

# Dell Latitude 5290/5490/5590

Technical Guidebook



## 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.

© 2018 Dell Inc. or its subsidiaries. All rights reserved. Dell, EMC, and other trademarks are trademarks of Dell Inc. or its subsidiaries. Other trademarks may be trademarks of their respective owners.

# Contents

<b>1 Product View and Technical Specifications for Latitude 5290.....</b>	<b>5</b>
Features of Latitude 5290.....	5
Front and back view.....	6
Technical Specifications.....	7
<b>2 Product View and Technical Specifications of Latitude 5490.....</b>	<b>10</b>
Features of Latitude 5490.....	10
Front and back view.....	11
Technical Specifications.....	12
<b>3 Product View and Technical Specifications for Latitude 5590.....</b>	<b>15</b>
Features of Latitude 5590.....	15
Front and back view.....	16
Technical Specifications.....	17
<b>4 Marketing System Configurations.....</b>	<b>20</b>
Operating system configurations.....	20
Processor .....	20
Memory .....	20
Storage options- Latitude 5X90.....	21
<b>5 Engineering specifications.....</b>	<b>22</b>
System dimensions.....	22
Operating Conditions.....	23
Graphics options.....	23
Adapter options.....	24
Connectivity options.....	25
Wired communications.....	25
Wireless communications .....	25
Connectivity options: Mobile Broadband(optional).....	29
Camera option .....	32
Storage options.....	32
Security options .....	42
Hardware and Software Security.....	42
Security Options - Fingerprint Reader.....	43
Security Options –Dell ControlVault™ 2.0.....	43
Security Options – Contacted Smartcard Reader.....	44
Security options- Contactless Smartcard Reader.....	45
Ports and Connectors .....	46
Battery specifications.....	47
Keyboard specification.....	48
Keyboard specification for Latitude 5290.....	48
Keyboard specification for Latitude 5490.....	49



Keyboard specification for Latitude 5590.....	50
Touch pad specifications.....	51
Display specifications for Latitude 5290.....	52
Display specifications for Latitude 5490.....	52
Display specifications for Latitude 5590.....	54
<b>6 Getting help.....</b>	<b>56</b>
Contacting Dell.....	56



