



Dell OptiPlex 7050

Technical Guidebook – Revision 01, February 7, 2017

Inside the OptiPlex 7050

SPECIFIC FEATURES/ MODELS/CONFIGURATIONS/OPTIONS DISCUSSED IN THIS DOCUMENT MAY NOT
BE AVAILABLE IN ALL REGIONS

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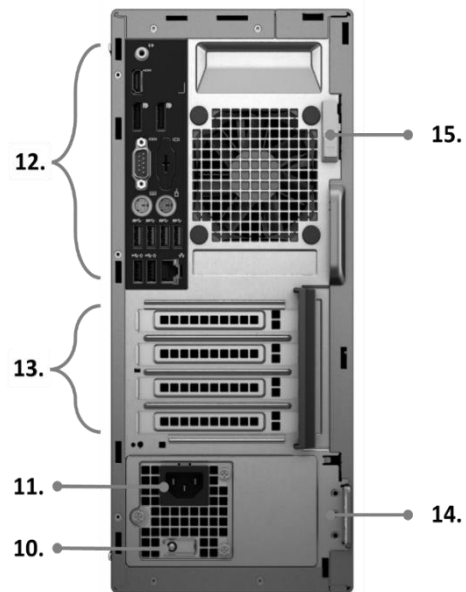
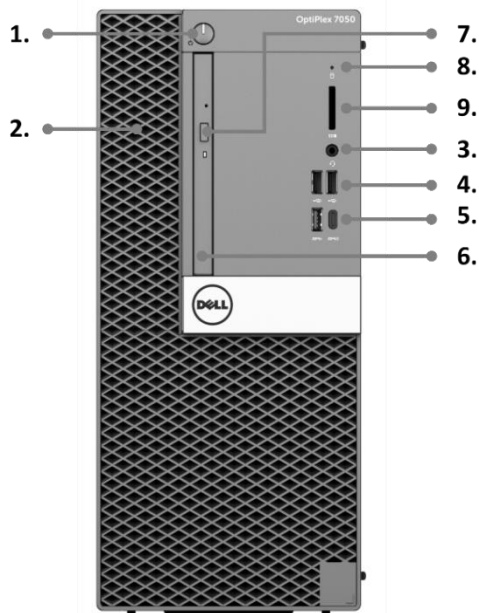
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Overview



Tower Computer View



FRONT VIEW

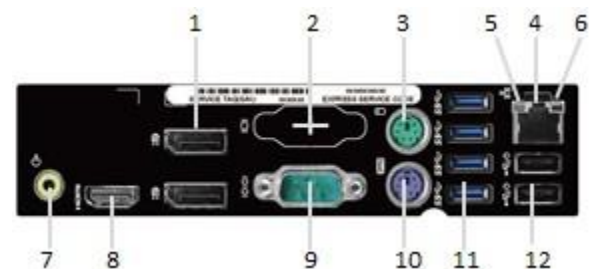
1	Power LED Button	6	Optical Drive (optional)
2	5.25" Drive Bay	7	Optical Driver Eject Button
3	Universal Audio Jack Connector	8	Drive Activity Light
4	USB 2.0 Connectors (2) 1 with PowerShare	9	SD Media Card Reader (optional)
5	USB 3.1 Gen 1 Connectors (2) 1 Type-A and 1 Type-C		

Back VIEW

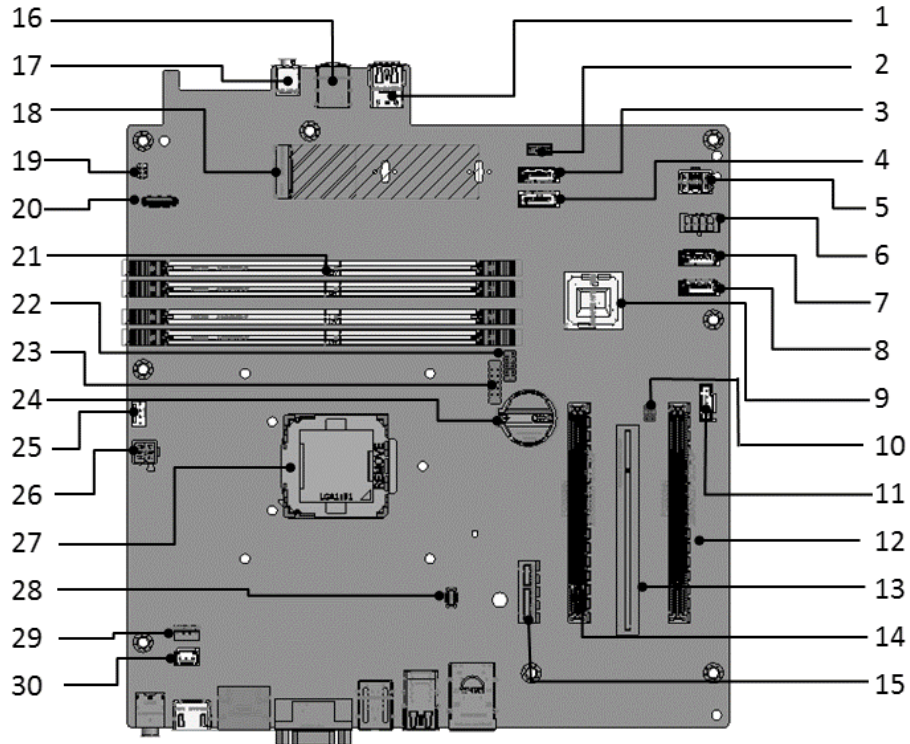
10	Power Supply Diagnostic Light	13	Expansion Card Slots (4)
11	Power Connector	14	Kensington Security Cable Slot/Padlock Ring
12	Back Panel Connectors	15	Rear Latch

BACK PANEL CONNECTORS

1	DisplayPort Connectors (2)	7	Line-out Connector
2	VGA Connector (optional)	8	HDMI Connector
3	PS/2 Mouse Connector	9	Serial Connector
4	Network Connector	10	PS/2 Keyboard Connector
5	Network Link Integrity Light	11	USB 3.1 Gen 1 Connectors (4)
6	Network Activity Light	12	USB 2.0 Connectors (2) Both with Smart Power On functionality



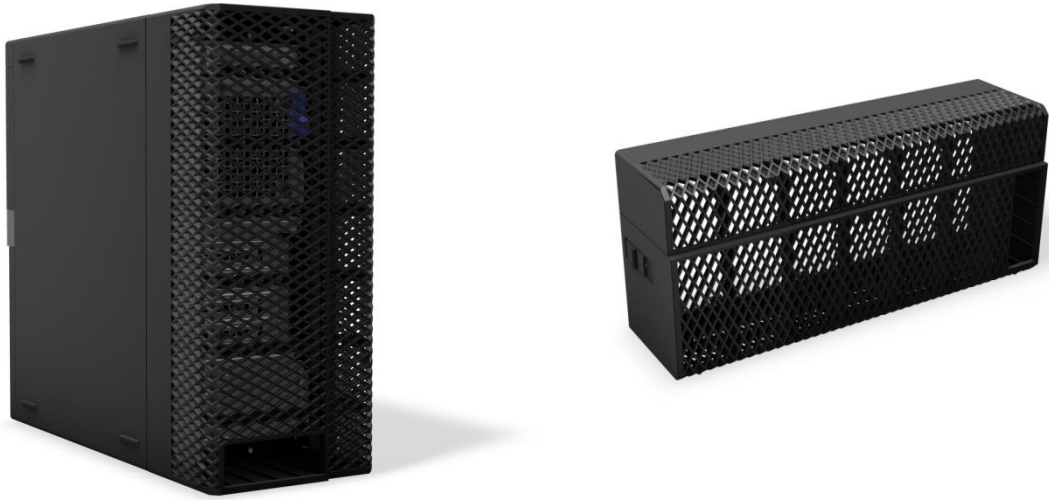
Tower Motherboard Layout



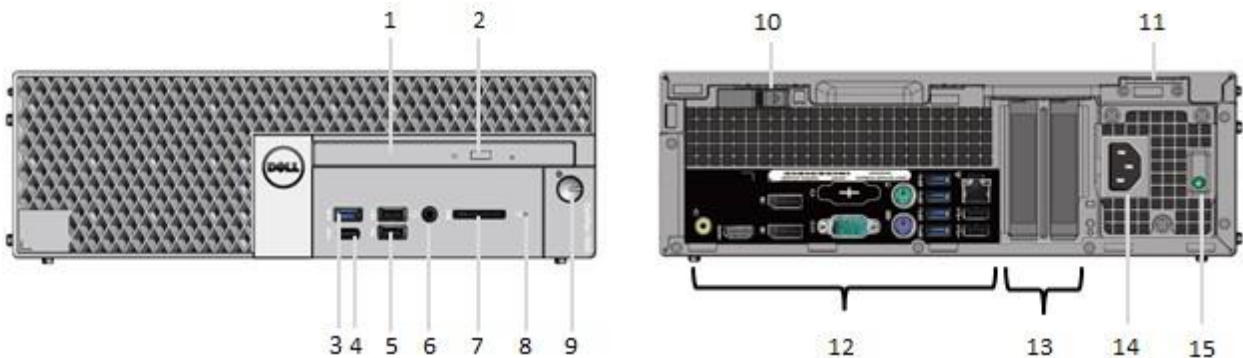
Tower System board components

Number	Name	Number	Name
1	Front USB 3.1 Gen 1 Connector (SSUSB_F)	16	Front USB 2.0 (Front_USB)
2	Internal Speaker Connector (INT_SPKR)	17	Front Audio Connector (AUDIO1)
3	SATA 3 Connector (Black color)	18	M.2 Socket 3 Connector (M.2 SSD)
4	SATA 1 Connector (White Color)	19	Power Switch Connector (PWR_SW)
5	ATX Power Connector (ATX_SYS)	20	Card Reader Connector (Card Reader)
6	HDD_ODD_Power Cable Connector (SATA PWR)	21	Memory Connector (DIMM1~DIMM4)
7	SATA 2 Connector (Black color)	22	Internal USB Connector (USB2)
8	SATA 0 Connector (Blue color)	23	Internal USB Connector (WF_BT_USB)
9	PCH Chip	24	Battery Connector (BATTERY)
10	CMOS_CLR/Password/Service_Mode Jumper (JMP1)	25	CPU Fan Connector (FAN_CPU)
11	Thunderbolt add-in card connector (TBT)	26	CPU Power Connector (ATX_CPU)
12	PCI-eX16(wire x4) Connector (Slot4)	27	Processor Socket
13	PCI Connector (Slot3)	28	VGA Daughter Board Connector (VGA)
14	PCI-eX16 Connector (Slot2)	29	Intrusion Switch Connector (INTRUDER)
15	PCI-eX1 Connector (Slot1)	30	System Fan Connector (FAN_SYS)

