

# Latitude 3420

## Technical Guidebook

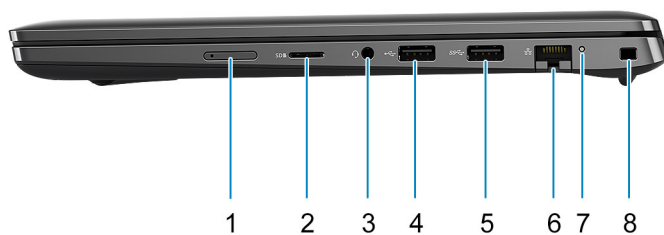
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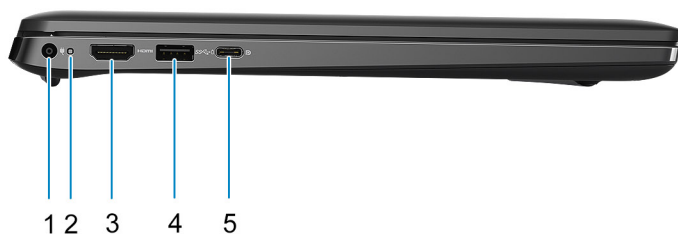
# Views of Latitude 3420

## Right



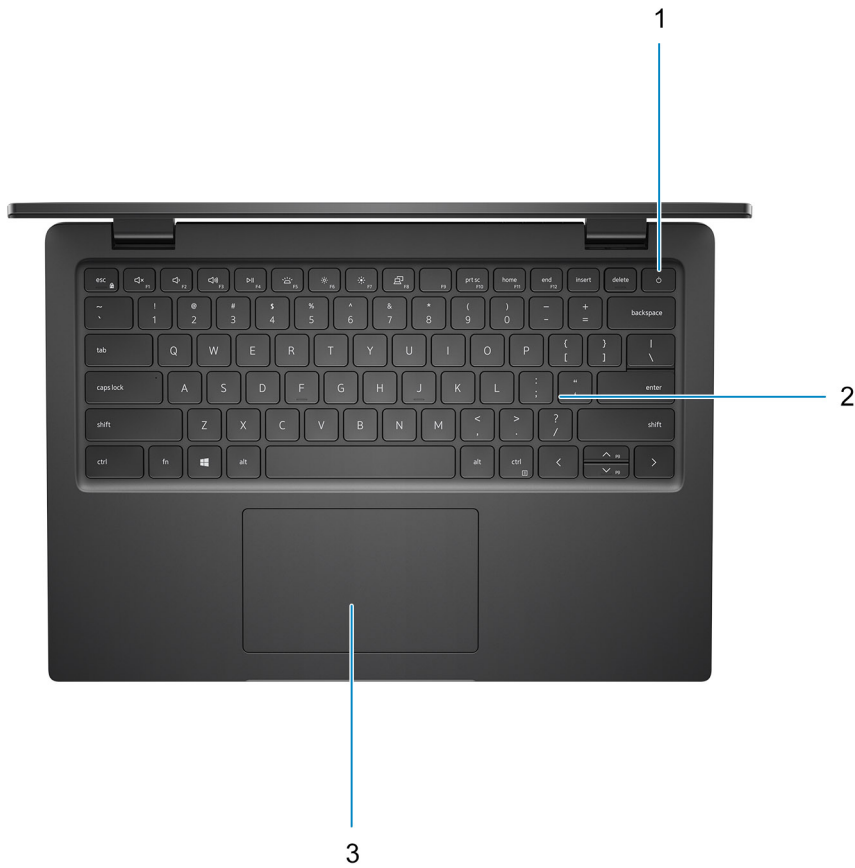
- |                                   |                           |
|-----------------------------------|---------------------------|
| 1. micro-SIM card slot (optional) | 2. microSD-card slot      |
| 3. Universal audio port           | 4. USB 2.0 port           |
| 5. USB 3.2 Gen 1 port             | 6. Network port           |
| 7. Network activity LED           | 8. Wedge-shaped lock slot |

## Left



- |  |                                  |
|--|----------------------------------|
| 1. DC-in port  | 2. Power LED                     |
| 3. HDMI 1.4 port   | 4. USB 3.2 Gen 1 with PowerShare |
| 5. USB 3.2 Gen 2 Type-C port with DisplayPort Alt Mode and Power Delivery (10 <sup>th</sup> and 11 <sup>th</sup> Generation Intel processors only) |                                  |

# Top



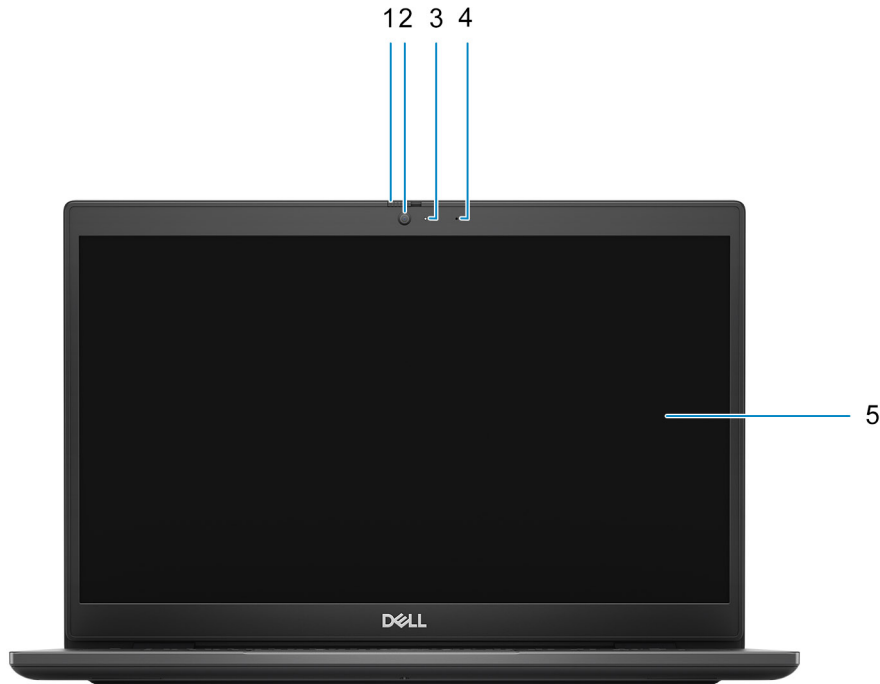
1. Power button with optional fingerprint reader
2. Keyboard
3. Touchpad

