OptiPlex 3000 Micro

Technical Guidebook

Regulatory Model: D15U
Regulatory Type: D15U002
August 2022
Rev. A03

DELL Technologies

Notes, cautions, and warnings

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

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

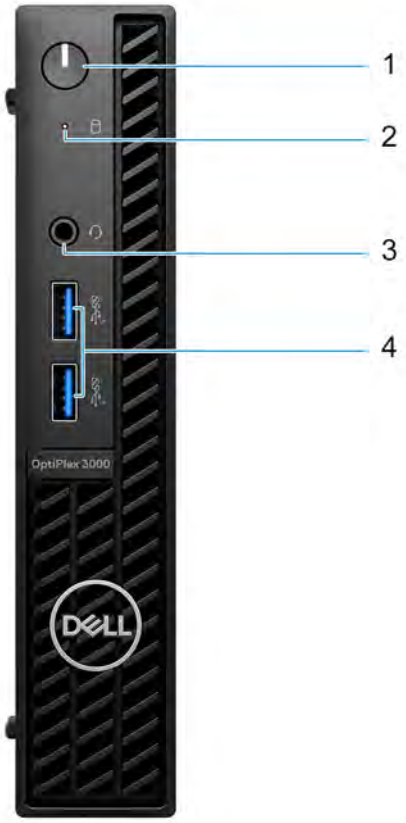
WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Contents

1

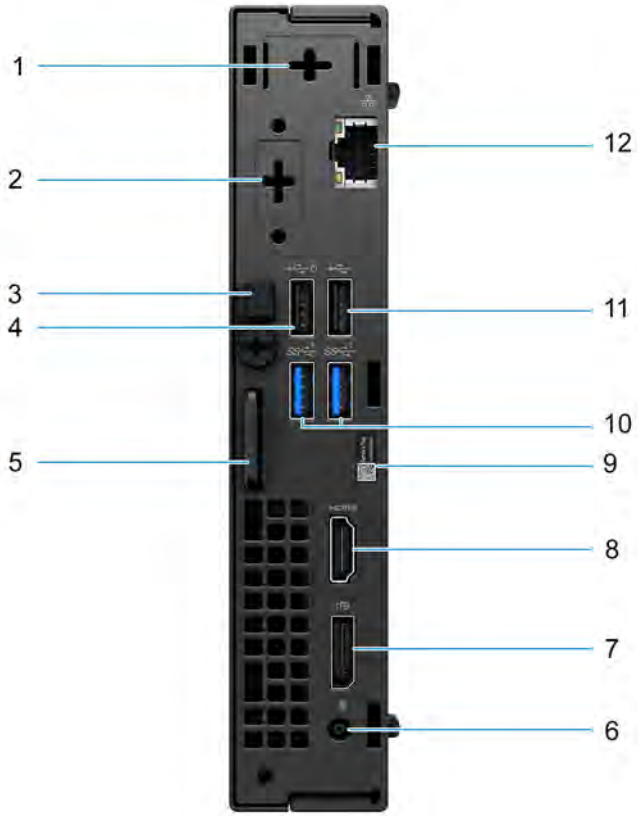
Views of OptiPlex 3000 Micro

Display



1. Power button with diagnostic LED
2. Hard-disk activity light
3. Universal audio jack
4. Two USB 3.2 Gen 1 ports

Back



1. External antenna connector
2. One optional video port (HDMI 2.0b/Displayport 1.4a (HBR3)/VGA/PS2/serial)
3. DC-in cable clip
4. USB 2.0 Type-A port with Smart Power On
5. Kensington security-cable slot and Padlock ring
6. Power adapter port
7. DisplayPort 1.4a (HBR2)
8. HDMI 1.4b port
9. Service tag label
10. Two USB 3.2 Gen 1 ports
11. USB 2.0 port
12. RJ45 Ethernet port

2

Specifications of OptiPlex 3000 Micro

Dimensions and weight

The following table lists the height, width, depth, and weight of your OptiPlex 3000 Micro.

Table 1. Dimensions and weight

Description	Values
Height	182.00 mm (7.17 in.)
Width	36.00 mm (1.42 in.)
Depth	178.00 mm (7.00 in.)
Weight **NOTE:** The weight of your computer depends on the configuration ordered and manufacturing variability.	1.33 kg (2.94 lbs)

Processor

The following table lists the details of the processors that are supported by your OptiPlex 3000 Micro .