Optional Cable Cover – Tower

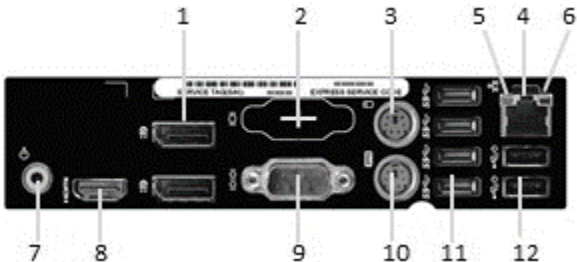


Small Form Factor Computer View

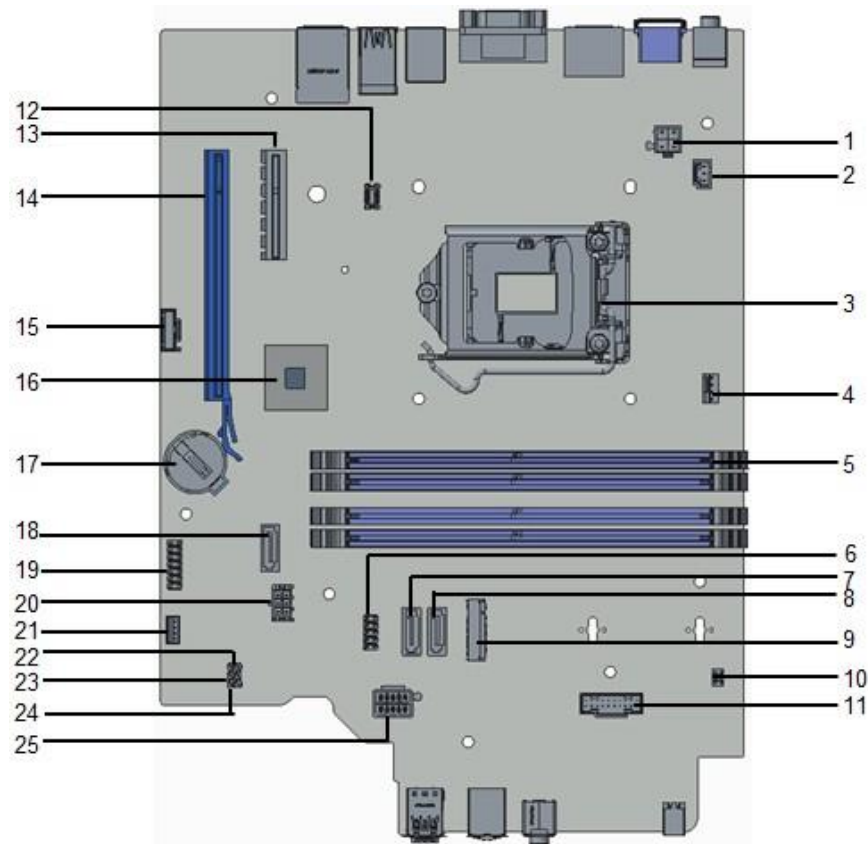


FRONT VIEW				REAR VIEW			
1	Optical Drive (optional)	5	USB 2.0 Type A Connectors (2) 1 with PowerShare	9	Power Button, Power Light	13	Expansion Card Slots (2)
2	Optical Drive Eject Button	6	Universal Audio Jack Connector	10	Rear Latch	14	Power Connector
3	USB 3.1 Gen 1 Type A Connector	7	SD Media Card Reader (optional)	11	Kensington Security Cable Slot/Padlock Security Slot	15	Power Supply Diagnostic Light
4	USB 3.1 Gen 1 Type C Connector	8	Drive Activity Light	12	Back Panel Connectors		

BACK PANEL CONNECTORS			
1	DisplayPort Connectors (2)	7	Line-out Connector
2	VGA Connector (optional)	8	HDMI Connector
3	PS/2 Mouse Connector	9	Serial Connector
4	Network Connector	10	PS/2 Keyboard Connector
5	Network Link Integrity Light	11	USB 3.1 Gen 1 Connectors (4)
6	Network Activity Light	12	USB 2.0 Connectors (2) Both with Smart Power On functionality



Small Form Factor Motherboard Layout

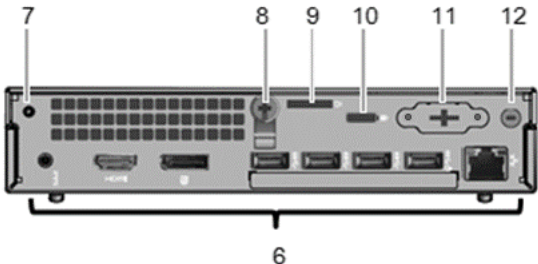
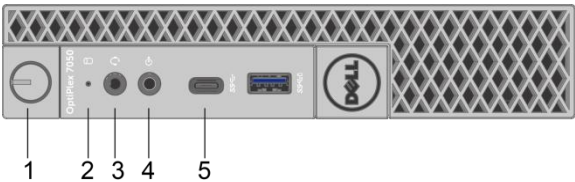


Number	Name	Number	Name
1	CPU Power Connector (ATX_CPU)	14	PCI-e x16 Connector (SLOT2)
2	Intrusion Switch Connector (INTRUDER)	15	Thunderbolt connector (TBT)
3	Processor Socket (CPU)	16	PCH Chipset
4	CPU fan Connector (FAN_CPU)	17	Battery Connector (BATTERY)
5	Memory Slots (DIMM1,DIMM2,DIMM3,DIMM4)	18	SATA 1 Connector White Color (SATA1)
6	Internal USB Connector (FRONT_USB)	19	Internal USB Connector (WF_BT_USB)
7	SATA0 Connector Blue Color (SATA0)	20	HDD&ODD Power Cable Connector (SATA_PWR)
8	SATA2 Connector Black Color (SATA2)	21	Internal Speaker Connector (INT_SPKR)
9	M.2 Slot 3 Connector (M.2_SSD)	22	Clear CMOS Jumper (CMOS_CLR)
10	Power Switch Connector (PWR_SW)	23	Clear Password Jumper (PASSWORD_CLR)
11	Media Card Reader Connector (CARD_READER)	24	Service Mode Jumper (SERVICE_MODE)
12	VGA Daughter Board Connector (VGA)	25	ATX Power Connector (ATX_SYS)
13	PCI-e x4 Connector (SLOT1) - open ended X4 to support X16		

Optional Cable Cover – Small Form Factor

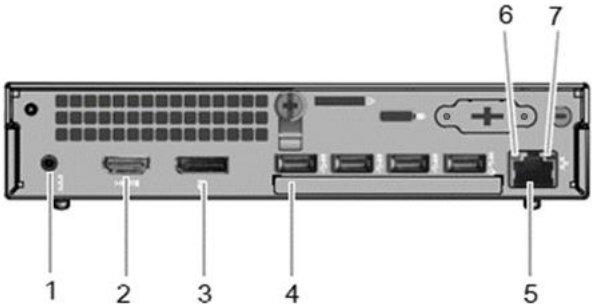


Micro Computer View

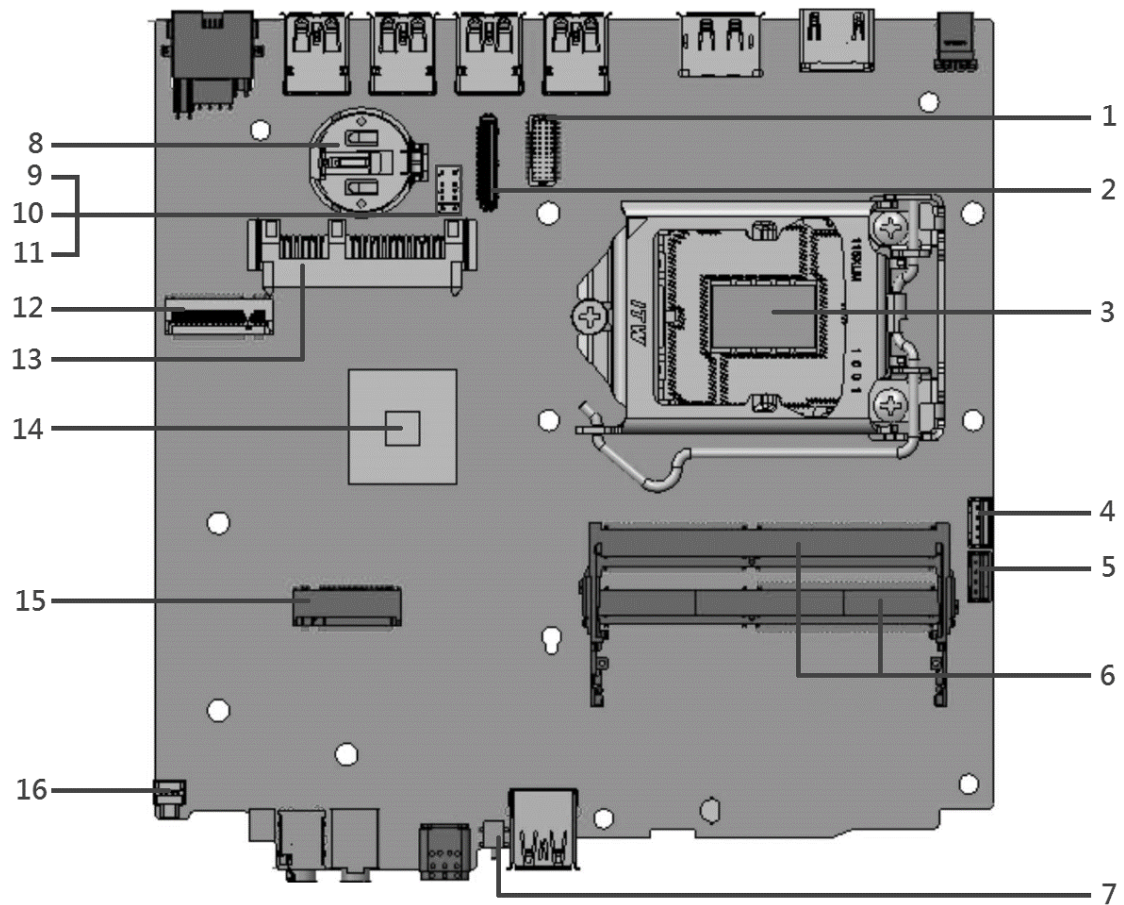


Front View				Rear View			
1	Power LED Button	5	USB 3.1 Gen 1 Connectors (2) one Type-C and one Type-A with PowerShare	8	Thumb Screw w/ power cable retention clip	12	Optional Antenna SMA Connector
2	Drive Activity Light	6	Back Panel Connectors	9	Padlock Ring		
3	Universal Audio Jack Connector	7	Accessory Screw Hole	10	Kensington Lock Slot		
4	Line-out Connector			11	Option I/O Port		

Rear Panel Connectors			
1	Power Connector	6	Link Integrity Light
2	HDMI Connector	7	Network Activity Light
3	Display Port Connector		
4	USB 3.1 Gen 1 Connectors (4) 1 with Smart Power On functionality		
5	Network Connector		



Micro Motherboard Layout



Number	Name	Number	Name
1	PS/2/ Serial Port Connector (KB_MS_SERIAL)	9	Clear CMOS Jumper (RTCRST)
2	DP/ VGA Connector (DP_VGA)	10	Clear Password Jumper (PSWD)
3	CPU Socket Connector (CPU)	11	Service Mode Jumper (SERVICE_MODE)
4	CPU Fan Connector (FAN_CPU)	12	M.2 SSD Connector (Slot2_M.2)
5	Internal Speaker Connector (INT_SPKR)	13	HDD Connector (HDD)
6	Memory Connectors (DIMM1, DIMM2)	14	PCH Chipset
7	Intrusion Switch (INTRUDER)	15	M.2 WLAN Connector (Slot1_M.2)
8	Battery Connector (Battery)	16	Power Switch Connector (PWR_SW)

Marketing System Configurations

NOTE: Offerings may vary by country; not all configurations available in all regions. 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

	Tower/Small Form Factor/Micro
Windows operating system	Microsoft® Windows 7 Pro (32/64-bit) with Windows 10 Pro License (requires Intel® 6th generation processors) Microsoft® Windows 7 Embedded (OEM customers only) Microsoft® Windows 10 Home (64-bit) Microsoft® Windows 10 Pro (64-bit) Microsoft® Windows 10 Embedded (OEM customers only)
Other	Ubuntu® 16.04 LTS (64bit) Neoklyn® v6.0(China only)
OS Media Support (optional)	Optional

Chipset

	Tower/Small Form Factor/Micro
Chipset	Intel Q270 Chipset
Non-volatile memory on chipset	
BIOS Configuration SPI (Serial Peripheral Interface)	128Mbit (16MB) located at SPI_FLASH on chipset
TPM 1.2/2.0 Security Device (Trusted Platform Module)	24KB located at TPM1.2/2.0 on chipset
Non-TPM	Available in select countries
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.