# Bottom



1. Speakers
2. Service tag label
3. Air vent

# Front



- 1. Camera shutter (optional)
- 2. Camera
- 3. Camera status light
- 4. Microphone
- 5. Display panel

## 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 3420

## Dimensions and weight

The following table lists the height, width, depth, and weight of your Latitude 3420.

**Table 2. Dimensions and weight**

Description	Values
Height:	
Front height	17.60 mm (0.69 in.)
Rear height	17.60 mm (0.69 in.)
Width	326 mm (12.83 in.)
Depth	226 mm (8.89 in.)
Weight	1.52 kg (3.35 lb)
 <b>NOTE:</b> The weight of your computer depends on the configuration ordered and manufacturing variability.	

## Processor

The following table lists the details of the processors supported by your Latitude 3420

**Table 3. Processor**

Description	Option one	Option two	Option three	Option Four	Option Five	Option Six	Option Seven
Processor type	Intel Celeron 6305U	10 <sup>th</sup> Generation Intel Core i3-1005G1	11 <sup>th</sup> Generation Intel Core i3-1115G4	11 <sup>th</sup> Generation Intel Core i5-1135G7	11 <sup>th</sup> Generation Intel Core i5-1145G7	11 <sup>th</sup> Generation Intel Core i7-1165G7	11 <sup>th</sup> Generation Intel Core i3-1125G4
Processor wattage	15 W	15 W	15 W	15 W	15 W	15 W	15 W
Processor core count	2	2	2	4	4	4	4
Processor thread count	2	4	4	8	8	8	8
Processor speed	Up to 1.80 GHz	2.40 GHz to 3.40 GHz	3.0 GHz to 4.10 GHz	2.40 GHz to 4.20 GHz	2.60 GHz to 4.40 GHz	2.80 GHz to 4.70 GHz	2.0 GHz to 3.70 GHz
Processor cache	4 MB	4 MB	6 MB	8 MB	8 MB	12 MB	8 MB
Integrated graphics	Intel UHD Graphics	Intel UHD Graphics	Intel UHD Graphics	Intel Iris X <sup>e</sup> Graphics	Intel Iris X <sup>e</sup> Graphics	Intel Iris X <sup>e</sup> Graphics	Intel UHD graphics



# Chipset

The following table lists the details of the chipset supported by your Latitude 3420

**Table 4. Chipset**

Description	Option one	Option two
Processors	Intel 10 <sup>th</sup> Generation Core i3	Intel 11 <sup>th</sup> Generation Core i3/i5/i7 and Intel Celeron
Chipset	Intel	Intel
DRAM bus width	64-bit	64-bit
Flash EPROM	32 MB	32 MB
PCIe bus	Up to Gen 3	Up to Gen 3

# Operating system

Your Latitude 3420 supports the following operating systems:

- Windows 11 Pro
- Windows 11 Home
- Windows 11 Pro National Academic
- Windows 10 Pro, 64-bit
- Windows 10 Home, 64-bit
- Ubuntu Linux 20.04 LTS, 64-bit
- Kylin Linux version 10

# Memory

The following table lists the memory specifications of your Latitude 3420.

**Table 5. Memory specifications**

Description	Values
Memory slots	Two SODIMM slots
Memory type	DDR4
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	<ul style="list-style-type: none"><li>• 4 GB, 1 x 4 GB, DDR4, 3200 MHz</li><li>• 8 GB, 1 x 8 GB, DDR4, 3200 MHz</li><li>• 8 GB, 2 x 4 GB, DDR4, 3200 MHz</li><li>• 16 GB, 1 x 16 GB, DDR4, 3200 MHz</li><li>• 16 GB, 2 x 8 GB, DDR4, 3200 MHz</li><li>• 32 GB, 2 x 16 GB, DDR4, 3200 MHz</li></ul>

**Table 5. Memory specifications (continued)**

Description	Values
	<ul style="list-style-type: none"><li>• 32 GB, 1 x 32 GB, DDR4, 3200 MHz</li><li>• 64 GB, 2 x 32 GB, DDR4, 3200 MHz</li></ul>

## External ports

The following table lists the external ports of your Latitude 3420.

**Table 6. External ports**

Description	Values
Network port	One Flip-down RJ 45 10/100/1000 Mbps
USB ports	<ul style="list-style-type: none"><li>• One USB 3.2 Gen 2 Type-C port with DisplayPort alt mode/Power Delivery (10<sup>th</sup> and 11<sup>th</sup> Generation Intel processors only)</li><li>• One USB 3.2 Gen 1 port</li><li>• One USB 3.2 Gen 1 port with PowerShare</li><li>• One USB 2.0 port</li></ul>
Audio port	One universal audio port
Video port	One HDMI 1.4 port
Media-card reader	One microSD-card slot
Power adapter port	4.5 mm barrel-type
Security-cable slot	One wedge-shaped lock slot
SIM-card slot	One microSIM-card slot (WWAN only)

## Internal slots

The following table lists the internal slots of your Latitude 3420.

**Table 7. Internal slots**

Description	Values
M.2	<ul style="list-style-type: none"><li>• One M.2 slot for WWAN (on WWAN I/O board)</li><li>• One M.2230 slot for Wi-Fi</li><li>• One M.2 slot for 2230/2280 solid-state drive</li></ul> <p><b>NOTE:</b> To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at <a href="http://www.dell.com/support">www.dell.com/support</a>.</p>

# Ethernet

The following table lists the wired Ethernet Local Area Network (LAN) specifications of your Latitude 3420.

