Dell Precision 5680

Owner's Manual

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DELL Technologies

Notes, cautions, and warnings

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

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

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

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1

Views of Dell Precision 5680

Right

1. SD-card slot
2. USB 3.2 Gen 2 Type-C port with DisplayPort 1.4 Alt Mode
3. Wedge-shaped lock slot

Left

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1. HDMI 2.0b port
2. 3.5 mm audio jack
3. Two Thunderbolt 4 (USB Type-C) ports
4. Smartcard reader (optional)

Top

1. Left and right microphones
2. Power button with fingerprint reader
3. Haptics Trackpad

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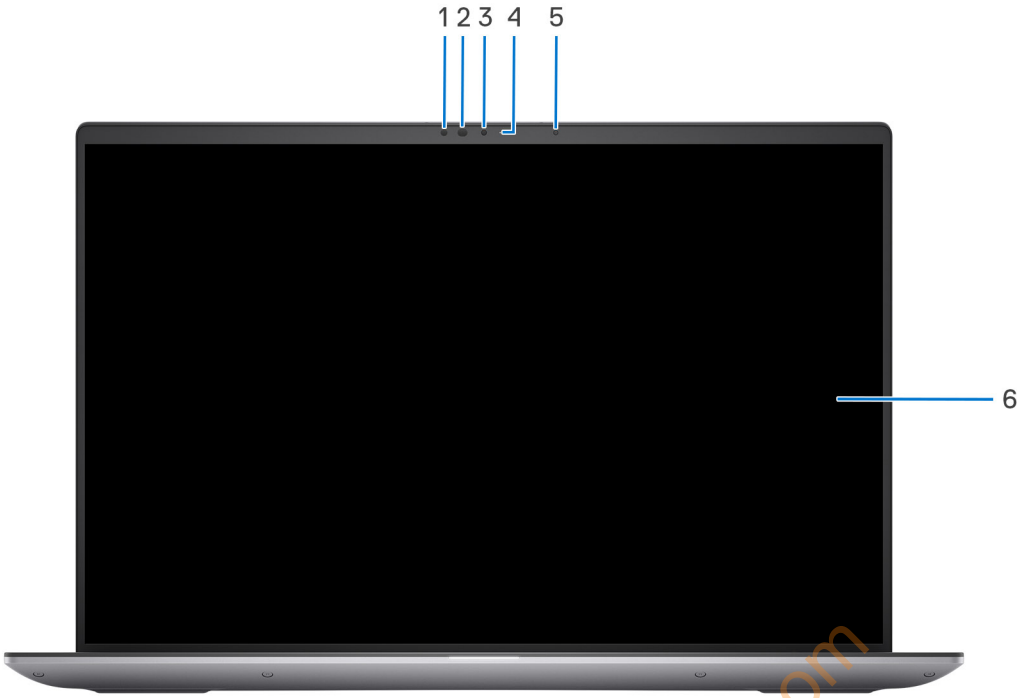
Front



1. IR sensor
2. IR LED
3. Camera
4. Camera-status light
5. Ambient Light Sensor
6. LCD panel

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Bottom

1. Air vents
2. Service Tag location

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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 Dell Precision 5680.

Table 1. 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%

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- 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.

2

Set up your Dell Precision 5680

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, search in the Knowledge Base Resource at 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.

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Table 2. Locate Dell apps

Resources	Description
	Dell Product Registration Register your computer with Dell.
	Dell Help & Support Access help and support for your computer.
	SupportAssist 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 www.dell.com/serviceabilitytools. **NOTE:** In SupportAssist, click the warranty expiry date to renew or upgrade your warranty.
	Dell Update Updates your computer with critical fixes and latest device drivers as they become available. For more information on using Dell Update, search in the Knowledge Base Resource at www.dell.com/support.
	Dell Digital Delivery Download software applications, which are purchased but not preinstalled on your computer. For more information on using Dell Digital Delivery, search in the Knowledge Base Resource at www.dell.com/support.

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3

Specifications of Dell Precision 5680

Dimensions and weight

The following table lists the height, width, depth, and weight of your Dell Precision 5680.

Table 3. Dimensions and weight

Description	Values
Height:	
Front height	26.17 mm (1.03 in.)
Rear height	26.17 mm (1.03 in.)
Width	353.68 mm (13.92 in.)
Depth	240.27 mm (9.45 in.)
Weight **NOTE:** The weight of your computer depends on the configuration ordered and manufacturing variability.	1.905 kg (4.20 lb)

Processor

The following table lists the details of the processors supported by your Dell Precision 5680.

