OptiPlex Micro Plus 7010

Technical Guidebook

D∅LL 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.
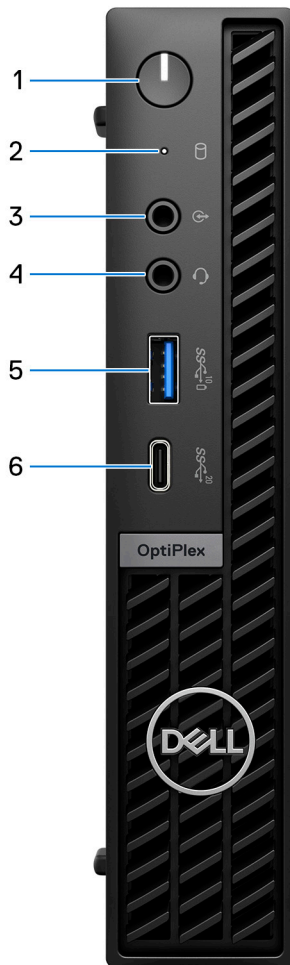
WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Contents

Views of OptiPlex Micro Plus 7010

Front

1. **Power button**

   Press to turn on the computer if it is turned off, in sleep state, or in hibernate state.

   When the computer is turned on, press the power button to put the computer into sleep state; press and hold the power button for 10 seconds to force shut-down the computer.

   ⓘ **NOTE:** You can customize the power-button behavior in Windows.

2. **Storage drive activity light**

   The activity light turns on when the computer reads from or writes to storage drives.

3. **Re-tasking line out/line in audio port**

   Connect an audio device.

4. **Universal audio jack**

Connect headphones or a headset (headphone and microphone combo).

5. **USB 3.2 Gen 2 port with PowerShare**

   Connect devices such as external storage devices, printers, and external displays.

   Provides data transfer speeds up to 10 Gbps. Supports Power Delivery that enables two-way power supply between devices. Provides up to 15 W power output that enables faster charging.

   ⓘ **NOTE:** PowerShare enables you to charge your USB devices even when your computer is turned off.

   ⓘ **NOTE:** If a USB device is connected to the PowerShare port before the computer is turned off or in hibernate state, you must disconnect and connect it again to enable charging.

6. **USB 3.2 Gen 2x2 Type C port**

   Connect devices such as external storage devices, printers, and external displays. Provides data transfer rate of up to 20 Gbps.

Back
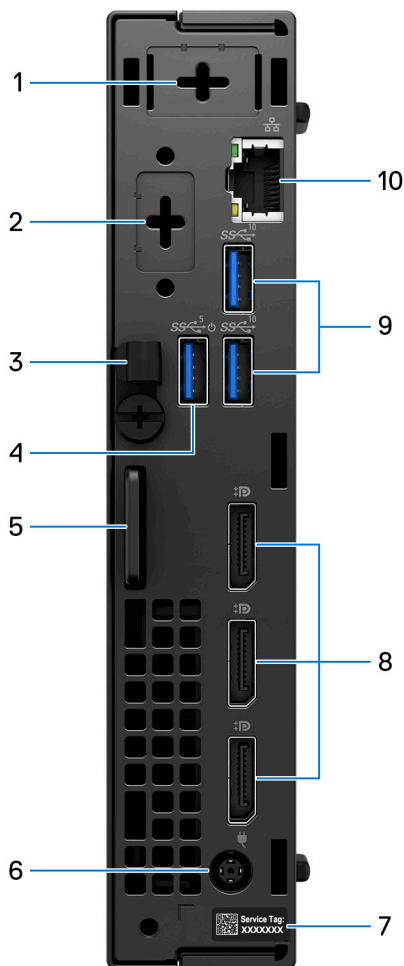
1. **One optional external antenna port**

   Supports an optional external antenna module.

2. **One optional video module port**

   Supports an optional module for (HDMI 2.1/Displayport 1.4a (HBR3)/VGA/PS2/serial/USB Type-C with DisplayPort Alt mode).

3. **DC-in cable clip**

   For power-adapter cable routing.

4. **USB 3.2 Gen 1 port with Smart Power on**

   Connect devices such as external storage devices and printers. Provides data transfer speeds up to 5 Gbps.

   ⓘ **NOTE:** When USB wake is enabled in the BIOS the computer will power on or wake from hibernation when a USB mouse or keyboard that is connected to this port is used.

5. **Kensington security-cable slot and padlock ring**

   Connect a security cable to prevent unauthorized movement of your computer and/or attach a standard padlock to prevent unauthorized access to the interior of your computer.

6. **Power-adapter port**

   Connect a power adapter to provide power to your computer.

7. **Service Tag label**

   The Service Tag is a unique alphanumeric identifier that enables Dell service technicians to identify the hardware components in your computer and access warranty information.

8. **Three DisplayPorts 1.4a**

   Connect an external display or a projector. Can support video output of up to 5120 x 3200 at 60 Hz.

9. **Two USB 3.2 Gen 2 ports**

   Connect devices such as external storage devices and printers. Provides data transfer speeds up to 10 Gbps.

10. **Network port**

    Connect an Ethernet (RJ45) cable from a router or a broadband modem for network or Internet access.

