

OptiPlex Small Form Factor Plus 7010

Technical Guidebook

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.

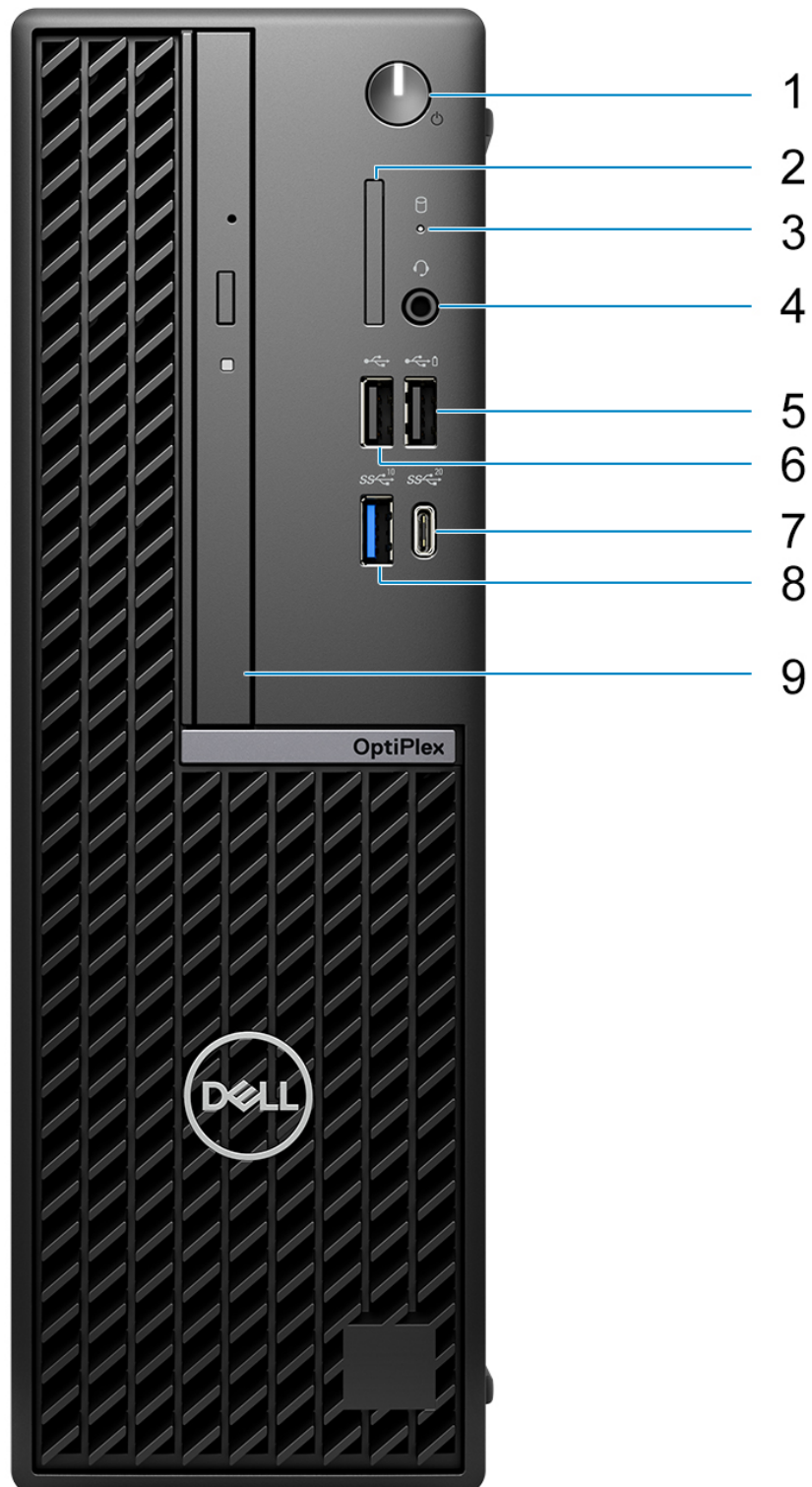
Chapter 1: Views of OptiPlex Small Form Factor Plus 7010.....	5
Display.....	6
Back.....	8
Chapter 2: Specifications of OptiPlex Small Form Factor Plus 7010.....	10
Dimensions and weight.....	10
Processor.....	10
Chipset.....	11
Operating system.....	12
Memory.....	12
Memory matrix.....	12
External ports and slots.....	13
Internal slots.....	14
Ethernet.....	14
Wireless module.....	14
Audio.....	15
Storage.....	15
Redundant Array of Independent Disks (RAID).....	17
Media-card reader.....	17
Power ratings.....	18
Power supply connector.....	18
GPU—Integrated.....	18
Video port resolution (GPU—Integrated).....	19
External display support (GPU—Integrated).....	19
GPU—Discrete.....	19
Video port resolution (GPU—Discrete).....	20
External display support (GPU—Discrete).....	20
Hardware security.....	20
Environmental.....	21
Regulatory compliance.....	21
Operating and storage environment.....	21
Chapter 3: Engineering specifications.....	23
Physical system dimensions.....	23
Add-in card dimensions.....	23
System board connector maximum add-in card allowable dimensions.....	23
PCIe add-in cards.....	24
USB 3.1 Gen 2 Type-C PCIe add-in card.....	24
USB Type-A 3.1 Gen2 PCIe add-in card.....	26
i225 PCIe x1 2.5 GbE NIC Card.....	26
Serial port PCIe card, Low Profile.....	27
Parallel Port PCIe card, Low Profile.....	27
PS/2 and Serial Port Card, Low Profile.....	28
Dust filter.....	28

Ethernet.....	29
Intel Ethernet Connection i219-LM.....	29
Wireless module.....	30
Realtek RTL8852BE, 2x2, Wi-Fi 6 (Wi-Fi 802.11 a/b/g/n/ac/ax), Bluetooth 5.3.....	30
Intel AX211, 2x2 MIMO, 2400 Mbps, 2.4/5/6 GHz, Wi-Fi 6E (WiFi 802.11ax), Bluetooth 5.3.....	31
GPU—Integrated.....	32
Intel UHD Graphics 730.....	32
Intel UHD Graphics 770.....	33
GPU—Discrete.....	33
AMD Radeon RX6300, 2 GB, GDDR6.....	33
AMD Radeon RX6500, 4 GB, GDDR6.....	34
Hard-disk drive Preloaded bracket matrix.....	34
Storage.....	35
2.5-inch, 500 GB, 7200 RPM, SATA, HDD	35
2.5-inch, 1 TB, 7200 RPM, SATA, HDD	35
3.5-inch, 4 TB, 5400 RPM, SATA, HDD	36
3.5-inch, 1 TB, 7200 RPM, SATA, HDD	37
3.5-inch, 2 TB, 7200 RPM, SATA, HDD	37
M.2 2230, 256 GB, PCIe NVMe, Class 35 SSD.....	38
M.2 2230, 512 GB, PCIe NVMe, Class 35 SSD.....	38
M.2 2230, 1 TB, PCIe NVMe, Class 35 SSD.....	39
M.2 2230, 256 GB, PCIe NVMe, Opal Self-Encrypting Class 35 SSD.....	40
M.2 2280, 512 GB, PCIe NVMe, Class 40 SSD, self-encrypting drive.....	40
M.2 2280, 1 TB, PCIe NVMe, Class 40 SSD, self-encrypting drive.....	41
M.2 2280, 512 GB, PCIe NVMe, Class 40 SSD.....	42
M.2 2280, 1 TB, PCIe NVMe, Class 40 SSD.....	42
M.2 2280, 2 TB, PCIe NVMe, Class 40 SSD.....	43
M.2 2230, 512 GB, PCIe NVMe, Class 25 SSD.....	43
M.2 2230, 1 TB, PCIe NVMe, Class 25 SSD.....	44
Media-card reader	45
Power ratings.....	45
Thermal dissipation.....	46
CMOS battery.....	46
Accessories.....	47
Security.....	47
Software security.....	47
Trusted Platform Module.....	48
Mil-SPEC.....	48
Acoustic noise emission information tower.....	49
Chassis enclosure and ventilation requirements.....	50
System management features.....	50
Dell Client Command Suite for in-band systems management	50
Out-of-band systems management.....	51