Device Guard (DG) and Credential Guard (CG) are the new security features that only available on Windows 10 Enterprise today. Device Guard is a combination of enterprise-related hardware and software security features that, when configured together, will lock a device down so that it can only run trusted applications. If it is not a trusted application, it cannot run. Credential Guard uses virtualization-based security to isolate secrets (credentials) so that only privileged system software can access them. Unauthorized access to these secrets can lead to credential theft attacks. Credential Guard prevents these attacks by protecting NTLM password hashes and Kerberos Ticket Granting Tickets

NOTE: Processor numbers are not a measure of performance. Processor availability subject to change and may vary by region/country.

	Tower	Small Form Factor	Micro	GSP	DG/CG Ready
Intel® Processors					
Intel® Core™ i7-6700 (QC/8MB/8T/3.4GHz/65W); supports Windows 7/8.1/10/Linux	X	X	X	GSP	X
Intel® Core™ i7-6700T (QC/8MB/8T/2.8GHz/35W); supports Windows 7/8.1/10/Linux			X	GSP	X
Intel® Core™ i5-6600 (QC/6MB/4T/3.3GHz/65W); supports Windows 7/8.1/10/Linux	X	X	X	GSP	X
Intel® Core™ i5-6600T (QC/6MB/4T/2.7GHz/35W); supports Windows 7/8.1/10/Linux			X	GSP	X
Intel® Core™ i5-6500 (QC/6MB/4T/3.2GHz/65W); supports Windows 7/8.1/10/Linux	X	X	X	GSP	X
Intel® Core™ i5-6500T (QC/6MB/4T/2.5GHz/35W); supports Windows 7/8.1/10/Linux			X	GSP	X
Intel® Core™ i3-6100 (DC/3MB/4T/3.7GHz/65W); supports Windows 7/8.1/10/Linux	X	X	X		X
Intel® Core™ i3-6100T (DC/3MB/4T/3.2GHz/35W); supports Windows 7/8.1/10/Linux			X		X
Intel® Core™ i7-7700 (QC/8MB/8T/3.6GHz/65W); supports Windows 10/Linux	X	X	X	GSP	X
Intel® Core™ i7-7700T (QC/8MB/8T/2.9GHz/35W); supports Windows 10/Linux			X	GSP	X
Intel® Core™ i5-7600 (QC/6MB/4T/3.5GHz/65W); supports Windows 10/Linux	X	X	X	GSP	X
Intel® Core™ i5-7600T (QC/6MB/4T/2.8GHz/35W); supports Windows 10/Linux			X	GSP	X
Intel® Core™ i5-7500 (QC/6MB/4T/3.4GHz/65W); supports Windows 10/Linux	X	X	X	GSP	X
Intel® Core™ i5-7500T (QC/6MB/4T/2.7GHz/35W); supports Windows 10/Linux			X	GSP	X
Intel® Core™ i3-7100 (DC/3MB/4T/3.9GHz/65W); supports Windows 10/Linux	X	X	X		X
Intel® Core™ i3-7100T (DC/3MB/4T/3.5GHz/35W); supports Windows 10/Linux			X		X



Systems Management Features

Overview: Dell commercial systems come with a number of systems management options that are included by default for In-Band management with our Dell Client Command Suite. In-Band management meaning that the Operating System is functional and the device is connected to a network so that it can be managed. The Dell Client Command Suite of tools can be leveraged individually or with a systems management console like SCCM, LANDESK, KACE, etc.

We also offer Out-of-Band management as an option. Out-of-band management is when the system does not have a functional operating system or is turned off and you still want to be able to manage the system in that state.

In-Band Systems Management- Dell Client Command Suite

The Dell Client Command Suite of tools is free to download at <http://dell.com/command> and can be used with all OptiPlex desktops. It contains the following components that can be used individually, or in the case of SCCM in conjunction with our integration for SCCM.

Dell Command | Deploy Driver Packs - Bundles of system specific drivers (web hosted on dell.com/command) that have been extracted and reduced to an OS consumable state for use with any OS deployment tool. Here is a link to Dell TechCenter where you can find the driver packs for each commercial client system: <http://en.community.dell.com/techcenter/enterprise-client/w/wiki/2065.dell-command-deploy-driver-packs-for-enterprise-client-os-deployment>

Dell Command | Configure - A GUI based IT administrator tool for configuring and deploying hardware settings in either a pre-OS or post-OS environment. Example configurations include enabling TPM, restricting access to USB ports, locking the BIOS with BIOS passwords, disabling wireless/Bluetooth.

Dell Command | Monitor - A WMI (Windows Management Instrumentation) agent that provides deep hardware inventory and health monitoring along with command line and scripting capabilities that allow IT administrators to configure their hardware remotely.

Dell Command | Update - a factory-installed application that end-users, with administrative rights, may utilize to individually manage their own Dell updates. This tool leverages the Updates Catalog for scheduling and installing Dell updates (drivers, BIOS, firmware).

Dell Command | Update Catalog - Provides searchable metadata that is leveraged with Dell Command | Update and enables management consoles Dell KACE Appliances, LANDesk Management Systems and Microsoft System Center to retrieve the latest system specific updates (driver, firmware, or BIOS) for any Dell commercial client to be delivered seamlessly to end-users.

Dell Command | PowerShell Provider - Furthers the ability to standardize on this industry-leading scripting preference by enabling IT administrators to dynamically query and modify hardware settings with native PowerShell commands.

Dell Command | Power Manager - factory installed on all end-point devices with a battery (laptops, tablets) that enables modifications beyond the power options provided by the operating system.

Dell Command | Integration Suite for System Center 2012 - This suite integrates all the key components of the Client Command Suite into Microsoft System Center Configuration Manager 2012 and later.

Dell Command | Intel vPro Out-of-Band - This console enables IT administrators to modify out-of-band BIOS, battery management preferences, hard drive management, or password resets for Dell vPro TM enabled clients (Dell exclusive features).



Out-of-Band Systems Management- Intel vPro and Intel Standard Manageability

Both the Intel vPro and Intel Standard Manageability options **must be configured in our factory at the time of purchase, as they are NOT field upgradable.** They offer out-of-band management and DASH compliance ([link to DASH certification registry.](#))

Intel vPro – Only available on the OptiPlex 7050 with Intel® Core™ i5 and i7 processors and offers the most complete set of out-of-band management features including KVM, IPv6 support, graceful shutdown, and all the features from previous versions of vPro. It uses the latest version of Intel's Active Management Technology (AMT) which is currently at version 11.0.

To learn more about vPro, visit Intel's website at <http://www.intel.com/content/www/us/en/architecture-and-technology/vpro/vpro-technology-general.html>

Intel Standard Manageability (ISM) – Only available on OptiPlex 5050 and 7050. ISM offers a limited set of out-of-band features like remote power on/off, Serial-over-LAN redirect, Wake-on-LAN, etc. It leverages the same capabilities that were available with Intel's Active Management Technology (AMT) version 5.0

To learn more about Intel® ISM, visit Intel's website at:

<https://software.intel.com/en-us/blogs/2009/03/27/what-is-standard-manageability>



Memory

NOTE: Memory modules should be installed in pairs of matched memory size, speed, and technology. If the memory modules are not installed in matched pairs, the computer will continue to operate, but with a slight reduction in performance. The entire memory range is available to 64-bit operating systems.

	Tower	Small Form Factor	Micro
Type: DDR4 DRAM Non-ECC Memory	2400 MHz (2133MHz performance on Intel® 6th generation processors)		
DIMM Slots	4	4	2 (SODIMM)
DIMM Capacities	Up to 64GB	Up to 64GB	Up to 32GB
Minimum Memory	4GB	4GB	4GB
Maximum System Memory	64GB	64GB	32GB
Memory configurations			
64GB ¹ DDR4, 2400MHz, (4 x 16GB)	X	X	
32GB ¹ DDR4, 2400MHz, (2 x 16GB)			X
32GB ¹ DDR4, 2400MHz, (4 x 8GB)	X	X	
16GB ¹ DDR4, 2400MHz, (2 x 8 GB)	X	X	X
8GB ¹ DDR4, 2400MHz, (1 x 8GB)	X	X	X
8GB ¹ DDR4, 2400MHz, (2 x 4GB)	X	X	X
4GB ¹ DDR4, 2400MHz, (1 x 4GB)	X	X	X

¹ The amount depends on the actual system configuration. The use of 4GB or more of memory requires a 64-bit enabled processor and 64-bit operating system.



Drives and Removable Storage

	Tower	Small Form Factor	Micro
Bays:			
Optical Drives Supported (maximum)	1 Slim & 1 5.25" bay	1 Slim	0
Hard Drive Bay Supported (Internal)	1 x 3.5" and 2 x 2.5"	1 x 3.5" or 2 x 2.5"	1 x 2.5"
Hard Drives Supported 3.5"/2.5" (maximum)	1/2	1/2	0/1
Interface:			
SATA 2.0 for ODD	1	1	0
SATA 3.0 for HDD	3	2	1
M.2 Socket 3 (for SATA / NVMe SSD)	1	1	1
M.2 Socket1 key A (for WiFi/BTcard)	0	0	1
3.5" Hard Drives:			
3.5 inch 500GB ¹ SATA3 7200 RPM Hard Disk Drive	X	X	Not Available
3.5 inch 1TB ¹ SATA3 7200 RPM Hard Disk Drive	X	X	
3.5 inch 2TB ¹ SATA3 7200 RPM Hard Disk Drive	X	X	
2.5" Hard Drives			
2.5 inch 500GB ¹ SATA3 5400 RPM Hard Disk Drive	X	X	X
2.5 inch 500GB ¹ SATA3 7200 RPM Hard Disk Drive	X	X	X
2.5 inch 500GB ¹ SATA3 5400 RPM Solid State Hybrid Drive w/ 8GB Flash	X	X	X
2.5 inch 500GB ¹ SATA3 7200 RPM FIPS Self-Encrypting Hard Disk Drive (OPAL v2.0 compliant)	X	X	X
2.5 inch 1TB ¹ SATA3 7200 RPM Hard Disk Drive	X	X	X
2.5 inch 1TB ¹ SATA3 5400 RPM Solid State Hybrid Drive w/ 8GB Flash	X	X	X
2.5 inch 2TB ¹ SATA3 5400 RPM Hard Disk Drive	X	X	X
2.5 inch 256GB ¹ SATA Class 20 Solid State Drive	X	X	X
2.5 inch 512GB ¹ SATA Class 20 Solid State Drive	X	X	X
M.2 SSD			
M.2 128GB ¹ SATA Class 20 Solid State Drive	X	X	X
M.2 256GB ¹ PCIe NVMe Class 40 Solid State Drive	X	X	X
M.2 256GB ¹ PCIe NVMe Class 40 Self-Encrypting Solid State Drive (OPAL v2.0 compliant)	X	X	X
M.2 512GB ¹ PCIe NVMe Class 40 Solid State Drive	X	X	X
M.2 512GB ¹ PCIe NVMe Class 40 Self-Encrypting Solid State Drive (OPAL v2.0 compliant)	X	X	X
M.2 1TB ¹ PCIe NVMe Class 40 Solid State Drive	X	X	X



