Precision 5490

Technical Guidebook

Regulatory Model: P154G
Regulatory Type: P154G004
March 2023
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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.

Contents

1

Views of Precision 5490

Right

Figure 1. Right view

1. **microSD-card slot**

   Reads from and writes to the microSD card. The computer supports the following card types:

   - micro-Secure Digital (microSD)
   - micro-Secure Digital High Capacity (micro-SDHC)
   - micro-Secure Digital Extended Capacity (micro-SDXC)

2. **ThunderBolt 4 (40 Gbps) ports with Power Delivery and DisplayPort**

   Supports USB4, DisplayPort 2.1, Thunderbolt 4 and also enables you to connect to an external display using a display adapter. Provides data transfer rates of up to 40 Gbps for USB4 and Thunderbolt 4.

   NOTE: You can connect a Dell Docking Station to the Thunderbolt 4 ports. For more information, see the knowledge base article 000124295 at www.dell.com/support.

   NOTE: A USB Type-C to DisplayPort adapter (sold separately) is required to connect a DisplayPort device.

   NOTE: USB4 is backward compatible with USB 3.2, USB 2.0, and Thunderbolt 3.

   NOTE: Thunderbolt 4 supports two 4K displays or one 8K display.

3. **Security-cable slot (wedge-shaped)**

   Connect a security cable to prevent unauthorized movement of your computer.

Left

Figure 2. Left view

1. **Universal audio jack**

   Connect headphones or a headset (headphone and microphone combo).

2. **ThunderBolt 4 (40 Gbps) ports with Power Delivery and DisplayPort**

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   NOTE: USB4 is backward compatible with USB 3.2, USB 2.0, and Thunderbolt 3.

   NOTE: Thunderbolt 4 supports two 4K displays or one 8K display.

3. **Smart card reader slot**

   Provides physical electronic authorization for access control to the resources.

   Supports both Contactless and Contacted Smart Cards.

   Provides personal identification, authentication, data storage, and application processing.

Top

Figure 3. Top view

1. **Microphone**

   Provides digital sound input for audio recording, voice calls, and so on.

2. **Power button with optional fingerprint reader**

   Press to turn on the computer if it is turned off, in sleep state, or in hibernation state.

   When the computer is turned on, press the power button to put the computer into a sleep state; press and hold the power button for four seconds to force shut-down the computer.

   If the power button has a fingerprint reader, place your finger on the power button steadily to log in.

   NOTE: You can customize the power-button behavior in Windows.

3. **Right speaker**

   Provides audio output.

4. **Precision touchpad with optional NFC/contactless smart-card reader**

   Move your finger on the touchpad to move the mouse pointer. Tap to left-click and two fingers tap to right-click.

5. **Left speaker**

   Provides audio output.

Front

Figure 4. Front view

1. **RGB camera**

   Enables you to video chat, capture photos, and record videos.

2. **LCD panel**

   Provides visual output to the user.

Bottom

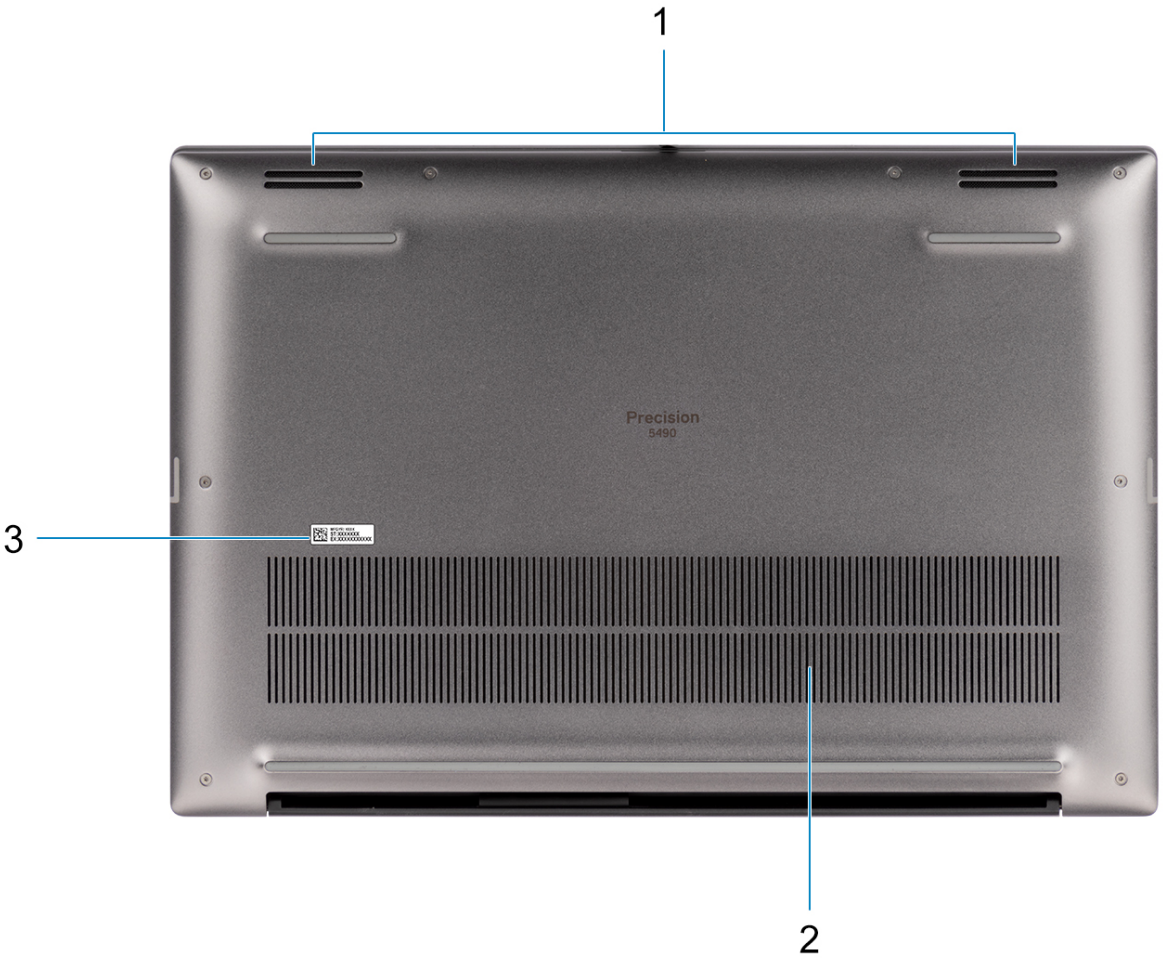

Figure 5. Bottom view

1. **Speakers**

   Provide audio output.

2. **Air vents**

   Air is pulled by the internal fans through the air vents.

   NOTE: To prevent the computer from overheating, ensure that the air vents are not blocked when the computer is running.

3. **Service Tag and regulatory labels**

   The Service Tag is a unique alphanumeric identifier that enables Dell service technicians to identify the hardware components in your computer and access warranty information. The regulatory label contains regulatory information of your computer.

