

# Latitude 3520

## Setup and Specifications



## 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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# Set up your Latitude 3520

## About this task

**NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

## Steps

1. Connect the power adapter and press the power button.



**NOTE:** To conserve battery power, the battery might enter power saving mode. Connect the power adapter and press the power button to turn on the computer.

2. Finish operating system setup.

### For Ubuntu:

Follow the on-screen instructions to complete the setup. For more information about installing and configuring Ubuntu, see the knowledge base articles [SLN151664](#) and [SLN151748](#) at [www.dell.com/support](http://www.dell.com/support).






### For Windows:

Follow the on-screen instructions to complete the setup. When setting up, Dell recommends that you:

- Connect to a network for Windows updates.
  - NOTE:** If connecting to a secured wireless network, enter the password for the wireless network access when prompted.
- If connected to the internet, sign-in with or create a Microsoft account. If not connected to the internet, create an offline account.
- On the **Support and Protection** screen, enter your contact details.

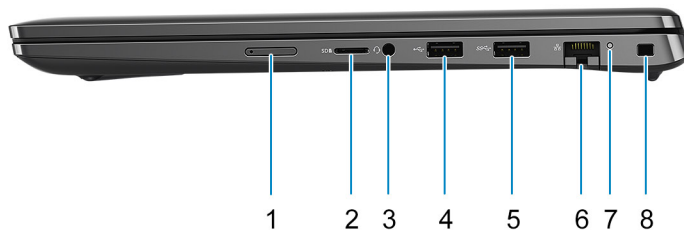
3. Locate and use Dell apps from the Windows Start menu—Recommended.

**Table 1. Locate Dell apps**

Resources	Description
	<p><b>Dell Product Registration</b> Register your computer with Dell.</p>
	<p><b>Dell Help &amp; Support</b> Access help and support for your computer.</p>
	<p><b>SupportAssist</b> SupportAssist is the smart technology that keeps your computer running at its best by optimizing settings, detecting issues, removing viruses and notifies when you need to make system updates. SupportAssist proactively checks the health of your system's hardware and software. When an issue is detected, the necessary system state information is sent to Dell to begin troubleshooting. SupportAssist is preinstalled on most of the Dell devices running Windows operating system. For more information, see SupportAssist for Home PCs User's Guide on <a href="http://www.dell.com/serviceabilitytools">www.dell.com/serviceabilitytools</a>.</p> <p><b>NOTE:</b> In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.</p>
	<p><b>Dell Update</b> Updates your computer with critical fixes and latest device drivers as they become available. For more information about using Dell Update, see the knowledge base article <a href="http://www.dell.com/support">000149088</a> at <a href="http://www.dell.com/support">www.dell.com/support</a>.</p>
	<p><b>Dell Digital Delivery</b> Download software applications, which are purchased but not pre-installed on your computer. For more information about using Dell Digital Delivery, see the knowledge base article <a href="http://www.dell.com/support">000129837</a> at <a href="http://www.dell.com/support">www.dell.com/support</a>.</p>

