

Latitude 5320

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.

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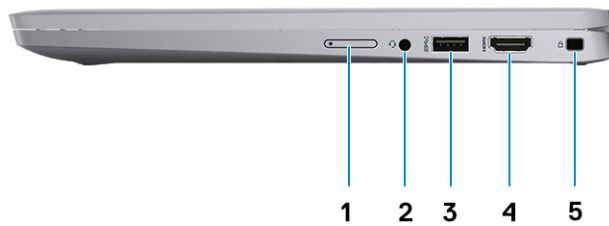
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Views of Latitude 5320

Topics:

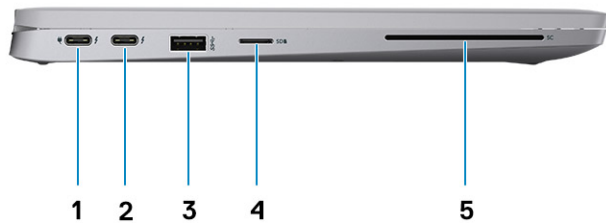
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Right



1. micro-SIM card tray (optional)
2. Universal audio jack
3. USB 3.2 Gen1 port with PowerShare
4. HDMI 2.0 port
5. Wedge-shaped lock slot

Left



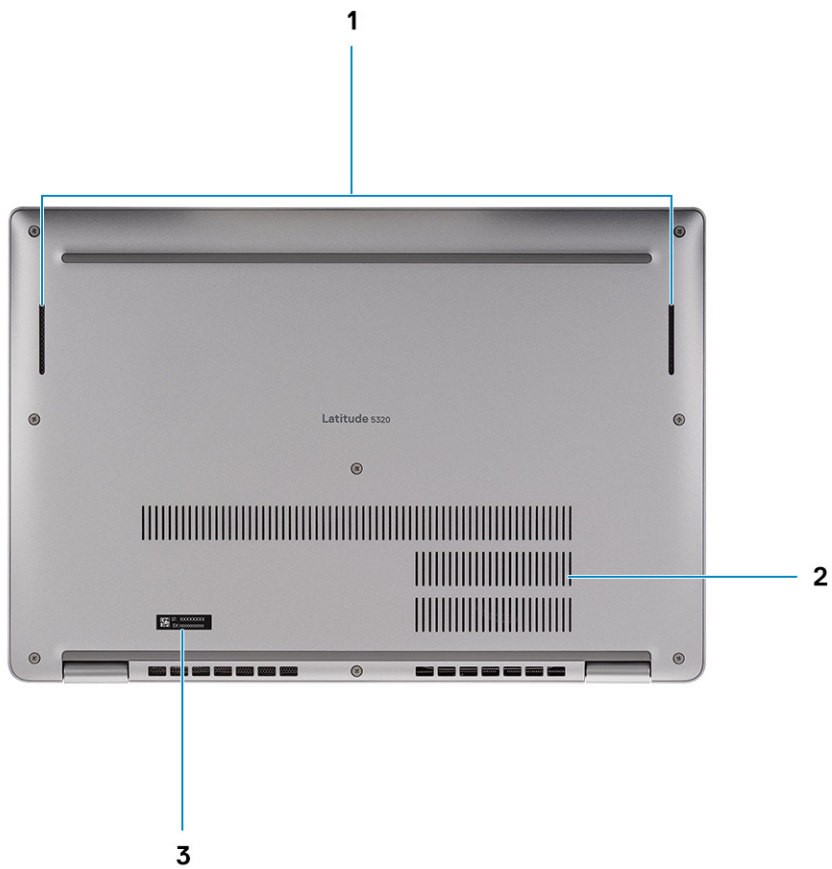
1. Thunderbolt 4 port with DisplayPort Alt Mode/USB4/Power Delivery
2. Thunderbolt 4 port with DisplayPort Alt Mode/USB4/Power Delivery
3. USB 3.2 Gen 1 port
4. micro-SD card slot
5. Smart card reader slot (optional)

Display



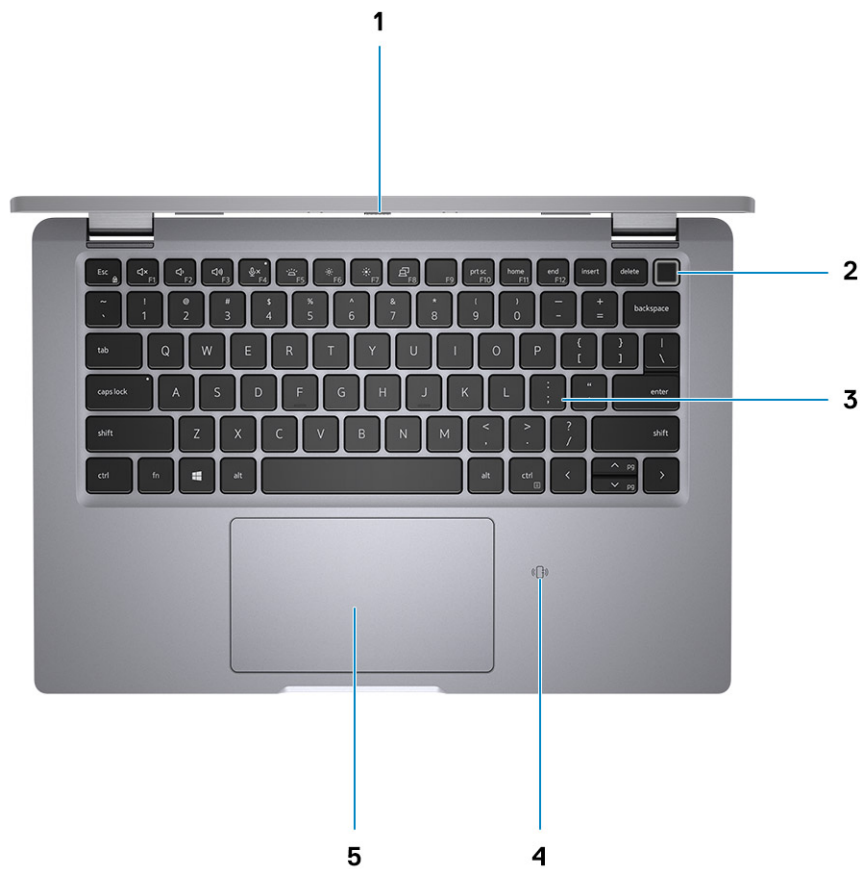
1. Proximity sensor (optional)
2. IR LED (optional)
3. RGB IR Camera (optional)
4. RGB LED (optional)
5. Microphone
6. Ambient Light Sensor (ALS) (optional)
7. LCD panel
8. Battery indicator LED/diagnostic LED