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.

Figure 6. Service tag location

Battery charge and status light

The following table lists the battery charge and status light behavior of your Precision 5490.

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%

- 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, except for a trickle power. The context data is written to a hard drive.
- S5 (OFF) - The system is in a shutdown state.

2

Specifications of Precision 5490

Dimensions and weight

The following table lists the height, width, depth, and weight of your Precision 5490.

Table 2. Dimensions and weight

Description	Values
Height:	
Front height	0.29 in. (7.49 mm)
Rear height	0.74 in. (18.95 mm)
Width	12.22 in. (310.60 mm)
Depth	8.27 in. (210.35 mm)
Weight **NOTE:** The weight of your computer depends on the configuration that is ordered and manufacturing variability.	3.30 lb (1.49 kg)

Processor

The following table lists the details of the processors that are supported for your Precision 5490.

Table 3. Processor

Description	Option one	Option two	Option three	Option four
Processor type	Intel Core Ultra 9 185H vPro	Intel Core Ultra 7 165H vPro	Intel Core Ultra 7 155H vPro Essentials	Intel Core Ultra 5 135H vPro
Processor wattage	45 W	45 W	45 W	45 W
Processor core count	16	16	16	14
Processor thread count	22	22	22	18
Processor speed	Up to 5.10 GHz	Up to 5.00 GHz	Up to 4.80 GHz	Up to 4.60 GHz
Processor cache	24 MB	24 MB	24 MB	18 MB
Integrated graphics	Intel Arc Graphics	Intel Arc Graphics	Intel Arc Graphics	Intel Arc Graphics

Chipset

The following table lists the details of the chipset that is supported for your Precision 5490.

Table 4. Chipset

Description	Values
Chipset	Intel MTL-H
Processor	Intel Core Ultra 5/7/9
DRAM bus width	64-bit
Flash EPROM	64 MB
PCIe bus	Up to Gen4.0

Operating system

Your Precision 5490 supports the following operating systems:

- Windows 11 23H2
- Windows 11 22H2
- Windows 10 22H2
- Ubuntu Linux 22.04, 64-bit

Memory

The following table lists the memory specifications of your Precision 5490.

Table 5. Memory specifications

Description	Values
Memory slots	Integrated on system board
Memory type	LPDDR5x
Memory speed	7467 MT/s
Maximum memory configuration	64 GB
Minimum memory configuration	16 GB
Memory configurations supported	• 16 GB: LPDDR5x, 7467 MT/s, dual-channel (onboard) • 32 GB: LPDDR5x, 7467 MT/s, dual-channel (onboard) • 64 GB: LPDDR5x, 7467 MT/s, dual-channel (onboard)

External ports

The following table lists the external ports on your Precision 5490.

Table 6. External ports

Description	Values
USB ports	Four ThunderBolt 4 (40 Gbps) ports with Power Delivery and DisplayPort
Audio port	One headset (headphone and microphone combo) port
Video port/ports	Thunderbolt 4 ports with DisplayPort (USB Type-C)
Media-card reader	One microSD-card slot
Power-adapter port	USB Type-C
Security-cable slot	One wedge-shaped lock slot

Internal slots

The following table lists the internal slots of your Precision 5490.

Table 7. Internal slots

Description	Values
M.2	M.2 2230/2280 solid-state drive **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.

Wireless module

The following table lists the Wireless Local Area Network (WLAN) module that is supported on your Precision 5490.

Table 8. Wireless module specifications

Description	Values
Model number	Intel BE200
Transfer rate	Up to 5760 Mbps
Frequency bands supported	2.4 GHz/5 GHz/6 GHz **NOTE:** The 6 GHz frequency is supported on computers installed with Windows 11 operating system only.
Wireless standards	• WiFi 802.11a/b/g • Wi-Fi 4 (Wi-Fi 802.11n) • Wi-Fi 5 (WiFi 802.11ac) • Wi-Fi 6E (WiFi 802.11ax) • Wi-Fi 7 (WiFi 802.11be)
Encryption	• 64-bit and 128-bit WEP

Table 8. Wireless module specifications (continued)

Description	Values
	• AES-CCMP • TKIP
Bluetooth wireless card	Bluetooth 5.4 wireless card
	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 Precision 5490.

Table 9. Audio specifications

Description		Values
Audio controller		Realtek ALC713
Stereo conversion		Supported
Internal audio interface		SoundWire
External audio interface		One headset (headphone and microphone combo) port
Number of speakers		Four (Two tweeter speakers and two woofer speakers)
Internal-speaker amplifier		Realtek ALC1319D
External volume controls		Keyboard shortcut controls
Speaker output:		
	Average speaker output	2 W + 2 W (tweeter), 2 W + 2 W (woofer)
	Peak speaker output	2.5 W + 2.5 W (tweeter), 2.5 W + 2.5 W (woofer)
Subwoofer output		Supported
Microphone		Dual digital-array microphones

Storage

This section lists the storage options on your Precision 5490.

- M.2 2230, Gen 4 PCIe NVMe, SSD, Class 35
- M.2 2280, Gen 4 PCIe NVMe, SSD, Class 40
- M.2 2280, Gen 4 PCIe NVMe, SSD, Self Encrypting Opal 2.0, Class 40

Table 10. Storage specifications

Storage type	Interface type	Capacity
M.2 2230 Class 35 SSD	PCIe NVMe Gen4 x4	256 GB
M.2 2280 Class 40 SSD	PCIe NVMe Gen4 x4	Up to 4 TB

Table 10. Storage specifications (continued)

Storage type	Interface type	Capacity
M.2 2280 Class 40 Self Encrypting Opal 2.0	PCIe NVMe Gen4 x4	Up to 1 TB

Media-card reader

The following table lists the media cards that are supported on your Precision 5490.

Table 11. Media-card reader specifications

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

Keyboard

The following table lists the keyboard specifications of your Precision 5490.

Table 12. 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.

Camera

The following table lists the camera specifications of your Precision 5490.

Table 13. Camera specifications

Description		Values
Number of cameras		One
Camera type		HD RGB and IR camera
Camera location		Front camera
Camera sensor type		CMOS sensor technology
Camera resolution:		
	Still image	0.92 megapixel
	Video	1280 x 720 (HD) at 30 fps
Infrared camera resolution:		
	Still image	0.25 megapixel
	Video	640 x 400 at 30 fps
Diagonal viewing angle:		
	Camera	75.8 degrees
	Infrared camera	75.8 degrees

Touchpad

The following table lists the touchpad specifications of your Precision 5490.

Table 14. Touchpad specifications

Description		Values
Touchpad resolution:		
	Horizontal	>300 dpi
	Vertical	761
Touchpad dimensions:		
	Horizontal	105.95 mm (4.17 in.)
	Vertical	65.30 mm (2.57 in.)
Touchpad gestures		For more information about touchpad gestures available on Windows, see the Microsoft Knowledge Base article at support.microsoft.com.