Table 4. Processor

Description	Option one	Option two	Option three	Option four
Processor type	13th Generation Intel Core i5-13600H vPro Enterprise	13th Generation Intel Core i7-13700H vPro Essential	13th Generation Intel Core i7-13800H vPro Enterprise	13th Generation Intel Core i9-13900H vPro Enterprise
Processor wattage	45 W	45 W	45 W	45 W
Processor core count	12	14	14	14
Processor thread count	16	20	20	20
Processor speed	Up to 4.80 GHz	Up to 5.0 GHz	Up to 5.2 GHz	Up to 5.4 GHz
Processor cache	18 MB	24 MB	24 MB	24 MB
Integrated graphics	Intel Iris Xe Graphics	Intel Iris Xe Graphics	Intel Iris Xe Graphics	Intel Iris Xe Graphics

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Chipset

The following table lists the details of the chipset supported by your Dell Precision 5680.

Table 5. Chipset

Description	Values
Chipset	Intel PCH
Processor	13th Generation Intel Core i5/i7/i9
DRAM bus width	128-bit
Flash EPROM	64 MB
PCIe bus	Up to Gen 4.0

Operating system

Your Dell Precision 5680 supports the following operating systems:

- Windows 11 Home, 64-bit
- Windows 11 Pro, 64-bit
- Windows 11 Pro for Workstation, 64-bit
- Windows 11 Pro for Education, 64-bit
- Windows 11 Enterprise, 64-bit
- Ubuntu 22.04 LTS, 64-bit

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Memory

The following table lists the memory specifications of your Dell Precision 5680.

Table 6. Memory specifications

Description	Values
Memory slots	Integrated on system board **NOTE:** The memory is not replaceable or upgradeable. If memory has error, the system board must be replaced.
Memory type	Dual-channel LPDDR5
Memory speed	6400 MT/s or 6000 MT/s
Maximum memory configuration	64 GB
Minimum memory configuration	16 GB
Memory size per slot	16 GB, 32 GB, 64 GB
Memory configurations supported	• 16 GB LPDDR5 at 6400 MT/s, integrated, dual channel • 32 GB LPDDR5 at 6000 MT/s, integrated, dual channel • 64 GB LPDDR5 at 6000 MT/s, integrated, dual channel

External ports

The following table lists the external ports on your Dell Precision 5680.

Table 7. External ports

Description	Values
USB ports	• One USB 3.2 Gen 2 Type-C port with DisplayPort 1.4 Alt Mode • Two Thunderbolt 4 ports (USB Type-C)
Audio port	One 3.5 mm audio jack
Video port/ports	One HDMI 2.0b port
Media-card reader	One SD-card slot
Power-adapter port	Two Thunderbolt 4 ports (USB Type-C)
Security-cable slot	One wedge-shaped lock slot

Internal slots

The following table lists the internal slots of your Dell Precision 5680.

Table 8. Internal slots

Description	Values
M.2	• Two M.2 2230/2280 slot for solid-state drive/Intel Optane **NOTE:** To learn more about the features of different types of M.2 cards, search in the Knowledge Base Resource at www.dell.com/support.

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Wireless module

The following table lists the Wireless Local Area Network (WLAN) module that is supported on your Dell Precision 5680.

Table 9. Wireless module specifications

Description	Values
Model number	Intel AX211
Transfer rate	Up to 2400 Mbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz
Wireless standards	• Wi-Fi 802.11a/b/g • Wi-Fi 4 (WiFi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6E (WiFi 802.11ax)
Encryption	• 64-bit/128-bit WEP • AES-CCMP • TKIP

Table 9. Wireless module specifications (continued)

Description	Values
Bluetooth wireless card	Bluetooth 5.3
	NOTE: The version of the Bluetooth wireless card may vary depending on the operating system that is installed on your computer.

Audio

The following table lists the audio specifications of your Dell Precision 5680.

Table 10. Audio specifications

Description		Values
Audio controller		Realtek ALC711-VD
Stereo conversion		Supported
Internal audio interface		High definition audio interface
External audio interface		One 3.5 mm audio jack
Number of speakers		• 2 x Woofers • 2 x Tweeters
Internal-speaker amplifier		Supported
External volume controls		Keyboard shortcut controls
Speaker output:		
	Average speaker output	• Woofer: 2 x 2 W • Tweeters: 2 x 2 W
	Peak speaker output	• Woofer: 2 x 2.5 W • Tweeters: 2 x 2.5 W
Subwoofer output		Supported
Microphone		Dual-array microphones in camera assembly

Storage

This section lists the storage options on your Dell Precision 5680.

