

# Latitude 5431

## 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.

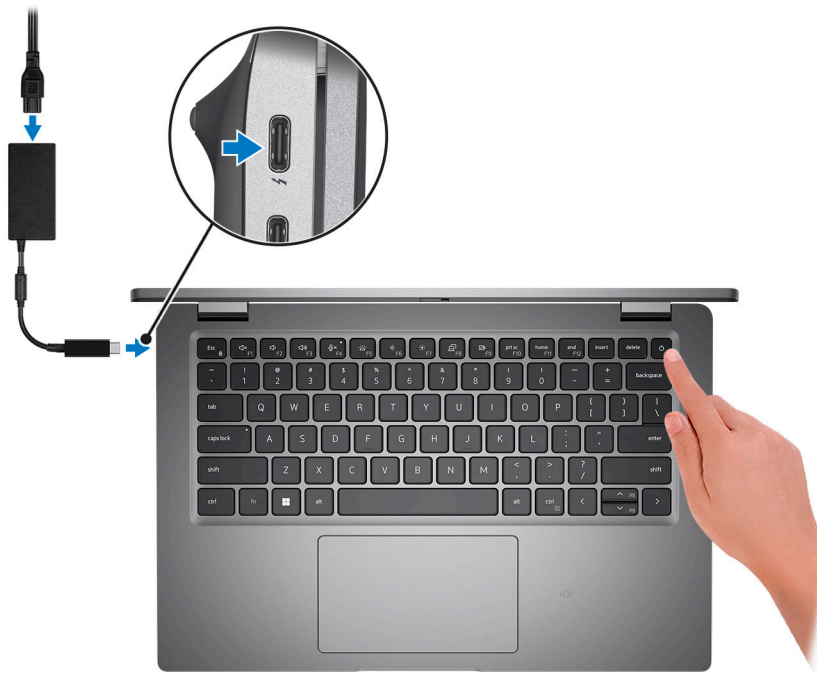
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# Set up your Latitude 5431

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

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="https://www.dell.com/support/000149088">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="https://www.dell.com/support/000129837">000129837</a> at <a href="http://www.dell.com/support">www.dell.com/support</a>.</p>

## Views of Latitude 5431

### Right



1. microSD-card slot
2. Headset (headphone and microphone combo) port
3. USB 3.2 Gen 1 port
4. USB 3.2 Gen 1 port with PowerShare
5. HDMI 2.0 port
6. RJ45 Ethernet port (flip-down)
7. Wedge-shaped lock slot

### Left



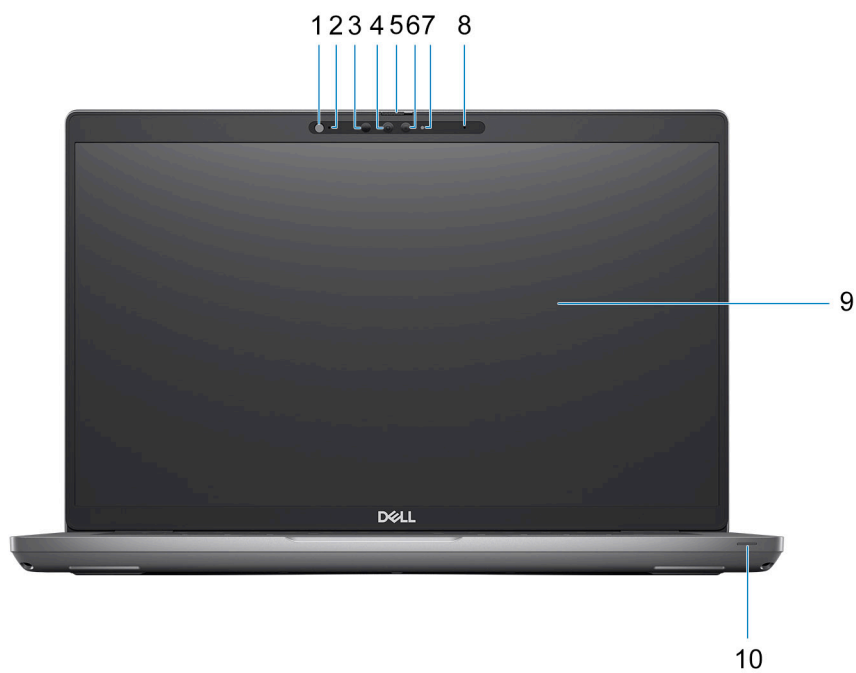
1. Two Thunderbolt 4 ports with DisplayPort Alt Mode/USB4/Power Delivery
2. Air vents
3. Smart-card reader slot (optional)