Power adapter

The following table lists the power adapter specifications of your Precision 5490.

Table 15. Power adapter specifications

Description		Option one	Option two
Type		100 W AC adapter, USB-C (UMA only)	130 W AC adapter, USB-C (Discrete only)
Power-adapter dimensions:			
	Height	26.50 mm (1.04 in.)	22.00 mm (0.87 in.)
	Width	60.00 mm (2.36 in.)	66.00 mm (2.60 in.)
	Depth	122.00 mm (4.80 in.)	143.00 mm (5.63 in.)
Input voltage		100 VAC to 240 VAC	100 VAC to 240 VAC
Input frequency		50 Hz to 60 Hz	50 Hz to 60 Hz
Input current (maximum)		1.7 A	1.80 A
Output current (continuous)		• 20 V/5 A (Continuous) • 15 V/3 A (Continuous) • 9 V/3 A (Continuous) • 5 V/3 A (Continuous)	• 20 V/6.50 A (Continuous) • 5 V/1 A (Continuous)
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 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 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 Precision 5490.

Table 16. Battery specifications

Description		Values
Battery type		4-cell, 72 Wh, ExpressCharge Capable, Long Life Cycle
Battery voltage		15.40 VDC
Battery weight (maximum)		0.285 kg (0.63 lb)
Battery dimensions:		
	Height	8.25 mm (0.32 in.)

Table 16. Battery specifications (continued)

Description		Values
	Width	255.20 mm (10.05 in.)
	Depth	65.70 mm (2.59 in.)
Temperature range:		
	Operating	• Charge: 0°C to 50°C (32°F to 122°F) • Discharge: 0°C to 70°C (32°F to 158°F)
	Storage	–20°C to 60°C (-4°F to 140°F)
Battery operating time		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 about Dell Power Manager, search in the Knowledge Base Resource at www.dell.com/support.		**Express Charge Method:** • 0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours • 16 - 45°C normal express charge • 46 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours **Standard Charge/Predominately AC User Charge Method:** • 0 - 15°C maximum allowable charge time from 0 to 100% RSOC is 4 hours • 16 - 50°C maximum allowable charge time from 0 to 100% RSOC is 3 hours **Express Charge Boost Charge Method (Fast Charge for Initial 35%):** • 16 - 45°C target charge time from 0 to 35% RSOC is 20 mins for Accelerated Charge
Coin-cell battery		No coin-cell. Supported by main battery

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 Technologies recommends that you charge the battery regularly for optimal power consumption. If your battery charge is 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 Precision 5490.

Table 17. Display specifications

Description		Option one	Option two
Display type		14-inch Full High Definition+ (FHD+)	14-inch Quad High Definition (QHD+)
Touch options		No	Yes with active pen support
Display-panel technology		Wide-viewing angle (WVA) narrow bent, TÜV low blue light	Wide-viewing angle (WVA), WLED, TÜV low blue light
Display-panel dimensions (active area):			
	Height	188.49 mm (7.42 in.)	188.50 mm (7.42 in.)

Table 17. Display specifications (continued)

Description		Option one	Option two
	Width	301.59 mm (11.87 in.)	301.59 mm (11.87 in.)
	Diagonal	355.6 mm (14.00 in.)	355.6 mm (14.00 in.)
Display-panel native resolution		1920 x 1200	2560 x 1600
Luminance (typical)		500 nits	500 nits
Megapixels		2.30	4.09
Color gamut		100% sRGB	100% sRGB
Pixels Per Inch (PPI)		161 ppi	216 PPI
Contrast ratio (minimum)		1000:1	1000:1
Response time (maximum)		35 ms	35 ms
Refresh rate		60 Hz	60 Hz
Horizontal view angle		+/- 88 degrees	+/- 88 degrees
Vertical view angle		+/- 88 degrees	+/- 88 degrees
Pixel pitch		0.1578 mm	0.1178 mm
Power consumption (maximum)		2.80 W	3.35 W
Anti-glare vs glossy finish		Anti-glare	Anti-Reflection and Anti-Smudge on touch screen

Fingerprint reader

The following table lists the fingerprint-reader specifications of your Precision 5490.

NOTE: The fingerprint reader is on the power button.

Table 18. Fingerprint reader specifications

Description	Values
Fingerprint-reader sensor technology	Capacitive
Fingerprint-reader sensor resolution	500 dpi
Fingerprint-reader sensor pixel size	• X: 108 • Y: 88

Sensor

The following table lists the sensor of your Precision 5490.

Table 19. Sensor

Sensor support
Ambient Light Sensor
Windows Auto Brightness
IR User Proximity Detection
Clover Falls+
Accelerometer
Adaptive Thermal Performance (Lap vs. Desk mode) requires Gyro/Accelerometer **NOTE:** This is for thermal only.
Hall Effect Sensor
Sensor Hub (integrated)

GPU—Integrated

The following table lists the specifications of the integrated Graphics Processing Unit (GPU) supported by your Precision 5490.

Table 20. GPU—Integrated

Controller	Memory size	Processor
Intel Arc Graphics	Shared system memory	Intel Core Ultra 5/7/9

GPU—Discrete

The following table lists the specifications of the discrete Graphics Processing Unit (GPU) supported by your Precision 5490.

Table 21. GPU—Discrete

Controller	Memory size	Memory type
NVIDIA RTX 1000 Ada Generation Laptop GPU	6 GB	GDDR6
NVIDIA RTX 2000 Ada Generation laptop GPU	8 GB	GDDR6
NVIDIA RTX 3000 Ada Generation laptop GPU	8 GB	GDDR6

Multiple display support matrix

The following table lists the multiple display support matrix for your Precision 5490.

Table 22. 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 Arc Graphics	Integrated	3	4

Hardware security

The following table lists the hardware security of your Precision 5490.

Table 23. Hardware security

Hardware security
Wedge-shaped lock slot
Chassis Intrusion Prevention Lock
TPM 2.0 discrete
FIPS 140-3 certification for TPM
Trusted Computing Group (TCG) Certification for TPM
No-TPM option (BIOS Disable TPM/BIOS KillTPM/Main TPM for Russia)
ControlVault 3 Advanced Authentication with FIPS 140-3 Level 3 Certification
Fingerprint Reader
Contacted Smart Card and ControlVault 3
Contactless Smart Card, NFC, and ControlVault 3
SED SSD NVMe
Battery Removal Detection
RPMC (specify through SPI Flash or eRPMC)
SPI Flash Tamper Detection/Prevention Shunt Circuit
Board Level Shield Tamper Detection

Smart-card reader

Contactless smart-card reader

This section lists the contactless smart-card reader specifications of your Precision 5490. This module is only available in computers shipped with Smart-card readers.