# Product View and Technical Specifications for Latitude 5290

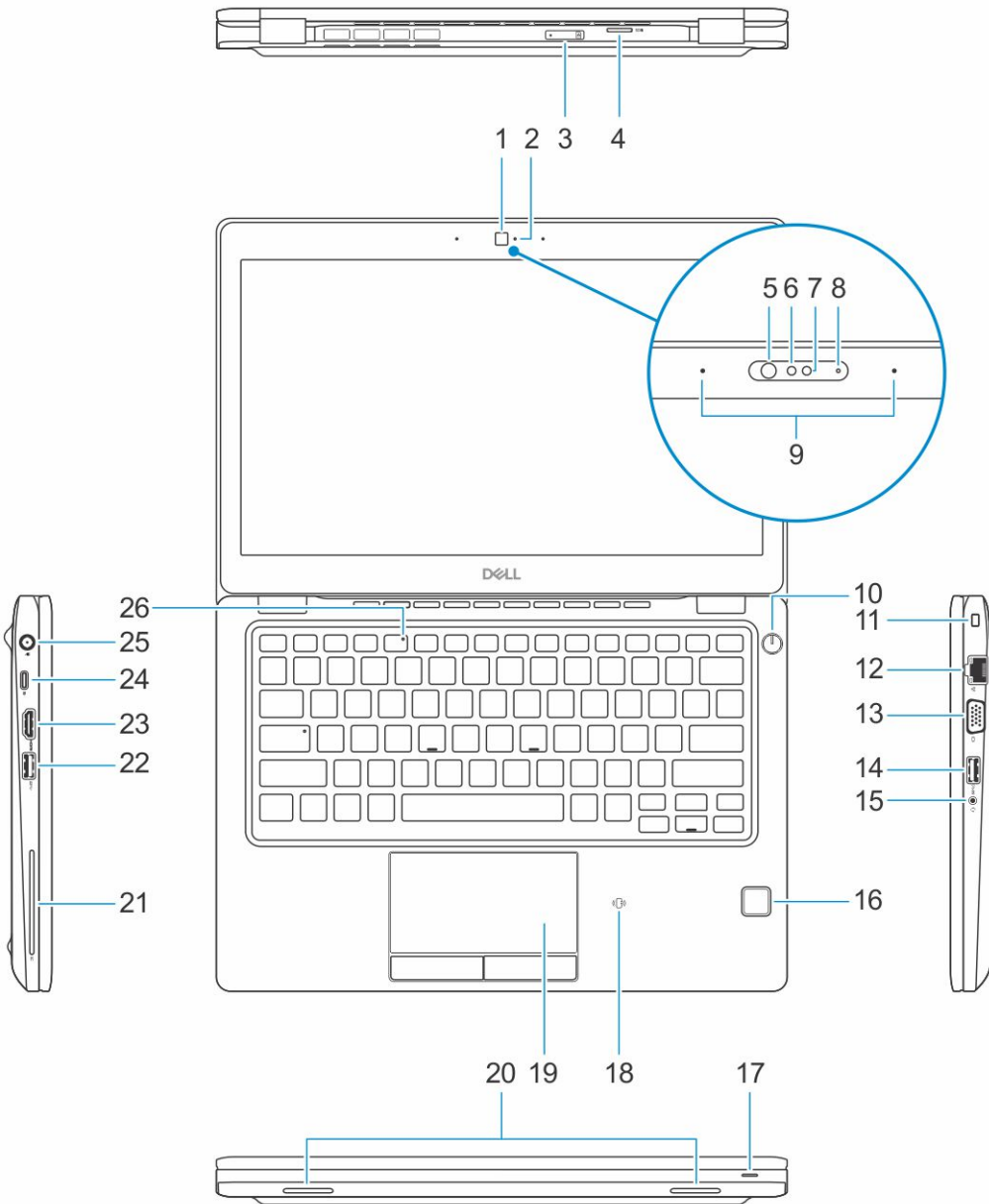
This chapter consists of the product view features along with technical specifications. The product view feature calls out the different ports, connectors and components available in the computer.

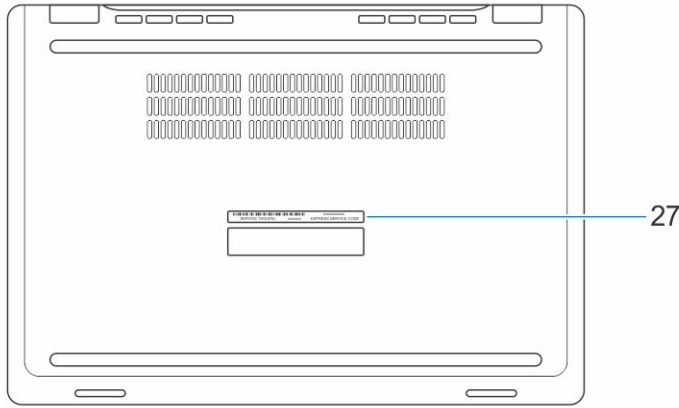
## Features of Latitude 5290

This topic calls out the different views of the computer along with the ports and components available in each view for Latitude 5290.



# Front and back view





- |    |                                  |    |                                     |
|----|----------------------------------|----|-------------------------------------|
| 1  | Camera                           | 2  | Camera status light                 |
| 3  | micro-SIM card slot (optional)   | 4  | microSD card reader                 |
| 5  | Infrared (IR) emitter (optional) | 6  | Infrared (IR) camera (optional)     |
| 7  | Camera (optional)                | 8  | Camera-status light (optional)      |
| 9  | Dual array microphones           | 10 | Power button/Power status LED       |
| 11 | Nobel Wedge lock slot            | 12 | Network port                        |
| 13 | VGA port                         | 14 | USB 3.1 Gen 1 port with PowerShare  |
| 15 | Headset/Microphone port          | 16 | Touch Fingerprint reader (optional) |
| 17 | Battery charge status light      | 18 | NFC sensor (optional)               |
| 19 | Touchpad                         | 20 | Speakers                            |
| 21 | Smartcard reader (optional)      | 22 | USB 3.1 Gen 1 port                  |
| 23 | HDMI port                        | 24 | DisplayPort over USB Type-C         |
| 25 | Power connector port             | 26 | Microphone status light             |
| 27 | Service Tag label                |    |                                     |

## Technical Specifications

This topics lists out the technical specifications for your computer.