Specifications of OptiPlex Micro Plus 7010

Dimensions and weight

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

Table 1. Dimensions and weight

Description	Values
Height	182 mm (7.17 in.)
Width	36 mm (1.42 in.)
Depth	178 mm (7.01 in.)
Weight ⓘ **NOTE:** The weight of your computer depends on the configuration ordered and manufacturing variability.	● Minimum:1.07 kg (2.36 lb) ● Maximum: 1.31 kg (2.89 lb)

Processor

The following table lists the details of the processors supported by your OptiPlex Micro Plus 7010.

Table 2. Processor

Description	Option one	Option two	Option three	Option four
Processor type	13th Generation Intel Core i3-13100	13th Generation Intel Core i3-13100T	13th Generation Intel Core i5-13400	13th Generation Intel Core i5-13400T
Processor wattage	60 W	35 W	65 W	35 W
Processor total core count	4	4	10	10
Performance-cores	4	4	6	6
Efficient-cores	0	0	4	4
Processor total thread counts ⓘ **NOTE:** Intel® Hyper-Threading Technology is only available on Performance-cores.	8	8	16	16
Processor speed	Up to 4.50 GHz	Up to 4.20 GHz	Up to 4.60 GHz	Up to 4.40 GHz
Performance-cores frequency				
Processor base frequency	3.40 GHz	2.50 GHz	2.50 GHz	1.30 GHz
Maximum turbo frequency	4.50 GHz	4.20 GHz	4.60 GHz	4.40 GHz
Efficient-cores frequency				
Processor base frequency	Not applicable	Not applicable	1.80 GHz	1 GHz
Maximum turbo frequency	Not applicable	Not applicable	3.30 GHz	3 GHz
	ⓘ **NOTE:** Processor clock speeds and thermal design power differ according to the thermal mode selected in the My Dell app on your computer.			
Processor cache	12 MB	12 MB	20 MB	20 MB
Integrated graphics	Intel UHD Graphics 730	Intel UHD Graphics 730	Intel UHD Graphics 730	Intel UHD Graphics 730

Table 3. Processor

Description	Option five	Option six	Option seven	Option eight
Processor type	13th Generation Intel Core i5-13500	13th Generation Intel Core i5-13500T	13th Generation Intel Core i5-13600	13th Generation Intel Core i5-13600T
Processor wattage	65 W	35 W	65 W	35 W
Processor total core count	14	14	14	14
Performance-cores	6	6	6	6
Efficient-cores	8	8	8	8
Processor total thread counts (i) **NOTE:** Intel® Hyper-Threading Technology is only available on Performance-cores.	20	20	20	20
Processor speed	Up to 4.80 GHz	Up to 4.60 GHz	Up to 5 GHz	Up to 4.80 GHz
Performance-cores frequency				
Processor base frequency	2.50 GHz	1.60 GHz	2.70 GHz	1.80 GHz
Maximum turbo frequency	4.80 GHz	4.60 GHz	5 GHz	4.80 GHz
Efficient-cores frequency				
Processor base frequency	1.80 GHz	1.20 GHz	2 GHz	1.30 GHz
Maximum turbo frequency	3.50 GHz	3.20 GHz	3.70 GHz	3.40 GHz
	(i) **NOTE:** Processor clock speeds and thermal design power differ according to the thermal mode selected in the My Dell app on your computer.			
Processor cache	24 MB	24 MB	24 MB	24 MB
Integrated graphics	Intel UHD Graphics 770	Intel UHD Graphics 770	Intel UHD Graphics 770	Intel UHD Graphics 770

Table 4. Processor

Description	Option nine	Option ten	Option eleven	Option twelve
Processor type	13th Generation Intel Core i7-13700	13th Generation Intel Core i7-13700T	13th Generation Intel Core i9-13900	13th Generation Intel Core i9-13900T
Processor wattage	65 W	35 W	65 W	35 W
Processor total core count	16	16	24	24
Performance-cores	8	8	8	8
Efficient-cores	8	8	16	16
Processor total thread counts (i) **NOTE:** Intel® Hyper-Threading Technology is only available on Performance-cores.	24	24	32	32
Processor speed	2.10 GHz to 5.20 GHz	Up to 4.80 GHz	Up to 5.20 GHz	Up to 5.10 GHz
Performance-cores frequency				
Processor base frequency	2.10 GHz	1.40 GHz	2 GHz	1.10 GHz
Maximum turbo frequency	5.20 GHz	4.80 GHz	5.20 GHz	5.10 GHz
Efficient-cores frequency				
Processor base frequency	2.10 GHz	1 GHz	1.50 GHz	0.80 GHz
Maximum turbo frequency	4.20 GHz	3.60 GHz	4.20 GHz	3.90 GHz
	(i) **NOTE:** Processor clock speeds and thermal design power differ according to the thermal mode selected in the My Dell app on your computer.			
Processor cache	30 MB	30 MB	36 MB	36 MB
Integrated graphics	Intel UHD Graphics 770	Intel UHD Graphics 770	Intel UHD Graphics 770	Intel UHD Graphics 770

Chipset

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

Table 5. Chipset

Description	Values
Chipset	Intel Q670
Processor	Intel Core i3/i5/i7/i9
DRAM bus width	64/128-bit
Flash EPROM	32 MB RPMC+16 MB nRPMC

Table 5. Chipset (continued)