Table 24. 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

Table 24. Contactless smart-card reader specifications (continued)

Title	Description	Dell ControlVault 3 contactless smart-card reader with NFC
Prox (Proximity) (125kHz) Card support	Reader and software capable of supporting Prox /Proximity/125kHz contactless cards	No
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
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
Dell ControlVault support	Device connects to Dell ControlVault for usage and processing	Yes

NOTE: 125 Khz proximity cards are not supported.

Table 25. Supported cards

Manufacturer	Card
HID	jCOP readertest3 A card (14443a)
	1430 1L
	DESFire D8H
	DESFIRE 4K Standard - 1450NGGNN
	iClass 16K/16 - 2002PGGMN

Table 25. Supported cards (continued)

Manufacturer	Card
	iClass SR 16K/16 - 2002HPGGMN
	iCLASS 2K tag
	iCLASS GP - 2003 PGGMN
	iClass Clamshell - 2080PMSMV
	iClass Prox 16K/16 - 2022BGGMNN
	Mifare M1P 1430 NGGNN
	iclass Prox 2020BGGMNM
	DesFire D8P 1456CSGMN
	iCLASS MIFARE Px GM49Y 2623BNPGGBNAB
	iCLASS MIFARE Px 8M1L
	iClass SEOS JW 5006PGGMN
	Crescendo iCLASS Px G8H
	iCLASS Seos IY
	SEOS JMC4 J1Y 5806VNG1NNN4
	SEOS Key FOB 5266PNNA
	SEOS Clamshell 5656PMSAV
	SEOS + Prox 5106RGGMNN
	SEOS + DESFire 5906PNG1ANN7
	SEOS iClass 5006PGGMN7
	Seos Essential + Prox 551PPGGANN
	iCLASS 2K 2000PGGMN
	iCLASS 2K 3000PGGMN
	MIFARE DESFire 3700CPGGAN
	iCLASS DP
	DESFire 1Y
NXP/Mifare	Mifare DESFire 8K White PVC Cards
	Mifare Classic 1K White PVC Cards
	Mifare Mifare S50 ISO Cards
	Mifare DESFire 2K
	Mifare Plus S 2K/4K
	Mifare Plus X 4K
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

Table 25. Supported cards (continued)

Manufacturer	Card
Oberthur	idOnDemand - OCS5.2 80K
	ID-One Cosmo 64 RSA D V5.4 T=0 card
	ID-One Cosmo 128K V5.5 card
Gemalto	TOP DL GX4 144K card
Sony	Felica RC-S962
	Felica RC-S965
	Felica RC-S966
PIVKey	C910 PKI
NIST	PIV1
IDENTIV	PIV programmed cards
	uTrust
Transport cards	Oyster (London) MIFARE DESFire
	T-Money (Korea)
	Octopus Card (Hong Kong)
	SUICA (Japan)

Contacted smart-card reader

The following table lists the contacted smart-card reader specifications of your Precision 5490.

Table 26. 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
ISO 7816-3 Compliant	Specification for electrical interface and transmission protocols	Yes
ISO 7816-4 Compliant	Specification for organization, security and commands for interchange	Yes
Dell ControlVault support	Device connects to Dell ControlVault for usage and processing	Yes
T=0 support	Cards support character level transmission	Yes
T=1 support	Cards support block level transmission	Yes

Table 26. Contacted smart-card reader specifications (continued)

Title	Description	Dell ControlVault 3 smart-card reader
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

Operating and storage environment

This table lists the operating and storage specifications of your Precision 5490.

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

Table 27. 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 the user environment.

† Measured using a 2 ms half-sine pulse.

3

Engineering specifications

Wireless module

Intel BE200, 2x2 MIMO, 5760 Mbps, 2.4/5/6 GHz, Wi-Fi 7 (WiFi 802.11be) and Bluetooth 5.4

The following table lists the Intel BE200 specifications.

Table 28. Intel BE200 specifications

Description	Value
Host interface	• PCIe for Wi-Fi • USB/I2S for Bluetooth
Network standard	IEEE 802.11a/b/g/n/ac/ax/be, 320 MHz channel use, MU-MIMO, new 6 GHz band
Wi-Fi Alliance certifications	Wi-Fi 7 Technology support, Wi-Fi CERTIFIED 6 with Wi-Fi 6E, Wi-Fi CERTIFIED a/b/g/n/ac, WMM, WMM-Power Save, WPA3, PMF, Wi-Fi Direct, Wi-Fi Agile Multiband, Wi-Fi Location R2 HW readiness
Operating frequency bands	• 2.4 GHz • 5 GHz • 6 GHz
Data rate	• 2.4 GHz 40M: Up to 688 Mbps • 5/6 GHz 80M: Up to 1.44 Gbps • 5/6 GHz 160M: Up to 2.88 Gbps • 5/6 GHz 320M: Up to 5.76 Gbps
Power consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity.
Security methods	WPA3 personal and enterprise including WPA2 transition mode
Authentication protocols	• 802.1X EAP-TLS • EAP-TTLS/MSCHAPv2 • PEAPv0 -MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA)
Encryption	• 128-bit AES-CCMP • 256-bit AES-GCMP
Product safety	• UL • C-UL • CB (IEC60950-1)
Management capabilities alerting	Support for Intel AMT
Government compliance	FIPS 140-3
Client utility	Intel PRO/Set wireless software v23 and later
Antenna diversity	Supported

Table 28. Intel BE200 specifications (continued)

Description	Value
Radio on/off	Supported
Roaming	Support seamless roaming between access points.
Wake on wireless	Supported
Wireless display	Native Miracast support by Windows 11
Wireless PAN standard	• Dual Mode Bluetooth 5.4 • BLE
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
Bluetooth output power	Power class 1
Temperature	Operating temperature (Adapter shield) 0°C to +80°C
Humidity	Non-operating 50% to 90% RH non-condensing (at temperatures of 25°C to 35°C)

NOTE: Other names and brands may be claimed as the property of others.

GPU—Integrated

Intel Arc Graphics

The following table lists the Intel Arc Graphics specifications.

Table 29. Intel Arc Graphics specifications

Description	Values
Bus type	Integrated graphics **NOTE:** Intel Arc Graphics uses the computers memory as video memory.
Memory type	Shared with system memory
Graphics level	Intel Core Ultra 5/7/9 processors
Memory interface	64 Gbps, Unified Memory Architecture
Estimated maximum power consumption (TDP)	45 W, in the CPU power
Overlay planes	Yes
Operating systems graphics/ video API support	DirectX 12 Ultimate, OpenGL 4.6
Maximum color depth	10 bits
Maximum vertical refresh rate	Up to 120 Hz **NOTE:** The refresh rate depends on the resolution.
External ports	DisplayPort USB Type-C
Multiple display support	Up to four displays including laptop display.

GPU—Discrete

NVIDIA RTX 1000 ADA Generation laptop, 6 GB, GDDR6

The following table lists the NVIDIA RTX 1000 ADA Generation laptop specifications.