Bottom



1. Speakers
2. Thermal vent
3. Service Tag label

Palm-rest



1. Privacy shutter
2. Power button with fingerprint reader (optional)
3. Keyboard
4. NFC/contactless card (optional)
5. Clickpad

Modes

 **NOTE:** The modes are applicable only to Latitude 5320 2-in-1 (an upsell option).

Laptop



Tablet



Stand



Tent



LED Indicators and Characteristics

Battery Charge and Status LED

Table 1. Battery Charge and Status LED Indicator

Power Source	LED Behavior	System Power State	Battery Charge Level
AC Adapter	Off	S0 - S5	Fully Charged
AC Adapter	Solid White	S0 - S5	< Fully Charged
Battery	Off	S0 - S5	11-100%
Battery	Solid Amber (590+/-3 nm)	S0 - S5	< 10%

- S0 (ON) - System is turned on.
- S4 (Hibernate) - The system consumes the least power compared to all other sleep states. The system is almost at an OFF state, expect for a trickle power. The context data is written to hard drive.
- S5 (OFF) - The system is in a shutdown state.

Specifications of Latitude 5320

Topics:

- Dimensions and weight
- Processor
- Chipset
- Operating system
- Memory
- Intel Optane memory
- Ports and connectors
- Communications
- Audio
- Storage
- Intel Optane Memory H20 with Solid State Storage (optional)
- Media-card reader
- Keyboard
- Camera
- Clickpad
- Power adapter
- Battery
- Display
- Fingerprint reader (optional)
- Video
- Operating and storage environment
- Sensor and control

Dimensions and weight

Table 2. Dimensions and weight

Description	Values
Height:	16.96 mm (0.67 in.)
Width	305.70 mm (12.04 in.)
Depth	207.50 mm (8.17 in.)
Weight (average)	Laptop - 1.20 kg (2.65 lb) 2-in-1 - 1.32 kg (2.90 lb)  NOTE: The weight of your system depends on the configuration ordered and the manufacturing variability.

Processor

The following table lists the details of the processors supported by your Latitude 5320.

Table 3. Processor

Description	Option one	Option two	Option three	Option four
Processor type	11th Generation Intel Core i3-1125G4	11th Generation Intel Core i5-1135G7	11th Generation Intel Core i5-1145G7	11th Generation Intel Core i7-1185G7
Processor wattage	17.50 W	17.50 W	17.50 W	17.50 W
Processor core count	4	4	4	4
Processor thread count	8	8	8	8
Processor speed	2.00 GHz to 3.70 GHz	2.40 GHz to 4.20 GHz	2.60 GHz to 4.40 GHz	3.00 GHz to 4.80 GHz
Processor cache	8 MB	8 MB	8 MB	12 MB
Integrated graphics	Intel UHD Graphics	Intel Iris X ^e Graphics	Intel Iris X ^e Graphics	Intel Iris X ^e Graphics
 NOTE: i5 and i7 will have Intel UHD graphics if the system is configured with a single-channel memory configuration.  NOTE: Intel UHD Graphics with single-channel memory configuration  NOTE: Intel Iris X^e graphics with dual-channel memory configuration				

Chipset

Table 4. Chipset

Description	Values
Chipset	Intel PCH-LP
Processor	11th Generation Intel Core i3/i5/i7
DRAM bus width	64-bit
Flash EPROM	32 MB
PCIe bus	Up to Gen3

Operating system

- Windows 10 Pro, 64-bit
- Ubuntu Linux 20.04 LTS, 64-bit

Memory

Table 5. Memory specifications

Description	Values
Slots	Onboard memory
Type	DDR4
Speed	3200 MHz
Maximum memory	32 GB
Minimum memory	4 GB
Memory size per slot	4 GB, 8 GB, 16 GB, 32 GB
Configurations supported	• 4 GB, DDR4, 3200 MHz, single-channel, integrated • 8 GB, DDR4, 3200 MHz, dual-channel, Integrated • 16 GB, DDR4, 3200 MHz, dual-channel, integrated • 32 GB, DDR4, 3200 MHz, dual-channel, integrated

Intel Optane memory

Intel Optane memory functions only as a storage accelerator. It neither replaces nor adds to the memory (RAM) installed on your computer.

- NOTE:** Intel Optane memory is supported on computers that meet the following requirements:
- 11th Generation or higher Intel Core i3/i5/i7 processor
 - Windows 10 64-bit version or higher (Anniversary Update)
 - Latest version of Intel Rapid Storage Technology driver

Table 6. Intel Optane memory

Description	Values
Type	M.2 2280, PCIe NVMe, Intel Optane memory H20
Interface	Gen 3 PCIe x4 NVMe
Connector	M.2 2280
Configurations supported	32 GB + 512 GB
Capacity	32 GB + 512 GB

Ports and connectors

Table 7. External ports and connectors

External:	
USB	• One USB 3.2 Gen 1 port • One USB 3.2 Gen 1 port with PowerShare • Two Thunderbolt 4 ports with DisplayPort Alt Mode/USB4/Power Delivery

Table 7. External ports and connectors (continued)

External:	
Audio	One Universal Audio Jack
Video	- One HDMI 2.0 port - Two DisplayPorts over Type-C
Media card reader	One microSD-card slot
Docking port	Supported through Type-C
Power adapter port	USB-C power-adapter port
Security	One wedge-shaped lock slot

Table 8. Internal ports and connectors

Internal:	
M.2	- M.2 2230 slot for WiFi and Bluetooth combo card - One M.2 2230 slot for solid-state drive - One M.2 2280 slot for solid-state drive/Intel Optane - One M.2 3042 slot for WWAN card  NOTE: To learn more about the features of different types of M.2 cards, see the knowledge base article SLN301626.

Communications

Wireless module

Table 9. Wireless module specifications

Description	Values		
Model number	Intel Wi-Fi 6 AX201	Intel AX210	Qualcomm QCA61x4A
Transfer rate	Up to 2.40 Gbps	Up to 2.40 Gbps	Up to 867 Mbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz/5 GHz/6 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 6 (WiFi 802.11ax)	- WiFi 802.11a/b/g - Wi-Fi 4 (WiFi 802.11n) - Wi-Fi 5 (WiFi 802.11ac) - Wi-Fi 6 (WiFi 802.11ax)	- WiFi 802.11a/b/g - Wi-Fi 4 (WiFi 802.11n) - Wi-Fi 5 (WiFi 802.11ac)
Encryption	64-bit/128-bit WEP - AES-CCMP - TKIP	64-bit/128-bit WEP - AES-CCMP - TKIP	64-bit/128-bit WEP - AES-CCMP - TKIP
Bluetooth	Bluetooth 5.1	Bluetooth 5.2	Bluetooth 5.0

WWAN module

The following table lists the Wireless Wide Area Network (WWAN) module that is supported on Latitude 5320.

