

Dell OptiPlex 3070 Tower/SFF/Micro

Technical Guidebook



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Status	Released

Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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1 Overview.....	5
Tower computer view.....	6
Front view.....	6
Back view.....	7
Optional cable cover tower.....	8
Optional dust filter for tower.....	9
Tower motherboard layout.....	10
Small Form Factor Computer Views.....	11
Front view.....	11
Back view.....	12
Optional cable cover small form factor.....	13
Optional dust filters for small form factor.....	13
Small Form Factor Motherboard Layout.....	14
Micro computer view.....	15
Front view.....	15
Back view.....	16
Optional cable cover micro.....	17
Optional dust filters for micro form factor.....	19
Micro Motherboard Layout.....	20
2 Marketing system configurations.....	21
Chipset.....	21
Processor.....	22
Systems management features.....	24
Memory.....	25
Intel Optane Memory.....	26
Operating system.....	26
Storage.....	27
System board connectors.....	28
External ports and connectors.....	29
Graphics and Video Controller.....	29
Communications – Integrated.....	30
Communications – Wireless.....	30
Audio and speakers.....	31
Input devices.....	31
Security.....	32
Optional Dell Data security and management software.....	32
Environmental.....	33
Service and support.....	33
Accessories.....	34
Mounting options—3070 Micro only.....	34
Mounting options-3070 Small form factor only.....	35

3 Engineering Specifications.....	37
System dimensions - physical.....	37
Dust filter specifications.....	38
Micro Mounting Dimensions	38
System board connector maximum add-in card allowable dimensions.....	39
System level environmental and operating conditions.....	39
Thermal Dissipation.....	40
Power.....	40
Audio.....	42
Communications – Integrated Realtek RTL8111HSD-CG.....	42
Wireless communications.....	43
USB 3.1 Type-C PCIe Add-In Card.....	47
Communications – Serial and Parallel Port PCIe Add-In Card.....	48
Communications – Parallel Port PCIe Add-In Card.....	49
Communications – Serial Port PCIe Add-In Card.....	49
Graphics and video controller.....	50
Video Port and Resolution Matrix.....	54
Storage.....	55
Optical Drives.....	61
Chassis Enclosure and Ventilation Requirements.....	63
Enclosure ventilationEnclosure minimum clearanceRecommended enclosureOpen desk minimum clearance.....	63
Regulatory and Environmental Compliance.....	64
Mil-SPEC.....	65
Acoustic Noise Emission Information Tower.....	71
Acoustic Noise Emission Information Small Form Factor.....	72
Acoustic Noise Emission Information Micro.....	73
4 Getting help.....	74
Contacting Dell.....	74

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Overview



Topics:

- [Tower computer view](#)
- [Optional cable cover tower](#)
- [Optional dust filter for tower](#)
- [Tower motherboard layout](#)

- Small Form Factor Computer Views
- Optional cable cover small form factor
- Optional dust filters for small form factor
- Small Form Factor Motherboard Layout
- Micro computer view
- Optional cable cover micro
- Optional dust filters for micro form factor
- Micro Motherboard Layout

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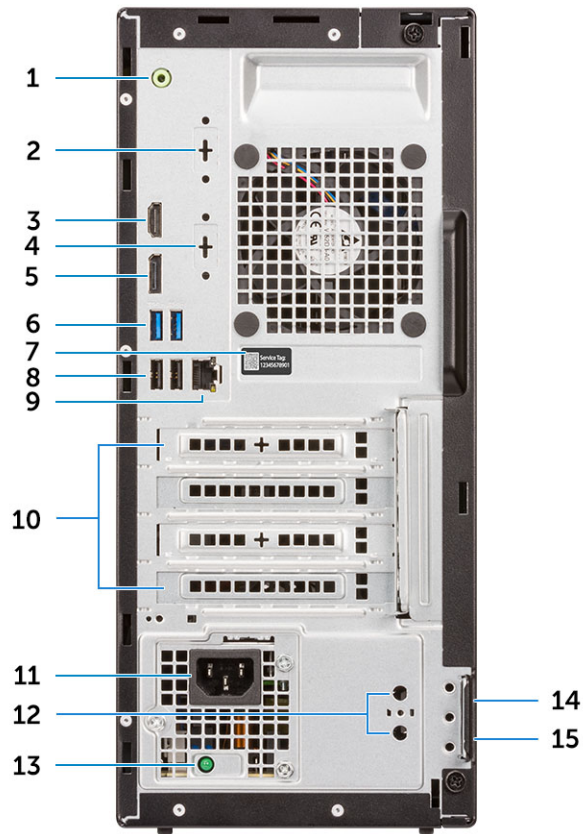
Tower computer view

Front view



- | | | | |
|---|--|---|-------------------------------|
| 1 | Power button and power light | 2 | Optical drive (optional) |
| 3 | Hard drive activity light | 4 | Memory card reader (optional) |
| 5 | Headset port/Universal audio jack port | 6 | USB 2.0 ports (2) |
| 7 | USB 3.1 Gen 1 ports (2) | | |

Back view



- | | | | |
|----|-------------------------------|----|---|
| 1 | Line-out port | 2 | Serial Port (optional) |
| 3 | HDMI port | 4 | DisplayPort/HDMI 2.0b/VGA (optional) |
| 5 | DisplayPort | 6 | USB 3.1 Gen 1 ports (2) |
| 7 | Service tag | 8 | USB 2.0 ports (2) (supports Smart Power On) |
| 9 | Network port | 10 | Expansion card slots (4) |
| 11 | Power connector port | 12 | External antenna connectors (2) (optional) |
| 13 | Power supply diagnostic light | 14 | Kensington security cable slot |
| 15 | Padlock ring | | |

Identifier

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Optional cable cover tower



Identifier

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Status

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Optional dust filter for tower



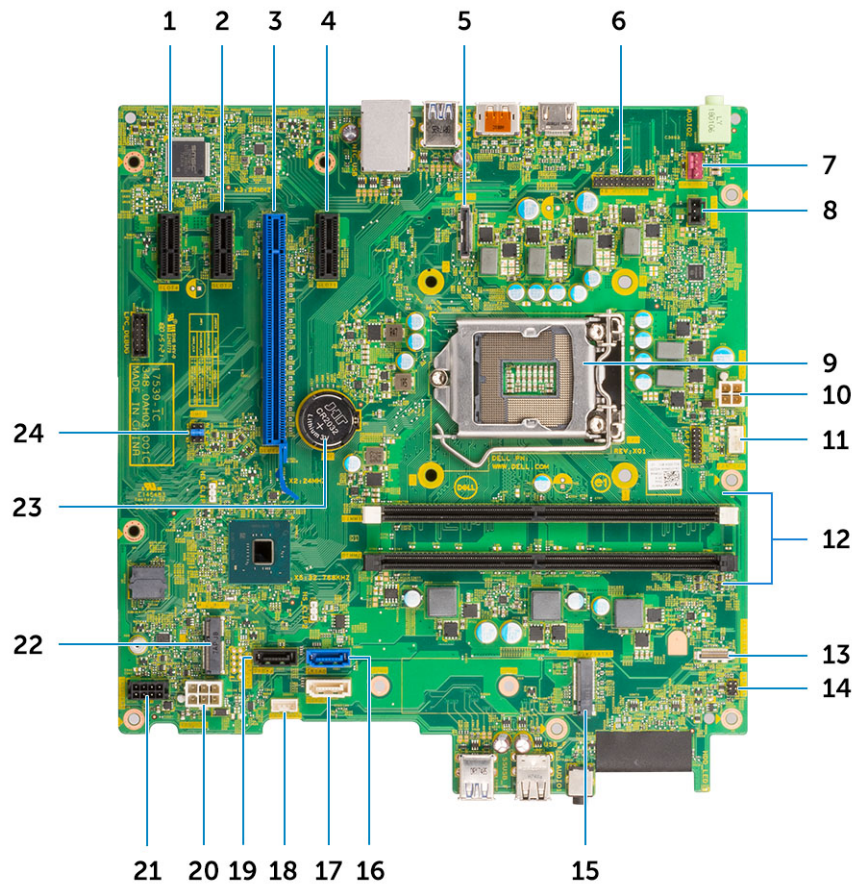
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Tower motherboard layout

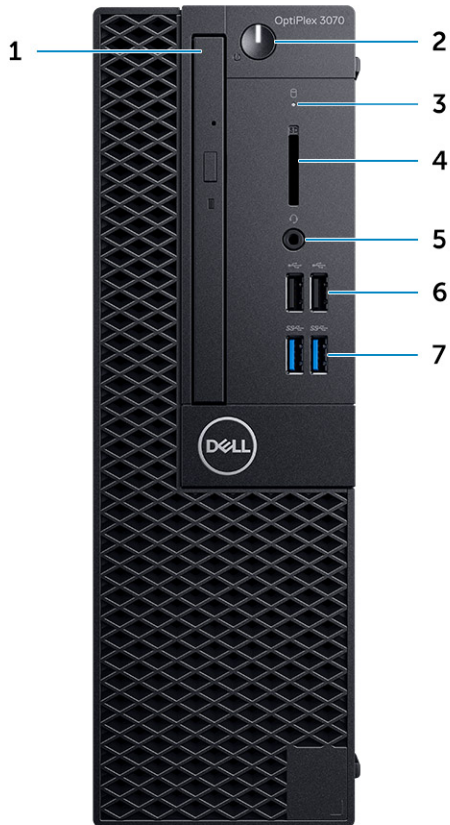


Tower system board components

1	PCI-eX1 Connector (Slot4)	2	PCI-eX1 Connector (Slot3)
3	PCI-eX16 Connector (Slot2)	4	PCI-eX1 Connector (Slot1)
5	Video port header	6	PS2 KB/MS/Serial Port Header (KB_MS_SERIAL)
7	System Fan Connector (FAN_SYS)	8	Intrusion Switch Connector (INTRUDER)
9	Processor Socket	10	CPU Power Connector (ATX_CPU)
11	CPU Fan Connector (FAN_CPU)	12	Memory Connector (DIMM1~ DIMM2)
13	Card Reader Connector (Card Reader)	14	Power Switch Connector (PWR_SW)
15	M.2 SSD connector	16	SATA 0 Connector (Blue color)
17	SATA 2 Connector (White color)	18	Internal Speaker Connector (INT_SPKR)
19	SATA 3 Connector (Black color)	20	ATX Power Connector (ATX_SYS)
21	HDD_ODD_Power Cable Connector (SATA PWR)	22	M.2 WLAN connector
23	Coin cell battery	24	CMOS_CLR/Password/Service_Mode Jumper (JMP1)

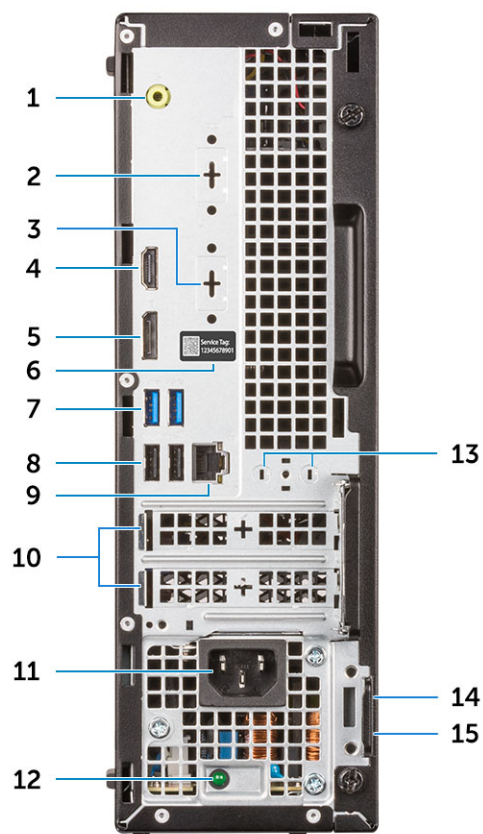
Small Form Factor Computer Views

Front view



- 1 Optical drive (optional)
- 2 Power button and power light
- 3 Hard-drive activity light
- 4 Memory card reader (optional)
- 5 Headset/Universal audio jack port
- 6 USB 2.0 ports (2)
- 7 USB 3.1 Gen 1 ports (2)

Back view



- 1 Line-out port
- 2 Serial Port (optional)
- 3 DP/HDMI2.0b/VGA port (optional)
- 4 HDMI port
- 5 DisplayPort
- 6 Service tag
- 7 USB 3.1 Gen 1 ports (2)
- 8 USB 2.0 ports (2) (supports Smart Power On)
- 9 Network port
- 10 Expansion card slots (2)
- 11 Power connector port
- 12 Power supply diagnostic light
- 13 External antenna connectors
- 14 Kensington security cable slot
- 15 Padlock ring

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Optional cable cover small form factor