Chapter 4: Getting help and contacting Dell..... 52

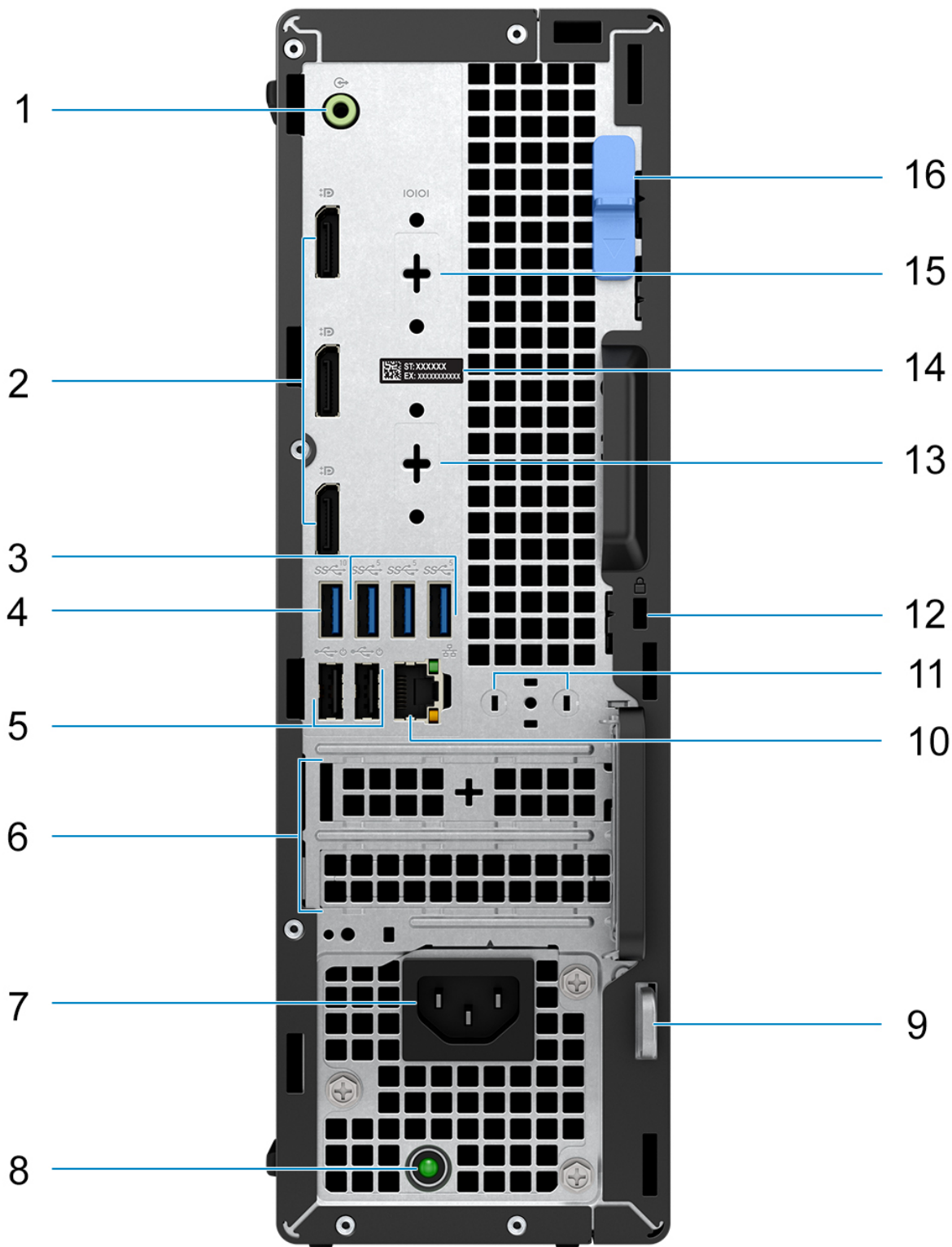
Views of OptiPlex Small Form Factor Plus 7010



Display



1. Power button with diagnostic LED
2. SD-card reader (optional)
3. Hard-drive activity light
4. Universal audio jack port
5. One USB 2.0 port with PowerShare
6. One USB 2.0 port
7. One USB 3.2 Gen 2x2 Type-C port
8. One USB 3.2 Gen 2 port
9. Slim optical drive (optional)

Back




1. One Re-tasking line-out/line-in audio port
2. Three DisplayPort 1.4a ports
-  **NOTE:** Maximum resolution is up to HBR2, 4096 x 2304 @60Hz.
3. Three USB 3.2 Gen 1 ports
4. One USB 3.2 Gen 2 port
5. Two USB 2.0 ports with Smart Power On
6. Two expansion card slots
7. Power cable connector
8. Power-supply diagnostics light
9. Padlock ring
10. RJ45 Ethernet port 10/100/1000 Mbps
11. External antenna connector (optional)
12. One security-cable slot (for Kensington locks)
13. One video port (HDMI 2.1/Displayport 1.4a (HBR3)/VGA/USB Type-C with DisplayPort Alt mode) (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
 - **USB Type-C with DisplayPort Alt mode:** up to 5120 x 3200 @60Hz
14. Service Tag label
15. One Serial port (optional)
16. Release latch

Specifications of OptiPlex Small Form Factor Plus 7010

Dimensions and weight

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

Table 1. Dimensions and weight

Description	Values
Height	290.00 mm (11.42 in.)
Width	92.60 mm (3.65 in.)
Depth	292.80 mm (11.53 in.)
Weight  NOTE: The weight of your computer depends on the configuration ordered and manufacturing variability.	<ul style="list-style-type: none"> Weight (minimum): 3.896 kg (8.589 lb) Weight (maximum): 5.087 kg (11.214 lb)

Processor

The following table lists the details of the processors that are supported by your OptiPlex Small Form Factor Plus 7010 .

Table 2. Processor


Description	Option one	Option two	Option three	Option four	Option five	Option six	Option seven
Processor type	13 th Generation Intel Core i3-13100	13 th Generation Intel Core i5-13400	13 th Generation Intel Core i5-13500	13 th Generation Intel Core i5-13600	13 th Generation Intel Core i5-13400	13 th Generation Intel Core i7-13700	13 th Generation Intel Core i9-13900
Processor wattage	60 W	65 W	65 W	65 W	65 W	65 W	65 W
Processor total core count	4	10	14	14	10	16	24
Performance-cores	4	6	6	6	6	8	8
Efficient-cores	0	4	8	8	4	8	16
Processor total thread counts  NOTE: Intel® Hyper-	8	16	16	8	16	24	32

Table 2. Processor (continued)

Description	Option one	Option two	Option three	Option four	Option five	Option six	Option seven
Threading Technology is only available on Performance-cores.							
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	2.50 GHz to 4.60 GHz	2.10 GHz to 5.10 GHz	2.00 GHz to 5.20 GHz
Performance-cores frequency							3.40 GHz
Processor base frequency	3.40 GHz	2.50 GHz	2.50 GHz	2.70 GHz	2.50 GHz	2.10 GHz	2.00 GHz
Maximum turbo frequency	4.50 GHz	4.60 GHz	4.80 GHz	5.00 GHz	4.60 GHz	5.20 GHz	5.60 GHz
Efficient-cores frequency							
Processor base frequency	NA	1.8 GHz	1.8 GHz	2.00 GHz	2.50 GHz	2.10 GHz	2.00 GHz
Maximum turbo frequency	NA	3.30 GHz	3.50 GHz	3.70 GHz	3.30 GHz	4.20 GHz	4.20 GHz
Processor cache	12 MB	20 MB	24 MB	24 MB	20 MB	30 MB	36 MB
Integrated graphics	Intel UHD Graphics 730	Intel UHD Graphics 730	Intel UHD Graphics 770	Intel UHD Graphics 770	Intel UHD Graphics 730	Intel UHD Graphics 770	Intel UHD Graphics 770

Chipset

The following table lists the details of the chipset that is supported in your OptiPlex Small Form Factor Plus 7010.