Table 10. Wireless Wide Area Network module specifications

Description	Option 1
Model number	Intel XMM 7360 Global LTE-Advanced (DW5820e) CAT9
Form factor	M.2 3042 form factor
Transfer rate	Up to 450 Mbps DL/50 Mbps UL (Cat 9)
Frequency bands supported	(1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 17, 18, 19, 20, 21, 26, 28, 29, 30, 38, 39, 40, 41, 66), HSPA+ (1, 2, 4, 5, 8)
Power supply	DC 3.135 V to 4.4 V, typical 3.3 V
Temperature	- Normal operating temperature: -10°C to + 55°C - Extended operating temperature: -20°C to +65°C
Antenna connector	- WWAN Main Antenna x 1 - WWAN Diversity Antenna x 1
Wake on Wireless	Supported
Network standards	LTE FDD/TDD, WCDMA/HSPA+, GNSS/ Beidou

Audio

Table 11. Audio specifications

Description	Values
Controller	Realtek ALC3254
Stereo conversion	Supported
Internal interface	High-definition audio
External interface	Universal Audio Jack
Speakers	Two
Internal speaker amplifier	Supported (audio codec integrated)
External volume controls	Keyboard shortcut controls
Speaker output:	
Average	2 W
Peak	2.5 W
Subwoofer output	Not supported
Microphone	Digital-array microphones

Storage

Your computer supports one of the following configurations:

- M.2 2230, PCIe x4 NVMe, Class 35 SSD
- M.2 2280, PCIe x4 NVMe, Class 40 SSD
- M.2 2230, PCIe x4 NVMe, Class 35 SED
- M.2 2280, PCIe x4 NVMe, Class 40 SED

The primary drive of your computer varies with the storage configuration. For systems with a M.2 drive, the M.2 drive is the primary drive.

Table 12. Storage specifications

Storage type	Interface type	Capacity
M.2 2230, PCIe x4 NVMe, Class 35 SSD	Gen 3 PCIe x4 NVMe	128 GB, 256 GB, 512 GB
M.2 2280, PCIe x4 NVMe, Class 40 SSD	Gen 3 PCIe x4 NVMe	256 GB, 512 GB, 1 TB
M.2 2280, PCIe x4 NVMe, Class 40 SSD	Gen 4 PCIe x4 NVMe	2 TB
M.2 2230, PCIe x4 NVMe, Class 35 SED	Gen 3 PCIe x4 NVMe	256 GB
M.2 2280, PCIe x4 NVMe, Class 40 SED	Gen 3 PCIe x4 NVMe	256 GB, 512 GB, 1 TB

Intel Optane Memory H20 with Solid State Storage (optional)

Intel Optane Memory technology utilizes 3D XPoint memory technology and functions as a non-volatile storage cache/accelerator and/or storage device depending on the Intel Optane Memory installed in your computer.

Intel Optane Memory H20 with Solid State Storage functions as both a non-volatile storage cache/accelerator (enabling enhanced read/write speeds for hard-drive storage) and a solid-state storage solution. It neither replaces nor adds to the memory (RAM) installed on your computer.

Table 13. Intel Optane Memory H20 with Solid State Storage specifications

Description	Values
Interface	PCIe 3 x4 NVMe - One PCIe 3 x2 for Optane memory - One PCIe 3 x2 for solid-state storage
Connector	M.2
Form factor	2280
Capacity (Intel Optane memory)	Up to 32 GB
Capacity (solid-state storage)	Up to 512 GB

NOTE: Intel Optane Memory H20 with Solid State Storage is supported on computers that meet the following requirements:

- 11th Generation or higher Intel Core i3/i5/i7 processors
- Windows 10 64-bit version or higher (Anniversary Update)
- Intel Rapid Storage Technology driver version 18.1.0.1027 or higher

Media-card reader

Table 14. Media-card reader specifications

Description	Values
Type	One microSD-card slot
Cards supported	- micro-Secure Digital (mSD) - micro-Secure Digital High Capacity (mSDHC)

Table 14. Media-card reader specifications (continued)

Description	Values
	micro-Secure Digital Extended Capacity (mSDXC) NOTE: The maximum capacity supported by the media-card reader varies depending on the standard of the media card installed in your computer.

Keyboard

Table 15. Keyboard specifications

Description	Values
Type	- Standard non-backlit keyboard - Standard backlit keyboard
Layout	QWERTY
Number of keys	- United States and Canada: 79 keys - United Kingdom: 80 keys - Japan: 83 keys
Size	X=18.05 mm key pitch Y=18.05 mm key pitch
Shortcut keys	Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. To type the alternate character, press Shift and the desired key. To perform secondary functions, press Fn and the desired key. NOTE: You can define the primary behavior of the function keys (F1–F12) changing Function Key Behavior in BIOS setup program. Keyboard shortcuts

Camera

Table 16. Camera specifications

Description	Values		
Number of cameras	One	One	One
Type	HD RGB camera	HD RGBIr camera	FHD RGBIr camera
Location	Front camera	Front camera	Front camera
Sensor type	CMOS sensor technology	CMOS sensor technology	CMOS sensor technology
Resolution			
Camera			
Still image	0.92 megapixels	0.92 megapixels	2.07 megapixels
Video	1280 x 720 (HD) at 30 fps	1280 x 720 (HD) at 30 fps	1920 x 1080 (FHD) at 30 fps
Infrared camera			

Table 16. Camera specifications (continued)

Description		Values		
	Still image	NA	0.23	0.23
	Video	NA	640 x 360	640 x 360
Diagonal viewing angle				
	Camera	78.6 degrees	87 degrees	87.6 degrees
	Infrared camera	NA	87 degrees	87.6 degrees

Clickpad

Table 17. Clickpad specifications

Description		Values
Resolution:		>=300 dpi
Dimensions:		
	Horizontal	115 mm (4.53 in.)
	Vertical	67 mm (2.64 in.)