Table 2. Processor

Description	Processor type	Processor wattage	Processor core count	Processor thread count	Processor speed	Processor cache	Integrated graphics
Option one	12th Generation Intel Core i3-12100T	35 W	4	8	2.20 GHz to 4.10 GHz	12 MB	Intel UHD Graphics 730
Option two	12th Generation Intel Core i3-12300T	35 W	4	8	3.30 GHz to 4.20 GHz	12 MB	Intel UHD Graphics 730
Option three	12th Generation Intel Core i5-12400T	35 W	6	12	1.80 GHz to 4.20 GHz	18 MB	Intel UHD Graphics 730
Option four	12th Generation Intel Core i5-12500T	35 W	6	12	2.00 GHz to 4.40 GHz	18 MB	Intel UHD Graphics 770
Option five	12th Generation Intel Core i5-12600T	35 W	6	12	2.10 GHz to 4.60 GHz	18 MB	Intel UHD Graphics 770
Option six	12th Generation Intel Core i7-12700T	35 W	12	20	1.40 GHz to 4.70 GHz	25 MB	Intel UHD Graphics 770

Table 2. Processor (continued)

Description	Processor type	Processor wattage	Processor core count	Processor thread count	Processor speed	Processor cache	Integrated graphics
Option seven	12th Generation Intel Pentium G7400T	35 W	2	4	Up to 3.10 GHz	6 MB	Intel UHD Graphics 710
Option eight	12th Generation Intel Celeron G6900T	35 W	2	2	up to 2.80 GHz	4 MB	Intel UHD Graphics 710

Chipset

The following table lists the details of the chipset supported by your OptiPlex 3000 Micro.

Table 3. Chipset

Description	Values
Chipset	B660
Processor	12th Generation Intel Pentium, Intel Celeron, and Intel Core i3/i5/i7
DRAM bus width	64-bit
Flash EPROM	32 MB + 16 MB
PCIe bus	Up to Gen3

Operating system

Your OptiPlex 3000 Micro supports the following operating systems:

- Windows 11 Home, 64-bit
- Windows 11 Pro, 64-bit
- Windows 11 Downgrade (Windows 10 image)
- Windows 11 Pro Education, 64-bit
- Windows 11 CMIT Government Edition, 64-bit (China only)
- Kylin Linux Desktop version 10.1 (China only)
- Ubuntu Linux 20.04 LTS, 64-bit

Memory

The following table lists the memory specifications of your OptiPlex 3000 Micro.

Table 4. Memory specifications

Description	Values
Memory slots	Two-SODIMM slots
Memory type	DDR4

Table 4. Memory specifications (continued)

Description	Values
Memory speed	3200 MHz
Maximum memory configuration	64 GB
Minimum memory configuration	4 GB
Memory size per slot	4 GB, 8 GB, 16 GB, 32 GB
Memory configurations supported	• 4 GB, 1 x 4 GB, DDR4, 3200 MHz, single-channel • 8 GB, 1 x 8 GB, DDR4, 3200 MHz, single-channel • 8 GB, 2 x 4 GB, DDR4, 3200 MHz, dual-channel • 16 GB, 1 x 16 GB, DDR4, 3200 MHz, single-channel • 16 GB, 2 x 8 GB, DDR4, 3200 MHz, dual-channel • 32 GB, 1 x 32 GB, DDR4, 3200 MHz, single-channel • 32 GB, 2 x 16 GB, DDR4, 3200 MHz, dual-channel • 64 GB, 2 x 32 GB, DDR4, 3200 MHz, dual-channel

Memory matrix

The following table lists the memory configurations supported on your OptiPlex 3000 Micro.

Table 5. Memory matrix

Configuration	Slot	
	SO-DIMM1	SO-DIMM2
4 GB DDR4	4 GB	
8 GB DDR4	4 GB	4 GB
8 GB DDR4	8 GB	
16 GB DDR4	8 GB	8 GB
16 GB DDR4	16 GB	
32 GB DDR4	16 GB	16 GB
32 GB DDR4	32 GB	
64 GB DDR4	32 GB	32 GB

External ports

The following table lists the external ports of your OptiPlex 3000 Micro.