	Tower	Small Form Factor	Micro
Intel® Optane™ Memory:			
Intel® Optane™ Memory ready	X	X	X
RAID 1 Data Protection: (includes two matching capacity/speed hard drives)			
2.5 inch 500GB ¹ SATA3 5400 RPM Hard Disk Drive	X	X	Not Available
2.5 inch 500GB ¹ SATA3 7200 RPM Hard Disk Drive	X	X	
2.5 inch 500GB ¹ SATA3 7200 RPM FIPS Self-Encrypting Hard Disk Drive (OPAL v2.0 compliant)	X	X	
2.5 inch 1TB ¹ SATA3 7200 RPM Hard Disk Drive	X	X	
2.5 inch 1TB ¹ SATA3 5400 RPM Solid State Hybrid Drive w/ 8GB Flash	X	X	
2.5 inch 2TB ¹ SATA3 5400 RPM Hard Disk Drive	X	X	
2.5 inch 256GB ¹ SATA Class 20 Solid State Drive	X	X	
2.5 inch 512GB ¹ SATA Class 20 Solid State Drive	X	X	
RAID 0 Performance: (includes two matching capacity/speed hard drives)			
2.5 inch 500GB ¹ SATA3 5400 RPM Hard Disk Drive	X	X	
2.5 inch 500GB ¹ SATA3 7200 RPM Hard Disk Drive	X	X	
2.5 inch 500GB ¹ SATA3 7200 RPM FIPS Self-Encrypting Hard Disk Drive (OPAL v2.0 compliant)	X	X	
2.5 inch 1TB ¹ SATA3 7200 RPM Hard Disk Drive	X	X	
2.5 inch 1TB ¹ SATA3 5400 RPM Solid State Hybrid Drive w/ 8GB Flash	X	X	
2.5 inch 2TB ¹ SATA3 5400 RPM Hard Disk Drive	X	X	
2.5 inch 256GB ¹ SATA Class 20 Solid State Drive	X	X	
2.5 inch 512GB ¹ SATA Class 20 Solid State Drive	X	X	
Optical Drive:			
DVD+/-RW ² -9.5mm	Optional	Optional	
DVD-ROM ³ -9.5mm	Optional	Optional	
Media Card Reader:			
SD 4.0	Optional	Optional	

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

² Discs burned with this drive may not be compatible with some existing drives and players; using DVD+R media provides maximum compatibility.

³ DVD-ROM drives may have write-capable hardware that has been disabled via firmware modifications.



System Board Connectors

NOTE: See Detailed Engineering Specifications for maximum card dimensions.

	Tower	Small Form Factor	Micro
PCI Slot(s) ¹	1		Not Available
PCIe x16 Slot(s) ²	1	1	
PCIe x16 (wired x4) Slot(s) ³	1	1 x4 open ended	
PCIe x1 Slot(s) ³	1		
Serial ATA (SATA) ⁴	4	3	1
M.2 Socket 3 ⁵ (for SSD)	1 – 2280/2242	1 – 2280/2242	1 – 2280/2242
M.2 Socket 1 ⁶ (for WiFi/BT card)			1 - 2230

¹ PCI Slots (Support Standard Rev 2.3)

² PCIe x16 Slots (Support Standard Rev 3.0)

³ PCIe x16 (wired x 4), PCIe x1 Slots, M.2 Slot (Support Standard Rev 3.0)

⁴ Serial ATA (Tower/Small Form Factor support one Gen2 port for ODD and the rest of the ports support Gen3)

⁵ M.2 Socket3: Support SATA & PCIe interface for 7050/5050 and PCIe only for 3050.

⁶ M.2 Socket1: Support both USB2.0 and PCIe

Graphics / Video Controller

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

	Tower	Small Form Factor	Micro
Intel HD 630 Graphics [with 7th Generation Core i3/i5/i7 CPU-GPU combo] Intel HD 530 [with 6th Generation Core i3/i5/i7 CPU-GPU combo]	Integrated on CPU		
Enhanced Graphic/Video Options			
1GB AMD Radeon™ R5 430	Optional		Not Available
2GB AMD Radeon™ R5 430	Optional		
4GB AMD Radeon™ R7 450	Optional		



External Ports / Connectors

NOTE: Tower supports full height (FH) cards and Small Form Factor supports low profile (LP) cards.
See chassis diagrams section for port/connector locations

	Tower	Small Form Factor	Micro
USB 2.0 (Front/Rear/Internal)	2/2/4	2/2/4	0/0/0
USB 3.1 Gen 1 (Front/Rear/Internal)	2(1 Type C ¹)/4/0	2/4/0	2/4/0
USB PowerShare (2A max)	1 Front USB 2.0		1 Front USB 3.1 Gen 1
Serial	1 Rear		Optional
Network Connector (RJ-45)	1 Rear		
PS/2	2 Rear		Optional
Video :			
VGA	Optional		
DisplayPort 1.2	2 Rear		1
2nd DisplayPort 1.2			1 Rear(Optional)
HDMI Port 1.4	1 Rear		1
Audio:			
Line out for headphones or speakers	1 Rear		1 Front
Universal Audio Jack	1 Front		1 Front

¹USB 3.1 Gen 1 Type-C connector – This USB 3.1 Gen 1 port supports data only.

Communications – Integrated

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

	Tower	Small Form Factor	Micro
Intel® i219-LM Gigabit ¹ Ethernet LAN 10/100/1000 (Remote Wake Up, PXE support and Intel Active Management Technology support)	Integrated on system board		
Intel 10/100/1000 PCIe Gigabit ¹ Network Card	Optional		



Communications – Wireless

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

	Tower/Small Form Factor/Micro
Intel® Dual-Band Wireless-AC 8265 Wi-Fi + BT 4.2 Wireless Card (2x2), MU-MIMO	Optional

Audio and Speakers

	Tower/Small Form Factor/Micro
Realtek ALC3234 High Definition Audio Codec (supports multiple streaming)	Integrated
Internal speaker (mono)	Integrated
Dell AX210CR USB Stereo speakers	Optional
AC411 External Speakers	Optional
AC511 Sound Bar	Optional

Keyboards and Mouse

	Tower/Small Form Factor/Micro
Dell Wired Keyboard/Mouse	Optional
Dell Wireless Keyboard/Mouse	Optional
Dell Multimedia Keyboard/Mouse	Optional
Dell SmartCard Keyboard	Optional
Dell Laser Mouse	Optional



Security

	Tower	Small Form Factor	Micro
Trusted Platform Module (TPM) 1.2/2.0 ¹	Integrated on system board		
Cable Cover	Optional		
Chassis Intrusion Switch	Standard		
Dell Smartcard Keyboard	Optional		
Chassis lock slot and loop support	Standard		

¹TPM is not available in all countries.

Note: OptiPlex 7050 supports Secure Boot

Software

	Tower/Small Form Factor/Micro
Dell Data Protection Encryption (DDPE)	Optional

For greater detail on Dell's Data Protection security offerings, please see <http://www.dell.com/en-us/work/learn/software-security-data-security>.



Environmental

NOTE: For more details on Dell Environmental features, please go to Environmental Attributes section. See your specific region for availability.

	Tower	Small Form Factor	Micro
Recyclable packaging	X	X	X
BFR/PVC—free chassis			X
MultiPack packaging	Optional, US only		
Energy Efficient Power Supply	Optional Bronze and Platinum available		Standard

Service and Support

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

	Tower	Small Form Factor	Micro
3 Year Warranty ¹ Next Business Day On-site ² (3-3-3)	Standard in all regions		
ProSupport	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.



Mounting Options (7050 Micro only)

Product
Dell OptiPlex Micro Vertical Stand
Dell OptiPlex Micro VESA Mount
Dell OptiPlex Micro Dual VESA Mount
Dell OptiPlex Micro E-Series VESA Mount
Dell OptiPlex Micro DVD+/-RW Enclosure
Dell OptiPlex Micro All-in-One Stand

Dell OptiPlex Micro Vertical Stand	Dell OptiPlex Micro VESA Mount	Dell OptiPlex Micro Dual VESA Mount
		
Dell OptiPlex Micro E-Series VESA Mount	Dell OptiPlex Micro All-in-One Stand	Dell OptiPlex Micro DVD+/-RW Enclosure
		



Mounting Options (7050 Small Form Factor only)

Product
OptiPlex Small Form Factor All-in-One Stand (Supports most 19"-27" monitors)



Detailed Engineering Specifications

System Dimensions (Physical)

NOTE: System Weight and Shipping Weight is based on a typical configuration and may vary based on PC configuration. A typical configuration includes: integrated graphics, one hard drive, one optical drive (for Small Form Factor and Towers.).

	Tower	Small Form Factor	Micro
Chassis Volume (liters)	14.77	7.8	1.16
Chassis Weight (pounds / kilograms)	17.49/7.93	11.57 / 5.26	2.60 / 1.18
Chassis Dimensions (H x W x D)			
Height (inches / centimeters)	13.8/ 35	11.42/29	7.2/18.2
Width (inches / centimeters)	6.1/ 15.4	3.65/9.26	1.4/3.6
Depth (inches / centimeters)	10.8 /27.4	11.50/29.2	7/17.8
Shipping Weight (pounds / kilograms – includes packaging materials)	20.96/9.43	15.09 / 6.86	5.91 / 2.68
Packaging Parameters (H x W x D)			
Height (inches / centimeters)	13.19/ 33.5	10.38/26.4	5.2 / 13.3
Width (inches / centimeters)	19.4/ 49.4	19.2/48.7	9.4 / 23.8
Depth (inches / centimeters)	15.5/ 39.4	15.5/39.4	19.6 / 49.8



Micro Mounting Dimensions (Physical)

	Dell OptiPlex Micro Vertical Stand	Dell OptiPlex Micro VESA Mount	Dell OptiPlex Micro Dual VESA Mount	Dell OptiPlex Micro E- VESA Mount	Dell Micro AIO Stand	Dell Micro DVD+/-RW Enclosure
Volume (liters)	0.23L	1.6L	1.9L	1.6L	29.6L	2.37L
Weight (pounds / kilograms)	0.104 / 0.047	1.358 / 0.616	2.624/1.19	1.358/0.616	7.04/ 3.2	1.63/ 0.743
Dimensions (H x W x D)						
Height (inches / centimeters)	6.61/16.8	7.47 / 18.99	7.52 / 19.12	7.47/18.99	17.7/45	2.67/6.78
Width (inches / centimeters)	0.69/ 1.75	1.93 / 4.92	2.35 / 5.97	1.93 / 4.92	11.5/ 29.2	7.41/18.82
Depth (inches / centimeters)	3.07/ 7.8	6.75 / 17.17	6.77 / 17.22	6.75 / 17.17	8.9/ 22.5	7.32/18.6
Shipping Weight (pounds / kilograms – includes packaging materials)	0.69	0.69	1.29	0.66	5.10	2.31/1.047
Dimensions (H x W x D)						
Height (inches / centimeters)	8.54/ 21.7	8.54/ 21.7	10.86/ 27.6	9.8/24.9	11.26/ 28.6	9.45/24
Width (inches / centimeters)	7.87/20	7.87/20	8.03/ 20.4	8.03/20.4	19.6/ 49.8	9.1/22.3
Depth (inches / centimeters)	2.52/6.4	2.52/ 6.4	2.72/6.9	2.32/5.9	9.96/ 25.3	3.27/8.3