Table 30. NVIDIA RTX 1000 ADA Generation laptop specifications

Feature	Values
GPU	NVIDIA RTX 1000 ADA Generation Laptop
Cores	CUDA cores 2560
Memory bandwidth	176 Gbps
Memory type	GDDR6
Memory size	6 GB
Memory interface	96-bit
Memory configuration	3 x 8 GB (2CH x 256M x 16.16 Gbps)
GPU package	GB5B-128
TDP	• GPU - 18.9 W • Memory - 12 W
TGP	35 W
GPU base clock	990 MHz
GPU boost clock	1740 MHz
PCIe	Gen 4 x8
Vram clock	8001 MHz
Features	• Dynamic boost • Configurable TGP
Concurrency	55 W - 20 W CPU + 35 W GPU

NVIDIA RTX 2000 ADA Generation laptop, 8 GB, GDDR6, GB5C-128

The following table lists the NVIDIA RTX 2000 ADA Generation laptop specifications.

Table 31. NVIDIA RTX 2000 ADA Generation laptop specifications

Feature	Values
GPU	NVIDIA RTX A2000 ADA Generation laptop
Cores	CUDA cores 3072
Memory bandwidth	256 Gbps
Memory type	GDDR6
Memory size	8 GB
Memory interface	128-bit
Memory configuration	4 x 8 GB (2CH x 256M x 16, 16 Gbps)
GPU package	GB5C-128

Table 31. NVIDIA RTX 2000 ADA Generation laptop specifications (continued)

Feature	Values
TDP	• GPU - 25 W • Memory - 14 W
TGP	35 W
GPU base clock	930 MHz
GPU boost clock	1455 MHz
Vram clock	8001 MHz
PCIe	Gen4 x 8
Features	Dynamic boost
Concurrency	55 W - 20W CPU + 35W GPU

NVIDIA RTX 3000 ADA Generation laptop, 8 GB, GDDR6

The following table lists the NVIDIA RTX A3000 ADA Generation laptop specifications.

Table 32. NVIDIA RTX A3000 ADA Generation laptop specifications

Feature	Values
GPU	NVIDIA RTX A3000 ADA Generation laptop
CUDA cores	CUDA cores 4608
Memory bandwidth	256 Gbps
Memory type	GDDR6
Memory size	8 GB
Memory interface	128-bit
Memory configuration	4 x 8 GB (2CH x 256M x 16,16 Gbps)
GPU package	GB5C-128
TDP	• GPU - 24 W • Memory - 14 W
TGP	35 W
GPU base clock	735 MHz
GPU boost clock	1530 MHz
Vram clock	8001 MHz
PCIe	Gen4 x 8
Features	• Dynamic boost • Configurable TGP
Concurrency	55 W - 20 W CPU + 35 W GPU

Video port and resolution matrix

The following table lists the Video port and resolution matrix of your Precision 5490.

Table 33. Video port and resolution matrix

Port type	ThunderBolt 4 ports with DisplayPort (USB Type-C)
Maximum resolution—single display	7680 x 4320 @ 60 Hz
Maximum resolution—dual MST	8K @ 60 Hz
Maximum resolution—triple MST	1 x 8K @ 60 Hz and 2 x 4K @ 60 Hz

Storage

M.2 2230, 256 GB, PCIe NVMe Gen4 x4, Class 35 SSD

The following table lists the M.2 2230, 256 GB SSD specifications.

Table 34. 256 GB SSD specifications

Capacity	256 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	30 mm (1.18 in.)
Interface type	PCIe Gen4
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical blocks	500,118,192
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4) • Active: 4 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2280, 512 GB, PCIe NVMe Gen4 x4, Class 40 SSD

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

Table 35. 512 GB SSD specifications

Description	Values
Capacity	512 GB

Table 35. 512 GB SSD specifications (continued)

Description	Values
Height (approximate)	2.38 mm (0.17 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 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
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4 - L1.2) • Active: 5 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2280, 1 TB, PCIe NVMe Gen4 x4, Class 40 SSD

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

Table 36. 1 TB SSD specifications

Description	Values
Capacity	1 TB
Height (approximate)	2.38 mm (0.17 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 mm (3.15 in.)
Interface type	PCIe Gen4
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	2,000,409,264
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4 - L1.2) • Active: 5 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G

Table 36. 1 TB SSD specifications (continued)

Description	Values
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2280, 2 TB, PCIe NVMe Gen4 x4, Class 40 SSD

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

Table 37. 2 TB SSD specifications

Description	Values
Capacity	2 TB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 mm (3.15 in.)
Interface type	PCIe Gen4
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	4,000,797,360
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4 - L1.2) • Active: 5 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2280, 4 TB, PCIe NVMe Gen4 x4, Class 40 SSD

The following table lists the M.2 2280, 4 TB SSD specifications.

Table 38. 4 TB SSD specifications

Description	Values
Capacity	4 TB
Height (approximate)	3.73 mm (0.15 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 mm (3.15 in.)
Interface type	PCIe Gen4

Table 38. 4 TB SSD specifications (continued)

Description	Values
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	8,001,573,552
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4 - L1.2) • Active: 5 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2280, 512 GB, PCIe NVMe Gen4 x4, Opal Self-Encrypting Class 40 SSD

The following table lists the M.2 2280, 512 GB SSD, self-encrypting drive specifications.

Table 39. 512 GB SSD, self-encrypting drive specifications

Description	Values
Capacity	512 GB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 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
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4 - L12) • Active: 5 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

M.2 2280, 1 TB, PCIe NVMe Gen4 x4, Opal Self-Encrypting Class 40 SSD

The following table lists the M.2 2280, 1 TB SSD, self-encrypting drive specifications.

Table 40. 1 TB SSD, self-encrypting drive specifications

Description	Values
Capacity	1 TB
Height (approximate)	2.38 mm (0.09 in.)
Width (approximate)	22 mm (0.87 in.)
Depth (approximate)	80 mm (3.15 in.)
Interface type	PCIe Gen4
Speed (maximum)	64 Gb/s (up to 4 lanes)
MTBF	1.4M hours
Logical blocks	2,000,409,264
Power source	
Power consumption (reference only)	• Idle: 5 mW (PS4 - L12) • Active: 5 W
Environmental operating conditions (non-condensing)	
Temperature range	0°C to 70°C
Relative humidity range	10% to 90%
Op shock	1500G
Environmental non-operating conditions (non-condensing)	
Temperature range	-40°C to 70°C
Relative humidity range	5% to 95%

Media-card reader

The following table lists the media-card reader specifications of your Precision 5490.

Table 41. Media-card reader (standard offering)

Media supported (Maximum capacity that is supported will vary by Flash Media Types)	
Media Supported	micro-SDXC, micro-SDHC, Micro-SD micro-Secure Digital (microSD) 4.0 UHS-II micro-Secure Digital (microSD) 3.0 UHS-I
Support Specification Versions	micro-Secure Digital (SD) 4.0
Power source	
Max Power Requirements	1.2 A
Supply Voltage Range	3.3 V
Power Consumption	MS 0.08 mA
Environmental operating conditions (Non-condensing)	
Operating Temperature Range	0°C to 70°C

Table 41. Media-card reader (standard offering) (continued)

Relative Humidity Range	N/A
Environmental non-operating conditions (Non-condensing)	
Operating Temperature Range	N/A
Relative Humidity Range	N/A

Power adapter

The following table lists the power adapter specifications of your Precision 5490.