## Top



1. Power button with fingerprint reader (optional)
2. Keyboard
3. NFC (optional)
4. Clickpad

## Front



1. Ambient Light Sensor (ALS)
2. Microphone



3. IR emitter
4. IR camera
5. Camera shutter
6. RGB camera
7. Camera indicator LED
8. Microphone
9. LCD panel
10. Battery indicator/diagnostic LED

## Bottom



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

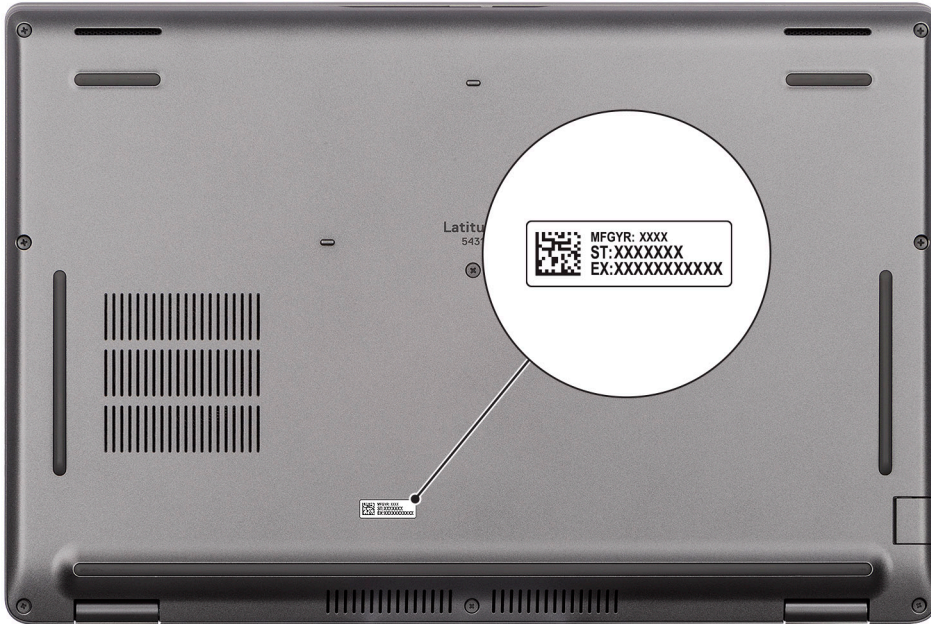
## Back



1. microSIM-card slot

# Service Tag

The service tag is a unique alphanumeric identifier that allows Dell service technicians to identify the hardware components in your computer and access warranty information.



# Battery charge and status light

The following table lists the battery charge and status light behavior of your Latitude 5431.

**Table 2. Battery charge and status light behavior**

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 5431

## Dimensions and weight

The following table lists the height, width, depth, and weight of your Latitude 5431.

**Table 3. Dimensions and weight**

Description	Values
Height:	
Front height	20.95 mm (0.82 in.)
Rear height	23.60 mm (0.92 in.)
Width	321.35 mm (12.65 in.)
Depth	212.00 mm (8.35 in.)
Weight  <b>NOTE:</b> The weight of your computer depends on the configuration ordered and manufacturing variability.	1.49 kg (3.30 lb)

## Processor

The following table lists the details of the processors supported by your Latitude 5431.

**Table 4. Processor**

Description	Option one	Option two	Option three
Processor type	12 <sup>th</sup> Generation Intel Core i5-1240P	12 <sup>th</sup> Generation Intel vPro Enterprise with Intel Core i5-1250P	12 <sup>th</sup> Generation Intel vPro Enterprise with Intel Core i7-1270P
Processor wattage	28 W	28 W	28 W
Processor core count	12	12	12
Processor thread count	16	16	16
Processor speed	Up to 4.40 GHz	Up to 4.40 GHz	Up to 4.80 GHz
Processor cache	12 MB	12 MB	18 MB
Integrated graphics	Intel Iris X <sup>e</sup> Graphics	Intel Iris X <sup>e</sup> Graphics	Intel Iris X <sup>e</sup> Graphics

# Chipset

The following table lists the details of the chipset supported by your Latitude 5431.