Description	Values
PCIe bus	Up to Gen4

Operating system

Your OptiPlex Micro Plus 7010 supports the following operating systems:

- Windows 11 Home, 64-bit
- Windows 11 Pro, 64-bit
- Windows 11 Downgrade (Windows 10 image)
- Windows 11 Pro National Education, 64-bit
- Windows 11 CMIT Government Edition, 64-bit (China only)
- Ubuntu Linux 22.04, 64-bit
- Windows 10 Pro, 64 bit

Memory

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

Table 6. Memory specifications

Description	Values
Memory slots	Two SODIMM slots
Memory type	DDR5
Memory speed	4800 MT/s
Maximum memory configuration	64 GB
Minimum memory configuration	8 GB
Memory size per slot	8GB, 16 GB, 32 GB, 64 GB
Memory configurations supported	8 GB, 1 x 8 GB, DDR5, 4800 MT/s, single-channel 16 GB, 1 x 16 GB, DDR5, 4800 MT/s, single-channel 16 GB, 2 x 8 GB, DDR5, 4800 MT/s, dual-channel 32 GB, 1 x 32 GB, DDR5, 4800 MT/s, single-channel 32 GB, 2 x 16 GB, DDR5, 4800 MT/s, dual-channel 64 GB, 2 x 32 GB, DDR5, 4800 MT/s, dual-channel

Memory matrix

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

Table 7. Memory matrix

Configuration	Slot	
	SO-DIMM1	SO-DIMM2
8 GB DDR5	8 GB	
16 GB DDR5	16 GB	

Table 7. Memory matrix (continued)

Configuration	Slot	
16 GB DDR5	8 GB	8 GB
32 GB DDR5	32 GB	
32 GB DDR5	16 GB	16 GB
64 GB DDR5	32 GB	32 GB

External ports

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

Table 8. External ports

Description	Values
Network port	One RJ45 Ethernet port 10/100/1000 Mbps
USB ports	- One USB 3.2 Gen 2 port with PowerShare (Front) - One USB 3.2 Gen 2x2 Type-C port (Front) - Two USB 3.2 Gen 2 ports (Rear) - One USB 3.2 Gen 1 port with Smart Power On (Rear)
Audio port	- One Universal audio jack (Front) - One Re-tasking line-out/line-in audio port (Front)
Video port	- One optional video port (HDMI 2.1/Displayport 1.4a (HBR3)/VGA/PS2/serial/USB Type-C with DisplayPort Alt mode) (Rear) - Three DisplayPort 1.4a (HBR2) (Rear)
Media-card reader	Not supported
Power-adapter port	One DC-in port with 7.40 mm barrel
Security-cable slot	- One Kensington lock slot - One padlock ring

Internal slots

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

Table 9. Internal slots

Description	Values
M.2	- One M.2 2230 slot for WiFi and Bluetooth card - Two M.2 2230/2280 slots for SSD **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 Micro Plus 7010.

Table 10. Ethernet specifications

Description	Values
Model number	Intel WGI219LM
Transfer rate	10/100/1000 Mbps

Wireless module

The following table lists the Wireless Local Area Network (WLAN) modules supported on your OptiPlex Micro Plus 7010.

Table 11. Wireless module specifications

Description	Option one	Option two
Model number	Realtek RTL8852BE	Intel AX211
Transfer rate	Up to 1201 Mbps	Up to 2400 Mbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz/5 GHz/6 GHz
Wireless standards	- WiFi 802.11a/b/g - Wi-Fi 4 (WiFi 802.11n) - Wi-Fi 5 (WiFi 802.11ac) - Wi-Fi 6 (WiFi 802.11ax)	- WiFi 802.11a/b/g - Wi-Fi 4 (WiFi 802.11n) - Wi-Fi 5 (WiFi 802.11ac) - Wi-Fi 6E (WiFi 802.11ax)
Encryption	64-bit/128-bit WEP - AES-CCMP - TKIP	64-bit/128-bit WEP - AES-CCMP - TKIP
Bluetooth	Bluetooth wireless card	Bluetooth wireless card

Audio

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

Table 12. Audio specifications

Description	Values
Audio controller	Realtek ALC3246-CG
Stereo conversion	Supported
Internal audio interface	High definition audio interface
External audio interface	- Universal audio jack - One re-tasking line out/line in audio port (front)
Number of speakers	One
Internal-speaker amplifier	Supported (audio codec integrated)

Table 12. Audio specifications (continued)

Description		Values
External volume controls		Keyboard shortcut controls
Speaker output:		
	Average speaker output	2 W
	Peak speaker output	2.5 W
Subwoofer output		Not supported
Microphone		Not supported

Storage

This section lists the storage options on your OptiPlex Micro Plus 7010.

Table 13. Storage matrix

Storage	1st M.2 socket	2nd M.2 socket	1st Bootable Device
M.2 solid-state drive	Yes		1st M.2 solid-state drive
Dual M.2 solid-state drive	Yes	Yes	1st M.2 solid-state drive

Table 14. Storage specifications

Storage type	Interface type	Capacity
M.2 2230, Class 25 solid-state drive	PCIe NVMe	Up to 1 TB
M.2 2230, Class 35 solid-state drive	PCIe NVMe	Up to 1 TB
M.2 2230, Class 35, Opal Self-Encrypting solid-state drive	PCIe NVMe	Up to 256 GB
M.2 2230, Class 40 solid-state drive	PCIe NVMe	Up to 2 TB
M.2 2280, Class 40, Opal Self-Encrypting solid-state drive	PCIe NVMe	Up to 1 TB

RAID (Redundant Array of Independent Disks)

For optimal performance when configuring drives as a RAID volume, Dell recommends drive models that are identical.