Table 3. Chipset

Description	Values
Chipset	Intel Q670
Processor	Intel Core i3/i5/i7/i9
DRAM bus width	64-bit/128-bit
Flash EPROM	32 MB RPMC+16 MB nRPMC
PCIe bus	Up to Gen4

Operating system

Your OptiPlex Small Form Factor Plus 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 that are supported by your OptiPlex Small Form Factor Plus 7010.

Table 4. Memory specifications

Description	Values
Memory slots	Four-UDIMM slots
Memory type	DDR5
Memory speed	Up to 4400 MT/s
Maximum memory configuration	128 GB
Minimum memory configuration	8 GB
Memory size per slot	8GB, 16 GB, 32 GB, 64 GB
Memory configurations supported	<ul style="list-style-type: none">• 8 GB, 1 x 8 GB, DDR5, 4400 MT/s, single-channel• 16 GB, 1 x 16 GB, DDR5, 4400 MT/s, single-channel• 16 GB, 2 x 8 GB, DDR5, 4400 MT/s, dual-channel• 32 GB, 1 x 32 GB, DDR5, 4400 MT/s, single-channel• 32 GB, 2 x 16 GB, DDR5, 4400 MT/s, dual-channel• 32 GB, 4 x 8 GB, DDR5, 4000 MT/s, dual-channel• 64 GB, 2 x 32 GB, DDR5, 4400 MT/s, dual-channel• 64 GB, 4 x 16 GB, DDR5, 4000 MT/s, dual-channel• 128 GB, 4 x 32 GB, DDR5, 3600 MT/s, dual-channel

Memory matrix

The following table lists the memory configurations supported on your OptiPlex Small Form Factor Plus 7010.

Table 5. Memory matrix

Configuration	Slots			
	DIMM1	DIMM2	DIMM3	DIMM4
8 GB DDR5	8 GB	NA	NA	NA
16 GB DDR5	16 GB	NA	NA	NA
16 GB DDR5	8 GB	8 GB	NA	NA
32 GB DDR5	32 GB	NA	NA	NA
32 GB DDR5	16 GB	16 GB	NA	NA

Table 5. Memory matrix (continued)

Configuration	Slots			
32 GB DDR5	8 GB	8 GB	8 GB	8 GB
64 GB DDR5	32 GB	32 GB	NA	NA
64 GB DDR5	16 GB	16 GB	16 GB	16 GB
128 GB DDR5	32 GB	32 GB	32 GB	32 GB

External ports and slots

The following table lists the external ports of your OptiPlex Small Form Factor Plus 7010.

Table 6. External ports and slots

Description	Values
Network port	One RJ-45 Ethernet port 10/100/1000 Mbps
USB ports	<ul style="list-style-type: none"> One USB 3.2 Gen 2x2 (20 Gbps) Type-C port (Front) One USB 3.2 Gen 2 (10 Gbps) port (Front) One USB 2.0 (480 Mbps) port with PowerShare (Front) One USB 2.0 (480 Mbps) port (Front) One USB 3.2 Gen 2 (10 Gbps) port (Rear) Three USB 3.2 Gen 1 (5 Gbps) ports (Rear) Two USB 2.0 (480 Mbps) ports with Smart Power On (Rear)
Audio port	<ul style="list-style-type: none"> One Universal audio jack (Front) One Re-tasking line-out/line-in audio port (Rear)
Video port(s)	<ul style="list-style-type: none"> One optional video port (HDMI 2.1/Displayport 1.4a (HBR3)/VGA/USB Type-C with DisplayPort Alt mode) (Rear) <ul style="list-style-type: none"> NOTE: The maximum resolution supported by HDMI 2.1 is up to 4096 x 2160 @60Hz NOTE: The maximum resolution supported by DisplayPort 1.4a (HBR3) is up to 5120 x 3200 @60Hz NOTE: The maximum resolution supported by VGA is up to 1920 x 1200 @60Hz NOTE: The maximum resolution supported by USB Type-C with DisplayPort Alt mode is up to 5120 x 3200 @60Hz Three DisplayPort 1.4a ports (HBR2)
Media-card reader	One SD-card slot (optional)
Power-adaptor port	Not supported
Security-cable slot	<ul style="list-style-type: none"> Security-cable slot (for Kensington locks) One Padlock ring

Internal slots

The following table lists the internal slots of your OptiPlex Small Form Factor Plus 7010.

Table 7. Internal slots

Description	Values
Expansion	<ul style="list-style-type: none">One Half-height Gen4 PCIe x16 slotOne Half-height Gen3 PCIe x4 open-end slot
M.2	<ul style="list-style-type: none">One M.2 2230 slot for WiFi and Bluetooth combo cardTwo M.2 2230 slot for solid-state driveOne M.2 2280 slot for solid-state drive <p>NOTE: To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at Dell Support Site.</p>
SATA slots	Three SATA 3.0 slots for 3.5-inch / 2.5-inch hard drive and slim optical drive

Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications of your OptiPlex Small Form Factor Plus 7010.

Table 8. 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 that are supported on your OptiPlex Small Form Factor Plus 7010.

Table 9. Wireless module specifications

Description	Option one	Option two
Model number	Intel AX211 NOTE: Intel AX211 is required to be tied with external antenna.	Realtek RTL8852BE
Transfer rate	Up to 2400 Mbps	Up to 1201 Mbps
Frequency bands supported	2.40 GHz/5 GHz/6 GHz	2.40 GHz/5 GHz
Wireless standards	<ul style="list-style-type: none">WiFi 802.11a/b/gWi-Fi 4 (WiFi 802.11n)Wi-Fi 5 (WiFi 802.11ac)Wi-Fi 6E (WiFi 802.11ax)	<ul style="list-style-type: none">WiFi 802.11a/b/gWi-Fi 4 (WiFi 802.11n)Wi-Fi 5 (WiFi 802.11ac)Wi-Fi 6 (WiFi 802.11ax)
Encryption	<ul style="list-style-type: none">64-bit/128-bit WEP	<ul style="list-style-type: none">64-bit/128-bit WEP

Table 9. Wireless module specifications (continued)

Description	Option one	Option two
	<ul style="list-style-type: none"> AES-CCMP TKIP 	<ul style="list-style-type: none"> AES-CCMP TKIP
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 Small Form Factor Plus 7010.

Table 10. Audio specifications

Description	Values
Audio controller	Realtek ALC3246-CG
Stereo conversion	Supported
Internal audio interface	High definition audio
External audio interface	Universal Audio Jack port, Audio Line-out
Number of speakers	One
Internal-speaker amplifier	Codec built-in amp
External volume controls	Not supported
Speaker output:	
Average speaker output	2 W
Peak speaker output	2.5 W
Subwoofer output	Not supported
Microphone	Internal Mic not available

Storage

This section lists the storage options on your OptiPlex Small Form Factor Plus 7010.