**Table 5. Chipset**

Description	Values
Chipset	Intel P28
Processor	12 <sup>th</sup> Generation Intel Core i5/i7
DRAM bus width	64-bit (for dual-channel)
Flash EPROM	<ul style="list-style-type: none"><li>• 32 MB for non-vPro</li><li>• 32 MB+16 MB for vPro</li></ul>
PCIe bus	Up to Gen 4.0

# Operating system

Your Latitude 5431 supports the following operating systems:

- Windows 11 Home
- Windows 11 Pro
- Windows 11 Pro National Academic
- Windows 11 Pro Downgrade (Windows 10 Pro Image Factory Installed)
- Windows 10 China G-SKU
- Ubuntu 20.04 LTS

# Memory

The following table lists the memory specifications of your Latitude 5431.

**Table 6. Memory specifications**

Description	Values
Memory slots	Two-SoDIMM
Memory type	DDR5
Memory speed	4800 MHz
Maximum memory configuration	64 GB
Minimum memory configuration	8 GB
Memory size per slot	8 GB, 16 GB, 32 GB
Memory configurations supported	<ul style="list-style-type: none"><li>• 8 GB, 1 x 8 GB, DDR5, 4800 MHz</li><li>• 16 GB, 1 x 16 GB, DDR5, 4800 MHz</li><li>• 16 GB, 2 x 8 GB, DDR5, 4800 MHz, dual-channel</li><li>• 32 GB, 1 x 32GB, DDR5, 4800 MHz</li><li>• 32 GB, 2 x 16 GB, DDR5, 4800 MHz, dual-channel</li><li>• 64 GB, 2 x 32 GB, DDR5, 4800 MHz, dual-channel</li></ul>

## External ports

The following table lists the external ports of your Latitude 5431.

**Table 7. External ports**

Description	Values
Network port	One RJ45 Ethernet port
USB ports	<ul style="list-style-type: none"><li>• One USB 3.2 Gen 1 port</li><li>• One USB 3.2 Gen 1 port with PowerShare</li><li>• Two Thunderbolt 4 ports with DisplayPort Alt Mode/USB4/Power Delivery</li></ul>
Audio port	One headset (headphone and microphone combo) port
Video port	HDMI 2.0 port
Media-card reader	One microSD-card slot
SIM-card slot	One microSIM-card slot
Power-adaptor port	USB Type-C power input
Security-cable slot	One wedge-shaped lock slot

## Internal slots

The following table lists the internal slots of your Latitude 5431.

**Table 8. Internal slots**

Description	Values
M.2	<ul style="list-style-type: none"><li>• One M.2 2230 slot for WiFi and Bluetooth card</li><li>• One M.2 2230/2280 slot for solid-state drive</li><li>• One M.2 3042 Key-B slot for WWAN (optional)</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 5431.

**Table 9. Ethernet specifications**

Description	Values
Model number	Intel I219-V/Intel I219-LM
Transfer rate	10/100/1000 Mbps

## Wireless module

The following table lists the Wireless Local Area Network (WLAN) module specifications of your Latitude 5431.

**Table 10. Wireless module specifications**

Description	Option one	Option two	Option three
Model number	Realtek RTL8822CE	Intel AX211	Intel AX211
Transfer rate	Up to 867 Mbps	Up to 2400 Mbps	Up to 2400 Mbps
Frequency bands supported	2.4 GHz/5 GHz	2.4 GHz/5 GHz/6 GHz	2.4 GHz/5 GHz/6 GHz
Wireless standards	<ul style="list-style-type: none"> <li>• WiFi 802.11a/b/g</li> <li>• Wi-Fi 4 (WiFi 802.11n)</li> <li>• Wi-Fi 5 (WiFi 802.11ac)</li> </ul>	<ul style="list-style-type: none"> <li>• WiFi 802.11a/b/g</li> <li>• Wi-Fi 4 (WiFi 802.11n)</li> <li>• Wi-Fi 5 (WiFi 802.11ac)</li> <li>• Wi-Fi 6E (WiFi 802.11ax)</li> </ul>	<ul style="list-style-type: none"> <li>• WiFi 802.11a/b/g</li> <li>• Wi-Fi 4 (WiFi 802.11n)</li> <li>• Wi-Fi 5 (WiFi 802.11ac)</li> <li>• Wi-Fi 6E (WiFi 802.11ax)</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 5.0	Bluetooth 5.2	No Bluetooth

## WWAN module

The following table lists the Wireless Wide Area Network (WWAN) module supported on your Latitude 5431.