**Table 8. Ethernet specifications**

Description	Option 1	Option 2
Model number	Integrated Realtek RTL8111H	Integrated Intel WGI219V
Transfer rate	10/100/1000 Mbps	10/100/1000 Mbps

# Wireless module

The following table lists the Wireless Local Area Network (WLAN) modules supported on your Latitude 3420.

## Wireless module

**Table 9. Wireless module specifications**

Description	Values		
Model number	Intel Wi-Fi 6 AX201	Qualcomm QCA61x4A	Realtek RTL8822CE
Transfer rate	Up to 2400 Mbps	Up to 867 Mbps	Up to 867 Mbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz/5 GHz	2.40 GHz/5 GHz
Wireless standards	<ul style="list-style-type: none"> <li>• Wi-Fi 802.11a/b/g</li> <li>• Wi-Fi 4 (Wi-Fi 802.11n)</li> <li>• Wi-Fi 5 (Wi-Fi 802.11ac)</li> <li>• Wi-Fi 6 (Wi-Fi 802.11ax)</li> </ul>	<ul style="list-style-type: none"> <li>• Wi-Fi 802.11a/b/g</li> <li>• Wi-Fi 4 (Wi-Fi 802.11n)</li> <li>• Wi-Fi 5 (Wi-Fi 802.11ac)</li> </ul>	<ul style="list-style-type: none"> <li>• Wi-Fi 802.11a/b/g</li> <li>• Wi-Fi 4 (Wi-Fi 802.11n)</li> <li>• Wi-Fi 5 (Wi-Fi 802.11ac)</li> </ul>
Encryption	<ul style="list-style-type: none"> <li>• 64-bit/128-bit WEP</li> <li>• AES-CCMP</li> <li>• TKIP</li> </ul>	<ul style="list-style-type: none"> <li>• 64-bit/128-bit WEP</li> <li>• AES-CCMP</li> <li>• TKIP</li> </ul>	<ul style="list-style-type: none"> <li>• 64-bit/128-bit WEP</li> <li>• AES-CCMP</li> <li>• TKIP</li> </ul>
Bluetooth	Bluetooth 5.1	Bluetooth 5.0	Bluetooth 5.0

**Table 10. WWAN module**

Feature	Specifications
Model number	Dell DW5820e Intel 7360 LTE-A
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 Frequency Bands	(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	<ul style="list-style-type: none"> <li>• LTE FDD: 450 Mbps DL/50 Mbps UL (Cat 9)</li> <li>• LTE TDD: 347 Mbps DL/30 Mbps UL (Cat 9)</li> <li>• UMTS/HSPA+: UMTS 384 kbps DL/384 kbps UL</li> </ul>
Power supply	DC 3.135 V to 4.4 V, Typical 3.3 V
Antenna Diversity	Supported

**Table 10. WWAN module (continued)**

Feature	Specifications
Radio On/Off	Supported
Wake On Wireless	Not supported
Temperature	<ul style="list-style-type: none"> <li>Normal operating temperature: -10°C to + 55°C</li> <li>Extended Operating temperature: -20°C to +65°C</li> </ul> <p><b>NOTE:</b> Variation in temperature can affect the performance of the WWAN card.</p>
Antenna connector	<ul style="list-style-type: none"> <li>WWAN Main Antenna X 1</li> <li>WWAN Diversity Antenna X 1</li> </ul>

## Audio

The following table lists the audio specifications of your Latitude 3420.

**Table 11. Audio specifications**

Description	Values
Audio controller	Realtek ALC3204
Stereo conversion	Supported
Internal audio interface	High definition audio
External audio interface	Universal audio port
Number of speakers	Two
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
Subwoofer output	Not supported
Microphone	Dual digital-array microphones

## Storage

This section lists the storage options on your Latitude 3420.

Your computer supports one of the following configurations:

- One M.2 2230/2280 for solid-state drive (Class 35 or Class 40)
- One M.2 2230/2280 solid-state drive and One 2.5-inch SATA hard-drive

The primary drive of your computer varies with the storage configuration. For computers:

- M.2 2230/2280 for solid-state drive (Class 35 or Class 40)

**NOTE:** You cannot install the 2.5-inch SATA hard-drive on systems with a 4-cell battery. Systems with a 4-cell battery would only support the M.2 Solid-state drive.


**Table 12. Storage specifications**

Storage type	Interface type	Capacity
2.5-in. 5400 rpm, hard drive	SATA	1 TB
2.5-in. 7200 rpm, hard drive	SATA	500 GB
M.2 2230 solid-state drive	PCIe NVMe Gen3x4	Up to 512 GB
M.2 2280 solid-state drive	PCIe NVMe Gen3x4	Up to 1 TB
M.2 2280 solid-state drive	PCIe NVMe Gen4x4	Up to 1 TB

## Media-card reader

The following table lists the media cards supported by your Latitude 3420.

**Table 13. Media-card reader specifications**

Description	Values
Media-card type	One microSD 3.0 card
Media-cards supported	<ul style="list-style-type: none"> <li>• Micro Secure Digital (mSD)</li> <li>• Micro Secure Digital High Capacity(mSDHC)</li> <li>• Micro Secure Digital Extended Capacity(mSDXC)</li> </ul>
<p> <b>NOTE:</b> The maximum capacity supported by the media-card reader varies depending on the standard of the media card installed in your computer.</p>	


## Keyboard

The following table lists the keyboard specifications of your Latitude 3420.