Table 6. External ports

Description	Values
Network port	One RJ-45 Ethernet port 10/100/1000 Mbps
USB ports	• Two USB 3.2 Gen 1 Type-A port (Front) • One USB 2.0 Type-A port (Rear) • One USB 2.0 Type-A port with Smart Power On (Rear) • Two USB 3.2 Gen 1 Type-A ports (Rear)

Table 6. External ports (continued)

Description	Values
Audio port	One Universal audio port (front)
Video port	• One optional video port (HDMI 2.0b/DisplayPort 1.4a (HBR3)/ VGA) • One DisplayPort 1.4a (HBR2) (Rear) • One HDMI 1.4b (Rear) **NOTE:** Download and install the latest Intel Graphics driver from www.dell.com/support to enable multiple displays.
Media-card reader	Not supported
Power-adapter port	One DC-in port with 4.5 mm barrel
Security-cable slot	• One Kensington lock slot • One Padlock ring

Internal slots

The following table lists the internal slots of your OptiPlex 3000 Micro.

Table 7. Internal slots

Description	Values
M.2	• One M.2 2230 slot for WiFi and Bluetooth card • One M.2 2230/2280 slot for SSD • One SATA slot for 2.5-inch HDD **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 3000 Micro.

Table 8. Ethernet specifications

Description	Values
Model number	Realtek RTL8111
Transfer rate	10/100/1000 Mbps

Wireless module

The following table lists the Wireless Local Area Network (WLAN) module specifications of your OptiPlex 3000 Micro.

Table 9. Wireless module specifications

Description	Option one	Option two	Option three
Model number	Intel AX210	Intel Dual Band Wireless-AC 9462	MediaTek MT7921
Transfer rate	Up to 2400 Mbps	Up to 433 Mbps	Up to 1200 Mbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz **NOTE:** The 6 GHz frequency is supported on computers installed with Windows 11 operating system only.	2.4 GHz/5 GHz	2.4 GHz/5 GHz
Wireless standards	• WiFi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6E (WiFi 802.11ax)	• WiFi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac)	• WiFi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6 (WiFi 802.11ax)
Encryption	• 64-bit and 128-bit WEP • 128-bit AES-CCMP • TKIP • 256-bit AES-GCMP	• 64-bit and 128-bit WEP • 128-bit AES-CCMP • TKIP	• 64-bit and 128-bit WEP • 128-bit AES-CCMP • TKIP
Bluetooth	Bluetooth 5.2	Bluetooth 5.1	Bluetooth 5.2

Audio

The following table lists the audio specifications of your OptiPlex 3000 Micro.

Table 10. Audio specifications

Description		Values
Audio controller		ALC3246-CG
Stereo conversion		Supported
Internal audio interface		High definition audio
External audio interface		One Universal Audio Jack
Number of speakers		One internal speaker (optional)
Internal-speaker amplifier		Supported (audio codec integrated)
External volume controls		Keyboard shortcut controls
Speaker output:		
	Average speaker output	2 W
	Peak speaker output	2.5 W

Table 10. Audio specifications (continued)

Description	Values
Subwoofer output	Not supported
Microphone	Dual-array microphones

Storage

This section lists the storage options on your OptiPlex 3000 Micro.

Table 11. Storage matrix

Storage		1st 2.5-inch hard drive	1st M.2 socket	1st Bootable Device
2.5-inch hard drive		Yes		2.5-inch hard drive
M.2 solid-state drive			Yes	1st M.2 solid-state drive
M.2 solid-state drive	2.5-inch hard drive/solid-state drive	Yes	Yes	1st M.2 solid-state drive

Table 12. Storage specifications

Storage type	Interface type	Capacity
2.5-inch, 5400 RPM, hard-disk drive	SATA 3.0	Up to 2 TB
2.5-inch, 7200 RPM, hard-disk drive	SATA 3.0	Up to 1 TB
2.5-inch, 7200 RPM, Opal Self-Encrypting hard-disk drive	SATA 3.0	500 GB
M.2 2230, Class 35 solid-state drive	PCIe NVMe Gen3 x4	Up to 512 GB
M.2 2280, Class 40 solid-state drive	PCIe NVMe Gen3 x4	Up to 2 TB

Power adapter

Table 13. Power adapter specifications

Description		Option One	Option two
Type		90 W (35 W CPU)	65 W (35 W CPU)
Diameter (connector)		4.5 mm x 2.9 mm	4.5 mm x 2.9 mm
Input voltage		100 VAC—240 VAC	100 VAC—240 VAC
Input frequency		50 Hz—60 Hz	50 Hz—60 Hz
Input current (maximum)		1.50 A	1.6 A/1.7 A
Output current (continuous)		4.62 A	3.34 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)

Table 13. Power adapter specifications (continued)

Description		Option One	Option two
	Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your OptiPlex 3000 Micro.

