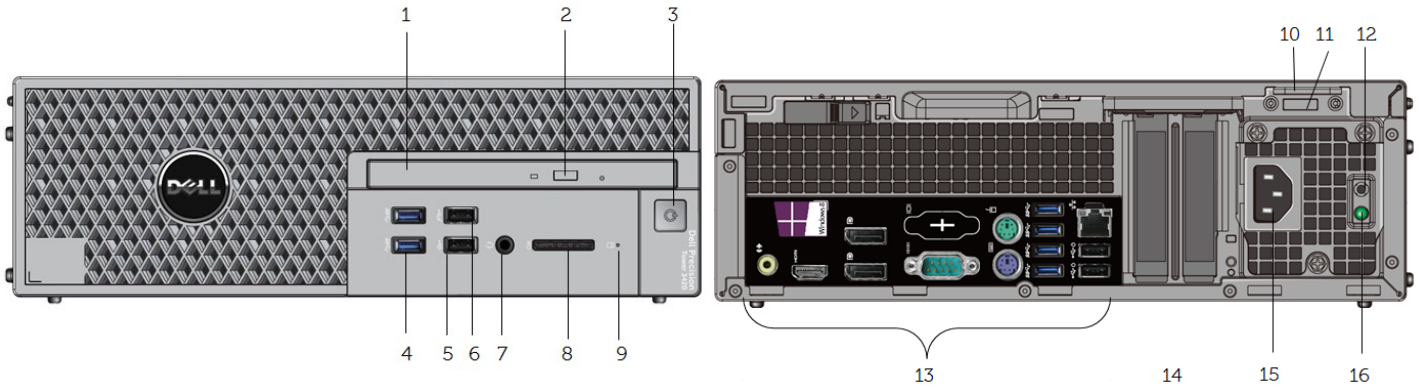
MOTHERBOARD LAYOUT



TOWER 3620 System Board Components

Number	Name	Number	Name
1	Thunderbolt Header (TBT_HDR)	16	PCI-e x16 Gen 3 Slot (SLOT1)
2	M.2 NGFF Card Slot(M.2_SLOT2)	17	HDD_ODD_Power Cable Connector (SATA_PWR)
3	Front USB3.0 Connector (F_USB3)	18	P1 Power Connector (ATX_SYS_1)
4	SATA 0 Connector (SATA0) (Blue color)	19	Power Switch Connector (PWR_SW)
5	Front IO Connector (F_PANEL2)	20	Internal USB Connector (INT_USB)
6	SATA 3 Connector (SATA3) (Black color)	21	SATA 1 Connector (SATA1) (White color)
7	PSWD Jumper (PSWD)	22	SATA 2 Connector (SATA2) (Black color)
8	PCH chip (N/A)	23	DIMM Slots (DIMM1, DIMM2, DIMM3, DIMM4)
9	SERVICE_MODE Jumper (SERVICE_MODE)	24	Coin-cell Battery (BATTERY)
10	Internal Speaker Connector (INT_SPKR)	25	CPU Fan Connector (FAN_CPU)
11	CMCLR Jumper (CMCLR)	26	CPU Socket (XU1)
12	CLINK Header (CLINK)	27	System Fan Connector (FAN_SYS2)
13	PCI-e x16 (wire x4) Slot (SLOT4)	28	P2 Power Connector (ATX_CPU)
14	PCI-e x4 Slot (SLOT3)	29	Intrusion Switch Connector (INTRUDER)
15	PCI Slot (SLOT2)		

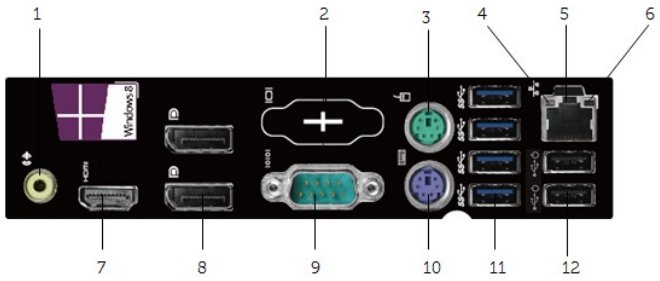
EXTERNAL CHASSIS VIEWS—SMALL FORM FACTOR



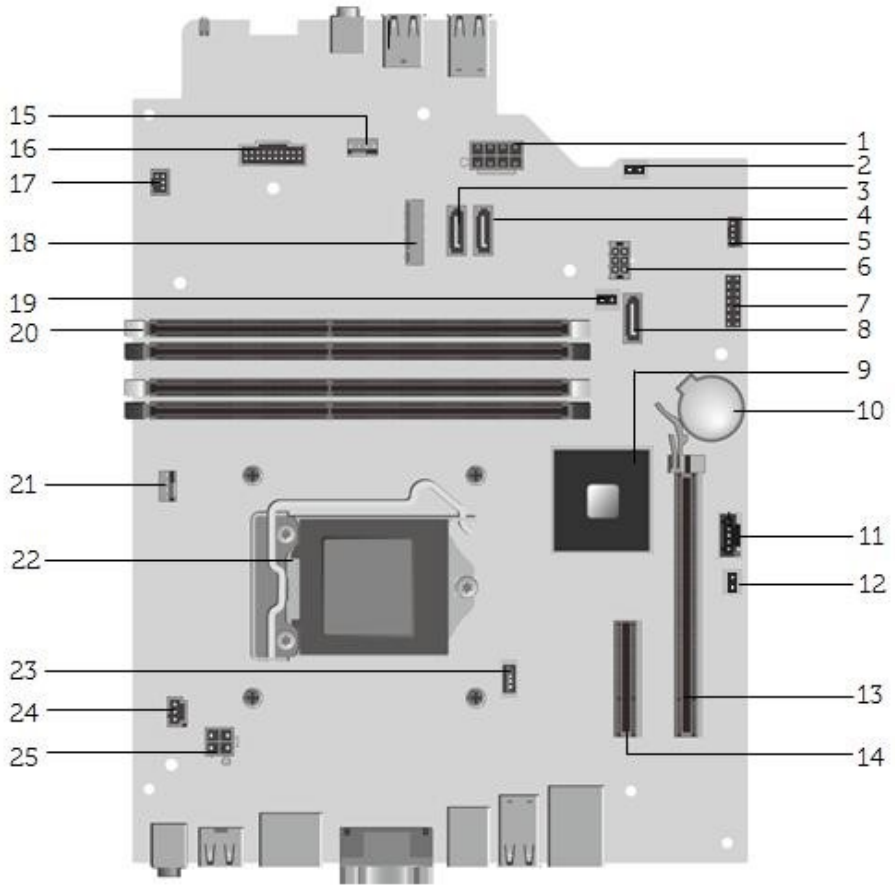
FRONT VIEW			
1	Optical Drive	6	USB 2.0 Connector with Power Share Function
2	Optical Drive Eject Button	7	Universal Audio Jack
3	Power Button, Power Light	8	Card Reader Opening
4	USB 3.0 Connectors (2)	9	HDD Drive Activity Light
5	USB 2.0 Connector		

BACK VIEW			
10	Padlock Ring	14	Expansion Card Slots (2)
11	Kensington / Noble Security Cable Slot	15	Power Connector
12	Power Supply Diagnostic Button	16	Power Supply Diagnostic Light
13	Back Panel Connectors		

BACK PANEL CONNECTORS			
1	Line-out Connector	7	HDMI Connector
2	VGA Connector (Optional)	8	Display Port Connectors(2)
3	PS2_Mouse Connector	9	Serial Connector
4	Link Integrity Light	10	PS2_Keyboard Connector
5	Network Connector	11	USB3.0 Connectors (4)
6	Network Activity Light	12	USB2.0 Connectors (2) with Smart Power on



MOTHERBOARD LAYOUT



TOWER 3420 System Board Components

Number	Name	Number	Name
1	P1 Power Connector (ATX_SYS)	14	PCIe x4 Connector(SLOT1)
2	SERVICE_MODE Jumper (SERVICE_MODE)	15	System Fan Connector (FAN_SYS)
3	SATA 2 Connector (SATA2) (Black color)	16	Media Card Reader Connector (MCR)
4	SATA 0 Connector (SATA0) (Blue color)	17	Power Switch Connector (PWR_SW)
5	Internal Speaker Connector (INT_SPKR)	18	M.2 NGFF Card Slot (SLOT3_M.2)
6	HDD_ODD_Power Cable Connector (SATA_PWR)	19	PWCLR Jumper (PWCLR)
7	Connector for WLAN Caddy card Clink cable	20	Memory Connectors(DIMM1, DIMM2, DIMM3, DIMM4)
8	SATA 1 Connector (SATA1) (White color)	21	CPU Fan Connector (FAN_CPU)
9	PCH chip (N/A)	22	CPU Socket (XU1)
10	Battery Connector (BATTERY)	23	VGA Connector (VGA)
11	Thunderbolt Header (TBT)	24	Intrusion Switch Connector (INTRUDER)
12	CMCLR Jumper (CMCLR)	25	P2 Power Connector (ATX_CPU)
13	PCIe x16 Connector (SLOT2)		

TOWER 3420 Optional Cable Cover

Cable Cover Dimension HxWxD (inches/centimeters) =
4.13 x 3.65 x 11.42 / 10.5 x 9.26 x 29

MARKETING SYSTEM CONFIGURATIONS

NOTE: Offerings may vary by country. For more information regarding the configuration of your computer, click Start>Help and Support and select the option to view information about your computer.

OPERATING SYSTEM

Windows 7, Windows 8.1, RHEL 7.2, Ubuntu 14.04, Neokylin 6 SP2 Operating Systems are only supported with 6th Gen Intel Core i3,i5,i7 & E3-1200 v5 Processors.

RHEL 7.3, Ubuntu 16.04, Neokylin 6 SP3 are only supported with 7th Gen Intel Core I Processors

Windows operating system	Microsoft® Windows 10 Pro (64 bit), Microsoft® Win10 Home (64bit) Microsoft® Windows 8.1 Pro (64bit) Microsoft® Win8.1 Home (64bit), Microsoft® Windows 7® Professional SP1 (32 and 64 bit),
Linux operations system	Red Hat Enterprise Linux 7.2 / 7.3
	Ubuntu 14.04 / 16.04
	NeoKylin 6 SP2 / SP3
OS Media Support	Optional

CHIPSET

Chipset	Intel C236 Chipset
Non-volatile memory on chipset	
BIOS Configuration SPI (Serial Peripheral Interface)	128Mbit (16MB)
TPM 2.0 Security Device (Trusted Platform Module)[1]	24KB
NIC EEPROM	LOM configuration contained within SPI_FLASH – no dedicated LOM EEPROM

PROCESSOR

NOTE: Global Standard Products (GSP) are a subset of Dell's relationship products that are managed for availability and synchronized transitions on a worldwide basis.. They ensure the same platform is available for purchase globally. This allows customers to reduce the number of configurations managed on a worldwide basis, thereby reducing their costs. They also enable companies to implement global IT standards by locking in specific product configurations worldwide. The following GSP processors identified below will be made available to Dell customers.
NOTE: Intel Core i3/i5/i7 processors can only be paired with Non-ECC memory.