System Board Connector Maximum Add-in Card Allowable Dimensions

	Tower	Small Form Factor	Micro
PCI Connector (Voltage supported 3.3V/5V/12V/-12V)	1	Not Available	Not Available
Height (inches / centimeters)	4.376 / 11.115		
Length (inches / centimeters)	6.6 / 16.765		
Maximum Wattage	25W		
PCIe x16 Connector (BLUE) (Voltage supported 3.3V/12V)	1	1	
Height (inches / centimeters)	4.376 / 11.115	2.731 /6.89	
Length (inches / centimeters)	6.6 /16.765	6.6 /16.765	
Maximum Wattage	75W	50W	
PCIe x16 or x4 Connector (BLACK) (Voltage supported 3.3/12V)	1	1 – x4 open ended (supports x16 cards)	
Height (inches / centimeters)	4.376 / 11.115	2.731 /6.89	
Length (inches / centimeters)	6.6 / 16.765	6.6 /16.765	
Maximum Wattage	25W	25W	
PCIe x1 Connector (Voltage supported 3.3V/12V)	1		
Height (inches / centimeters)	4.376 / 11.115		
Length (inches / centimeters)	4.5 / 11.44		
Maximum Wattage	10W		



System Level Environmental and Operating Conditions

	Tower/Small Form Factor/Micro
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	1.37Grms 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)



Power

	Tower		Small Form Factor		Micro	
Power Supply	EPA Bronze	EPA Platinum	EPA Bronze	EPA Platinum	EPS Level V	
Wattage	240W		180W		65W	130W
AC input voltage range	90-264Vac		90-264Vac		90-264Vac	
AC input current (low ac range / high ac range)	4A/2A		3A/1.5A		1.7A/1.0 A	1.8A/0.9A
AC input frequency	47HZ/63HZ		47HZ/63HZ		47HZ / 63HZ	
AC holdup time (80% load)	16mS		16mS		NA	
Average efficiency (ESTAR 6.1 compliant)	82-85-82% @ 20-50-100% load	90-92-89% @ 20-50-100% load	82-85-82% @ 20-50-100% load	90-92-89% @ 20-50-100% load	87%	
DC Parameters						
+12.0v output	12VA/16.5A; 12VB/16A		12VA/12A; 12VB/14A			
+19.5v output					19.5V/3.3 4A	19.5V/6.67 A
+12.0v auxiliary output	2.5A		2.5A			
Max total power	240W		180W		65W	130W
Max combined 12.0v power (note: only if more than one 12v rail)	240W		180W			
BTUs/h (based on PSU max WT)	819 BTU		614 BTU		222 BTU	
Power Supply Fan	60mm*25mm		60mm*25mm			
Compliance						
ErP Lot6 Tier 2 0.5watt requirement	Yes	Yes	Yes	Yes		
80Plus Certified	Yes	Yes	Yes	Yes	No	
FEMP Standby Power Compliant	Yes	Yes	Yes	Yes	No	
3.0v CMOS battery (Type and estimated battery life)						
Brand	Type	Voltage	Composition	Life		
JHIH HONG	CR2032	3V	Lithium	Continuous Discharge Under 15 kΩ Load to 2.5V End-Voltage. 20°C±2°C: 940Hrs or longer; 910Hrs or longer after 12 mo.		
PANASONIC	CR2032	3V	Lithium	Continuous Discharge Under 15 kΩ Load to 2.5V End-Voltage. 20°C±2°C.1183Hrs. or Longer.1133Hrs.or Longer after 12 mo.		
MITSUBISHI	CR2032	3V	Lithium	Continuous Discharge Under 15 kΩ Load to 2.0V End-Voltage. 20°C±2°C 940Hrs. or Longer.910Hrs.or Longer after 12 mo.		
SHUNWO & KTS	CR2032	3V	Lithium	Continuous Discharge Under 15 kΩ Load to 2.5V End-Voltage. 20°C±2°C.1183Hrs. or Longer.1133Hrs.or Longer after 12 mo.		



Audio

	Tower/Small Form Factor/Micro
Integrated Realtek ALC3234 High Definition Audio	X
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
Audio Jack Impedance	
Microphone	40K ohm~60K ohm
Line-in	40K ohm~60K ohm
Line-out	100~150 ohm
Headphone	1~4 ohm
Internal Speaker Power Rating	2.5Watt (peak) 4 Ohm/ 2Watt (average) 4Ohm



Communications – Integrated Intel I219-LM

INTEGRATED INTEL® I219-LM GIGABIT¹ ETHERNET LAN 10/100/1000	Tower/Small Form Factor/Micro
External Connector Type	RJ45
Data Rates Supported	10/100/1000 Mbps
Controller Details	
Controller Bus Architecture	PCI Express Base Specification Revision 1.1
Integrated Memory	Yes
Data Transfer Mode (example: Bus-Master DMA)	Yes
Power Consumption (full operation per data rate connection speed)	542mW (Max)
Power Consumption (standby operation)	169mW (Max)
IEEE Standards Compliance	802.3
Hardware Certifications	n/a
Boot ROM Support	EEPROM (located in SPI)
Network Transfer Mode	
Network Transfer Rate 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)
Environmental	
Operating Temperature	0° C to 85° C (32° F to 185° F)
Operating Humidity	20% to 80% (non-condensing)
Operating System Driver Support	Window 7 32/64, Windows 8.1 32/64 Windows 10, Ubuntu, Neokyllin
Manageability	WOL, PXE 2.1
Management Capabilities Alerting	Optional Intel® Standard Manageability and Intel® vPro Technology- must be made at time of purchase

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.



Communications – Intel I210 1Gb Ethernet Adapter

Intel 10/100/1000 PCIe Gigabit¹ Ethernet Adaptor Card	Tower	Small Form Factor	Micro
External Connector Type	RJ45		N/A
Data Rates Supported	10/100/1000 Mbps Full duplex 10/100 Mbps Half duplex		N/A
Controller Details			
Controller Bus Architecture	PCIe v2.1 x1 (2.5GT/s)		N/A
Integrated Memory	Yes		N/A
Data Transfer Mode (example: Bus-Master DMA)	Yes		N/A
Power Consumption (full operation per data rate connection speed)	800mW		N/A
Power Consumption (standby operation)	Less than 100mW		N/A
IEEE Standards Compliance	802.3, 802.3x, 802.1x		N/A
Hardware Certifications	FCC B, VCCI B, CE		N/A
Boot ROM Support	EEPROM (External SPI)		N/A
Network Transfer Mode			
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 (half-duplex) 10 Mbps Max* 10BASE-T (full-duplex) 20 Mbps Max* 100BASE-TX (half-duplex) 100 Mbps Max* 100BASE-TX (full-duplex) 200 Mbps Max* 1000BASE-T (full-duplex) 2000 Mbps Max* * Depends on the system environment.		N/A
Environmental			
Operating Temperature	0° C to 55° C (32° F - 131° F)		N/A
Operating Humidity	5% ~ 95% (non-condensing)		N/A
Operating System Driver Support	Windows 7 32/64, Windows 8.1, Win10, Linux		N/A
Manageability	WOL, PXE2.1, ACPI		N/A
Jumbo Frame Support	Yes (9.5 KB)		N/A




Communications – Intel Wireless-AC 8265 2x2

	Tower/Small Form Factor
Intel® Dual-Band Wireless-AC 8265 Wi-Fi + BT 4.2 Wireless Card (2x2), MU-MIMO	Custom WLAN Antenna Connector on Add-In Card
	Micro
Intel® Dual-Band Wireless-AC 8265 Wi-Fi + BT 4.2 Wireless Card (2x2), MU-MIMO	Standard M.2 Connector (U.FL)
Controller Details	
Host interface	M.2 2230 and 1216-soldered form factor (Wi-Fi – PCIe, Bluetooth – USB)
Network standard	IEEE 802.11a/b/g/n/ac MU-MIMO RX
Wi-Fi Alliance Certifications	802.11a/b/g/n/ac, WPA, WPA2, WMM, WPS, Wi-Fi Direct
Operating Frequency Bands	2.4 GHz and 5 GHz
Dual Stream N	Support for two transmit and receive antennas enable better wireless at the same distance when compared to older 802.11a/b/g solutions.
Data Rate	Up to 867 Mbps
Power Consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Authentication Authentication Protocols Encryption Product Safety	WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 64-bit and 128-bit WEP, 128-bit AES-CCMP UL, C-UL, CB (IEC60950-1)
Management Capabilities Alerting	Support for Intel® AMT 11.x on Kaby Lake
Government Compliance	FIPS, FISMA
Client Utility	Intel® PRO/Set Wireless Software v19.0 and later.
Software Support	Microsoft Windows 7, Windows 8.1, Windows® 10; Linux
Radio On/Off	Supported
LED output	Supported
Roaming	Supports seamless roaming between respective access points (802.11b, 802.11g, 802.11a/b/g, and 802.11a/b/g/n/ac)
Wake On Wireless	Supported when vPro/AMT is activated, or Windows® 8.1/10 without Intel AMT
Wireless Display	Native Miracast support by Windows 8.1 and 10
Country Restrictions	N/A (please refer to the data from RCE team)
Wireless PAN Standard	Dual Mode Bluetooth 4.2, BLE
Bluetooth Data rates	Up to 3Mbps
Bluetooth Operating Frequency Bands	2.4GHz
Bluetooth Profiles Supported	For Windows 7, includes DID, HID, PAN, HCRP, SPP, HFP, HSP DUN, OPP, FTP, BIP, BPP, SYNCH, A2DP(source/sink), AVRCP (target/controller), HOGP (LE HID) Support for Microsoft Inbox Bluetooth profiles in Windows 8.1 and future OS versions.
Bluetooth Data Encryption	128-bit encryption
Bluetooth Output Power	Power class 1



USB 3.1 Gen 2 Type-C PCIe Add In Card

Bus	PCI Express Spec 3.0, Single-Lane (x1)
Controller	PCI Express USB 3.1 Host Controller, Asmedia ASM1142
USB Standard	eXtensible Host Controller Interface 9xHCI) Rev1.1
IRQ & IO	Assigned by System
USB Communication	
Host interface	Universal Serial Bus 3.1/3.0/2.0/1.1
Speed	Super Speed+ (10Gbps), Super Speed (5Gbps), High Speed (480Mbps), Full Speed (12Mbps) and Low Speed (1.5Mbps)
No. of Port	2 –Ports (1 support Data only and 1 support Full Feature)
USB Connector	USB 3.1 USB Type-C port (Downstream Facing Port)
Protection	+/-15KV IEC61000-4-2 Air Discharge +/-8KV IEC61000-4-2 Contact Discharge
Video Input Interface	Standard Display Port Female, DisplayPort Ver1.2/1.1 Require 1xDP cable 240mm length 
Power source	PCI Express Bus Power
Output Power Capacity	USB Type-C Port +5VDC/1.5A/each port
Over Current Protection	+5VDC/1.5A/each port/power switch
Power consumption	<u>3.0W@3.3V</u> (Board only without power output to USB device)
OS Supported	Win7, Win8.1, Win10 and Ubuntu
Operating Temperature	0-60°C
Operating Humidity	5-95% RH
Storage temperature	-20 to 70°C
EMC	EUR:CE, EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3 US:FCC Part 15 Class B Japan:VCCI Taiwan:BSMI: CNS13438 AS/NZS:C-Tick:CISPR22



Communications – Serial/Parallel Port PCIe ADD-In Card

Serial / Parallel Port PCIe Add-in Card	Tower
Connector Type	RS-232 and IEEE1284
Data Rates Supported	50bps ~115.2Kbps(Serial)&Maximum 1.8MBp(Parallel)
Controller Details	
Controller	SUNIX SUN2212 (16C950 UART Compatible)
Controller Bus Architecture	PCI Express Spec 2.0, Single-Lane (x1)
Driver Support	Microsoft Client 7/8/8.1 (X86/X64) Microsoft Server 2000/2003/2008/2008R2/2012/2012 R2 (X86/X64) Linux 2.4.x/2.6.x/3.x DOS
Full height Serial/Parallel add in dongle	Optional
Environmental	
Operating Temperature	0 to 60°C (32 to 140°F)
Operating Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Communications – Serial Port PCIe Add-In Card