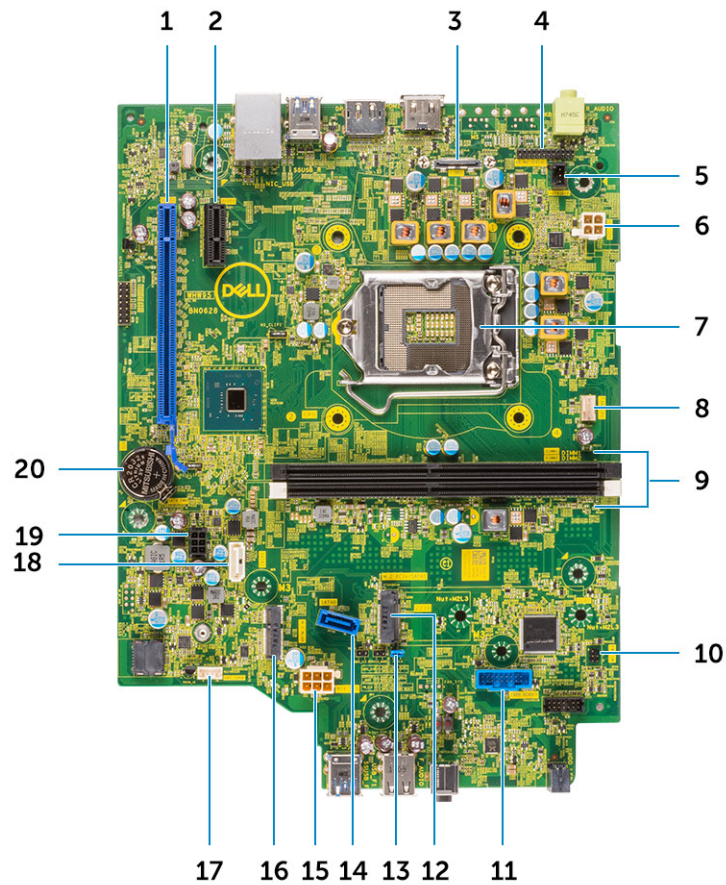
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Optional dust filters for small form factor



Small Form Factor Motherboard Layout

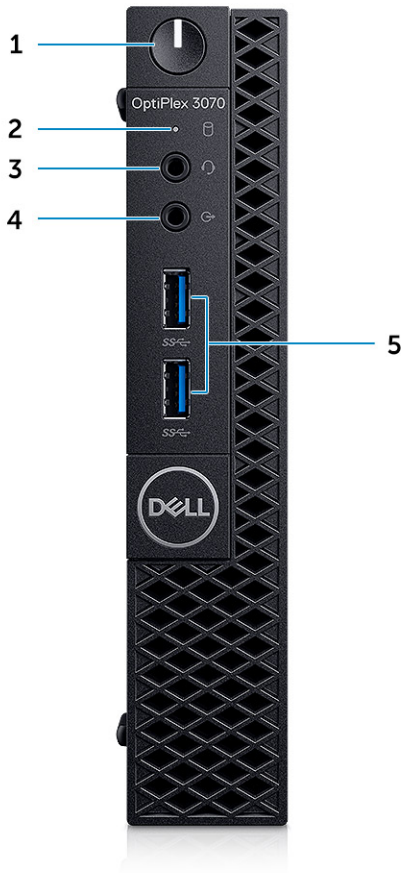


Small form factor board components

- | | | | |
|----|--|----|---|
| 1 | SLOT1 | 2 | SLOT2 |
| 3 | Optional video connector (HDMI 2.0b / DP/ VGA) | 4 | PS2/ Serial port Connector (KB_MS_SERIAL) |
| 5 | Intrusion Switch Connector (INTRUDER) | 6 | CPU Power Connector (ATX_CPU) |
| 7 | Processor Socket | 8 | CPU fan Connector (FAN_CPU) |
| 9 | Memory Connectors (DIMM1, DIMM2) | 10 | Power Switch Connector (PWR_SW) |
| 11 | Media card reader connector | 12 | M.2 SSD connector |
| 13 | CMOS_CLR/Password/Service_Mode Jumper (JMP1) | 14 | SATA 0 Connector (Blue color) |
| 15 | System power connector (ATX_SYS) | 16 | M.2 WLAN connector |
| 17 | Internal Speaker Connector (INT_SPKR) | 18 | SATA 2 connector (white color) |
| 19 | SATA power cable connector | 20 | Coin cell battery |

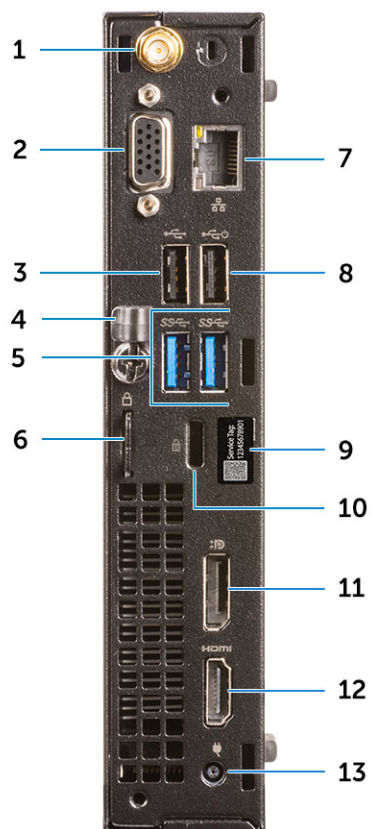
Micro computer view

Front view



- 1 Power button and power light
- 2 Hard drive activity light
- 3 Headset port/Universal audio jack port
- 4 Line-out port
- 5 USB 3.1 Gen 1 ports (2)

Back view



- 1 External antenna connectors
- 2 DP1.2/HDMI2.0/VGA/Serial/Serial-PS/2 (Optional)
- 3 USB 2.0 port
- 4 Cable holder
- 5 USB 3.1 Gen 1 ports (2)
- 6 Padlock ring
- 7 Network port
- 8 USB 2.0 port (supports SmartPower On)
- 9 Service tag label
- 10 Kensington security cable slot
- 11 DisplayPort
- 12 HDMI port
- 13 Power connector port

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GUID-FFB041B5-EE41-42F0-AAE3-30127A6FC57D

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Optional cable cover micro



Figure 1. Optional cable cover



Identifier

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Status

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Optional dust filters for micro form factor



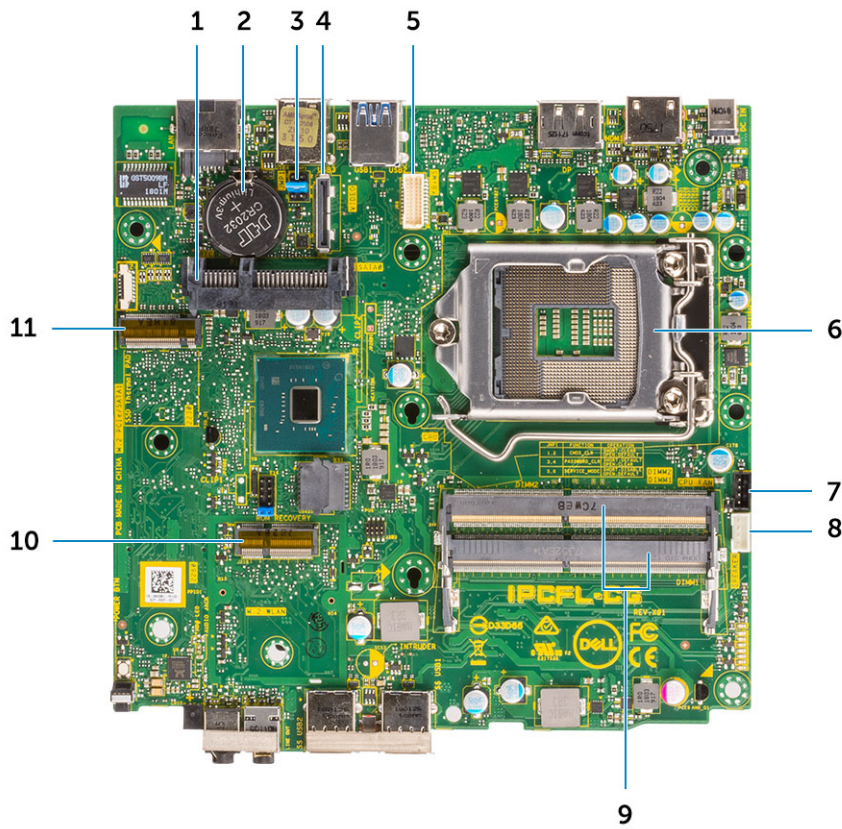
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Status

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Micro Motherboard Layout



- | | | | |
|----|--|----|--|
| 1 | HDD connector | 2 | Coin cell battery |
| 3 | Clear CMOS/Password/Service Mode Jumper | 4 | Optional video connector (HDMI 2.0b / DP/ VGA) |
| 5 | Keyboard and mouse serial port connector | 6 | Processor Socket |
| 7 | CPU Fan Connector | 8 | Internal speaker Connector |
| 9 | Memory slots | 10 | M.2 WLAN Connector |
| 11 | M.2 SSD connector | | |

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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.

Topics:

- Chipset
- Systems management features
- Memory
- Intel Optane Memory
- Operating system
- Storage
- System board connectors
- External ports and connectors
- Graphics and Video Controller
- Communications – Integrated
- Communications – Wireless
- Audio and speakers
- Input devices
- Security
- Optional Dell Data security and management software
- Environmental
- Service and support
- Accessories
- Mounting options—3070 Micro only
- Mounting options-3070 Small form factor only

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Chipset

Table 1. Chipset

	Tower/Small form factor/Micro
Chipset	H370
Non-volatile memory on chipset	
BIOS Configuration SPI	256Mbit (32MB) located at SPI_FLASH on chipset

Tower/Small form factor/Micro

(Serial Peripheral Interface)

Trusted Platform Module (TPM)
2.0 Security Device

24KB located at TPM 2.0 on chipset

(Discrete TPM Enabled)

Firmware-TPM (Discrete TPM
disabled)

By default the Platform Trust Technology feature is visible to the OS.

NIC EEPROM

LOM configuration contained within LOM e-fuse – no dedicated LOM EEPROM

Identifier

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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 are 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.

Table 2. Processor

Intel Core Processors 9th Gen Core CPUs (Offered offline only)	Tower/ Small Form Factor	Micro	GSP	DG/CG Ready
Intel® Celeron G4930 (2 Cores/2MB/2T/ 3.2GHz/65W); supports Windows 10/Linux	x			x
Intel® Celeron G4930T (2 Cores/2MB/2T/ 3.0GHz/35W); supports Windows 10/Linux		x		x
Intel® Pentium G5420 (2 Cores/4MB/4T/ 3.8GHz/65W); supports Windows 10/Linux	x			x
Intel® Pentium G5420T (2 Cores/4MB/4T/ 3.2GHz/35W); supports Windows 10/Linux		x		
Intel® Pentium G5600 (2 Cores/4MB/4T/ 3.9GHz/65W); supports Windows 10/Linux	x			x

Intel Core Processors 9th Gen Core CPUs (Offered offline only)	Tower/ Small Form Factor	Micro	GSP	DG/CG Ready
Intel® Pentium G5600T (2 Cores/4MB/4T/ 3.3GHz/35W); supports Windows 10/Linux		x		x
Intel® Core™ i3-9100 (4 Cores/6MB/4T/3.6GHz to 4.2GHz/65W); supports Windows 10/Linux	x			x
Intel® Core™ i3-9100T (4 Cores/6MB/4T/ 3.1GHz to 3.7GHz/35W); supports Windows 10/ Linux		x		x
Intel® Core™ i3-9300 (4 Cores/8MB/4T/ 3.7GHz to 4.3GHz/65W); supports Windows 10/ Linux	x			x
Intel® Core™ i3-9300T (4 Cores/8MB/4T/ 3.2GHz to 3.8GHz/35W); supports Windows 10/ Linux		x		x
Intel® Core™ i5-9400 (6 Cores/9MB/6T/ 2.9GHz to 4.1GHz/65W); supports Windows 10/ Linux	x		x	x
Intel® Core™ i5-9400T (6 Cores/9MB/6T/ 1.8GHz to 3.4GHz/35W); supports Windows 10/ Linux		x	x	x
Intel® Core™ i5-9500 (6 Cores/9MB/6T/ 3.0GHz to 4.4GHz/65W); supports Windows 10/ Linux	x		x	x
Intel® Core™ i5-9500T (6 Cores/9MB/6T/ 2.2GHz to 3.7GHz/35W); supports Windows 10/ Linux		x	x	x
Intel® Core™ i7-9700 (8 Cores/12MB/8T/ 3.0GHz to 4.8GHz/65W); supports Windows 10/ Linux	x			x
Intel® Core™ i7-9700T (8 Cores/12MB/8T/ 2.0GHz to 4.3GHz/35W); supports Windows 10/ Linux		x		x

Table 3. Processor

Intel Core Processors 8th Gen Core CPUs (Offered offline only)	Tower	Small Form Factor	Micro	GSP	DG/CG Ready
Intel Core i7-8700 (6 Cores/12 MB/12T/up to 4.6 GHz/65 W); supports Windows 10/Linux	Yes	Yes	No	GSP	Yes
Intel Core i5-8500 (6 Cores/9 MB/6T/up to 4.1 GHz/65 W); supports Windows 10/Linux	Yes	Yes	No	GSP	Yes
Intel Core i5-8400 (6 Cores/9 MB/6T/up to 4.0 GHz/65 W); supports Windows 10/Linux	Yes	Yes	No	GSP	Yes
Intel Core i3-8300 (4 Cores/8 MB/4T/3.7 GHz/65 W); supports Windows 10/Linux	Yes	Yes	No		Yes