Table 14. GPU—Integrated

Controller	External display support	Memory size	Processor
Intel UHD Graphics 710	• One DisplayPort 1.4a (HBR2) • One HDMI 1.4b	Shared-system memory	12th Generation Intel Pentium/Celeron processors
Intel UHD Graphics 730	• One DisplayPort 1.4a (HBR2) • One HDMI 1.4b	Shared-system memory	12th Generation Intel Core i3 processors
Intel UHD Graphics 770	• One DisplayPort 1.4a (HBR2) • One HDMI 1.4b	Shared-system memory	12th Generation Intel Core i5/i7 processors

Multiple display support matrix

The following table lists the multiple display support matrix for your OptiPlex 3000 Micro.

Table 15. Optiplex 3000— One DP1.4 (HBR2) + 1HDMI 1.4 +option VGA/HDMI2.0/DP1.4 (HBR3)

Description	Number of displays	Maximum resolution
Intel UHD 710/730/770 Graphics	1	• On board integrated DP1.4a (HBR2)(4096 x 2304 @ 60 Hz) • On board integrated HDMI1.4b (1920 x 1200 @ 60 Hz) • Option card with VGA (1920 x 1200 @ 60 Hz) • Option card with DP1.4a (HBR3) (5120 x 3200 @ 60 Hz) • Option card with HDMI 2.0b (4096 x 2160 @ 60 Hz)
	2	• On board integrated DP1.4a (HBR2)(4096 x 2304 @ 60 Hz) + On board integrated HDMI1.4b (1920 x 1200 @ 60 Hz) • On board integrated DP1.4a (HBR2)(4096 x 2304 @ 60 Hz) + Option card with VGA (1920 x 1200 @ 60 Hz) • On board integrated DP1.4a (HBR2)(4096 x 2304 @ 60 Hz) + Option card with DP1.4a (HBR3)(5120 x 3200 @ 60 Hz) • On board integrated DP1.4a (HBR2)(4096 x 2304 @ 60 Hz) + Option card with HDMI 2.0b (4096 x 2160 @ 60 Hz) • On board integrated HDMI1.4b (1920 x 1200 @ 60 Hz) + Option card with VGA (1920 x 1200 @ 60 Hz) • On board integrated HDMI1.4b (1920 x 1200 @ 60 Hz) + Option card with DP1.4a (HBR3)(5120 x 3200 @ 60 Hz) • On board integrated HDMI1.4b (1920 x 1200 @ 60 Hz) + Option card with HDMI 2.0b (4096 x 2160 @ 60 Hz)
	3	• On board integrated DP1.4a (HBR2) (4096 x 2304 @ 60 Hz) + On board integrated HDMI1.4b (1920 x 1200 @ 60 Hz) + Option card with VGA (1920 x 1200 @ 60 Hz)

Table 15. Optiplex 3000— One DP1.4 (HBR2) + 1HDMI 1.4 +option VGA/HDMI2.0/DP1.4 (HBR3) (continued)

Description	Number of displays	Maximum resolution
		• On board integrated DP1.4a (HBR2) (4096 x 2304 @ 60 Hz) + On board integrated HDMI1.4b (1920 x 1200 @ 60 Hz) + Option card with DP1.4a (HBR3)(5120 x 3200 @ 60 Hz) • On board integrated DP1.4a (HBR2) (4096 x 2304 @ 60 Hz) + On board integrated HDMI1.4b (1920 x 1200 @ 60 Hz) + Option card with HDMI 2.0b (4096 x 2160 @ 60 Hz)

Hardware security

The following table lists the hardware security of your OptiPlex 3000 Micro.

Table 16. Hardware security

Hardware security
Kensington security-cable slot
Padlock ring
Chasis lock slot support
Chassis intrusion switch
Lockable cable covers
Supply chain tamper alerts
SafeID including Trusted Platform Module (TPM) 2.0
Smart card keyboard (FIPS)
Microsoft 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

Environmental

The following table lists the environmental specifications of your OptiPlex 3000 Micro.

Table 17. Environmental

Feature	Values
Recyclable packaging	Yes
BFR/PVC—free chassis	No
Vertical orientation packaging support	Yes
Multi-Pack packaging	Yes

Table 17. Environmental (continued)

Feature	Values
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 3000 Micro.

Table 18. Regulatory compliance

Regulatory compliance
EPEAT registered configurations available
ENERGY STAR compliant configurations available
US CEC MEPS compliant configurations available
Australia and New Zealand MEPS compliant configurations available
CEL
WEEE
Japan Energy Law
South Korea E-standby
EU RoHS
China RoHS

Operating and storage environment

This table lists the operating and storage specifications of your OptiPlex 3000 Micro.