Table 11. Storage matrix

Storage	1st 2.5-inch hard-disk drive	2nd 2.5-inch hard-disk drive	Single 3.5-inch hard-disk drive	1st M.2 2230 socket	2nd M.2 2230 socket	3rd M.2 2280 socket
M.2 2230 solid-state drive	No	No	No	Yes	No	No
M.2 2230 solid-state drive + M.2 2230 solid-state drive	No	No	No	Yes	Yes	No
M.2 2280 solid-state drive	No	No	No	No	No	Yes

Table 11. Storage matrix (continued)

Storage	1st 2.5-inch hard-disk drive	2nd 2.5-inch hard-disk drive	Single 3.5-inch hard-disk drive	1st M.2 2230 socket	2nd M.2 2230 socket	3rd M.2 2280 socket
M.2 2280 solid-state drive + M.2 2230 solid-state drive	No	No	No	Yes	No	Yes
M.2 2280 solid-state drive + M.2 2230 solid-state drive + M.2 2230 solid-state drive	No	No	No	Yes	Yes	Yes
M.2 2230 solid-state drive + 3.5-inch hard-disk drive	No	No	Yes	Yes	No	No
M.2 2230 solid-state drive + 2.5-inch hard-disk drive	Yes	No	No	Yes	No	No
M.2 2230 solid-state drive + 2.5-inch hard-disk drive x2	Yes	Yes	No	Yes	No	No
M.2 2230 solid-state drive + M.2 2230 solid-state drive + 3.5-inch hard-disk drive	No	No	Yes	Yes	Yes	No
M.2 2230 solid-state drive + M.2 2230 solid-state drive + 2.5-inch hard-disk drive	Yes	No	No	Yes	Yes	No
M.2 2230 solid-state drive + M.2 2230 solid-state drive + 2.5-inch hard-disk drive X 2	Yes	Yes	No	Yes	Yes	No
M.2 2280 solid-state drive + 3.5-inch hard-disk drive	No	No	Yes	No	No	Yes
M.2 2280 solid-state drive + 2.5-inch hard-disk drive	Yes	No	No	No	No	Yes
M.2 2280 solid-state drive + 2.5-inch hard-disk drive x2	Yes	Yes	No	No	No	Yes
M.2 2280 solid-state drive + M.2 2230 solid-state drive + 3.5-inch hard-disk drive	No	No	Yes	Yes	No	Yes
M.2 2280 solid-state drive + M.2 2230 solid-state drive + 2.5-inch hard-disk drive	Yes	No	No	Yes	No	Yes
2.5-inch hard-disk drive	Yes	No	No	No	No	No
3.5-inch hard-disk drive	No	No	Yes	No	No	No
Dual 2.5-inch hard-disk drive	Yes	Yes	No	No	No	No

Table 12. Storage specifications


Storage type	Interface type	Capacity
2.5-inch hard-disk drive	SATA 3.0	Up to 1 TB
M.2 2230 solid-state drive, Class 35	PCIe NVMe, up to 64 Gbps	Up to 1 TB
M.2 2230 solid-state drive, Class 35, Self-Encrypting drive	PCIe NVMe, up to 64 Gbps	256 GB
M.2 2280 solid-state drive, Class 40	PCIe NVMe, up to 64 Gbps	Up to 2 TB
M.2 2280 solid-state drive, Class 40, Self-Encrypting drive	PCIe NVMe, up to 64 Gbps	Up to 1 TB
3.5-inch hard-disk drive	SATA 3.0	Up to 4 TB

Table 12. Storage specifications (continued)

Storage type	Interface type	Capacity
M.2 2230 solid-state drive, Class 25	PCIe NVMe, up to 64 Gbps	Up to 1 TB

Redundant Array of Independent Disks (RAID)

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

 **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 I/O operations with block sizes larger than the stripe size splits the I/O and become constrained by the slowest of the drives. For RAID 0 I/O operations where block sizes are smaller than the stripe size, whichever drive the I/O operation targets, determines 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 I/O operations must be performed identically to both drives, thus variations in drive performance when the models are different result in the I/O operations completing only as fast as the slowest drive. While this does not suffer from the variable latency issue in small random I/O operations as with RAID 0 across heterogeneous drives, the impact is nonetheless large because the higher performing drive becomes limited in all I/O types. One of the worst examples of constrained performance here is when using unbuffered I/O. To ensure that that writes are fully committed to nonvolatile regions of the RAID volume, unbuffered I/O bypasses cache (for example by using the Force Unit Access bit in the NVMe protocol) and the I/O operation will not complete until all the drives in the RAID volume have completed the request to commit the data. This kind of I/O 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 different performance characteristics for certain types of I/O operations. Thus, matching by model ensures that the RAID volume consists of a homogeneous array of drives that 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 Small Form Factor Plus 7010 supports RAID with more than one hard drive configuration.

Media-card reader

The following table lists the media cards that are supported in your OptiPlex Small Form Factor Plus 7010.

Table 13. Media-card reader specifications

Description	Values
Media-card type	One SD card 4.0 slot
Media-cards supported	<ul style="list-style-type: none"> Secure Digital (mSD) Secure Digital High Capacity (mSDHC) Secure Digital Extended Capacity (mSDXC)
 NOTE: The maximum capacity that is supported by the media-card reader varies depending on the standard of the media card that is installed on your computer.	

Power ratings

The following table lists the power rating specifications of OptiPlex Small Form Factor Plus 7010.

Table 14. Power ratings

Description	Option one	Option two
Type	260 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)	4.2 A	4.2 A
Output current (continuous)	<ul style="list-style-type: none"> 12 VB / 16 A Standby mode: <ul style="list-style-type: none"> 12 VA / 1.5 A 12 VB / 3.3 A 	<ul style="list-style-type: none"> 12 VA / 18 A 12 VB / 18 A Standby mode: <ul style="list-style-type: none"> 12 VA / 1.5 A 12 VB / 3.3 A
Rated output voltage	<ul style="list-style-type: none"> +12 VA +12 VB 	<ul style="list-style-type: none"> +12 VA +12 VB
Temperature range		
Operating	5°C to 45°C (41°F to 113°F)	5°C to 45°C (41°F to 113°F)
Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

Power supply connector

The following table lists the Power supply connector specifications of your OptiPlex Small Form Factor Plus 7010.

Table 15. Power supply connector

Power supply unit	Connectors
260 W (80 Plus Bronze)	<ul style="list-style-type: none"> Two 4 pin connectors for processor One 8 pin connector for system board
300 W (80 Plus Platinum)	<ul style="list-style-type: none"> Two 4 pin connectors for processor One 6 pin connector for system board

GPU—Integrated

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

Table 16. GPU—Integrated

Controller	External display support	Memory size	Processor
Intel UHD Graphics 730	Three DisplayPort 1.4a	Shared system memory	13 th Generation Intel Core i3-13100 and i5-13400 processors

Table 16. GPU—Integrated (continued)

Controller	External display support	Memory size	Processor
Intel UHD Graphics 770	Three DisplayPort 1.4a	Shared system memory	13 th Generation Intel Core i5-13500, i5-13600, i7-13700, i9-13900 processors

Video port resolution (GPU—Integrated)

Table 17. Video port resolution (GPU—Integrated)

Graphics card	Video ports	Maximum supported resolution
Intel UHD Graphics	<ul style="list-style-type: none"> One DisplayPort 1.4a port (HBR2) One video port (HDMI 2.1/ Displayport 1.4a (HBR3)/VGA/USB Type-C with DisplayPort Alt mode) (optional) 	<ul style="list-style-type: none"> DisplayPort 1.4a port - 4096 x 2304 @60Hz One video port (HDMI 2.1/ Displayport 1.4a (HBR3)/VGA/USB Type-C with DisplayPort Alt mode) (optional) - maximum resolution supported by HDMI 2.1 is up to 4096 x 2160 @60Hz, DisplayPort 1.4a (HBR3) is up to 5120 x 3200 @60Hz, VGA is up to 1920 x 1200 @60Hz, USB Type-C with DisplayPort Alt mode is up to 5120 x 3200 @60Hz)