Intel Core Processors 8th Gen Core CPUs (Offered offline only)	Tower	Small Form Factor	Micro	GSP	DG/CG Ready
Intel Core i3-8100 (4 Cores/6 MB/4T/3.6 GHz/65 W); supports Windows 10/Linux	Yes	Yes	No		Yes
Intel Pentium Gold G5500 (2 Cores/4 MB/4T/3.8 GHz/65 W); supports Windows 10/Linux	Yes	Yes	No		Yes
Intel Pentium Gold G5400 (2 Cores/4 MB/4T/3.7 GHz/65 W); supports Windows 10/Linux	Yes	Yes	No		Yes
Intel Celeron G4900 (2 Cores/2 MB/2T/up to 3.1 GHz/65 W); supports Windows 10/Linux	Yes	Yes	No		Yes
Intel Core i7-8700T (6 Cores/12 MB/12T/up to 4.0 GHz/35 W); supports Windows 10/Linux	No	No	Yes	GSP	Yes
Intel Core i5-8500T (6 Cores/9 MB/6T/up to 3.5 GHz/35 W); supports Windows 10/Linux	No	No	Yes	GSP	Yes
Intel Core i5-8400T (6 Cores/9 MB/6T/up to 3.3 GHz/35 W); supports Windows 10/Linux	No	No	Yes	GSP	Yes
Intel Core i3-8300T (4 Cores/8 MB/4T/3.2 GHz/35 W); supports Windows 10/Linux	No	No	Yes		Yes
Intel Core i3-8100T (4 Cores/6 MB/4T/3.1 GHz/35 W); supports Windows 10/Linux	No	No	Yes		Yes
Intel Pentium Gold G5500T (2 Cores/4 MB/4T/3.2 GHz/35 W); supports Windows 10/Linux	No	No	Yes		
Intel Pentium Gold G5400T (2 Cores/4 MB/4T/3.1 GHz/35 W); supports Windows 10/Linux	No	No	Yes		
Intel Celeron G4900T (2 Cores/2 MB/2T/2.9 GHz/35 W); supports Windows 10/Linux	No	No	Yes		

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Status Draft

Systems management features

Systems Management – From On-Premises To The Cloud

Dell Client Command Suite – a free toolkit available for download, for all OptiPlex PCs at <http://dell.com/command>, automates and streamlines systems management tasks, saving time, money, and resources. It consists of the following modules that can be used independently, or with a variety of systems management consoles such as SCCM.

Dell Command | Deploy enables easy operating system (OS) deployment across all major OS deployment methodologies and provides numerous system-specific drivers that have been extracted and reduced to an OS-consumable state.

Dell Command | Configure is a graphical user interface (GUI) admin tool for configuring and deploying hardware settings in a pre-OS or post-OS environment, and it operates seamlessly with SCCM and Airwatch and can be self-integrated into LANDesk and KACE. Simply, this is all about the BIOS. Command | Configure allows you to remotely automate and configure over 150+ BIOS settings for a personalized user experience.

Dell Command | PowerShell Provider can do the same things as Command | Configure, but with a different method. PowerShell is a scripting language that allows customers to create a customized and dynamic configuration process.

Dell Command | Monitor is a Windows Management Instrumentation (WMI) agent that provides IT admins with an extensive inventory of the hardware and health-state data. Admins can also configure hardware remotely by using command line and scripting.

Dell Command | Power Manager (end-user tool) is a GUI-based factory-installed battery management tool that allows end users to choose the battery management methods that meet their personal preferences or work schedule, without sacrificing IT's capability to control those settings with Group Policy.

Dell Command | Update (end-user tool) is factory-installed and allows admins to individually manage and automatically present and install Dell updates to the BIOS, drivers, and software. Command | Update eliminates the time-consuming hunting and pecking process of update installation.

Dell Command | Update Catalog provides searchable metadata that allows the management console to retrieve the latest system-specific updates (driver, firmware or BIOS). The updates are then delivered seamlessly to end-users using the customer's systems management infrastructure that is consuming the catalog (like SCCM).

Dell Command | vPro Out of Band console extends hardware management to systems that are offline or have an un-reachable OS (Dell exclusive features).

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

Dell Client Command Suite's integration with VMware Workspace ONE Powered by AirWatch, now allows customers to manage their Dell client hardware from the cloud, using a single Workspace ONE console.

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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.

Table 4. Memory

	Tower	Small Form Factor	Micro
Type: DDR4 DRAM Non-ECC Memory	2666 MHz on i5 and i7 processors (performs at 2400 MHz on Celeron, Pentium and i3 processors)		
DIMM Slots	2	2	2 (SODIMM)
DIMM Capacities	Up to 16 GB	Up to 16 GB	Up to 16 GB
Minimum Memory	4 GB	4 GB	4 GB
Maximum System Memory	32 GB	32 GB	32 GB
DIMMs/Channel	2	2	1
UDIMM support	Yes	Yes	No
Memory configurations:			
32 GB DDR4, 2666 MHz, (2 x 16 GB)	Yes	Yes	Yes
16 GB DDR4, 2666 MHz, (1 x 16 GB)	Yes	Yes	Yes
16 GB DDR4, 2666 MHz, (2 x 8 GB)	Yes	Yes	Yes
8 GB DDR4, 2666 MHz, (1 x 8 GB)	Yes	Yes	Yes

	Tower	Small Form Factor	Micro
8 GB DDR4, 2666 MHz, (2 x 4 GB)	Yes	Yes	Yes
4 GB DDR4, 2666 MHz, (1 x 4 GB)	Yes	Yes	Yes

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Status Released

Intel Optane Memory

NOTE: Intel Optane memory cannot replace DRAM entirely. However, these two memory technologies complement each other within the PC.

Table 5. M.2 16 GB Intel Optane

	Tower/Small form factor/Micro
Capacity (TB)	16 GB
Dimensions (inches) (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	PCIe Gen2
MTBF	1.6 M hours
Logical Blocks	28,181,328

Power Source:

Power Consumption (reference only) Idle 900 mW to 1.2 W, Active 3.5 W

Environmental Operating Conditions (Non-Condensing):

Temperature Range 0°C to 70°C

Relative Humidity Range 10 to 90%

Op Shock (@2 ms) 1,000G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range -10°C to 70°C

Relative Humidity Range 5 to 95%

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Status Released

Operating system

This topic lists the operating system supported by

Table 6. Operating system

Operating system	Tower/Small form factor/Micro
Windows operating system	Microsoft Windows 10 Home (64-bit) Microsoft Windows 10 Pro (64-bit)

Operating system	Tower/Small form factor/Micro
Other	Microsoft Windows 10 Pro National Academic
	Microsoft Windows 10 Home National Academic
	Microsoft Windows 10 China
	Ubuntu 18.04 LTS (64-bit)
	Neokylin v6.0 (China only)
	Commercial Platform Windows 10 N-2 and 5 year OS Supportability
	<p>All newly introduced 2019 and later commercial platforms (Latitude, OptiPlex, and Precision) will qualify and ship with the most current factory installed Semi-Annual Channel Windows 10 version (N) and qualify (but not ship) the previous two versions (N-1, N-2). This device platform OptiPlex 3070 will RTS with Windows 10 version v19H1 at time of launch, and this version will determine the N-2 versions that are initially qualified for this platform.</p> <p>For future versions of Windows 10, Dell will continue to test the commercial platform with coming Windows 10 releases during device production and for five years post-production, including both fall and spring releases from Microsoft.</p> <p>Please reference the Dell Windows as a Service (WaaS) website for additional information on N-2 and 5 year Windows OS supportability. Website can be found at this link:</p> <p>Platforms Qualified on specific versions of Windows 10</p> <p>This website also includes a matrix of other platforms qualified on specific versions of Windows 10.</p>

Identifier	GUID-7239344D-AE81-4601-AC82-D98E783CB91A
Status	Draft

Storage

Table 7. Storage

	Tower	Small form factor	Micro
Bays:			
Optical Drives Supported	1 Slim	1 Slim	0
Hard Drive Bay Supported (Internal)	1x3.5"/2x2.5"	1x3.5" or 1x2.5"	1x2.5"
Hard Drives Supported 3.5"/2.5" (maximum)	1/2	1/1	0/1
Interface:			
SATA 2.0	1	1	0
SATA 3.0	2	1	1
M.2 Socket 3 (for SATA / NVMe SSD)	1	1	1
M.2 Socket 1 (for WiFi/BT card)	1	1	1
3.5" Drives:			
3.5 inch 500 GB 7200 RPM HDD	Y	Y	N
3.5 inch 1 TB 7200 RPM HDD	Y	Y	N
3.5 inch 2 TB 7200 RPM HDD	Y	Y	N

	Tower	Small form factor	Micro
2.5" Drives:			
2.5 inch 500 GB 5400 RPM HDD	Y	Y	Y
2.5 inch 500 GB 7200 RPM HDD	Y	Y	Y
2.5 inch 500 GB 7200 RPM SED HDD	Y	Y	Y
2.5 inch 1 TB 7200 RPM HDD	Y	Y	Y
2.5 inch 2 TB 5400 RPM HDD	Y	Y	Y
2.5 inch 256GB SATA Class 20 Solid State Drive	Y	Y	Y
2.5 inch 512GB SATA Class 20 Solid State Drive	Y	Y	Y
2.5 inch 1TB SATA Class 20 Solid State Drive	Y	Y	Y
M.2 Drives:			
M.2 1 TB PCIe C40 SSD	Y	Y	Y
M.2 256 GB PCIe C40 SSD	Y	Y	Y
M.2 512 GB PCIe C40 SSD	Y	Y	Y
M.2 128 GB PCIe NVMe Class 35 Solid State Drive	Y	Y	Y
M.2 256 GB PCIe NVMe Class 35 Solid State Drive	Y	Y	Y
M.2 512 GB PCIe NVMe Class 35 Solid State Drive	Y	Y	Y

NOTE: 2.5 Inch Solid State Drives are only available as a secondary storage option and can only be paired with a M.2 Solid State Drive as the Primary Storage Device

Identifier	GUID-C853A3B9-6DA9-4DDF-A33A-EEC26D6BD991
Status	Released

System board connectors

NOTE: See Detailed Engineering Specifications for maximum card dimensions.

Table 8. System board connectors

	Tower	Small Form Factor	Micro
PCIe x16 Slot(s) ¹	1	1	0
PCIe x1 Slot(s)	3	1	0
Serial ATA (SATA) ²	3	2	1
M.2 Socket 3 ³ (for SSD)	1 - 2230/2280	1 - 2230/2280	1 - 2230/2280
M.2 Socket 1 ⁴ (for WiFi/BT card)	1 - 2230 (keyed to support Integrated or Discrete WiFi)	1 - 2230 (keyed to support Integrated or Discrete WiFi)	1 - 2230 (keyed to support Integrated or Discrete WiFi)

¹ PCIe x16 Slots (Support Standard Rev 3.0)

² Serial ATA (2 ports Support Standard Rev 3.0, the rest of ports Support Standard Rev 2.0)

³ M.2 Socket3: Support SATA/ PCIe SSD/Optane interface for 3070. Support for NVMeEx4 and SATA

⁴ M.2 Socket1: Supports Intel CNVi, USB2.0 and PCIe interface

Identifier	GUID-3C47A63E-A97D-46CA-8457-94F54930A371
Status	Released

External ports and 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.