(i) **NOTE:** RAID is not supported on Intel Optane configurations.

RAID 0 (Striped, Performance) volumes benefit from higher performance when drives are matched because the data is split across multiple drives: any IO operations with block sizes larger than the stripe size will split the IO and become constrained by the slowest of the drives. For RAID 0 IO operations where block sizes are smaller than the stripe size, whichever drive the IO operation targets will determine the performance, which increases variability and results in inconsistent latencies. This variability is particularly pronounced for write operations and it can be problematic for applications that are latency sensitive. One such example of this is any application that performs thousands of random writes per second in very small block sizes.

RAID 1 (Mirrored, Data Protection) volumes benefit from higher performance when drives are matched because the data is mirrored across multiple drives: all IO operations must be performed identically to both drives, thus variations in drive

performance when the models are different, results in the IO operations completing only as fast as the slowest drive. While this does not suffer the variable latency issue in small random IO operations as with RAID 0 across heterogeneous drives, the impact is nonetheless large because the higher performing drive becomes limited in all IO types. One of the worst examples of constrained performance here is when using unbuffered IO. To ensure writes are fully committed to non-volatile regions of the RAID volume, unbuffered IO bypasses cache (for example by using the Force Unit Access bit in the NVMe protocol) and the IO operation will not complete until all the drives in the RAID volume have completed the request to commit the data. This kind of IO operation completely negates any advantage of a higher performing drive in the volume.

Care must be taken to match not only the drive vendor, capacity, and class, but also the specific model. Drives from the same vendor, with the same capacity, and even within the same class, can have very different performance characteristics for certain types of IO operations. Thus, matching by model ensures that the RAID volumes is comprised of an homogeneous array of drives that will deliver all the benefits of a RAID volume without incurring the additional penalties when one or more drives in the volume are lower performing.

OptiPlex Micro Plus 7010 supports RAID with more than one hard drive configuration.

Power adapter

The following table lists the power adapter specifications of your OptiPlex Micro Plus 7010.

Table 15. Power adapter specifications

Description		Option one	Option two
Type		130 W	180 W
Connector dimensions:			
	External diameter	7.40 mm	7.40 mm
	Internal diameter	5.10 mm	5.10 mm
Power-adapter dimensions:			
	Height	25 mm (0.98 in.)	30 mm (1.18 in.)
	Width	76 mm (2.99 in.)	76 mm (2.99 in.)
	Depth	155 mm (6.10 in.)	155 mm (6.10 in.)
Input voltage		100 VAC x 240 VAC	100 VAC x 240 VAC
Input frequency		50 Hz x 60 Hz	50 Hz x 60 Hz
Input current (maximum)		2.34 A	2.50 A
Output current (continuous)		6.70 A	9.23 A
Rated output voltage		19.50 VDC	19.50 VDC
Temperature range:			
	Operating	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)
	Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)
⚠ 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.**			

GPU—Integrated

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

Table 16. GPU—Integrated

Controller	Memory size	Processor
Intel UHD Graphics 730	Shared system memory	13th Generation Intel Core i3-13100/ i3-13100T and i5-13400/i5-13400T processors
Intel UHD Graphics 770	Shared system memory	13th Generation Intel Core i5-13500/i5-13500T,i5-13600/ i5-13600T/i7-13700/i7-13700T and i9-13900/i9-13900T processors

Video port resolution (GPU—Integrated)

Table 17. Video port resolution (GPU—Integrated)

Graphics card	Video ports	Maximum supported resolution
Intel UHD Graphics 730/770	Three DisplayPort 1.4a	4096 x 2304 at 60 Hz

External display support (GPU—Integrated)

Table 18. External display support (GPU—Integrated)

Integrated graphics card	Number of supported external display
Three DisplayPort 1.4a	3 4, with MST
Three DisplayPort 1.4a + Optional video port module	4

Hardware security

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

Table 19. Hardware security

Hardware security
Kensington security-cable slot
Padlock ring
Chasis lock slot support
Chassis intrusion switch
Supply chain tamper alerts
SafeID including Trusted Platform Module (TPM) 2.0
Smart card keyboard (FIPS)
Microsoft 10 Device Guard and Credential Guard (Enterprise SKU)
Microsoft Windows Bitlocker

Table 19. Hardware security (continued)

Hardware security
Local hard drive data wipe through BIOS (Secure Erase)
Self-encrypting storage drives (Opal, FIPS)
Trusted Platform Module TPM 2.0
China TPM
Intel Secure Boot
Intel Authenticate

Environmental

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

Table 20. Environmental

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

(i) **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 Micro Plus 7010.

Table 21. 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 Micro Plus 7010.