**Table 11. WWAN module specifications**

Description	Option one
Model number	Intel XMM 7360 Global LTE-Advanced
Transfer rate	Up to 450 Mbps DL/50 Mbps UL (Cat 9) Up to 50 Mbps UL
Frequency bands supported	<ul style="list-style-type: none"> <li>• LTE(B1, B2, B3, B4, B5, B7, B8, B11, B12, B13, B17, B18, B19, B20, B21, B26, B28, B29, B30, B38, B39, B40, B41, B66)</li> <li>• HSPA+ (1, 2, 4, 5, 8)</li> </ul>
Wireless standards	LTE FDD/TDD, WCDMA/HSPA+, GNSS/Beidou
Encryption	Not supported
Global Navigation Satellite System (GNSS)	Supports GPS, BDS, and GLONASS
<p><b>NOTE:</b> For instructions on how to find your computer's IMEI (International Mobile Station Equipment Identity) number, see the knowledge base article <a href="https://www.dell.com/support">000143678</a> at <a href="https://www.dell.com/support">www.dell.com/support</a>.</p>	

# Audio

The following table lists the audio specifications of your Latitude 5431.

**Table 12. Audio specifications**

Description		Values
Audio controller		Realtek ALC3204 with Waves MaxxAudio Pro
Stereo conversion		24-bit Digital-to-Analog (DAC) and Analog-to-Digital (ADC)
Internal audio interface		High definition audio interface
External audio interface		Universal audio jack
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-array microphones

# Storage

This section lists the storage options on your Latitude 5431.

**Table 13. Storage matrix**

Storage	Single M.2 socket
M.2 SSD Boot	Yes

**Table 14. Storage specifications**

Storage type	Interface type	Capacity
M.2 2230, Class 35 SSD	PCIe NVMe	Up to 512 GB
M.2 2280, Class 40 SSD	PCIe NVMe	Up to 2 TB
M.2 2230, Class 35 SSD, self-encrypting drive	PCIe NVMe	256 GB
M.2 2280, Class 40 SSD, self-encrypting drive	PCIe NVMe	512 GB

## Media-card reader

The following table lists the media cards supported by your Latitude 5431.

**Table 15. Media-card reader specifications**

Description	Values
Media-card type	One microSD 4.0 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 5431.

**Table 16. Keyboard specifications**

Description	Values
Keyboard type	<ul style="list-style-type: none"> <li>• Standard backlit keyboard</li> <li>• Standard non-backlit keyboard</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	<p>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.</p> <p><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.</p> <p>For more information, see <a href="#">Keyboard shortcuts</a></p>

## Camera

The following table lists the camera specifications of your Latitude 5431.

**Table 17. Camera specifications**

Description	Option 1	Option 2	Option 3
Number of cameras	One	One	One



**Table 17. Camera specifications (continued)**

Description		Option 1	Option 2	Option 3
Camera type		HD RGB camera	FHD RGB/IR camera	FHD RGB/IR camera, proximity sensor/express sign-in
Camera location		Front Camera	Front camera	Front camera
Camera sensor type		CMOS sensor technology	CMOS sensor technology	CMOS sensor technology
Camera resolution:				
	Still image	0.92 megapixel	2.07 megapixel	2.07 megapixels
	Video	1280 x 720 (HD) at 30 fps	1920 x 1080 (FHD) at 30 fps	1920 x 1080 (FHD) at 30 fps
Infrared camera resolution:				
	Still image	NA	Yes	Yes
	Video	NA	Yes	Yes
Diagonal viewing angle:				
	Camera	78.60 degrees	87 degrees	87.60 degrees
	Infrared camera	NA	NA	NA

## Clickpad

The following table lists the clickpad specifications of your Latitude 5431.



**Table 18. Clickpad specifications**

Description	Values
Clickpad resolution:	
Horizontal	3339
Vertical	1994
Clickpad dimensions:	
Horizontal	115 mm (4.53 in.)
Vertical	67 mm (2.64 in.)
Clickpad gestures	For more information about clickpad 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 5431.