	Tower 3620	Tower 3420	Integrated Graphics Support
Intel® Xeon Quad Core Processors			
Intel® Xeon E3-1240 v5 3.50GHz, 3.9Ghz Turbo, 8M, 80W, HT, Turbo Boost, VT-x, VT-d, TXT, Pro™	X	X	None
Intel® Xeon E3-1270 v5 3.60GHz, 4.0Ghz Turbo, 8M, 80W, HT, Turbo Boost, VT-x, VT-d, TXT, Pro™	X	X	None
Intel® Xeon E3-1220 v5 3.00GHz, 3.5Ghz Turbo, 8M, 80W, Turbo Boost, VT-x, VT-d, TXT, vPro™	X-GSP	X-GSP	None
Intel® Xeon E3-1225 v5 3.30GHz, 3.7Ghz Turbo, 8M, 80W, Turbo Boost, VT-x, VT-d, TXT, vPro™	X-GSP	X-GSP	Intel HD P530 Graphics
Intel® Xeon E3-1245 v5 3.50GHz, 3.9Ghz Turbo, 8M, 80W, HT, Turbo Boost, VT-x, VT-d, TXT,vPro™	X-GSP	X-GSP	Intel HD P530 Graphics
Intel® Core Quad Core Processors			
Intel® Core i7-6700K[1] 4.00GHz, 4.2Ghz Turbo, 8M, 91W, HT, Turbo Boost, VT-x, VT-d	X		Intel HD 530 Graphics
Intel® Core i7-6700 3.40GHz, 4.0Ghz Turbo, 8M, 65W, HT, Turbo Boost, VT-x, VT-d, TXT, vPro™	X-GSP	X-GSP	Intel HD 530 Graphics
Intel® Core i5-6600 3.30GHz, 3.9Ghz Turbo, 6M, 65W, Turbo Boost, VT-x, VT-d, TXT, vPro™	X	X	Intel HD 530 Graphics
Intel® Core i5-6500 3.20GHz, 3.6Ghz Turbo, 6M, 65W, Turbo Boost, VT-x, VT-d, TXT, vPro™	X-GSP	X-GSP	Intel HD 530 Graphics
Intel® Core i7-7700K[1] 4.20GHz, 4.5Ghz Turbo, 8M, 91W, HT, Turbo Boost, VT-x, VT-d	X		Intel HD 630 Graphics
Intel® Core i7-7700 3.50GHz, 4.1Ghz Turbo, 8M, 65W, HT, Turbo Boost, VT-x, VT-d, TXT, vPro™	X-GSP	X-GSP	Intel HD 630 Graphics
Intel® Core i5-7600 3.30GHz, 3.9Ghz Turbo, 6M, 65W, Turbo Boost, VT-x, VT-d, TXT, vPro™	X	X	Intel HD 630 Graphics
Intel® Core i5-7500 3.40GHz, 3.8Ghz Turbo, 6M, 65W, Turbo Boost, VT-x, VT-d, TXT, vPro™	X-GSP	X-GSP	Intel HD 630 Graphics
Intel® Core Dual Core Processors			
Intel® Core i3-6100 3.70GHz, 3M, 65W, HT, VT-x, VT-d	X	X	Intel HD 530 Graphics

[1] The i7-6700K * i7700K is locked in the BIOS and cannot be overclocked.

MEMORY

NOTE: The Dell Precision TOWER 3620/TOWER 3420 has a dual channel memory bus architecture. Dell recommends that two memory channels be populated with DIMMS for maximum memory performance.. Please note, UDIMM ECC and NECC memory cannot be mixed.

NOTE: Not all memory options are available for Factory Installation.. Processor availability subject to change and may vary by region/country.

NOTE: Maximum memory speed is tied to processor. Intel 7th Gen Processor only supports 2400Mhz memory. 2400Mhz memory will clock down to 2133Mhz when paired with Intel 6th Gen Core I or E3-1200 v5 Processors

	Tower 3620	Tower 3420
Memory specifications		
Type:	DDR4 Non-ECC UDIMM and ECC UDIMM	
Max Frequency	2133 MHz / 2400MHz	
DIMM Slots	4	
DIMM Capacities	Up to 16GB	
Minimum Memory	4GB	
Maximum System Memory	64GB	
Memory options		
ECC UDIMM Memory (only available with Xeon processors)		
64GB (4 x 16 GB) DDR4, 2133 MHz	X	X
32GB (2x 16 GB) DDR4, 2133 MHz	X	X
32GB (4 x 8 GB) DDR4, 2133 MHz	X	X
16GB (2 x 8 GB) DDR4, 2133 MHz	X	X
16GB (4 x 4 GB) DDR4, 2133 MHz	X	X
8GB (1 x 8 GB) DDR4, 2133 MHz	X	X
8GB (2 x 4 GB) DDR4, 2133 MHz	X	X
4GB[1] (1 x 4GB) DDR4 2133 MHz,	X	X
Non- ECC Memory (NECC)		
64GB (4 x 16 GB) DDR4, 2133 MHz and 2400MHz	X	X
32GB (2x 16 GB) DDR4, 2133 MHz and 2400MHz	X	X
32GB (4 x 8 GB) DDR4, 2133 MHz and 2400MHz	X	X
16GB (2 x 8 GB) DDR4, 2133 MHz and 2400MHz	X	X
16GB (4 x 4 GB) DDR4, 2133 MHz and 2400MHz	X	X
8GB (1 x 8 GB) DDR4, 2133 MHz and 2400MHz	X	X
8GB (2 x 4 GB) DDR4, 2133 MHz and 2400MHz	X	X
4GB[1] (1 x 4 GB) DDR4 2133 MHz, and 2400MHz	X	X

[1]The total amount of available memory will be less than 4GB on systems running 32-bit operating systems. The amount less depends on the actual system configuration. To fully utilize 4GB or more of memory requires a 64-bit operating system.

GRAPHICS/VIDEO CONTROLLER

NOTE: Mini Tower supports full height (FH) cards unless specified. Small Form Factor supports low profile (LP) cards.

NOTE: Dual Graphic options available on Mini Tower only where specified.

Graphic/Video Options	Tower 3620	Tower 3420	Included Dongle
Professional 2D			
NVIDIA NVS 510 with (4) mDP , 2GB, 33.4W	S, D	S	mDP-VGA, mDP–DP, mDP-HDMI, mDP–DVI-D
NVIDIA NVS 310 with (2) DP， 512MB, 19.5W	S, D	S	mDP-VGA, mDP–DP, mDP-HDMI, mDP–DVI-D
NVIDIA NVS 310 with (2) DP , 1GB, 19.5W	S, D	S	mDP-VGA, mDP–DP, mDP-HDMI, mDP–DVI-D
NVIDIA NVS 315 with (1) DMS-59, 1GB, 19.3W	S, D	S, D	DMS-59–Dual DVI-I, DMS-59–Dual DP,DMS-59–HDMI, DMS-59–Dual VGA
Entry 3D			
AMD FirePro W4100 with (4)mDP, 2GB, ＜ 50W	S, D	S	mDP-DP
AMD FirePro W2100 with (2)DP, 2GB, ＜ 50W	S, D	S	DP–DP
NVIDIA Quadro K620 with (1) DP and (1) DVI , 2GB, 45W	S, D	S	DP–DVI, DP–DP,DVI–VGA
NVIDIA Quadro K420 with (1) DP and (1) DVI , 2GB, 41W	S	S	DP–DVI, DP–DP,DVI–VGA
NVIDIA Quadro K1200 with (4)mDP, 4GB, 46W	S[3]	S	mDP-DP, mDP–VGA, mDP–HDMI
Mid-range 3D			
AMD FirePro W7100 with (4) DP, 8GB, ＜ 150W	S		DP–DP
AMD FirePro W5100 with (4) DP, 4GB, 75W	S		DP–DP
4NVIDIA Quadro K2200 with (2) DP and (1) DVI, 4GB, 67.7W	S		DP–DVI, DP–DP,DVI–VGA
NVIDIA Quadro M2000[2] with (4) DP, 4GB, 61.5W	S		DP–DP
NVIDIA Quadro M4000[2] with (4) DP, 8GB, 120W	S		DP–DP
Integrated Graphics[1]			
Intel HD 530 Graphics, system ports 2DP+1HDMI (6th Gen CPU)	On board	On board	None included
Intel HD 630 Graphics, system ports 2DP+1HDMI (7th Gen CPU)	On board	On board	None included

[1]NOTE: Intel Integrated Graphics is only available on select processors. The specific processor determines which type of Integrated graphics is available.

[3]Note: “S” for single, “D” for Dual” and “S,D” for single or Dual Graphics support.

DRIVES AND REMOVABLE STORAGE

NOTE: Intel Rapid Storage Technology (RST) supported with Windows Operating System

	TOWER 3620	TOWER 3420
Bays:		
5.25-inch Optical Bay (External)	2	
Slimline Optical Bay (External)		1
Optical Drives Supported (maximum)	2	1
Hard Drive Bay Supported (Internal)	4 (2x 3.5” or 4x 2.5”)	2 (1x 3.5” or 2x 2.5”)
Hard Drives Supported 3.5”/2.5” (maximum) (Excludes 1x M.2 PCIe SSD on motherboard)	2/4	1/2
Interface:		
SATA 3.0 (TOWER 3620/TOWER 3420 optical or 3rd/4th Hard Drive on TOWER 3620)	2	1
SATA 3.0 (TOWER 3620/TOWER 3420 Hard Drives)	2	2
3.5” Hard Drives:		
4TB SATA 5400 RPM HDD	X	X
2TB SATA 7200 RPM HDD	X	X
1TB SATA 7200 RPM HDD	X	X
500GB[1] SATA 7200 RPM HDD	X	X
2.5” Hard Drives:		
1TB SATA 7200 RPM HDD	X	X
500GB[1] SATA 7200 RPM HDD	X	X
500GB[1] SATA 7200 RPM SED OPAL FIPS HDD	X	X
512GB[1] SATA Class 20 Solid State Drive	X	X
512GB[1] SATA Class 30 Solid State Drive	X	X
512GB[1] SATA SED Class 20 Solid State Drive	X	X
360GB[1] SATA Class 20 Solid State Drive	X	X
256GB[1] SATA Class 20 Solid State Drive	X	X
256GB[1] SATA Class 30 Solid State Drive	X	X
128GB[1] SATA Class 20 Solid State Drive	X	X

[1] For hard drives, GB means 1 billion bytes; actual capacity varies with preloaded material and operating environment and will be less.

[2] The M.2 SSD is installed in 2280 M.2 slot on MB.

DRIVES AND REMOVABLE STORAGE

	TOWER 3620	TOWER 3420
M.2 2280 Solid State Driver		
1TB[1] PCIE 2280 Class 40 Solid State Drive[2]	X	X
512GB[1] PCIE 2280 Class 40 Solid State Drive[2]	X	X
512GB[1] PCIE 2280 Class 50 Solid State Drive	X	X
256GB[1] PCIE 2280 Class 40 Solid State Drive[2]	X	X
256GB[1] PCIE 2280 Class 50 Solid State Drive	X	X

[1] For hard drives, GB means 1 billion bytes; actual capacity varies with preloaded material and operating environment and will be less.

[2] The M.2 SSD is installed in 2280 M.2 slot on MB.

DRIVES AND REMOVABLE STORAGE (CON'T)

	TOWER 3620	TOWER 3420
Optical Drive:		
5.25" 16X DVD+/-RW[1] SATA 1.5Gbit/s	X	
5.25" 16X DVD-ROM[2] SATA 1.5Gbit/s	X	
5.25" 8x Blu Ray Writer	X	
Slimline 8X DVD+/-RW[1] SATA 1.5Gbit/s		X
Slimline 8X DVD-ROM[2] SATA 1.5Gbit/s		X
Slimline 6X Blu Ray Writer		X
Media Card Reader:		
Dell 19 in 1 Media Card Reader	X	
Media Card Reader-Integrated (SD 4.0)		X

[1] Discs burned with this drive may not be compatible with some existing drives and players; using DVD+R media provides maximum compatibility.
[2] DVD-ROM drives may have write-capable hardware that has been disabled via firmware modifications.

NOTE: Dell 19 in 1 Media Card Reader (MCR) is supported via a F5 to F3 bay converter in the 5.25" Optical Drive Bay on TOWER 3620 only.

SYSTEM EXPANSION SLOTS

NOTE: See Detailed Engineering Specifications for supported voltage, maximum wattage and card dimensions.

	TOWER 3620	TOWER 3420
PCIe x16 Slot Gen 3	1	1
PCIe x16 (wired x4) Slot Gen 3	1	
PCIe x4, (open ended) Slot Gen 3	1	1
PCI 32/33 Slot	1	
Serial ATA (SATA) connectors (for Hard Drives and Optical)	4	3

EXTERNAL PORTS/CONNECTORS

NOTE: See chassis diagrams section for port/connector locations. External ports/ connectors at the same on TOWER 3620 & TOWER 3420.

USB 3.0	2 Front, 4 Rear
USB 2.0	2 Front, 2 Rear
Internal USB 2.0	2 Internal (Tower 3620), None (Tower 3420)
Serial	1 Rear (2nd via optional Add in Card)
Network Connector (RJ-45)	1 Rear
PS/2	2 Rear
1394 Controller via optional PCI card	Optional via Add in Card, Customer kit only
Parallel	Optional via Parallel / 2nd Serial PCIE add in Card

EXTERNAL PORTS/CONNECTORS (CONT.)