Power adapter

Table 18. Power adapter specifications

Description	Option 1	Option 2	Option 3	Option 4
Type	45 W AC adapter, USB-C	65 W AC adapter, USB-C	90 W AC adapter, USB-C	60 W AC adapter USB-C
Input voltage	100 VAC x 240 VAC	100 VAC x 240 VAC	100 VAC x 240 VAC	100 VAC x 240 VAC
Input frequency	50 Hz x 60 Hz	50 Hz x 60 Hz	50 Hz x 60 Hz	50 Hz x 60 Hz
Input current (maximum)	1.3 A	1.7 A	1.5 A	1.7 A
Output current (continuous)	20 V/2.25 A (Continuous) 15 V/3 A (Continuous) 9 V/3 A (Continuous) 5 V/3 A (Continuous)	20 V/3.25 A (Continuous) 15 V/3 A (Continuous) 9 V/3 A (Continuous) 5 V/3 A (Continuous)	20 V/4.50 A (Continuous) 15 V/3 A (Continuous) 9 V/3 A (Continuous) 5 V/3 A (Continuous)	20 V/3 A (Continuous) 15 V/3 A (Continuous) 9 V/3 A (Continuous) 5 V/3 A (Continuous)
Rated output voltage	20 VDC/15 VDC/9 VDC/5 VDC	20 VDC/15 VDC/9 VDC/5 VDC	20 VDC/15 VDC/9 VDC/5 VDC	20 VDC/15 VDC/9 VDC/5 VDC
Temperature range:				
	Operating	0 °C (32 °F) to 40 °C (104 °F)	0 °C (32 °F) to 40 °C (104 °F)	0 °C (32 °F) to 40 °C (104 °F)

Table 18. Power adapter specifications (continued)

Description		Option 1	Option 2	Option 3	Option 4
	Storage	-40 °C (-40 °F) to 70 °C (158 °F)	-40 °C (-40 °F) to 70 °C (158 °F)	-40 °C (-40 °F) to 70 °C (158 °F)	- 40° C to 70°C (158°F)

Battery

Table 19. Battery specifications

Description		Option 1	Option 2
Type		3-cell 42 WHr Polymer	4-cell 63 WHr Polymer
Voltage		11.40 VDC	15.20 VDC
Weight (maximum)		0.21 kg (0.46 lb)	0.26 kg (0.58 lb)
Dimensions:			
	Height	92.8 mm (3.65 in.)	92.8 mm (3.65 in.)
	Width	238 mm (9.37 in.)	238 mm (9.37 in.)
	Depth	5.70 mm (0.22 in.)	5.70 mm (0.22 in.)
Temperature range:			
	Operating	Minimum operating temperature: Charge/ Discharge : 0°C (32°F) Maximum operating temperature: • Charge: 45°C/ 113°F • Discharge: 70°C/ 158°F	Minimum operating temperature: Charge/ Discharge : 0°C (32°F) Maximum operating temperature: • Charge: 45°C/ 113°F • Discharge: 70°C/ 158°F
	Storage	Minimum storage temperature: -20°C (4°F) Maximum storage temperature: 65°C (149°F)	Minimum storage temperature: -20°C (4°F) Maximum storage temperature: 65°C (149°F)
Operating time		Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.
Charging time (approximate)		• ExpressCharge Boost (0% up to 35%) : 20 minutes • Express charge : 2 hours • Standard charge : 3 hours i NOTE: Control the charging time, duration, start and end time, and so on, using the Dell Power Manager application. For more information about the Dell Power Manager see, <i>Me and My Dell</i> on www.dell.com/	• ExpressCharge Boost (0% up to 35%) : 20 minutes • Express charge : 2 hours • Standard charge : 3 hours i NOTE: Control the charging time, duration, start and end time, and so on, using the Dell Power Manager application. For more information about the Dell Power Manager see, <i>Me and My Dell</i> on www.dell.com/
Life span (approximate)		• 1 year for Standard battery • 3 years for LcL battery	• 1 year for Standard battery • 3 years for LcL battery
Coin-cell battery		No	No
ExpressCharge		Supported	Supported
User replaceable		No	No
Operating time		Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.	Varies depending on operating conditions and can significantly reduce under certain power-intensive conditions.

Display

Latitude 5320

Table 20. Display specifications

Description					
		Option 1	Option 2	Option 3	Option 4
Type		Full High Definition (FHD)	Full High Definition (FHD)	Full High Definition (FHD) (Privacy/Touch)	Full High Definition (FHD) (Touch)
Panel technology		Wide Viewing Angle (WVA)	Wide Viewing Angle (WVA), Super Low Power (SLP), Low Blue Light (LBL)	Wide Viewing Angle (WVA)	Wide Viewing Angle (WVA)
Luminance (typical)		250 nits	400 nits	300 nits	300 nits
Dimensions (Active Area):					
	Height	165.24 mm (6.51 in.)	165.24 mm (6.51 in.)	165.24 mm (6.51 in.)	165.24 mm (6.51 in.)
	Width	293.76 mm (11.57 in.)	293.76 mm (11.57 in.)	293.76 mm (11.57 in.)	293.76 mm (11.57 in.)
	Diagonal	337.08 mm (13.27 in.)	337.08 mm (13.27 in.)	337.08 mm (13.27 in.)	337.08 mm (13.27 in.)
Native Resolution		1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
Megapixels		2.07	2.07	2.07	2.07
Color gamut		45% NTSC	100% sRGB typical	100% sRGB typical	72% NTSC
Pixels per Inch (PPI)		166	166	166	166
Contrast Ratio (min)		600:1	1000:1	16:9	16:9
Response Time (max)		35 ms	35 ms	35 ms	35 ms
Refresh Rate		60 Hz	60 Hz	60 Hz	60 Hz
Horizontal View Angle		80	80	- Sharing Mode: 80/80 degrees - Privacy Mode (brightness < 40%) : 30/30 (max) degrees	80
Vertical View Angle		80	80	- Sharing Mode: 80/80 degrees - Privacy Mode (brightness < 40%) : 30/30 (max) degrees	80
Pixel Pitch		0.153 x 0.153 mm	0.153 x 0.153 mm	0.153 x 0.153 mm	0.153 x 0.153 mm
Power Consumption (maximum)		3.50 W @ Mosaic	2.52 W @ Mosaic	Sharing mode : 3.35 W	4.8 W

Table 20. Display specifications (continued)

Description				
			Privacy mode : 3.45 W	
Anti-glare vs glossy finish	Anti-glare	Anti-glare	Anti-glare	Anti-glare
Touch options	No	No	Yes	Yes
Adaptive sync	No	No	No	No
Stylus support	Not supported	Not supported	Not supported	Not supported

Latitude 5320 2-in-1

Table 21. Display specifications

Description		
Type	Full High Definition (FHD)	
Panel technology	Wide Viewing Angle (WVA), Super Low Power (SLP)	
Luminance (typical)	300 nits	
Dimensions (Active Area):		
	Height	165.24 mm (6.51 in.)
	Width	293.76 mm (11.57 in.)
	Diagonal	337.08 mm (13.27 in.)
Native Resolution	1920 x 1080	
Megapixels	2.07	
Color gamut	72% NTSC	
Pixels per Inch (PPI)	166	
Contrast Ratio (min)	800:1 typ, 600:1 min	
Response Time (max)	35 ms	
Refresh Rate	60 Hz	
Horizontal View Angle	80 min degrees	
Vertical View Angle	80 min degrees	
Pixel Pitch	0.153 x 0.153	
Power Consumption (maximum)	4.2 W	
Anti-glare vs glossy finish	Anti-glare	
Touch options	Yes	
Adaptive sync	No	
Stylus support	Supported	