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

Table 22. Computer environment

Description	Operating	Storage
Temperature range	10°C to 35°C (50°F to 95°F)	-40°C to 65°C (-40°F to 149°F)

Table 22. Computer environment (continued)

Description	Operating	Storage
Relative humidity (maximum)	20% to 80% (non-condensing, Max dew point temperature = 26ºC)	5% to 95% (non-condensing, Max dew point temperature = 33ºC)
Vibration (maximum)*	0.26 GRMS random at 5 Hz to 350 Hz	1.37 GRMS random at 5 Hz to 350 Hz
Shock (maximum)	Bottom half-sine pulse with a change in velocity of 50.80 cm/sec (20 in./sec)	105G half-sine pulse with a change in velocity of 133 cm/sec (52.5 in./sec)
Altitude range	-15.2 m to 3048 m (-49.87 ft to 10000 ft)	-15.2 m to 10668 m (-49.87 ft to 35000 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.

Engineering specifications

Physical system dimensions

The following table provides the physical dimensions of your OptiPlex Micro Plus 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 23. Physical system dimensions

Feature	Values
Chassis volume	1.18
Chassis Weight	2.83 lb (1.28 kg)
Chassis dimensions	
Height	7.17 in. (182 mm)
Width	7.01 in. (178 mm)
Depth	1.42 in. (36 mm)
Shipping Weight (includes packaging materials)	7.05 lb (3.20 kg)
Packaging dimensions	
Height	5.25 in. (133 mm)
Width	19.63 in. (498 mm)
Depth	9.38 in. (238 mm)

Add-in card dimensions

Slot limitations

Table 24. M.2 2230 slot for Wi-Fi card

Voltage	3.30 V
Width	0.86 in. (22.00 mm)
Length	1.18 in. (30.00 mm)
Thickness	0.14 in. (3.65 mm)
Maximum wattage	6.60 W

Table 25. M.2 2280 slot for solid-state drive

Voltage	3.30 V
Width	0.86 in. (22.00 mm)
Length	3.14 in. (80.00 mm)
Thickness	0.15 in. (3.80 mm)

Table 25. M.2 2280 slot for solid-state drive (continued)

Maximum Wattage	8.25 W

Stands and mounts

Vertical Stand
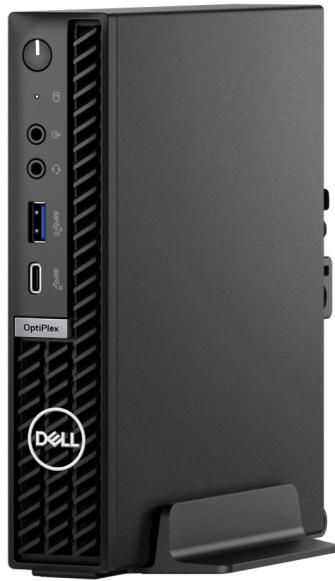
PSU Adapter Sleeve
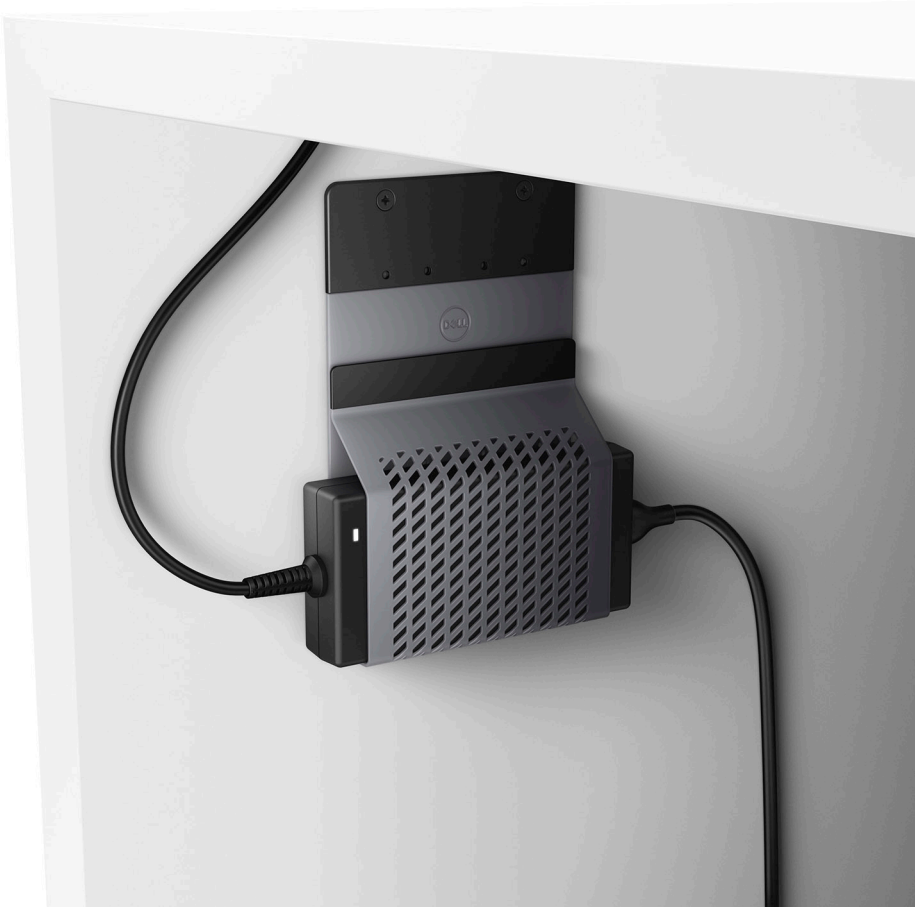
All-in-One Stand (MFS22)

VESA mount for E-Series Monitor

Dual VESA Mount

Wall/Under-the-Desk VESA Mount w/ PSU Sleeve

Ethernet

Intel Ethernet Connection i219-LM

The following table lists the i219-LM specifications.

