# OptiPlex Tower 7010

## Technical Guidebook

Regulatory Model: D32M
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DELL Technologies

## 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.**

# Contents

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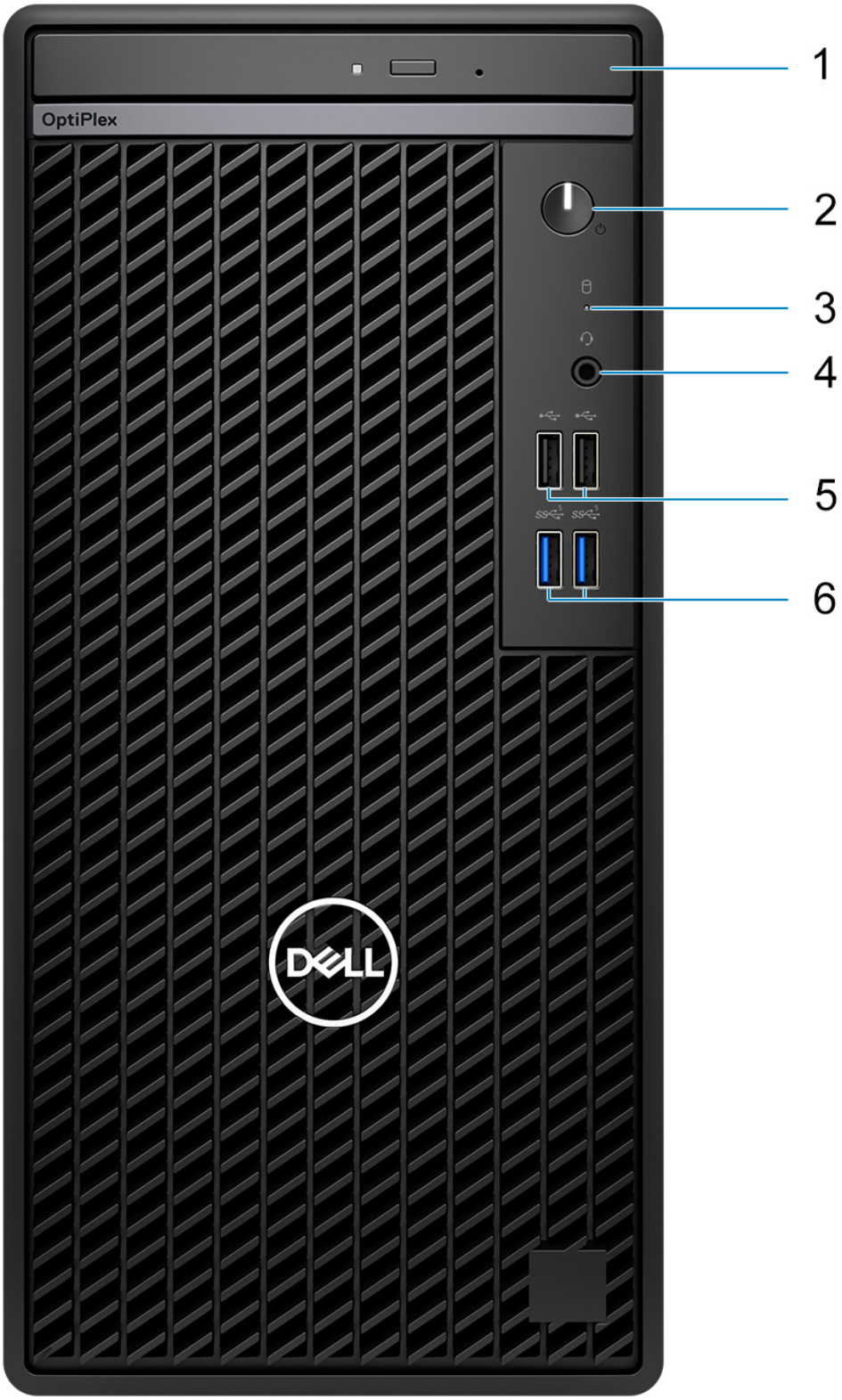
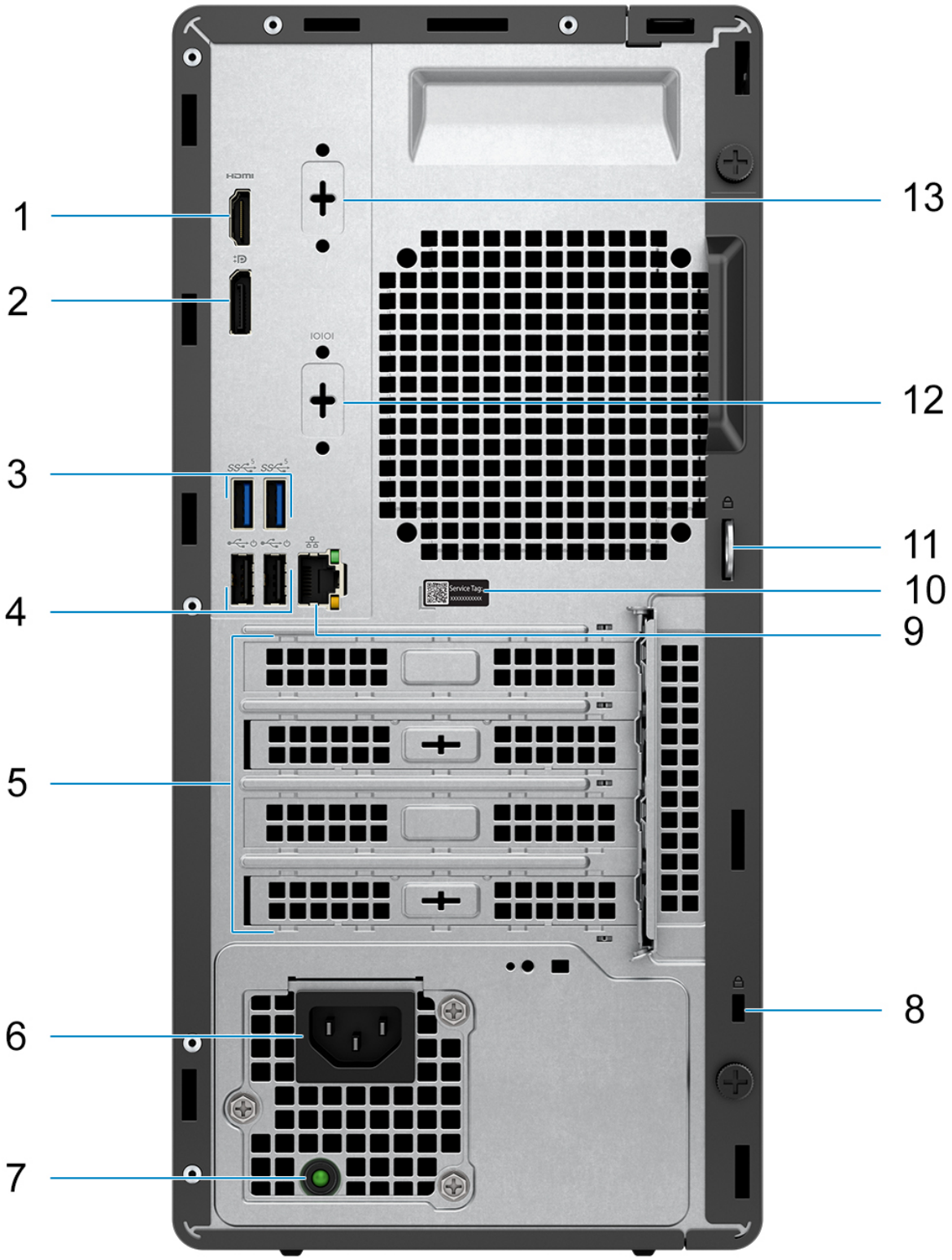
# Views of OptiPlex Tower 7010

## Front



1. Optical disk-drive (optional)
2. Power button with diagnostic LED
3. Hard-drive activity light
4. Universal audio jack port
5. Two USB 2.0 (480 Mbps) ports
6. Two USB 3.2 Gen 1 (5 Gbps) ports

# Back



1. HDMI 1.4b port

   **NOTE:** Maximum resolution up to 1920 x 1200 @60Hz
2. DisplayPort 1.4a port (HBR2)

   **NOTE:** Maximum resolution up to 4096 x 2304 @60Hz
3. Two USB 3.2 Gen 1 (5 Gbps) ports
4. Two USB 2.0 (480 Mbps) ports with Smart Power On
5. Three expansion card slots
6. Power cord connector port
7. Power supply diagnostic light
8. Security-cable slot (for Kensington locks)
9. RJ45 Ethernet port (10/100/1000 Mbps)
10. Service tag label
11. Padlock ring
12. Serial port (optional)
13. One video port (DisplayPort 1.4a (HBR3)/HDMI 2.1/VGA) (optional)

    **NOTE:** Maximum resolution
    - **HDMI 2.1**: up to 4096 x 2160 @60Hz
    - **DisplayPort 1.4a (HBR3)**: up to 5120 x 3200 @60Hz
    - **VGA**: up to 1920 x 1200 @60Hz

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# Specifications of OptiPlex Tower 7010

## Dimensions and weight

The following table lists the height, width, depth, and weight of your OptiPlex Tower 7010.