**Table 1. Specifications**

Type	Feature
Model Number	Latitude 5290
Processor family	<ul style="list-style-type: none"> <li>8th Gen Intel Core Processors up to i7, U Quad Core</li> <li>7th Gen Intel Core Processors up to i5, U Dual Core</li> </ul>
Operating System	<ul style="list-style-type: none"> <li>Microsoft Windows 10 Pro 64 bit</li> <li>Mircosoft Windows 10 Home 64 bit</li> <li>Ubuntu 16.04 LTS 64-bit</li> </ul>
Memory	<ul style="list-style-type: none"> <li>DDR4 2400 MHz Non-EEC SDRAM operates at 2133 MHz with Intel 7th Gen processors</li> <li>DDR4 2400 MHz Non-ECC SDRAM operates at 2400 MHz with Intel 8th Gen processors</li> <li>2 slots supporting up to 32GB</li> </ul>



Chipset	Intel Kaby Lake (integrated with processor)
Graphics	<ul style="list-style-type: none"> <li>Intel HD Graphics 620 (7th Gen Intel Core)</li> <li>Intel UHD Graphics 620 (8th Gen Intel Core)</li> </ul>
Display	12.5 inch HD (1366 x 768) Anti-glare (16:9) WLED, 200 nits, non-touch, Carbon Fiber Reinforced Polymer LCD Back
Storage options	<ul style="list-style-type: none"> <li>HDD: up to 1 TB, Hybrid, OPAL SED options</li> <li>SSD M.2 2280 SATA: up to 512 GB, OPAL SED options</li> <li>SSD M.2 2230 PCIe/NVMe : up to 512GB</li> <li>SSD M.2 2280 PCIe x2 NVMe: up to 1 TB, OPAL SED options</li> <li>Dell Fast Response Free Fall Sensor and HDD Isolation (standard feature)</li> </ul>
Multimedia	<ul style="list-style-type: none"> <li>High Quality Speakers</li> <li>Headset/mic combo jack</li> <li>Noise reducing array microphones</li> <li>Optional HD, IR or no camera</li> <li>Skype For Business Certified</li> </ul>
Battery options	<ul style="list-style-type: none"> <li>3 cell, 42 WHr ExpressCharge Capable Battery</li> <li>3 cell, 51 WHr ExpressCharge Capable Battery</li> <li>4 cell, 68 WHr ExpressCharge Capable Battery</li> <li>4 cell Long Cycle Life Battery</li> </ul>
Power adapter	<ul style="list-style-type: none"> <li>65 W adapter, 7.4 mm barrel</li> <li>65 W BFR/PVC Halogen Free adapter, 7.4 mm barrel</li> <li>90 W adapter, 7.4 mm barrel</li> </ul>
Connectivity	<ul style="list-style-type: none"> <li>10/100/1000 Ethernet</li> <li>Wireless LAN Options: <ul style="list-style-type: none"> <li>Qualcomm QCA61x4A 802.11ac MU-MIMO Dual Band (2x2) Wireless Adapter+ Bluetooth 4.1</li> <li>Qualcomm® QCA6174A Extended Range 802.11ac MU-MIMO Dual Band (2x2) Wi-Fi + Bluetooth 4.1 LE</li> <li>Intel® Dual-Band Wireless-AC 8265 Wi-Fi + BT 4.2 Wireless Card (2x2). Bluetooth Optional</li> </ul> </li> <li>Optional Mobile Broadband Options: <ul style="list-style-type: none"> <li>Qualcomm Snapdragon X7 LTE-A (DW5811e) (EMEA/APJ/ROW)</li> <li>Qualcomm Snapdragon X7 LTE-A (DW5811e) for AT&amp;T, Verizon &amp; Sprint, US</li> <li>Qualcomm Snapdragon X7 HSPA+ (DW5811e) (Indonesia)</li> <li>Qualcomm Snapdragon X7 LTE-A (DW5816e) (Japan/ANZ/China/India)</li> </ul> </li> </ul>
Ports, Slots and Chassis	<ul style="list-style-type: none"> <li>2 USB 3.1 Gen 1 (one with PowerShare), HDMI 1.4, VGA</li> <li>RJ-45, external uSIM card tray option</li> <li>microSD 4.0 Memory card reader</li> <li>Headset/mic combo jack</li> <li>Optional Contacted SmartCard Reader and touch Fingerprint Reader</li> <li>Display Port over USB Type-C</li> <li>Noble Wedge Lock slot</li> </ul>
Security	<ul style="list-style-type: none"> <li>TPM 2.0 FIPS 140-2 Certified, TCG Certified</li> </ul>