NOTE: See chassis diagrams section for port/connector locations. External ports/ connectors at the same

	Tower 3620	Tower 3420
Audio:		
Line in for microphone	1 Front	
Line in for microphone or stereo	1 Rear	
Line out for headphones or speakers	1 Front, 1 Rear	

HARD DRIVE CONTROLLER

	Tower 3620	Tower 3420
Intel Rapid Storage Controller 12.0 supporting SATA 6Gb/s (4ports– SATA0, SATA1,SATA2,SATA3) , host based RAID 0/1/5/10	Integrated	
Intel Rapid Storage Controller 12.0 supporting SATA 6Gb/s (3 ports– SATA0, SATA1,SATA2) host based RAID 0/1		Integrated

COMMUNICATIONS - NETWORK ADAPTER (NIC)

	TOWER 3620	TOWER 3420
Intel® Ethernet Connection I219-LM 10/100/1000[1]	Integrated on system board	
Intel 10/100/1000 PCIe Gigabit[1] Networking Card	Optional card	

[1] This term does not connote an actual operating speed of 1 Gb/sec. For high speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

AUDIO AND SPEAKERS

	TOWER 3620	TOWER 3420
Realtek ALC3861 High Definition Audio Codec plus ALC1003 Audio Amplifier	Integrated on mother board	
Realtek ALC3234-CG High Definition Audio Codec		Integrated on mother board
Internal Chassis Speaker	100%	
Dell 2.0 USB powerd Speakers AX210 (Rolling stones)	Optional	
Dell 2.0 USB Soundbar Speakers AC511 (Potentia)	Optional	
Dell 2.0 Multimedia Speaker AC411(Eagles)	Optional	
Dell Professional Stereo Headset UC300(Rihanna)	Optional	
Logitech C920 Webcam	Optional	

KEYBOARD AND MOUSE

	TOWER 3620	TOWER 3420
Dell USB Entry Keyboard	Optional	
Dell Multimedia Pro Keyboard	Optional	
Dell Smartcard Keyboard	Optional	
Dell USB Optical Mouse	Optional	
Dell Laser Mouse	Optional	

SECURITY

	TOWER 3620	TOWER 3420
Trusted Platform Module (TPM) 2.0	Integrated on system board	
Chassis Intrusion Switch	100%	
Dell Smartcard Keyboard	Optional	
Chassis lock slot and loop support	Standard	
Dell Data Protection | Encryption Accelerator Card	Optional	

SERVICE AND SUPPORT

NOTE: For more details on Dell Service Plans please to go to: www.dell.com/service/service_plans

1 Year Warranty[1] Next Business Day On-site[2] (3-3-3)	Standard
ProSupport	Optional
ProSupport Plus	Optional

[1] For a copy of our guarantees or limited warranties, please write Dell USA L.P., Attn: Warranties, One Dell Way, Round Rock, TX 78682. For more information, visit www.dell.com/warranty.

[2] Service may be provided by third-party. Technician will be dispatched if necessary following phone-based troubleshooting. Subject to parts availability, geographical restrictions and terms of service contract. Service timing dependent upon time of day call placed to Dell. U.S. only.

SOFTWARE

Dell Data Protection | Security Tools (DDP|ST)	Standard
Dell Data Protection | Encryption (DDPE)	Optional

DETAILED ENGINEERING SPECIFICATIONS

SYSTEM DIMENSIONS (PHYSICAL)

NOTE: System Weight and Shipping Weight is based on max configuration and may vary based on PC configuration. Max configuration includes: full graphics card, two hard drive and two optical drive.

	TOWER 3620	TOWER 3420
Chassis Volume (liters)	27.41	7.84
Chassis Weight (pounds/kilograms)	25.76 / 11.71	13.75 / 6.25
Chassis Dimensions: (HxWxD)		
Height (inches/centimeters)	14.17 / 36	11.42 / 29
Width (inches/centimeters)	6.89 / 17.5	3.65 / 9.26
Depth (inches/centimeters)	17.12 / 43.5	11.50/29.2
Shipping Weight (pounds/kilograms - includes packaging materials)	33.81/ 15.37	19.36 / 8.8
Packaging Parameters (HxWxD)		
Height (inches/centimeters)	18.75 / 47.6	15.50 / 39.4
Width (inches/centimeters)	14.09 / 35.8	10.38 / 26.4
Depth (inches/centimeters)	22.44 / 57.0	19.19 / 48.7

SYSTEM EXPANSION SLOTS—MINI TOWER

No.	Type	Voltage supported	Max Height (in,cm)	Max Length (in, cm)	Max Wattage	Cards supported
Slot1	PCIe x16 Gen3	3.3V/12V	Standard Height 4.7 in / 11.94 cm	3/4 Length 9.5in / 24.13cm	75W#*	Graphics, Gigabit NIC, Parallel / Serial
Slot2	PCI	3V/5V/12V/-12V	Standard Height 4.7 in / 11.94 cm	3/4 Length 9.5in / 24.13cm	25W	1394
Slot3	PCIe x4 Gen3	3.3V/12V	Standard Height 4.7 in / 11.94 cm	Half Length 6in / 15.24 cm	25W	Gigabit NIC, Parallel / Serial
Slot4	PCIe x16 (x 4) Gen3	3.3V/12V	Standard Height 4.7 in / 11.94 cm	Half Length 6 in / 15.24 cm	25W*	Graphics, Gigabit NIC, Parallel / Serial

Note: Slot #1 is default for factory installed graphics card

Supports up to 150W Graphics power in Slot 1 using optional 365W PSU that provides additional 75W using a 6 Pin power adapter. In this scenario, slot 4 is limited to 25W

* Please note that total power consumption for both Slot 1 + Slot 4 <= 100W. If using Dual video cards, card on slot 4 can exceed 25W, as long as max. power between Slot 1 + Slot 4 <-100W

SYSTEM EXPANSION SLOTS—SMALL FORM FACTOR

No.	Type	Voltage supported	Max Height (in,cm)	Max Length (in, cm)	Max Wattage	Cards supported
Slot1	PCIe x4 Gen3	3.3V/12V	Half Height 3.35 in / 8.51 cm	Half Length 6.6 in / 16.77 cm	25W*	Graphics, Gigabit NIC, Parallel, Serial
Slot2	PCIe x16 Gen3	3.3V/12V	Half Height 3.35 in / 8.51 cm	Half Length 6.6 in / 16.77 cm	50W*	Graphics, Gigabit NIC, Parallel, Serial

* Please note that total power consumption for both slots <= 50W.

SYSTEM LEVEL ENVIRONMENTAL AND OPERATING CONDITIONS

	TOWER 3620	TOWER 3420
Temperature		
Operating	5° to 35° C (41° to 95° F)	
Non-Operating (Storage)	-40° to 65° C (-40° to 149° F)	
Relative Humidity	20% to 80% (non-condensing)	
Maximum vibration		
Operating	0.26Grms random at 5 to 350 Hz	
Non-Operating	1.37 Grms random at 5 to 500 Hz	
Maximum Shock		
Operating	Bottom half-sine pulse with a change in velocity of 50.8 cm/sec (20 inches/sec)	
Non-Operating	105G half-sine pulse with a change in velocity of 133cm/sec (52.5inches/sec)	
Maximum Altitude		
Operating	–15.2 to 3048 m (–50 to 10,000 ft)	
Non-Operating	–15.2 to 10,668 m (–50 to 35,000 ft)	

POWER

NOTE: These form factors utilize a more efficient EPA power supply. Dell recommends only Universal Power Supplies (UPS) based on Sine Wave output for EPA PSUs, not an approximation of a Sine Wave, Square Wave, or quasi-Square Wave. If you have questions, please contact the manufacture to confirm the output type.

	TOWER 3620		TOWER 3420	
Power Supply	**EPA Bronze**	**EPA Gold**	**EPA Bronze**	**EPA Platinum**
Wattage	290W High Efficiency	365W High Efficiency	180W High Efficiency	240W High Efficiency
AC input Voltage Range	100 – 240Vac	100 – 240Vac	100 – 240Vac	100-240Vac
AC input current (low ac range/ high AC range)	5.4A /2.7A	5.0A /2.5A	3.0A /1.5A	4.0A / 2.0A
AC input Frequency	50Hz/60Hz	50Hz/60Hz	50Hz/60Hz	50HZ/60HZ
AC holdup time (80% load)	16 mini sec	16 mini sec	16 mini sec	16 mini sec
Average Efficiency (Energy Star 5.0 Compliant)	82 – 85 – 82% @ 20 – 50 – 100% load	87 – 90 – 87% @ 20 – 50 – 100% load	82 – 85 – 82% @ 20 – 50 – 100% load	90 – 92 – 89% @ 20 – 50 – 100% load
Typical Efficiency (Active PFC)				
DC parameters				
+12.0v output	12VA/14A; 12VB/16A	12VA/14A; 12VB/18A; 12VC/11A	12VA/12A; 12VB/14A	12VA/16.5A; 12VB/16A
+12.0v auxiliary output	1.67A	1.67A	2.5A	2.5A
Max total power	290W	365W	180W	240W
Max combined 12.0v power (note: only if more than one 12v rail)	290W	365W	180W	240W
BTUs/h (based on PSU max wattage)	989 BTU	1245 BTU	614 BTU	819 BTU
Power Supply Fan	80*25mm	80*25mm	60*25mm	60*25mm
Compliance				
Erp Lot6 Tier 2 0.5watt requirement	Yes	Yes	Yes	Yes
Blue Angel Compliant	No	No	No	No
Climate Savers / 80Plus Compliant	Yes	Yes	Yes	Yes
FEMP Standby Power Compliant	Yes	Yes	Yes	Yes
CECP Compliant	No	No	No	No

POWER

NOTE: These form factors utilize a more efficient EPA power supply. Dell recommends only Universal Power Supplies (UPS) based on Sine Wave output for EPA PSUs, not an approximation of a Sine Wave, Square Wave, or quasi-Square Wave. If you have questions, please contact the manufacture to confirm the output type.

3.0v CMOS battery (Type and estimated battery life)				
Brand	Type	Voltage	Composition	Life
PANASONIC	CR-2032L/BE	3V	Lithium	Continuous Discharge Under 15 kΩ Load to 2.5V End-Voltage. Temperature:20±2° C. Initial life: 1183Hrs. After storage 12 months life: 1133Hrs.
MITSUBISHI	CR2032	3V	Lithium	Continuous Discharge Under 15 kΩ Load to 2.0V End-Voltage. Temperature: 20±2° C. Initial life: 940Hrs. After storage 12 months life: 910Hrs. Temperature: 0±2° C. Initial life: 850Hrs. After storage 12 months life: 820Hrs.

AUDIO—INTEGRATED

Integrated Realtek ALC3861 High Definition Audio plus ALC1003 AUDIO AMPLIFIER	**TOWER 3620**
High Definition Stereo support	X
Number of channels	2
Number of Bits / Audio resolution	16, 20, and 24-bit resolution
Sampling rate (recording/playback)	Support 44.1K/48K/96K/192 kHz sample rates
Signal to Noise Ratio	110 dB DAC outputs, 104 dB for ADC inputs
Analog Audio	X
Dolby Digital	
THX	
Digital out (S/PDIF)	
Audio Jack Impedance	
Microphone	64K ohm
Line-In	64K ohm
Line-Out	200 ohm
Headphone	2 ohm
Internal Speaker Power Rating (ALC1003 Audio Amplifier)	3 Watt(rms)/4 ohm per channel output

AUDIO—INTEGRATED

INTEGRATED REALTEK ALC3234 HIGH DEFINITION AUDIO	TOWER 3420
High Definition Stereo support	X
Number of channels	2
Number of Bits / Audio resolution	16, 20, and 24-bit resolution
Sampling rate (recording/playback)	Support 44.1K/48K/96K/192 kHz sample rates
Signal to Noise Ratio	95 dB DAC outputs, 88 dB for ADC inputs
Analog Audio	X
Dolby Digital	
THX	
Digital out (S/PDIF)	
Audio Jack Impedance	
Microphone	27K ohm (Gain=0dB)
Line-In	27K ohm (Gain=0dB)
Line-Out	200 ohm
Headphone	1 ohm
Internal Speaker Power Rating	2Watt (rms) /4 ohm per channel output

COMMUNICATIONS - INTEGRATED INTEL® I219-LM

NOTE: TOWER 3620 supports full height (FH) cards and TOWER 3420 supports low profile (LP) cards.