Table 9. External ports / connectors

	Tower	Small Form Factor	Micro
USB 2.0 (Front/Rear/Internal)	2/2/2	2/2/2	0/2/0
USB 3.1 Gen 1 (Front/Rear/Internal)	2/2/0	2/2/0	2/2/0
Serial			<ul style="list-style-type: none"> Available in 2 options <ul style="list-style-type: none"> Serial port (Optional) Serial and PS/2 via fan out cable (Optional)
	Parallel/Serial PCIe card or PS/2/Serial add-in bracket (Optional)	Low Profile Serial PCIe card or PS/2 & Serial port add in bracket (Optional)	
Network Connector (RJ-45)	1 Rear	1 Rear	1 Rear
Video:			
DisplayPort 1.2	1 Rear	1 Rear	1
HDMI 1.4 port	1 Rear	1 Rear	1 Rear
Support for Dual 50W Graphics	No	No	No
Support for Dual 25W Graphics	No	No	No
Integrated Graphics output - 3rd optional video out: VGA, DP, or HDMI 2.0b	Optional	Optional	Optional
Audio:			
Line out for headphones or speakers	1 Rear	1 Rear	1 Front
Universal Audio Jack	1 Front	1 Front	1 Front

Identifier	GUID-F5BF0A3D-AD36-41CD-819B-406B8C3E35AA
Status	Draft

Graphics and Video Controller

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

Table 10. Graphics / Video Controller

	Tower	Small Form Factor	Micro
Intel UHD 630 Graphics [with 8th Generation Core i3/i5/i7 CPU-GPU combo]	Integrated on CPU	Integrated on CPU	Integrated on CPU
Intel UHD 610 Graphics [with 8th Generation Pentium CPU-GPU combo]	Integrated on CPU	Integrated on CPU	Integrated on CPU
Enhanced Graphic/ Video Options			
2 GB AMD Radeon R5 430	Optional	Optional	Not available
4 GB AMD Radeon RX 550	Optional	Optional	Not available
2 GB NVIDIA GT 730	Optional	Optional	Not available

Identifier	GUID-23A3BBA9-F852-46EC-8B78-2FC4D682B79D
Status	Released

Communications – Integrated

Table 11. Communications – Integrated Realtek RTL8111HSD-CG

	Tower/Small Form Factor/Micro
Realtek RTL8111HSD-CG Gigabit Ethernet LAN 10/100/1000	Integrated on system board

Identifier	GUID-A08E594B-FD31-42AD-9273-00B8A2C8FCCD
Status	Released

Communications – Wireless

Table 12. Communications – Wireless

	Tower/Small form factor/Micro
Qualcomm QCA9377 Dual-band 1x1 802.11ac Wireless + Bluetooth 4.1	Yes
Qualcomm QCA61x4A Dual-band 2x2 802.11ac Wireless + Bluetooth 4.2	Yes
Intel Wireless-AC 9560, Dual-band 2x2 802.11ac Wi-Fi with MU-MIMO + Bluetooth 5	Yes
Internal Wireless Antennas	Yes
External Wireless Connectors and Antenna	Yes
Support for 802.11n and 802.11ac wireless NIC	Yes via M.2

Tower/Small form factor/Micro

Energy-Efficient Ethernet capability as specified in IEEE 802.3az-2010. (required for California Energy Commission MEPs)

Yes

Identifier GUID-C72F6E85-971E-4ED3-A6CF-5F0DCAA075B4

Status Released

Audio and speakers

Table 13. Audio and speakers

	Tower/Small Form Factor/Micro
Realtek ALC3234 High Definition Audio Codec (supports multiple streaming)	Integrated
Audio enhancement software	Wave MaxxAudioPro (Standard)
Internal speaker (mono)	Integrated
Speaker Performance, Speech Grade & Electrical Grade	Grade D
Dell 2.0 Speaker System - AE215	Optional
Dell 2.1 Speaker System - AE415	Optional
Dell AX210 USB Stereo speakers	Optional
Dell Wireless 360 Speaker System - AE715	Optional
AC511 Sound Bar	Optional
Dell Professional Sound Bar - AE515	Optional
Dell Stereo Soundbar - AX510	Optional
Dell Performance USB Headset - AE2	Optional
Dell Pro Stereo Headsets - UC150/UC350	Optional

Identifier GUID-810C183B-1B7B-4F77-AB02-A595DEE2FA22

Status Released

Input devices

Table 14. Input devices

	Tower/ Small Form Factor/ Micro
Dell Business Multimedia Keyboard KB522	Optional
Dell Multimedia Keyboard KB216	Optional
Dell Smartcard Keyboard KB813	Optional
Dell Wireless Mouse WM326	Optional
Dell Wireless Keyboard and Mouse KM636	Optional

Tower/ Small Form Factor/ Micro

Dell Premier Wireless Keyboard WK717	Optional
Dell Premier Wireless Keyboard and Mouse KM717	Optional
Dell Premier Wireless Mouse WM527	Optional
Dell Laser Scroll USB 6-Buttons Silver and Black Mouse	Optional
Dell Optical Mouse MS116	Optional
Dell Palm Rest for KB216 and KM636	Optional

Identifier	GUID-BB457D68-00F5-475D-8531-98B071D53F83
Status	Released

Security

Table 15. Security

Security Types	Tower/ Small form factor/ Micro
Trusted Platform Module (TPM) 2.0 ^{1,2}	Integrated on system board
Firmware TPM	Optional
Windows Hello support	Optional via security input device
Cable Cover	Optional
Chassis Intrusion Switch	Optional /Optional /Standard
Dell Smartcard Keyboard	Optional
Chassis lock slot and loop support	Standard

¹ TPM 2.0 is FIPS 140-2 certified.

² TPM is not available in all countries.

Identifier	GUID-1785C23A-DBA4-4891-8453-43D2C5CDEC49
Status	Draft

Optional Dell Data security and management software

Table 16. Data security

Dell Endpoint Security Suite Enterprise	Optional
Dell Data Guardian	Optional
Dell Encryption (Enterprise or Personal)	Optional
Dell Threat Defense	Optional
RSA SecurID Access	Optional
RSA NetWitness Endpoint	Optional
MozyPro or MozyEnterprise	Optional

VMware Airwatch/WorkspaceONE	Optional
Absolute Data & Device Security	Optional

Identifier	GUID-69AD6AF4-2076-4787-BC3D-DC1E4C7FB29A
Status	Released

Environmental

Table 17. Environmental

	Tower/ Small Form Factor/ Micro
Recyclable packaging	X
MultiPack packaging	Optional, US only
Energy Efficient Power Supply	Optional Bronze and Platinum ¹ available/Standard

NOTE: ¹Power Supplies not available in all countries.

Identifier	GUID-468037DD-431E-4134-9C58-B845BC0C166F
Status	Draft

Service and support

NOTE: For more details on Dell Service Plans please to go to: <https://www.dell.com/learn/us/en/19/services/warranty-support-services>.

Table 18. Service and support

	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.

Identifier	GUID-E903C092-7F98-4F1D-9FED-DCE886364D6D
Status	Released

Accessories

Table 19. Accessories

Accessories	Tower	Small Form Factor	Micro Form Factor
Cable Covers - chassis designed with hooks for removable and securable cover	Yes	Yes	Yes
Dust Filters includes a cleaning maintenance reminder in BIOS	Yes	Yes	Yes
Basic Stand	No	No	Vertical Stand
Dual Monitor Stand	No	Yes	Yes
Dual Monitor Arm	Yes	Yes	Yes
Single Monitor Arm	Yes	Yes	Yes
Slim Single Monitor Arm	Yes	Yes	Yes
Desktop AIO Stands includes custom cable cover, handle, VESA adapter bracket	No	Yes	Yes
Desktop Micro Mounts	No	No	Yes
Expansion Module	No	No	DVD RW
VESA Mounting	No	No	Yes






Identifier	GUID-3CA07D56-E786-413F-90E1-5EE7786C1CAE
Status	Draft

Mounting options—3070 Micro only

Table 20. Mounting options

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 Mount for U and P Series Displays
Dell OptiPlex Micro All-in-One Stand

Table 21. Micro Mounting options

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
		

Identifier	GUID-20B66335-3357-4E32-A86A-997DDF212048
Status	Draft

Mounting options-3070 Small form factor only

Table 22. Small Form Factor

Product
OptiPlex Small Form Factor All-in-One Stand



Identifier	GUID-DCF8DA36-1971-4540-9AD9-
Status	Draft

Engineering Specifications

This chapter lists out the specification of each and every component in a comprehensive format. Specific features/models/configurations/options discussed in the document may or may not be available.

Identifier	GUID-8C265A5F-18FB-4B28-9D1A-6A8B90E8766B
Status	Released

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.

Table 23. System dimensions (Physical)

	Tower	Small Form Factor	Micro
Chassis Volume (liters)	14.77	7.8	1.16
Chassis Weight (lb / kg)	17.49 / 7.93	11.57 / 5.26	2.60/1.18
Chassis Dimensions (H x W x D)			
Height (inch / cm)	13.8 / 35	11.42 / 29	7.2/18.2
Width (inch / cm)	6.1 / 15.4	3.65 / 9.26	1.4/3.6
Depth (inch / cm)	10.8 / 27.4	11.50 / 29.2	7/17.8
Shipping Weight (lb / kg – includes packaging materials)	20.96 / 9.43	14.19/6.45	5.91/2.68
Packaging Dimensions (H x W x D)			
Height (inch / cm)	13.19 / 33.5	10.38 / 26.4	5.2 / 13.3
Width (inch / cm)	19.4 / 49.4	19.2 / 48.7	9.4 / 23.8
Depth (inch / cm)	15.5 / 39.4	15.5 / 39.4	19.6 / 49.8

Identifier GUID-CBCBC390-C3F9-452A-9581-2BDC1591E806

Status Released

Dust filter specifications

Table 24. Dust filter specifications

Dust filter specifications	
Type (cm)	0.0196
Mesh count (cm/inch)	40/100
Weave	PW
Silk diameter (cm)	0.0055
Open area (%)	61
Thickness (cm)	0.01
Remark	PET

Identifier GUID-F7BDEBCF-7CC3-46F9-B4FF-84BA028C0ADC

Status Draft

Micro Mounting Dimensions

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.

Table 25. Micro Mounting Dimensions (Physical)

	Vertical stand	Vesa Mount	Dual VESA Mount	E-Series VESA Mount	Micro All-in-One Stand	DVD+/-RW Enclosure
Volume (liters)	0.23	1.6	1.9	1.6	29.6	2.37
Weight (lb / kg)	0.10 / 0.05	1.36 / 0.62	2.62 / 1.19	1.36 / 0.62	7.04 / 3.2	1.63 / 0.74
Chassis Dimensions (H x W x D)						
Height (inch / cm)	6.61/16.8	7.47 / 18.99	7.52 / 19.12	7.47/18.99	17.7/45	2.67 / 6.78
Width (inch / cm)	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 (inch / cm)	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 (includes packaging materials)						
Lb / kg	0.69	0.69	1.29	0.66	5.10	2.31 / 1.05
Packaging Dimensions (H x W x D)						
Height (in / cm)	8.54/ 21.7	8.54/ 21.7	10.86/ 27.6	9.8/24.9	11.26/ 28.6	9.45/24
Width (in / cm)	7.87 / 20	7.87 / 20	8.03 / 20.4	8.03 / 20.4	19.6 / 49.8	9.1 / 22.3
Depth (in / cm)	2.52 / 6.4	2.52 / 6.4	2.72 / 6.9	2.32 / 5.9	9.96 / 25.3	3.27 / 8.3

Identifier GUID-4C2E89D0-8C3F-4222-982D-40FC58C4EB87

Status Released

System board connector maximum add-in card allowable dimensions

Table 26. System board connector maximum add-in card allowable dimensions

	Tower	Small Form Factor	Micro
PCIe x16 Connector (BLUE) (Voltage supported 3.3V/12V)	1	1	NA
Height (inches / centimeters)	4.38 / 11.12	2.73 / 6.89	NA
Length (inches / centimeters)	6.6 / 16.77	6.6 / 16.77	NA
Maximum Wattage	75 W	50 W	NA
PCIe x1 Connector (Voltage supported 3.3/12V)	3	1	NA
Height (inch / cm)	4.38 / 11.12	2.73 / 6.89	NA
Length (inch / cm)	4.5 / 11.44	6.6 / 16.77	NA
Maximum Wattage	10 W	25 W	NA

Identifier GUID-03D3380B-66C4-4EA6-9852-E12B5CC298FF

Status Draft

System level environmental and operating conditions

Table 27. 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	0.26 Grms 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 133 cm/sec (52.5 inches/sec)
Maximum Altitude	
Operating	3048 m (10,000 ft)

Tower/Small form factor/Micro

Non-Operating 10,668 m (35,000 ft)

Thermal Dissipation

Table 28. Thermal Dissipation

Form Factor	Power	Heat dissipation	Voltage
Tower	260 W	$260 * 3.4125 = 888$ BTU/hr	100 to 240 VAC, 50 to 60 Hz, 4.2 A/2.1 A
Small Form Factor	200 W	$200 * 3.4125 = 683$ BTU/hr	100 to 240 VAC, 50 to 60 Hz, 3.2 A/1.6 A
Micro	65 W	$65 * 3.4125 = 222$ BTU/hr	100 to 240 VAC, 50 to 60 Hz, 1.6 A

Identifier GUID-D04C98EF-479A-4E48-B275-2AB4DB5E6E04

Status Released

Power

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

Table 29. Power

		Tower		Small Form Factor		Micro	
Power Supply ¹	APFC	EPA Bronze	EPA Platinum	APFC	EPA Bronze	EPA Platinum	EPS Level V
Wattage		260 W			200 W		65 W
AC input voltage range		90-264 Vac			90-264 Vac		90-264 Vac
AC input current (low ac range / high ac range)		4.2 A/2.1 A			3.2 A/1.6 A		1.7 A/1.0 A
AC input frequency		47 Hz/63 Hz			47 Hz/63 Hz		47 Hz/63 Hz
AC holdup time (80% load)		16mS			16mS		NA
Average efficiency (ESTAR 7.0/7.1 compliant)	NA	82-85-82% @ 20-50-100%	90-92-89% @ 20-50-100% load	NA	82-85-82% @ 20-50-100%	90-92-89% @ 20-50-100% load	87%
Typical Efficiency (APFC)	70%	NA	NA	70%	NA	NA	NA

DC Parameters:

		Tower			Small Form Factor			Micro
+12.0v output	12 VA/16.5 A; 12 VB/16 A	12 VA/16.5 A; 12 VB/14 A						
+19.5v output		NA			NA			19.5 V/3.34 A
+12.0v auxiliary output		2.5 A			2.5 A			NA
Max total power		260 W			200 W			NA
Max combined 12.0v power (note: only if more than one 12v rail)		260 W			200 W			NA
BTUs/h (based on PSU max WT)		888 BTU			683 BTU			222 BTU
Power Supply Fan		60 mm*25 mm			60 mm*25 mm			NA
Compliance:								
ErP Lot6 Tier 2 0.5watt requirement	Yes	Yes	Yes	Yes	Yes	Yes	Yes	NA
80Plus Certified	No	Yes	Yes	No	Yes	Yes	Yes	No
FEMP Standby Power Compliant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

Table 30. CMOS battery

3.0v CMOS battery (Type and estimated battery life):

Brand	Type	Voltage	Composition	Life
JHIH HONG	CR2032	3 V	Lithium	Continuous Discharge Under 15 kΩ Load to 2.5 V End-Voltage. 20 °C±2 °C: 940Hrs or longer; 910Hrs or longer after 12 mo.
PANASONIC	CR2032	3 V	Lithium	Continuous Discharge Under 15 kΩ Load to 2.5 V End-Voltage. 20 °C ±2 °C.1183Hrs or longer 1133Hrs or longer after 12 mo.
MITSUBISHI	CR2032	3 V	Lithium	Continuous Discharge Under 15 kΩ Load to 2.0 V End-Voltage. 20 °C ±2 °C 940Hrs or longer 910Hrs or longer after 12 mo.
SHUNWO & KTS	CR2032	3 V	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.