External display support (GPU—Integrated)

Display support for the integrated graphics card

Table 18. Display support specifications

Graphics card	Supported external displays
Intel UHD Graphics 730/770	4
Intel UHD Graphics 730/770 + optional module	4

 **NOTE:** MST/daisy-chaining supports 4 displays.

GPU—Discrete

Table 19. GPU—Discrete

Controller	External display support	Memory size	Memory type
AMD Radeon RX6500	Two DisplayPort 1.4a (DP1.4a*2)	4 GB	GDDR6
AMD Radeon RX6300	Two DisplayPort 1.4a (DP1.4a*2)	2 GB	GDDR6

Video port resolution (GPU—Discrete)


Table 20. Video port resolution (GPU—Discrete)

Graphics card	Video port	Maximum supported resolution
AMD Radeon RX6300	Two DisplayPort 1.4a (DP1.4a*2)	5120 x 3200 @ 60 Hz is the maximum resolution for one port configuration
AMD Radeon RX6500	Two DisplayPort 1.4a (DP1.4a*2)	5120 x 3200 @ 60 Hz is the maximum resolution for one port configuration

External display support (GPU—Discrete)

Table 21. 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 (DP1.4a*2)	4	Supported
AMD Radeon RX6500	Two DisplayPort 1.4a (DP1.4a*2)	4	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 [Dell Support Site](#).

Hardware security

The following table lists the hardware security of your OptiPlex Small Form Factor Plus 7010.

Table 22. Hardware security

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

Table 22. Hardware security (continued)

Hardware security
SafeBIOS: includes Dell Off-host BIOS Verification, BIOS Resilience, BIOS Recovery, and additional BIOS Controls
OptiPlex SFF Cable Cover

Environmental

The following table lists the environmental specifications of your OptiPlex Small Form Factor Plus 7010.

Table 23. Environmental

Feature	Values
Recyclable packaging	Yes
BFR/PVC—free	No
Vertical orientation packaging support	No
Multi-Pack packaging	Yes
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 Small Form Factor Plus 7010.

Table 24. 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 Small Form Factor Plus 7010.

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

Table 25. 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)
Relative humidity (maximum)	20% to 80% (non-condensing, Max dew point temperature = 26°C)	5% to 95% (non-condensing, Max dew point temperature = 33°C)
Vibration (maximum)*	0.26 GRMS random at 5 Hz to 350 Hz	1.37 GRMS random at 5 Hz to 350 Hz

Table 25. Computer environment (continued)

Description	Operating	Storage
Shock (maximum)	Bottom half-sine pulse with a change in velocity of 50.8 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 (-49.8 ft to 10,000 ft)	-15.2 m to 10,668 m (-49.8 ft to 35,000 ft)
Airborne Contaminants	ISA-71 G1**: <300A/month copper coupon corrosion AND <200A/month of silver coupon corrosion	ISA-71 G1**: <300A/month copper coupon corrosion AND <200A/month of silver coupon corrosion
<p>]</p> <p>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.</p>		

* 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 Small Form Factor 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 26. Physical system dimensions

Feature	Values
Chassis volume	7.86 liter
Chassis Weight	<ul style="list-style-type: none"> 3.896 kg/8.598 lb (minimum) 5.087 kg/11.214 lb (maximum)
Height	290.00 mm (11.42 in.)
Width	92.60 mm (3.65 in.)
Depth	292.80 mm (11.53 in.)
Shipping Weight (includes packaging materials)	8.79 kg (15.16 lb)
Packaging dimensions:	
Height	264.00 mm (10.38 in.)
Width	487.00 mm (19.19 in.)
Depth	394.00 mm (15.50 in.)

Add-in card dimensions

System board connector maximum add-in card allowable dimensions

The following table lists the system board connector maximum add-in card allowable dimensions of your OptiPlex Small Form Factor Plus 7010.

Table 27. System board connector maximum add-in card allowable dimensions

Feature	Values
PCIe x16 connector	Half-height Gen3 PCIe x16 slot
Voltage	3.3 V/12 V
Height	68.90 mm (2.71 in.)
Length	167.65 mm (6.60 in.)
Maximum wattage	75 W
PCIe x4 connector	Half-height Gen3 PCIe x4 slot

Table 27. System board connector maximum add-in card allowable dimensions (continued)

Feature	Values
Voltage	3.3 V/12 V
Height	68.90 mm (2.71 in.)
Length	167.65 mm (6.60 in.)
Maximum wattage	10 W

Table 28. M.2 2230 slot for Wi-Fi card and Bluetooth combo card

Feature	Values
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	6.6 W

Table 29. M.2 2280 slot for solid-state drive

Feature	Values
Voltage	3.3 V
Width	22.00 mm (0.86 in.)
Length	80.00 mm (3.14 in.)
Thickness	3.65 mm (0.14 in.)
Maximum Wattage	6.6 W

Table 30. M.2 2230 slot for solid-state drive

Feature	Values
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	6.6 W

PCIe add-in cards

USB 3.1 Gen 2 Type-C PCIe add-in card

Table 31. USB 3.1 Gen 2 Type-C PCIe add-in card

Feature	Values
Bus	PCI Express Spec 3.0 x 2 (compliant with x4/x8/x16 slot)
Controller	<ul style="list-style-type: none"> • PCI Express USB 3.1 Host Controller • Asmedia ASM3142
USB standard	eXtensible Host Controller Interface (xHCI) Rev1.1

Table 31. USB 3.1 Gen 2 Type-C PCIe add-in card (continued)



Feature	Values
IRQ and IO	Assigned by system
USB Communication	
Host interface	<ul style="list-style-type: none"> • Universal Serial Bus 3.1 • Universal Serial Bus 3.0 • Universal Serial Bus 2.0 • Universal Serial Bus 1.1
Speed	<ul style="list-style-type: none"> • SuperSpeed+ (10 Gbps) • SuperSpeed (5 Gbps) • High Speed (480 Mbps) • Full Speed (12 Mbps) • Low Speed (1.5 Mbps)
Number of ports	Two ports  NOTE: One port supports data only, and the other port supports full feature.
USB connector	USB 3.1 Type-C port (Downstream facing port)
Protection	<ul style="list-style-type: none"> • +/-15KV IEC61000-4-2 Air Gap Discharge • +/-8KV IEC61000-4-2 Contact Discharge
Audio and Video	
Input interface	<ul style="list-style-type: none"> • Standard DisplayPort Female • DisplayPort 1.2/1.1
Output interface	USB Type-C port
Audio	Supported (Audio pass-through)
Power	
Power source	PCI Express Bus Power
Output power capacity	USB Type-C Port: USB Bus Power:+5 VDC/1.5 A/each port  NOTE: Total power output capacity is limited by the system power supply.
Over current protection	USB Type-C Port: +5 VDC/1.5 A/each port/power switch
Power consumption	3.0 W @ 3.3 V (board only without power output to USB device)
Operating System	
Supported operating system	Windows (64-bit)
Environment	
Operating temperature	0°C to 60°C (32°F to 140°F)
Operating humidity	5% to 95% RH
Storage temperature	-20°C to 70°C (-4°F to 158°F)
Standards and Certifications	
EMC	<ul style="list-style-type: none"> • CE • FCC • VCCI • BSMI


Table 31. USB 3.1 Gen 2 Type-C PCIe add-in card (continued)

Feature	Values
Green	<ul style="list-style-type: none"> • RoHS • CRoHS • WEEE

USB Type-A 3.1 Gen2 PCIe add-in card

The following table lists the USB Type-A 3.1 Gen2 PCIe add-in card specifications.