Serial Port PCIe Add-in Card	Small Form Factor	
Connector Type	RS-232	
Data Rates Supported	50bps ~115.2Kbps	
Controller Details		
Controller	SUNIX SUN2212 (16C950 UART Compatible)	
Controller Bus Architecture	PCI Express Spec 2.0, Single-Lane (x1)	
Driver Support	Microsoft Client 7/8 (X86/X64) Microsoft Server 2000/2003/2008/2008 R2 (X86/X64) Microsoft Embedded XP Embedded/POS Ready 2009/ Embedded System Linux 2.4.x/2.6.x/3.x DOS	
Full height Serial add in dongle	Optional	
Half height Serial add in dongle		Optional
Environmental		
Operating Temperature	0 to 60°C (32 to 140°F)	
Operating Humidity	5 to 95% RH	
Storage Temperature	-20 to 85°C (-4 to 185°F)	

Communications – Parallel Port PCIe Add-In Card

Parallel Port PCIe Add-in Card	Small Form Factor
Connector Type	IEEE1284
Data Rates Supported	Maximum 1.8MBps
Controller Details	
Controller	SUNIX SUN2212
Controller Bus Architecture	PCI Express Spec 2.0, Single-Lane (x1)
Driver Support	Microsoft Client 7/8 (X86/X64) Microsoft Server 2000/2003/2008/2008 R2 (X86/X64) Linux 2.4.x/2.6.x/3.x DOS
Environmental	
Operating Temperature	0 to 60°C (32 to 140°F)
Operating Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)



Graphics / Video Controller

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

Onboard Graphics

Onboard Graphics	Tower/Small Form Factor/Micro
Bus Type	Integrated
GPU core clock	Intel®HD Graphics 630/610@1150Mhz/1100Mhz/1000Mhz
Frame Buffer Memory (onboard and shared) Size and Speed	Depends on available system memory (Up to 1.7GB with 4GB system Memory)
Overlay Planes	Yes
Maximum Color Depth	24bits
Maximum Vertical Refresh Rate	85Hz
Multiple Display Support	Yes
Operating System Graphics / API Support	Direct3D* 2015, Direct3D 11.2, Direct3D 11.1, Direct3D 9, Direct3D 10, Direct2D OpenGL* 5.0 OpenCL* 2.1, OpenCL 2.0, OpenCL 1.2
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or digital)	Up to 4096x2304 @60Hz, 24, 30, 36 bpp (DP 1.2) Up to 4096x2160 @24Hz, 24, 36 bpp (HDMI 1.4) Up to 1920x1200 @60Hz, 24-bit color depth (VGA optional card)
For Multi Stream Transport (MST)	Single Display - 4096x2304 @60Hz Dual MST - 2880x1800 @60Hz Triple MST - 2304x1800 @60Hz
Wireless Display	Native Miracast support by Windows Win8.1, Win10
External Connectors	Optional VGA, DisplayPort 1.2 x2, HDMI 1.4

Note:

When 4 displays are connected (DP1/DP2/HDMI/VGA), only DP1 (Upper DP port) will display during POST. In Windows 7/8.1 systems, only DP1/HDMI/VGA will display. In a Windows 10 system, only DP1/DP2/VGA will display.

When a user plugs in the 4th display, there will be a pop-up message showing "You are attempting to use more displays than your system can support." Intel® HD Graphics Control panel will prompt you to select which display to use. The user can select a maximum of 3 displays to use. Once selected, these are set as the default setting unless the user changes them through Common User Interface (CUI). No more pop-ups are shown to avoid annoying the end user.



Onboard Graphics- Detailed Specifications

Onboard Graphics	Tower/Small Form Factor/Micro
Bus Type	Integrated
GPU core clock	Intel®HD Graphics 530/510@1150Mhz/950Mhz
Frame Buffer Memory (onboard and shared) Size and Speed	Depends on available system memory (Up to 1.7GB with 4GB system Memory)
Overlay Planes	Yes
Maximum Color Depth	24bits
Maximum Vertical Refresh Rate	85Hz
Multiple Display Support	Yes
Operating System Graphics / API Support	Direct3D* 2015, Direct3D 11.2, Direct3D 11.1, Direct3D 9, Direct3D 10, Direct2D OpenGL* 5.0 OpenCL* 2.1, OpenCL 2.0, OpenCL 1.2
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or digital)	Up to 4096x2304 @60Hz, 24bpp (DP 1.2) Up to 4096x2160 @24Hz, 24bpp (HDMI 1.4) Up to 1920x1200 @60Hz, 24-bit color depth (VGA optional card)
For Multi Stream Transport (MST)	Single Display - 4096x2304 @60Hz Dual MST - 2880x1800 @60Hz Triple MST - 2304x1800 @60Hz
External Connectors	Optional VGA, DisplayPort 1.2 x2, HDMI 1.4

4GB AMD Radeon™ R7 450

Bus Type	PCIEx16
GPU core clock	925MHz
Frame Buffer Memory (onboard and shared) Size and Speed	4GB / 1125MHz
Maximum Power Consumption	< 50W
Overlay Planes	Yes
Maximum Color Depth	32-bit
Maximum Vertical Refresh Rate	60Hz (4096x2160)
Multiple Display Support	Yes
Operating System Graphics / API Support	HD3D / OpenGL4.4 / OpenCLv1.2 / DirectX12
Supported Resolutions & Max Refresh Rates (Hz) (Analog and/or digital)	2 x DisplayPort: 4096 x 2160, 60Hz
External Connectors	2xDisplayPort 1.2 (for LP) 2xDisplayPort 1.2 + DVI-I (for Full Height)
Dimensions of Low Profile Card inches/centimeters (L x H)	14.48 x 6.89 centimeter
Environmental Operating Conditions (Non-Condensing)	
Operating Temperature Range	10°C-55° C
Relative Humidity Range	5-90% RH
Altitude Range	0-20,000 ft.



2GB AMD Radeon™ R5 430

Bus Type	PCIe3.0x8
GPU core clock	780MHz
Frame Buffer Memory (onboard and shared) Size and Speed	2GB / 1150MHz
Maximum Power Consumption	35W
Overlay Planes	Yes
Maximum Color Depth	32-bit
Maximum Vertical Refresh Rate	60Hz (4096x2160)
Multiple Display Support	Yes
Operating System Graphics / API Support	HD3D / OpenGL4.4 / OpenCLv1.2 / DirectX12
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or digital)	Single-Link DVI-I: 1920 x 1200, 60Hz DisplayPort: 4096 x 2160, 60Hz
External Connectors	DisplayPort 1.2, SL-DVI-I
Dimensions	14.48 x 6.89 centimeter
Environmental Operating Conditions (Non-Condensing)	
Operating Temperature Range	10°C-55° C
Relative Humidity Range	5-90% RH
Altitude Range	0-20,000 ft.

1GB AMD Radeon™ R5 430

Bus Type	PCIe3.0x8
GPU core clock	780MHz
Frame Buffer Memory (onboard and shared) Size and Speed	1GB / 1150MHz
Maximum Power Consumption	< 35W
Overlay Planes	Yes
Maximum Color Depth	32-bit
Maximum Vertical Refresh Rate	60Hz (4096x2160)
Multiple Display Support	Yes
Operating System Graphics / API Support	HD3D / OpenGL4.4 / OpenCLv1.2 / DirectX12
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or digital)	VGA: 1920x1200 @60Hz DisplayPort: 4096x2160 @60Hz
External Connectors	DisplayPort 1.2, VGA
Dimensions	14.48 x 6.89 centimeter
Environmental Operating Conditions (Non-Condensing)	
Operating Temperature Range	10°C-55° C
Relative Humidity Range	5-90% RH
Altitude Range	0-20,000 ft.



Video Port and Resolution Matrix

Port Type		Optional integrated VGA	DP 1.2	HDMI 1.4
Max Resolution	Single Display	1920x1200 at reduced blanking	4096x2304	2560x1600; 4096x2304 @24Hz
	Dual MST		2560x1600; 3440x1440	
	Triple MST		2560x1080	
<p>The OptiPlex 7050 supports any 3 concurrent displays. The integrated AIO display counts as one display. Dual or Triple MST count as 2 or 3 displays, respectively. The OptiPlex 7050 Small Form Factor and Tower have two DisplayPorts, so the system could support 2 displays on one DisplayPort via MST and 1 display on the other DisplayPort. All resolutions shown at 24bpp and unless specifically stated are @60Hz refresh Note: MST = Multi-stream Technology, aka – display daisy chaining.</p>				



Storage

3.5 inch 500GB SATA3 7200 RPM Hard Disk Drive

	Tower	Small Form Factor	Micro
Capacity (GB)	500GB HDD 7200RPM		Not available
Dimensions (inches) (W x D x H)	5.79 x 4 x 1		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	976,773,168		
Power Source			
Power Consumption (reference only)	Idle 5W, Active 10 W		
Environmental Operating Conditions (Non-Condensing):			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	65G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		

3.5 inch 1TB SATA3 7200 RPM Hard Disk Drive

	Tower	Small Form Factor	Micro
Capacity (TB)	1TB HDD 7200RPM		Not Available
Dimensions (inches) (W x D x H)	5.79 x 4 x 1		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	1,953,525,168		
Power Source			
Power Consumption (reference only)	Idle 5W, Active 10 W		
Environmental Operating Conditions (Non-Condensing):			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	65G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		



3.5 inch 2TB SATA3 7200 RPM Hard Disk Drive

	Tower	Small Form Factor	Micro
Capacity (TB)	2TB HDD 7200RPM		Not Available
Dimensions (inches) (W x D x H)	5.79 x 4 x 1		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	3,907,029,168		
Power Source			
Power Consumption (reference only)	Idle 5W, Active 10 W		
Environmental Operating Conditions (Non-Condensing):			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	65G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		

2.5 inch 500GB SATA3 5400 RPM Hard Disk Drive

	Tower	Small Form Factor	Micro
Capacity (GB)	500GB HDD 5400 RPM		
Dimensions (inches) (W x D x H)	2.760 x 3.959 x 0.276		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	976,773,168		
Power Source			
Power Consumption (reference only)	Idle 0.7W, Active 3.10 W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	350G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		



2.5 inch 500GB SATA3 7200 RPM Hard Disk Drive

	Tower	Small Form Factor	Micro
Capacity (GB)	500GB HDD 7200 RPM		
Dimensions (inches) (W x D x H)	2.760 x 3.959 x 0.276		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	976,773,168		
Power Source			
Power Consumption (reference only)	Idle 0.7W, Active 3.10 W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	350G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		

2.5 inch 500GB SATA3 5400 RPM Solid State Hybrid Drive w/ 8GB Flash

	Tower	Small Form Factor	Micro
Capacity (GB)	500GB HDD 5400 RPM HYBRID 8GB		
Dimensions (inches) (W x D x H)	2.760 x 3.959 x 0.276		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	976,773,168		
Power Source			
Power Consumption (reference only)	Idle 0.7W, Active 3.10 W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	350G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		



2.5 inch 500GB SATA3 7200 RPM FIPS Self-Encrypting Hard Disk Drive (OPAL v2.0 compliant)

	Tower	Small Form Factor	Micro
Capacity (GB)	500GB HDD 7200 RPM OPAL SED FIPS		
Dimensions (inches) (W x D x H)	2.75 x 3.937 x 0.276		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	976,773,168		
Power Source			
Power Consumption (reference only)	Idle 0.7W, Active 3.10 W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	350G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		