Your Precision 5680 supports one of the following storage configurations:

- 2 x M.2 2230/M.2 2280, solid-state drive
- 2 x M.2 2280, Opal Self-Encrypting solid-state drive

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

Table 11. Storage specifications

Storage type	Interface type	Capacity
M.2 2230, Class 35 solid-state drive	PCIe NVMe Gen 4	256 GB

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Table 11. Storage specifications (continued)

Storage type	Interface type	Capacity
M.2 2280, Class 40 solid-state drive	PCIe NVMe Gen 4	Up to 4 TB
M.2 2280, Class 40 solid-state drive, Opal Self-Encrypting solid-state drive	PCIe NVMe Gen 4	Up to 1 TB

Media-card reader

The following table lists the media cards supported by your Dell Precision 5680.

Table 12. Media-card reader specifications

Description	Values
Media-card type	One SD card slot
Media-cards supported	• Secure Digital (SD) • Secure Digital High Capacity (SDHC) • Secure Digital Extended Capacity (SDXC)
NOTE: The maximum capacity supported by the media-card reader varies depending on the standard of the media card installed in your computer.	

Keyboard

The following table lists the keyboard specifications of your Dell Precision 5680.

Table 13. Keyboard specifications

Description	Values
Keyboard type	Backlit keyboard
Keyboard layout	QWERTY
Number of keys	• United States and Canada: 79 keys • United Kingdom: 80 keys • Japan: 83 keys
Keyboard size	X=19.05 mm key pitch Y=18.05 mm key pitch
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. **NOTE:** You can define the primary behavior of the function keys (F1–F12) changing **Function Key Behavior** in BIOS setup program.

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Camera

The following table lists the camera specifications of your Dell Precision 5680.

Table 14. Camera specifications

Description		Values
Number of cameras		One
Camera type		FHD IR camera with narrow FHD+IR w/ XYZ ALS (MIPI), Dual-array microphones
Camera location		Front camera
Camera sensor type		Intel Camera Sensing Technology (ExpressSign-in 2.0)
Camera resolution:		
	Still image	0.90 megapixel
	Video	1920 x 1080 FHD at 30 fps
Infrared camera resolution:		
	Still image	0.23 megapixel
	Video	640 x 360 at 15 fps
Diagonal viewing angle:		
	Camera	78 degrees
	Infrared camera	78 degrees

Haptics trackpad

The following table lists the touchpad specifications of your Dell Precision 5680.

Table 15. Touchpad specifications

Description		Values
Touchpad resolution:		300 dpi
Touchpad dimensions:		
	Horizontal	136 mm (5.35 in.)
	Vertical	85 mm (3.34 in.)
Touchpad gestures		For more information about touchpad gestures available on Windows, see the Microsoft knowledge base article at support.microsoft.com.

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Power adapter

The following table lists the power adapter specifications of your Dell Precision 5680.

Table 16. Power adapter specifications

Description		Option one	Option two
Type		100 W Pecos AC adapter, USB-C	165 W ERP AC adapter, USB-C
Input voltage		100 VAC—240 VAC	100 VAC—240 VAC
Input frequency		50 Hz-60 Hz	50 Hz–60 Hz
Input current (maximum)		1.7 A	2.2 A
Output current (continuous)		• 20 V/5 A • 15 V/3 A • 9 V/3 A • 5 V/3 A	• 28 V/5.893 A • 20 V/6.5 A • 15 V/3 A • 9 V/3 A • 5 V/3 A
Rated output voltage		20 VDC/15 VDC/9 VDC/5 VDC	5 VDC/9 VDC/15 VDC/20 VDC/28 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 158 °F)	-40 °C to 70 °C (-40 °F 158 °F)

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.

Battery

The following table lists the battery specifications of your Dell Precision 5680.