INTEGRATED INTEL® I219-LM GIGABIT[1] ETHERNET LAN 10/100/1000	TOWER 3620	TOWER 3420
External Connector Type	RJ45	
Data Rates supported	10/100/1000 Mbps	
Controller Details		
Controller bus architecture	PCIe-based interface for S0 state, SMBus for Sx low power state	
Integrated memory	N/A	
Data transfer mode (example Bus-Master DMA)	N/A	
Power consumption (full operation per data rate connection speed)	542mW (Max.)	
Power consumption (standby operation)	1000Mb/S Idle 439mW,	
IEEE standards compliance (example 802.1P)	802.3	
Hardware Certifications (example FCC, B, GS mark…)	N/A	
Boot ROM Support	EEPROM (located in SPI)	
Network Transfer Mode (example Full Duplex, Half Duplex)		
Network Transfer Rate (example 10BASE-T (half-duplex) 10 Mbps 10BASE-T (full-duplex) 20 Mbps 100BASE-TX (half-duplex) 100 Mbps 100BASE-TX (full-duplex) 200 Mbps 1000BASE-T (full-duplex) 2000 Mbps	10 Mb (full/half-duplex) 100 Mb (full/half-duplex) 1000 Mb (full-duplex)	

COMMUNICATIONS—INTEGRATED INTEL® I219-LM (CONT.)

INTEGRATED INTEL® I219-LM GIGABIT[1] ETHERNET LAN 10/100/1000 (CONT.)	TOWER 3620	TOWER 3420
Environmental		
Operating temperature	0° C to 85° C (32° F to 185° F)	
Operating humidity	20% to 80% (non-condensing)	
Operating System Driver Support	Win7 32/64 bit, Win 8.1/10 64 bit, Linux	
Manageability (examples WOL, PXE)	WOL, PXE 2.1	
Management Capabilities Alerting	Intel® vPro support with appropriate Intel chipset components	

[1] This term does not connote an actual operating speed of 1 Gb/sec. For high speed transmission, connection to a Gigabit Ethernet server and network infrastruc-

COMMUNICATIONS – OPTIONAL ADD IN NETWORK INTERFACE CARD

NOTE: TOWER 3620 supports full height (FH) cards and TOWER 3420 supports low profile (LP) cards.

INTEL NETXTREME 10/100/1000 PCIE GIGIBIT[1] NETWORKING CARD	TOWER 3620	TOWER 3420
Connector Type	RJ45	
Data Rates supported	10/100/1000 Mbps Half/Full duplex	
Controller Details		
PCIe Host Interface	Support 1 channel (x1 interface); v2.0; 2.5GT/s	
System Management	System Management Bus (SMBus) & Wake on LAN(WoL)	
Main Power Supply	3.3Vmain	
Power consumption (DO)	1.2W(max)	
Support Ethernet Standards	802.3z and 802.3x copper media conformance	
Electro-magnetic Interference (EMI)	FCC Class B	
Boot ROM Support	SPI FLASH	
Network Transfer Mode (example Full Duplex, Half Duplex)		
Network Transfer Rate (example 10BASE-T (half-duplex) 10 Mbps 10BASE-T (full-duplex) 20 Mbps 100BASE-TX (half-duplex) 100 Mbps 100BASE-TX (full-duplex) 200 Mbps 1000BASE-T (full-duplex) 2000 Mbps	10BASE-T (full-duplex) 20 Mbps Max* 100BASE-TX (half-duplex) 100 Mbps Max* 100BASE-TX (full-duplex) 200 MbpsMax* 1000BASE-T (full-duplex) 2000 Mbps Max* * Depends on the system environment.	

[1] This term does not connote an actual operating speed of 1 Gb/sec. For high speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

INTEL NETXTREME 10/100/1000 PCIE GIGABIT[1] NETWORKING CARD (CONT.)	TOWER 3620	TOWER 3420
Environmental		
Operating temperature	0° C to 55° C (32° F - 131° F)	
Operating humidity	5% ~ 95% (non-condensing)	
Operating System Driver Support	Win7 32/64 bit, Win8.1/10 64 bit, Linux	
Manageability (examples WOL)	WOL, ACPI v1.1	
Management Capabilities Alerting (example ASF 2.0)	None	

COMMUNICATIONS—ADD IN 1394 CARD, CUSTOMER KIT ONLY

1394 FIREWIRE PCI ADD-IN CARD	TOWER 3620	TOWER 3420
Connector Type	IEEE-1394ab	
Controller Details		
Controller bus architecture (example PCIe 1.0a x1)	Standard PCIE X1 slot	
Chipset	TI XIO2001ZGU	
IO Ports	Support 3 ports 2*1394b(800M bit/s)+1*1394a(400M bit/s))	
Power Consumption	Under 30 mA	
Connector	1 IEEE-1394a , 2 IEEE-1394b connectors	
OS Support	Win7 32/64 bit, Win8.1/10 64 bit, Linux	

COMMUNICATIONS – SERIAL / PARALLEL PORT PCIE ADD-IN CARD

NOTE: TOWER 3620 supports full height (FH) cards and TOWER 3420 supports low profile (LP) cards.

SERIAL / PARALLEL PORT PCIE , OPTIONAL ADD-IN CARD	TOWER 3620
Connector Type	RS-232 and IEEE1284
Data Rates supported	50bps ~115.2Kbps（Serial）&Maximum 1.8MBps(Parallel)
Controller Details	
Controller	SUNIX SUN2212(16C950 UART Compatible)
Controller bus architecture (example PCIe 1.0a x1)	PCI Express Spec2.0, Single-Lane (x1)
Driver Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

SERIAL PORT PCIE, OPTIONAL ADD-IN CARD	TOWER 3420
Connector Type	RS-232
Data Rates supported	Up to 250Kbps
Controller Details	
Controller	Pericom PI7C9X7952 PCI Express UART
Controller bus architecture (example PCIe 1.0a x1)	PCI Express Spec1.1, Single-Lane (x1)
Driver Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

COMMUNICATIONS – SERIAL / PARALLEL PORT PCIE ADD-IN CARD

NOTE: TOWER 3620 supports full height (FH) cards and TOWER 3420 supports low profile (LP) cards.

PARALLEL PORT PCIE, OPTIONAL ADD-IN CARD	TOWER 3420
Connector Type	IEEE1284
Data Rates supported	Maximum 1.8MBps
Controller Details	
Controller	SUNIX SUN2212
Controller bus architecture (example PCIe 1.0a x1)	PCI Express Spec2.0, Single-Lane (x1)
Driver Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux
Environment	
Operation Temperature	0 to 60°C (32 to 140°F)
Operation Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

THUNDERBOLT PCIE, OPTIONAL ADD-IN CARD	TOWER 3620	TOWER 3420
Interface type	PCIE Gen2 X4	
Chipset type (marketing name and R&D code)	Faclon Ridge 2C (Thunderbolt)	
Controller Details		
HDCP support	Yes	
Bus frequency (Mhz)	10.3125Gb/s per Channel	
Max board power consumption	4.08W	
Voltage spec	12V+5%, 3.3V+-5% on PCI_E Slot	
Environment		
Operation Temperature	0 to 60°C (32 to 140°F)	
Operation Humidity	5 to 95% RH	
Storage Temperature	-20 to 85°C (-4 to 185°F)	

WIRELESS OPTION

WIERLESS 8260AC (802.11AC)	TOWER 3420
Connector Type	Custom WLAN Antenna Connector (2x2)
Controller Bus Architecture	Electrically compatible with the PCI Express Base Specification v1.1 (x1 lane) and PCIe v2.1
WLAN Standards Supported	802.11a, 802.11b, 802.11g, 802.11n, 802.11ac
802.11a Data Rates Supported	54, 48, 36, 24, 18, 12, 9, 6 Mbps
802.11b Data Rates Supported	11, 5.5, 2, 1 Mbps
802.11g Data Rates Supported	54, 48, 36, 24, 18, 12, 11, 9, 6 Mbps
802.11n Data Rates Supported	270, 240, 180, 135, 130, 121.5, 120, 117, 108, 104, 90, 81, 78, 65, 60, 58.5, 54, 52, 40.5, 39, 30, 27, 26, 19.5, 13.5, 13, 6.5 Mbps
802.11ac Data Rates Supported (GI 800ns)	13,26,39,52,58.5104,117,130,156,175.5,234,351,468 ,526.5,585,702,780 Mbps
Encryption	WEP 64-bit and 128-bit, TKIP, AES-CCMP 128-bit
Bluetooth Standards Supported	N/A
Operating Temperature	0 ºC – 80 ºC
Operating Humidity	N/A
Operating System Driver Support	Win7 32/64bits, Win8.1 64bits, Windows 10 64bits 6.6 x 3.35 / 16.764 x 8.5

NOTE: On Dell Precision Tower 3000 Series, Intel Wireless 8260AC will not support Bluetooth functionality

GRAPHICS/VIDEO CONTROLLER

NVIDIA NVS 510	TOWER 3620	TOWER 3420
Bus Type (example integrated or PCIe x16)	PCIEx16	
GPU core clock	797MHz	
Frame Buffer Memory (dedicated) Size and bandwidth	2GB DDR3, 28.5GB/sec	
Maximum power consumption	33.4W	
Maximum Color Depth	24 bit RGB (True Color)	
Maximum Vertical Refresh Rate	85Hz analog, 60Hz digital	
Multiple Display Support - Directly connected (with DP 1.2 MST)	4	
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux	
Max Supported Resolution	DisplayPort Max 4 digital displays at up to 3840 X 2160 @60Hz, Max 4 monitor up 1920x1200 @60 Hz; Single–link DVI Max: 4 digital displays up to 1920 x 1200 @ 60Hz: Dual-link DVI Max : 4 digital up to 2560x1600 @ 60 Hz; VGA Max 4 analog displays up to : 1920 x 1200 @ 60Hz; HDMI Max: 4 high definition up to: 1920 x 1080P @60 Hz	
External connectors	mDP 1.2 x4	
DisplayPort Audio Support	Yes	
Dimensions of full height card inches/centimeters (L x H)	6.6 x 4.7 / 16.764 x 12.0	
Dimensions of Low profile card inches/centimeters (L x H)		6.6 x 3.35 / 16.764 x 8.5
Environmental Operating Conditions (Non-Condensing):		
Operating Temperature Range	0 °C to 55 °C	
Relative Humidity Range	5% to 90% RH	
Altitude Range	Not specified	

GRAPHICS/VIDEO CONTROLLER

Note: Tower 3620 support full height (FH) cards and Tower 3420 supports low profile (LP) cards

INTEGRATED INTEL HD 530 GRAPHICS*	MT	SFF
Bus Type (example integrated or PCIe x16)	Integrated	
GPU core clock	350 MHz	
Frame Buffer Memory (onboard and shared) Size and Speed	Dynamically shared system memory	
Maximum power consumption	N/A, see processor TDP	
External connectors	(2) DP, (1) HDMI, (1) Serial	
DisplayPort		
Bus Type	DDPC	
DisplayPort Audio Support	Yes	
HDMI		
Bus Type	DDPD	
Maximum supported resolution	Up to 2560x1600 @ 60Hz	
Maximum power consumption	N/A	
External connectors	HDMI	

*Only available on select Intel Skylake-S processors

GRAPHICS/VIDEO CONTROLLER

NVIDIA NVS 310	TOWER 3620	TOWER 3420
Bus Type (example integrated or PCIe x16)	PCIEx16	
GPU core clock	523 MHz	
Frame Buffer Memory (dedicated) Size and bandwidth	1G DDR3 , 14GB/sec	
Maximum power consumption	19.5W	
Maximum Color Depth	24 bit RGB (True Color)	
Maximum Vertical Refresh Rate	85Hz analog, 60Hz digital	
Multiple Display Support - Directly connected (with DP 1.2 MST)	2	
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux	
Max Supported Resolution	DisplayPort Max 2 digital displays at up to 2560 X 1600 @60Hz, Max 2 monitor up to 1920x1200 @ 60Hz; Single–link DVI Max: 2 digital displays up to 1920 x 1200@ 60Hz, Dual-link DVI Max: 2 digital displays up to 2560 x 1600 @ 60Hz: VGA Max 2 analog displays up to : 1920 x 1200 @ 60Hz using DisplayPort to VGA cable adaptors; HDMI two high definition panels driver up to: 1920x1080P @ 60Hz	
External connectors	DP 1.2 x2	
DisplayPort Audio Support	Yes	
Dimensions of full height card inches/centimeters (L x H)	6. 6 x 4.7 / 16.764 x 12.0	
Dimensions of Low profile card inches/centimeters (L x H)		6.6 x 3.35 / 16.764 x 8.5
Environmental Operating Conditions (Non-Condensing):		
Operating Temperature Range	0 °C to 55 °C	
Relative Humidity Range	5% to 90% RH	
Altitude Range	Not specified	