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

Table 19. 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
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	3048 m (10,000 ft)	10,668 m (35,000 ft)

CAUTION: Operating and storage temperature ranges may differ among components, so operating or storing the device outside these ranges may impact the performance of specific components.

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

† Measured using a 2 ms half-sine pulse.

3

Engineering specifications

Physical system dimensions

The following table provides the physical dimensions of your OptiPlex 3000 Micro.

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 20. Physical system dimensions

Feature	Values
Chassis Volume (liters)	1.18
Chassis Weight (lb/kg)	2.82 lb (1.28 kg) (For 35 W) 2.85 lb (1.29 kg) (For 65 W)
Chassis Dimensions (H x W x D)	
Height (in./mm)	7.16 in. (182.00 mm)
Width (in./mm)	7.02 in. (178.50 mm)
Depth (in./mm)	1.42 in. (36.00 mm)
Shipping Weight (lb/kg – includes packaging materials).	7.05 lb (3.20 kg)
Packaging Dimensions (H x W x D)	
Height (in./mm)	19.6 in. (497.84 mm)
Width (in./mm)	9.37 in. (237.99 mm)
Depth (in./mm)	5.24 in. (133.09 mm)

Add-in card dimensions

Slot limitations

Table 21. M.2 2230 slot for Wi-Fi card

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

Table 22. M.2 2280 slot for solid-state drive

Voltage	3.3 V
Width	0.86 in. (22.00 mm)
Length	3.14 in. (80.00 mm)

Table 22. M.2 2280 slot for solid-state drive (continued)

Thickness	0.15 in. (3.80 mm)
Maximum Wattage	8.25 W

Stands and mounts

Vertical Stand

PSU Adapter Sleeve

All-in-One Stand (MFS22)

Dual VESA Mount

Under-the-Desk VESA mount Wall Mount

Ethernet

Realtek RTL8111

The following table lists the Realtek RTL8111 specifications.

Table 23. Realtek RTL8111 specifications

Feature	Values
External connector type	RJ45
Data rate	10/100/1000 Mbps
Controller Details	
Controller bus architecture	PCI Express base specification revision 1.0a
Integrated memory	Yes
Data transfer mode	Yes (Bus-Master DMA)
Power consumption (Full operation per data rate connection speed)	542 mW (Max)
Power consumption (Standby operation)	76 mW (Max)
IEEE standards compliance	802.3
Hardware certifications	N/A
Boot ROM support	EEPROM (Located in SPI)
Network Transfer Mode	
Network transfer rate	10 Mb (full/half-duplex)
10BASE-T (full-duplex) 20 Mbps	100 Mb (full/half-duplex)

Table 23. Realtek RTL8111 specifications (continued)

Feature	Values
100BASE-TX (half-duplex) 100 Mbps	1000 Mb (full-duplex)
Environmental	
Operating temperature range	0°C–70°C (32°F–158°F)
Operating humidity	20% to 80% (non condensing)
Operating system driver Support	• Windows (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

MediaTek MT7921, 2x2, Wi-Fi 6 (WiFi 802.11ax), Bluetooth 5.2

The following table lists the MediaTek MT7921 specifications.

Table 24. MediaTek MT7921 specifications

Host interface	• Wi-Fi - PCIe • Bluetooth - USB
Network standard	IEEE 802.11a/b/g/n/ac/ax, MU-MIMO
Wi-Fi Alliance certifications	• 802.11 a/b/g/n/ac R2/ax R2 • WMM • WMM-PS • WPA3 • WPS2 • PMF • WFD • Miracast • Passpoint R2 • Voice Personal
Operating frequency bands	• 2.4 Ghz • 5 Ghz
Data rate	• 2.4 GHz 40M: Up to 576 Mbps • 5 GHz 160M: Up to 1.2 Gbps
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
Authentication protocols	• 802.1X EAP-TLS

Table 24. MediaTek MT7921 specifications (continued)

	• EAP-TTLS/MSCHAPv2 • PEAPv0 -MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA)
Encryption	• 64-bit and 128-bit WEP • TKIP • 128-bit AES-CCMP • 256-bit AES-GCMP
Product safety	• UL • C-UL • CB (IEC60950-1)
Government compliance	• FIPS 140-2 • FISMA
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 5.2 • 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° 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)

Intel 9462, 1x1, 433 Mbps, 2.40 Ghz /5 Ghz, Wi-Fi 5 (WiFi 802.11ac), Bluetooth 5.1

The following table lists the Intel 9462 specifications.