**Table 14. Keyboard specifications**

Description	Values
Keyboard type	<ul style="list-style-type: none"> <li>• Standard non-backlit keyboard with optional fingerprint reader</li> <li>• Standard backlit keyboard with optional fingerprint reader</li> </ul>
Keyboard layout	QWERTY
Number of keys	<ul style="list-style-type: none"> <li>• United States and Canada: 79 keys</li> <li>• United Kingdom: 80 keys</li> <li>• Japan: 83 keys</li> </ul>
Keyboard size	<p>X=19.05 mm key pitch</p> <p>Y=18.05 mm key pitch</p>
Keyboard shortcuts	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.

**Table 14. Keyboard specifications (continued)**

Description	Values
	 <b>NOTE:</b> You can define the primary behavior of the function keys (F1–F12) changing <b>Function Key Behavior</b> in BIOS setup program.

## Camera

The following table lists the camera specifications of your Latitude 3420.

**Table 15. Camera specifications**

Standard camera		
Description		Values
Number of cameras		One
Type		HD RGB camera
Location		Front Camera
Sensor type		CMOS sensor technology
Resolution:		
	Still image	0.92 megapixel
	Video	1280 x 720 (HD) at 30 fps
Diagonal viewing angle		78.60 degrees

**Table 16. IR camera specifications**

IR camera		
Description		Values
Number of cameras		One
Type		FHD RGB-IR camera
Location		Front Camera
Sensor type		CMOS sensor technology
Camera resolution:		
	Still image	2.07 megapixel
	Video	1920 x 1080 (FHD) at 30 fps
Infrared camera resolution:		
	Still image	0.23 megapixel
	Video	640 x 480 (VGA) at 30 fps
Diagonal viewing angle:		
	Camera	87.60 degree
	Infrared camera	87.60 degree

# Touchpad

The following table lists the touchpad specifications of your Latitude 3420.


**Table 17. Touchpad specifications**

Description		Values
Touchpad resolution:		
	Horizontal	305
	Vertical	305
Touchpad dimensions:		
	Horizontal	115 mm (4.53 in.)
	Vertical	70 mm (2.76 in.)
Touchpad gestures		For more information about touchpad gestures available on Windows, see the Microsoft knowledge base article at <a href="https://support.microsoft.com">support.microsoft.com</a> .

# Power adapter

The following table lists the power adapter specifications of your Latitude 3420.


**Table 18. Power adapter specifications**

Description	Option one	Option two
Type	65 W AC adapter, 4.5 mm barrel	65 W AC adapter, USB-C
Input voltage	100 VAC x 240 VAC	100 VAC x 240 VAC
Input frequency	50 Hz x 60 Hz	50 Hz x 60 Hz
Input current (maximum)	1.60 A / 1.7 A	1.70 A
Output current (continuous)	3.34 A	<ul style="list-style-type: none"> <li>• 20 V/3.25 A</li> <li>• 15 V/3 A</li> <li>• 9 V/3 A</li> <li>• 5 V/3 A</li> </ul>
Rated output voltage	19.50 VDC	20 VDC/15 VDC/9 VDC/5 VDC
Temperature range:		
	Operating	0°C to 40°C (32°F to 104°F)
	Storage	-40°C to 70°C (-40°F to 158°F)
 <b>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.</b>		

# Battery

The following table lists the battery specifications of your Latitude 3420.

**Table 19. Battery specifications**

Description	Option one	Option two	
Battery type	3-cell, 41 Whr	4-cell, 54 Whr	
Battery voltage	11.25 VDC	15 VDC	
Battery weight (maximum)	0.17 kg (0.37 lb)	0.23 kg (0.50 lb)	
Battery dimensions:			
	Height	206.40 mm (8.12 in.)	271.90 mm (10.70 in.)
	Width	82 mm (3.22 in.)	82 mm (3.22 in.)
	Depth	5.75 mm (0.23 in.)	5.75 mm (0.23 in.)
Temperature range:			
	Operating	0°C to 35°C (32°F to 95°F)	0°C to 35°C (32°F to 95°F)
	Storage	-40°C to 65°C (-40°F to 149°F)	-40°C to 65°C (-40°F to 149°F)
Battery 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.
Battery charging time (approximate) <i>i</i> <b>NOTE:</b> Control the charging time, duration, start and end time, and so on using the Dell Power Manager application. For more information on the Dell Power Manager see, <i>Me and My Dell</i> on <a href="http://www.dell.com">www.dell.com</a> .	4 hours (when the computer is off)	4 hours (when the computer is off)	
Coin-cell battery	CR2032	CR2032	
 <b>CAUTION:</b> 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.			

# Display

The following table lists the display specifications of your Latitude 3420.

**Table 20. Display specifications**

Description	Option one	Option two	Option three
Display type	High Definition (HD)	Full High Definition (FHD)	Full High Definition (FHD)
Display-panel technology	Twisted Nematic (TN)	Wide-Viewing Angle (WVA)	Wide-Viewing Angle (WVA)
Display-panel dimensions (active area):			



**Table 20. Display specifications (continued)**

Description		Option one	Option two	Option three
	Height	173.99 mm (6.84 in.)	173.99 mm (6.85 in.)	173.99 mm (6.85 in.)
	Width	309.40 mm (12.18 in.)	309.35 mm (12.17 in.)	309.35 mm (12.17 in.)
	Diagonal	355.60 mm (14.00 in.)	355.60 mm (14.00 in.)	355.60 mm (14.00 in.)
Display-panel native resolution		1366 x 768	1920 x 1080	1920 x 1080
Luminance (typical)		220 nits	250 nits	300 nits
Megapixels		1.049	2.0736	2.0736
Color gamut		NTSC 45% Typ.	NTSC 45% Typ.	NTSC 72% Typ.
Pixels Per Inch (PPI)		112	157	157
Contrast ratio (typical)		300:1	700:1	700:1
Response time (max)		25 ms	35 ms	35 ms
Refresh rate		60 Hz	60 Hz	60 Hz
Horizontal view angle		40 degrees	80 degrees	80 degrees
Vertical view angle		10/30 degrees	80 degrees	80 degrees
Pixel pitch		0.22 mm	0.16 mm	0.16 mm
Power consumption (maximum)		2.40 W	3.60 W	4.60 W
Anti-glare vs glossy finish		Anti-glare	Anti-glare	Anti-glare
Touch options		No	No	Yes

## Fingerprint reader

The following table lists the fingerprint-reader specifications of your Latitude 3420.