Table 32. USB Type-A 3.1 Gen2 PCIe add-in card specifications

Feature	Values
Interface	Universal Serial Bus 3.1/3.0/2.0/1.1
Speed	<ul style="list-style-type: none"> • Super Speed+ (10 Gbps) • Super Speed (5 Gbps) • High Speed (480 Mbps) • Full Speed (12 Mbps) • Low Speed (1.5 Mbps)
Number of ports	Two
Printed circuit board connector	USB3.1 USB Type A port
Controller details	
Controller	PCI Express USB3.1 Host controller, Asmedia ASM 3142
Controller bus architecture	PCI Express Spec 3.0, Dual Lane (x 2)
USB standard	eXtensible Host Controller Interface (xHCI) Rev 1.1
Power	
Source	PCIe Bus Power
Output Capacity	USB Type-A Port: +5 VDC/Maximum 0.9 A/each port  NOTE: Total power output capacity is limited by system power supply.
Over Current Protection	USB Type-A Port: +5 VDC/1.5 A/each port/Power switch
Power Consumption	1.1 W @ 3.3 V (board only without power output to USB device)
Environment	
Operating temperature	0°C to 60°C (32°F to 140°F)
Operating humidity	5 to 95% RH
Storage temperature	-20°C to 70°C (-4°F to 158°F)

i225 PCIe x1 2.5 GbE NIC Card

The following table lists the i225 PCIe x1 2.5 GbE NIC Card specifications.

Table 33. i225 PCIe x1 2.5 GbE NIC Card specifications

Feature	Values
RJ45 connection	Compatibility with cable lengths up to 100 mts using <ul style="list-style-type: none"> • CAT5e

Table 33. i225 PCIe x1 2.5 GbE NIC Card specifications (continued)

Feature	Values
	<ul style="list-style-type: none"> CAT6 CAT6A
Interface	PCIe
Data rate supported per port	2.5/1 GbE and 100/10 Mbps
Controller details	
Controller	Intel Ethernet Controller i225
Controller bus architecture	PCI Express 3.1 x1
Driver support	N/A
Bracket	Full-height bracket installed. Low-profile bracket in package.
Environment	
Operating temperature	0°C to 55°C (32°F to 131°F)
Operating humidity	Maximum: 90% non-condensing relative humidity at 35°C
Storage temperature	-40°C to 70°C (-40°F to 158°F)

Serial port PCIe card, Low Profile

Table 34. Serial port PCIe card, Low Profile

Feature	Values
Interface	<ul style="list-style-type: none"> RS-232 IEEE1284
Data rates	<ul style="list-style-type: none"> 50 bps ~115.2 Kbps (serial) maximum 1.8 Mbps (parallel)
Controller details	
Controller	SUNIX SUN2212 (16C950 UART compatible)
Controller bus architecture	<ul style="list-style-type: none"> PCI Express 2.0 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 35. Parallel Port PCIe card, Low Profile

Feature	Values
Interface	<ul style="list-style-type: none"> RS-232 IEEE1284
Data rates	<ul style="list-style-type: none"> 50 bps ~115.2 Kbps (serial)

Table 35. Parallel Port PCIe card, Low Profile (continued)

Feature	Values
	<ul style="list-style-type: none"> maximum 1.8 Mbps (parallel)
Controller details	
Controller	SUNIX SUN2212 (16C950 UART compatible)
Controller bus architecture	<ul style="list-style-type: none"> PCI Express 2.0 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 36. 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)

Dust filter

The following table lists the dust filter specifications of your OptiPlex Small Form Factor Plus 7010.

Table 37. Dust filter

Feature	Values
Type	0.20 mm (0.008 in.)
Mesh count	2540 mm (100.00 in.)
Weave	PW

Table 37. Dust filter (continued)

Feature	Values
Silk diameter	0.05 mm (0.002 in.)
Open area	61 %
Thickness	0.10 mm (0.004 in.)
Remark	PET

Ethernet

Intel Ethernet Connection i219-LM

The following table lists the i219-LM specifications.

Table 38. 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)
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	<ul style="list-style-type: none"> Windows (x64) Ubuntu Neokylin
Manageability	<ul style="list-style-type: none"> 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 39. Realtek RTL8852BE specifications

Description	Specifications
Host interface	<ul style="list-style-type: none">• Wi-Fi - PCIe• Bluetooth - USB
Network standard	IEEE 802.11a/b/g/n/ac/ax, MU-MIMO
Wi-Fi Alliance certifications	<ul style="list-style-type: none">• Wi-Fi certified a/b/g/n/ac/ax• WMM*• WPA• WPA2*• WPA3*• Wi-Fi Direct (Windows only)
Operating frequency bands	<ul style="list-style-type: none">• 2.4 GHz• 5 GHz
Data rate	<ul style="list-style-type: none">• 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
Security method	<ul style="list-style-type: none">• WPA* and WPA2* Personal and Enterprise• WPA3* Personal and Enterprise
Client utility	Native Wi-Fi and Bluetooth Microsoft UI support
Software support	<ul style="list-style-type: none">• Microsoft WHQL certified for Windows• 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	<ul style="list-style-type: none">• 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

Table 39. Realtek RTL8852BE specifications (continued)

Description	Specifications
 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.


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

Table 40. 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  NOTE: Other names and brands may be claimed as the property of others.
Operating frequency bands	<ul style="list-style-type: none"> • 2.4 GHz • 5 GHz • 6 GHz
Data rate	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • WPA2 Personal and Enterprise • WPA3
Authentication protocols	<ul style="list-style-type: none"> • 802.1X EAP-TLS • EAP-TTLS/MSCHAPv2 • PEAPv0 -MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA)
Encryption	<ul style="list-style-type: none"> • 64-bit and 128-bit WEP • TKIP • 128-bit AES-CCMP • 256-bit AES-GCMP
Product safety	<ul style="list-style-type: none"> • UL • C-UL • CB (IEC60950-1)
Management capabilities alerting	Support for Intel AMT
Government compliance	<ul style="list-style-type: none"> • FIPS 140-2 • FISMA
Client utility	Intel PRO/Set wireless software v22 and later
Antenna diversity	Supported

Table 40. Intel AX211 specifications (continued)

Description	Specifications
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	<ul style="list-style-type: none"> • 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 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)

GPU—Integrated

Intel UHD Graphics 730

Table 41. 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	<ul style="list-style-type: none"> • On board DP1.4a (HBR2)(4096 x 2304 @ 60 Hz) • One video port (HDMI 2.1/Displayport 1.4a (HBR3)/VGA/USB Type-C with DisplayPort Alt mode) (optional, maximum resolution supported by HDMI 2.1 is up to 4096 x 2160 @60Hz, DisplayPort 1.4a (HBR3) is up to 5120 x 3200 @60Hz, VGA is up to 1920 x 1200 @60Hz, USB Type-C with DisplayPort Alt mode is up to 5120 x 3200 @60Hz)
Maximum vertical refresh rate	Up to 60 Hz depending on resolution
External ports	<ul style="list-style-type: none"> • One DisplayPort 1.4a port (HBR2) • One Optional video port (HDMI 2.1/Displayport 1.4a(HBR3)/VGA/USB Type-C with DisplayPort Alt Mode)

Table 41. Intel UHD Graphics 730 specifications (continued)

Intel UHD Graphics 730	
Multiple display support	Up to 4 displays via DisplayPort Multi-Streaming Technology (MST)