**Table 1. Dimensions and weight**

| Description | Values |
|---|---|
| Height | 324.30 mm (12.77 in.) |
| Width | 154.00 mm (6.06 in.) |
| Depth | 292.20 mm (11.50 in.) |
| Weight<br>**NOTE:** The weight of your computer depends on the configuration ordered and manufacturing variability. | • Minimum - 5.32 kg (11.72 lb)<br>• Maximum - 6.52 kg (14.38 lb) |

## Processor

The following table lists the details of the processors that are supported by your OptiPlex Tower 7010.

### Table 2. Processor

| Description | Option one | Option two | Option three | Option four | Option five | Option six | Option seven | Option eight |
|---|---|---|---|---|---|---|---|---|
| Processor type | 13th Generation Intel Core i3-13100 | 13th Generation Intel Core i5-13400 | 13th Generation Intel Core i5-13500 | 13th Generation Intel Core i5-13600 | Intel Celeron G 6900 | Intel Pentium G 7400 | 12th Generation Intel Core i3-12100 | 12th Generation Intel Core i5-12500 |
| Processor wattage | 60 W | 65 W | 65 W | 65 W | 46 W | 46 W | 60 W | 65 W |
| Processor total core count | 4 | 10 | 14 | 14 | 2 | 2 | 4 | 6 |
| Performance-cores | 4 | 6 | 6 | 6 | 2 | 2 | 4 | 6 |
| Efficient-cores | 0 | 4 | 8 | 8 | 0 | 0 | 0 | 0 |
| Processor total thread counts<br>**NOTE:** Intel® Hyper-Threading Technology is only available on Performance-cores. | 8 | 16 | 20 | 20 | 2 | 4 | 8 | 12 |
| Processor speed | 3.40 GHz to 4.50 GHz | 2.50 GHz to 4.60 GHz | 2.50 GHz to 4.80 GHz | 2.70 GHz to 5.00 GHz | up to 3.40 GHz | up to 3.70 GHz | up to 4.30 GHz | up to 4.60 GHz |
| Performance-cores frequency | | | | | | | | |
| Processor base frequency | 3.40 GHz | 2.50 GHz | 2.50 GHz | 2.70 GHz | 3.40 GHz | 3.70 GHz | 3.30 GHz | 3.00 GHz |
| Maximum turbo frequency | 4.50 GHz | 4.60 GHz | 4.80 GHz | 5.00 GHz | N/A | N/A | 4.30 GHz | 4.60 GHz |
| Efficient-cores frequency | | | | | | | | |
| Processor base frequency | N/A | 1.80 GHz | 1.80 GHz | 2.00 GHz | N/A | N/A | N/A | N/A |
| Maximum turbo frequency | N/A | 3.30 GHz | 3.50 GHz | 3.70 GHz | N/A | N/A | N/A | N/A |
| Processor cache | 12 MB | 20 MB | 24 MB | 24 MB | 4 MB | 6 MB | 12 MB | 18 MB |

### Table 2. Processor (continued)

| Description | Option one | Option two | Option three | Option four | Option five | Option six | Option seven | Option eight |
|---|---|---|---|---|---|---|---|---|
| Integrated graphics | Intel UHD Graphics 730 | Intel UHD Graphics 730 | Intel UHD Graphics 770 | Intel UHD Graphics 770 | Intel UHD Graphics 710 | Intel UHD Graphics 710 | Intel UHD Graphics 730 | Intel UHD Graphics 770 |

# Chipset

The following table lists the details of the chipset supported by your OptiPlex Tower 7010.

### Table 3. Chipset

| Description | Values |
|---|---|
| Chipset | Intel Q670 |
| Processor | • 13th Generation Intel Core i3/i5<br>• Intel Pentium Gold<br>• Intel Celeron |
| DRAM bus width | 64-bit |
| Flash EPROM | 32 MB RPMC+16 MB nRPMC |
| PCIe bus | Up to Gen3 |

# Operating system

Your OptiPlex Tower 7010 supports the following operating systems:

- Windows 11 Home
- Windows 11 Pro
- Windows 11 Pro Downgrade (Windows 10 image)
- Windows 11 Pro National Education
- Windows 10 CMIT Government Edition (China only)
- Ubuntu Linux 22.04 LTS

# Memory

The following table lists the memory specifications of your OptiPlex Tower 7010.

### Table 4. Memory specifications

| Description | Values |
|---|---|
| Memory slots | Two-UDIMM slots |
| Memory type | DDR4 |
| Memory speed | • 3200 MT/s |
| Maximum memory configuration | 64 GB |
| Minimum memory configuration | 4 GB |

### Table 4. Memory specifications (continued)

| Description | Values |
|---|---|
| Memory size per slot | 4 GB, 8 GB, 16 GB, and 32 GB |
| Memory configurations supported | • 4 GB, 1 x 4 GB, DDR4, 3200 MT/s, single-channel<br>• 8 GB, 1 x 8 GB, DDR4, 3200 MT/s, single-channel<br>• 8 GB, 2 x 4 GB, DDR4, 3200 MT/s, dual-channel<br>• 16 GB, 1 x 16 GB, DDR4, 3200 MT/s, single-channel<br>• 16 GB, 2 x 8 GB, DDR4, 3200 MT/s, dual-channel<br>• 32 GB, 1 x 32 GB, DDR4, 3200 MT/s, single-channel<br>• 32 GB, 2 x 16 GB, DDR4, 3200 MT/s, dual-channel<br>• 64 GB, 2 x 32 GB, DDR4, 3200 MT/s, dual-channel |

## Memory matrix

The following table lists the memory configurations supported on your OptiPlex Tower 7010.

### Table 5. Memory matrix

| Configuration | Slot | |
|---|---|---|
| | UDIMM1 | UDIMM2 |
| 4 GB DDR4 | 4 GB | NA |
| 8 GB DDR4 | 8 GB | NA |
| 8 GB DDR4 | 4 GB | 4 GB |
| 16 GB DDR4 | 16 GB | NA |
| 16 GB DDR4 | 8 GB | 8 GB |
| 32 GB DDR4 | 32 GB | NA |
| 32 GB DDR4 | 16 GB | 16 GB |
| 64 GB DDR4 | 32 GB | 32 GB |

# External ports

The following table lists the external ports of your OptiPlex Tower 7010.

### Table 6. External ports

| Description | Values |
|---|---|
| Network port | • One RJ45 Ethernet port, 1 GHz<br>• One RJ45 Ethernet port, 2.5 GHz (optional) |
| USB ports | Front:<br>• Two USB 2.0 (480 Mbps) ports<br>• Two USB 3.2 Gen 1 (5 Gbps) ports<br>Rear:<br>• Two USB 2.0 (480 Mbps) ports with Smart Power On<br>• Two USB 3.2 Gen 1 (5 Gbps) ports |
| Audio port | Universal audio jack (Front) |
| Video port | • One DisplayPort 1.4a (HBR2) |

### Table 6. External ports (continued)

| Description | Values |
|---|---|
| | **NOTE:** Maximum resolution up to 4096 x 2304 @60Hz<br>• One HDMI 1.4b port<br>**NOTE:** Maximum resolution up to 1920 x 1200 @60Hz<br>• One Optional video port (/Displayport 1.4a port (HBR3)/ HDMI 2.1/VGA)<br>**NOTE:** Maximum resolution<br>○ **HDMI 2.1**: Up to 4096 x 2160 @60Hz<br>○ **DisplayPort 1.4a (HBR3)**: Up to 5120 x 3200 @60Hz<br>○ **VGA**: Up to 1920 x 1200 @60Hz<br>**NOTE:** Download and install the latest Intel Graphics driver from www.dell.com/support to enable multiple displays. |
| I/O port | One Serial port (optional) |
| Media-card reader | N/A |
| Power-adapter port | N/A |
| Security-cable slot | One security-cable slot (for Kensington locks) |

# Internal slots

The following table lists the internal slots of your OptiPlex Tower 7010.

### Table 7. Internal slots

| Description | Values |
|---|---|
| Expansion | • 1 Full-height Gen 3 PCIe x16 slot<br>• 2 Full-height Gen 3 PCIe x1 slot |
| SATA | • 3 SATA slots for 2.5-inch/3.5-inch hard-drive and slim optical drive |
| M.2 | • One M.2 2230 slot for WiFi and Bluetooth card<br>• One M.2 2230/2280 slots for solid state drives<br>**NOTE:** To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at www.dell.com/support. |

# Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications of your OptiPlex Tower 7010.

### Table 8. Ethernet specifications

| Description | Values |
|---|---|
| Model number | Realtek 8111HD |
| Transfer rate | 10/100/1000 Mbps |

# Wireless module

The following table lists the Wireless Local Area Network (WLAN) module specifications of your OptiPlex Tower 7010.