Table 25. Intel 9462 specifications

Host interface	CNVi (Connectivity Integration)
Network standard	IEEE 802.11a/b/g/n/ac
Wi-Fi Alliance certifications	• Wi-Fi CERTIFIED a/b/g/n/ac with wave 2 features • WMM • WMM-PS • WPA • WPA2 • WPS2 • Protected Management Frames

Table 25. Intel 9462 specifications (continued)

	• Wi-Fi Direct (For Windows only)
Operating frequency bands	• 2.4 Ghz • 5 Ghz
Data rate	• 2.4 GHz 40M: Up to 150 Mbps • 5 GHz 80M: Up to 433 Mbps
Power consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Authentication	• WPA and WPA2 • 802.1X (EAP-TLS, TTLS, PEAP, EAP-SIM, EAP-AKA, EAP-AKA)
Authentication protocols	• PAP • CHAP • TLS • GTC • MS-CHAP • MS-CHAP v2
Encryption	• 64-bit and 128-bit WEP • TKIP • 128-bit AES-CCMP
Product safety	• UL • C-UL • CB (IEC60950-1)
Government compliance	• FIPS • FISMA
Client utility	Intel PRO/Set wireless software v20 and later
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 5.1 • BLE
Bluetooth data rates	Up to 3Mbps
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)

Intel AX210, 2x2 MIMO, 2400 Mbps, 2.40 Ghz /5 Ghz/6 GHz, Wi-Fi 6E (WiFi 802.11ax), Bluetooth 5.2

The following table lists the Intel AX210 specifications.

Table 26. Intel AX210 specifications

Host interface	• Wi-Fi - PCIe • Bluetooth - USB
Network standard	IEEE 802.11a/b/g/n/ac/ax, 160MHz channel use, MU-MIMO, new 6GHz 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
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')
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

Table 26. Intel AX210 specifications (continued)

Wake on wireless	Supported
Wireless display	Native Miracast support by Windows
Wireless PAN standard	• Dual Mode Bluetooth 5.2 • 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

The following table lists the Intel UHD Graphics specifications.

Table 27. Intel UHD Graphics specifications

Bus type	Integrated graphics
Memory type	UMA
Graphics level	Intel UHD Graphics
Estimated maximum power consumption (TDP)	10 W
Overlay planes	Yes
Operating systems graphics/ video API support	DirectX 12, OpenGL (4.6)
Maximum vertical refresh rate	Up to 60 Hz depending on resolution
External ports	• On board integrated DP1.4a (HBR2)(4096 x 2304 @ 60 Hz) • On board integrated HDMI1.4b (1920x1200 @ 60 Hz) • Option card with VGA (1920 x 1200 @ 60 Hz) • Option card with DP1.4a (HBR3) (5120 x 3200 @ 60 Hz) • Option card with HDMI 2.0b (4096 x 2160 @ 60 Hz)
Multiple display support	Up to 4 displays via DisplayPort Multi-Streaming Technology (MST)

Video port and resolution matrix

Table 28. Video port and resolution matrix

Port type	DP++ 1.4/HDCP 2.3 port (UMA Graphics)	HDMI-OUT port—HDMI 1.4b (UMA Graphics)
Maximum resolution—single display	4096 x 2304 @ 60 Hz	• On board integrated HDMI1.4b (1920 x 1200 @ 60 Hz) • Option card with HDMI2.0b (4096 x 2160 @ 60Hz)
Maximum resolution—dual MST	2560 x 1600 @ 60 Hz	Not applicable
Maximum resolution—triple MST	2560 x 1440 @ 60 Hz	Not applicable

Storage

M.2 2230, 256 GB, PCIe NVMe Gen3 x4, Class 35 SSD

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

Table 29. 256 GB SSD specifications

Capacity	256 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	30.00 mm (1.18 in.)
Interface type	PCIe Gen3
Speed (maximum)	32 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	500,118,192
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4) • 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 Gen3 x4, Class 35 SSD

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

Table 30. 512 GB SSD specifications

Capacity	512 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	30.00 mm (1.18 in.)
Interface type	PCIe Gen3
Speed (maximum)	32 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	1,000,215,216
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4) • 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 Gen3 x4, Class 35 SSD

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

Table 31. 1 TB SSD specifications

Capacity	1 TB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	30.00 mm (1.18 in.)
Interface type	PCIe Gen3
Speed (maximum)	32 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	2,000,409,264
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4) • Active: 3.50 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C