GRAPHICS/VIDEO CONTROLLER

NVIDIA NVS 315	TOWER 3620
Bus Type (example integrated or PCIe x16)	PCIEx16
GPU core clock	523MHz
Frame Buffer Memory (dedicated) Size and bandwidth	1GB DDR3, 14GB/sec
Maximum power consumption	19.5W
Maximum Color Depth	24 bit RGB (True Color)
Maximum Vertical Refresh Rate	85Hz analog, 60Hz digital
Multiple Display Support - Directly connected	2
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux
Max Supported Resolution	DisplayPort Max 2 digital displays at up to 2560 X 1600 @60Hz, Single–link DVI Max: 2 digital displays up to 1920 x 1200 @ 60Hz: VGA Max 2 analog displays up to : 2048 x 1536 @ 85Hz; HDMI Max 2 high definition up to 1920x1080P @ 60 Hz
External connectors	DMS-59
DisplayPort Audio Support	Yes
Dimensions of full height card inches/centimeters (L x H)	6 x 4.7 / 152.4 x 12.0
Environmental Operating Conditions (Non-Condensing):	
Operating Temperature Range	0 °C to 55 °C
Relative Humidity Range	5% to 90% RH
Altitude Range	Not specified

GRAPHICS/VIDEO CONTROLLER

AMD FIREPRO W4100	TOWER 3620	TOWER 3420
Bus Type (example integrated or PCIe x16)	PCIEx16	
GPU core clock	630MHz	
Frame Buffer Memory (dedicated) Size and bandwidth	2GB GDDR5, 72GB/sec	
Maximum power consumption	50W	
Maximum Color Depth	32 bpp	
Maximum Vertical Refresh Rate	120 Hz	
Multiple Display Support - Directly connected (with DP 1.2 MST)	4	
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux	
Max Supported Resolution	DispalyPort Max: 4096x2160 @ 60Hz, 30bpp	
External connectors	Mini DisplayPort 1.2 x4	
DisplayPort Audio Support	Yes	
Dimensions of full height card inches/centimeters (L x H)	6.6 x 4.7 / 16.764 x 12.0	
Dimensions of low profile card inches/centimeters (L x H)		6.6 x 3.35 / 16.764 x 8.5
Environmental Operating Conditions (Non-Condensing):		
Operating Temperature Range	0 °C to 55 °C	
Relative Humidity Range	5% to 90% RH	
Altitude Range	Not specified	

GRAPHICS/VIDEO CONTROLLER

AMD FIREPRO W2100	TOWER 3620	TOWER 3420
Bus Type (example integrated or PCIe x16)	PCIEx16	
GPU core clock	630MHz	
Frame Buffer Memory (dedicated) Size and bandwidth	2GB DDR3, 29GB/sec	
Maximum power consumption	26W	
Maximum Color Depth	32bpp	
Maximum Vertical Refresh Rate	120Hz	
Multiple Display Support - Directly connected (with DP 1.2 MST)	2	
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux	
Max Supported Resolution	DispalyPort Max: 4096x2160 @ 60Hz, 30bpp	
External connectors	DisplayPort 1.2 x2	
DisplayPort Audio Support	NA	
Dimensions of full height card inches/centimeters (L x H)	6.6 x 4.7 / 16.764 x 12.0	
Dimensions of low profile card inches/centimeters (L x H)		6.6 x 3.35 / 16.764 x 8.5
Environmental Operating Conditions (Non-Condensing):		
Operating Temperature Range	0 °C to 55 °C	
Relative Humidity Range	5% to 90% RH	
Altitude Range	Not specified	

GRAPHICS/VIDEO CONTROLLER

NVIDIA QUADRO K620	TOWER 3620	TOWER 3420
Bus Type (example integrated or PCIe x16)	PCIEx16	
GPU core clock	1059MHz	
Frame Buffer Memory (dedicated) Size and bandwidth	2GB DDR3, 29GB/sec	
Maximum power consumption	45W	
Maximum Color Depth	32bpp	
Maximum Vertical Refresh Rate	85Hz analog, 120Hz digital	
Multiple Display Support - Directly connected (with DP 1.2 MST)	2	
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux	
Max Supported Resolution	DisplayPort Max 2 digital displays at up to 3840 X 2160 @60Hz 30bpp, Dual–link DVI Max: 2560x1600 @60Hz 32bpp: Single-link DVI Max: 1920x1200 @60Hz 32bpp, VGA Max: 2048 x 1536 @ 85Hz 32bpp	
External connectors	1 Dual-link DVI, 1 DisplayPort 1.2	
DisplayPort Audio Support	Yes	
Dimensions of full height card inches/centimeters (L x H)	6.6 x 4.7 / 16.764 x 12.0	
Dimensions of low profile card inches/centimeters (L x H)		6.6 x 3.35 / 16.764 x 8.5
Environmental Operating Conditions (Non-Condensing):		
Operating Temperature Range	0 °C to 55 °C	
Relative Humidity Range	5% to 90% RH	
Altitude Range	Not specified	

GRAPHICS/VIDEO CONTROLLER

NVIDIA QUADRO K420	TOWER 3620	TOWER 3420
Bus Type (example integrated or PCIe x16)	PCIEx16	
GPU core clock	875 MHz	
Frame Buffer Memory (dedicated) Size and bandwidth	1GB DDR3, 29GB/sec	
Maximum power consumption	41W	
Maximum Color Depth	32 bpp	
Maximum Vertical Refresh Rate	85Hz analog, 60Hz digital	
Multiple Display Support - Directly connected (with DP 1.2 MST)	2	
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux	
Max Supported Resolution	DisplayPort Max 2 digital displays at up to 3840 X 2160x30bpp @60Hz, Dual–link DVI Max: 2560x1600x32 bpp @60Hz: Single-link DVI Max: 1920x1200x32bpp @60Hz, VGA Max: 2048 x 1536x32bpp @ 85Hz	
External connectors	DL DVI-I+DP 1.2	
DisplayPort Audio Support	Yes	
Dimensions of full height card inches/centimeters (L x H)	6.6 x 4.7 / 16.764 x 12.0	
Dimensions of low profile card inches/centimeters (L x H)		6.6 x 3.35 / 16.764 x 8.5
Environmental Operating Conditions (Non-Condensing):		
Operating Temperature Range	0 °C to 55 °C	
Relative Humidity Range	5% to 90% RH	
Altitude Range	Not specified	

GRAPHICS/VIDEO CONTROLLER

NVIDIA QUADRO K1200	TOWER 3620	TOWER 3420
Bus Type (example integrated or PCIe x16)	PCIEx16	
GPU core clock	954 MHz	
Frame Buffer Memory (dedicated) Size and bandwidth	4GB GDDR5, 80GB/sec	
Maximum power consumption	46W	
Maximum Color Depth	32 bpp	
Maximum Vertical Refresh Rate	85Hz analog, 120Hz digital	
Multiple Display Support - Directly connected (with DP 1.2 MST)	4	
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux	
Max Supported Resolution	Display Port max: 4096x2160 @60Hz 30bpp;VGA Max displays up to: 2048x1586 @85 Hz 32bpp; HDMI Max up to 1920x1080P @ 60 Hz 32bpp	
External connectors	Mini Display Port 1.2 x4	
DisplayPort Audio Support	Yes	
Dimensions of full height card inches/centimeters (L x H)	7 x 4.7 / 17.78 x 12.0	
Dimensions of low profile card inches/centimeters (L x H)		7 x 3.35 / 17.78 x 8.5
Environmental Operating Conditions (Non-Condensing):		
Operating Temperature Range	0 °C to 55 °C	
Relative Humidity Range	5% to 90% RH	
Altitude Range	Not specified	

GRAPHICS/VIDEO CONTROLLER

AMD FIREPRO W7100	TOWER 3620
Bus Type (example integrated or PCIe x16)	PCIEx16
GPU core clock	27MHz
Frame Buffer Memory (dedicated) Size and bandwidth	8GB GDDR5, 160GB/sec
Maximum power consumption	150W
Maximum Color Depth	32 bpp
Maximum Vertical Refresh Rate	120 Hz
Multiple Display Support - Directly connected (with DP 1.2 MST)	4
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux
Max Supported Resolution	DispalyPort Max: 4096x2160 @ 60Hz, 30bpp
External connectors	DisplayPort 1.2 x4
DisplayPort Audio Support	Yes
Dimensions of full height card inches/centimeters (F X H)	9.5 x 4.7 / 24.13 x 12.0
Environmental Operating Conditions (Non-Condensing):	
Operating Temperature Range	0 °C to 55 °C
Relative Humidity Range	5% to 90% RH
Altitude Range	Not specified

GRAPHICS/VIDEO CONTROLLER

AMD FIREPRO W5100	TOWER 3620
Bus Type (example integrated or PCIe x16)	PCIEx16
GPU core clock	800 MHz
Frame Buffer Memory (dedicated) Size and bandwidth	4GB GDDR5, 96GB/sec
Maximum power consumption	75W
Maximum Color Depth	32 bpp
Maximum Vertical Refresh Rate	120 Hz
Multiple Display Support - Directly connected (with DP 1.2 MST)	4
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux
SMax Supported Resolution	DispalyPort Max: 4096x2160 @ 60Hz, 30bpp
External connectors	DisplayPort 1.2 x4
DisplayPort Audio Support	Yes
Dimensions of full height card inches/centimeters (L x H)	6.6 x 4.7 / 16.764 x 12.0
Environmental Operating Conditions (Non-Condensing):	
Operating Temperature Range	0 °C to 55 °C
Relative Humidity Range	5% to 90% RH
Altitude Range	Not specified

GRAPHICS/VIDEO CONTROLLER

NVIDIA QUADRO K2200	TOWER 3620
Bus Type (example integrated or PCIe x16)	PCIEx16
GPU core clock	1045 MHz
Frame Buffer Memory (dedicated) Size and bandwidth	4GB GDDR5, 80GB/sec
Maximum power consumption	67.7W
Maximum Color Depth	32bpp
Maximum Vertical Refresh Rate	85Hz analog, 120Hz digital
Multiple Display Support - Directly connected (with DP 1.2 MST)	3
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux
Max Supported Resolution	DisplayPort Max: 4096x2160 @60Hz 30bpp Dual-link DVI Max: 2560 X 1600 @60Hz 32bpp, Single-link DVI Max: 1920 X 1200 @60Hz 32bpp, VGA Max: 2048 × 1536 @85Hz 32bpp
External connectors	1 Dual-link DVI, 2 DisplayPort 1.2
DisplayPort Audio Support	Yes
Dimensions of full height card inches/centimeters (L x H)	8 x 4.7 / 20.32 x 12.0
Environmental Operating Conditions (Non-Condensing):	
Operating Temperature Range	0 °C to 55 °C
Relative Humidity Range	5% to 90% RH
Altitude Range	Not specified

GRAPHICS/VIDEO CONTROLLER

NVIDIA QUADRO M2000	TOWER 3620
Bus Type (example integrated or PCIe x16)	PCIEx16
GPU core clock	796 MHz
Frame Buffer Memory (dedicated) Size and bandwidth	8GB GDDR5, 105.7GB/sec
Maximum power consumption	61. 5W
Maximum Color Depth	30bpp
Maximum Vertical Refresh Rate	120Hz
Multiple Display Support - Directly connected (with DP 1.2 MST)	4
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux
Max Supported Resolution	DisplayPort max: 4096x2160 @60Hz 30bpp,
External connectors	4 DisplayPort 1.2
DisplayPort Audio Support	Yes
Dimensions of full height card inches/centimeters	6.6 x 4.7 / 16.764 x 12.0
Environmental Operating Conditions (Non-Condensing):	
Operating Temperature Range	0 °C to 55 °C
Relative Humidity Range	5% to 90% RH
Altitude Range	Not specified