- Optional Hardware Authentication Bundle 1: FIPS 201 Contacted Smart Card with Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification
- Optional Hardware Authentication Bundle 2: Touch Fingerprint Reader, FIPS 201 Contacted Smart Card, Contactless Smart Card, NFC, Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification
- Dell Client Command Suite
- Optional Dell Data Security and Management Software
  - Dell Data Protection | Endpoint Security Suite Enterprise
  - Dell Data Protection | Encryption (Enterprise or Personal Edition)
  - MozyPro, MozyEnterprise®
  - Dell Data Protection | Threat Defense
  - Dell Data Protection | Secure Lifecycle
  - RSA NetWitness Endpoint
  - VMware Airwatch
  - Absolute Data & Device Security
  - RSA SecurID Access17

Input device

- Single Pointing non-backlit Keyboard
- Single Pointing backlit Keyboard
- Microsoft Precision Touchpad

Docking

Dell Business Dock WD15 (optional, sold separately)

Dell Business Dock w/Monitor Stand DS1000 (optional, sold separately)



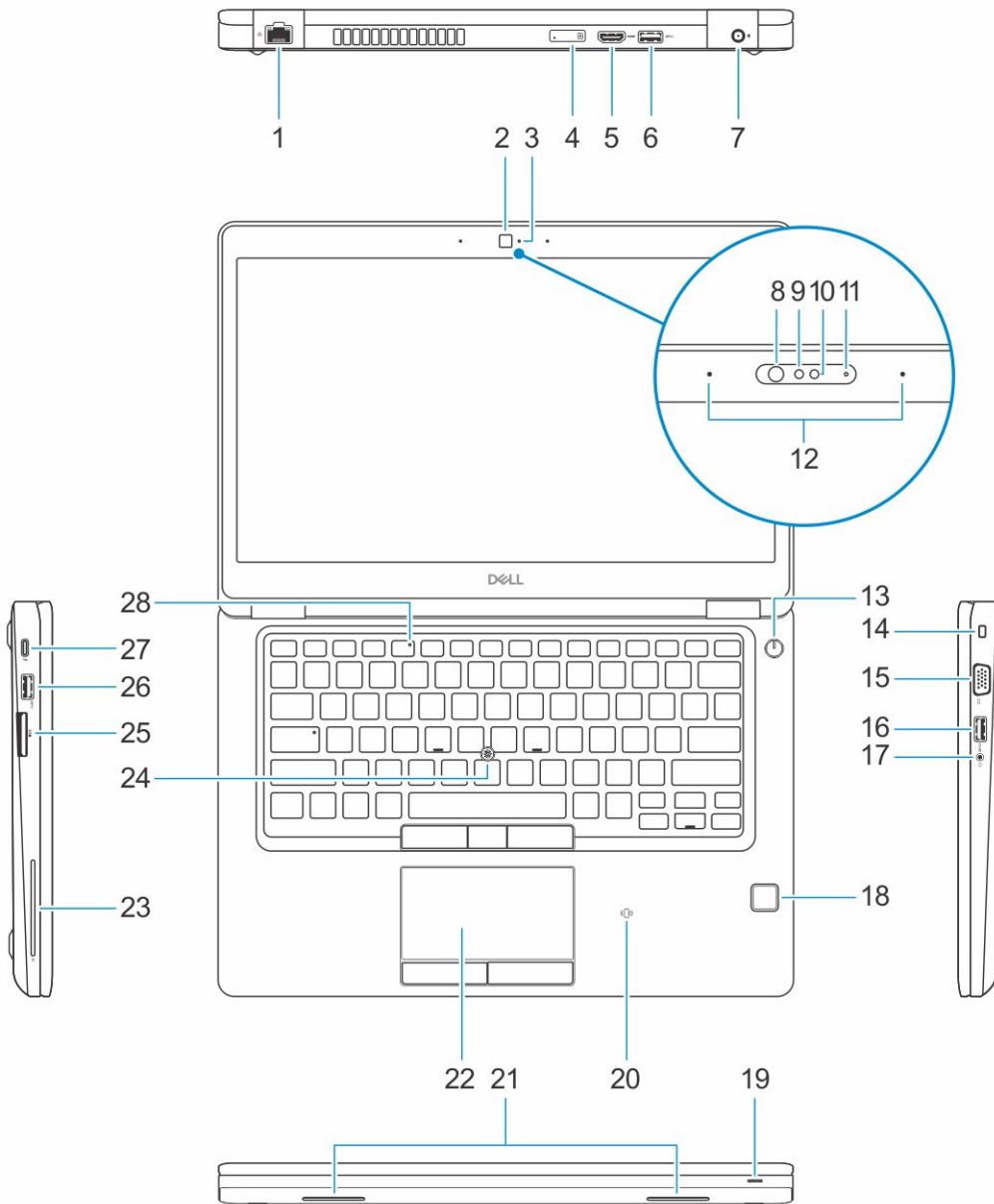
# Product View and Technical Specifications of Latitude 5490