Table 31. 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 2230, 256 GB, PCIe NVMe Gen3 x4, Opal Self-Encrypting Class 35 SSD

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

Table 32. 256 GB SSD, self-encrypting drive specifications

Capacity	256 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	30.00 mm (1.18 in.)
Interface type	PCIe Gen3
Speed (maximum)	32 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	500,118,192
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4) • 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 Gen4 x4, Class 40 SSD

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

Table 33. 512 GB SSD specifications

Capacity	512 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	80.00 mm (3.15 in.)
Interface type	PCIe Gen4

Table 33. 512 GB SSD 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 - 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 Gen4 x4, Class 40 SSD

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

Table 34. 1 TB SSD specifications

Capacity	1 TB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	80.00 mm (3.15 in.)
Interface type	PCIe Gen4
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, 2 TB, PCIe NVMe Gen4 x4, Class 40 SSD

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

Table 35. 2 TB SSD specifications

Capacity	2 TB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	80.00 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)	
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 Gen3 x4, Class 40 SSD, self-encrypting drive

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

Table 36. 512 GB SSD, self-encrypting drive specifications

Capacity	512 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	80.00 mm (3.15 in.)
Interface type	PCIe Gen3
Speed (maximum)	32 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	1,000,215,216
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4 - L1.2) • Active: 4.50 W
Environmental operating conditions (non-condensing)	

Table 36. 512 GB SSD, self-encrypting drive 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%

M.2 2280, 1 TB, PCIe NVMe Gen3 x4, Class 40 SSD, self-encrypting drive

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

Table 37. 1 TB SSD, self-encrypting drive specifications

Capacity	1 TB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22.00 mm (0.87 in.)
Depth (approximate)	80.00 mm (3.15 in.)
Interface type	PCIe Gen3
Speed (maximum)	32 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	2,000,409,264
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4 - L1.2) • 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%

CMOS battery

The following table lists the CMOS battery specifications of your OptiPlex 3000 Micro.

Table 38. CMOS battery

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

Accessories

The following table lists the supported accessories on your OptiPlex 3000 Micro.

Table 39. Accessories

Accessories
Dell Slim Soundbar - SB521A
Dell Pro Stereo Headset - WH3022
OptiPlex Micro and Thin Client Vertical Stand
OptiPlex Micro and Thin Client Wall Mount
OptiPlex Micro and Thin Client PSU Adapter Sleeve
OptiPlex Micro and Thin Client Pro 2 E Series Monitor Mount
OptiPlex Micro and Thin Client Dual VESA Mount
OptiPlex Micro and Thin Client All-in-One Stand (MFS22)
Dell KB813 Smartcard Keyboard - KB813
Dell Multi-Device Wireless Keyboard and Mouse Combo - KM7120W
Dell Multimedia Keyboard - KB216_BLACK
Dell Multimedia Keyboard - KB216_Grey
Dell Multimedia Keyboard - KB216_WHITE
Dell Palm Rest for KB216 and KM636 - PR216
Dell Premier Multi-Device Wireless Keyboard and Mouse - KM7321W
Dell Pro Wireless Keyboard and Mouse - KM5221W
Newmen 100 KM-101 Keyboard/Mouse Combo - Dell China sku A8818726

Security

Software security

The following table lists the software security details of your OptiPlex 3000 Micro.

Table 40. Software security

Software security
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

Table 40. Software security (continued)

Software security
Next Generation Antivirus (NGAV)
Endpoint Detection and Response (EDR)
Threat Detection and Response (TDR)
Managed Endpoint Detection and Response
Incident Management Retainer

Dell ControlVault 3.0

The following table lists the Dell ControlVault 3.0 specifications of your OptiPlex 3000 Micro.

Table 41. Dell ControlVault 3.0 specifications

Title	Description	Dell ControlVault 3.0
CPU technology	N/A	1 GHz ARM Cortex A7
RAM	N/A	1 MB
ROM	N/A	16 MB
TPM included	TPM enumeration included within ControlVault	No
Host Interface	N/A	USB 2.0
Fingerprint procession on chip	Fingerprint processing occurs within secure boundary of ControlVault	Yes
Windows WBF support	Support for Windows biometric framework when Fingerprint reader is attached	Yes
FIPS 140-2 level 3 complaint	Device complaint with FIPS 140-2 level 3 requirements	Yes
FIPS 140-2 level 3 certified	Device certified with FIPS 140-2 level 3 requirements	Yes

Trusted Platform Module

The following table lists the Trusted Platform Module (TPM) of your OptiPlex 3000 Micro.