**Table 19. Power adapter specifications**

Description	Option one	Option two
Type	90 W AC adapter, USB-C  <b>NOTE:</b> Supported only in UMA configuration.	130 W AC adapter, USB-C
Power-adapter dimensions:		
Height	22 mm (0.87 in.)	22 mm (0.87 in.)
Width	66 mm (2.60 in.)	66 mm (2.60 in.)
Depth	130 mm (5.12 in.)	143 mm (5.63 in.)
Input voltage	100 VAC–240 VAC	100 VAC–240 VAC
Input frequency	50 Hz–60 Hz	50 Hz–60 Hz
Input current (maximum)	1.50 A	1.80 A
Output current (continuous)	<ul style="list-style-type: none"> <li>• 20 V/4.50 A</li> <li>• 15 V/3 A</li> <li>• 9 V/3 A</li> <li>• 5 V/3 A</li> </ul>	6.50 A/1.00 A
Rated output voltage	20 VDC/15 VDC/9 VDC/5 VDC	20 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 -40°C (104°F to -40°F)	40°C to -40°C (104°F to -40°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 5431.

**Table 20. Battery specifications**

Description	Option one	Option two
Battery type	4 cell, 64 WHr, "smart" lithium-ion, ExpressCharge capable, integrated	4 cell, 64 WHr, "smart" lithium-ion, Long Lifecycle, ExpressCharge capable, integrated
Battery voltage	15.20 VDC	15.20 VDC
Battery weight (maximum)	0.283 kg (0.62 lbs.)	0.283 kg (0.62 lbs.)
Battery dimensions:		

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

Description		Option one	Option two
	Height	7.60 mm (8.12 in.)	7.60 mm (8.12 in.)
	Width	226.60 mm (3.22 in.)	226.60 mm (3.22 in.)
	Depth	81.40 mm (0.22 in.)	81.40 mm (0.22 in.)
Temperature range:			
	Operating	<ul style="list-style-type: none"> <li>Charge: 0 °C to 45 °C (32 °F to 113 °F)</li> <li>Discharge: 0 °C to 70 °C (32 °F to 158 °F)</li> </ul>	<ul style="list-style-type: none"> <li>Charge: 0 °C to 45 °C (32 °F to 113 °F)</li> <li>Discharge: 0 °C to 70 °C (32 °F to 158 °F)</li> </ul>
	Storage	-20°C to 65°C (-4 °F to 149 °F)	-20°C to 65°C (-4 °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) ⓘ <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> .		2 hours (when the computer is off)	2 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.			
⚠ <b>CAUTION:</b> Dell recommends that you charge the battery regularly for optimal power consumption. If your battery charge is completely depleted, connect the power adapter, turn on your computer, and then restart your computer to reduce the power consumption.			

## Display

The following table lists the display specifications of your Latitude 5431.

**Table 21. Display specifications**

Description	Option one	Option two	Option three	Option four	Option five
Display type	High Definition (HD)	Full High Definition (FHD)	Full High Definition (FHD)	Full High Definition (FHD), Super Low Power (SLP), Low Blue Light	Full High Definition (FHD), Privacy
Display-panel technology	Twisted Nematic (TN)	Wide Viewing Angle (WVA)	Wide Viewing Angle (WVA)	Wide Viewing Angle (WVA)	Wide-Viewing Angle ( WVA)
Display-panel dimensions (active area):					