### Table 9. Wireless module specifications

| Description | Option one | Option two | Option three |
|---|---|---|---|
| Model number | Intel AX211<br>**NOTE:** Intel AX211 is always tied with External SMA antenna. | Realtek RTL8852BE | Realtek RTL8821CE |
| Transfer rate | 2400 Mbps | 1201 Mbps | Up to 433 Mbps |
| Frequency bands supported | 2.40 GHz/5 GHz/6 GHz<br>**NOTE:** The 6 GHz frequency is supported on computers that are installed with Windows 11 operating system only. | 2.40 GHz/5 GHz | 2.4 GHz/5 GHz |
| Wireless standards | • WiFi 802.11a /b/g<br>• Wi-Fi 4 (WiFi 802.11n)<br>• Wi-Fi 5 (WiFi 802.11ac)<br>• Wi-Fi 6E (WiFi 802.11ax) | • WiFi 802.11a /b/g<br>• Wi-Fi 4 (WiFi 802.11n)<br>• Wi-Fi 5 (WiFi 802.11ac)<br>• Wi-Fi 6 (WiFi 802.11ax) | • WiFi 802.11a /b/g<br>• Wi-Fi 4 (WiFi 802.11n)<br>• Wi-Fi 5 (WiFi 802.11ac) |
| Encryption | • 64-bit/128-bit WEP<br>• AES-CCMP<br>• TKIP | • 64-bit/128-bit WEP<br>• AES-CCMP<br>• TKIP | • 64-bit/128-bit WEP<br>• AES-CCMP<br>• TKIP |
| Bluetooth wireless card | Bluetooth wireless card | Bluetooth wireless card | Bluetooth wireless card |
| | **NOTE:** The version of the Bluetooth wireless card may vary depending on the operating system that is installed on your computer. | | |

# Audio

The following table lists the audio specifications of your OptiPlex Tower 7010.

### Table 10. Audio specifications

| Description | Values |
|---|---|
| Audio type | High Definition Audio |
| Audio controller | Realtek ALC3246-CG |
| Internal audio interface | Intel HDA (high-definition audio) |
| External audio interface | • Universal audio jack<br>• One Line-out audio port with re-tasking to Line-in (rear) |

# Storage

This section lists the storage options on your OptiPlex Tower 7010.

### Table 11. Storage Matrix

| Storage | 1st 2.5-inch hard drive | 2nd 2.5-inch hard drive | Single 3.5-inch hard drive | Single M.2 socket |
|---|---|---|---|---|
| 2.5-inch hard drive | Yes | No | No | No |
| Dual 2.5-inch hard drive | Yes | Yes | No | No |
| 3.5-inch hard drive | No | No | Yes | No |
| 2.5-inch hard drive + 3.5-inch hard drive | Yes | No | Yes | No |
| 3.5-inch hard drive + 2.5-inch hard drive | No | Yes | Yes | No |
| M.2 solid state drive + 3.5-inch hard drive | No | No | Yes | Yes |
| M.2 solid state drive + 2.5-inch hard drive | No | Yes | No | Yes |
| M.2 solid state drive + Dual 2.5-inch hard drive | Yes | Yes | No | Yes |
| M.2 16 GB/32 GB + 2.5-inch hard drive | Yes | No | No | Yes |
| M.2 16 GB/32 GB + Dual 2.5-inch hard drive | Yes | Yes | No | Yes |
| M.2 16 GB/32 GB + 3.5-inch hard drive | No | No | Yes | Yes |
| M.2 16 GB/32 GB + 2.5-inch hard drive + 3.5-inch hard drive | Yes | No | Yes | Yes |
| M.2 16 GB/32 GB + 3.5-inch hard drive + 2.5-inch hard drive | No | Yes | Yes | Yes |
| M.2 solid state drive | No | No | No | Yes |

### Table 12. Storage specifications

| Storage type | Interface type | Capacity |
|---|---|---|
| 2.5-inch, 7200 RPM, hard-disk drive | SATA 3.0 | Up to 1 TB |
| 3.5-inch, 7200 RPM, hard-disk drive | SATA 3.0 | Up to 2 TB |
| M.2 2230 solid state drive | PCIe NVMe, Class 25 | Up to 2 TB |
| M.2 2230 solid state drive | PCIe NVMe, Class 35 | Up to 1 TB |
| M.2 2230 Opal Self-Encrypting solid state drive | PCIe NVMe, Class 35 | 256 GB |
| M.2 2280 solid state drive | PCIe NVMe, Class 40 | Up to 1 TB |
| M.2 2280 Opal Self-Encrypting solid state drive | PCIe NVMe, Class 40 | Up to 1 TB |

# Power ratings

The following table lists the power rating specifications of OptiPlex Tower 7010.

### Table 13. Power ratings

| Description | Option one | Option two |
|---|---|---|
| Type | 180 W internal power supply unit (PSU), 85% Efficient, 80 Plus Bronze | 300 W internal power supply unit (PSU), 92% Efficient, 80 Plus Platinum |
| Input voltage | 90 VAC–264 VAC | 90 VAC–264 VAC |
| Input frequency | 47 Hz-63 Hz | 47 Hz-63 Hz |
| Input current (maximum) | 3.0 A | 4.2 A |
| Output current (continuous) | • 12 VA/15 A<br>• 12 VB/14 A<br>Standby mode:<br>• 12 VA/1.5 A<br>• 12 VB/3.3 A | • 12 VA/18 A<br>• 12 VB/18 A<br>Standby mode:<br>• 12 VA/1.5 A<br>• 12 VB/3.3 A |
| Rated output voltage | • +12 VA<br>• +12 VB | • +12 VA<br>• +12 VB |
| Temperature range: | | |
| Operating | 5°C-45°C (41°F-113°F) | 5°C-45°C (41°F-113°F) |
| Storage | -40°C-70°C (-40°F-158°F) | -40°C-70°C (-40°F-158°F) |

# Power supply connector

The following table lists the Power supply connector specifications of your OptiPlex Tower 7010.

### Table 14. Power supply connector

| Power supply unit | Power supply connectors |
|---|---|
| 180 W (80 PLUS Bronze) | • Two 4 pin connectors for processor<br>• One 8 pin connector for system board |
| 300 W (80 PLUS Platinum) | • Two 4 pin connectors for processor<br>• One 8 pin connector for system board |

# GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your OptiPlex Tower 7010.

### Table 15. GPU—Integrated

| Controller | External display support | Memory size | Processor |
|---|---|---|---|
| Intel UHD Graphics 710 | • One DisplayPort 1.4a port (HBR2)<br>• One HDMI 1.4b port (1920x1200@60Hz max. resolution) | Shared system memory | Intel Pentium G7400/ Intel Celeron G6900 processors |

### Table 15. GPU—Integrated (continued)

| Controller | External display support | Memory size | Processor |
|---|---|---|---|
| Intel UHD Graphics 730 | • One DisplayPort 1.4a port (HBR2)<br>• One HDMI 1.4b port (1920x1200@60Hz max. resolution) | Shared system memory | • 13th Generation Intel Core i3-13100 and i5-13400 processors<br>• 12th Generation Intel Core i3-12100 processor |
| Intel UHD Graphics 770 | • One DisplayPort 1.4a port (HBR2)<br>• One HDMI 1.4b port (1920x1200@60Hz max. resolution) | TBD | • 13th Generation Intel Core i5-13500 and i5-13600 processors<br>• 12th Generation Intel Core i3-12500 processor |

## Video port resolution (GPU—Integrated)

### Table 16. Video port resolution (GPU—Integrated)

| Graphics card | Video ports | Maximum supported resolution |
|---|---|---|
| Intel UHD Graphics | • One HDMI 1.4b port<br>• One DisplayPort 1.4a port (HBR2)<br>• One Optional video port (DisplayPort 1.4a (HBR3)/HDMI 2.1/VGA) | • **HDMI 1.4b port** - 1920 x 1200 @ 60 Hz<br>• **DisplayPort 1.4a port** - 4096 x 2304 @ 60 Hz<br>• **One Optional video port** -<br>  ○ **HDMI 2.1**: up to 4096 x 2160 @60Hz<br>  ○ **DisplayPort 1.4a (HBR3)**: up to 5120 x 3200 @60Hz<br>  ○ **VGA**: up to 1920 x 1200 @60Hz |

# External display support (GPU—Integrated)

## Display support for the integrated graphics card

### Table 17. Display support specifications

| Graphics card | Supported external displays |
|---|---|
| Intel UHD Graphics 710/730/770 | 3 |
| Intel UHD Graphics 710/730/770 + optional module | 4 |

# GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your OptiPlex Tower 7010.

### Table 18. GPU—Discrete

| Controller | External display support | Memory size | Memory type |
|---|---|---|---|
| AMD Radeon RX6300 | Two DisplayPort 1.4 ports | 2 GB | GDDR6 |
| AMD Radeon RX6500 | Two DisplayPort 1.4 ports | 4 GB | GDDR6 |

## Video port resolution

The following table lists the video port resolution for your OptiPlex Tower 7010.

### Table 19. Video port resolution

| Graphics card | Video ports | Maximum supported resolution |
|---|---|---|
| AMD Radeon RX6300 | • 2 DisplayPort 1.4a ports | • 8K 120 Hz, 8K @60 Hz is the maximum resolution for one port configuration. |
| AMD Radeon RX6300 | • 2 DisplayPort 1.4a ports | • 8K 120 Hz, 8K @60 Hz is the maximum resolution for one port configuration. |

# External display support (GPU—Discrete)

### Table 20. External display support (GPU—Discrete)

| Graphics Card | Video ports | Number of supported external displays | DisplayPort Multi-Stream Transport (MST) support |
|---|---|---|---|
| AMD Radeon RX6300 | Two DisplayPort 1.4a ports | 2 | Supported |
| AMD Radeon RX6500 | Two DisplayPort 1.4a ports | 2 | Supported |

**NOTE:** DisplayPort Multi-Stream Transport (MST) allows you to daisy chain monitors that have DisplayPort 1.2 and above ports and MST support. For more information about using DisplayPort Multi-Stream Transport, see www.dell.com/support.

# Hardware security

The following table lists the hardware security of your OptiPlex Tower 7010.