Intel UHD Graphics 770

Table 42. Intel UHD Graphics 770 specifications

Intel UHD Graphics 770	
Bus Type	Integrated
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	<ul style="list-style-type: none"> On board DP1.4a (HBR2)(4096 x 2304 @ 60 Hz) One video port (HDMI 2.1/Displayport 1.4a (HBR3)/VGA/USB Type-C with DisplayPort Alt mode) (optional, maximum resolution supported by HDMI 2.1 is up to 4096 x 2160 @60Hz, DisplayPort 1.4a (HBR3) is up to 5120 x 3200 @60Hz, VGA is up to 1920 x 1200 @60Hz,USB Type-C with DisplayPort Alt mode is up to 5120 x 3200 @60Hz)
Maximum vertical refresh rate	Up to 60 Hz depending on resolution
External ports	<ul style="list-style-type: none"> One DisplayPort 1.4a port (HBR2) One Optional video port (HDMI 2.1/Displayport 1.4a(HBR3)/VGA/USB Type-C with DisplayPort Alt Mode)
Multiple display support	Up to 4 displays via DisplayPort Multi-Streaming Technology (MST)

GPU—Discrete

AMD Radeon RX6300, 2 GB, GDDR6

The following table lists the AMD Radeon RX6300 specifications.

Table 43. AMD Radeon RX6300 specifications

Feature	Values
Dedicated graphics memory	2 GB, GDDR6
Memory bus	32-bit
Memory config	<ul style="list-style-type: none"> SAMSUNG: K4ZAF325BM-HC16, DPN: 3PNGN HYNIX: H56G42AS4DX014 , DPN MFN30
Width	Single slot
Approximate wattage	TBP: 32 W

Table 43. AMD Radeon RX6300 specifications (continued)

Feature	Values
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	Two DisplayPort 1.4a ports

AMD Radeon RX6500, 4 GB, GDDR6

The following table lists the AMD Radeon RX6500 specifications.

Table 44. AMD Radeon RX6500 specifications

Feature	Values
Dedicated graphics memory	4 GB, GDDR6
Memory bus	64-bit
Memory config	<ul style="list-style-type: none"> SAMSUNG: K4ZAF325BM-HC16, DPN: 3PNGN 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	Two DisplayPort 1.4a ports

Hard-disk drive Preloaded bracket matrix

The following table lists the hard-disk drive preloaded bracket information of your OptiPlex Small Form Factor Plus 7010.

Table 45. Hard-disk drive Preloaded bracket matrix

Hard-disk drive Preloaded bracket	Available
3.5 in. Caddy/Bracket	Yes

Table 45. Hard-disk drive Preloaded bracket matrix (continued)

Hard-disk drive Preloaded bracket	Available
2.5 in. Caddy/Bracket	No

Storage

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

Table 46. 2.5-inch, 500 GB, 7200 RPM, SATA, HDD specifications

Specification	Values
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)	<ul style="list-style-type: none"> • Idle: 0.7 W • 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 47. 2.5-inch, 1 TB, 7200 RPM, SATA, HDD specifications

Specification	Values
Capacity	1 TB
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

Table 47. 2.5-inch, 1 TB, 7200 RPM, SATA, HDD specifications (continued)

Specification	Values
Speed (maximum)	Up to 6 Gbps
MTBF	550,000 hours
Logical blocks	1,953,525,168
Power source	
Power consumption (reference only)	<ul style="list-style-type: none"> • Idle: 0.7 W • 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%

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

Table 48. 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)	<ul style="list-style-type: none"> • Idle: 5 W • Active: 10 W
Environmental operating conditions (non-condensing)	
Temperature range	5°C to 60°C
Relative humidity range	5% to 90%
Op shock	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 49. 3.5-inch, 1 TB, 7200 RPM, SATA, HDD specifications

Description	Values
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	
Power consumption (reference only)	<ul style="list-style-type: none">• Idle: 5 W• Active: 10 W
Environmental operating conditions (non-condensing)	
Temperature range	5°C to 60°C
Relative humidity range	5% to 90%
Op shock	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 50. 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)	<ul style="list-style-type: none">• Idle: 5 W• Active: 10 W
Environmental operating conditions (non-condensing)	

Table 50. 3.5-inch, 2 TB, 7200 RPM, SATA, HDD specifications (continued)

Description	Values
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, 256 GB, PCIe NVMe, Class 35 SSD

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

Table 51. 256 GB SSD specifications

Description	Values
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)	<ul style="list-style-type: none"> Idle: 5 mW (PS4) 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 52. 512 GB SSD specifications

Description	Values
Capacity	512 GB
Height (approximate)	3.50 mm (0.17 in.)

Table 52. 512 GB SSD specifications (continued)

Description	Values
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)	<ul style="list-style-type: none"> • Idle: 5 mW (PS4) • 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 53. 1 TB SSD specifications

Description	Values
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)	<ul style="list-style-type: none"> • Idle: 5 mW (PS4) • 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 53. 1 TB SSD specifications (continued)

Description	Values
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 54. 256 GB SSD, self-encrypting drive specifications

Description	Values
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)	<ul style="list-style-type: none"> Idle: 5 mW (PS4) 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 55. 512 GB SSD, self-encrypting drive specifications

Description	Values
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)

Table 55. 512 GB SSD, self-encrypting drive specifications (continued)

Description	Values
MTBF	1.4M hours
Logical blocks	1,000,215,216
Power source	
Power consumption (reference only)	<ul style="list-style-type: none"> Idle: 5 mW (PS4 - L1.2) 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 56. 1 TB SSD, self-encrypting drive specifications

Description	Values
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)	<ul style="list-style-type: none"> Idle: 5 mW (PS4 - L1.2) 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 57. 512 GB SSD specifications

Description	Values
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)	<ul style="list-style-type: none">• 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, Class 40 SSD

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

Table 58. 1 TB SSD specifications

Description	Values
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)	<ul style="list-style-type: none">• Idle: 5 mW (PS4 - L1.2)• Active: 5 W

Table 58. 1 TB SSD specifications (continued)

Description	Values
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 59. 2 TB SSD specifications

Description	Values
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)
MTBF	1.4M hours
Logical blocks	4,000,797,360
Power source	
Power consumption (reference only)	<ul style="list-style-type: none"> 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 2230, 512 GB, PCIe NVMe, Class 25 SSD

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

Table 60. 512 GB SSD specifications

Description	Values
Capacity	512 GB

Table 60. 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)	<ul style="list-style-type: none"> • Idle: 5 mW (PS4) • 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 61. 1 TB SSD specifications

Description	Values
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)	<ul style="list-style-type: none"> • Idle: 5 mW (PS4) • 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


Table 61. 1 TB SSD specifications (continued)

Description	Values
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

Media-card reader

The following table lists the media-card reader specifications on your OptiPlex Small Form Factor Plus 7010.

Table 62. Media-card reader (standard offering)

Description	Specifications
Media Supported  NOTE: Maximum capacity that is supported will vary by Flash Media Types	SDXC, SDHC, SD Secure Digital (SD) 4.0 UHS-II Secure Digital (SD) 3.0 UHS-I
Support Specification Versions	Secure Digital (SD) 4.0
Power source	
Max Power Requirements	1.2 A
Supply Voltage Range	3.3 V
Power Consumption	MS 0.08 mA
Environmental operating conditions (Non-condensing)	
Operating Temperature Range	0°C to 70°C
Relative Humidity Range	N/A
Environmental non-operating conditions (Non-condensing)	
Operating Temperature Range	N/A
Relative Humidity Range	N/A

Power ratings

The following table lists the power ratings specifications of your OptiPlex Small Form Factor Plus 7010.