**Table 21. Display specifications (continued)**

Description		Option one	Option two	Option three	Option four	Option five
	Height	173.95 mm (6.84 in.)	173.95 mm (6.84 in.)	173.95 mm (6.84 in.)	173.95 mm (6.84 in.)	173.95 mm (6.84 in.)
	Width	309.6 mm (12.18 in.)	309.6 mm (12.18 in.)	309.6 mm (12.18 in.)	309.6 mm (12.18 in.)	309.4 (12.18 in.)
	Diagonal	355.6 mm (14.00 in.)	355.6 mm (14.00 in.)	355.6 mm (14.00 in.)	355.6 mm (14.00 in.)	355.6 mm (14 in.)
Display-panel native resolution		1366 x 768	1920 x 1080	1920 x 1080	1920 x 1080	1920x1080
Luminance (typical)		220 nits	250 nits	300 nits	400 nits	300 nits
Megapixels		1.049	2.07	2.07	2.07	2.07
Color gamut		45% NTSC	45% NTSC	72% NTSC	100% sRGB	sRGB 100%
Pixels Per Inch (PPI)		112	157	157	157	157
Contrast ratio (typ)		300:1	600:1	600:1	1000:1	600:1
Response time (min)		25 ms	35 ms	35 ms	35 ms	35 ms
Refresh rate		60 Hz	60 Hz	60 Hz	60 Hz	60 Hz
Horizontal view angle		40/40 +/- degrees	85/85 +/- degrees	85/85 +/- degrees	85/85 +/- degrees	85/85 +/- degrees
Vertical view angle		10(U)/30(D) +/- degrees	85(U)/85(D) +/- degrees	85(U)/85(D) +/- degrees	85(U)/85(D) +/- degrees	85(U)/85(D) +/- degrees
Pixel pitch		0.2265 x 0.2265 mm	0.161 x 0.161 mm	0.161 x 0.161 mm	0.161 x 0.161 mm	0.161 x 0.161
Power consumption (maximum)		2.4 W	3.1 W	4.1 W	2.5 W	3.5 W
Anti-glare vs glossy finish		Anti-glare	Anti-glare	Anti-glare	Anti-glare	Anti-glare
Touch options		No	No	Yes	No	Yes

## Fingerprint reader (optional)

The following table lists the specifications of the optional fingerprint-reader of your Latitude 5431.

**Table 22. Fingerprint reader specifications**

Description	Values
Fingerprint-reader sensor technology	Capacitive
Fingerprint-reader sensor resolution	508 dpi
Fingerprint-reader sensor pixel size	108 x 88

# Sensor

The following table lists the sensor of your Latitude 5431.

**Table 23. Sensor**

<b>Sensor support</b>
Accelerometer (ST Micro LIS2DW12TR): On the base (system board)
Accelerometer with Gyro (ST Micro LSM6DSOTR): On the hinge-up (optional-upsell configuration with EMZA/ALS/IR camera)
GPS (through WWAN card only, optional)
Adaptive thermal performance: requires 16-bit accelerometer
Hall effect sensor
Sensor hub

# GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Latitude 5431.

**Table 24. GPU—Integrated**

Controller	Memory size	Processor
Intel Iris X <sup>e</sup> Graphics	Shared system memory	12 <sup>th</sup> Generation Intel Core i5/i7 processors

# GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Latitude 5431.

**Table 25. GPU—Discrete**

Controller	Memory size	Memory type
NVIDIA GeForce MX550	2 GB	GDDR6

# Multiple display support matrix

The following table lists the multiple display support matrix for your Latitude 5431.

**Table 26. Multiple display support matrix**

Graphics Card	Direct Graphics Controller Direct Output Mode	Supported external displays with computer internal display on	Supported external displays with computer internal display off
Intel Iris X <sup>e</sup> Graphics	Not applicable	up to 3 external displays	up to 3 external displays
NVIDIA GeForce MX550	Not applicable	up to 3 external displays	up to 3 external displays

# Hardware security

The following table lists the hardware security of your Latitude 5431.

**Table 27. Hardware security**

Windows Hello - Fingerprint Reader (optional)
Trusted Platform Module (TPM) 2.0 FIPS 140-2 Certified
TCG Certification for TPM (Trusted Computing Group)
One wedge-shaped lock slot
Mechanical privacy shutter for camera
One Dell Lockable port cover (optional)
Control Vault 3 Advanced Authentication (optional) FIPS 140-2 Level 3 Certified
Fingerprint Reader with Control Vault 3
Contacted Smartcard reader with Control Vault 3 (optional) FIPS 201 Certified
Contactless Smartcard, NFC/FPR with CV3 (optional)
Chassis Intrusion Detection
Battery Intrusion Detection
RPMC SPI Flash
SPI Flash Tamper Detection/Prevention Shunt Circuit
Dell Client Command Suite : On-Prem & Cloud Dell Optimizer
Dell Power Manager Support assist : PCs & OS Recovery (Excalibur)
Dell SafeBIOS - Off-Host Verification
Dell SafeBIOS - Indicator of Attack
Dell SafeID VMware Carbon Black Endpoint: Standard, Advanced, Enterprise Absolute Visibility Absolute Control Absolute Resilience
Netskope Cloud Access
Security Broker (CASB)
Netskope Secure Web Gateway
Netskope Private Access
Optional Dell Data Security and Management Software
Dell Endpoint Security Suite Enterprise
Dell Data Guardian
Dell Encryption Enterprise
Dell Encryption Personal
Dell Threat Defense
MozyPro or MozyEnterprise
RSA NetWitness Endpoint
RSA SecurID Access
VMware Workspace ONE
Absolute Endpoint Visibility and Control