Table 26. Intel Ethernet Connection i219-LM specifications

Feature	Values
External connector type	RJ45
Data rate	10/100/1000 Mbps
Controller Details	
Controller bus architecture	PCI Express base specification revision 1.1
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)

Table 26. Intel Ethernet Connection i219-LM specifications (continued)

Feature	Values
100BASE-TX (half-duplex) 100 Mbps	1000 Mb (full-duplex)
Environmental	
Operating temperature range	0°C–85°C (32°F–185°F)
Operating humidity	20% to 80% (non condensing)
Operating system driver Support	- Windows (x64) - Ubuntu - Neokylin
Manageability	- Wakeup On LAN - 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

Realtek RTL8852BE, 2x2, Wi-Fi 6 (Wi-Fi 802.11 a/b/g/n/ac/ax), Bluetooth 5.3

The following table lists the Realtek RTL8852BE specifications.

Table 27. Realtek RTL8852BE specifications

Host interface	- Wi-Fi - PCIe - Bluetooth - USB
Network standard	IEEE 802.11a/b/g/n/ac/ax, MU-MIMO
Wi-Fi Alliance certifications	- Wi-Fi certified a/b/g/n/ac/ax - WMM* - WPA - WPA2* - WPA3* - Wi-Fi Direct (Windows only)
Operating frequency bands	2.4 GHz 5 GHz
Data rate	2.4 GHz 40M: Up to 574 Mbps 5 GHz 80M: Up to 1201 Mbps
Power consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Authentication	- WPA* and WPA2* Personal and Enterprise - WPA3* Personal and Enterprise
Client utility	Native Wi-Fi and Bluetooth Microsoft UI support
Software support	- Microsoft WHQL certified for Windows - Linux

Table 27. Realtek RTL8852BE 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 5.3 - 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
(i) **NOTE:** *Other names and brands may be claimed as the property of others	

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.

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

Table 28. Intel AX211 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 (i) **NOTE:** Other names and brands may be claimed as the property of others.
Operating frequency bands	2.4 GHz 5 GHz 6 GHz
Data rate	2.4 GHz 40M: Up to 574 Mbps 5/6 GHz 80M: Up to 1.2 Gbps 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 - WPA3
Authentication protocols	802.1X EAP-TLS - EAP-TTLS/MSCHAPv2 - PEAPv0 -MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA)

Table 28. Intel AX211 specifications (continued)

Encryption	64-bit and 128-bit WEP - TKIP 128-bit AES-CCMP 256-bit AES-GCMP
Product safety	- UL - C-UL - CB (IEC60950-1)
Management capabilities alerting	Support for Intel AMT
Government compliance	- FIPS 140-2 - 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
Wake on wireless	Supported
Wireless display	Native Miracast support by Windows
Wireless PAN standard	- Dual Mode Bluetooth 5.3 - 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
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)

GPU—Integrated

Intel UHD Graphics 730

Table 29. Intel UHD Graphics 730 specifications

Intel UHD Graphics 730	
Bus Type	Integrated
Memory type	Shared memory
Graphics Level	Intel Core i3/i5/i7/i9: GT1 (UHD)
Overlay Planes	Yes
Operating Systems Graphics/ Video API Support	DirectX 12, OpenGL (4.60)
Supports maximum resolution	On board DP1.4a (HBR2)(4096 x 2304 @ 60 Hz)

Table 29. Intel UHD Graphics 730 specifications (continued)

Intel UHD Graphics 730	
Maximum vertical refresh rate	Up to 60 Hz depending on resolution
External ports	● Three DisplayPort 1.4a ● One Optional video port (HDMI 2.1/Displayport 1.4a port (HBR3)/VGA/USB Type-C with DisplayPort Alt Mode)
Multiple display support	Up to 4 displays via DisplayPort Multi-Streaming Technology (MST)

Intel UHD Graphics 770

Table 30. Intel UHD Graphics 770 specifications

Intel UHD Graphics 770	
Bus Type	Integrated
Memory type	Shared memory
Graphics Level	Intel Core i3/i5/i7/i9: GT1 (UHD)
Overlay Planes	Yes
Operating Systems Graphics/ Video API Support	DirectX 12, OpenGL (4.60)
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	● Three DisplayPort 1.4a ● One Optional video port (HDMI 2.1/Displayport 1.4a port (HBR3)/VGA/USB Type-C with DisplayPort Alt Mode)
Multiple display support	Up to 4 displays via DisplayPort Multi-Streaming Technology (MST)

Storage

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

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

Table 31. 512 GB SSD specifications

Capacity	512 GB
Height (approximate)	3.50 mm (0.17 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	30 mm (1.18 in.)
Interface type	PCIe
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical blocks	1,000,215,216
Power source	
Power consumption (reference only)	● Idle: 5 mW (PS4)

Table 31. 512 GB SSD specifications (continued)

	● Active: 4 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 32. 1 TB SSD specifications

Capacity	1 TB
Height (approximate)	3.50 mm (0.17 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	30 mm (1.18 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) ● Active: 4 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, Class 35 SSD

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

Table 33. 256 GB SSD specifications

Capacity	256 GB
Height (approximate)	3.50 mm (0.17 in.)
Width (approximate)	22 mm (0.87 in.)