Fingerprint reader (optional)

Table 22. Fingerprint reader specifications

Description	Values
Sensor technology	Capacitative
Sensor resolution	500 dpi
Sensor area	
Sensor pixel size	108 x 88

Video

Table 23. Integrated graphics specifications

Integrated graphics			
Controller	External display support	Memory size	Processor
Intel UHD Graphics	HDMI 2.0, DP over USB Type-C	Shared system memory	11th Generation Intel Core i3
Intel Iris X ^e Graphics	HDMI 2.0, DP over USB Type-C	Shared system memory	11th Generation Intel Core i5/i7
 NOTE: Intel UHD Graphics with Intel Core i3 processors.  NOTE: Intel UHD Graphics with Intel Core i5/i7 processors and single-channel memory configuration.  NOTE: Intel Iris Xe Graphics with Intel Core i5/i7 processors and dual-channel memory configuration.			

Operating and storage environment

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

Table 24. Computer environment

Description	Operating	Storage
Temperature range	0°C to 35°C (32°F to 95°F)	-40°C to 65°C (-40°F to 149°F)
Relative humidity (maximum)	10% to 90% (noncondensing)	5% to 95% (noncondensing)
Vibration (maximum)*	0.66	NA
Shock (maximum)	140	NA
Altitude (maximum)	3048	10668

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

† Measured using a 2 ms half-sine pulse when the hard drive is in use.

Sensor and control

Table 25. Sensor and control

Sensor support	
Sensor	Ambient Light Sensor
	Windows Adaptive Color
	Accelerometer (G sensor): Laptop: • One on the system board. • One on the system board and another on the hinge-up (for configuration that supports Express Sign-in feature with proximity sensor). 2-in-1: • One on the system board and another on the hinge-up.

Engineering specifications

Topics:

- Graphics options
- Communications
- Supported hard drives
- Accessories
- Security
- Systems management

Graphics options

Integrated graphics

Table 26. Integrated graphics

Feature	Intel UHD Graphics	Intel Iris X ^e Graphics
Bus type	Integrated	Integrated
Memory type	DDR4	DDR4
Memory interface	N/A (Unified Memory Architecture)	N/A (Unified Memory Architecture)
Estimated Maximum Power Consumption (TDP)	15 W - included in the CPU power	12 W-28 W - included in the CPU power
Maximum color depth	10 bits	10 bits
Maximum vertical refresh rate	Up to 120 Hz depending on resolution	Up to 120 Hz depending on resolution
External connectors	HDMI and Type-C DisplayPort alt mode	HDMI and Type-C DisplayPort alt mode
Multiple display support	Yes (Up to 3 displays - including internal panel display)	Yes (up to 4 displays - including internal panel display)

Communications

Wireless LAN options

Intel Wi-Fi 6 AX201 802.11AX 2x2 Wi-Fi and Bluetooth 5.1

Table 27. Intel AX201 802.11AX 2x2 Wi-Fi and Bluetooth 5.1

Feature	Specifications
Type	Intel AX201
Network standard	IEEE 802.11a/b/g/n/ac/ax, 160 MHz channel use, MU-MIMO
Wi-Fi Alliance certifications	Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, designed to be Wi-Fi CERTIFIED* ax (Wi-Fi 6), WMM*,

Table 27. Intel AX201 802.11AX 2x2 Wi-Fi and Bluetooth 5.1 (continued)

Feature	Specifications
	WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, and Wi-Fi Direct (For Microsoft Windows* only)
Transfer rate	Up to 2400 Gbps
Operating Frequency Bands	Dual band 2.4 GHz and 5 GHz
Data Rate	2.4 GHz 40 M - Up to 574 Mbps 5 GHz 80 M - Up to 1.2 Gbps 5 GHz 160 M - Up to 2 Gbps
Power consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity.
Authentication	WPA* and WPA2* Personal and Enterprise; WPA3* (pending operating system support)
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
Government Compliance	FIPS 140-2, FISMA
Client Utility	Intel PRO/Set Wireless Software v21 and later
Antenna Diversity	Supported
Radio On/Off	Supported
Wake On Wireless	Supported
Wireless Display	Native Miracast* support by Windows 10
Wireless PAN Standard	Wi-Fi 802.11ac, Wi-Fi 802.11b/g/n
Bluetooth	5.1
Bluetooth Data rates	Up to 3 Mbps
Bluetooth Operating Frequency Bands	2.4 GHz
Bluetooth Profiles Supported	Support for Microsoft Inbox Bluetooth profiles in Windows 10
Bluetooth Data Encryption	128-bit encryption
Bluetooth Output Power	Power class 1
Temperature	- Operating temperature 0°C to + 50°C (Full performance at shield temperatures up to 80°C) - Storage temperature of -40°C to +70°C
Humidity	Up to 90% RH non-condensing (at temperatures of 25°C to 35°C)

Intel Wi-Fi 6 AX210 160 MHz (Typhoon Peak 2) 2x2 Wi-Fi and Bluetooth 5.2 M.2 wireless card

Table 28. Intel Wi-Fi 6 AX210 160 MHz (Typhoon Peak 2) 2x2 Wi-Fi and Bluetooth 5.2 M.2 wireless card

Feature	Specifications
Type	Intel AX210
Network standard	IEEE 802.11a/b/g/n/ac/ax, 160 MHz channel use, MU-MIMO

Table 28. Intel Wi-Fi 6 AX210 160 MHz (Typhoon Peak 2) 2x2 Wi-Fi and Bluetooth 5.2 M.2 wireless card (continued)

Feature	Specifications
Wi-Fi Alliance certifications	Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, designed to be Wi-Fi CERTIFIED* ax (Wi-Fi 6), WMM*, WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, and Wi-Fi Direct (For Microsoft Windows* only)
Transfer rate	Up to 2400 Gbps
Operating Frequency Bands	2.4 GHz, 5 GHz, and 6 GHz
Data Rate	2.4 GHz 40 M - Up to 574 Mbps 5/6 GHz 80 M - Up to 1.2 Gbps 5/6 GHz 160 M - Up to 2.4 Gbps
Power consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity.
Authentication	WPA* and WPA2* Personal and Enterprise; WPA3* (pending operating system support)
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
Government Compliance	FIPS 140-2, FISMA
Client Utility	Intel PRO/Set Wireless Software v22 and later
Antenna Diversity	Supported
Radio On/Off	Supported
Roaming	Support seamless roaming between access points
Wake On Wireless	Supported
Wireless Display	Native Miracast* support by Windows 10
Wireless PAN Standard	Dual Mode bluetooth 5.2, BLE
Bluetooth	5.2
Bluetooth Data rates	Up to 3 Mbps
Bluetooth Operating Frequency Bands	2.4 GHz
Bluetooth Profiles Supported	Support for Microsoft Inbox Bluetooth profiles in Windows 10
Bluetooth Data Encryption	128-bit encryption
Bluetooth Output Power	Power class 1
Temperature	- Operating temperature 0°C to + 50°C (Full performance at shield temperatures up to 80°C) - Storage temperature of -40°C to +70°C
Humidity	Up to 90% RH non-condensing (at temperatures of 25°C to 35°C)