**Table 27. Hardware security (continued)**

Vmware Carbon Black Endpoint + Secureworks Threat Detection & Response
Carbonite
Dell Supply Chain Defense

## Smart-card reader

### Contactless smart-card reader


This section lists the contactless smart-card reader specifications of your Latitude 5431.

**Table 28. Contactless smart-card reader specifications**

<b>Title</b>	<b>Description</b>	<b>Dell ControlVault 3 contactless smart-card reader with NFC</b>
Felica Card Support	Reader and software capable of supporting Felica contactless cards	Yes
ISO 14443 Type A Card Support	Reader and software capable of supporting ISO 14443 Type A contactless cards	Yes
ISO 14443 Type B Card Support	Reader and software capable of supporting ISO 14443 Type B contactless cards	Yes
ISO/IEC 21481	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO/IEC 18092	Reader and software capable of supporting ISO/IEC 21481 compliant contactless cards and tokens	Yes
ISO 15693 Card Support	Reader and software capable of supporting ISO15693 contactless cards	Yes
NFC Tag Support	Supports reading and processing of NFC compliant tag information	Yes
NFC Reader Mode	Support for NFC Forum Defined Reader mode	Yes
NFC Writer Mode	Support for NFC Forum Defined Writer mode	Yes
NFC Peer-to-Peer Mode	Support for NFC Forum Defined Peer to Peer mode	Yes
EMVCo Compliant	Compliant with EMVCO smart card standards as posted to <a href="http://www.emvco.com">www.emvco.com</a>	Yes
EMVCo Certified	Formally certified based on EMVCO smart card standards	Yes
NFC Proximity OS Interface	Enumerates NFP (Near Field Proximity) device for OS to utilize	Yes
PC/SC OS interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes

**Table 28. Contactless smart-card reader specifications (continued)**

Title	Description	Dell ControlVault 3 contactless smart-card reader with NFC
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for OS level drivers	Yes
Windows Certified	Device certified by Microsoft WHCK	Yes
Dell ControlVault support	Device connects to Dell ControlVault for usage and processing	Yes
FIDO2 compliance	Dell ControlVault 3 Smart-card reader is compliant with the FIDO SPEC	Yes

 **NOTE:** 125 Khz proximity cards are not supported.

**Table 29. Supported cards**

Manufacturer	Card
HID	jCOP readertest3 A card (14443a)
	1430 1L
	DESFire D8H
	iClass (Legacy)
	iClass SEOS
NXP/Mifare	Mifare DESFire 8K White PVC Cards
	Mifare Classic 1K White PVC Cards
	NXP Mifare Classic S50 ISO Card
G&D	idOnDemand - SCE3.2 144K
	SCE6.0 FIPS 80K Dual+ 1 K Mifare
	SCE6.0 nonFIPS 80K Dual+ 1 K Mifare
	SCE6.0 FIPS 144K Dual + 1K Mifare
	SCE6.0 nonFIPS 144K Dual + 1 K Mifare
	SCE7.0 FIPS 144K
Oberthur	idOnDemand - OCS5.2 80K
	ID-One Cosmo 64 RSA D V5.4 T=0 card

## Contacted smart-card reader

The following table lists the contacted smart-card reader specifications of your Latitude 5431.