GRAPHICS/VIDEO CONTROLLER

NVIDIA QUADRO M4000	TOWER 3620
Bus Type (example integrated or PCIe x16)	PCIEx16
GPU core clock	773 MHz
Frame Buffer Memory (dedicated) Size and bandwidth	8GB GDDR5, 192GB/sec
Maximum power consumption	120W
Maximum Color Depth	32bpp
Maximum Vertical Refresh Rate	85Hz analog, 120Hz digital
Multiple Display Support - Directly connected (with DP 1.2 MST)	4
Operating Systems Graphics/ Video API Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux
Max Supported Resolution	DisplayPort max: 4096x2160 @60Hz 30bpp, Dual-link DVI Max: 2560 x 1600 @60Hz 32bpp, Single-link DVI Max: 1920 x 1200 @60Hz 32bpp, VGA Max: 2560 x 1536 @85Hz 32bpp
External connectors	4 DisplayPort 1.2
DisplayPort Audio Support	Yes
Dimensions of full height card inches/centimeters	9.5 x 4.376 / 24.13 x 12.0
Environmental Operating Conditions (Non-Condensing):	
Operating Temperature Range	0 °C to 55 °C
Relative Humidity Range	5% to 90% RH
Altitude Range	Not specified

HARD DRIVES[1]

3.5" 4TB SATA 5400 RPM HDD	TOWER 3620	TOWER 3420
Capacity (bytes)	4,000,000,000,000	
Dimensions inches (W x D x H)	Approximately (4.00 x 5.787 x 1.028 inches)	
Interface type and Maximum speed	SATA Up to 6Gb/s	
Internal buffer size	64 MB NCQ	
Rotational Speed	5400 RPM	
Logical Blocks	4,000,797,868,032	
Power Source		
Power Consumption (reference only)	Idle 5.0W, Active 10.0W	
Spin Up Current (reference only)	5V (1A) ,12V (2A)	
Environmental Operating Conditions (Non-Condensing):		
Temperature Range	5^0C to 60^0C	
Relative Humidity Range	5% to 90% RH non-condensing	
Maximum Wet Bulb Temperature	37.7^0C	
Altitude Range	-1000 ft to 10000 ft(-305M to 3050M)	
Environmental Non-Operating Conditions (Non-Condensing):		
Temperature Range	-40^0C to 65^0C	
Relative Humidity Range	5% to 95% RH non-condensing	
Maximum Wet Bulb Temperature	33^0C	
Altitude Range	-1000 ft to 40000 ft(-305M to 12200M)	

[1] For hard drives, GB means 1 billion bytes ; actual capacity varies with preloaded material and operating environment and will be less.

HARD DRIVES[1]

3.5" 2TB SATA 7200 RPM HDD	TOWER 3620	TOWER 3420
Capacity (bytes)	2,000,000,000,000	
Dimensions inches (W x D x H)	Approximately (4.00 x 5.787 x 1.028 inches)	
Interface type and Maximum speed	SATA Up to 6Gb/s	
Internal buffer size	64 MB NCQ	
Rotational Speed	7200 RPM	
Logical Blocks	2,000,398,934,016	
Power Source		
Power Consumption (reference only)	Idle 5.0W, Active 10.0W	
Spin Up Current (reference only)	5V (1A) ,12V (2A)	
Environmental Operating Conditions (Non-Condensing):		
Temperature Range	5^0C to 60^0C	
Relative Humidity Range	5% to 90% non-condesing	
Maximum Wet Bulb Temperature	37.7^0C	
Altitude Range	-1000 ft to 10000+ ft	
Environmental Non-Operating Conditions (Non-Condensing):		
Temperature Range	-40^0C to 65^0C	
Relative Humidity Range	5% to 95% non-condensing	
Maximum Wet Bulb Temperature	40^0C	
Altitude Range	-1000ft to 40000 +ft	

[1] For hard drives, GB means 1 billion bytes ; actual capacity varies with preloaded material and operating environment and will be less.

HARD DRIVES[1] (CONT)

3.5" 1TB SATA 7200 RPM HDD	TOWER 3620	TOWER 3420
Capacity (bytes)	1,000,000,000,000	
Dimensions inches (W x D x H)	Approximately (4.00 x 5.787 x 1.028 inches)	
Interface type and Maximum speed	SATA Up to 6Gb/s	
Internal buffer size	32 MB NCQ	
Rotational Speed	7200 RPM	
Logical Blocks	1,000,204,886,016	
Power Source		
Power Consumption (reference only)	Idle 5.0W, Active 10.0W	
Spin Up Current (reference only)	5V (1A) ,12V (2A)	
Environmental Operating Conditions (Non-Condensing):		
Temperature Range	5^0C to 60^0C	
Relative Humidity Range	5% to 90% non-condensing	
Maximum Wet Bulb Temperature	37.7^0C	
Altitude Range	-1000 ft to 10000 ft	
Environmental Non-Operating Conditions (Non-Condensing):		
Temperature Range	-40^0C to 65^0C	
Relative Humidity Range	5% to 95% non-condensing	
Maximum Wet Bulb Temperature	40^0C	
Altitude Range	-1000 ft to 40000 ft	

[1] For hard drives, GB means 1 billion bytes ; actual capacity varies with preloaded material and operating environment and will be less.

HARD DRIVES[1] (CONT.)

2.5" 500GB SATA 7200 RPM SED OPAL FIPS HDD	TOWER 3620	TOWER 3420
Capacity (bytes)	500,000,000,000	
Dimensions inches (W x D x H)	Approximately (2.75 x 3.94 x 0.27 inches)	
Interface type and Maximum speed	SATA Up to 6Gb/s	
Internal buffer size	32 MB NCQ	
Rotational Speed	7200 RPM	
Logical Blocks	500,107,862,016	
Power Source		
Power Consumption (reference only)	Idle low 0.65W, Active 0.9W	
Spin Up Current (reference only)	5V (1000 mA)	
Environmental Operating Conditions (Non-Condensing):		
Temperature Range	5°C to 60°C	
Relative Humidity Range	5% to 90% non-condensing	
Maximum Wet Bulb Temperature	29.4°C	
Altitude Range	-1000 ft to 10000 ft	
Environmental Non-Operating Conditions (Non-Condensing):		
Temperature Range	-40°C to 65°C	
Relative Humidity Range	5% to 95% non-condensing	
Maximum Wet Bulb Temperature	40°C	
Altitude Range	-1000 ft to 40000 ft	

[1] For hard drives, GB means 1 billion bytes ; actual capacity varies with preloaded material and operating environment and will be less.

HARD DRIVES[1] (CONT.)

3.5" 500GB SATA 7200 RPM HDD	TOWER 3620	TOWER 3420
Capacity (bytes)	500,000,000,000	
Dimensions inches (W x D x H)	Approximately (4.00 x 5.787 x 1.028 inches)	
Interface type and Maximum speed	SATA Up to 6Gb/s	
Internal buffer size	16 MB NCQ	
Rotational Speed	7200 RPM	
Logical Blocks	500,107,862,016	
Power Source		
Power Consumption (reference only)	Idle 5.0W, Active 10.0W	
Spin Up Current (reference only)	5V (1A) ,12V (2A)	
Environmental Operating Conditions (Non-Condensing):		
Temperature Range	5°C to 60°C	
Relative Humidity Range	5% to 90% non-condensing	
Maximum Wet Bulb Temperature	37.7°C	
Altitude Range	-1000 ft to 10000 ft	
Environmental Non-Operating Conditions (Non-Condensing):		
Temperature Range	-40°C to 65°C	
Relative Humidity Range	5% to 95% non-condensing	
Maximum Wet Bulb Temperature	40°C	
Altitude Range	-1000 ft to 40000 ft	

[1] For hard drives, GB means 1 billion bytes ; actual capacity varies with preloaded material and operating environment and will be less.

HARD DRIVES[1] (CONT.)

2.5" 1TB SATA 7200 RPM HDD	TOWER 3620	TOWER 3420
Capacity (bytes)	1,000,000,000,000	
Dimensions inches (W x D x H)	Approximately (2.75 x 3.94 x 0.374 inches)	
Interface type and Maximum speed	SATA Up to 6Gb/s	
Internal buffer size	16 MB NCQ	
Rotational Speed	7200 RPM	
Logical Blocks	1,000,204,886,016	
Power Source		
Power Consumption (reference only)	Idle 0.70W, Active 3.25W	
Spin Up Current (reference only)	5V (1000 mA)	
Environmental Operating Conditions (Non-Condensing):		
Temperature Range	5°C to 60°C	
Relative Humidity Range	5% to 90% non-condensing	
Maximum Wet Bulb Temperature	29.4°C	
Altitude Range	-1000 ft to 10000 ft	
Environmental Non-Operating Conditions (Non-Condensing):		
Temperature Range	-40°C to 65°C	
Relative Humidity Range	5% to 95% non-condensing	
Maximum Wet Bulb Temperature	40°C	
Altitude Range	-1000 ft to 40000 ft	

[1] For hard drives, GB means 1 billion bytes ; actual capacity varies with preloaded material and operating environment and will be less.

HARD DRIVES[1] (CONT.)

2.5" 500GB SATA 7200 RPM HDD	TOWER 3620	TOWER 3420
Capacity (bytes)	500,000,000,000	
Dimensions inches (W x D x H)	Approximately (2.75 x 3.94 x 0.27 inches)	
Interface type and Maximum speed	SATA Up to 6Gb/s	
Internal buffer size	32 MB NCQ	
Rotational Speed	7200 RPM	
Logical Blocks	500,107,862,016	
Power Source		
Power Consumption (reference only)	Idle 0.70W, Active 3.25W	
Spin Up Current (reference only)	5V (1000 mA)	
Environmental Operating Conditions (Non-Condensing):		
Temperature Range	5°C to 60°C	
Relative Humidity Range	5% to 90% non-condensing	
Maximum Wet Bulb Temperature	29.4°C	
Altitude Range	-1000 ft to 10000 ft	
Environmental Non-Operating Conditions (Non-Condensing):		
Temperature Range	-40°C to 65°C	
Relative Humidity Range	5% to 95% non-condensing	
Maximum Wet Bulb Temperature	40°C	
Altitude Range	-1000 ft to 40000 ft	

[1] For hard drives, GB means 1 billion bytes ; actual capacity varies with preloaded material and operating environment and will be less.

HARD DRIVES[1] (CONT.)

Dell SSD classifications

	Class	Sequential* Read/Write	Random** Read/Write	Interface
SATA	10 "value"	520K/320K	30K/10K	SATA interface reduced features e.g. dram-less Consumer Offering
SATA	20 "mainstream"	500K/300K	80K/60K	SATA Interface full feature set Consumer, Commercial
SATA	30 "performance"	550K/350K	90K/75K	Best in class SATA Precision Only
PCIe	40 "performance"	1500/350K	200K/80K	PCIe interface NVMe host protocol Consumer, Commercial Performance
PCIe	50 "performance"	2100K/1200K	300K/100K	Best in class PCIe Precision Only

Based on Dell internal testing, January 2016, using IOMeter. Actual performance will vary with configuration, usage and manufacturing variability."

Note: Capacity 256GB, typical values, results may vary

*Sequential = boot, hibernate, daily power up and power down functions

**Random = random tasks such as file search

Storage Reliability & Endurance Summary

Category	Capacity	SATA HDD	SATA Value, Mainstream Class 10,Class 20	SATA Performance Class 30	PCIe NVME Mainstream Class 40	PCIe NVMe Performance Class 50
SSD Endurance (TBW)	128GB		72			
	256GB		72	150	72	150
	360GB		72			
	512GB		72	292	72	292
	1TB		72		72	
Reliability (MTBF hours)	All SSD		800,000	1,200,000	800,000	1,200,000
	ALL HDD	550,000				

Endurance is a measure of SSD life , how much data can be written for how long – measured in Terabytes Written, TBW, our SSD's are specified for TBW over a 5 year lifecycle

Reliability is measured in Mean Time Between Failures , MTBF units = hours

Values shown are minimum required – Dell Internal Engineering Specification.