2.5 inch 1TB SATA3 7200 RPM Hard Disk Drive

	Tower	Small Form Factor	Micro
Capacity (TB)	1TB HDD 7200 RPM		
Dimensions (inches) (W x D x H)	2.760 x 3.959 x 0.374		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	1,953,525,168		
Power Source			
Power Consumption (reference only)	Idle 0.7W, Active 3.10 W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	350G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		



2.5 inch 1TB SATA3 5400 RPM Solid State Hybrid Drive w/ 8GB Flash

	Tower	Small Form Factor	Micro
Capacity (TB)	1TB HDD 5400 RPM HYBRID 8GB		
Dimensions (inches) (W x D x H)	2.760 x 3.959 x 0.276		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	1,953,525,168		
Power Source			
Power Consumption (reference only)	Idle 0.7W, Active 3.10 W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	350G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		

2.5 inch 2TB SATA3 5400 RPM Hard Disk Drive

	Tower	Small Form Factor	Micro
Capacity (TB)	2TB HDD 5400 RPM		
Dimensions (inches) (W x D x H)	2.75 x 3.937 x 0.276		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	550,000 hours		
Logical Blocks	3,907,029,168		
Power Source			
Power Consumption (reference only)	Idle 0.7W, Active 3.60 W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	5°C to 60°C		
Relative Humidity Range	5 to 90%		
Op Shock (@2ms)	350G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 65°C		
Relative Humidity Range	5 to 95%		



2.5 inch 256GB SATA Class 20 Solid State Drive

	Tower	Small Form Factor	Micro
Capacity (GB)	256GB		
Dimensions (inches) (W x D x H)	2.75 x 3.94 x 0.268		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	800K hours		
Logical Blocks	500,118,192		
Power Source			
Power Consumption (reference only)	Idle 0.5W, Active 2.5W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	0°C to 70°C		
Relative Humidity Range	10 to 90%		
Op Shock (@2ms)	1,000G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 70°C		
Relative Humidity Range	5 to 95%		

2.5 inch 512GB SATA Class 20 Solid State Drive

	Tower	Small Form Factor	Micro
Capacity (GB)	512GB		
Dimensions (inches) (W x D x H)	2.75 x 3.94 x 0.268		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	800K hours		
Logical Blocks	1,000,215,216		
Power Source			
Power Consumption (reference only)	Idle 0.5W, Active 2.5W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	0°C to 70°C		
Relative Humidity Range	10 to 90%		
Op Shock (@2ms)	1,500G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 70°C		
Relative Humidity Range	5 to 95%		



M.2 128GB SATA Class 20 Solid State Drive

	Tower	Small Form Factor	Micro
Capacity (GB)	128GB		
Dimensions (mm) (W x D x H)	22 x 80 x 2.38		
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)		
MTBF	800k hours		
Logical Blocks	250,069,680		
Power Source			
Power Consumption (reference only)	Idle 0.5W, Active 2.5W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	0°C to 70°C		
Relative Humidity Range	10 to 90%		
Op Shock (@2ms)	1,000G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 70°C		
Relative Humidity Range	5 to 95%		

M.2 256GB PCIe NVMe Class 40 Solid State Drive

	Tower	Small Form Factor	Micro
Capacity (GB)	256GB		
Dimensions (mm) (W x D x H)	22 x 80 x 2.38		
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)		
MTBF	800k hours		
Logical Blocks	500,118,192		
Power Source			
Power Consumption (reference only)	Idle 1.7W, Active 4.5W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	0°C to 70°C		
Relative Humidity Range	10 to 90%		
Op Shock (@2ms)	1,000G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 70°C		
Relative Humidity Range	5 to 95%		



M.2 256GB PCIe NVMe Class 40 Self-Encrypting Solid State Drive (OPAL v2.0 compliant)

	Tower	Small Form Factor	Micro
Capacity (GB)	256GB		
Dimensions (mm) (W x D x H)	22 x 80 x 2.38		
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)		
MTBF	800k hours		
Logical Blocks	500,118,192		
Power Source			
Power Consumption (reference only)	Idle 1.7W, Active 4.5W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	0°C to 70°C		
Relative Humidity Range	10 to 90%		
Op Shock (@2ms)	1,000G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 70°C		
Relative Humidity Range	5 to 95%		

M.2 512GB PCIe NVMe Class 40 Solid State Drive

	Tower	Small Form Factor	Micro
Capacity (GB)	512GB		
Dimensions (mm) (W x D x H)	22 x 80 x 2.38		
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)		
MTBF	800k hours		
Logical Blocks	1,000,215,216		
Power Source			
Power Consumption (reference only)	Idle 1.7W, Active 4.5W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	0°C to 70°C		
Relative Humidity Range	10 to 90%		
Op Shock (@2ms)	1,000G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 70°C		
Relative Humidity Range	5 to 95%		



M.2 512GB PCIe NVMe Class 40 Self-Encrypting Solid State Drive (OPAL v2.0 compliant)

	Tower	Small Form Factor	Micro
Capacity (GB)	512GB		
Dimensions (mm) (W x D x H)	22 x 80 x 2.38		
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)		
MTBF	800k hours		
Logical Blocks	1,000,215,216		
Power Source			
Power Consumption (reference only)	Idle 1.7W, Active 4.5W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	0°C to 70°C		
Relative Humidity Range	10 to 90%		
Op Shock (@2ms)	1,000G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 70°C		
Relative Humidity Range	5 to 95%		

M.2 1TB PCIe NVMe Class 40 Solid State Drive

	Tower	Small Form Factor	Micro
Capacity (TB)	1TB		
Dimensions (mm) (W x D x H)	22 x 80 x 3.73		
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)		
MTBF	800k hours		
Logical Blocks	2,000,409,264		
Power Source			
Power Consumption (reference only)	Idle 1.7W, Active 4.5W		
Environmental Operating Conditions (Non-Condensing)			
Temperature Range	0°C to 70°C		
Relative Humidity Range	10 to 90%		
Op Shock (@2ms)	1,000G		
Environmental Non-Operating Conditions (Non-Condensing):			
Temperature Range	-40°C to 70°C		
Relative Humidity Range	5 to 95%		



Optical Drives

9.5mm DVD-ROM

DVD-ROM	Tower	Small Form Factor	Micro
External Dimensions inches/centimeters (Without Bezel – W x H x D)	128.0 mm (5.04in)/ 9.5mm (0.37 in)/ 126.1mm (4.97in)		Not available
Weight (max) pounds/kilograms	140 g		
Interface type and speed	SATA 1.5Gbit/s		
Disc Capacity	Standard		
Internal buffer size	Supplier dependent		
Access Times (typical)	Supplier dependent		
Maximum Data Transfer Rates			
Writes	N/A		
Reads	8x DVD/ 24x CD		
Power Source			
DC Power Requirements	5V		
DC Current	1300 mA		
Environmental Operating Conditions (Non-Condensing):			
Operating Temperature Range	5C to 50C		
Relative Humidity Range	10% to 90% RH		
Maximum Wet Bulb Temperature	29C		
Altitude Range	-200 to 3048m		
Environmental Non-Operating Conditions (Non-Condensing):			
Operating Temperature Range	-40C to 65C		
Relative Humidity Range	5% to 95% RH		
Maximum Wet Bulb Temperature	38C		
Altitude Range	-200 to 10600m		



9.5mm DVD+/-RW

DVD +/- RW ¹	Tower	Small Form Factor	Micro
External Dimensions inches/centimeters (Without Bezel – W x H x D)	128.0 mm (5.04in)/ 9.5mm (0.37 in)/ 126.1mm (4.97in)		Not Available
Weight (max) pounds/kilograms	140g		
Interface type and speed	SATA 1.5Gbit/s		
Disc Capacity	Standard		
Internal buffer size	supplier dependent		
Access Times (typical)	supplier dependent		
Maximum Data Transfer Rates			
Writes	8x DVD/ 24x CD		
Reads	8x DVD/ 24x CD		
Power Source			
DC Power Requirements	5V		
DC Current	1300 mA		
Environmental Operating Conditions (Non-Condensing):			
Operating Temperature Range	5C to 50C		
Relative Humidity Range	10% to 90% RH		
Maximum Wet Bulb Temperature	29C		
Altitude Range	-200 to 3048m		
Environmental Non-Operating Conditions (Non-Condensing):			
Operating Temperature Range	-40C to 65C		
Relative Humidity Range	5% to 95% RH		
Maximum Wet Bulb Temperature	38C		
Altitude Range	-200 to 10600m		



SD 4.0 Media Card Reader

Media Card Reader	7050 Tower /Small Form Factor
External Dimensions inches/(centimeters)	2.38/(6.04cm)*1.34/(3.41cm)*1.19/(3.017)
Weight (max) pounds/kilograms	~0.056/0.025kg
Interface type and speed	PCIe Gen II, 5GT/s
Media Supported (maximum capacity supported will vary by Flash Media Types)	
Media Supported	<ul style="list-style-type: none"> -Secure Digital (SD), SDXC, SDHC, Multi-Media Card (MMC), -(With adapter) Mini-SD, Micro-SD (T-flash), RS-MMC, Mobile-MMC and MMC-micro -MMC 4-bit data mode -SDXC up to 2TB -Support SD4.0 UHS-II FD/HD mode, up to 312MB/sec -Support SD3.0 UHS-I SDR-104 (208MHz SD clock), SDR-50 (100MHz SD clock) and DDR 50 (50MHz SD clock) -Support SD3.0 UHS-I SDR-104 (208MHz SD clock), SDR-50 (100MHz SD clock) and DDR 50 (50MHz SD clock)



BIOS Defaults

Microsoft Windows 7 ships in Legacy mode, Windows 8.1 and Win10 ship in UEFI mode.

	Item	Tower/Small Form Factor	Micro
System Configuration	Integrated NIC:	Enable w/PXE	Enable w/PXE
	Serial Port:	COM1	N/A
	SATA Operation:	RAID On	RAID On
	Drives:	Tower:Enable(SATA-0, SATA-1, SATA-2, SATA-3, SATA-4, M.2 PCIe SSD-0) Small Form Factor: Enable(SATA-0, SATA-1, SATA-2, SATA-4, M.2 PCIe SSD-0)	Enable(SATA-0, SATA-4, M.2 PCIe SSD-0)
	SMART Reporting:	Disable	Disable
	USB Configuration:	Enable (Boot Support, Front USB Ports, Rear USB Ports)	Enable (Boot Support, Front USB Ports, Rear USB Ports)
	Miscellaneous Devices:	Enable (PCI Slot, Secure Digital (SD) Card)	N/A
	Audio:	Enable	Enable
Video	Multi-display:	Enable	N/A
	Primary Display	Auto	Auto
Performance	Multiple Core Support:	All	All
	Intel® SpeedStep™:	Enable	Enable
	C States Control:	Enable	Enable
	Limit CPUID Value:	Disable	Disable
	Intel TurboBoost	Enable	Enable
	HyperThread control:	Enable	Enable
Virtualization Support	Virtualization:	Enable	Enable
	VT for Direct I/O	Enable	Enable
	Trusted Execution:	Disable	Disable



	Item	Tower/Small Form Factor	Micro
Security	Internal HDD Password	Not Set	Not Set
	Strong Password:	Disable	Disable
	Password Configuration:	4~32	4~32
	Password Bypass	Disable	Disable
	Password Changes:	Enable	Enable
	TPM Security:	Enabled	Enabled
	Computrace®:	Deactivate	Deactivate
	Chassis Intrusion	Disable	Disable
	CPU XD Support:	Enable	Enable
	Admin Setup Lockout	Disable	Disable
	OROM Keyboard Access	Enable	Enable
	HDD Protection Support	N/A	Disable
Power Management	AC Recovery:	Power Off	Power Off
	Auto On Time:	Disable	Disable
	Deep Sleep Control:	Enable in S4 & S5	Enable in S4 & S5
	Fan Control Override:	Disable	N/A
	USB Wake Support**	Enable USB Wake Support From Standby (S3)/ Disable USB Wake Support From Hibernation (S4), Power Off (S5)	Enable USB Wake Support From Standby (S3)/ Disable USB Wake Support From Hibernation (S4), Power Off (S5)
	Wake on LAN/WLAN:	Disable	Disable
	Block sleep	Disable	Disable
	Intel Ready Mode	Disable	Disable
<p>**</p> <ul style="list-style-type: none"> • With USB Wake Support from Standby (S3) – Enables both the Keyboard and Mouse to wake the system, no matter which USB ports are used. Windows device manager can be used to configure individual devices to wake the system. • To enable Smart Power On and the ability to wake a system from S3, S4, and S5 sleep states with a move of a mouse or press of a key on the keyboard, please follow these steps: <ul style="list-style-type: none"> ○ Make sure the following BIOS settings are set correctly: In “Power Management” please Enable “USB Wake Support” and Disable “Deep Sleep Control” ○ Connect a keyboard, mouse, or wireless USB dongle to the Smart Power On USB port(s) on the back of the OptiPlex ○ Disable Fast Startup in the Operating System: <ul style="list-style-type: none"> ▪ Search for and open “Power options” in the Start Menu. ▪ Click “Choose what the power buttons do” on the left side of the window. ▪ Click “Change settings that are currently unavailable.” ▪ Under “Shutdown settings” make sure “Turn on fast startup” is disabled. ○ Reboot your system so the changes can take effect. The next time your system goes to sleep or is shut down, any use of the mouse or keyboard will wake it up. 			