¹Power Supplies not available in all countries.

Identifier	GUID-7DC83961-2A6C-4496-A9CE-9102CFB50630
Status	Draft

Audio

Table 31. 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	2.5 Watt (peak) 4 Ohm/ 2 Watt (average) 4 Ohm

Identifier	GUID-DF38C92D-62F2-4291-9F23-C661240457C1
Status	Draft

Communications – Integrated Realtek RTL8111HSD-CG

Table 32. Communications – Integrated Realtek RTL8111HSD-CG

Integrated Realtek RTL8111HSD 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 (OTP memory)

Integrated Realtek RTL8111HSD Gigabit1 ethernet LAN 10/100/1000

Tower/ Small Form Factor/ Micro

Data Transfer Mode (example: Bus-Master DMA)	Yes (DMA MODE)
Power Consumption (full operation per data rate connection speed)	320.73 mW(1000M, TX/RX, >30 m)
Power Consumption (standby operation)	152.86 mW(1000M, idle, >30 m)
IEEE Standards Compliance	Fully compliant with: IEEE 802.3, IEEE 802.3u, IEEE 802.3ab Supports IEEE 802.1P layer 2 priority encoding Supports IEEE 802.1Q VLAN tagging Supports IEEE 802.3az-2010(EEE) Supports full duplex flow control(IEEE 802.3x)
Hardware Certifications	N/A
Boot ROM Support	Yes (EFUSE)
Network Transfer Mode	
Network Transfer Rate	
10BASE-T (full-duplex) 20 Mbps	10 Mb (full/half-duplex)
100BASE-TX (half-duplex) 100 Mbps	100 Mb (full/half-duplex)
100BASE-TX (full-duplex) 200 Mbps	1000 Mb (full-duplex)
1000BASE-T (full-duplex) 2000 Mbps	
Environmental	
Operating Temperature	0° C to 70° C
Operating Humidity	N/A
Operating System Driver Support	Windows 10 64-bit, Windows 8.1 32-bit/64-bit, Windows 7 32-bit/64-bit , Ubuntu, NeoKylin)
Manageability	WOL, PXE 2.1
Management Capabilities Alerting	N/A

Identifier GUID-E7605FA2-C19B-4AB4-A9E5-1F3F72775403

Status Draft

Wireless communications

Table 33. Qualcomm QCA9377 Dual-band 1x1 802.11ac Wireless with MU-MIMO + Bluetooth 4.1

	Tower/Small Form Factor/Micro
Qualcomm QCA9377 Dual-band 1x1 802.11ac Wireless with MU-MIMO + Bluetooth 4.1	Standard M.2 Connector (U.FL)

Controller Details

Tower/Small Form Factor/Micro

Host interface	M.2 2230 form factor (WiFi– PCIe, Bluetooth – USB)
Network standard	802.11a, 802.11b, 802.11g, 802.11n and 802.11ac
11ac Wave2 feature	MU-MIMO RX
External Front End Module	5 GHz Power Amplifier and Low Noise Amplifier for improved performance
Wi-Fi Alliance Certifications	802.11a, 802.11b, 802.11g, WPA, WPA2, WMM, 11ac, Wifi-Direct, WMM-Power Save, WifiProtected Setup, Voice-Personal
Operating Frequency Bands	2.4 GHz (802.11b/g/n) and 5 GHz (802.11a/n/ac)
Dual Diversity Antenna Switching	Dual diversity antenna switching for systems designed with main and auxiliary antennas 2x2 MIMO operation when in 802.11n mode with 2x2 or greater Access Point
Data Rate	802.11ac – Up to 867 Mbps; 802.11n - Up to 450 Mbps; 802.11a/g - Up to 54 Mbps 802.11b - Up to 11 Mbps
Receive Sensitivity	802.11ac: -59 dBm@ 400 Mbps; - 57 dBm @ 866.7Mbps 802.11n/a: -67 dBm@ 300 Mbps ; -70 dBm @ 144.4Mbps 802.11g/a: -75 dBm@ 54 Mbps 802.11b: -85 dBm@ 11 Mbps
Authentication	Authentication protocol Encryption Wi-Fi Direct Encryption and authentication Management from protection Product safety
Authentication protocol Encryption Wi-Fi Direct Encryption and authentication Management from protection Product safety	WPA, WPA2, 802.1x(EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-SIM EAP-FAST, EAP-TLS, EAP-TTLS(PAP, CHAP, MS-CHAP, MSCHAP2) PEAP(GTC, EAP-TLS, MS-CHAPv2) 64-bit and 128 bit WEP, CKIP, TKIP, 128-bit AES-CCMP WPA2, AES-CCMP 802.11w (WFA-Protected Management Frames), for Win10, it is supported by OS EN60950-1
Client Utility	Native Wi-Fi and Bluetooth Microsoft UI support
Radio On/Off	Hardware and software on/off disables transmit and receive to comply with aviation in-flight restriction
Roaming	Seamless roaming between 802.11a, 802.11b, 802.11b/g, 802.11n and 802.11ac access points
Wake On Wireless	Supported
Miracast (WiFi Display)	Supports Miracast (WiFi Display) on Windows 10
Wireless PAN Standard	Dual-mode Bluetooth 4.1, BLE
Bluetooth Data rates	Up to 3 Mbps
Bluetooth Operating Frequency Bands	2.4 GHz
Transmission	FHSS (Frequency Hopping Spread Spectrum)
Bluetooth Data Encryption	128-bit encryption

Tower/Small Form Factor/Micro

Bluetooth Receive sensitivity	-70 dBm@BER≤0.01% (EDR) -100 dBm@BER≤30.8% (LE nominal)
Temperature	Operating temperature 0° to +65°C Storage temperature of -40° to +85°C
Humidity	Up to 90%

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.

Table 34. Qualcomm QCA61x4A 802.11ac Dual Band (2x2) Wireless Adapter with MU-MIMO + Bluetooth 4.2

Tower/Small Form Factor/Micro

Qualcomm QCA61x4A 802.11ac Dual Band (2x2) Wireless Adapter with MU-MIMO + Bluetooth 4.2	Standard M.2 Connector (U.FL)
--	-------------------------------

Controller Details

Host interface	M.2 2230 form factor (WiFi- PCIe, Bluetooth – USB)
Network standard	802.11a, 802.11b, 802.11g, 802.11n and 802.11ac
11ac Wave2 feature	MU-MIMO RX
External Front End Module	5 GHz Power Amplifier and Low Noise Amplifier for improved performance
Wi-Fi Alliance Certifications	802.11a, 802.11b, 802.11g, WPA, WPA2, WMM, 11ac, Wifi-Direct, WMM-Power Save, WifiProtected Setup, Voice-Personal
Operating Frequency Bands	2.4 GHz (802.11b/g/n) and 5 GHz (802.11a/n/ac)
Dual Diversity Antenna Switching	Dual diversity antenna switching for systems designed with main and auxiliary antennas 2x2 MIMO operation when in 802.11n mode with 2x2 or greater Access Point
Data Rate	802.11ac – Up to 867 Mbps; 802.11n - Up to 450 Mbps; 802.11a/g - Up to 54 Mbps 802.11b - Up to 11 Mbps
Receive Sensitivity	802.11ac: -59 dBm@ 400 Mbps; - 57 dBm @ 866.7 Mbps 802.11n/a: -67 dBm@ 300 Mbps ; -70 dBm @ 144.4 Mbps 802.11g/a: -75 dBm@ 54 Mbps 802.11b: -85 dBm@ 11 Mbps
Authentication	Authentication protocol Encryption Wi-Fi Direct Encryption and authentication Management from protection Product safety
Authentication protocol Encryption Wi-Fi Direct Encryption and authentication Management from protection Product safety	WPA, WPA2, 802.1x(EAP-TLS, EAP-TTLS, PEAP, LEAP, EAP-FAST, EAP-SIM EAP-FAST, EAP-TLS, EAP-TTLS(PAP, CHAP, MS-CHAP, MSCHAP2) PEAP(GTC, EAP-TLS, MS-CHAPv2) 64-bit and 128 bit WEP, CKIP, TKIP, 128-bit AES-CCMP WPA2, AES-CCMP 802.11w

Tower/Small Form Factor/Micro

(WFA-Protected Management Frames), for Win10, it is supported by OS EN60950-1

Client Utility	Native Wi-Fi and Bluetooth Microsoft UI support
Radio On/Off	Hardware and software on/off disables transmit and receive to comply with aviation in-flight restriction
LED output	Wireless enable.
Roaming	Seamless roaming between 802.11a, 802.11b, 802.11b/g, 802.11n and 802.11ac access points
Wake On Wireless	Supported when using Magic Packet over the Air
Miracast (WiFi Display)	Supports Miracast (WiFi Display) on Windows 10
Country Restrictions	All (except Tunisia)
Wireless PAN Standard	Dual-mode Bluetooth 4.2, BLE
Bluetooth Data rates	Up to 3 Mbps
Bluetooth Operating Frequency Bands	2.4 GHz
Transmission	FHSS (Frequency Hopping Spread Spectrum)
Bluetooth Data Encryption	128-bit encryption
Bluetooth Receive sensitivity	-70 dBm@BER≤0.01% (EDR) -100 dBm@BER≤30.8% (LE nominal)
Temperature	Operating temperature 0° to +65°C Storage temperature of -40° to +85°C
Humidity	Up to 90%

Table 35. Intel Wireless-AC 9560, Dual-band 2x2 802.11ac Wi-Fi with MU-MIMO + Bluetooth 5

Tower/Small Form Factor/Micro

Intel Wireless-AC 9560, Dual-band 2x2 802.11ac Wi-Fi with MU-MIMO + Bluetooth 5

Standard M.2 Connector (U.FL)

Controller Details

Host interface	M.2 2230 form factor (CNVio)
Network standard	IEEE 802.11a/b/g/n/ac, DL MU-MIMO, 160 MHz channel use
Wi-Fi Alliance Certifications	Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, WMM*, WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, Wi-Fi Miracast* as Source, and Wi-Fi Direct (For Microsoft Windows* only)
Operating Frequency Bands	2.4 GHz and 5 GHz
Antenna Diversity	Supported
Data Rate	2.4 GHz 40M: Up to 300 Mbps 5 GHz 80M: Up to 867 Mbps

Tower/Small Form Factor/Micro

	5 GHz 160M: Up to 1.3 Gbps
Power Consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Authentication	WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAPFAST), EAP-SIM, EAP-AKA
Authentication Protocols	PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2
Encryption	64-bit and 128-bit WEP, 128-bit AES-CCMP
Product Safety	UL, C-UL, CB (IEC60950-1)
Government Compliance	FIPS, FISMA
Client Utility	Intel PRO/Set Wireless Software v20 and later.
Radio On/Off	Supported
Roaming	Supports seamless roaming between respective access points
Wake On Wireless	Supported
Wireless Display	Native Miracast support by Windows 10
Wireless PAN Standard	Dual Mode Bluetooth 4.2, BLE (HW ready, SW depends on OS, Windows 10 supports up to 4.1)
Bluetooth Data rates	Up to 3 Mbps
Bluetooth Operating Frequency Bands	2.4 GHz
Bluetooth Profiles Supported	Support for Microsoft Inbox Bluetooth profiles in Windows 10
Bluetooth Data Encryption	128-bit encryption
Bluetooth Output Power	Power class 1

Identifier	GUID-C5ED9A31-0232-47B1-8D9A-7FF03868F005
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Status	Draft
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USB 3.1 Type-C PCIe Add-In Card

Table 36. USB 3.1 Type-C PCIe Add-In Card

Bus	PCI Express Spec 3.0, Single-Lane (x1)
Controller	PCI Express USB3.1 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)
Number of Port	2 - Ports (1 support Data only and 1 support Full Feature)
USB Connector	USB 3.1 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	3.0W@3.3V (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

Identifier	GUID-5665E47C-270C-4719-BD97-B8C1D1EA8F5F
Status	Draft

Communications – Serial and Parallel Port PCIe Add-In Card

Table 37. Communications – Serial/ Parallel Port PCIe Add-In Card

	Tower
Connector Type	RS-232 and IEEE1284
Data Rates Supported	50 bps ~115.2 Kbps (Serial) & Maximum 1.8 Mbp (Parallel)
Controller Details	
Controller	SUNIX SUN2212 (16C950 UART Compatible)
Controller Bus Architecture	PCI Express Spec 2.0, Single-Lane (x1)
Driver Support	Microsoft Win10 (X64) Linux 2.4.x/2.6.x/3.x; DOS
FH Serial/Parallel add in dongle	Optional
Environmental	
Operating Temperature	0 to 60°C (32 to 140°F)