## Views of Latitude 3520

### 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

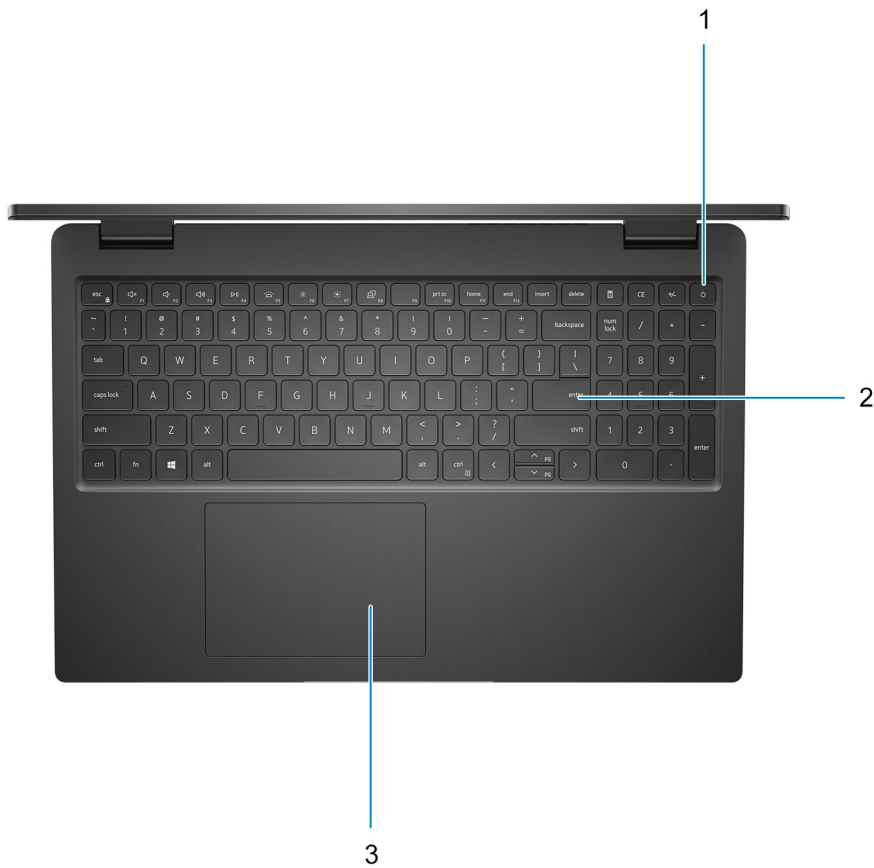


- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. DC-in port</li> <li>3. HDMI 1.4 port</li> </ol> | <ol style="list-style-type: none"> <li>2. Power LED</li> <li>4. USB 3.2 Gen 1 with PowerShare</li> </ol> |
|---|--|

5. USB 3.2 Gen 2x2 Type-C port with DisplayPort Alt Mode and Power Delivery

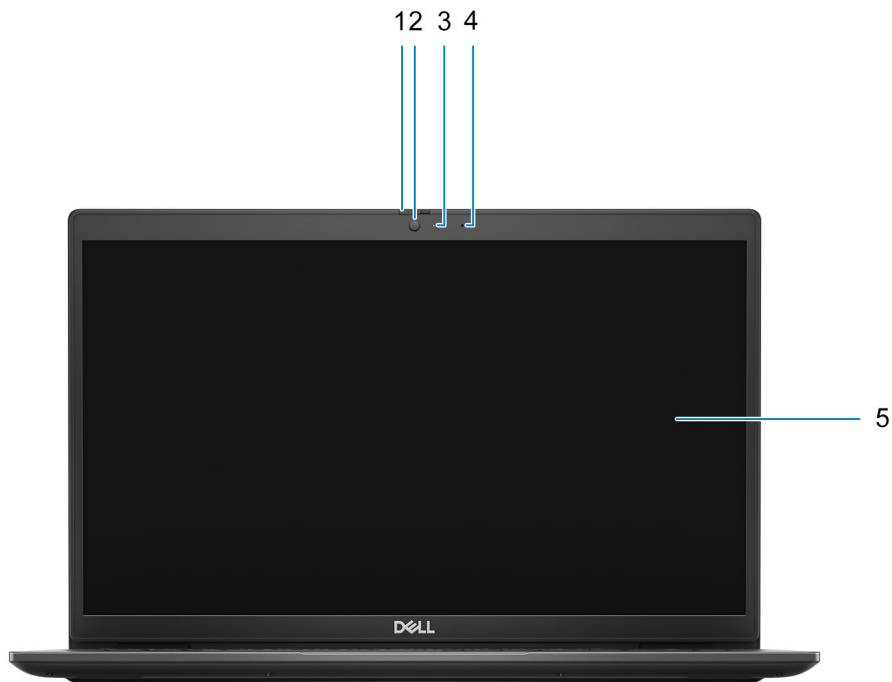
**i** **NOTE:** System's shipped with 10<sup>th</sup> Generation Intel processors will support USB 3.2 Gen 2 Type-C port with DP Alt Mode and Power Delivery.