DELL PRECISION ULTRA-SPEED DRIVE

DELL PRECISION ULTRA-SPEED DRIVE	TOWER 3620	TOWER 320
Bus Type (example integrated or PCIe x16)	PCIEx8[1]	
Operating System Support	Win7 32/64 bit, Win8 .1/10 64bit, Linux	
Connectors	M.2 x2	
Dimensions of full height card inches/centimeters (L X H)	6.6 x 4.7 / 16.764x 12.0	
Dimensions of low profile card inches/centimeters (L X H)		6.6 x 3.35 / 16.764x 8.5
Environmental Operating Conditions (Non-Condensing):		
Operating Temperature Range	0 °C to 55 °C	
Relative Humidity Range	5% to 90% RH	
Altitude Range	Not specified	

[1] Dell Precision Ultra-speed drive is a x8 card, but installed in PCIe x4 slot, hence supports 1x PCIe M.2 SSD (in addition to 1x PCIe M.2 SSD drive on Motherboard slot

DELL PRECISION ULTRA -SPEED DUO DRIVES

	Duo
Configuration:	
On-board M.2 Slots	2
M.2 Capacity Options	256GB, 512GB, 1TB
Maximum Capacity	2x 1TB
System Requirements:	
System Board Connection	PCIe Gen3 X8
OS	Win 7, 8.1, 10; RHEL, Ubuntu 14.04
Performance*	
Sequential Reads	At least 1500
Sequential Writes	At least 350K
SPECwpc Storage General Ops.	Up to 123
Endurance	
Terabytes Written (TBW)	Up to 72
MTBF	800,000 Hours
Physical	
Weight (Single M.2 Populated)	.242 lbs. (110g)
Operating Temperature Range	50-95F (10-35C)
Airflow	3.5 CFM
Certifications	UL, CE, RoHS

Dell SSD classifications

Class	Sequential* Read/ Write	Random** Read/ Write	Interface
40 "performance"	1500/350K	200K/80K	PCIe interface NVMe host protocol
50 "performance"	2100K/1200K	300K/100K	Best in class PCIe

Based on Dell internal testing, January 2016, using IOMeter. Actual performance will vary with configuration, usage and manufacturing variability."

*Sequential = boot, hibernate, daily power up and power down functions

**Random = random tasks such as file search

OPTICAL DRIVES

	TOWER 3420		
	8x Slimline DVD-ROM	**8x Slimline DVD +/- R/W[1]**	**6X Slimline BD-RE**
External Dimensions inches/centimeters (Without Bezel – W x H x D)	128.0 mm (5.04 in)/ 9.5mm (0.37 in)/ 126.1mm (4.97 in)	128.0 mm (5.04 in)/ 9.5mm (0.37 in)/ 126.1mm (4.97 in)	128.0 mm (5.04 in)/ 9.5mm (0.37 in)/ 126.1mm (4.97 in
Weight (max) pounds/kilograms	140g	140g	140g
Interface type and speed	SATA 1.5Gbit/s	SATA 1.5Gbit/s	SATA 1.5Gbit/s
Disc Capacity	Standard	Standard	Standard
Internal buffer size	0.5MB	0.5MB	4MB
Access Times (typical)	supplier dependent	supplier dependent	supplier dependent
Maximum Data Transfer Rates			
Writes	NA	8x DVD/ 24x CD	6X BD/ 16x DVD/48x CD
Reads	8x DVD/ 24x CD	8x DVD/ 24x CD	6X BD/ 16x DVD/48x CD
Power Source			
DC Power Requirements	5V	5V	5V
DC Current	1300mA	1300mA	1300mA
Environmental Operating Conditions (Non-Condensing):			
Operating Temperature Range	5C to 50C	5C to 50C	5C to 50C
Relative Humidity Range	10% to 90% RH	10% to 90% RH	10% to 90% RH
Maximum Wet Bulb Temperature	29C	29C	29C
Altitude Range	0 to 3048m	0 to 3048m	0 to 3048m
Environmental Non-Operating Conditions (Non-Condensing):			
Operating Temperature Range	-40C to 65C	-40C to 65C	-40C to 65C
Relative Humidity Range	5% to 95% RH	5% to 95% RH	5% to 95% RH
Maximum Wet Bulb Temperature	38C	38C	38C
Altitude Range	0 to 10600m	0 to 10600m	0 to 10600m

[1] Discs burned with this drive may not be compatible with some existing drives and players; using DVD+R media provides maximum compatibility.

OPTICAL DRIVES (CONTINUED)

	TOWER 3620		
	16x Half Height DVD-ROM	**16x Half Height DVD +/- R/W[1]**	**8X Half Height BD-RE**
External Dimensions inches/centimeters (Without Bezel – W x H x D)	148.2mm(6 in)/42mm (2 in)/ 171 (max)	148.2mm(6 in)/42mm (2 in)/ 171 (max)	148.2mm(6 in)/42mm (2 in)/ 171 (max)
Weight (max) pounds/kilograms	700g	700g	730g
Interface type and speed	SATA 1.5Gbit/s	SATA 1.5Gbit/s	SATA 1.5Gbit/s
Disc Capacity	Standard	Standard	Standard
Internal buffer size	0.5MB	0.5MB	4MB
Access Times (typical)	supplier dependent	supplier dependent	supplier dependent
Maximum Data Transfer Rates			
Writes	NA	16x DVD/48x CD	8X BD/ 16x DVD/48x CD
Reads	16x DVD/48x CD	16x DVD/48x CD	8X BD/ 16x DVD/48x CD
Power Source			
DC Power Requirements	12V, 5V	12V, 5V	12V, 5V
DC Current	1.5A (12V)/ 1A (5V)	1.5A (12V)/ 1A (5V)	1.5A (12V)/ 1A (5V)
Environmental Operating Conditions (Non-Condensing):			
Operating Temperature Range	5C to 50C	5C to 50C	5C to 50C
Relative Humidity Range	20% to 80% RH	20% to 80% RH	20% to 80% RH
Maximum Wet Bulb Temperature	29C	29C	29C
Altitude Range	-200m to 3048m	-200m to 3048m	-200m to 3048m
Environmental Non-Operating Conditions (Non-Condensing):			
Operating Temperature Range	-40C to 65C	-40C to 65C	-40C to 65C
Relative Humidity Range	5% to 95% RH	5% to 95% RH	5% to 95% RH
Maximum Wet Bulb Temperature	38C	38C	38C
Altitude Range	-200m to 10600m	-200m to 10600m	-200m to 10600m

[1] Discs burned with this drive may not be compatible with some existing drives and players; using DVD+R media provides maximum compatibility.

MEDIA CARD READER (MCR)

NOTE: Dell 19 in 1 Media Card Reader (MCR) is supported via an optional bracket. MCR is only available on Mini Tower.

19 IN 1 MEDIA CARD READER	TOWER 3620
External Dimensions inches/(centimeters) (With Bezel – W x H)	3.99/(10.13cm)/1.0/(2.54cm)
Weight (max) pounds/kilograms	~151g
Interface type and speed	USB 2.0, 480Mb/s
Media Supported (maximum capacity supported will vary by Flash Media Types)	
Media Supported	CF Micro Drive (MD) Secure Digital (SD) SDHC SDXC Mini Secure Digital (mini-SD) Micro Secure Digital (Micro-SD) (with adapter) Multi Media Card (MMC) RS Multi Media Card (RS-MMC) Multi Media Card plus (MMC plus) RS Multi Media Card plus (RS-MMC plus) Multi Media Card Micro (MMC Micro) (with adapter) Memory Stick (MS) Memory Stick Pro (MS Pro) Memory Stick Pro Duo (MS Pro Duo) Memory Stick Duo (MS-Duo) Memory Stick Micro (MS Micro)(M2) (with adapter) Smart Media (SM) xD
Support Specification Versions:	Compact Flash type I/II Version 4.0 Smart Media (SM) Specification 2003 Multi Media Card (MMC) Specification 4.2 Secure Digital (SD) 2.0 Memory Stick Pro (MS-PRO) Specification 1.02 Memory Stick (MS) Specification 1.43 xD Specification 1.2
Power Source	
Max Power Requirements	2.5W
Supply Voltage Range	4.75V ~ 5.25V
Power Consumption:	Standby less than 0.5mA @ 5.0VDC
Environmental Operating Conditions (Non-Condensing):	
Operating Temperature Range	5C to 50C
Relative Humidity Range	10% to 90% RH
Environmental Non-Operating Conditions (Non-Condensing):	
Operating Temperature Range	-40C to 65C
Relative Humidity Range	5% to 95% RH

MEDIA CARD READER (MCR)

	Tower 3420
External Dimensions inches/(centimeters)	2.38/(6.04cm)*1.34/(3.41cm)*1.11/(2.827)
Weight (max) pounds/kilograms	~0.04lb/0.018kg
Interface type and speed	PCIe Gen II 5GT/s
Media Supported (maximum capacity supported will vary by Flash Media Types)	
Media Supported	Secure Digital (SD), SDXC, SDHC （With adapter）Mini-SD, Micro-SD (T-flash) SDXC up to 2TB Support SD4.0 UHS-II FD/HD mode. Up to 312 MB/spec Support SD3.0 UHS-I SDR-104 (208MHz SD clock), SDR-50 (100MHz SD clock) and DDR 50 (50MHz SD clock)