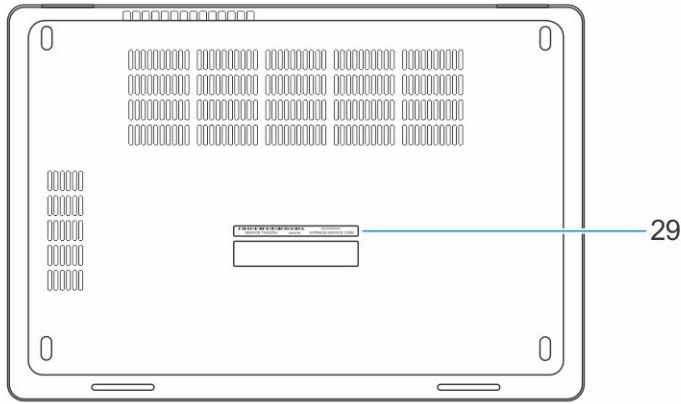
This chapter consists of the product view features along with technical specifications. The product view feature calls out the different ports, connectors and components available in the computer.

## Features of Latitude 5490

The features topics call out the different views of the computer along with the ports and components available in each view for Latitude 5490.

# Front and back view





- |    |                                 |    |                                     |
|----|---------------------------------|----|-------------------------------------|
| 1  | Network port                    | 2  | Camera                              |
| 3  | Camera status light             | 4  | uSIM card slot (optional)           |
| 5  | HDMI port                       | 6  | USB 3.1 Gen 1 port                  |
| 7  | Power connector port            | 8  | Infrared emitter (optional)         |
| 9  | Infrared (IR) camera (optional) | 10 | Camera (optional)                   |
| 11 | Camera-status light (optional)  | 12 | Dual array microphones              |
| 13 | Power button/Power status LED   | 14 | Nobel Wedge lock slot               |
| 15 | VGA port                        | 16 | USB 3.1 Gen1 port with PowerShare   |
| 17 | Headset/Microphone port         | 18 | Touch Fingerprint reader (optional) |
| 19 | Battery charge status light     | 20 | Contactless card reader (optional)  |
| 21 | Speakers                        | 22 | Touchpad                            |
| 23 | Smart card reader (optional)    | 24 | Pointstick (optional)               |
| 25 | SD card reader                  | 26 | USB 3.1 Gen 1 port                  |
| 27 | DisplayPort over USB Type-C     | 28 | Microphone status light             |
| 29 | Service tag label               |    |                                     |

## Technical Specifications

This topics lists out the technical specifications for your computer.