**Table 30. Contacted smart-card reader specifications**

Title	Description	Dell ControlVault 3 smart-card reader
ISO 7816 -3 Class A Card Support	Reader capable of reading 5V powered smart mcard	Yes
ISO 7816 -3 Class B Card Support	Reader capable of reading 3V powered smart card	Yes



**Table 30. Contacted smart-card reader specifications (continued)**

Title	Description	Dell ControlVault 3 smart-card reader
ISO 7816 -3 Class C Card support	Reader capable of reading 1.8V powered smart card	Yes
ISO 7816-1 Compliant	Specification for the reader	Yes
ISO 7816 -2 Compliant	Specification for smart card device physical characteristics (size, location of connection points, etc.)	Yes
T=0 support	Cards support character level transmission	Yes
T=1 support	Cards support block level transmission	Yes
EMVCo Compliant	Compliant with EMVCo (for electronic payment standards) smart card standards as posted to www.emvco.com	Yes
EMVCo Certified	Formally certified based on EMVCO smart card standards	Yes
PC/SC OS interface	Personal Computer/Smart Card specification for integration of hardware readers into personal computer environments	Yes
CCID driver compliance	Common driver support for Integrated Circuit Card Interface Device for OS level drivers.	Yes
Windows Certified	Device certified by WHCK	Yes
FIPS 201 (PIV/HSPD-12) Compliant via GSA	Device compliant with FIPS 201/PIV/HSPD-12 requirements	Yes
FIDO2 compliance	Dell ControlVault 3 Smart-card reader is compliant with the FIDO SPEC	Yes

## Operating and storage environment

This table lists the operating and storage specifications of your Latitude 5431.

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

**Table 31. 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 (-49.87 ft to 10000 ft)	-15.2 m to 10668 m (-49.87 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.

## ComfortView Plus

 **WARNING: Prolonged exposure to blue light from the display may lead to long-term effects such as eye strain, eye fatigue, or damage to the eyes.**

Blue light is a color in the light spectrum which has a short wavelength and high energy. Chronic exposure to blue light, particularly from digital sources, may disrupt sleep patterns and cause long-term effects such as eye strain, eye fatigue, or damage to the eyes.

The display on this computer is designed to minimize blue light and complies with TÜV Rheinland's requirement for low blue light displays.

Low blue light mode is enabled at the factory, so no further configuration is necessary.

To reduce the risk of eye strain, it is also recommended that you:

- Position the display at a comfortable viewing distance between 20 and 28 inches (50 and 70 cm) from your eyes.
- Blink frequently to moisten your eyes, wet your eyes with water, or apply suitable eye drops.
- Look away from your display, and gaze at a distant object at 20 ft (609.60 cm) away for at least 20 seconds during each break.
- Take an extended break for 20 minutes every two hours.

## Keyboard shortcuts of Latitude 5431

**NOTE:** Keyboard characters may differ depending on the keyboard language configuration. Keys 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 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 32. List of keyboard shortcuts**

Function key	Primary behavior
F1	Mute audio
F2	Decrease volume
F3	Increase volume
F4	Mic mute
F5	Keyboard backlight (optional). <b>NOTE:</b> Non-backlight keyboards have F5 function key without the backlight icon and do not support toggle keyboard backlight function. <b>NOTE:</b> Toggle to cycle the keyboard backlight status through off, low-backlight, and high-backlight.
F6	Decrease brightness
F7	Increase brightness
F8	Switch to external display
F9	Video off
F10	Print screen
F11	Home
F12	End

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

**Table 33. Secondary behavior**

Function key	Secondary behavior
Fn + F1	Operating system and application specific F1 behavior
Fn + F2	Operating system and application specific F2 behavior
Fn + F3	Operating system and application specific F3 behavior

**Table 33. Secondary behavior (continued)**



<b>Function key</b>	<b>Secondary behavior</b>
Fn + F4	Operating system and application specific F4 behavior
Fn + F5	Operating system and application specific F5 behavior
Fn + F6	Operating system and application specific F6 behavior
Fn + F7	Operating system and application specific F7 behavior
Fn + F8	Operating system and application specific F8 behavior
Fn + F9	Operating system and application specific F9 behavior
Fn + F10	Operating system and application specific F10 behavior
Fn + F11	Operating system and application specific F11 behavior
Fn + F12	Operating system and application specific F12 behavior
Fn + PrtScr	Turn off/on wireless
Fn + B	Pause/Break
Fn + Insert	Sleep
Fn + S	Toggle scroll lock
Fn + H	Toggle between power and battery-status light/hard-drive activity light
Fn + R	System request
Fn + Ctrl	Open application menu
Fn + Esc	Toggle Fn-key lock
Fn + PgUp	Page up
Fn + PgDn	Page down
Fn + Home	Home
Fn + End	End

# 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 34. 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.