Dell Qualcomm QCA61x4A, 802.11ac

Table 29. Dell Qualcomm QCA61x4A, DW1820 802.11ac

Feature	Specifications
Host interface	Qualcomm QCA61x4A
Transfer rate	Up to 867 Mbps
Wi-Fi Alliance Certifications	Wi-Fi CERTIFIED* a/b/g/n/ac with wave 2 features, WMM*, WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, Wi-Fi Miracast* as Source, and Wi-Fi Direct (For Microsoft Windows* only)
Operating Frequency Bands	Dual band 2.4 GHz/5 GHz
Data Rate	2.4 GHz 40M: Up to 300 Mbps 5 GHz 80M: Up to 867 Mbps 5 GHz 160M: Up to 1.73 Gbps
Power consumption	WPA* and WPA2*, 802.1X (EAP-TLS, TTLS, PEAP, EAP-SIM, EAP-AKA, EAP-AKA')
Authentication	Open, Shared, WPA, WPA-PSK, WPA2, WPA2-PSK
Authentication Protocols	PAP, CHAP, TLS, GTC, MS-CHAP*, MS-CHAP*v2
Encryption	64-bit and 128-bit WEP, TKIP, 128-bit AES-CCMP
Government Compliance	FIPS, FISMA
Client Utility	Intel PRO/Set Wireless Software v20 and later
Antenna Diversity	Supported
Radio On/Off	Supported
Wake On Wireless	Supported
Wireless Display	Native Miracast support by Windows 10
Bluetooth	Bluetooth 5.0
Wireless PAN Standard	Wi-Fi 802.11ac Wi-Fi 802.11b/g/n
Bluetooth Data rates	Up to 3 Mbps
Bluetooth Operating Frequency Bands	2.4 GHz
Bluetooth Profiles Supported	Support for Microsoft Inbox Bluetooth profiles in Windows 10
Bluetooth Data Encryption	64/128-bit encryption
Bluetooth Output Power	Power class 1
Temperature	Operating temperature 0 to + 50 C (Full performance at shield temperatures up to 80 C) Storage temperature of -40 to +70 C
Humidity	Up to 90% RH non-condensing (at temperatures of 25 C to 35 C)

Wireless WAN options

Intel XMM 7360 Global LTE-Advanced (DW5820e) CAT9, WWAN Module

Feature	Specifications
Host interface	M.2 3042 form factor
Network standard	LTE FDD/TDD, WCDMA/HSPA+, GNSS/Beidou
Transfer rate	Up to 450 Mbps DL/50 Mbps UL (Cat 9)
Operating FrequencyBands	(1,2,3,4,5,7,8,11,12,13,17,18,19,20,21,26,28,29,30,38,39,40,41,66), HSPA+ (1, 2, 4, 5, 8)
Data Rate	• LTE FDD: 450 Mbps DL/50 Mbps UL (Cat 9) • LTE TDD: 347 Mbps DL/30 Mbps UL (Cat 9) • UMTS/HSPA+: UMTS 384 kbps DL/384 kbps UL
Power supply	DC 3.135 V to 4.4 V, Typical 3.3 V
SIM card (Micro or Nano)	Supported ¹
eSIM card (Micro or Nano)	Supported ^{1,2}
Antenna Diversity	Supported
Radio On/Off	Supported
Wake On Wireless	Supported
Temperature	• Normal operating temperature: -10°C to + 55°C • Extended Operating temperature: -20°C to +65°C
Antenna connector	• WWAN Main Antenna x1 • WWAN Diversity Antenna x1
NOTE: • ¹ Use of SIM card is supported through external SIM slot, some model support Nano card only. • ² The availability of eSIM functionality depends on the region and carrier requirements.	

Supported hard drives

128 GB PCIe NVMe M.2 2230 solid-state drive

Table 30. 128 GB PCIe NVMe M.2 2230 solid-state drive

Feature	Specifications
Capacity (GB)	128 GB
Dimensions (mm) (W x D x H)	22 x 30 x 2.38
Interface type and Maximum speed	PCIe Gen3 32 Gb/s (up to 4 lanes)
MTBF	1.4 M hours
Logical Blocks	250,069,680
Power Source:	
Power Consumption (reference only)	Idle 5 mW (PS4), Active 3.5 W
Environmental Operating Conditions (Non-Condensing):	

Table 30. 128 GB PCIe NVMe M.2 2230 solid-state drive (continued)

Feature	Specifications
Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%
Non-Op Shock (@0.5ms)	1,500G

256 GB PCIe NVMe M.2 2230 solid-state drive

Table 31. 256 GB PCIe NVMe M.2 2230 solid-state drive

Feature	Specifications
Capacity (GB)	256 GB
Dimensions (mm) (W x D x H)	22 x 30 x 2.38
Interface type and Maximum speed	PCIe Gen3 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 3.5 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%
Non-Op Shock (@0.5 ms)	1,500G

512 GB PCIe NVMe M.2 2230 solid-state drive

Table 32. 512 GB PCIe NVMe M.2 2230 solid-state drive

Feature	Specifications
Capacity (GB)	512
Dimensions mm (W x D x H)	22 x 30 x 2.38
Interface type and Maximum speed	PCIe Gen3 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 3.5 W

Table 32. 512 GB PCIe NVMe M.2 2230 solid-state drive (continued)

Feature	Specifications
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%
Non-Op Shock (@0.5 ms)	1,500G

256 GB PCIe NVMe M.2 2280 solid-state drive

Table 33. 256 GB PCIe NVMe M.2 2280 solid-state drive

Feature	Specifications
Capacity (GB)	256 GB
Dimensions (W x D x H)	22 x 80 x 2.38 mm
Interface type and maximum speed	PCIe Gen3 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 4.5 W
Environmental Operating Conditions (Non-Condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Environmental Non-Operating Conditions (Non-Condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%
Non-Op Shock (@ 0.5 ms)	1,500G

512 GB PCIe NVMe M.2 2280 solid-state drive

Table 34. 512 GB PCIe NVMe M.2 2280 solid-state drive

Feature	Specifications
Capacity (GB)	512 GB
Dimensions (W x D x H)	22 x 80 x 2.38 mm
Interface type and maximum speed	PCIe Gen3 32 Gb/s (up to 4 lanes)