## Top



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

# Front



1. Privacy shutter (Optional)
2. Camera
3. Camera status light
4. Microphone
5. LCD Panel



# Bottom



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

## LED Indicators and Characteristics

### Battery Charge and Status LED

**Table 2. 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 3520

## Dimensions and weight

The following table lists the height, width, depth, and weight of your Latitude 3520.

**Table 3. Dimensions and weight**

Description	Values
Height:	
Front height	18.06 mm (0.71 in.)
Rear height	18.06 mm (0.71 in.)
Width	361 mm (14.21 in.)
Depth	240.95 mm (9.48 in.)
Weight	1.79 kg (3.95 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 3520

**Table 4. 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 3520

**Table 5. 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 3520 supports the following operating systems:

- 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 3520.

**Table 6. Memory specifications**

Description	Values
Memory slots	Two SODIMM slots
Memory type	DDR4
Memory speed	3200 MHz
Maximum memory configuration	32 GB
Minimum memory configuration	4 GB
Memory size per slot	4 GB, 8 GB, 16 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>

# Intel Optane Memory 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 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 7. Intel Optane Memory with solid-state storage specifications**

Description	Values
Interface	PCIe NVMe Gen3 x2+x2
Connector	M.2 2280
Capacity (Intel Optane memory)	32 GB
Capacity (solid-state storage)	512 GB

**NOTE:** Intel Optane Memory with solid-state storage is supported on computers that meet the following requirements:

- 11<sup>th</sup> Generation Intel Core i3/i5/i7 processors
- Windows 10 64-bit version or higher (Anniversary Update)
- Intel Rapid Storage Technology driver version 15.9.1.1018 or higher

## External ports

The following table lists the external ports of your Latitude 3520.

**Table 8. 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 2x2 Type-C port with DisplayPort alt mode/Power Delivery (11<sup>th</sup> Generation Intel processors only)</li> <li>• One USB 3.2 Gen 2 Type-C port with DisplayPort alt mode/Power Delivery (10<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 3520.

**Table 9. 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.2 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, see the knowledge base article <a href="https://www.dell.com/support/000144170">000144170</a> at <a href="https://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 3520.

**Table 10. Ethernet specifications**

Description	Values
Model number	Integrated Realtek RTL8111H
Transfer rate	e.g. 10/100/1000 Mbps

## Wireless module


The following table lists the Wireless Local Area Network (WLAN) modules supported on your Latitude 3520.

### Wireless module

**Table 11. Wireless module specifications**

Description	Values	
	Model number	Intel Wi-Fi 6 AX201
Transfer rate	Up to 2400 Mbps	Up to 867 Mbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz/5 GHz
Wireless standards	<ul style="list-style-type: none"> <li>WiFi 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>WiFi 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>
Bluetooth	Bluetooth 5.1	Bluetooth 5.0

**Table 12. 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
Radio On/Off	Supported
Wake On Wireless	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 3520.

**Table 13. 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	

**Table 13. Audio specifications (continued)**

Description	Values
Microphone	<ul style="list-style-type: none"> <li>• Single microphones with HD camera</li> <li>• Digital-array microphones with IR camera</li> </ul>

## Storage

This section lists the storage options on your Latitude 3520.

Your computer supports one of the following configurations:

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

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

- 2.5-inch 5400/7200 RPM, SATA hard drive
- M.2 2230/2280 for solid-state drive (Class 35 or Class 40)


**Table 14. 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 Gen3 x4	Up to 512 GB
M.2 2280 solid-state drive	PCIe NVMe Gen3 x4	Up to 1 TB

## Media-card reader

The following table lists the media cards supported by your Latitude 3520.