### Table 21. Hardware security

| Hardware security |
|---|
| Kensington security-cable slot |
| Padlock ring |
| Chassis lock slot support |
| Chassis intrusion switch |
| Lockable cable covers |
| Supply chain tamper alerts |
| SafeID including Trusted Platform Module (TPM) 2.0 |
| Smart card keyboard (FIPS) |
| Microsoft Windows Device Guard and Credential Guard (Enterprise SKU) |
| Microsoft Windows Bitlocker |
| Local hard drive data wipe through BIOS (Secure Erase) |

### Table 21. Hardware security (continued)

| Hardware security |
|---|
| Self-encrypting storage drives (Opal, FIPS) |
| Trusted Platform Module TPM 2.0 |
| China TPM |
| Intel Secure Boot |
| Intel Authenticate |
| SafeBIOS: includes Dell Off-host BIOS Verification, BIOS Resilience, BIOS Recovery, and additional BIOS Controls |

# Environmental

The following table lists the environmental specifications of your OptiPlex Tower 7010.

### Table 22. Environmental

| Feature | Values |
|---|---|
| Recyclable packaging | Yes |
| BFR/PVC—free | No |
| Vertical orientation packaging support | No |
| Multi-Pack packaging | Yes (optional) |
| Energy-Efficient Power Supply | Standard |
| ENV0424 compliant | Yes |

**NOTE:** Wood-based fiber packaging contains a minimum of 35% recycled content by total weight of wood-based fiber. Packaging that contains without wood-based fiber can be claimed as Not Applicable. The anticipated required criteria for EPEAT 2018.

# Regulatory compliance

The following table lists the regulatory compliance of your OptiPlex Tower 7010.

### Table 23. Regulatory compliance

| Regulatory compliance |
|---|
| Product Safety, EMC and Environmental Datasheets |
| Dell Regulatory Compliance Home page |
| Dell and the Environment |

# Operating and storage environment

This table lists the operating and storage specifications of your OptiPlex Tower 7010.

**Airborne contaminant level:** G1 as defined by ISA-S71.04-1985

### Table 24. Computer environment

| Description | Operating | Storage |
|---|---|---|
| Temperature range | 10°C-35°C (50°F-95°F) | -40°C-70°C (-40°F-158°F) |
| Relative humidity (maximum) | 20% to 80% (non-condensing) (non-condensing, Max dew point temperature = 26°C) | 0% to 95% (non-condensing) 5% to 95% (non-condensing, Max dew point temperature = 33°C) |
| Vibration (maximum)* | 0.26 GRMS random at 5 Hz-350 Hz | 1.37 GRMS random at 5 Hz-350 Hz |
| Shock (maximum) | Bottom/Right half-sine pulse 40G, 2 ms | 105G, 2 ms half-sine pulse |
| Altitude range | -15.2 m to 3048 m (-49.8 ft to 10,000 ft) | -15.2 m to 10,668 m (-49.8 ft to 35,000 ft) |
| **CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.** | | |

* Measured using a random vibration spectrum that simulates user environment.

† Measured using a 2 ms half-sine pulse.

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# Engineering specifications

## Physical system dimensions

The following table provides the physical dimensions of your OptiPlex Tower 7010.

**NOTE:** System weight and shipping weight are based on a typical configuration and may vary based on your system configuration. A typical configuration includes integrated graphics, one hard drive, and one optical drive.

### Table 25. Physical system dimensions

| Feature | Values |
|---|---|
| Chassis volume | 14.60 liters |
| Chassis Weight | • Minimum: 5.32 kg (11.72 lb)<br>• Maximum: 6.52 kg (14.38 lb) |
| **Chassis dimensions** | |
| Height | 324.30 mm (12.77 in.) |
| Width | 154.00 mm (6.06 in.) |
| Depth | 292.20 mm (11.50 in.) |
| Shipping Weight (includes packaging materials) | 7.76 kg (17.09 lb) |
| **Packaging dimensions** | |
| Height | 338 mm (13.31 in.) |
| Width | 494 mm (19.44 in.) |
| Depth | 394 mm (15.50 in.) |

## Add-in card dimensions

### System board connector maximum add-in card allowable dimensions

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

| Feature | Values |
|---|---|
| **PCIe x16 connector** | 1 |
| Voltage | 3.3 V/12 V |
| Height | 111.15 mm (4.37 in.) Full height |
| Length | 248.92 mm (9.80 in.) |
| Maximum wattage | • 50W with 180 W PSU<br>• 75W with 300 W PSU |
| **PCIe x1 connector** | 2 |

### Table 26. System board connector maximum add-in card allowable dimensions (continued)

| Feature | Values |
|---|---|
| Voltage | 3.3 V/12 V |
| Height | 111.15 mm (4.37 in.) Full height |
| Length | 114.30 mm (4.50 in.) |
| Maximum wattage | 10W |

### Table 27. M.2 2230 slot for Wi-Fi card

| | |
|---|---|
| Voltage | 3.3 V |
| Width | 22.00 mm (0.86 in.) |
| Length | 30.00 mm (1.18 in.) |
| Thickness | 3.65 mm (0.14 in.) |
| Maximum wattage | 6.6W |

### Table 28. M.2 2280 slot for solid-state drive

| | |
|---|---|
| Voltage | 3.3 V |
| Width | 22.00 mm (0.86 in.) |
| Length | 80.00 mm (3.14 in.) |
| Thickness | 3.80 mm (0.15 in.) |
| Maximum Wattage | 8.25W |

### Table 29. M.2 2230 slot for solid-state drive

| | |
|---|---|
| Voltage | 3.3 V |
| Width | 22.00 mm (0.86 in.) |
| Length | 30.00 mm (1.18 in.) |
| Thickness | 2.30 mm (0.09 in.) |
| Maximum wattage | 6.6W |

## PCIe lane details

### Table 30. PCIe lane details

| Expansion Slot Type | Voltage | Maximum Height | Maximum Length | Maximum Wattage | Cards supported |
|---|---|---|---|---|---|
| PCIe x16 connector | 3.3 V/12 V | 111.15 mm (4.37 in.) | 248.92 mm (9.80 in.) | • 50 W with 180 W PSU<br>• 75 W with 240 W/300 W PSU | Yes |
| PCIe x1 connector | 3.3 V/12 V | 111.15 mm (4.37 in.) | 114.30 mm (4.50 in.) | 10 W | Yes |
| PCIe x1 connector | 3.3 V/12 V | 111.15 mm (4.37 in.) | 114.30 mm (4.50 in.) | 10 W | Yes |

Total Add-in-Card power does not exceed 75 W/125 W/150 W depending on PSU option.

# Dust filter

The following table lists the dust filter specifications of your OptiPlex Tower 7010.

### Table 31. Dust filter

| Feature | Values |
|---|---|
| Type | 0.20 mm (0.008 in.) |
| Mesh count | 2540 mm (100.00 in.) |
| Weave | PW |
| Silk diameter | 0.05 mm (0.002 in.) |
| Open area | 61 % |
| Thickness | 0.10 mm (0.004 in.) |
| Remark | PET |

# PCIe add-in cards

## Serial port PCIe card, Low Profile

### Table 32. Serial port PCIe card, Low Profile

| Feature | Values |
|---|---|
| Interface | • RS-232<br>• IEEE1284 |
| Data rates | • 50 bps ~115.2 Kbps (serial)<br>• maximum 1.8 Mbps (parallel) |
| **Controller details** | |
| Controller | SUNIX SUN2212 (16C950 UART compatible) |
| Controller bus architecture | • PCI Express 2.0<br>• Single-Lane (x1) |
| Driver support | Windows 10 (64-bit) |
| Half-height serial add-in dongle | Optional |
| **Environment** | |
| Operating temperature | 0°C to 60°C (32°F–140°F) |
| Operating humidity | 5% to 95% RH |
| Storage temperature | -20°C to 85°C (-4°F to 185°F) |

## Parallel Port PCIe card, Low Profile

### Table 33. Parallel Port PCIe card, Low Profile

| Feature | Values |
|---|---|
| Interface | • RS-232 |

### Table 33. Parallel Port PCIe card, Low Profile (continued)

| Feature | Values |
|---|---|
| | • IEEE1284 |
| Data rates | • 50 bps ~115.2 Kbps (serial)<br>• maximum 1.8 Mbps (parallel) |
| **Controller details** | |
| Controller | SUNIX SUN2212 (16C950 UART compatible) |
| Controller bus architecture | • PCI Express 2.0<br>• Single-Lane (x1) |
| Driver support | Windows 10 (64-bit) |
| Half-height parallel add-in dongle | Optional |
| **Environment** | |
| Operating temperature | 0°C to 60°C (32°F–140°F) |
| Operating humidity | 5% to 95% RH |
| Storage temperature | -20°C to 85°C (-4°F to 185°F) |

## PS/2 and Serial Port Card, Low Profile

The following table lists the PS/2 and serial port card, low profile specifications.

### Table 34. PS/2 and serial port card, low profile specifications

| Feature | Values |
|---|---|
| Interface | UART |
| Data rates | 250 kbps / 235 kbps |
| **Controller details** | |
| Controller | Microchip DEC1515 |
| Controller bus architecture | PCIe |
| Driver support | N/A |
| Half-height serial add-in dongle | N/A |
| **Environment** | |
| Operating temperature | 0°C to 70°C (32°F to 158°F) / -40°C to 85°C (-40°F to 185°F |
| Operating humidity | 60% RH |
| Storage temperature | -65°C to 150°C (-85°F to 302°F) |

# Ethernet

## Realtek RTL8111HD

The following table lists the Realtek RTL8111HD specifications.