Table 17. Battery specifications

Description		Option one	Option two	Option three	Option four
Battery type		4-cell, 66 Whr lithium-ion battery	6-cell, 99.5 Whr lithium-ion battery	4-cell 66 Whr lithium-ion LcL battery	6-cell 99.5 Whr lithium-ion LcL battery
Battery voltage		15.4 VDC (Nominal)	11.55 VDC (Nominal)	15.4 VDC (Nominal)	11.55 VDC (Nominal)
Battery weight (maximum)		0.264 kg (0.58 lb)	0.363 kg (0.8 lb)	0.264 kg (0.58 lb)	0.363 kg (0.8 lb)
Battery dimensions:					
	Height	7.66 mm (0.30 in.)	7.66 mm (0.30 in.)	7.66 mm (0.30 in.)	7.66 mm (0.30 in.)
	Width	302 mm (11.89 in.)	302 mm (11.89 in.)	302 mm (11.89 in.)	302 mm (11.89 in.)
	Depth	85.4 mm (3.36 in.)	85.4 mm (3.36 in.)	85.4 mm (3.36 in.)	85.4 mm (3.36 in.)
Temperature range:					

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Table 17. Battery specifications (continued)

Description		Option one	Option two	Option three	Option four
	Operating	• Charge: 0°C to 50°C (32°F to 122°F) • Discharge: 0°C to 60°C (32°F to 140°F)	• Charge: 0°C to 50°C (32°F to 122°F) • Discharge: 0°C to 60°C (32°F to 140°F)	• Charge: 0°C to 50°C (32°F to 122°F) • Discharge: 0°C to 60°C (32°F to 140°F)	• Charge: 0°C to 50°C (32°F to 122°F) • Discharge: 0°C to 60°C (32°F to 140°F)
	Storage	-20°C to 65°C (-4°F to 149°F)	-20°C to 65°C (-4°F to 149°F)	-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.	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) **NOTE:** 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, *Me and My Dell* on www.dell.com.		• From 0% up to 35% in as little as 20 minutes (ExpressCharge Boost) • 2 hours (Express charge) • 3 hours (Standard charge)	• From 0% up to 35% in as little as 20 minutes (ExpressCharge Boost) • 2 hours (Express charge) • 3 hours (Standard charge)	• 2 hours (Express charge) • 3 hours (Standard charge)	• 2 hours (Express charge) • 3 hours (Standard charge)
Coin-cell battery		No	No	No	No

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.

CAUTION: 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.

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Display

The following table lists the display specifications of your Dell Precision 5680.

Table 18. Display specifications

Description	Option one	Option two
Display type	16-inch, FHD+, non-touch, 60Hz, anti-glare, 500 nits WLED, Low Blue Light	16-inch OLED, touch, 60Hz, anti-smudge, 400 nits WLED
Touch options	No	Yes
Display-panel technology	WLED with Low Blue Light	OLED with Low Blue Light
Display-panel dimensions (active area):		

Table 18. Display specifications (continued)

Description		Option one	Option two
	Height	22.17 mm (0.87 in.)	22.17 mm (0.87 in.)
	Width	344.68 mm (13.57 in.)	344.45 mm (13.56 in.)
	Diagonal	406.4 mm (16 in.)	406.4 mm (16 in.)
Display-panel native resolution		1920 x 1200	3840 x 2400
Luminance (typical)		500 nits	400 nits
Megapixels		2.3	9.2
Color gamut		DCI-P3 100%	DCI-P3 100%
Pixels Per Inch (PPI)		142	283
Contrast ratio (min.)		1300:1	100000:1
Response time (max.)		30 ms	1 ms typ.
Refresh rate		60 Hz	60 Hz
Horizontal view angle		+/- 85 degrees	+/- 85 degrees typical
Vertical view angle		+/- 85 degrees	+/- 85 degrees typical
Pixel pitch		0.18 mm	0.09 mm
Power consumption (maximum)		6.32 W	11.14 W
Anti-glare vs glossy finish		Anti-glare	Anti-smudge

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Fingerprint reader

The following table lists the fingerprint-reader specifications of your Dell Precision 5680.

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

Table 19. Fingerprint reader specifications

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

Sensor

The following table lists the sensor of your Dell Precision 5680.

Table 20. Sensor

Sensor support
Accelerometer for adaptive thermal

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Dell Precision 5680.

Table 21. GPU—Integrated

Controller	Memory size	Processor
Intel Iris X^e Graphics	Shared system memory	13^{th} Generation Intel Core i5/i7/i9 processors

GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Dell Precision 5680.