Tower

Operating Humidity	5 to 95% RH
Storage Temperature	-20 to 85°C (-4 to 185°F)

Identifier GUID-57FD00F0-07D3-4555-A2F1-9A686109AAAE

Status Draft

Communications – Parallel Port PCIe Add-In Card

Table 38. Communications – Parallel Port PCIe Add-In Card

Small Form Factor

Connector Type	IEEE1284
Data Rates Supported	Maximum 1.8 Mbps
Controller Details	
Controller	SUNIX SUN2212
Controller Bus Architecture	PCI Express Spec 2.0, Single-Lane (x1)
Driver Support	Microsoft Win10 (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)

Identifier GUID-EE4D676A-CAF3-45DF-BC29-C0BF5239263C

Status Draft

Communications – Serial Port PCIe Add-In Card

Table 39. Communications – Serial Port PCIe Add-In Card

Tower/Small Form Factor

Connector Type	RS-232
Data Rates Supported	50 bps ~115.2 Kbps
Controller Details	
Controller	SUNIX SUN2212 (16C950 UART Compatible)
Controller Bus Architecture	PCI Express Spec 2.0, Single-Lane (x1)
Driver Support	Microsoft Win10 (X64) Linux 2.4.x/2.6.x/3.x; DOS
FH Serial add in dongle	Optional/NA

Tower/Small Form Factor

LP Serial add in dongle	NA/Optional
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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)

Identifier	GUID-8788CFDF-B993-4586-8038-CA849D107C66
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Status	Draft
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Graphics and video controller

Table 40. Onboard Graphics**Tower/Small form factor/Micro**

Bus Type	Integrated
GPU core clock	Intel UHD 610/630 @ 1000 Mhz/1100 Mhz/1150 Mhz
Frame Buffer Memory (onboard and shared) Size and Speed	Depends on available system memory (Up to 1.7 GB with 4 GB system Memory)
Overlay Planes	Yes
Maximum Color Depth	24bits
Maximum Vertical Refresh Rate	85 Hz
Multiple Display Support	Yes
Operating System Graphics / API Support	DX11.3, DX12 OpenGL 4.3/4.4/4.5 OpenCL* 2.1, OpenCL 2.0, OpenCL 1.2
Supported Resolutions and Max Refresh Rates (Hz)	Up to 4096x2304 @ 60 Hz, 24, 30, 36 bpp(DP 1.2) Up to 4096x2160 @ 24 Hz, 24, 36 bpp (HDMI 1.4)
(Note: Analog and/or digital)	Up to 1920x1200 @ 60Hz, 24-bit color depth(VGA optional card)
For Multi Stream Transport (MST)	Single Display - 4096x2304 @60 Hz Dual MST - 2880x1800 @60 Hz Triple MST - 2304x1800 @60 Hz
External Connectors	DisplayPort 1.2; HDMI 1.4; optional DP, HDMI2.0b, VGA

Table 41. 2GB AMD Radeon R5 430**2GB AMD Radeon R5 430****Tower/Small Form Factor**

Bus Type	PCIe 3.0
GPU core clock	730 MHz

2GB AMD Radeon R5 430**Tower/Small Form Factor**

Frame Buffer Memory (onboard and shared) Size and Speed	2 GB / 900 MHz
Maximum Power Consumption	50 W
Compute units	6
Shaders / TMUs / ROPs	384 / 24 / 8
Video outputs	Two DP 1.2
Maximum Vertical Refresh Rate	60 Hz (4096x2160)
Multiple Display Support	2
Multiple Display Support - using DP 1.2 MST (monitors daisy chained)	2 off 1 DP 1.2 port
Maximum Display resolution	1 display of 4K @ 60 Hz
Operating System Graphics / API Support	DX 12, no Microsoft Play Ready support, OpenCL 2.0, OpenGL 4.6, Vulkan, Shader 5.0
Supported Resolutions & Max Refresh Rates (Hz) (Analog and/or digital)	4K @ 60 Hz, 2560x1440 @ 90 Hz
External Connectors	DisplayPort 1.2, SL-DVI-I
Performance	Compute = 599 GFlops 3DMark11 Performance = 2500 Pixel rate 6.24 GPixels/sec
Dimensions of Low Profile Card inches/centimeters (L x H)	2.713 inch x 6.63 inch available with full height bracket for MT and half height bracket for SFF system

Environmental Operating Conditions (Non-Condensing)

Operating Temperature Range	10°C-55°C
Relative Humidity Range	5-90% RH
Altitude Range	0-20,000 ft

Table 42. 2 GB NVIDIA GeForce GT 730**2 GB NVIDIA GeForce GT 730****Tower/Small Form Factor/Micro**

Bus Type	PCIe Gen 3
GPU core clock	900 MHz
Frame Buffer Memory (onboard and shared) Size and Speed	2 GB/1250 MHz
Maximum Power Consumption	31 W
Compute units	6
Shaders / TMUs / ROPs	384 / 16 / 8
Video outputs	Two DP 1.2
Maximum Vertical Refresh Rate	3840x2160x60 Hz
Multiple Display Support - directly connected	2

2 GB NVIDIA GeForce GT 730**Tower/Small Form Factor/Micro**

Multiple Display Support - using DP 1.4 MST (monitors daisy chained)

3 off 1 or 2 DP 1.2 port

Operating System Graphics / API Support

DX 12, OpenGL 4.5, OpenCL 1.2, Vulkan, CUDA 3.5 Shader 5.0, no Microsoft Play Ready support

Supported Resolutions & Max Refresh Rates (Hz) (Analog and/or digital)

1 display of 3840x2160 @ 60hz

External Connectors

DP x 2

Performance

Compute 692 GFlops

3DMark11 Performance = 2100

Pixel rate 7.216 GPixels/sec

Dimensions of Low Profile Card inches/centimeters (L x H)

2.713 inch x 5.7 inch available with full height bracket for MT and half height bracket for SFF system

Environmental Operating Conditions (Non-Condensing)

Operating Temperature Range

0°C-55° C

Relative Humidity Range

5% to 90%

Altitude Range

Not defined

Table 43. 4 GB AMD Radeon RX 550**4 GB AMD Radeon RX 550****Tower/Small Form Factor/Micro**

Bus Type

PCIe Gen 3

GPU core clock

1200 MHz

Frame Buffer Memory (onboard and shared) Size and Speed

4 GB GDDR5, 128 bit memory interface /1750 MHz

Maximum Power Consumption

50 W

Compute units

8

Shaders / TMUs / ROPs

512 / 32 / 16

Video outputs

DP 1.4, two mDP 1.4

Maximum Color Depth

36 bpp

Maximum Vertical Refresh Rate

5120x2880@60 Hz

Multiple Display Support - directly connected

3

Multiple Display Support - using DP 1.4 MST (monitors daisy chained)

1 display of 5K @ 60 Hz . 3 displays 4K @ 60 Hz

Operating System Graphics / API Support

DX 12, no Microsoft Play Ready support, OpenCL 2.0, OpenGL 4.4=6, Vulkan, Shader 5.0

Supported Resolutions & Max Refresh Rates (Hz) (Analog and/or digital)

4K @ 60 Hz, 2560x1440 @ 90 Hz

External Connectors

DP 1.4

Performance

Compute = 1.21 TFlops

4 GB AMD Radeon RX 550**Tower/Small Form Factor/Micro**

	3DMark11 Performance = 6000
	Pixel rate 18.93 GPixels/sec
Dimensions of Low Profile Card inches/centimeters (L x H)	2.713 inch x 6.63 inch available with full height bracket for MT and half height bracket for SFF system
Environmental Operating Conditions (Non-Condensing)	
Operating Temperature Range	10°C-55° C
Relative Humidity Range	5-90% RH
Altitude Range	0-2,000 m

Table 44. 2.5 inches 500 GB SATA3 5400 RPM Solid State Hybrid Drive with 8 GB Flash**Tower/Small Form Factor/Micro**

Capacity (TB)	500 GB HDD 5400 RPM HYBRID 8 GB
Dimensions (inches) (W x D x H)	2.760 x 3.959 x 0.276
Interface type and Maximum speed	Up to 6 Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	976,773,168
Video outputs	Two DP 1.2
Maximum Vertical Refresh Rate	60 Hz (4096x2160)
Power Source	
Power Consumption (reference only)	Idle 0.7 W, Active 3.10 W
Environmental Operating Conditions (Non-Condensing)	
Operating Temperature Range	5°C to 60°C
Relative Humidity Range	5-90%
Op Shock (@2 ms)	350G
Environmental Non-Operating Conditions (Non-Condensing)	
Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

Table 45. M.2 128 GB SATA Class 20 Solid State Drive**Tower/Small Form Factor/Micro**

Capacity (TB)	128 GB
Dimensions (inches) (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	Up to 6 Gb/s (SATA 3.0)
MTBF	1.4M hours
Logical Blocks	250,069,680
Power Source	
Power Consumption (reference only)	Idle 0.5 W, Active 2.5 W

Environmental Operating Conditions (Non-Condensing)

Operating Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Op Shock (@2 ms)	1,000G

Environmental Non-Operating Conditions (Non-Condensing)

Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

Table 46. M.2 256 GB PCIe NVMe Class 20 Self-Encrypting Solid State Drive (OPAL v2.0 compliant)

Tower/Small Form Factor/Micro

Capacity (TB)	256 GB
Dimensions (inches) (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	Up to 6 Gb/s (SATA 3.0)
MTBF	800K hours
Logical Blocks	500,118,192

Power Source

Power Consumption (reference only)	Idle 1.7 W, Active 4.5 W
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Environmental Operating Conditions (Non-Condensing)

Operating Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Op Shock (@2 ms)	1,000G

Environmental Non-Operating Conditions (Non-Condensing)

Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

Identifier	GUID-BDE24D0E-B115-4EFF-8CB9-ACD5776CAE09
Status	Draft

Video Port and Resolution Matrix

Table 47. Video Port and Resolution Matrix

Port Type	Optional VGA	DP 1.2	HDMI 1.4	HDMI 2.0b (GeForce output)
Max Resolution - Single Display	1920x1200 at reduced blanking	4096x2160	2560x1600; 4096x2160 @ 30Hz	2560x1600; 4096x2160 @ 60 Hz
Max Resolution - Dual MST	NA	2560x1600; 3440x1440	NA	NA
Max Resolution - Triple MST	NA	2560x1080	NA	NA

The OptiPlex 3070 supports any 3 concurrent displays. The integrated AIO display counts as one display. Dual or Triple MST count as 2 or 3 displays, respectively. All resolutions shown at 24bpp and unless specifically stated are @60 Hz refresh

NOTE:

MST = Multi-stream Technology, aka - display daisy chaining.

Identifier	GUID-62C7543D-432A-48AF-B643-1C7719A1E547
Status	Draft

Storage

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

Table 48. 3.5 inches 500 GB SATA3 7200 RPM Hard Disk Drive

	Tower/Small form factor
Capacity (GB)	500 GB HDD 7200RPM
Dimensions (inches) (W x D x H)	5.79 x 4 x 1
Interface type and Maximum speed	Up to 6 Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	976,773,168
Power Source:	
Power Consumption (reference only)	Idle 5 W, Active 10 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2 ms)	65G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

Table 49. 3.5 inches 1 TB SATA3 7200 RPM Hard Disk Drive

	Tower/Small form factor
Capacity (TB)	1 TB HDD 7200 RPM
Dimensions (inches) (W x D x H)	5.79 x 4 x 1
Interface type and Maximum speed	Up to 6 Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	1,953,525,168
Power Source:	
Power Consumption (reference only)	Idle 5 W, Active 10 W

Tower/Small form factor**Environmental Operating Conditions (Non-Condensing):**

Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2 ms)	65G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

Table 50. 3.5 inches 2 TB SATA3 7200 RPM Hard Disk Drive**Tower/Small form factor**

Capacity (TB)	2 TB HDD 7200RPM
Dimensions (inches) (W x D x H)	5.79 x 4 x 1
Interface type and Maximum speed	Up to 6 Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	3,907,029,168

Power Source:

Power Consumption (reference only)	Idle 5 W, Active 10 W
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Environmental Operating Conditions (Non-Condensing):

Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2 ms)	65G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

Table 51. 2.5 inches 500 GB SATA3 5400 RPM Hard Disk Drive**Tower/Small form factor/Micro**

Capacity (TB)	500 GB 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 6 Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	976,773,168

Power Source:

Power Consumption (reference only)	Idle 0.7 W, Active 3.10 W
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Environmental Operating Conditions (Non-Condensing):

Temperature Range	5°C to 60°C
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	Tower/Small form factor/Micro
Relative Humidity Range	5 to 90%
Op Shock (@2 ms)	350G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

Table 52. 2.5 inches 500 GB SATA3 7200 RPM Hard Disk Drive

	Tower/Small form factor/Micro
Capacity (TB)	500 GB 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 6 Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	976,773,168
Power Source:	
Power Consumption (reference only)	Idle 0.7 W, Active 3.10 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2 ms)	350G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