Table 42. Power adapter specifications

Description	Values	
Type	100 W AC adapter, USB-C (UMA only)	130 W AC adapter, USB-C (Discrete only)
Diameter (connector)	Not supported	Not supported
Input voltage	100 VAC to 240 VAC	100 VAC to 240 VAC
Input frequency	50 Hz to 60 Hz	50 Hz to 60 Hz
Input current (maximum)	1.7 A	1.8 A
Output current (continuous)	• 20 V/5 A (Continuous) • 15 V/3 A (Continuous) • 9 V/3 A (Continuous) • 5 V/3 A (Continuous)	• 20 V/6.50 A (Continuous) • 5 V/1 A (Continuous)
Rated output voltage	• 20 VDC • 15 VDC • 9 VDC • 5 VDC	• 20 VDC • 5 VDC
Temperature range		
Operating	5°C to 45°C (41°F to 113°F)	5°C to 45°C (41°F to 113°F)
Storage	-40°C to 70°C (-40°F to 158°F)	-40°C to 70°C (-40°F to 158°F)
Compliance		
Erp Lot6 Tier 2 requirement	Yes	Yes
80Plus compliant	Yes	Yes
Energy Star 8.0 compliant	Yes	Yes
GS mark compliant	Yes	Yes
NCTC Anti Power Surge certification	Yes	Yes
NCTC Anti Lightning Strike certification	Yes	Yes

Accessories

The following table lists the supported accessories on your Precision 5490.

Table 43. Accessories

Accessories
Dell Thunderbolt 4 Dock - WD22TB4
Dell Mobile Adapter Speakerphone - MH3021P
Dell Pro Wireless ANC Headset - WL5024
Dell Pro webcam - WB5023
3Dconnexion SpaceMouse Wireless
Dell Collaboration Keyboard and Mouse - KM900
Dell Travel Mouse - (Black) MS700
Wacom Cintiq Pro 24 Creative Pen Display Touch

Security

Software security

The following table lists the software security details of your Precision 5490.

Table 44. Software security

Security options
Intel Platform Trust Technology (PTT)
Intel Boot Guard
Intel BIOS Guard
Intel Trusted Execution Technology (TXT)
ADL - Hypervisor Linear Address Translation (HLAT)
Intel Total Memory Encryption Multi-Key TME
D-Pedigree (Secure Supply Chain Functionality)
Dell Digital Device ID: TPM Platform Root Key provisioning
Dell Trusted Device Agent Validation
VMware Workspace ONE
Absolute® Endpoint Visibility and Control
Netskope
Dell Supply Chain Defense

Fingerprint reader

The following table lists the fingerprint reader specifications of your Precision 5490.

Table 45. Fingerprint reader specifications

Category	

Table 45. Fingerprint reader specifications (continued)

Sensor technology	Capacitive
Sensor resolution	500 dpi
Sensor pixel size	108 x 88 pixels
Dell ControlVault support	No
Dell ControlVault 3.0 support	No
Anti-spoofing	Yes
Template storage	In-sensor storage
Match on chip	Yes
FIPS 201 certified	No

Dell ControlVault 3 Plus

Dell ControlVault is a dedicated security processor with secure storage that provides hardware isolation for authentication. Reducing the risk of malware attacking critical login information that is associated with fingerprint readers and contacted or contactless smartcard readers. The following table lists the Dell ControlVault 3 Plus specifications of your Precision 5490.

Table 46. Dell ControlVault 3.0 Plus specifications

Title	Description	Dell ControlVault 3 Plus
CPU technology	N/A	1 GHz ARM Cortex A7
RAM	N/A	1 MB
ROM	N/A	16 MB
Host Interface	N/A	USB 2.0
Fingerprint procession on chip	Fingerprint processing occurs within secure boundary of ControlVault	Yes
Windows WBF support	Support for Windows biometric framework when Fingerprint reader is attached	Yes
Windows Hello Enhanced Sign-in Security Support	Support for Windows Hello Enhanced Sign-in Security when Fingerprint Reader is attached	Yes
FIPS 140-3 Level 3 Certified	Device certified with FIPS 140-3 Level 3 requirements	{BCM58202B0} CY24 Modules In Process List ~CY25 Final Certification

Trusted Platform Module

The following table lists the Trusted Platform Module (TPM) of your Precision 5490.

Table 47. Trusted Platform Module (TPM)

TPM: ST/ST33 HTPH2X32AHD8
SPI interface
TPM 2.0
FIPs 140-2 certificate

Mil-SPEC

The Precision 5490 meets military specifications for the following MIL-STD 810G tests:

Table 48. Tower - Military specifications

Test Category	Test Method	Test Parameters
Non-operating altitude test	Method 500.6 Procedure I	Test specification: • Altitude: 15,000 ft • Temperature: 21°C
Operating altitude test	Method 500.6 Procedure II	Test specification: • Altitude: 15,000 ft • Temperature: 21°C
Non-operating high temperature test	Method 501.7 Procedure I	Test specification: • High temperature cycles, climatic category A1 - Hot dry • Duration: 7 cycles, Non-Operating
Operating high temperature test	Method 501.7 Procedure II	Test specification: • Temperature: 60°C • Duration: 120 hours constant
Non-operating low temperature test	Method 502.7 Procedure I - Storage	Test specification: • Temperature: -51°C • Duration: 24 hours
Operating low temperature test	Method 502.7 Procedure II - Operation	Test specification: • Temperature: -29°C • Duration: 24 hours
Humidity test	Method 507.6 Procedure I	Induced B3 • Duration: Hot-humid, 15 days exposure Induced B3, Non-operating
Shock material to be packaged	Method 516.8 Procedure II	Test specification: • On-road shock - 5.1 g/11 m • Off-road shock - 15.2 g/5 m
Mechanical shock test - I Bench handling	Method 516.8 Procedure VI	Test specification: • Rise test units at one edge 100 mm (4-inch) or an angle of 45°about a solid wooden bench top.
Sand and dust Blowing dust	Method 510.7 Procedure I	Test specification: • Relative humidity: 30% • Dust concentration: (10.6±7) g/m³ • Air flow velocity: 1.5 m/s to 8.9 m/s

Chemical information

The Precision 5490 meets chemical information for the following MIL-STD 810H tests:

Table 49. Chemical information

Chemical	Source document	Possible uses
Cleaning compound, solvent (Rifle bore cleaner)	MIL-PRF-372	Small arms, textiles, general
Degreasing Solvent Naphtha or Stoddard, dry cleaning, or D-Limonene solvent	MIL=PRF-680 (NATO #S-752, S-753, S-760)	Small arms, textiles, general, helicopters (parts)
Engine oil	MIL=PRF-2140, (NATO #)-1236/15W40), 40, 30 (NATO O-238), 10 W, 10 W (NATO-O-237,SCPL (equipment specific)	Small arms, textiles, general
Lubricant, semi-fluid, automatic weapons	MIL-L-46000 (NATO #O-158)	Small arms, textiles, general
Lubricating oil, general purpose, preservative (water displacing, low temperature)	MIL=PRF-32033 (NATO #O-190)	Small arms, textiles, general
Lubricant, cleaner, and preservative	MIL=PRF-63460 (CLP), (NATO #S-758)	Small arms, textiles, general
Gasoline, commercial, or combat	ASTM D910, Aviation Gasoline; ASTM D4814, Automatic spark ignition engine (Commercial and MOGAS) and others as indicated by test requirements.	Small arms, textiles, general
Aviation Turbine fuels, kerosene types	Aviation turbine fuel JP-8 (NATO F-34); NATO Grade F-24, ASTM D1655; Commercial fuel, Jet A, Jet A-1 and others as indicated by test requirements.	Small arms, textiles, general, helicopters (parts)
Diesel Fuel, (DL-1, DL-2, other Grades)	A-A-52557, ASTM D975, (NATO #F-54)	Small arms, textiles, general
Insect repellent, personal application	NSN 6840-01-284-3982, Creme, approx 32%	Small arms, textiles, general
Dexron III	NSN 9150-00-698-2382, Automatic Transmission Fluid, Commercial	Small arms, textiles, general
Antifreeze, Multi Engine Type, ethylene (I) or propylene glycol (II)	A-A-52624, ASTM D6210 Type I, ASTM D6211 Type II, (NATO #s-750)	Small arms, textiles, general
Water	Water (distilled). Used as baseline where applicable.	Small arms, textiles, general
Simulated sea water or 5% NaCl	ASTM D1141 or ASTM B117	Small arms, textiles, general
Decontamination agent STB	MIL-DTL-12468	Small arms, textiles, general
Lubricating oil, weapons, low temperature	MIL-PRF-14107 (LAW), (NATO #O-157)	Small arms, textiles, general
Hydraulic fluid, synthetic hydrocarbon base, aircraft, missile and ordnance	MIL-PRF-87257 (NATO #H-538) or MIL-PRF-83282 (NATO #H-537)	Small arms, textiles, general, helicopters (parts)

Table 49. Chemical information (continued)

Chemical	Source document	Possible uses
(OHA), others as indicated by test requirements.		
Hydraulic fluid, rust inhibited, phosphate based synthetic hydrocardon, fire-resistant	MIL-PRF-46170 (FRH, (NATO #H-544)	Small arms, textiles, general
Hydraulic fluid, petroleum based for preservation and operation (OHT)	MIL-PRF-6083, (NATO #635)	Small arms, textiles, general
DS-200 Decontaminating agent	NSN 6850-01-501-1044, Peroxide based	Small arms, textiles, general
Lubricating oils synthetic, Aircraft turbine engines, transmissions	MIL-PRF-23699, NATO #O-156; MIL-PRF-7808 (NATO O-152, O-154, O-156, O-167)	Aircraft (parts)
De-icers, Anti-Icing	Deicers-Aircraft: Ethylene or propylene glycol mixtures; US antifreeze: AA-52624A (NATO S-750), and others as indicated by test requirements.	Aircraft
Silicone based damping fluid (various viscosities, csts)	Dimethyl silicone (NATO S-1714)	Aircraft (parts)
Aircraft cleaners, aerospace, ground equipment/aircraft interior/exterior	MIL-PRF 87937, MIL-PRF-85570, MIL-C-87936, MIL-PRF-85704 or others as indicated	Small arms, textiles, general, aircraft (parts)
Other solvents	Denatured or Isopropyl alcohol (2-propanol), acetone, etc.	Aircraft (parts)
Deicing and antifreeze fluids	Deicers-Aircraft: Ethylene or propylene glycol mixtures; US antifreeze: AA-52624 (NATO S-750), and others as indicated by test requirements.	Aircraft (parts)
Runway deicers	Potassium-acetate based solution (Cryotech E-36 or other as indicated by test requirements).	Aircraft (parts)
Insecticides	Insecticides (Malathion or pyrethrin as indicated by test requirements).	Aircraft (parts)
Disinfectant (Heavy duty phenolics)	• Clear, soluble phenolics, e.g., phenol or its derivatives dissolved in a surfactant and diluted with water to give a clear solution. • Parachlorometaxylenol (EcoTru-1453, Aircraft Disinfectant or others as indicated by test requirements.	Aircraft (parts)
Coolant dielectric fluid	Polyalphaolefin (PAO) dielectric	Aircraft (parts)

Table 50. Rugged specific testing

Test Name	Test procedure	Semi-Rugged specifications	Fully-Rugged specifications
Vehicle vibration	ASTM D4169-09, Schedule E, Truck Assurance Level II	• 1 Hz - 200 Hz • 0.52 gm in all three axis	• 1 Hz - 200 Hz • 0.52 gm in all three axis

Table 50. Rugged specific testing (continued)

Test Name	Test procedure	Semi-Rugged specifications	Fully-Rugged specifications
		• 90 minutes per axis	• 90 minutes per axis • Operational test
Cold boot test	Custom - Cold Boot	• Cold soak for 8 hours (unit off), One cycle • Cold soak for 8 hours at varying temperatures (-18°C, -20°C, -23°C, -29°C) • System boot: Remove system from cold environment and begin boot process immediately.	• Cold soak for 8 hours (unit off), One cycle • Cold soak for 8 hours at varying temperatures (-18°C, -20°C, -23°C, -29°C) • System boot: Remove system from cold environment and begin boot process immediately.
Dust ingress protection	IEC 60529, IP-Xx	IP-5x • Complete protection against contact • Non-operating	IP-6x • No ingress of dust • Complete protection against contact • Non-operating

Thermal and acoustic improvements

The following table lists the thermal and acoustic improvements of your Precision 5490.

Table 51. Thermal and acoustic improvements

100% dual heat pipe	Increase the heat capacity to improve thermal dissipation.
Better computer tuning/setting	Get higher performance and a good user experience.
Pro-OS enhanced thermal setting (Dynamic PL1)	Increases boot-up time
Linear fan control	Fan speed ramp more smoothly for better user experience, no more significant acoustic changing
DDT SSD setting	Protecting the SSD device in high temperature and worse cases to prevent blue screen (BSOD)
IEC 60529 ingress protection: IP-54	• Dust protected • Protected against dripping water
Better thermal and acoustic perform balance control	Enhances the fan control algorithm for better user experience in daily work

System management features

Dell commercial systems come with a number of systems management options that are include by default for In-Band management with our Dell Client Command Suite. In-Band management meaning that the Operating System is functional and the device is connected to a network so that it can be managed. The Dell Client Command Suite of tools can be leveraged individually or with a systems management console like SCCM, LANDESK, KACE, etc.