Table 22. GPU—Discrete

Controller	Memory size
NVIDIA RTX A1000 6GB Laptop GPU	6 GB
NVIDIA RTX 2000 Ada Generation Laptop GPU	8 GB
NVIDIA RTX 3500 Ada Generation Laptop GPU	12 GB
NVIDIA RTX 4000 Ada Generation Laptop GPU	12 GB
NVIDIA RTX 5000 Ada Generation Laptop GPU	16 GB
NVIDIA GeForce RTX 4090 Laptop GPU	16 GB

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Multiple display support matrix

The following table lists the multiple display support matrix for your Dell Precision 5680.

Table 23. Multiple display support matrix

Graphics Card	Supported external displays
Intel Iris X^e Graphics	Yes, supported on USB-C, TBT and HDMI port.
NVIDIA RTX A1000 6GB Laptop GPU	Yes, supported on the right side USB-C port only.
NVIDIA RTX 2000 Ada Generation Laptop GPU	Yes, supported on the right side USB-C port only.
NVIDIA RTX 3500 Ada Generation Laptop GPU	Yes, supported on the right side USB-C port only.
NVIDIA RTX 4000 Ada Generation Laptop GPU	Yes, supported on the right side USB-C port only.
NVIDIA RTX 5000 Ada Generation Laptop GPU	Yes, supported on the right side USB-C port only.

Table 23. Multiple display support matrix (continued)

Graphics Card	Supported external displays
NVIDIA GeForce RTX 4090 Laptop GPU	Yes, supported on the right side USB-C port only.

Hardware security

The following table lists the hardware security of your Dell Precision 5680.

Table 24. Hardware security

Hardware security
Hardware TPM 2.0 discrete
Wedge-shaped lock slot
FIPS 140-2 certification for TPM
TCG Certificatication for TPM (Trusted Computing Group)
ControlVault 3 Advanced Authentication with FIPS 140-2 Level 3 Certification
Contacted Smart Card and Control Vault 3
Contactless Smart Card, NFC, and Control Vault 3
Statement of Non-Volatility

Smart-card reader

Contactless smart-card reader

This section lists the contactless smart-card reader specifications of your Dell Precision 5680.

Table 25. Contactless smart-card reader specifications

Title	Description	Dell ControlVault 3 contactless smart-card reader with NFC
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

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Table 25. Contactless smart-card reader specifications (continued)

Title	Description	Dell ControlVault 3 contactless smart-card reader with NFC
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 www.emvco.com	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
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 26. 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

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Table 26. Supported cards (continued)

Manufacturer	Card
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 Dell Precision 5680.

Table 27. 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
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

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Operating and storage environment

This table lists the operating and storage specifications of your Dell Precision 5680.

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

Table 28. 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.

Dell Optimizer

This section details the Dell Optimizer specifications of your Dell Precision 5680.

Dell Optimizer is a software application that intelligently optimizes the performance of your system by using artificial intelligence and machine learning. Dell Optimizer dynamically configures your system settings to optimize the performance of your applications. It improves the productivity, performance, and user experience through system usage analysis and learning.

On Dell Precision 5680 with Dell Optimizer, the following features are supported:

- Improves user experience through computer usage analysis and learning
- Faster application launch and seamless application transition
- Intelligent battery run-time extension
- Optimized Audio for best meeting experience
- Locks computer when walks away for enhanced security
- Faster computer wake-on-user approach
- Intelligently shows alerts
- Updates automatically to minimize disruption

For more information about configuring and using these features, refer Dell Optimizer documentation.

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Color, material, and finish

This section details the color, material, and finish (CMF) specifications of your Dell Precision 5680.

Titan Gray

Table 29. CMF specifications

A Cover (Top)	• Aluminum/Extrusion + CNC + Insert Molded + Beadblast • Anodized Titan Gray • PMS Cool Gray 9C
B Cover (Hinge up)	• PC • UV Molding +CNC + Back Printing • Match to Apollo
C Cover (Palmrest)	• Plastic PC 50%GFC Bonded MgAl Frame + CNC Drilled speaker Holes • Dell Standard Black, Resin • PMS 19-4205 TPG • Apollo, Velvet
D Cover (Bottom)	• Aluminum/Extrusion + CNC + Insert Molded + Beadblast • Anodized Titan Gray • PMS Cool Gray 9C

NOTE: Titan Gray, Dull – Cool Gray 9C = RGB 117 120 123 HEX/HTML 75787B CMYK 30 22 17 57

NOTE: Apollo –19-4205 TPG RGB 64 65 69 HEX/HTML 404145 CMYK NA

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