### Table 35. Realtek RTL8111HD specifications

| Feature | Values |
|---|---|
| External connector type | RJ45 |
| Data rate | 10/100/1000 Mbps |
| **Controller Details** | |
| Controller bus architecture | PCI Express base specification revision 1.0a |
| Integrated memory | Yes |
| Data transfer mode | Yes (Bus-Master DMA) |
| Power consumption (Full operation per data rate connection speed) | 542 mW (Max) |
| Power consumption (Standby operation) | 76 mW (Max) |
| IEEE standards compliance | 802.3 |
| Hardware certifications | N/A |
| Boot ROM support | EEPROM (Located in SPI) |
| **Network Transfer Mode** | |
| Network transfer rate | 10 Mb (full/half-duplex) |
| 10BASE-T (full-duplex) 20 Mbps | 100 Mb (full/half-duplex) |
| 100BASE-TX (half-duplex) 100 Mbps | 1000 Mb (full-duplex) |
| **Environmental** | |
| Operating temperature range | 0°C–70°C (32°F–158°F) |
| Operating humidity | 20% to 80% (non condensing) |
| Operating system driver Support | • Windows 11<br>• Windows 10 64-bit<br>• Ubuntu<br>• Neokylin |
| Manageability | • Wakeup On LAN<br>• PXE 2.1 |
| Management capabilities alerting | Optional Intel Standard Manageability (must be made at time of purchase). |

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.

# Wireless module

## Intel AX211, 2x2 MIMO, 2400 Mbps, 2.4/5/6 GHz, Wi-Fi 6E (WiFi 802.11ax), Bluetooth 5.3

The following table lists the Intel AX211 specifications.

**NOTE:** Wi-Fi 6 is supported in regions where Wi-Fi 6E is unavailable.

### Table 36. Intel AX211 specifications

| Description | Specifications |
|---|---|
| Host interface | CNVio |
| Network standard | IEEE 802.11a/b/g/n/ac/ax, 160 MHz channel use, MU-MIMO, new 6 GHz band |
| Wi-Fi Alliance certifications | Wi-Fi CERTIFIED 6, Wi-Fi CERTIFIED a/b/g/n/ac,WMM, WMM-Power Save, WPA2, WPA3, WPS, PMF,Wi-Fi Direct, Wi-Fi Agile Multiband<br>**NOTE:** Other names and brands may be claimed as the property of others. |
| Operating frequency bands | • 2.4 GHz<br>• 5 GHz<br>• 6 GHz |
| Data rate | • 2.4 GHz 40M: Up to 574 Mbps<br>• 5/6 GHz 80M: Up to 1.2 Gbps<br>• 5/6 GHz 160M: Up to 2.4 Gbps |
| Power consumption | Optimized power modes (sleep states) reduce power consumption during periods of inactivity |
| Security methods | • WPA2 Personal and Enterprise<br>• WPA3 |
| Authentication protocols | • 802.1X EAP-TLS<br>• EAP-TTLS/MSCHAPv2<br>• PEAPv0 -MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA) |
| Encryption | • 64-bit and 128-bit WEP<br>• TKIP<br>• 128-bit AES-CCMP<br>• 256-bit AES-GCMP |
| Product safety | • UL<br>• C-UL<br>• CB (IEC60950-1) |
| Management capabilities alerting | Support for Intel AMT |
| Government compliance | • FIPS 140-2<br>• FISMA |
| Client utility | Intel PRO/Set wireless software v22 and later |
| Antenna diversity | Supported |
| Radio On/Off | Supported |
| Roaming | Support seamless roaming between access points |

### Table 36. Intel AX211 specifications (continued)

| Description | Specifications |
|---|---|
| Wake on wireless | Supported |
| Wireless display | Native Miracast support by Windows |
| Wireless PAN standard | • Dual Mode Bluetooth 5.3<br>• BLE |
| Bluetooth data rates | Up to 3 Mbps |
| Bluetooth operating frequency bands | 2.4 GHz |
| Bluetooth profiles supported | Support for Microsoft Inbox Bluetooth Wireless Card profiles in Windows |
| Bluetooth data encryption | 128-bit encryption |
| Bluetooth output power | Power class 1 |
| Operating temperature | 0°C to + 50°C (Full performance at shield temperatures up to 80°C) |
| Storage temperature | -40°C to +70°C |
| Humidity | Up to 90% RH non-condensing (at temperatures of 25°C to 35°C) |

## Realtek RTL8852BE, 1x1, Wi-Fi 5 (WiFi 802.11ac), Bluetooth 5.3

The following table lists the Realtek RTL8852BE specifications.

### Table 37. Realtek RTL8852BE specifications

| Description | Values |
|---|---|
| Host interface | • Wi-Fi - PCIe<br>• Bluetooth - USB |
| Network standard | IEEE 802.11a/b/g/n/ac, MU-MIMO |
| Wi-Fi Alliance certifications | • Wi-Fi certified a/b/g/n/ac<br>• WMM<br>• WPA<br>• WPA2<br>• Wi-Fi Direct (Windows only) |
| Operating frequency bands | • 2.4 Ghz<br>• 5 Ghz |
| Data rate | • 2.4 GHz 40M: Up to 150 Mbps<br>• 5 GHz 80M: Up to 433 Mbps |
| Power consumption | Optimized power modes (sleep states) reduce power consumption during periods of inactivity |
| Authentication | • Open<br>• Shared<br>• WPA<br>• WPA-PSK<br>• WPA2<br>• WPA2-PSK |
| Client utility | Native Wi-Fi and Bluetooth Microsoft UI support |

### Table 37. Realtek RTL8852BE specifications (continued)

| Description | Values |
|---|---|
| Software support | • Microsoft WHQL certified for Windows<br>• Linux |
| Radio On/Off | Supported |
| Roaming | Support seamless roaming between access points |
| Wake on wireless | Supported |
| Wireless display | Native Miracast support by Windows |
| Wireless PAN standard | • Dual Mode Bluetooth 5.0<br>• BLE |
| 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 |
| Bluetooth data encryption | 128-bit encryption |
| Operating temperature | 0°C to + 70°C |
| Storage temperature | -40°C to +85°C |

## Realtek RTL8821CE, 1x1, Wi-Fi 5 (Wi-Fi 802.11ac), Bluetooth 5.0

The following table lists the Realtek RTL8821CE specifications.

### Table 38. Realtek RTL8821CE specifications

| | |
|---|---|
| Host interface | • Wi-Fi - PCIe<br>• Bluetooth - USB |
| Network standard | IEEE 802.11a/b/g/n/ac, MU-MIMO |
| Wi-Fi Alliance certifications | • Wi-Fi certified a/b/g/n/ac<br>• WMM<br>• WPA<br>• WPA2<br>• Wi-Fi Direct (Windows only) |
| Operating frequency bands | • 2.4 GHz<br>• 5 GHz |
| Data rate | • 2.4 GHz 40M: Up to 150 Mbps<br>• 5 GHz 80M: Up to 433 Mbps |
| Power consumption | Optimized power modes (sleep states) reduce power consumption during periods of inactivity |
| Authentication | • Open<br>• Shared<br>• WPA<br>• WPA-PSK<br>• WPA2<br>• WPA2-PSK |
| Client utility | Native Wi-Fi and Bluetooth Microsoft UI support |
| Software support | • Microsoft WHQL certified for Windows<br>• Linux |

### Table 38. Realtek RTL8821CE specifications (continued)

| | |
|---|---|
| Radio On/Off | Supported |
| Roaming | Support seamless roaming between access points |
| Wake on wireless | Supported |
| Wireless display | Native Miracast support by Windows |
| Wireless PAN standard | • Dual Mode Bluetooth 5.0<br>• BLE |
| 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 |
| Bluetooth data encryption | 128-bit encryption |
| Operating temperature | 0°C to + 70°C |
| Storage temperature | -40°C to +85°C |

# GPU—Integrated

## Intel UHD Graphics 730

### Table 39. Intel UHD Graphics 730 specifications

| **Intel UHD Graphics 730** | |
|---|---|
| Bus Type | Integrated |
| Memory type | Shared memory |
| Graphics Level | Intel core i3/i5: GT1 (UHD) |
| Overlay Planes | Yes |
| Operating Systems Graphics/ Video API Support | DirectX 12, OpenGL (4.6) |
| Supports maximum resolution | • On board DP1.4a (HBR2)(4096 x 2304 @60 Hz) |
| Maximum vertical refresh rate | Up to 60 Hz depending on resolution |
| External ports | One Optional video port (HDMI 2.1/Displayport 1.4a (HBR3)/VGA/USB Type-C with DisplayPort Alt mode)<br>**NOTE:** Maximum resolution<br>• **HDMI 2.1**: up to 4096 x 2160 @60Hz<br>• **DisplayPort 1.4a (HBR3)**: up to 5120 x 3200 @60Hz<br>• **VGA**: up to 1920 x 1200 @60Hz |
| Multiple display support | Up to 4 displays via DisplayPort Multi-Streaming Technology (MST) |

## Intel UHD Graphics 770

### Table 40. Intel UHD Graphics 770 specifications

| **Intel UHD Graphics 770** | |
|---|---|
| Bus Type | Integrated |

### Table 40. Intel UHD Graphics 770 specifications (continued)

| Intel UHD Graphics 770 | |
|---|---|
| Memory type | Shared memory |
| Graphics Level | Intel core i5/i7/i9: GT1 (UHD) |
| Overlay Planes | Yes |
| Operating Systems Graphics/ Video API Support | DirectX 12, OpenGL (4.6) |
| Supports maximum resolution | • On board DP1.4a (HBR2)(4096 x 2304 @ 60Hz) |
| Maximum vertical refresh rate | Up to 60 Hz depending on resolution |
| External ports | One Optional video port (HDMI 2.1/Displayport 1.4a (HBR3)/VGA/USB Type-C with DisplayPort Alt mode)<br>**NOTE:** Maximum resolution<br>• **HDMI 2.1**: up to 4096 x 2160 @60Hz<br>• **DisplayPort 1.4a (HBR3)**: up to 5120 x 3200 @60Hz<br>• **VGA**: up to 1920 x 1200 @60Hz |
| Multiple display support | Up to 4 displays via DisplayPort Multi-Streaming Technology (MST) |

# GPU—Discrete

## AMD Radeon RX6300, 2 GB, GDDR5

The following table lists the AMD Radeon RX6300 specifications.