We also offer Out-of-Band management as an option. Out-of-band management is when the system does not have a functional operating system or is turned off and you still want to be able to manage the system in that state.

Dell Client Command Suite for in-band systems management

Dell Client Command Suite is a free toolkit available for download, for all Latitude Rugged tablets at dell.com/support, that automates and streamlines systems management tasks, saving time, money, and resources. It consists of the following modules that can be used independently, or with a variety of systems management consoles such as SCCM.

Dell Client Command Suite's integration with VMware Workspace ONE Powered by AirWatch, now allows customers to manage their Dell client hardware from the cloud, using a single Workspace ONE console.

Dell Command | Deploy enables easy operating system (OS) deployment across all major OS deployment methodologies and provides numerous system-specific drivers that have been extracted and reduced to an OS-consumable state.

Dell Command I Configure is a graphical user interface (GUI) admin tool for configuring and deploying hardware settings in a pre-OS or post-OS environment, and it operates seamlessly with SCCM and Airwatch and can be self-integrated into LANDesk and KACE. Simply, this is all about the BIOS. Command I Configure allows you to remotely automate and configure over 150+ BIOS settings for a personalized user experience.

Dell Command I PowerShell Provider can do the same things as Command I Configure, but with a different method. PowerShell is a scripting language that allows customers to create a customized and dynamic configuration process.

Dell Command I Monitor is a Windows Management Instrumentation (WMI) agent that provides IT admins with an extensive inventory of the hardware and health-state data. Admins can also configure hardware remotely by using command line and scripting.

Dell Command | Update (end-user tool) is factory-installed and allows admins to individually manage and automatically present and install Dell updates to the BIOS, drivers, and software. Command I Update eliminates the time-consuming hunting and pecking process of update installation.

Dell Command I Update Catalog provides searchable metadata that allows the management console to retrieve the latest system-specific updates (driver, firmware or BIOS). The updates are then delivered seamlessly to end-users using the customer's systems management infrastructure that is consuming the catalog (like SCCM).

Dell Command | vPro Out of Band console extends hardware management to systems that are offline or have an un-reachable OS (Dell exclusive features).

Dell Command | Integration Suite for System Center - This suite integrates all the key components of the Client Command Suite into Microsoft System Center Configuration Manager 2012 and Current Branch versions.

Out-of-band systems management

Intel Standard Manageability option **must be configured in our factory at the time of purchase, as it is NOT field upgradable.** It offers out-of-band management and DASH compliance (https://registry.dmtf.org/registry/results/field_initiative_name%3A%22DASH%201.0%22).

4

ComfortView

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.

ComfortView mode can be enabled and configured using the Dell CinemaColor application.

ComfortView mode complies with TÜV Rheinland's requirement for low blue light displays.

Low blue light: Dell ComfortView software technology reduces harmful blue light emissions to make extended screen time easy on your eyes.

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 cm 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.

5

Dell Optimizer

This section details the Dell Optimizer specifications of your Precision 5490.

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

On Precision 5490 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, search for the Dell Optimizer User Guide at www.dell.com/support.

6

Color, material, and finish

This section details the color, material, and finish (CMF) specifications of your Precision 5490.

Table 52. CMF specifications

A Cover	• Aluminum + resin • Anodized Titan Gray/Apollo resin • Titan Gray 11+/-3 GU/Apollo MT11005
B Cover (nontouch)	• PC • UV Molding + CNC + Back Printing • Transparent, match to Apollo
B Cover (touch)	• Corning Gorilla Glass • Ion Exchange Chemical Hardening. Perimeter Cut/ Ground to Shape • Backside Mask PMS Black 6C + Backprint camera opening + Anti- Reflective Anti-Smudge Coating (ARAS) • >90 GU, High Polish

Table 52. CMF specifications (continued)

C Cover (palm rest)	• 3K Flat Tow Carbon Plain Weave with Insert Molded (Apollo, Resin) CNC Drilled Speaker Holes • Hybrid Molding + Painted (WB Basecoat + WB Soft touch Topcoat) + Drill Holes • Fiber Black Dark Velvet WPUST • 2+2/-1 GU
D Cover	• Aluminum + resin • NMT IM + Beadblast #120 + Anodize + laser etch regulatory artwork • Anodized Titan Gray/Rustic Pewter resin • Titan Gray 11+/-3 GU/Rustic MT11005

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

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Keyboard shortcuts of Precision 5490

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

Some keys on your keyboard have two symbols on them. These keys can be used to type alternate characters or to perform secondary functions. The symbol that is shown on the lower part of the key refers to the character that is typed out when the key is pressed. If you press shift and the key, the symbol that is 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 multimedia 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, multimedia functionality can be disabled by pressing **Fn** + **Esc**. Later, multimedia 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 53. List of keyboard shortcuts

Keyboard shortcut	Behavior
Copilot	Launch Copilot in Windows **NOTE:** If Copilot in Windows is not available on your computer, the Copilot key launches Windows Search. For more information about Copilot in Windows, search in the Knowledge Base Resource at www.dell.com/support.
F1	Mute audio
F2	Decrease volume
F3	Increase volume
F4	Play the previous track or chapter
F5	Play or Pause
F6	Play the next track or chapter
F8	Switch to external display
F9	Search
F10	Click keyboard backlight (optional). **NOTE:** Non-backlight keyboards have the F10 function key without the backlight icon and do not support the toggle keyboard backlight function. **NOTE:** Toggle to cycle the keyboard backlight status through off, low-backlight, and high-backlight.
F11	Decrease brightness
F12	Increase brightness

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

Table 54. 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
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 + 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 or on wireless
Fn + B	Pause or Break
Fn + Insert	Sleep
Fn + S	Toggle scroll lock
Fn + H	Toggle between power and battery-status light or hard drive activity light
Fn + R	System request
Fn + Ctrl	Open the application menu
Fn + Esc	Toggle Fn-key lock
Fn + PgUp	Page up
Fn + PgDn	Page down
Fn + Home	Home
Fn + End	End

8

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 55. Self-help resources

Self-help resources	Resource location
Information about Dell products and services	www.dell.com
Tips	
Contact Support	In Windows search, type `Contact Support`, and press Enter.
Online help for operating system	www.dell.com/support/windows www.dell.com/support/linux
Access top solutions, diagnostics, drivers and downloads, and learn more about your computer through videos, manuals, and documents.	Your Dell computer is uniquely identified using 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 www.dell.com/support. For more information about how to find the Service Tag for your computer, see Locate the Service Tag on your computer.
Dell knowledge base articles	1. Go to www.dell.com/support. 2. On the menu bar at the top of the Support page, select **Support** > **Support Library**. 3. In the Search field on the Support Library page, type the keyword, topic, or model number, and then click or tap the search icon to view the related articles.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.dell.com/contactdell.

NOTE: Availability of the services may vary depending on the country or region, and product.

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.