Table 33. 256 GB SSD specifications (continued)

Depth (approximate)	30 mm (1.18 in.)
Interface type	PCIe
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical blocks	500,118,192
Power source	
Power consumption (reference only)	- Idle: 5 mW (PS4) - Active: 4 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 specifications.

Table 34. 256 GB SSD, self-encrypting drive specifications

Capacity	256 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	30 mm (1.18 in.)
Interface type	PCIe
Speed (maximum)	64 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) - Active: 4 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 35. 512 GB SSD specifications

Capacity	512 GB
Height (approximate)	3.50 mm (0.17 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	30 mm (1.18 in.)
Interface type	PCIe
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical blocks	1,000,215,216
Power source	
Power consumption (reference only)	● Idle: 5 mW (PS4) ● Active: 4 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 36. 1 TB SSD specifications

Capacity	1 TB
Height (approximate)	3.50 mm (0.17 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	30 mm (1.18 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) ● Active: 4 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C

Table 36. 1 TB 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, 512 GB, PCIe NVMe, Class 40 SSD

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

Table 37. 512 GB SSD specifications

Capacity	512 GB
Height (approximate)	2.38 mm (0.17 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 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) • 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, 512 GB, PCIe NVMe, Opal Self-Encrypting Class 40 Solid-State Drive

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

Table 38. 512 GB SSD, self-encrypting drive specifications

Capacity	512 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 mm (3.15 in.)
Interface type	PCIe

Table 38. 512 GB SSD, self-encrypting drive specifications (continued)

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 - L12) ● 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, 1 TB, PCIe NVMe, Class 40 SSD

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

Table 39. 1 TB SSD specifications

Capacity	1 TB
Height (approximate)	2.38 mm (0.17 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 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) ● 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, 1 TB, PCIe NVMe, Opal Self-Encrypting Class 40 Solid-State Drive

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

Table 40. 1 TB SSD, self-encrypting drive specifications

Capacity	1 TB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 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 - L12) ● Active: 4.5 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 41. 2 TB SSD specifications

Capacity	2 TB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 mm (3.15 in.)
Interface type	PCIe Gen4
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	4,000,797,360
Power source	
Power consumption (reference only)	● Idle: 5 mW (PS4 - L1.2) ● Active: 5 W
Environmental operating conditions (non-condensing)	

Table 41. 2 TB SSD specifications (continued)

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%

Power adapter

The following table lists the power adapter specifications of your OptiPlex Micro Plus 7010.

Table 42. Power adapter specifications

Description	Values	
Type	130 W AC adapter, 7.40 mm barrel	180 W AC adapter, 7.40 mm barrel
Diameter (connector)	7.40 mm x 5.10 mm	7.40 mm x 5.10 mm
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz
Input current (maximum)	2.50 A	2.34 A
Output current (continuous)	6.70 A	9.23 A
Rated output voltage	19.50 VDC	19.50 VDC
Temperature range		
Operating	0°C to 40°C (32°F to 104°F)	0°C to 40°C (32°F to 104°F)
Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

CMOS battery

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

Table 43. CMOS battery

Brand	Type	Voltage	Composition	Battery life
KTS	CR2032	3.0 V	Manganese Dioxide Lithium battery	Continuous Discharge Under 15 kΩ Load to 2.0 V End-Voltage. 2 3 ℃ ±3 ℃ 1100 Hrs.
MAXELL	CR2032	3.0 V	Manganese Dioxide Lithium battery	Continuous Discharge Under 15 kΩ Load to 2.0 V End-Voltage. 20 ℃ ±2 ℃ 855 Hrs.

Accessories

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

Table 44. Accessories

Accessories
Dell 24 Monitor - P2422H
Dell 27 Monitor - P2723D
Dell All-in-One VESA Mount for E-Series Monitors w/ Base Extender
Dell Collaboration 24 USB-C Hub Monitor - C2423HE
Dell Dual VESA Mount w/Adapter Bracket
Dell Micro All-in-One Stand - MFS22
Dell Premier Multi-Device Wireless Keyboard and Mouse - Acadia IO - KM7321W
Dell Premier Wireless ANC Headset - WL7022
Dell Single Monitor Arm - MSA20
Dell Speakerphone - SP3022
Dell UltraSharp 24 Monitor - U2422H
Dell UltraSharp Webcam - Acadia Webcam - WB7022
Dell Vertical Desktop Stand
Dell Wall/Under-the-Desk VESA Mount w/ PSU Sleeve

Security

Software security

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

Table 45. Software security

Security options
McAfee Small Business Security 30-day free trial
McAfee Small Business Security 12-month subscription
McAfee Small Business Security 36 month Subscription
Intel Guard Technologies & Secure Key: Software Guard (SGX), Data Guard (vPro only), Boot Guard, BIOS Guard (Core CPU's only)
OS Guard (Core CPU's only) and Secure Key (i5 or greater only)
Intel Runtime BIOS Resilience (Copper Point) with attestation via Nifty Rock + Intel TXT
Support of Absolute Persistent Module BIOS agent v2
OpenXT validation required
SafeGuard and Response, powered by VMware Carbon Black and Secureworks
Next Generation Antivirus (NGAV)
Endpoint Detection and Response (EDR)
Threat Detection and Response (TDR)