Table 53. 2.5 inches 1 TB SATA3 7200 RPM Hard Disk Drive

	Tower/Small form factor/Micro
Capacity (TB)	1 TB 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 6 Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	1,953,525,168
Power Source:	
Power Consumption (reference only)	Idle 0.7 W, Active 3.10 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%

Tower/Small form factor/Micro

Op Shock (@2 ms) 350G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range -40°C to 65°C

Relative Humidity Range 5 to 95%

Table 54. 2.5 inches 2 TB SATA3 5400 RPM Hard Disk Drive**Tower/Small form factor/Micro**

Capacity (TB) 2 TB 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 6 Gb/s (SATA 3.0)

MTBF 550,000 hours

Logical Blocks 3,907,029,168

Power Source:

Power Consumption (reference only) Idle 0.7 W, Active 3.10 W

Environmental Operating Conditions (Non-Condensing):

Temperature Range 5°C to 60°C

Relative Humidity Range 5 to 90%

Op Shock (@2 ms) 350G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range -40°C to 65°C

Relative Humidity Range 5 to 95%

Table 55. M.2 256 GB PCIe NVMe Class 40 Solid State Drive**Tower/Small form factor/Micro**

Capacity (TB) 256 GB

Dimensions (inches) (W x D x H) 22 x 80 x 2.38

Interface type and Maximum speed PCIe Gen2 (up to 4 lanes)

MTBF 800 K hours

Logical Blocks 500,118,192

Power Source:

Power Consumption (reference only) Idle 1.7 W, Active 4.5 W

Environmental Operating Conditions (Non-Condensing):

Temperature Range 0°C to 70°C

Relative Humidity Range 10 to 90%

Tower/Small form factor/Micro	
Op Shock (@2 ms)	1,000G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

Table 56. M.2 512 GB PCIe NVMe Class 40 Solid State Drive

Tower/Small form factor/Micro	
Capacity (TB)	512 GB
Dimensions (inches) (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	PCIe Gen2 (up to 4 lanes)
MTBF	800K hours
Logical Blocks	1,000,215,216
Power Source:	
Power Consumption (reference only)	Idle 1.7 W, Active 4.5 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Op Shock (@2 ms)	1,000G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

Table 57. M.2 1 TB PCIe Class 40 Solid State Drive

Tower/Small form factor/Micro	
Capacity (TB)	1 TB
Dimensions (inches) (W x D x H)	22 x 80 x 3.73
Interface type and Maximum speed	PCIe Gen2 (up to 4 lanes)
MTBF	1.4 M hours
Logical Blocks	2,000,409,264
Power Source:	
Power Consumption (reference only)	Idle 1.7 W, Active 4.5 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%

Tower/Small form factor/Micro

Op Shock (@2 ms)	1,000G
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Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

Table 58. M.2 128 GB PCIe NVMe Class 35 Solid State Drive**Tower/Small Form Factor/Micro**

Capacity (TB)	128 GB
Dimensions (inches) (W x D x H)	22 x 30 x 2.38
Interface type and Maximum speed	PCIe Gen2 (up to 2 lanes)
MTBF	1.4 M hours
Logical Blocks	250,069,680

Power Source:

Power Consumption (reference only)	Idle 1.7 W, Active 4.5 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%
Non-Op Shock (@0.5 ms)	1,500G

Table 59. M.2 256 GB PCIe NVMe Class 35 Solid State Drive**Tower/Small Form Factor/Micro**

Capacity (TB)	256 GB
Dimensions (inches) (W x D x H)	22 x 30 x 2.38
Interface type and Maximum speed	PCIe Gen2 (up to 2 lanes)
MTBF	1.4 M hours
Logical Blocks	500,118,192

Power Source:

Power Consumption (reference only)	Idle 1.7 W, Active 4.5 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

	Tower/Small Form Factor/Micro
Non-Op Shock (@0.5 ms)	1,500G

Table 60. M.2 512 GB PCIe NVMe Class 35 Solid State Drive

	Tower/Small Form Factor/Micro
Capacity (TB)	512 GB
Dimensions (inches) (W x D x H)	22 x 30 x 2.38
Interface type and Maximum speed	PCIe Gen2 (up to 2 lanes)
MTBF	1.4 M hours
Logical Blocks	1,000,215,216
Power Source:	
Power Consumption (reference only)	Idle 1.7 W, Active 4.5 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%
Non-Op Shock (@0.5 ms)	1,500G

Identifier	GUID-009D484C-9E75-42DF-B153-48576D5BB3C0
Status	Draft

Optical Drives

Table 61. 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)	128.0 mm (5.04in)/ 9.5mm (0.37 in)/ 126.1mm (4.97in)	N\A
Weight (max) pounds/kilograms	140 g	140 g	N\A
Interface type and speed	SATA 1.5Gbit/s	SATA 1.5Gbit/s	N\A
Disc Capacity	Standard	Standard	N\A
Internal buffer size	Supplier dependent	Supplier dependent	N\A
Access Times (typical)	Supplier dependent	Supplier dependent	N\A
Maximum Data Transfer Rates			
Writes	N/A	N/A	N\A
Reads	8x DVD/ 24x CD	8x DVD/ 24x CD	N\A
Power Source			

DVD-ROM	Tower	Small Form Factor	Micro
DC Power Requirements	5V	5V	N\A
DC Current	1300 mA	1300 mA	N\A
Environmental Operating Conditions (Non-Condensing):			
Operating Temperature Range	5C to 50C	5C to 50C	N\A
Relative Humidity Range	10% to 90% RH	10% to 90% RH	N\A
Maximum Wet Bulb Temperature	29C	29C	N\A
Altitude Range	-200 to 3048m	-200 to 3048m	N\A
Environmental Non-Operating Conditions (Non-Condensing):			
Operating Temperature Range	-40C to 65C	-40C to 65C	N\A
Relative Humidity Range	5% to 95% RH	5% to 95% RH	N\A
Maximum Wet Bulb Temperature	38C	38C	N\A
Altitude Range	-200 to 10600 m	-200 to 10600 m	N\A

Table 62. 9.5mm DVD+/-RW

DVD +/- RW	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)	128.0 mm (5.04in)/ 9.5mm (0.37 in)/ 126.1mm (4.97in)	N\A
Weight (max) pounds/kilograms	140 g	140 g	N\A
Interface type and speed	SATA 1.5Gbit/s	SATA 1.5Gbit/s	N\A
Disc Capacity	Standard	Standard	N\A
Internal buffer size	Supplier dependent	Supplier dependent	N\A
Access Times (typical)	Supplier dependent	Supplier dependent	N\A
Maximum Data Transfer Rates			
Writes	N/A	N/A	N\A
Reads	8x DVD/ 24x CD	8x DVD/ 24x CD	N\A
Power Source			
DC Power Requirements	5V	5V	N\A
DC Current	1300 mA	1300 mA	N\A
Environmental Operating Conditions (Non-Condensing):			
Operating Temperature Range	5C to 50C	5C to 50C	N\A
Relative Humidity Range	10% to 90% RH	10% to 90% RH	N\A
Maximum Wet Bulb Temperature	29C	29C	N\A
Altitude Range	-200 to 3048 m	-200 to 3048 m	N\A
Environmental Non-Operating Conditions (Non-Condensing):			
Operating Temperature Range	-40C to 65C	-40C to 65C	N\A
Relative Humidity Range	5% to 95% RH	5% to 95% RH	N\A

DVD +/- RW	Tower	Small Form Factor	Micro
Maximum Wet Bulb Temperature	38C	38C	N/A
Altitude Range	-200 to 10600 m	-200 to 10600 m	N/A

Table 63. SD 4.0 Media Card Reader

Media Card Reader	Tower	Small Form Factor	Micro
External Dimensions inches/ centimeters (Without Bezel – W x H x D)	2.38/(6.04 cm)*1.34/(3.41 cm)*1.11/(2.827)	2.38/(6.04 cm)*1.34/(3.41 cm)*1.11/(2.827)	N/A
Weight (max) pounds/kilograms	~0.056/0.025 kg	~0.056/0.025 kg	N/A
Interface type and speed	PCIe Gen II, 5 GT/s	PCIe Gen II, 5 GT/s	N/A

Media Supported (maximum capacity supported will vary by Flash Media Types)

Media Supported	-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 date 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)	-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 date 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)	N/A
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Identifier	GUID-6BEFFE19-CDD4-49A5-9D32-B7FE78AE2CA2
Status	Draft

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.

Table 64. Chassis Form factor

	Tower/Small form factor	Micro
Chassis - (New, Leveraged, ODM, etc)	D9	D9
Industrial design	Professional 2016 for 3 Series, single bezel with SD card filler; must meet thermal requirements with optional dust filter	Professional 2016, must meet thermal requirements with optional dust filter

Identifier	GUID-777A7B0E-B37E-4121-A5D3-40E323DDBD10
Status	Released

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.

This OptiPlex 3070 system is TCO 5.0 Certified.

Table 65. Regulatory/Environmental Certifications

	Tower/ Small form factor/ Micro
Energy Star 7.0/7.1 Compliant (Windows & Ubuntu)	Yes
Br/CL Reduction:	Yes
Plastic parts above 25 grams shall not contain greater than 1000 ppm chlorine or greater than 1000 ppm bromine at the homogenous level.	
Following can be excluded:	
- Printed circuit boards, cable and wiring, fans, and electronic components	
Anticipated Required Criteria for EPEAT Revision Effective 1H 2018	
Minimum 2% Post-Consumer Recycled (PCR) plastics as standard in product.	Yes
Anticipated Required Criteria for EPEAT Revision Effective 1H 2018	

Higher level % Post-Consumer Recycled (PCR) plastics in product: Yes

* DT, Workstations, Thin Clients - 10%

* Integrated Desktop Computers (AIO) 15%

(Anticipated 1 Optional point in the EPEAT Revision for higher level PCR)

BFR / PVC Free: (aka Halogen Free) : The system shall comply with Yes the limits defined in Dell specification ENV0199 - BFR/CFR/PVC-Free Specification.

Identifier

GUID-75CA89C0-6285-4502-9C2B-FC49CA6B5290

Status

Draft

Mil-SPEC

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

Table 66. MT - Military specifications

Test Category	Test Method	Test Parameters
Non-operating altitude test Altitude chamber	Method 500.5 Procedure I	Test specification: <ul style="list-style-type: none"> Altitude: 15,000 ft Temperature: 21°C Duration: 1 hour
Operating altitude test Altitude chamber	Method 500.5 Procedure II	Test specification: <ul style="list-style-type: none"> Altitude: 15,000 ft Temperature: 21°C Duration: 1 hour
Non-operating high temperature test Programmable temperature and humidity chamber	Method 501.5 Procedure I	Duration: 24 hours Refer to MIL-spec Table 501.5-III High temperature cycles, climate category A1 - Hot dry.
Operating high temperature test Programmable temperature and humidity chamber	Method 501.5 Procedure II	Test specification: <ul style="list-style-type: none"> Temperature: 60°C Duration: 120 hours
Non-operating low temperature test Programmable temperature and humidity chamber	Method 502.5 Procedure I	Test specification: <ul style="list-style-type: none"> Temperature: -51°C Duration: 24 hours
Operating low temperature test Programmable temperature and humidity chamber	Method 502.5 Procedure II	Test specification: <ul style="list-style-type: none"> Temperature: -29°C Duration: 24 hours
Humidity test	Method 507.6 Procedure I	Duration: Refer to MIL-spec Table 507.5-I Induced: Hot-humid.