Table 34. 512 GB PCIe NVMe M.2 2280 solid-state drive (continued)

Feature	Specifications
MTBF	1.4M hours
Logical blocks	1,000,215,216
Power source	
Power consumption (reference only)	Idle 5 mW (PS4) , Active 4.5 W
Environmental Operating Conditions (Non-Condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Environmental Non-Operating Conditions (Non-Condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%
Non-Op Shock (@ 0.5 ms)	1,500G

1 TB PCIe NVMe M.2 2280 solid-state drive

Table 35. 1 TB PCIe NVMe M.2 2280 solid-state drive

Feature	Specifications
Capacity (GB)	1 TB
Dimensions (W x D x H)	22 x 80 x 3.73 mm
Interface type and maximum speed	PCIe Gen3 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 4.5 W
Environmental Operating Conditions (Non-Condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Environmental Non-Operating Conditions (Non-Condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%
Non-Op Shock (@ 0.5 ms)	1,500G

2 TB PCIe NVMe M.2 2280 solid-state drive

Table 36. 2 TB PCIe NVMe M.2 2280 solid-state drive

Feature	Specifications
Capacity (GB)	2 TB
Dimensions (W x D x H)	22 x 80 x 3.73 mm
Interface type and maximum speed	PCIe Gen4 32 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), Active 4.5 W
Environmental Operating Conditions (Non-Condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Environmental Non-Operating Conditions (Non-Condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%
Non-Op Shock (@ 0.5 ms)	1,500G

M.2 2230 256 GB Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 35 Solid-State Drive

Table 37. M.2 2230 256 GB Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 35 Solid-State Drive

Capacity	256 GB
Dimensions	22.00 mm x 30.00 mm x 2.38 mm
Interface type and maximum speed	Gen 3 PCIe 32 Gb/s (Up to 4 lanes)
MTTF	1.4 M hours
Logical blocks	500,118,192
Power Source	
Power consumption (reference only)	- Idle : 5 mW (PS4) - Active : 3.5 W
Environmental Operating Conditions (Non-Condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Non-op shock (@0.5 ms)	1500G

Table 37. M.2 2230 256 GB Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 35 Solid-State Drive (continued)

Environmental Non-Operating Conditions (Non-Condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2280 256 GB Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 40 Solid-State Drive

Table 38. M.2 2280 256 GB Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 40 Solid-State Drive

Features	Specifications
Capacity	256 GB
Dimensions	22.00 mm x 80.00 mm x 2.38 mm
Interface type and maximum speed	Gen 3 PCIe 32 Gb/s (Up to 4 lanes)
MTTF	1.4 M hours
Logical blocks	500,118,192
Power Source	
Power consumption (reference only)	- Idle : 5 mW (PS4) - Active : 4.5 W
Environmental Operating Conditions (Non-Condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Non-op shock (@0.5 ms)	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 Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 40 Solid-State Drive

Table 39. M.2 2280 512 GB Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 40 Solid-State Drive

Features	Specifications
Capacity	512 GB
Dimensions	22.00 mm x 80.00 mm x 2.38 mm
Interface type and maximum speed	Gen 3 PCIe 32 Gb/s

Table 39. M.2 2280 512 GB Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 40 Solid-State Drive (continued)

Features	Specifications
MTTF	1.4 M hours
Logical blocks	1000,215,216
Power Source	
Power consumption (reference only)	- Idle : 5 mW (PS4) - Active : 4.5 W
Environmental Operating Conditions (Non-Condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Non-op shock (@0.5 ms)	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 Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 40 Solid-State Drive

Table 40. M.2 2280 1 TB Gen 3 PCIe x4 NVMe Opal Self-Encrypting Class 40 Solid-State Drive

Capacity	1 TB
Dimensions	22.00 mm x 80.00 mm x 2.38 mm
Interface type and maximum speed	Gen 3 PCIe 32 Gb/s (Up to 4 lanes)
MTTF	1.4 M hours
Logical blocks	2000,409,264
Power Source	
Power consumption (reference only)	- Idle : 5 mW (PS4) - Active : 4.5 W
Environmental Operating Conditions (Non-Condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Non-op shock (@0.5 ms)	1500G
Environmental Non-Operating Conditions (Non-Condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

Intel Optane memory H20 32 GB with 512 GB SSD

Table 41. Intel Optane memory H20 32 GB with 512 GB SSD

Feature	Specifications
Capacity (GB)	32 GB/512 GB
Dimensions (mm) (W x D x H)	22 x 80 x 2.3 mm
Interface type and Maximum speed	PCIe Gen3 32 Gb/s
MTBF	1.6 M hours
Logical Blocks	1,000,215,216
Power Source:	
Power Consumption (reference only)	Idle 10 mW, Active 4.5 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	0°C to 70°C
Relative Humidity Range	5% to 95%
Op Shock (@ 0.5 ms)	1,500G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-10°C to 85°C
Relative Humidity Range	5% to 95%

Accessories

Table 42. Accessories

Accessories
Dell Mobile Pro Wireless Mice - MS5120W
Dell Multi-Device Wireless Keyboard and Mouse Combo - KM7120W
Dell Premium Active Pen - PN579X
Dell Mobile Adapter Speakerphone - MH3021P
Dell USB-C Mobile Adapter - DA310
Dell Thunderbolt Dock - WD19TB
Dell Notebook Power Bank Plus USB-C, 65 Wh - PW7018LC
Dell Pro Hybrid Briefcase Backpack 15 - PO1521HB
Dell 27 USB-C Monitor - P2720DC - P2720DC

Security

Table 43. Hardware Security

Hardware security options
Trusted Platform Module (TPM) 2.0 discrete
FIPS 140-2 certification for TPM

Table 43. Hardware Security (continued)

Hardware security options
Trusted Computing Group (TCG) Certification for TPM
Fingerprint reader in power button tied to ControlVault 3
ControlVault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification
Contacted Smart Card and ControlVault 3
Contactless Smart Card, NFC, and ControlVault 3
SED SSD NVMe, SSD, and hard drive (Opal and non-Opal) per SDL
FIPS 201 Full Scan FPR and ControlVault 3

Table 44. Data Security

Data security options
McAfee Small Business Security 30-day trial
McAfee Small Business Security 12-months subscription, digitally delivered
McAfee Small Business Security 36-months subscription, digitally delivered

Systems management

Table 45. Systems management

Systems management
Dell Power Manager (DPM) version 3.0 or later
BIOS complies with Dell SMBIOS Implementation Spec (DSIS)
SW and Drivers MUP/DUP compliant
Dell Command Configure (DCC) version 4.0 or later
Dell Command Monitor (DCM) version 10.0 or later
Dell Command Update (DCU) version 3.0 or later
Dell Command Update Catalog (DCUC)
Dell Command Deploy (DCP)
Dell Command Integration Suite for System Center (DCIS) version 5.0
Dell Command Intel vPro Out of Band (DCIV)
Dell Command Intel vPro Out of Band (DCIV)
Dell Command PowerShell Provider version 2.0 or later
Dell Command Deploy Driver Pack Catalog version 1.0 or later

Keyboard shortcuts

NOTE: Keyboard characters may differ depending on the keyboard language configuration. Keys that are used for shortcuts remain the same across all language configurations.

Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. The symbol that is shown on the lower part of the key refers to the character that is typed out when the key is pressed. If you press shift and the key, the symbol shown on the upper part of the key is typed out. For example, if you press **2**, **2** is typed out; if you press **Shift + 2**, **@** is typed out.

The keys F1-F12 at the top row of the keyboard are function keys for multi-media control, as indicated by the icon at the bottom of the key. Press the function key to invoke the task represented by the icon. For example, pressing F1 mutes the audio (refer to the table below).

However, if the function keys F1-F12 are needed for specific software applications, multi-media functionality can be disabled by pressing **Fn + Esc**. Subsequently, multi-media control can be invoked by pressing **Fn** and the respective function key. For example, mute audio by pressing **Fn + F1**.

NOTE: You can also define the primary behavior of the function keys (F1–F12) by changing **Function Key Behavior** in BIOS setup program.

Table 46. List of keyboard shortcuts

Function key	Redefined key (for multimedia control)	Behavior
 F1	 +  F1	Mute audio
 F2	 +  F2	Decrease volume
 F3	 +  F3	Increase volume
 F4	 +  F4	Play/Pause
 F5	 +  F5	Toggle keyboard backlight (optional) NOTE: Non-backlight keyboards have F5 function key without the backlight icon and does not support toggle keyboard backlight function.
 F6	 +  F6	Decrease brightness

Table 46. List of keyboard shortcuts (continued)

Function key	Redefined key (for multimedia control)	Behavior
 F7	fn +  F7	Increase brightness
 F8	fn +  F8	Switch to external display
prt sc F10	fn + prt sc F10	Print screen
home F11	fn + home F11	Home
end F12	fn + end F12	End

The **Fn** key is also used with selected keys on the keyboard to invoke other secondary functions.

Table 47. List of keyboard shortcuts

Function key	Behavior
fn + B	Pause/Break
fn + S	Toggle scroll lock
fn + R	System request
fn + ctrl 	Open application menu
fn + esc 	Toggle Fn-key lock
fn + P	SafeScreen (e-Privacy) - Optional offering

Topics:

- [Keyboard shortcuts](#)

Keyboard shortcuts

NOTE: Keyboard characters may differ depending on the keyboard language configuration. Keys that are used for shortcuts remain the same across all language configurations.

Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. The symbol that is shown on the lower part of the key refers to the character that is typed out when the key is pressed. If you press shift and the key, the symbol shown on the upper part of the key is typed out. For example, if you press **2**, **2** is typed out; if you press **Shift + 2**, **@** is typed out.

The keys F1-F12 at the top row of the keyboard are function keys for multi-media control, as indicated by the icon at the bottom of the key. Press the function key to invoke the task represented by the icon. For example, pressing F1 mutes the audio (refer to the table below).

However, if the function keys F1-F12 are needed for specific software applications, multi-media functionality can be disabled by pressing **Fn + Esc**. Subsequently, multi-media control can be invoked by pressing **Fn** and the respective function key. For example, mute audio by pressing **Fn + F1**.

NOTE: You can also define the primary behavior of the function keys (F1–F12) by changing **Function Key Behavior** in BIOS setup program.

Table 48. List of keyboard shortcuts

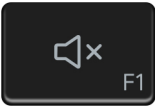
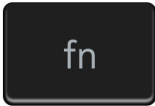
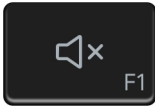
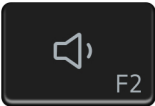
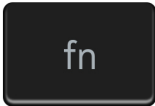
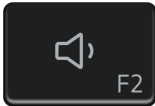
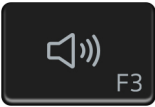
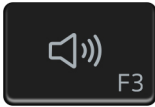
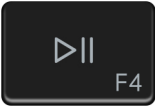
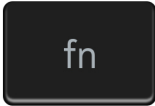
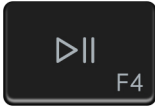
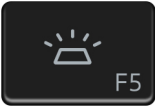
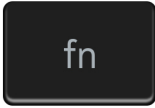
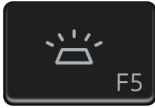
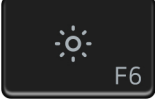
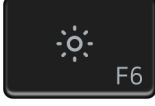
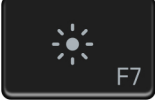
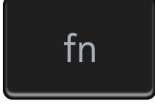
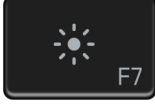
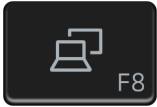
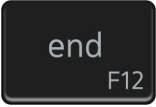
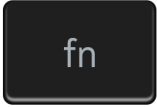
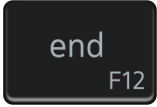
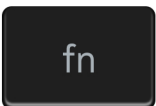
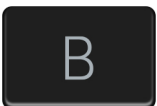
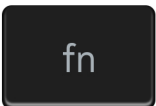
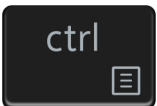
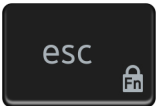
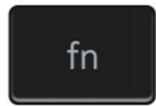
Function key	Redefined key (for multimedia control)	Behavior
 F1	 +  F1	Mute audio
 F2	 +  F2	Decrease volume
 F3	 +  F3	Increase volume
 F4	 +  F4	Play/Pause
 F5	 +  F5	Toggle keyboard backlight (optional) NOTE: Non-backlight keyboards have F5 function key without the backlight icon and does not support toggle keyboard backlight function.
 F6	 +  F6	Decrease brightness
 F7	 +  F7	Increase brightness

Table 48. List of keyboard shortcuts (continued)

Function key	Redefined key (for multimedia control)	Behavior
	 + 	Switch to external display
	 + 	Print screen
	 + 	Home
	 + 	End

The **Fn** key is also used with selected keys on the keyboard to invoke other secondary functions.

Table 49. List of keyboard shortcuts

Function key	Behavior
 + 	Pause/Break
 + 	Toggle scroll lock
 + 	System request
 + 	Open application menu
 + 	Toggle Fn-key lock
 + 	SafeScreen (e-Privacy) - Optional offering

Getting help

Topics:

- [Contacting Dell](#)

Contacting Dell

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