**NOTE:** The fingerprint reader is located on the power button.

**NOTE:** The fingerprint reader is an optional offering.

**Table 21. Fingerprint reader specifications**

Description	Values
Fingerprint-reader sensor technology	Capacitive
Fingerprint-reader sensor resolution	500 dpi
Fingerprint-reader sensor pixel size	108 x 88

## GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Latitude 3420.

**Table 22. GPU—Integrated**

Controller	Memory size	Processor
Intel UHD Graphics	Shared system memory	<ul style="list-style-type: none"> <li>Intel Celeron 6305U processor</li> <li>Intel 10<sup>th</sup> Generation Core i3 processors</li> <li>Intel 11<sup>th</sup> Generation Core i3 processors</li> </ul>
Intel Iris X <sup>e</sup> Graphics	Shared system memory	<ul style="list-style-type: none"> <li>Intel 11<sup>th</sup> Generation Core i5 / i7 processors</li> </ul>

## GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Latitude 3420.

**Table 23. GPU—Discrete**

Controller	External display support	Memory size	Memory type
NVIDIA GeForce MX350	Not supported	2 GB	GDDR5
NVIDIA GeForce MX450	Not supported	2 GB	GDDR5

## Operating and storage environment

This table lists the operating and storage specifications of your Latitude 3420.

**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% (non-condensing)	0% to 95% (non-condensing)
Vibration (maximum)*	0.66 GRMS	1.30 GRMS
Shock (maximum)	140 G <sup>†</sup>	160 G <sup>†</sup>
Altitude range	-15.2 m to 3048 m (4.64 ft to 10000 ft)	-15.2 m to 10668 m (4.64 ft to 35000 ft)

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

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

† Measured using a 2 ms half-sine pulse.

# Engineering specifications

## Communications

### Wireless module

#### Intel Wi-Fi 6 AX201 160 MHz (Harrison Peak 2) 2x2 Wi-Fi + BT 5.1 M.2 Wireless Card

**Table 25. Intel Wi-Fi 6 AX201 160 MHz (Harrison Peak 2) 2x2 Wi-Fi + BT 5.1 M.2 Wireless Card**

Feature	Specifications
Host interface	CNVi2 (Connectivity Integration 2 <sup>nd</sup> generation)
Network standards:	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, WMM-PS, WPA, WPA2, WPS2, Protected Management Frames, and Wi-Fi Direct (For Microsoft Windows only)
Operating Frequency Bands	2.4 GHz and 5 GHz
Data rate	2.4 GHz 40M: Up to 574 Mbps 5 GHz 80M: Up to 1.2 Gbps 5 GHz 160M: 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 OS 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
Product Safety	UL, C-UL, CB (IEC60950-1)
Management Capabilities	AlertingSupport for Intel AMT
Government Compliance	FIPS 140-2, FISMA
Client Utility	Intel PRO/Set Wireless Software v21 and later
AntennaDiversity	Supported
Radio On/Off	Supported
Roaming	Supports seamless roaming between access points
Wake On Wireless	Not supported
Wireless Display	Native Miracast support by Windows

## Qualcomm QCA61x4A 2x2 Wi-Fi 5 + BT 5.0 M.2 Wireless Card

**Table 26. Dell Qualcomm QCA61x4A, DW1820 802.11ac**

Host interface	PCIe + USB
Transfer rate	IEEE 802.11a/b/g/n/ac/, MU-MIMO
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
Power consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Authentication	WPA2* Personal and Enterprise
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)
Government Compliance	FIPS 140-2, FISMA
Antenna Diversity	Supported
Radio On/Off	Supported
Wake On Wireless	Not supported
Wireless Display	Native Miracast support by Windows 10
Bluetooth	Bluetooth 5.0

## Realtek RTL8822CE, 1x1, Wi-Fi 5 (WiFi 802.11ac), Bluetooth 5.0

The following table lists the Realtek RTL8822CE specifications.

**Table 27. Realtek RTL8822CE specifications**

Host interface	<ul style="list-style-type: none"> <li>• Wi-Fi - PCIe</li> <li>• Bluetooth - USB</li> </ul>
Network standard	IEEE 802.11a/b/g/n/ac, MU-MIMO
Wi-Fi Alliance certifications	<ul style="list-style-type: none"> <li>• Wi-Fi certified a/b/g/n/ac</li> <li>• WMM</li> <li>• WPA</li> <li>• WPA2</li> <li>• Wi-Fi Direct (Windows only)</li> </ul>
Operating frequency bands	<ul style="list-style-type: none"> <li>• 2.4 Ghz</li> <li>• 5 Ghz</li> </ul>
Data rate	<ul style="list-style-type: none"> <li>• 2.4 GHz 40M: Up to 300 Mbps</li> <li>• 5 GHz 80M: Up to 867 Mbps</li> </ul>

**Table 27. Realtek RTL8822CE specifications (continued)**

Power consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Authentication	<ul style="list-style-type: none"> <li>• Open</li> <li>• Shared</li> <li>• WPA</li> <li>• WPA-PSK</li> <li>• WPA2</li> <li>• WPA2-PSK</li> </ul>
Client utility	Native Wi-Fi and Bluetooth Microsoft UI support
Software support	<ul style="list-style-type: none"> <li>• Microsoft WHQL certified for Windows</li> <li>• Linux</li> <li>• Chrome</li> </ul>
Radio On/Off	Supported
Roaming	Support seamless roaming between access points
Wake on wireless	Not supported
Wireless display	Native Miracast support by Windows
Wireless PAN standard	<ul style="list-style-type: none"> <li>• Dual Mode Bluetooth 5.0</li> <li>• BLE</li> </ul>
Bluetooth data rates	Up to 3 Mbps
Bluetooth operating frequency bands	2.4 GHz
Bluetooth profiles supported	Support for Microsoft Inbox Bluetooth profiles in Windows
Bluetooth data encryption	128-bit encryption
Operating temperature	0°C to + 70°C
Storage temperature	-40°C to +85°C