Table 42. Trusted Platform Module (TPM)

TPM: NUVOTON NPCT750JADYX
SPI interface
TPM 2.0
FIPs 140-2 certificate

Military specifications

The OptiPlex meets military specifications for the following MIL-STD 810G tests:

Table 43. Micro - Military specifications

Test Category	Test Method	Test Parameters
Non-operating altitude test	Method 500.5 Procedure I	Test specification: • Altitude: 15,000 ft • Temperature: 21°C
Operating altitude test	Method 500.5 Procedure II	Test specification: • Altitude: 15,000 ft • Temperature: 21°C
Non-operating high temperature test	Method 501.5 Procedure I	Test specification: • High temperature cycles, climatic category A1 - Hot dry • Duration: 7 cycles
Non-operating low temperature test	Method 502.5 Procedure I	Test specification: • Temperature: -51°C • Duration: 24 hours
Operating low temperature test	Method 502.5 Procedure II	Test specification: • Temperature: -29°C • Duration: 24 hours
Humidity test	Method 507.5 Procedure I	Induced B3 and nature B3 • Duration: 15 days exposure Induced B3, Non-operating • Duration: 15 days exposure Nature B3, Operating
Mechanical shock test - I Bench handling	Method 516.6 Procedure VI	Test specification: • The lifted edge of the chassis has been raised 100 mm (4 in.) above the horizontal bench top.
Blowing dust test	Method 510.5 Procedure I	Test specification: • Temperature: 25°C and 60°C • Dust concentration: (10.5±7) g/m³ • Air flow velocity: 8.9 m/s
Operating vibration test	Method 514.6 Procedure I	Refer table 514.6: Category 4 - common carrier
Non-operating vibration test	Method 514.6 Procedure I	Refer table 514.6: Category 24 - General minimum integrity exposure
Mechanical shock test - II operating	NA	Test specification: • Pulse shape: Half-sine • Acceleration: 185 g • Pulse duration: 2 ms • Shock direction: 6 faces (±X, ±Y, ±Z axes) • No. of shock: 1 shock/ face (total 6 shocks)

Table 43. Micro - Military specifications (continued)

Test Category	Test Method	Test Parameters
Mechanical shock test - III non-operating	NA	Test specification: • Pulse shape: Trapezoidal • Acceleration: 30 g • Velocity change: 304 inch/second • Shock direction: 6 faces (±X, ±Y, ±Z axes) • No. of shock: 1 shock/ face (total 6 shocks)
Mechanical shock test - IV Non-operating	NA	Test specification: • Pulse shape: Half-sine • Acceleration: 185 g • Pulse duration: 2 ms • Shock direction: 6 faces (±X, ±Y, ±Z axes) • No. of shock: 1 shock/ face (total 6 shocks)

Acoustic noise emission information tower

The following table lists the acoustic noise emission information of your OptiPlex 3000 Micro.

Table 44. Acoustic noise emission information tower

Component	Test Configuration
CPU	Intel Pentium G6405
Memory	4 GB
HDD (#, capacity)	2.5-inch hard drive
ODD	No
Graphics Adapter	Intel UHD Graphics 610

Table 45. Declared Sound Power (LWAd)

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

Table 46. 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	25.3	N/A	N/A	N/A
CPU Stressed	26.6	N/A	N/A	N/A

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

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

Chassis enclosure and ventilation requirements

Enclosure ventilation

If your enclosure has doors, they need to be of a type that allows at least 30% airflow through the enclosure (front and back).

Enclosure minimum clearance

Leave a 10.2 cm (4 in.) minimum clearance on all vented sides of the computer to permit the airflow required for proper ventilation.

Recommended enclosure

Do not install your computer in an enclosure that does not allow airflow/dusty environment/temperate over 35ºC. Do not put any objects to directly block air-vent. This restricts the airflow and impacts your computer's performance, possibly causing it to overheat.

Open desk minimum clearance

If your computer is installed in a corner, on a desk, or under a desk, leave at least 5.1 cm (2 in.) clearance from the back of the computer to the wall to permit the airflow required for proper ventilation.

System management features

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

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

Dell Client Command Suite for In-Band systems management

Dell Client Command Suite is a free toolkit available for download, for all Latitude Rugged tablets at dell.com/support, that automates and streamlines systems management tasks, saving time, money, and resources. It consists of the following modules that can be used independently, or with a variety of systems management consoles such as SCCM.

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

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

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

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

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

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

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

Dell Command l 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.**

4

Getting help and contacting Dell

Self-help resources

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

Table 47. 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.