### Table 41. AMD Radeon RX6300 specifications

| Feature | Values |
|---|---|
| Dedicated graphics memory | 2 GB, GDDR6 |
| Memory bus | 32-bit |
| Memory config | • SAMSUNG: K4ZAF325BM-HC16, DPN: 3PNGN<br>• HYNIX: H56G42AS4DX014 , DPN MFN30 |
| Width | Single slot |
| Approximate wattage | TBP: 32 W |
| Base clock | N/A |
| Boost clock | N/A |
| NVIDIA CUDA cores | N/A |
| G-Sync / Freesync ready | Freesync (AMD Interlock) |
| Supported APIs | DirectX 12 (AMD Interlock) |
| Maximum resolution | 8K 120Hz, 8K@60Hz is the maximum resolution for one port config. |
| HDMI support | No |
| HDCP support | Yes |
| I/O ports | 2 DisplayPort 1.4a ports |

## AMD Radeon RX6500, 4 GB, GDDR6

The following table lists the AMD Radeon RX6500 specifications.

### Table 42. AMD Radeon RX6500 specifications

| Feature | Values |
|---|---|
| Dedicated graphics memory | 4 GB, GDDR6 |
| Memory bus | 64-bit |
| Memory config | • SAMSUNG: K4ZAF325BM-HC16, DPN: 3PNGN<br>• HYNIX: H56G42AS4DX014 , DPN MFN30 |
| Width | Single slot |
| Approximate wattage | TBP: 51 W |
| Base clock | N/A |
| Boost clock | N/A |
| NVIDIA CUDA cores | N/A |
| G-Sync / Freesync ready | Freesync (AMD Interlock) |
| Supported APIs | DirectX 12 (AMD Interlock) |
| Maximum resolution | 8K 120Hz, 8K@60Hz is the maximum resolution for one port config. |
| HDMI support | No |
| HDCP support | Yes |
| I/O ports | 2 DisplayPort 1.4a ports |

# GPU and PSU matrix

The following table provides the GPU and PSU matrix of your OptiPlex Tower 7010.

### Table 43. GPU and PSU matrix

| GFx card | Card length | Weight (kg) | Power connector | I/O connector | Single/Dual wide | PSU |
|---|---|---|---|---|---|---|
| AMD Radeon RX6300 | 6.60 in. | 0.138 | NA | 2 DisplayPort 1.4a ports | Single | 180 W |
| AMD Radeon RX6500 | 6.60 in. | 0.140 | NA | 2 DisplayPort 1.4a ports | Single | 180 W |

# HDD Preloaded bracket and cable matrix

The following table lists the hard-disk drive preloaded bracket information of your OptiPlex Tower 7010.

### Table 44. HDD Preloaded bracket and cable matrix

| Hard drive Preloaded bracket | Available |
|---|---|
| 3.5-inch Caddy/Bracket | No |
| 2.5-inch Caddy/Bracket | No |

# Storage

## 2.5-inch, 1 TB, 5400 RPM, SATA, HDD

### Table 45. 2.5-inch, 1 TB, 5400 RPM, SATA, HDD specifications

| Description | Values |
|---|---|
| Capacity | 1 TB |
| Speed | 5400 RPM |
| Height (approximate) | 7.11 mm (0.28 in.) |
| Width (approximate) | 69.85 mm (2.75 in.) |
| Depth (approximate) | 100.58 mm (3.96 in.) |
| Interface | SATA 3.0 |
| Speed (maximum) | Up to 6 Gbps |
| MTBF | 550,000 hours |
| Logical blocks | 1,953,525,168 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 0.7 W<br>• Active: 3.10 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 5°C to 60°C |
| Relative humidity range | 5% to 90% |
| Op shock | 350G @2ms |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 65°C |
| Relative humidity range | 5% to 95% |

## 2.5-inch, 2 TB, 5400 RPM, SATA, HDD

### Table 46. 2.5-inch, 2 TB, 5400 RPM, SATA, HDD specifications

| Description | Values |
|---|---|
| Capacity | 2 TB |
| Speed | 5400 RPM |
| Height (approximate) | 7.11 mm (0.28 in.) |
| Width (approximate) | 69.85 mm (2.75 in.) |
| Depth (approximate) | 100.58 mm (3.96 in.) |
| Interface | SATA 3.0 |
| Speed (maximum) | Up to 6 Gbps |
| MTBF | 550,000 hours |
| Logical blocks | 3,907,029,168 |
| **Power source** | |

### Table 46. 2.5-inch, 2 TB, 5400 RPM, SATA, HDD specifications (continued)

| Description | Values |
|---|---|
| Power consumption (reference only) | • Idle: 0.7 W<br>• Active: 3.10 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 5°C to 60°C |
| Relative humidity range | 5% to 90% |
| Op shock | 350G @2ms |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 65°C |
| Relative humidity range | 5% to 95% |

## 2.5-inch, 500 GB, 7200 RPM, SATA, HDD

### Table 47. 2.5-inch, 500 GB, 7200 RPM, SATA, HDD specifications

| | |
|---|---|
| Capacity | 500 GB |
| Speed | 7200 RPM |
| Height (approximate) | 7.11 mm (0.28 in.) |
| Width (approximate) | 69.85 mm (2.75 in.) |
| Depth (approximate) | 100.58 mm (3.96 in.) |
| Interface | SATA 3.0 |
| Speed (maximum) | Up to 6 Gbps |
| MTBF | 550,000 hours |
| Logical blocks | 976,773,168 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 0.7 W<br>• Active: 3.25 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 5°C to 60°C |
| Relative humidity range | 5% to 90% |
| Op shock | 350G @2ms |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 65°C |
| Relative humidity range | 5% to 95% |

## 2.5-inch, 1 TB, 7200 RPM, SATA, HDD

### Table 48. 2.5-inch, 1 TB, 7200 RPM, SATA, HDD specifications

| | |
|---|---|
| Capacity | 1 TB |
| Speed | 7200 RPM |
| Height (approximate) | 7.11 mm (0.28 in.) |

### Table 48. 2.5-inch, 1 TB, 7200 RPM, SATA, HDD specifications (continued)

| | |
|---|---|
| Width (approximate) | 69.85 mm (2.75 in.) |
| Depth (approximate) | 100.58 mm (3.96 in.) |
| Interface | SATA 3.0 |
| Speed (maximum) | Up to 6 Gbps |
| MTBF | 550,000 hours |
| Logical blocks | 1,953,525,168 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 0.7 W<br>• Active: 3.25 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 5°C to 60°C |
| Relative humidity range | 5% to 90% |
| Op shock | 350G @2ms |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 65°C |
| Relative humidity range | 5% to 95% |

## 2.5-inch, 500 GB, 7200 RPM, SATA, HDD, Self-Encrypting, Opal 2.0, FIPS

### Table 49. 2.5-inch, 500 GB, 7200 RPM, SATA, HDD, Self-Encrypting, Opal 2.0, FIPS specifications

| | |
|---|---|
| Capacity | 500 GB |
| Speed | 7200 RPM OPAL SED FIPS |
| Height (approximate) | 7.11 mm (0.28 in.) |
| Width (approximate) | 69.85 mm (2.75 in.) |
| Depth (approximate) | 100.58 mm (3.96 in.) |
| Interface | SATA 3.0 |
| Speed (maximum) | Up to 6 Gbps |
| MTBF | 550,000 hours |
| Logical blocks | 976,773,168 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 0.7 W<br>• Active: 3.25 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 5°C to 60°C |
| Relative humidity range | 5% to 90% |
| Op shock | 350G @2ms |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 65°C |

**Table 49. 2.5-inch, 500 GB, 7200 RPM, SATA, HDD, Self-Encrypting, Opal 2.0, FIPS specifications (continued)**

| | |
|---|---|
| Relative humidity range | 5% to 95% |

# 3.5-inch, 4 TB, 5400 RPM, SATA, HDD

**Table 50. 3.5-inch, 4 TB, 5400 RPM, SATA, HDD specifications**

| Description | Values |
|---|---|
| Capacity | 4 TB |
| Speed | 5400 RPM |
| Height (approximate) | 25.40 mm (1.00 in.) |
| Width (approximate) | 147.06 mm (5.79 in.) |
| Depth (approximate) | 101.60 mm (4.00 in.) |
| Interface | SATA 3.0 |
| Speed (maximum) | Up to 6 Gbps |
| MTBF | 550,000 hours |
| Logical blocks | 7,814,037,168 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 W<br>• Active: 10 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 5°C to 60°C |
| Relative humidity range | 5% to 90% |
| Op shock | 65G @2ms |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 65°C |
| Relative humidity range | 5% to 95% |