## Mobile broadband

### Intel XMM 7360 Global LTE-advanced

**Table 28. Intel XMM 7360 Global LTE-A (DW5820e)**

Carrier	Verizon	AT&T	T-Mobile	Rogers	Telus	Generic
<b>Network</b>	LTE CAT9	LTE CAT9	LTE CAT9	LTE CAT9	LTE CAT9	LTE CAT9
<b>Speed (Downlink)</b>	< 450 Mbps	< 450 Mbps	< 450 Mbps	< 450 Mbps	< 450 Mbps	< 450 Mbps
<b>Speed (Uplink)</b>	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps
<b>Fallback Network</b>	NA	HSPA+	NA	HSPA+	HSPA+	HSPA+
<b>Fallback Speed (Downlink)</b>	NA	HSPA+ 42 Mbps	NA	HSPA+ 42 Mbps	HSPA+ 42 Mbps	HSPA+ 42 Mbps
<b>Frequency Bands</b>	Operating band: 2, 4, 13	Operating band: 2, 4, 12, 17	Operating band: 25, 26, 41	Operating band: 1, 2, 3, 4,	Operating band: 1, 2, 3, 4, 5, 7,	Operating band: 1, 2, 3, 4, 5, 7, 8, 11,

**Table 28. Intel XMM 7360 Global LTE-A (DW5820e) (continued)**

Carrier	Verizon	AT&T	T-Mobile	Rogers	Telus	Generic
	HSPA+: 0, 1	HSPA+: 2, 5	HSPA+: 10, 1	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	8, 11, 12, 13, 17, 18, 19, 20, 21, 26, 28, 29, 30, 38, 39, 40, 41, 66 HSPA+: 1, 2, 4, 5, 8	12, 13, 17, 18, 19, 20, 21, 26, 28, 29, 30, 38, 39, 40, 41, 66 HSPA+: 1, 2, 4, 5, 8
<b>SIM</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>LTE/WWAN Antenna</b>	Main (Tx/Rx) + Aux (Rx/GNSS)	Main (Tx/Rx) + Aux (Rx/GNSS)	Main (Tx/Rx) + Aux (Rx/GNSS)	Main (Tx/Rx) + Aux (Rx/GNSS)	Main (Tx/Rx) + Aux (Rx/GNSS)	Main (Tx/Rx) + Aux (Rx/GNSS)
<b>Operating System Support</b>	Windows 10, 32/64 bits	Windows 10, 32/64 bits	Windows 10, 32/64 bits	Windows 10, 32/64 bits	Windows 10, 32/64 bits	Windows 10, 32/64 bits
<b>Host Interface for Ubuntu</b>	USB 3.0 and USB 2.0	USB 3.0 and USB 2.0	USB 3.0 and USB 2.0	USB 3.0 and USB 2.0	USB 3.0 and USB 2.0	USB 3.0 and USB 2.0

## Graphics options

### Intel UHD Graphics

**Table 29. Intel UHD Graphics specifications**

Intel UHD Graphics	
Bus Type	Integrated
Memory Type	UMA
Graphics Level	<ul style="list-style-type: none"> <li>Core i3/i5/i7: GT2 (UHD)</li> <li>Celeron: GT1 (UHD)</li> </ul>
Estimated Maximum Power Consumption (TDP)	15 W (included in the CPU power)
Overlay Planes	Yes
Operating Systems Graphics/ Video API Support	DirectX 12, OpenGL (4.5 from Intel CML POR)
Maximum Vertical Refresh Rate	<ul style="list-style-type: none"> <li>HDMI 1.4: 4096 x 2160 @ 30 Hz, 24bpp, Via optional USB Type-C to HDMI dongle</li> <li>Max Digital: (DP 1.4 over Type-C Port) 4096 x 2304 @ 30 Hz, 24bpp</li> </ul>
Number of display supported	Up to three displays supported via DisplayPort Multi-Streaming Technology (MST)
Multiple Display Support	Via HDMI 1.4 Via Type-C: HDMI 1.4 (via optional USB-C cable to HDMI cable) DisplayPort 1.4 (via optional USB-C cable or USB-C to DP cable)
External Connectors	USB Type-C port HDMI 1.4

## Intel Iris X<sup>e</sup> Graphics

**Table 30. Intel Iris X<sup>e</sup> Graphics specifications**

Intel Iris X <sup>e</sup> Graphics	
Bus Type	Integrated
Memory Type	UMA
Graphics Level	Intel core i5/i7 (11 <sup>th</sup> Generation)
Estimated Maximum Power Consumption (TDP)	15 W (included in the CPU power)
Overlay Planes	Yes
Operating Systems Graphics/ Video API Support	DirectX 12.1, OpenCL 2.0
Maximum Vertical Refresh Rate	<ul style="list-style-type: none"> <li>HDMI 1.4: 4096x2160@30Hz, 24bpp, Via optional USB Type-C to HDMI dongle</li> <li>Max Digital: (DP 1.4 over Type-C Port) 4096x2304@30Hz, 24bpp</li> </ul>
Number of display supported	Up to four displays supported via DisplayPort Multi-Streaming Technology (MST)
Multiple Display Support	Via HDMI 1.4 Via Type-C: HDMI 1.4 (via optional USB-C cable to HDMI cable); DisplayPort 1.4 (via optional USB-C cable or USB-C to DP cable);
External Connectors	USB Type-C port HDMI 1.4