Table 45. Software security (continued)

Security options
Managed Endpoint Detection and Response
Incident Management Retainer
Dell Encryption
Dell Endpoint Security Suite Enterprise

Trusted Platform Module

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

Table 46. Trusted Platform Module (TPM)

TPM: ST/ST33 HTPH2X32AHD8
SPI interface
TPM 2.0
FIPs 140-2 certificate

Mil-SPEC

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

Table 47. Tower - Military specifications

Test Category	Test Method	Test Parameters
Altitude Storage Transport	Method 500.6 Procedure I	Test specification: ● Test Pressure: Equivalent to cabin altitude of 15,000ft ● Temperature: 21ºC ● Altitude Change Rate: <10 m/s ● Duration: 1 hour ● Unit is non-operational during test.
Altitude Operation/Air Carriage	Method 500.6 Procedure II	Test specification: ● Test Pressure: Equivalent to cabin altitude of 15,000ft ● Temperature: 21ºC ● Altitude Change Rate: <10 m/s ● Duration: 1 hour ● Unit is non-operational during test.
High Temperature Storage and Transition	Method 501.7 Procedure I	Test specification: ● Duration: 7 day exposure (7 X 24 hr. cycles) ● Temperature: 33 - 71ºC Table 501.7 - III High temperature cycles, climate category A1 ● Hot Dry ● Unit is non-operational during test.
High Temperature Operational	Method 501.7 Procedure II	Test specification:

Table 47. Tower - Military specifications (continued)

Test Category	Test Method	Test Parameters
		- Duration: 5 day exposure (5 X 24 hr. cycles) - Temperature: 32 - 49°C (Ambient Air) Table501.7 - III High Temperature cycle - Unit is operational during test.
Low Temperature (Exaggerated)	Method 502.7 Procedure I	Test specification: - Duration: 24 hour exposure - Temperature: -51°C - Unit is non-operational during test.
Low Temperature	Method 502.7 Procedure II	Test specification: - Duration: 24 hour exposure - Temperature: -29°C - Unit is operational during test.
Humidity Induced (Storage &Transit) and Naturaland Cycles	Method 507.6 Procedure I	Test specification: Duration: Refer to MIL-spec Table 507.6-II Nonhazardous test items.
Vibration Operational	Method 514.8 Procedure I - Category 4	Test specification: Duration: Refer to MIL-spec Table 507.6-II Nonhazardous test items.
Shock Material to be Packaged	Method 516.8 Procedure II	Test specification: - On-road Shock, 5.1g / 11ms (Table 516-8-VII)- Off-road Shocks 15.2g / 5ms (Table 516-8-VII)- Test unit orientations at x, y and z axis for both test. - Unit is Non-Operational during both test
Bench Handling	Method 516.8 Procedure VI	Test specification: - Angle drops onto solid wooden bench thickness least 4.25 cm (1.675 inch). Test height judgement as two conditions as rise test units at one edge 100 mm (4 inch) or rise an angle of 45°about a solid wooden bench top. - Unit is non-operational during test.
Sand and dust Blowing dust	Method 510.7 Procedure I	Test specification: - Duration: 12 hours - Air velocity = 1.5 m/s (300 ft/min) to 8.9 m/s (1750 ft/min) - Temperature: 60 °C - Relative Humidity: 30% 6H at standard ambient temperature and 6 hours at the high storage or operating temperature - Unit is non-operational during test.
Crash Hazard ShockTest	Method 516.8 Procedure V	Test specification: 185g, 2ms Half Sine 2 shocks/axis/direction for a total of 12 shocks - Unit is non-operational during test.

Table 47. Tower - Military specifications (continued)

Test Category	Test Method	Test Parameters
Vibration Non- Operational	Method 514.8 Procedure I -Category 24	Test specification: • Non-Operational Vibration, 20-2000 Hz, 7.69 Grms • Test Duration: 1 hr/axis • Unit is non-operational during test.
Functional Shock	Method 516.8 Procedure I	Test specification: • 185g, 2ms Half Sine 1 shock/axis/direction for a total of 6 shocks • Unit is operational during test.

Acoustic noise emission information tower

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

Table 48. Acoustic noise emission information tower

Component	Test Configuration
CPU	I9-13900
Memory	64 GB
HDD (#, capacity)	SSD. 2T
ODD	Not applicable
Graphics Adapter	UMA Integrated Graphics

Table 49. Declared Sound Power (LWAd)

Operating Mode	Declared Sound Power(LWAd)
Idle	3.3
HDD Operating	3.4
CPU Stressed	3.5
ODD Operating	Not applicable

Table 50. 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	25.2	22.5	N/A	N/A
HDD Operating	26	23.3	N/A	N/A
CPU Stressed	26.1	23.9	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

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 10.20 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 5.10 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).

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 51. 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 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. 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. 2. On the menu bar at the top of the Support page, select **Support** > **Knowledge Base**. 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.