Test Category	Test Method	Test Parameters
Programmable temperature and humidity chamber		Duration: Refer to MIL-spec Table 507.5-II Induced: Non-hazardous items.
Mechanical shock test - I Non-operating	Method 516.6 Procedure VI	Test specification: <ul style="list-style-type: none"> Drop height: <ul style="list-style-type: none"> The lifted edge of the chassis has been raised 100 mm (4 in) above the horizontal bench top. The lifted edge of the chassis is just below the point of perfect balance Test edge: <ul style="list-style-type: none"> Front edge: Back edge Left edge: Right edge Test cycles: Total 4 drops 2 inch of plywood
Mechanical shock test - II Non-operating	Operating (execute "BurnIn test")	Test specification: <ul style="list-style-type: none"> Pulse shape: Half-sine Acceleration: 185 gms Pulse duration: 2 ms Shock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes) No. of shock: 1 shock/ face (total 6 shocks)
Mechanical shock test - III Non-operating	Method 516.6 Procedure I	Test specification: <ul style="list-style-type: none"> Pulse shape: Trapezoidal Acceleration: 30 g Velocity change: 270 inch/second Shock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes) No. of shock: 1 shock/ face (total 6 shocks)
Mechanical shock test - IV Non-operating	Operating (execute "BurnIn test")	Test specification: <ul style="list-style-type: none"> Pulse shape: Half-sine Acceleration: 185 gms Pulse duration: 2 ms Shock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes) No. of shock: 2shock/ face (total 12 shocks)
Operating vibration test	Method 514.6 Procedure I, category 4	Frequency: (10 - 500) Hz Direction: X, Y, Z axes Duration: 1 hour/ axis Refer table in Mil spec test report
Non-operating vibration test	Method 514.6 Procedure I, category 24	Frequency: (20 - 2000) Hz <ul style="list-style-type: none"> Frequency: 20 Hz <ul style="list-style-type: none"> Left slope (dB/Oct.): - PSD (G^2/Hz): 0.04 Right slope (dB/Oct.): 0 Frequency: 1000 Hz <ul style="list-style-type: none"> Left slope (dB/Oct.): 0

Test Category	Test Method	Test Parameters
		<ul style="list-style-type: none"> – PSD (G^2/Hz): 0.04 – Right slope (dB/Oct.): -6 <ul style="list-style-type: none"> • Frequency: 2000 Hz <ul style="list-style-type: none"> – Left slope (dB/Oct.): -6 – PSD (G^2/Hz): 0.01 – Right slope (dB/Oct.): - <p>Direction: X, Y, Z axes</p> <p>Duration: 30 mins/ axis</p>
Blowing dust test:	Method 510.5 Procedure I	<p>Test specification:</p> <ul style="list-style-type: none"> • Test temperature: <ul style="list-style-type: none"> – Non-operating: $(25\pm 2)^{\circ}C$ – Operating: $(60\pm 2)^{\circ}C$ • Dust concentration: $(10.6\pm 7) g/m^3$ • Air flow velocity: 8.9 m/s (1750 ft/min). Approximately 20 mph • Test duration: 12 hours

Table 67. SFF - Military specifications

Test Category	Test Method	Test Parameters
Mechanical shock test - I Operating	Method 516.6 Procedure I	<p>Test specification:</p> <ul style="list-style-type: none"> • Pulse shape: Half-sine • Acceleration: 185 gms • Pulse duration: 2 ms • Shock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes) • No. of shock: 1 shock/ face (total 6 shocks)
Mechanical shock test - II	Method 516.6 Procedure II	<p>Test specification:</p> <ul style="list-style-type: none"> • Pulse shape: Square wave shock • Acceleration: 30 g • Velocity change: 772 cm/second • Shock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes) • No. of shock: 1 shock/ face (total 6 shocks)
Mechanical shock test - V Non-operating	Method 516.6 Procedure V	<p>Test specification:</p> <ul style="list-style-type: none"> • Pulse shape: Half-sine • Acceleration: 185 gms • Pulse duration: 2 ms • Shock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes) • No. of shock: 2shock/ face (total 12 shocks)
Mechanical shock test - VI Non-operating	Method 516.6 Procedure VI	<p>Test specification:</p> <ul style="list-style-type: none"> • Drop height: <ul style="list-style-type: none"> – The lifted edge of the chassis has been raised 100 mm (4 in) above the horizontal bench top.

Test Category	Test Method	Test Parameters
		<ul style="list-style-type: none"> – The chassis forms an angle of 45° with the horizontal bench top. – The lifted edge of the chassis is just below the point of perfect balance • 4 edge • 1 drop per edge • Test cycles: Total 4 drops • 2 inch of plywood
Operating vibration test	Method 514.6 Procedure I, category 4	<p>Frequency: (10 - 500) Hz</p> <ul style="list-style-type: none"> • Frequency: 10 Hz <ul style="list-style-type: none"> – PSD (G²/Hz): 0.015 • Frequency: 40 Hz <ul style="list-style-type: none"> – PSD (G²/Hz): 0.015 • Frequency: 500 Hz <ul style="list-style-type: none"> – PSD (G²/Hz): 0.00015 <p>Left and back side: G = 1.04g</p> <p>Duration: 1 hour on bottom</p>
Non-operating vibration test	Method 514.6 Procedure I, category 24	<p>Frequency: (20 - 2000) Hz</p> <ul style="list-style-type: none"> • Frequency: 20 Hz <ul style="list-style-type: none"> – Slope (dB/Oct.): 0 – PSD (G²/Hz): 0.04 • Frequency: 1000 Hz <ul style="list-style-type: none"> – Slope (dB/Oct.): 0 – PSD (G²/Hz): 0.04 • Frequency: 2000 Hz <ul style="list-style-type: none"> – Slope (dB/Oct.): -6 – PSD (G²/Hz): 0.01 <p>Left and back side: G = 7.69g</p> <p>Duration: 30 mins on bottom</p>
Blowing dust test: <ul style="list-style-type: none"> • Non-operating: (25±2)°C • Operating: (35±2)°C 	Method 510.5 Procedure I	<p>Test condition:</p> <ul style="list-style-type: none"> • 25°C: 1.5 m/s, relative humidity ≤30%, (10.6±7) g/m³, non-operation for 6 hours. • 60°C: no dust, relative humidity ≤30%, non-Operation for 1 hour. • 60°C: 8.9m/s, relative humidity ≤30%, (10.6±7)g/m³, non-operation for 6 hours. • Test duration: 13 hours

Table 68. Micro - Military specifications

Test Category	Test Method	Test Parameters
Non-operating altitude test	Method 500.5 Procedure I	<p>Test specification:</p> <ul style="list-style-type: none"> • Altitude: 15,000 ft

Test Category	Test Method	Test Parameters
Altitude chamber		<ul style="list-style-type: none"> Temperature: 21°C Duration: 1 hour
Operating altitude test	Method 500.5 Procedure II	Test specification:
Altitude chamber		<ul style="list-style-type: none"> Altitude: 15,000 ft Temperature: 21°C Duration: 1 hour
Non-operating high temperature test	Method 501.5 Procedure I	Test specification:
Programmable temperature and humidity chamber		<ul style="list-style-type: none"> Temperature: 71°C Duration: 168 hours
Operating high temperature test	Method 501.5 Procedure II	Test specification:
Programmable temperature and humidity chamber		<ul style="list-style-type: none"> Temperature: 63°C Duration: 120 hours
Non-operating low temperature test	Method 502.5 Procedure I	Test specification:
Programmable temperature and humidity chamber		<ul style="list-style-type: none"> Temperature: -51°C Duration: 24 hours
Operating low temperature test	Method 502.5 Procedure II	Test specification:
Programmable temperature and humidity chamber		<ul style="list-style-type: none"> Temperature: -29°C Duration: 24 hours
Humidity test	Method 507.6 Procedure I	Duration: Refer to MIL-spec Table 507.6-I Induced: Hot-humid.
Programmable temperature and humidity chamber		Duration: Refer to MIL-spec Table 507.6-II Induced: Non-hazardous items.
Mechanical shock test - I	Method 516.6 Procedure VI	Test specification:
Non-operating		<ul style="list-style-type: none"> Drop height: The lifted edge of the chassis has been raised 100 mm (4 in) above the horizontal bench top. Test face: Bottom down Test cycles: Total 4 drops 2 inch of plywood
Mechanical shock test - II	Operating (execute "BurnIn test")	Test specification:
Non-operating		<ul style="list-style-type: none"> Pulse shape: Half-sine Acceleration: 185 gms Pulse duration: 2 ms Shock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes) No. of shock: 1 shock/ face (total 6 shocks)
Mechanical shock test - III	Method 516.6 Procedure I	Test specification:
Non-operating		<ul style="list-style-type: none"> Pulse shape: Trapezoidal Acceleration: 30 g Velocity change: 270 inch/second Shock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes)

Test Category	Test Method	Test Parameters
Mechanical shock test - IV Non-operating	Operating (execute "BurnIn test")	<ul style="list-style-type: none"> No. of shock: 1 shock/ face (total 6 shocks) <p>Test specification:</p> <ul style="list-style-type: none"> Pulse shape: Half-sine Acceleration: 185 gms Pulse duration: 2 ms Shock direction: 6 faces ($\pm X$, $\pm Y$, $\pm Z$ axes) No. of shock: 1 shock/ face (total 6 shocks)
Operating vibration test	Method 514.6 Procedure I, category 4	<p>Frequency: (10 - 500) Hz</p> <ul style="list-style-type: none"> Frequency: 10 Hz <ul style="list-style-type: none"> Left slope (dB/Oct.): - PSD (G^2/Hz): 0.015 Right slope (dB/Oct.): 0 Frequency: 40 Hz <ul style="list-style-type: none"> Left slope (dB/Oct.): 0 PSD (G^2/Hz): 0.015 Right slope (dB/Oct.): -5.4 Frequency: 500 Hz <ul style="list-style-type: none"> Left slope (dB/Oct.): -5.4 PSD (G^2/Hz): 0.00015 Right slope (dB/Oct.): - <p>Direction: X, Y, Z axes</p> <p>Duration: 30 mins/ axis</p>
Non-operating vibration test	Method 514.6 Procedure I, category 24	<p>Frequency: (20 - 2000) Hz</p> <ul style="list-style-type: none"> Frequency: 20 Hz <ul style="list-style-type: none"> Left slope (dB/Oct.): - PSD (G^2/Hz): 0.04 Right slope (dB/Oct.): 0 Frequency: 1000 Hz <ul style="list-style-type: none"> Left slope (dB/Oct.): 0 PSD (G^2/Hz): 0.04 Right slope (dB/Oct.): -6 Frequency: 2000 Hz <ul style="list-style-type: none"> Left slope (dB/Oct.): -6 PSD (G^2/Hz): 0.01 Right slope (dB/Oct.): - <p>Direction: X, Y, Z axes</p> <p>Duration: 30 mins/ axis</p>
Blowing dust test: <ul style="list-style-type: none"> Non-operating: (25\pm2)$^{\circ}$C Operating: (35\pm2)$^{\circ}$C 	Method 510.5 Procedure I	<p>Test specification:</p> <ul style="list-style-type: none"> Test temperature: <ul style="list-style-type: none"> Non-operating: (25\pm2)$^{\circ}$C

Test Category	Test Method	Test Parameters
		<ul style="list-style-type: none"> – Operating: (60±2)°C • Dust concentration: (10.6±7) g/m³ • Air flow velocity: 8.9 m/s (1750 ft/min). Approximately 20 mph • Test duration: 12 hours

Identifier	GUID-73D867D3-4C32-44C7-9F31-D8F184C08A9D
Status	Draft

Acoustic Noise Emission Information Tower

Table 69. OptiPlex 3070 Tower

Component	Test Configuration
CPU	Intel Core i7-7700 (QC/8 MB/8T/3.6 GHz/65 W)
Memory	16 GB
HDD (#, capacity)	2.5 inches 2 TB 7200 rpm
Optical	DVD+/-RW
Graphics Adapter	Radeon R7-450

Table 70. Declared Sound Power (LWAd)

Operating Mode	Declared Sound Power(LWAd)
Idle	3.6
HDD Operating	3.7
CPU Stressed	3.9
ODD Operating	3.8

Table 71. A-Weighted Sound Pressure Level (dB)

Declared Sound Pressure (LpA)				
	Tabletop System		Floor Standing System	
Operating Mode	Operator Position	Bystander Position	Operator Position	Bystander Position
Idle	25.4	N/A	N/A	N/A
CPU Stressed	26.3	N/A	N/A	N/A

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.

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

Identifier	GUID-9CD172A2-2680-4540-96EE-DFDF31EDEFD3
Status	Draft

Acoustic Noise Emission Information Small Form Factor

Table 72. OptiPlex 3070 Small Form Factor

Component	Test Configuration
CPU	Intel Core i7-7700 (QC/8 MB/8T/3.6 GHz/65 W)
Memory	4 GB
HDD (#, capacity)	3.5 inches 2 TB 7200 RPM
Optical	DVD+/-RW
Graphics Adapter	Radeon R5-430

Table 73. Declared Sound Power (LWAd)

Operating Mode	Declared Sound Power(LWAd)
Idle	2.80
HDD Operating	2.86
CPU Stressed	3.23
ODD Operating	4.44

Table 74. A-Weighted Sound Pressure Level (dB)

Declared Sound Pressure (LpA)				
	Tabletop System		Floor Standing System	
Operating Mode	Operator Position	Bystander Position	Operator Position	Bystander Position
Idle	24.1	18.1	17.7	16.7
HDD Operating	24.4	18.5	17.9	16.8
CPU Stressed	27.1	20.9	18.1	17.3
ODD Operating	39.9	32.8	30.6	29.5

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.

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

Identifier	GUID-E709E558-8AFF-4745-B698-4727985B0F82
Status	Draft

Acoustic Noise Emission Information Micro

Table 75. OptiPlex 3070 Micro

Component	Test Configuration
CPU	Intel Core i7-7700T (QC/8 MB/8T/3.6 GHz/65 W)
Memory	16 GB
HDD (#, capacity)	2.5 inches 2 TB 5400 RPM
Optical	N/A

Table 76. Declared Sound Power (LWAd)

Operating Mode	Declared Sound Power(LWAd)
Idle	2.9
HDD Operating	3.2
ODD Operating	N\A

Table 77. A-Weighted Sound Pressure Level (dB)

Declared Sound Pressure (LpA)				
	Tabletop System		Floor Standing System	
Operating Mode	Operator Position	Bystander Position	Operator Position	Bystander Position
Idle	17.9	16.5	N\A	N\A
HDD Operating	22.5	19.2	N\A	N\A
ODD Operating	N\A	N\A	N\A	N\A

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.

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

Identifier	GUID-BE16C181-0959-44C3-B434-1
Status	Released

Getting help

Identifier	GUID-7A3627F9-0363-4515-A1D4-1B7878F4B8C4
Status	Released

Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

- 1 Go to **Dell.com/support**.
- 2 Select your support category.
- 3 Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
- 4 Select the appropriate service or support link based on your need.