## Nvidia GeForce MX350

**Table 31. Nvidia GeForce MX350 specifications**

Feature	Specifications
Graphics memory	2 GB GDDR5
Bus type	PCI Express 3.0
Memory Interface	GDDR5
Clock Speeds	1354 - 1468 (Boost) MHz
Maximum Color Depth	N/A
Maximum Vertical Refresh Rate	N/A
Operating Systems Graphics/ Video API Support	Windows 10/ DX 12/ OGL4.6
Supported Resolutions and Max Refresh Rates (Hz)	N/A
Numbers of Display Support	No display output from MX350

# Nvidia GeForce MX450 Graphics

**Table 32. Nvidia GeForce MX450 Graphics**

Nvidia GeForce MX450 Graphics	
Bus Type	PCI Express
Memory Type	GDDR5
PCI Device ID (Primary)	0x1F97
PCI Device ID (Secondary)	N/A
GPU Clocks	
Base Clock	1395 MHz
Boots Clock	1575 MHz
P0 Clock Range	300 MHz to 2100 MHz
P3 Clock Range	300 MHz to 2100 MHz
P5 Clock Range	300 MHz to 2100 MHz
VBIOS	
EEPROM size	8 Mb
PCI Express Interface	<ul style="list-style-type: none"> <li>• PCI Express 4.0 x 4</li> <li>• Lane and polarity reversal supported</li> </ul>

## Storage

### 2.5-inch 1 TB 5400 RPM SATA Hard-Disk Drive

**Table 33. 2.5-inch 1 TB 5400 RPM SATA Hard Disk Drive**

Features	Specifications
Capacity (TB)	1 TB HDD 5400 RPM
Dimensions (inches) (W x D x H)	Approximately (2.75 in. x 3.955 in. x 0.276 in.)
Interface type and Maximum speed	Up to 6 Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	1,953,525,168
<b>Power Source:</b>	
Power Consumption (reference only)	Idle 0.7 W, Active 3.10 W
<b>Environmental Operating Conditions (Non-Condensing):</b>	
Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2 ms)	350G
<b>Environmental Non-Operating Conditions (Non-Condensing):</b>	
Temperature Range	-40°C to 65°C



**Table 33. 2.5-inch 1 TB 5400 RPM SATA Hard Disk Drive (continued)**

Features	Specifications
Relative Humidity Range	5% to 95%

## 2.5-inch 500 GB 7200 RPM SATA Hard-Disk Drive

**Table 34. 2.5-inch 500 GB 7200 RPM SATA Hard-Disk Drive**

Features	Specifications
Capacity (GB)	500 GB HDD 7200 RPM
Dimensions (W x D x H)	2.75 in. x 3.955 in. x 0.276 in.
Interface type and Maximum speed	Up to 6 Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	976,773,168
Power Source	
Power Consumption (reference only)	Idle 0.7 W, Active 3.25 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2 ms)	350G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

## M.2 2230, 128 GB, PCIe NVMe Gen3 x4, Class 35 SSD

The following table lists the M.2 2230, 128 GB SSD specifications.

**Table 35. 128 GB SSD specifications**

Capacity	128 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	250,069,680
<b>Power source</b>	
Power consumption (reference only)	<ul style="list-style-type: none"> <li>Idle: 5 mW (PS4)</li> <li>Active: 3.50 W</li> </ul>
<b>Environmental operating conditions (non-condensing)</b>	
Temperature range	0°C to 70°C

**Table 35. 128 GB SSD specifications (continued)**

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

## 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 36. 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
<b>Power source</b>	
Power consumption (reference only)	<ul style="list-style-type: none"> <li>• Idle: 5 mW (PS4)</li> <li>• Active: 3.50 W</li> </ul>
<b>Environmental operating conditions (non-condensing)</b>	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
<b>Environmental non-operating conditions (non-condensing)</b>	
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 37. 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)

**Table 37. 512 GB SSD specifications (continued)**

MTBF	1.4M hours
Logical blocks	1,000,215,216
<b>Power source</b>	
Power consumption (reference only)	<ul style="list-style-type: none"> <li>• Idle: 5 mW (PS4)</li> <li>• Active: 3.50 W</li> </ul>
<b>Environmental operating conditions (non-condensing)</b>	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
<b>Environmental non-operating conditions (non-condensing)</b>	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

## M.2 2280, 256 GB, PCIe NVMe Gen3 x4, Class 40 SSD

The following table lists the M.2 2280, 256 GB SSD specifications

**Table 38. 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)	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	500,118,192
<b>Power source</b>	
Power consumption (reference only)	<ul style="list-style-type: none"> <li>• Idle: 5 mW ( PS4 - L1.2)</li> <li>• Active: 4.50 W</li> </ul>
<b>Environmental operating conditions (non-condensing)</b>	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
<b>Environmental non-operating conditions (non-condensing)</b>	
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

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

**Table 39. 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 Gen3
Speed (maximum)	32 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	1,000,215,216
<b>Power source</b>	
Power consumption (reference only)	<ul style="list-style-type: none"> <li>● Idle: 5 mW ( PS4 - L1.2)</li> <li>● Active: 4.50 W</li> </ul>
<b>Environmental operating conditions (non-condensing)</b>	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
<b>Environmental non-operating conditions (non-condensing)</b>	
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

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

**Table 40. 1 TB SSD specifications**

Capacity	1 TB
Height (approximate)	3.73 mm (0.15 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
<b>Power source</b>	
Power consumption (reference only)	<ul style="list-style-type: none"> <li>● Idle: 5 mW ( PS4 - L1.2)</li> <li>● Active: 4.50 W</li> </ul>
<b>Environmental operating conditions (non-condensing)</b>	
Temperature range	0°C to 70°C