	Item	Tower/Small Form Factor	Micro
Maintenance	Service Tag:	Set by the factory	Set by the factory
	Asset Tag:	Optional User Entry	Optional User Entry
	SERR Message:	Enable	Enable
POST Behavior	Numlock LED:	Enable	Enable
	Keyboard Errors:	Enable	Enable
	Adaptor Warning	N/A	Enable
Wireless	Wireless Device Enable	Tower:Enable (WLAN/WiGig Bluetooth) Small Form Factor:N/A	Enable(WLAN/WiGig Bluetooth)



Chassis Enclosure and 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.

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 and Environmental Compliance

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.

The Dell OptiPlex 7050 is TCO Certified.



Mil-SPEC

The OptiPlex 7050 Micro, Small Form Factor, and Tower meet military specifications for the following MIL-STD 810G tests:

Test Category	Test Method	Test Parameters
Altitude Storage Transport	Method 500.5 Procedure I1	Test Pressure: Equivalent to cabin altitude of 15,000ft Temperature: 21°C; Altitude Change Rate: <10 m/s Duration: 1 hour Unit is non-operational during test.
Altitude Operation/Air Carriage	Method 500.5 Procedure II1	Test Pressure: Equivalent to cabin altitude of 15,000ft Temperature: 21°C; Altitude Change Rate: <10 m/s Duration: 1 hour Unit is operational during test.
High Temperature Storage and Transition	Method 501.5 Procedure I1	Duration: 7 day exposure (7 X 24 hr. cycles) Temperature: 33 - 71°C Table 501.5 - III High temperature cycles, climate category A1 Hot Dry Unit is non-operational during test.
High Temperature Operational	Method 501.5 Procedure II1	Duration: 5 day exposure (5 X 24 hr. cycles) Temperature: 60°C cycling temperature exposure Unit is operational during test.
Low Temperature (Exaggerated)	Method 502.5 Procedure I1	Duration: 24 hour exposure Temperature: -51°C Unit is non-operational during test.
Low Temperature	Method 502.5 Procedure II1	Duration: 24 hour exposure Temperature: -29°C Unit is operational during test.
Humidity Induced (Storage & Transit) and Naturaland Cycles	Method 507.5 Procedure I	Duration: Refer to MIL-spec Table 507.5-II Nonhazardous test items.
Shock Material to be Packaged	Method 516.6 Procedure II	30G, 304ips Square Wave Shock 1 shocks/axis/direction for a total of 6 shocks. Unit is non-operational during test.
Bench Handling	Method 516.6 Procedure VI	Angle drops onto solid wooden bench thickness least 4.25cm (1.675 inch). Test height judgement as two conditions as rise test units at one edge 100mm (4 inch) or rise an angle of 45° about a solid wooden bench top. Unit is non-operational during test.
Sand and Dust Blowing Dust	Method 510.5 Procedure I	Duration: 12 hours Air velocity = 1.5 m/s (300 ft/min) to 8.9 m/s (1750 ft/min) Temperature: 60°C Relative Humidity: 30% 6H at standard ambient temperature and 6 hours at the high storage or operating temperature Unit is non-operational during test.



Acoustic Noise Emission Information- Tower

OptiPlex 7050 Tower

Component	Test Configuration
CPU	Intel® Core™ i7-7700 (QC/8MB/8T/3.6GHz/65W)
Memory	DIMM,16GB*4, DDR4-2400, M378A2K43BB1-CRC
HDD (#, capacity)	Seagate 2TB,7200rpm;
ODD	DVD+/-RW,8X,9.5T,GU90N,HLDS
Graphics Adapter	CRD,GRPHC,4G,R7-450X,OP13

Declared Sound Power (LWAd)

The Declared Noise Emission in accordance with ISO 9296 for the OptiPlex 7050 Tower is as follows: (all values LWAd expressed in bels; 1 bel=10 decibels, re 10-12 Watts)

Operating Mode	Declared Sound Power(LWAd)
Idle	3.5
HDD Operating	3.6
CPU Stressed	3.8
ODD Operating	4.0

A-Weighted Sound Pressure Level (dB)

The Declared A-weighted Sound Pressure Level in decibels (re 2x10⁻⁵ Pa), at Operator and Bystander Positions are measured in accordance with ISO 7779 7.6.1, 7.6.2, and C.15.2 and declared in accordance with ISO 9296 for this product is as follows¹:

Declared Sound Pressure (LpA)				
Operating Mode	Tabletop System		Floor Standing System	
	Operator Position	Bystander Position	Operator Position	Bystander Position
Idle	25.3	n/a	n/a	n/a
CPU Stressed	26.6	n/a	n/a	n/a

1 All tests are conducted according to ISO 7779 and declared according to ISO 9296 except CPU Stressed. This test mode is not specified in ISO 7779, but was measured using the same microphone distances and measurement techniques defined for the other reported operating modes.

2 Declared Sound Power rounded to nearest tenth of a bel per ISO 9296 section 4.4.2



Acoustic Noise Emission Information- Small Form Factor

OptiPlex 7050 Small Form Factor

Component	Test Configuration
CPU	Intel® Core™ i7-7700 (QC/8MB/8T/3.6GHz/65W)
Memory	4GB
HDD (#, capacity)	3.5" 2TB; 7200 RPM
RMSD	DVD+/-RW,8X,9.5T,GU90N,HLDS
Graphics Adapter	R5-430X,OL13L

Declared Sound Power (LWAd)

The Declared Noise Emission in accordance with ISO 9296 for the OptiPlex 7050 Small Form Factor is as follows: (all values LWAd expressed in bels; 1 bel=10 decibels, re 10-12 Watts)

Operating Mode	Declared Sound Power(LWAd)
Idle	3.38
HDD Operating	3.39
CPU Stressed	4.13
ODD Operating	4.63

A-Weighted Sound Pressure Level (dB)

The Declared A-weighted Sound Pressure Level in decibels (re 2x10⁻⁵ Pa), at Operator and Bystander Positions are measured in accordance with ISO 7779 7.6.1, 7.6.2, and C.15.2 and declared in accordance with ISO 9296 for this product is as follows¹:

Declared Sound Pressure (LpA)				
Operating Mode	Tabletop System		Floor Standing System	
	Operator Position	Bystander Position	Operator Position	Bystander Position
Idle	25.7	19.6	18.4	17.5
HDD Operating	25.8	19.8	18.5	17.7
CPU Stressed	30.7	25.6	21.6	20.2
ODD Operating	38.4	31.8	29.7	28.4

1 All tests are conducted according to ISO 7779 and declared according to ISO 9296 except CPU Stressed. This test mode is not specified in ISO 7779, but was measured using the same microphone distances and measurement techniques defined for the other reported operating modes.

2 Declared Sound Power rounded to nearest tenth of a bel per ISO 9296 section 4.4.2



Acoustic Noise Emission Information- Micro

OptiPlex 7050 Micro 65W

Component	Test Configuration
CPU	Intel® Core™ i7-7700 (QC/8MB/8T/3.6GHz/65W)
Memory	16G DDR4 *2
HDD (#, capacity)	2.5" HDD 2TB 5400RPM
RMSD	N/A

Declared Sound Power (LWAd)

The Declared Noise Emission in accordance with ISO 9296 for the OptiPlex 3020 Micro is as follows: (all values LWAd expressed in bels; 1 bel=10 decibels, re 10-12 Watts)

Operating Mode	Declared Sound Power(LWAd)
Idle	3.1
HDD Operating	3.4
ODD Operating	N/A

A-Weighted Sound Pressure Level (dB)

The Declared A-weighted Sound Pressure Level in decibels (re 2x10⁻⁵ Pa), at Operator and Bystander Positions are measured in accordance with ISO 7779 7.6.1, 7.6.2, and C.15.2 and declared in accordance with ISO 9296 for this product is as follows:

Declared Sound Pressure (LpA)				
Operating Mode	Tabletop System		Floor Standing System	
	Operator Position	Bystander Position	Operator Position	Bystander Position
Idle	21.9	17.9	n/a	n/a
HDD Operating	25.5	22.3	n/a	n/a
ODD Operating	n/a	n/a	n/a	n/a

1 All tests are conducted according to ISO 7779 and declared according to ISO 9296 except CPU Stressed. This test mode is not specified in ISO 7779, but was measured using the same microphone distances and measurement techniques defined for the other reported operating modes.

2 Declared Sound Power rounded to nearest tenth of a bel per ISO 9296 section 4.4.2



OptiPlex 7050 Micro 35W

Component	Test Configuration
CPU	Intel® Core™ i7-7700T (QC/8MB/8T/2.9GHz/35W)
Memory	16G DDR4 *2
HDD (#, capacity)	2.5" HDD 2TB 5400RPM
RMSD	N/A

Declared Sound Power (LWAd)

The Declared Noise Emission in accordance with ISO 9296 for the OptiPlex 3020 Micro is as follows: (all values LWAd expressed in bels; 1 bel=10 decibels, re 10-12 Watts)

Operating Mode	Declared Sound Power(LWAd)
Idle	3.2
HDD Operating	3.3
ODD Operating	N/A

A-Weighted Sound Pressure Level (dB)

The Declared A-weighted Sound Pressure Level in decibels (re 2x10⁻⁵ Pa), at Operator and Bystander Positions are measured in accordance with ISO 7779 7.6.1, 7.6.2, and C.15.2 and declared in accordance with ISO 9296 for this product is as follows:

Declared Sound Pressure (LpA)				
Operating Mode	Tabletop System		Floor Standing System	
	Operator Position	Bystander Position	Operator Position	Bystander Position
Idle	23.4	19.7	n/a	n/a
HDD Operating	23.6	19.7	n/a	n/a
ODD Operating	n/a	n/a	n/a	n/a

1 All tests are conducted according to ISO 7779 and declared according to ISO 9296 except CPU Stressed. This test mode is not specified in ISO 7779, but was measured using the same microphone distances and measurement techniques defined for the other reported operating modes.

2 Declared Sound Power rounded to nearest tenth of a bel per ISO 9296 section 4.4.2