# 3.5-inch, 1 TB, 7200 RPM, SATA, HDD

**Table 51. 3.5-inch, 1 TB, 7200 RPM, SATA, HDD specifications**

| | |
|---|---|
| Capacity | 1 TB |
| Speed | 7200 RPM |
| Height (approximate) | 26.10 mm (1.02 in.) |
| Width (approximate) | 147.06 mm (5.79 in.) |
| Depth (approximate) | 101.60 mm (4.00 in.) |
| Interface | SATA 3.0 |
| Speed (maximum) | Up to 6 Gbps |
| MTBF | 550,000 hours |
| Logical blocks | 1,953,525,168 |
| **Power source** | |

### Table 51. 3.5-inch, 1 TB, 7200 RPM, SATA, HDD specifications (continued)

| | |
|---|---|
| Power consumption (reference only) | • Idle: 5 W<br>• Active: 10 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 5°C to 60°C |
| Relative humidity range | 5% to 90% |
| Op shock | 65G @2ms |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 65°C |
| Relative humidity range | 5% to 95% |

## 3.5-inch, 2 TB, 7200 RPM, SATA, HDD

### Table 52. 3.5-inch, 2 TB, 7200 RPM, SATA, HDD specifications

| Description | Values |
|---|---|
| Capacity | 2 TB |
| Speed | 7200 RPM |
| Height (approximate) | 25.40 mm (1.00 in.) |
| Width (approximate) | 147.06 mm (5.79 in.) |
| Depth (approximate) | 101.60 mm (4.00 in.) |
| Interface | SATA 3.0 |
| Speed (maximum) | Up to 6 Gbps |
| MTBF | 550,000 hours |
| Logical blocks | 3,907,029,168 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 W<br>• Active: 10 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 5°C to 60°C |
| Relative humidity range | 5% to 90% |
| Op shock | 65G @2ms |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 65°C |
| Relative humidity range | 5% to 95% |

## M.2 2230, 512 GB, PCIe NVMe, Class 25 SSD

The following table lists the M.2 2230, 512 GB SSD specifications.

### Table 53. 512 GB SSD specifications

| Description | Values |
|---|---|
| Capacity | 512 GB |

### Table 53. 512 GB SSD specifications (continued)

| Description | Values |
|---|---|
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 30.00 mm (1.18 in.) |
| Interface type | PCIe |
| Speed (maximum) | 32 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 1,000,215,216 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW (PS4)<br>• Active: 3.50 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

## M.2 2230, 1 TB, PCIe NVMe, Class 25 SSD

The following table lists the M.2 2230, 1 TB SSD specifications.

### Table 54. 1 TB SSD specifications

| | |
|---|---|
| Capacity | 1 TB |
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 30.00 mm (1.18 in.) |
| Interface type | PCIe |
| Speed (maximum) | 32 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 2,000,409,264 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW (PS4)<br>• Active: 3.50 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |

**Table 54. 1 TB SSD specifications (continued)**

| | |
|---|---|
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

# M.2 2230, 256 GB, PCIe NVMe, Class 35 SSD

The following table lists the M.2 2230, 256 GB SSD specifications.

**Table 55. 256 GB SSD specifications**

| | |
|---|---|
| Capacity | 256 GB |
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 30.00 mm (1.18 in.) |
| Interface type | PCIe |
| Speed (maximum) | 32 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 500,118,192 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW (PS4)<br>• Active: 3.50 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

# M.2 2230, 512 GB, PCIe NVMe, Class 35 SSD

The following table lists the M.2 2230, 512 GB SSD specifications.

**Table 56. 512 GB SSD specifications**

| | |
|---|---|
| Capacity | 512 GB |
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 30.00 mm (1.18 in.) |
| Interface type | PCIe |
| Speed (maximum) | 32 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 1,000,215,216 |
| **Power source** | |

### Table 56. 512 GB SSD specifications (continued)

| | |
|---|---|
| Power consumption (reference only) | • Idle: 5 mW (PS4)<br>• Active: 3.50 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

## M.2 2230, 1 TB, PCIe NVMe, Class 35 SSD

The following table lists the M.2 2230, 1 TB SSD specifications.

### Table 57. 1 TB SSD specifications

| | |
|---|---|
| Capacity | 1 TB |
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 30.00 mm (1.18 in.) |
| Interface type | PCIe |
| Speed (maximum) | 32 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 2,000,409,264 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW (PS4)<br>• Active: 3.50 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

## M.2 2230, 256 GB, PCIe NVMe, Opal Self-Encrypting Class 35 SSD

The following table lists the M.2 2230, 256 GB SSD, self-encrypting drive specifications.

### Table 58. 256 GB SSD, self-encrypting drive specifications

| | |
|---|---|
| Capacity | 256 GB |
| Height (approximate) | 3.50 mm (0.17 in.) |

### Table 58. 256 GB SSD, self-encrypting drive specifications (continued)

| | |
|---|---|
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 30.00 mm (1.18 in.) |
| Interface type | PCIe |
| Speed (maximum) | 32 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 500,118,192 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW (PS4)<br>• Active: 3.50 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

## M.2 2280, 512 GB, PCIe NVMe, Class 40 SSD, self-encrypting drive

The following table lists the M.2 2280, 512 GB SSD, self-encrypting drive specifications

### Table 59. 512 GB SSD, self-encrypting drive specifications

| | |
|---|---|
| Capacity | 512 GB |
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 80.00 mm (3.15 in.) |
| Interface type | PCIe |
| Speed (maximum) | 32 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 1,000,215,216 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW ( PS4 - L1.2)<br>• Active: 4.50 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

# M.2 2280, 1 TB, PCIe NVMe, Class 40 SSD, self-encrypting drive

The following table lists the M.2 2280, 1 TB SSD, self-encrypting drive specifications

### Table 60. 1 TB SSD, self-encrypting drive specifications

| | |
|---|---|
| Capacity | 1 TB |
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 80.00 mm (3.15 in.) |
| Interface type | PCIe |
| Speed (maximum) | 32 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 2,000,409,264 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW ( PS4 - L1.2)<br>• Active: 4.50 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

# M.2 2280, 512 GB, PCIe NVMe, Class 40 SSD

The following table lists the M.2 2280, 512 GB SSD specifications.

### Table 61. 512 GB SSD specifications

| | |
|---|---|
| Capacity | 512 GB |
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 80.00 mm (3.15 in.) |
| Interface type | PCIe |
| Speed (maximum) | 64 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 1,000,215,216 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW ( PS4 - L1.2)<br>• Active: 5 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |

### Table 61. 512 GB SSD specifications (continued)

| | |
|---|---|
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

## M.2 2280, 1 TB, PCIe NVMe, Class 40 SSD

The following table lists the M.2 2280, 1 TB SSD specifications.

### Table 62. 1 TB SSD specifications

| | |
|---|---|
| Capacity | 1 TB |
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 80.00 mm (3.15 in.) |
| Interface type | PCIe |
| Speed (maximum) | 64 Gb/s (up to 4 lanes) |
| MTBF | 1.4M hours |
| Logical blocks | 2,000,409,264 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW ( PS4 - L1.2)<br>• Active: 5 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

## M.2 2280, 2 TB, PCIe NVMe, Class 40 SSD

The following table lists the M.2 2280, 2 TB SSD specifications.

### Table 63. 2 TB SSD specifications

| | |
|---|---|
| Capacity | 2 TB |
| Height (approximate) | 3.50 mm (0.17 in.) |
| Width (approximate) | 22.00 mm (0.87 in.) |
| Depth (approximate) | 80.00 mm (3.15 in.) |
| Interface type | PCIe |
| Speed (maximum) | 64 Gb/s (up to 4 lanes) |

### Table 63. 2 TB SSD specifications (continued)

| | |
|---|---|
| MTBF | 1.4M hours |
| Logical blocks | 4,000,797,360 |
| **Power source** | |
| Power consumption (reference only) | • Idle: 5 mW ( PS4 - L1.2)<br>• Active: 5 W |
| **Environmental operating conditions (non-condensing)** | |
| Temperature range | 0°C to 70°C |
| Relative humidity range | 10% to 90% |
| Op shock | 1500G |
| **Environmental non-operating conditions (non-condensing)** | |
| Temperature range | -40°C to 70°C |
| Relative humidity range | 5% to 95% |

## 8x DVD±RW, slimline

### Table 64. 8x DVD±RW, slimline specifications

| | |
|---|---|
| Height (without bezel) | 9.50 mm (0.37 in.) |
| Width (without bezel) | 128.00 mm (5.04 in.) |
| Depth (without bezel) | 126.01 mm (4.97 in.) |
| Weight (maximum) | 140 grams |
| Interface | SATA 1.5 |
| Speed (maximum) | Up to 1.5 Gbps |
| Disc capacity | Standard |
| Internal buffer size | 0.5 MB |
| Access times (typical) | Supplier dependent |
| **Maximum data transfer rates** | |
| Writes | 8x DVD/ 24x CD |
| Reads | 8x DVD/ 24x CD |
| **Power source** | |
| DC power requirements | 5 V |
| DC current | 1300 mA |
| **Environmental operating conditions (non-condensing)** | |
| Operating temperature range | 5°C to 60°C |
| Relative humidity range | 10% to 90% RH |
| Maximum wet bulb temperature | 29°C |
| Altitude range | 0 m to 3048 m |
| **Environmental non-operating conditions (non-condensing)** | |
| Operating temperature range | -40°C to 65°C |
| Relative humidity range | 5% to 95% RH |

### Table 64. 8x DVD±RW, slimline specifications (continued)

| | |
|---|---|
| Maximum wet bulb temperature | 38°C |
| Altitude range | 0 m to 10600 m |

# Power

**NOTE:** The form factor utilizes 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. Offering and availability may vary by region.