**Table 40. 1 TB SSD specifications (continued)**

Relative humidity range	10% to 90%
Op shock	1500G
<b>Environmental non-operating conditions (non-condensing)</b>	
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 41. 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
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	1,000,215,216
<b>Power source</b>	
Power consumption (reference only)	<ul style="list-style-type: none"> <li>• Idle: 5 mW ( PS4 - L1.2)</li> <li>• Active: 5 W</li> </ul>
<b>Environmental operating conditions (non-condensing)</b>	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
<b>Environmental non-operating conditions (non-condensing)</b>	
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 42. 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)

**Table 42. 1 TB SSD specifications (continued)**

MTBF	1.4M hours
Logical blocks	2,000,409,264
<b>Power source</b>	
Power consumption (reference only)	<ul style="list-style-type: none"> <li>• Idle: 5 mW ( PS4 - L1.2)</li> <li>• Active: 5 W</li> </ul>
<b>Environmental operating conditions (non-condensing)</b>	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
<b>Environmental non-operating conditions (non-condensing)</b>	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

## Video port and resolution matrix

**Table 43. Video port and resolution matrix**

Port type	USB 3.2 Gen 2x2 with DisplayPort Alt Mode	HDMI-OUT port—HDMI 1.4 (UMA Graphics)
Maximum resolution—single display	4096 x 2304 @ 60 Hz	4096 x 2160 @ 30 Hz
Maximum resolution—dual MST	4096 x 2304 @ 60 Hz, 1400 x 1050 @ 60 Hz or 2880 x 1800 @ 60 Hz, 2880 x 1800 @ 60 Hz	Not applicable
Maximum resolution—triple MST	4096 x 2304 @ 60 Hz, 1360 x 768 @ 60 Hz, 640 x 480 @ 60 Hz or 2304 x 1440 @ 60 Hz, 2304 x 1440 @ 60 Hz, 2304 x 1440 @ 60 Hz	Not applicable

## Security

### Software security

**Table 44. Software security**

Security options	Latitude 3420
Dell Client Command Suite: On-Prem	Supported
Dell Client Command Suite: Cloud	Supported
Dell Optimizer	Supported
Dell Power Manager	Supported
Rugged Control Center	Supported
Support Assist for PCs	Supported
Support Assist OS Recovery (Excalibur)	Supported

**Table 44. Software security (continued)**

<b>Security options</b>	<b>Latitude 3420</b>
Dell SafeBIOS - Off-Host Verification	Supported
Dell SafeBIOS -Indicators of Attack	Supported
Dell SafeID	Supported
VMware Carbon Black Endpoint Standard	Supported
VMware Carbon Black Endpoint Advanced	Supported
VMware Carbon Black Endpoint Enterprise	Supported
Absolute Visibility	Supported
Absolute Control	Supported
Absolute Resilience	Supported
Dell Encryption Personal	Supported
Dell Encryption Enterprise	Supported
Netskope Cloud Access Security Broker (CASB)	Supported
Netskope Secure Web Gateway	Supported
Netskope Private Access	Supported

## Hardware security

**Table 45. Hardware security**

<b>Security options</b>	<b>Latitude 3420</b>
Wedge shaped security-cable slot	Supported
SafeID including Trusted Platform Module (TPM) 2.0	Supported
Smart card keyboard (FIPS)	Supported
Microsoft 10 Device Guard and Credential Guard (Enterprise SKU)	Supported
Microsoft Windows BitLocker	Supported
Local hard drive data wipe through BIOS (Secure Erase)	Supported
Self-encrypting storage drives (Opal, FIPS)	Supported
Trusted Platform Module TPM 2.0	Supported
China TPM	Supported
Intel Secure Boot	Supported
Intel Authenticate	Supported
SafeBIOS: includes Dell Off-host BIOS Verification, BIOS Resilience, BIOS Recovery, and additional BIOS Controls	Supported
Physical Security Options: Chassis Intrusion Switch, Lockable Cable Cover, Supply chain tamper alerts.	Supported

# Accessories

**Table 46. Accessories**

<b>Accessories</b>	
Audio	<ul style="list-style-type: none"><li>• Dell Pro Stereo Headset - UC350</li><li>• Dell Pro Stereo Soundbar - AE515M</li></ul>
Keyboard and Mice	<ul style="list-style-type: none"><li>• Dell Pro Wireless Keyboard and Mouse - KM5221W</li></ul>
Monitors	<ul style="list-style-type: none"><li>• Dell 24 Monitor - P2421D</li><li>• Dell UltraSharp 24 Monitor - U2422H</li></ul>



# 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.

**Table 47. List of keyboard shortcuts**



Keys	Primary behavior
Fn + F1	Mute audio
Fn + F2	Decrease volume
Fn + F3	Increase volume
Fn + F4	Play/Pause
Fn + F5	Turn on/off keyboard backlight
Fn + F6	Decrease brightness
Fn + F7	Increase brightness
Fn + F8	Switch to external display
Fn + F10	Print screen
Fn + F11	Home
Fn + 12	End
Fn + Ctrl	Open application menu

# 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 48. Self-help resources**

Self-help resources	Resource location
Information about Dell products and services	<a href="http://www.dell.com">www.dell.com</a>
My Dell app	
Tips	
Contact Support	In Windows search, type <code>Contact Support</code> , and press Enter.
Online help for operating system	<a href="http://www.dell.com/support/windows">www.dell.com/support/windows</a> <a href="http://www.dell.com/support/linux">www.dell.com/support/linux</a>
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 <a href="http://www.dell.com/support">www.dell.com/support</a> .  For more information on how to find the Service Tag for your computer, see <a href="#">Locate the Service Tag on your computer</a> .
Dell knowledge base articles for a variety of computer concerns	<ol style="list-style-type: none"> <li>1. Go to <a href="http://www.dell.com/support">www.dell.com/support</a>.</li> <li>2. On the menu bar at the top of the Support page, select <b>Support &gt; Knowledge Base</b>.</li> <li>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.</li> </ol>

## Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see [www.dell.com/contactdell](http://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.