**Table 15. 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

**Table 16. Keyboard specifications**

Description	Values
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>

**Table 16. Keyboard specifications (continued)**

Description	Values
Layout	QWERTY
Number of keys	<ul style="list-style-type: none"> <li>• United States and Canada: 99 keys</li> <li>• United Kingdom: 100 keys</li> <li>• Japan: 103 keys</li> </ul>
Size	X=18.70 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. ⓘ <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

**Table 17. Camera specifications**

Standard Webcam		
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 18. IR Webcam specifications**

IR Webcam		
Description		
Number of cameras		One
Type		HD RGB-IR camera
Location		Front Camera
Sensor type		CMOS sensor technology
Resolution		
Camera		
Still image (megapixel)		0.92



**Table 18. IR Webcam specifications (continued)**

IR Webcam		
Description		
	Video	1280 x 720 (HD) at 30 fps
	Infrared camera	
Still image		0.23 megapixel
Video		640 x 360 at 30 fps
Diagonal viewing angle		
	Camera	87 degree
	Infrared camera	87 degree

## Touchpad

The following table lists the touchpad specifications of your Latitude 3520.

**Table 19. Touchpad specifications**

Description	Values
Touchpad resolution:	
Horizontal	305
Vertical	305
Touchpad dimensions:	
Horizontal	115 mm (4.53 in.)
Vertical	80 mm (3.15 in.)
Touchpad gestures	For more information about touchpad gestures available on Windows, see the Microsoft knowledge base article <a href="https://support.microsoft.com/4027871">4027871</a> at <a href="https://support.microsoft.com">support.microsoft.com</a> .


## Power adapter

The following table lists the power adapter specifications of your Latitude 3520.

**Table 20. 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>

**Table 20. Power adapter specifications (continued)**

Description		Option one	Option two
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)	0°C to 40°C (32°F to 104°F)
	Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)
 <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

**Table 21. Battery specifications**

Description		Values	
Type		3-cell, 41 Whr	4-cell, 54 Whr
Voltage		11.25 VDC	15 VDC
Weight (maximum)		0.17 kg (0.37 lb)	0.23 kg (0.50 lb)
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)
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)		4 hours (when the computer is off)  <b>NOTE:</b> Control the charging time, duration, start and end time, and so on using the Dell Power Manager application.	4 hours (when the computer is off)  <b>NOTE:</b> Control the charging time, duration, start and end time, and so on using the Dell Power Manager application.
Life span (approximate)		300 discharge/charge cycles	300 discharge/charge cycles
Coin-cell battery		CR2032	CR2032
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

**Table 22. Display specifications**

Description		Values		
Type		High Definition (HD)	Full High Definition (FHD)	Full High Definition (FHD)
Panel technology		TN(Twisted Nematic)	WVA(wide view angle)	WVA(wide view angle)
Luminance (typical)		220 nits	250 nits	250 nits
Dimensions (active area):				
	Height	193.59 mm (7.62 in.)	193.59 mm (7.62 in.)	193.59 mm (7.62 in.)
	Width	344.16 mm (13.54 in.)	344.16 mm (13.54 in.)	344.16 mm (13.54 in.)
	Diagonal	396.24 mm (15.60 in.)	396.24 mm (15.60 in.)	396.24 mm (15.60 in.)
Native resolution		1366 x 768	1920 x 1080	1920 x 1080
Megapixels		1.05	2.073	2.07
Color gamut		NTSC 45% Typ.	NTSC 45% Typ.	NTSC 45% Typ.
Pixels per inch (PPI)		100	141	141
Contrast ratio (min)		500:1	700:1	700:1
Response time (max)		25 ms	25 ms	25 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		0.252 mm	0.179 mm	0.179 mm
Power consumption (maximum)		4.20 W	4.60 W	4.50 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 3520.

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

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

**Table 23. Fingerprint reader specifications**

Description	Values
Fingerprint-reader sensor technology	Capacitive

**Table 23. Fingerprint reader specifications (continued)**

Description	Values
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 3520.

**Table 24. 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 3520.

**Table 25. GPU—Discrete**


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

## Operating and storage environment

This table lists the operating and storage specifications of your Latitude 3520.

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

**Table 26. 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)	110 G†	160 G†
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)
 <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>		

\* 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.

# 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 27. 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 28. 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>
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.