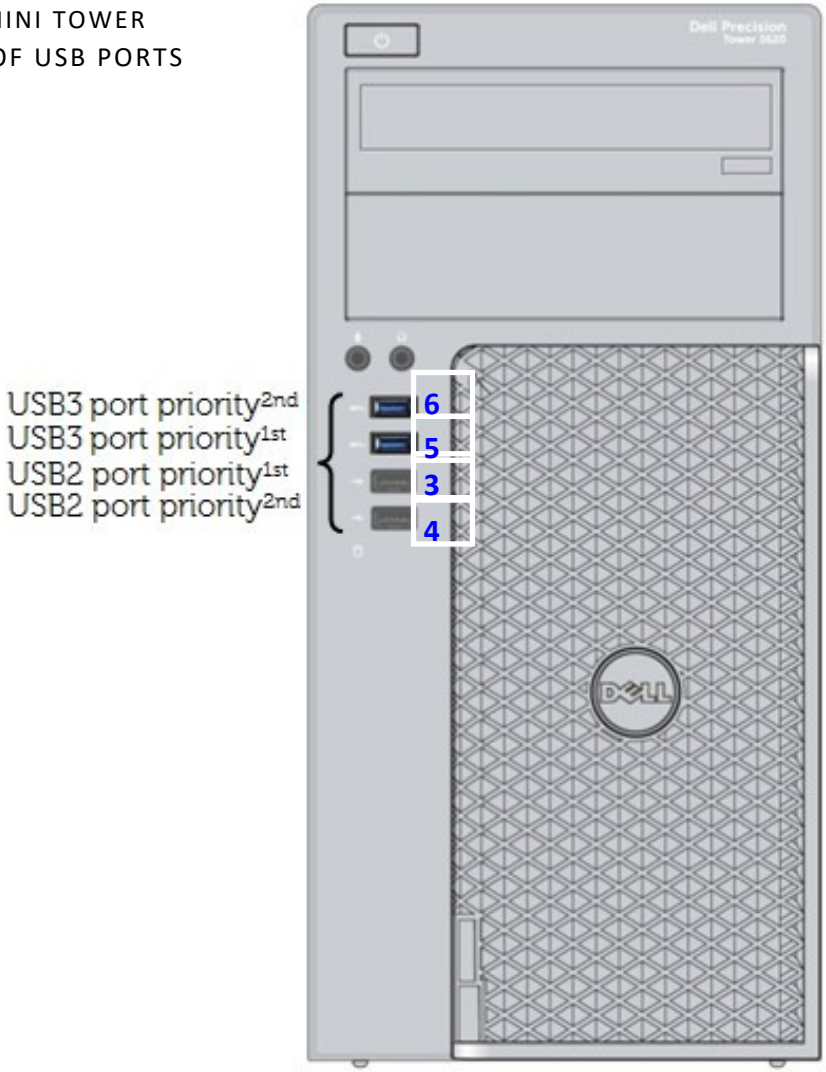
BIOS DEFAULTS

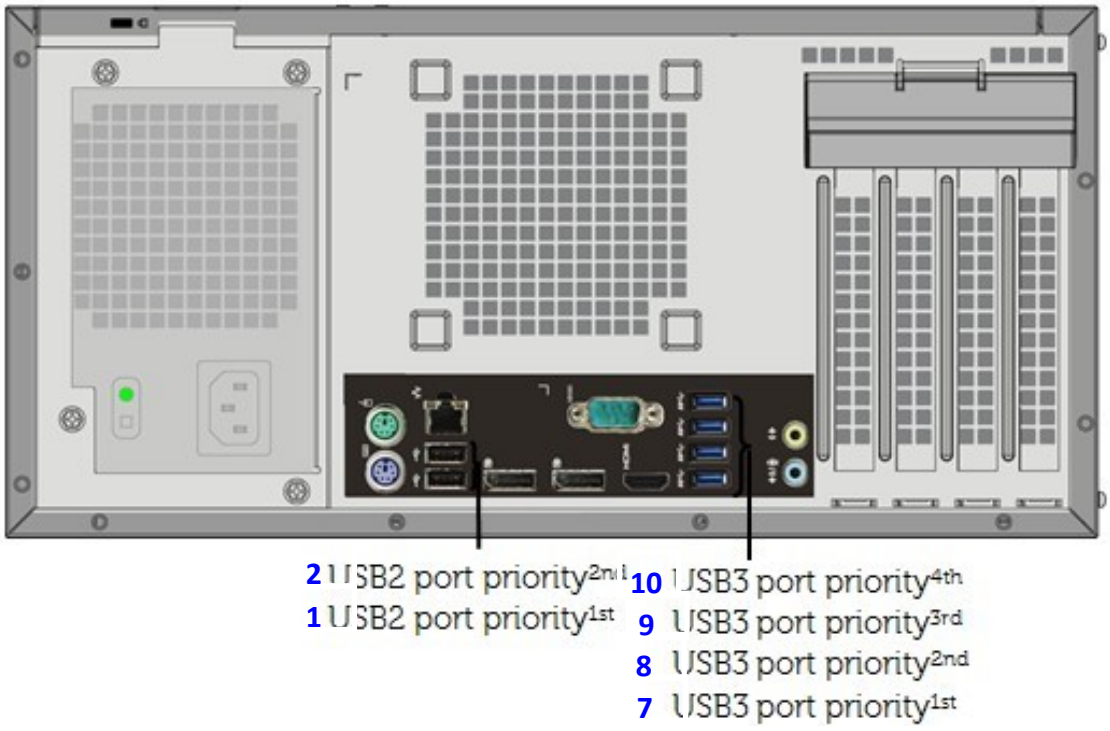
System Configuration	Integrated NIC:	Enable w/PXE
	Serial Port:	COM1
	SATA Operation:	RAID On
	Drives:	Enable (SATA-0, SATA-1, SATA-2, SATA-3, SATA-4, M.2 PCIe SSD-0)
	SMART Reporting:	Disabled
	USB Configuration:	Enable (Boot Support, Front USB Ports, Rear USB Ports)
	Front USB Configuration:	Enable (Front Port 1, Front Port 2, Front Port 3, Front Port 4)
	Rear USB Configuration	Enable (Rear Port 1, Rear Port 2, Rear Port 3, Rear Port 4, Rear Port 5, Rear Port 6)
	Thunderbolt	Enabled (User Configuration)
	USB PowerShare	Disable
	Audio	Enable (Microphone, Internal Speaker)
	Miscellaneous Devices:	Enable (PCI Slot)
Video	Primary display:	Auto
Security	Strong Password:	Disabled
	Password Configuration:	Admin Password Min 4 Admin Password Max 32 System Password Min 4 System Password Max 32
	Password Bypass	Disabled
	Password Changes:	Allow Non-Admin Password Changes
	UEFI Capsule Firmware Updates	Enable UEFI Capsule Firmware Updates
	TPM Security:	TPM On/Enabled
	Computrace®:	Deactivate
	CPU XD Support:	Enable CPU XD Support
	OROM Keyboard Access	Enabled
	Admin Setup Lockout	Disabled
Secure Boot	Secure Boot Enable	Disabled
	Expert Key Management	Disabled

BIOS DEFAULTS

Performance	Multiple Core Support:	All
	Intel® SpeedStep™:	Enabled
	C-States Control:	Enabled
	Limit CPUID Value:	Disabled
	Intel® Turbo Boost	Enabled
	HyperThread control:	Enabled
Power Management	AC Recovery:	Power Off
	Auto On Time:	Disabled
	Deep Sleep Control:	Disabled
	Fan Control Override	Disabled
	USB Wake Support:	Enabled
	Wake on LAN/WLAN:	Disabled
	Block sleep	Disabled
	Intel Ready Mode	Disabled
POST Behavior	Numlock LED:	Enabled
	MEBx Hotkey:	Enabled
	Keyboard Errors:	Enabled
Virtualization Support	Virtualization	Enabled
	VT for Direct I/O	Enabled
	Trusted Execution	Disabled
Maintenance	Service Tag:	Set by the factory
	Asset Tag:	Optional User Entry
	SERR Message:	Enabled
	Allow BIOS downgrade	Enabled
	Data Wipe	Disabled
	BIOS Recovery	Enabled (BIOS Recovery from Hard Drive)

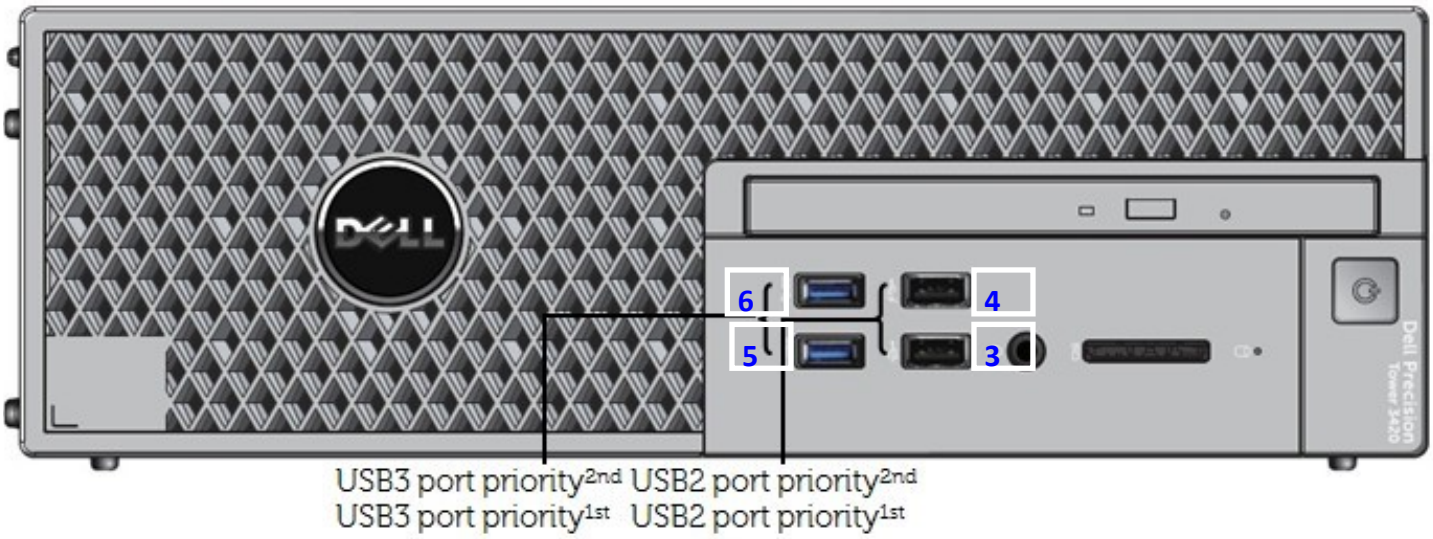
EXTERNAL CHASSIS VIEWS—MINI TOWER
BIOS INITIALIZE SEQUENCE OF USB PORTS



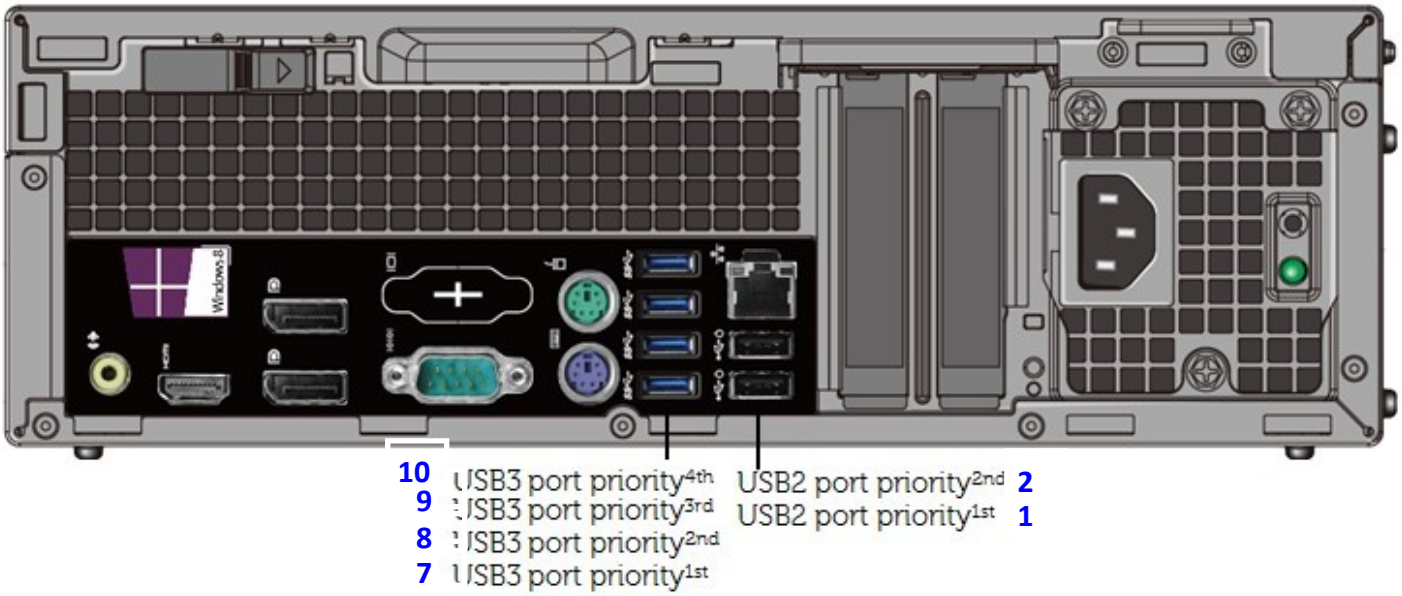


EXTERNAL CHASSIS VIEWS—SMALL FORM FACTOR
BIOS INITIALIZE SEQUENCE OF USB PORTS

FRONT I/O



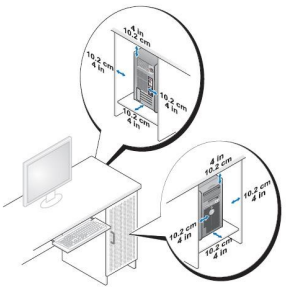
REAR I/O



CHASSIS ENCLOSURE & VENTILATION REQUIREMENTS

ENCLOSURE VENTILATION

If your enclosure has doors, they need to be of a type that allows at least 30% airflow through the enclosure (front and back).



ENCLOSURE MINIMUM CLEARANCE

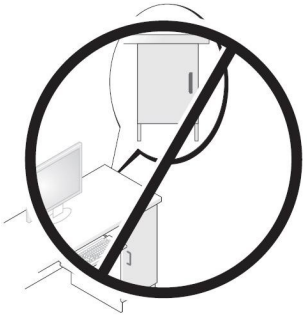
Leave a 10.2 cm (4 in.) minimum clearance on all vented sides of the computer to permit the airflow required for proper ventilation.

ENCLOSURE DOOR AREA

The intake and exhaust door areas should be, at a minimum, the same size as the system intake and exhaust areas.

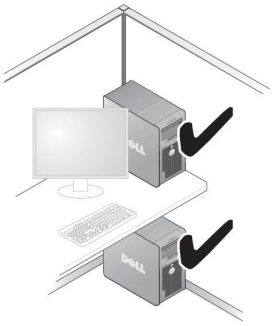
RECOMMENDED ENCLOSURE

Do not install your computer in an enclosure that does not allow airflow. This restricts the airflow and impacts your computer's performance, possibly causing it to overheat.



OPEN DESK MINIMUM CLEARANCE

If your computer is installed in a corner, on a desk, or under a desk, leave at least 5.1 cm (2 in.) clearance from the back of the computer to the wall to permit the airflow required for proper ventilation.



REGULATORY COMPLIANCE AND ENVIRONMENTAL

Product related conformity assessment and regulatory authorizations including Product Safety, Electromagnetic Compatibility (EMC), Ergonomics, and Communication Devices relevant to this product may be viewed at www.dell.com/regulatory_compliance. The Regulatory Datasheet for this product is located at http://www.dell.com/regulatory_compliance.

Details of Dell's environmental stewardship program to conserve product energy consumption, reduce or eliminate materials for disposal, prolong product life span and provide effective and convenient equipment recovery solutions may be viewed at www.dell.com/environment. Product related conformity assessment, regulatory authorizations, and information encompassing Environmental, Energy Consumption, Noise Emissions, Product Materials Information, Packaging, Batteries, and Recycling relevant to this product may be viewed by clicking the Design for Environment link on the webpage.