### Table 65. OptiPlex Tower 7010 - Power supply unit specifications

| Description | Values | |
|---|---|---|
| Type | 180 W (80 PLUS Bronze) | 300 W (80 PLUS Platinum) |
| Erp Lot6 Tier 2 requirement | Yes | Yes |
| 80 Plus compliant | Yes | Yes |
| Energy Star 8.0 compliant | Yes | Yes |
| GS mark compliant | Yes | Yes |
| FEMP Standby Power Compliant | Yes | Yes |

# Thermal dissipation

The following table lists the thermal dissipation of your OptiPlex Tower 7010.

### Table 66. Thermal dissipation

| Power supply unit | Heat dissipation | Voltage |
|---|---|---|
| 180 W (80 Plus Bronze) | 180*3.412=614 BTU/hr | 100 to 240 VAC, 50 to 60 Hz, 3.0 A/1.5 A |
| 300 W (80 Plus Platinum) | 300*3.412=1023 BTU/hr | 100 to 240 VAC, 50 to 60 Hz, 4.2 A/2.1 A |

# CMOS battery

The following table lists the CMOS battery specifications of your OptiPlex Tower 7010.

### Table 67. CMOS battery

| Brand | Type | Voltage | Composition | Battery life |
|---|---|---|---|---|
| MITSUBISHI | CR2032 | 3.0 V | Lithium metal | Continuous Discharge Under 15 kΩ Load to 2.0 V End-Voltage. 20℃±2℃ 940 Hrs. or Longer.910 Hrs.or Longer after 12 mo. |

# Accessories

The following table lists the supported accessories on your OptiPlex Tower 7010.

### Table 68. Accessories

| Accessories |
|---|
| Dell Pro Webcam - WB5023 |
| Dell Slim Conferencing Soundbar - SB522A |
| Dell Pro Stereo Headset - WH3022 |
| Dell 24 Monitor - P2422H |
| Dell UltraSharp 24 Monitor - U2422H |
| Dell Pro Wireless Keyboard and Mouse (White) - KM5221W |
| OptiPlex MT Cable Cover |

# Security

## Software security

The following table lists the software security details of your OptiPlex Tower 7010.

## Trusted Platform Module

The following table lists the Trusted Platform Module (TPM) of your OptiPlex Tower 7010.

### Table 69. Trusted Platform Module (TPM)

| TPM: Nuvoton NPCT760JABYX |
|---|
| SPI interface |
| TPM 2.0 |
| FIPs 140-2 certificate |

# Mil-SPEC

The OptiPlex Tower 7010 meets military specifications for the following MIL-STD 810H tests:

### Table 70. Tower - Military specifications

| Test Category | Test Method | Test Parameters |
|---|---|---|
| Altitude Storage Transport | Method 500.6 Procedure I | • Test Pressure: Equivalent to cabin altitude of 15,000ft<br>• Temperature: 21°C; Altitude Change Rate: <10 m/s<br>• Duration: 1 hour<br>• Unit is non-operational during test. |

### Table 70. Tower - Military specifications (continued)

| Test Category | Test Method | Test Parameters |
|---|---|---|
| Altitude Operation/ Air Carriage | Method 500.6 Procedure II | • Test Pressure: Equivalent to cabin altitude of 15,000 ft<br>• Temperature: 21°C; Altitude Change Rate: <10 m/s<br>• Duration: 1 hour<br>• Unit is operational during test. |
| Low Temperature (Exaggerated) | Method 502.7 Procedure I | • Duration: 24 hour exposure<br>• Temperature: -51 °C<br>• Unit is operational during test |
| Low Temperature | Method 502.7 Procedure II | • Duration: 24 hour exposure<br>• Temperature: -29 °C<br>• Unit is operational during test |
| Humidity Induced (Storage &Transit) and Naturaland Cycles | Method 507.6 Procedure I | • Duration: Refer to MIL-spec Table 507.6-II<br>• Non-hazardous test items. |
| Vibration Operational | Method 514.8Procedure I -Category 4 | • Operational Vibration, 10-500 Hz, 1.04 Grms, random 1 hour on Bottom, Left and Back side.<br>• Unit is operational during test. |
| Shock Material to be Packaged | Method 516.8 Procedure II | • On-road Shock, 5.1g / 11ms (Table 516-8-VII)<br>• Off-road Shocks 15.2g / 5ms (Table 516-8-VII)<br>• Test unit orientations at x, y and z axis for both test.<br>• Unit is non-operational during both test |
| Bench Handling | Method 516.8 Procedure VI | • Angle drops onto solid wooden bench thickness least 4.25cm(1.675 inch). Test height judgement as two conditions arise test units at one edge 100 mm (4 inch) or rise an angle of 45° about a solid wooden bench top.<br>• Unit is non-operational during test. |
| Sand and Dust<br>Blowing Dust | Method 510.7 Procedure I | • Duration: 12 hours<br>• Air velocity = 1.5 m/s (300 ft/min) to 8.9 m/s (1750 ft/min)<br>• Temperature: 60 °C Relative Humidity: 30%<br>• 6H at standard ambient temperature and 6 hours at the high storage or operating temperature<br>• Unit is non-operational during test. |
| Crash Hazard ShockTest | Method 516.8 Procedure V | • 185g, 2 ms Half Sine 2 shocks/axis/ direction for a total of 12 shocks.<br>• Unit is non-operational during test. |
| Functional Shock | Method 516.8Procedure I | • 185g, 2 ms Half Sine 1 shock/axis/ direction for a total of 6 shocks<br>• Unit is operational during test. |

# Acoustic noise emission information tower

The following table lists the acoustic noise emission information of your OptiPlex Tower 7010.

### Table 71. Acoustic noise emission information tower

| Component | Test Configuration |
|---|---|
| CPU | I5-13600 |
| Memory | 64 GB |
| HDD (#, capacity) | 1 TB Solid-state drive |
| ODD | No |
| Graphics Adapter | UMA |

### Table 72. Declared Sound Power (LWAd)

| Operating Mode | Declared Sound Power(LWAd) |
|---|---|
| Idle | 2.9 |
| HDD Operating | 2.8 |
| CPU Stressed | 3.1 |
| ODD Operating | 3.5 |

### Table 73. A-Weighted Sound Pressure Level (dB)

| Declared Sound Pressure (LpA) | | |
|---|---|---|
| | Tabletop System | |
| Operating Mode | Operator Position | Bystander Position |
| Idle | 21.4 | 17.7 |
| HDD Operating | 21.1 | 17.7 |
| CPU Stressed | 25 | 19.8 |
| ODD Operating | 29 | 21.1 |

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

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

# 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/dusty environment/temperate over 35ºC. Do not put any objects to directly block air-vent. 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.

# System management features

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

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

## Dell Client Command Suite for In-Band systems management

**Dell Client Command Suite** is a free toolkit available for download, for all Latitude Rugged tablets at dell.com/support, that 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 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.

**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 I 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 I Configure allows you to remotely automate and configure over 150+ BIOS settings for a personalized user experience.

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

**Dell Command I 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 | 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 I Update eliminates the time-consuming hunting and pecking process of update installation.

**Dell Command I 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.

## Out of Band Systems Management

Intel Standard Manageability option **must be configured in our factory at the time of purchase, as it is NOT field upgradable.** It offers out-of-band management and DASH compliance (https://registry.dmtf.org/registry/results/field_initiative_name%3A%22DASH%201.0%22).

Intel vPro provides an enhanced level of built-in security, hardware-level security and comprehensive cyber defense. Intel vPro allows you to remotely power on devices, streamline PC life cycle management without compromising productivity, secure, repair, and maintain when needed.

Systems that are configured with Intel Core processors support Intel . Check the processor specifications section for the list of Intel vPro enabled processors.

# 4

# Getting help and contacting Dell

## Self-help resources

You can get information and help on Dell products and services using these self-help resources:

**Table 74. Self-help resources**

| Self-help resources | Resource location |
|---|---|
| Information about Dell products and services | www.dell.com |
| My Dell app | |
| Tips | |
| Contact Support | In Windows search, type `Contact Support`, and press Enter. |
| Online help for operating system | www.dell.com/support/windows<br>www.dell.com/support/linux |
| Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents. | Your Dell computer is uniquely identified by a Service Tag or Express Service Code. To view relevant support resources for your Dell computer, enter the Service Tag or Express Service Code at www.dell.com/support.<br>For more information on how to find the Service Tag for your computer, see Locate the Service Tag on your computer. |
| Dell knowledge base articles for a variety of computer concerns | 1. Go to www.dell.com/support.<br>2. On the menu bar at the top of the Support page, select **Support** > **Knowledge Base**.<br>3. In the Search field on the Knowledge Base page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles. |

## Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

**NOTE:** Availability varies by country/region and product, and some services may not be available in your country/region.

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