Table 63. Power ratings specifications

Description	Values	
Type	260 W (80 Plus Bronze)	300 W (80 Plus Platinum)
Input voltage	90 VAC to 264 VAC	90 VAC to 264 VAC
Input frequency	47 Hz to 63 Hz	47 Hz to 63 Hz
Input current (maximum)	4.2 A	4.2 A
Output current (continuous)	<ul style="list-style-type: none"> 12 VA / 16 A 12 VB / 18 A Standby mode: <ul style="list-style-type: none"> 12 VA / 1.5 A 12 VB / 3.3 A 	<ul style="list-style-type: none"> 12 VA / 18 A 12 VB / 18 A Standby mode: <ul style="list-style-type: none"> 12 VA / 1.5 A 12 VB / 3.3 A

Table 63. Power ratings specifications (continued)

Description	Values	
Rated output voltage	<ul style="list-style-type: none"> +12 VA +12 VB 	<ul style="list-style-type: none"> +12 VA +12 VB
Temperature range		
Operating	5°C to 45°C (41°F to 113°F)	5°C to 45°C (41°F to 113°F)
Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)
Compliance		
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 Small Form Factor Plus 7010.

Table 64. Thermal dissipation

Power supply unit	Heat dissipation	Voltage
260 W (80 Plus Bronze)	888 BTU/hr	100 VAC-240 VAC, 50 Hz-60 Hz, 4.2A/2.1 A
300 W (80 Plus Platinum)	1023 BTU/hr	100 VAC-240 VAC, 50 Hz-60 Hz, 4.2A/2.1 A

CMOS battery

The following table lists the CMOS battery specifications of your OptiPlex Small Form Factor Plus 7010.

Table 65. CMOS battery

Brand	Type	Voltage	Composition	Battery life
SHUNWO	CR2032N	3.0 V	Lithium metal	Continuous Discharge Under 15 kΩ Load to 2.0 V End-Voltage. 20°C±2°C 1030 Hrs. or Longer.980 Hrs.or Longer after 12 mo.
DOUBLE BEST	CR2032N	3.0 V	Lithium metal	Continuous Discharge Under 15 kΩ Load to 2.0 V End-Voltage. 20°C±2°C 1030 Hrs. or Longer.980 Hrs.or Longer after 12 mo.
VIC-DAWN	CR2032N	3.0 V	Lithium metal	Continuous Discharge Under 15 kΩ Load to 2.0 V End-Voltage. 20°C±2°C 1030 Hrs. or Longer.980 Hrs.or Longer after 12 mo.

Accessories

The following table lists the supported accessories on your OptiPlex Small Form Factor Plus 7010.

Table 66. Accessories

Accessories
Keyboard and Mouse: <ul style="list-style-type: none">Dell Premier Multi-Device Wireless Keyboard and Mouse - KM7321W
Display: <ul style="list-style-type: none">Dell 24 Monitor - P2422HDell 27 Monitor - P2723DDell UltraSharp 24 Monitor - U2422H
Web Cam: <ul style="list-style-type: none">Dell Pro Webcam - WB5023Dell UltraSharp Webcam - WB7022
Audio and Speakers : <ul style="list-style-type: none">Dell Speakerphone - SP3022
Audio Headsets : <ul style="list-style-type: none">Dell Premier Wireless ANC Headset - WL7022

Security

Software security

The following table lists the software security details of your OptiPlex Small Form Factor Plus 7010.

Table 67. Software security

Security options
SafeSupply Chain Add-on
Dell Trusted Device Agent
Absolute Control (Pro) - 1, 3, 4, and 5 year options
Absolute Resilience (Prem) - 1, 3, 4, and 5 year options
Absolute Resilience (Premium), SLED - 1, 3, 4, and 5 year options
Absolute Visibility (Std) - 1, 3, 4, and 5 year options
McAfee Business Protection
Secureworks Taegis XDR
VMware Carbon Black
CrowdStrike Falcon

Trusted Platform Module

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

Table 68. Trusted Platform Module (TPM)

Nuvoton NPCT760JABYX
SPI interface
TPM 2.0
FIPs 140-2 certificate

Mil-SPEC

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

Table 69. 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 Temperature: 21°C; 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 Pressure: Equivalent to cabin altitude of 15,000ft Temperature: 21°C; Altitude Change Rate: <10 m/s Duration: 1 hour Unit is operational during test.
Low Temperature (Exaggerated)	Method 502.7 Procedure I	Duration: 24 hour exposure Temperature: -51°C Unit is non-operational during test.
Low temperature	Method 502.7 Procedure II	Duration: 24 hour exposure Temperature: -29 °C 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 Nonhazardous test items.
Vibration Operational	Method 514.8 Procedure I - Category 4	Operational Vibration, 10-500 Hz, 1.04 Grms, random 1 hour on Bottom, Left and Back side. 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) - Off-road Shocks 15.2g / 5ms (Table 516-8-VII)

Table 69. Tower - Military specifications (continued)

Test Category	Test Method	Test Parameters
		<ul style="list-style-type: none"> - 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	Angle drops onto solid wooden bench thickness least 4.25cm (1.675 inch). Test height judgement as two conditions as rise test units at one edge 100mm (4 inch) or rise an angle of 45° about a solid wooden bench top. Unit is non-operational during test.
Sand and dust Blowing dust	Method 510.7 Procedure I	Duration: 12 hours Air velocity = 1.5 m/s (300 ft/min) to 8.9 m/s (1750 ft/min) Temperature: 60 °C Relative Humidity: 30% 6H at standard ambient temperature and 6 hours at the high storage or operating temperature Unit is non-operational during test.

Acoustic noise emission information tower

The following table lists the acoustic noise emission information of your OptiPlex Small Form Factor Plus 7010.

Table 70. Acoustic noise emission information tower

Component	Test Configuration
CPU	I9-13900 RAPTOR LAKE DT LGA B-0 65 W 2 GHz 8+16 P2 vPro 36 MB 32 EU Q1EJ QS
Memory	DIMM,32GB*4,4800,2RX8,16,DDR5,NU
HDD (#, capacity)	SSDR,2TB,G44,80S2,KIOXIA,XG8, SSDR,1TB,P44,30S3,MICRON,2450
ODD	DVD+/-RW,8X,9.5T,GU90N,HLDS
Graphics Adapter	UMA

Table 71. Declared Sound Power (LWAd)

Operating Mode	Declared Sound Power(LWAd)
Idle	2.75
HDD Operating	2.75
CPU Stressed	2.75
ODD Operating	4.75

Table 72. A-Weighted Sound Pressure Level (dB)

Declared Sound Pressure (LpA)		
	Tabletop System	
Operating Mode	Operator Position	Bystander Position
Idle	16.7	15.8
HDD operating	16.7	15.8
CPU Stressed	16.6	15.7
ODD Operating	37.6	32.2

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/temperature over 35°C. 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 included by default for In-Band management with our Dell Client Command Suite. In-Band management meaning that the Operating System is functional and the device is connected to a network so that it can be managed. The Dell Client Command Suite of tools can be leveraged individually or with a systems management console like SCCM, LANDESK, KACE, etc.

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

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 | 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 unreachable 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 ([Certification Registry](#)).

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 73. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	Dell Site
My Dell app	
Tips	
Contact Support	In Windows search, type <code>Contact Support</code> , and press Enter.
Online help for operating system	Windows Support Site Linux Support Site
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents.	Your Dell computer is uniquely identified using 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 Dell Support Site . For more information about how to find the Service Tag for your computer, see Locate the Service Tag on your computer .
Dell knowledge base articles	<ol style="list-style-type: none"> 1. Go to Dell Support Site. 2. On the menu bar at the top of the Support page, select Support > Support Library. 3. In the Search field on the Support Library 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 [Contact Support at Dell Support Site](#).

 **NOTE:** Availability of the services may vary depending on the country or region, and product.

 **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.