**Table 2. Specifications**

Type	Feature
Model Number	Latitude 5490
Processor family	<ul style="list-style-type: none"> <li>8th Gen Intel® Core™ Processors up to i7, U Quad Core</li> <li>7th Gen Intel® Core™ Processors up to i5, U Dual Core</li> </ul>
Operating System	<ul style="list-style-type: none"> <li>Microsoft® Windows 10 Pro 64 bit</li> <li>Mircosoft® Windows 10 Home 64 bit</li> <li>Ubuntu 16.04 LTS 64-bit</li> <li>NeoKylin 6.0 64 bit</li> </ul>
Memory	<ul style="list-style-type: none"> <li>DDR4 2400 MHz Non-EEC SDRAM operates at 2133 MHz with Intel 7th Gen processors</li> <li>DDR4 2400 MHz Non-ECC SDRAM operates at 2400 MHz with Intel 8th Gen processors</li> </ul>



- 2 slots supporting up to 32GB

---

#### Chipset

- Intel Kaby Lake (integrated with processor)

---

#### Graphics

- Intel® HD Graphics 620 – (integrated in Intel® 7th Core™ Processors)
- Intel® UHD Graphics 620 – (integrated in Intel® 8th Core™ Processors)
- NVIDIA GeForce® MX130, w/2GB GDDR5

---

#### Display

- 14.0" HD (1366 x 768) Anti-glare (16:9) WLED, 220 nits, non-touch, Carbon Fiber Reinforced Polymer LCD Back
- 14.0" FHD WVA (1920 x 1080) Anti-glare (16:9) WLED, 220 nits, non-touch, Carbon Fiber Reinforced Polymer LCD Back
- 14.0" FHD WVA (1920 x 1080) Embedded Touch Display with Truelife, 220 nits, Carbon Fiber Reinforced Polymer LCD Back

---

#### Storage options

- HDD: up to 1TB, Hybrid, OPAL SED options
- SSD M.2 2280 SATA: up to 512GB, OPAL SED options
- SSD M.2 2230 PCIe/NVMe : up to 512GB
- SSD M.2 2280 PCIe/NVMe: up to 1TB, OPAL SED options

---

#### Multimedia

- High Quality Speakers
- Headphone/Headset/Microphone combo jack
- Noise reducing array microphones
- Optional HD, IR or no camera
- Skype For Business Certified
- Windows10 (IR) face recognition — Windows Hello

---

#### Battery options

- 3 Cell 42Whr ExpressCharge™ Capable Battery (UMA only)
- 3 Cell 51Whr ExpressCharge™ Capable Battery
- 4 Cell 68Whr ExpressCharge™ Capable Battery
- 4 cell Long Cycle Life Battery

---

#### Power adapter

- 65W adapter, 7.4mm barrel
- 65W BFR/PVC Halogen Free adapter, 7.4mm barrel
- 90W adapter, 7.4mm barrel

---

#### Connectivity

Wireless LAN options:

- Qualcomm QCA61x4A 802.11ac MU-MIMO Dual Band (2x2) Wireless Adapter+ Bluetooth 4.1
- Qualcomm® QCA6174A Extended Range 802.11ac MU-MIMO Dual Band (2x2) Wi-Fi + Bluetooth 4.1 LE
- Intel® Dual-Band Wireless-AC 8265 Wi-Fi + BT 4.2 Wireless Card (2x2). Bluetooth Optional

Optional Broad band options:

- Qualcomm® Snapdragon™ X7 LTE-A (DW5811e) (EMEA/APJ/ROW)
- Qualcomm® Snapdragon™ X7 LTE-A (DW5811e) for AT&T, Verizon & Sprint, US
- Qualcomm® Snapdragon™ X7 HSPA+ (DW5811e) (Indonesia)
- Qualcomm® Snapdragon™ X7 LTE-A (DW5816e) (Japan/ANZ/China/India)

---

#### Ports, Slots and Chassis

- 3 USB 3.1 Gen 1 (one with PowerShare), HDMI 1.4 (UMA) / HDMI 2.0 (Discrete), VGA
- RJ-45, external uSIM card tray option



- SD 4.0 Memory card reader
- Headset/mic combo jack
- Optional Contacted SmartCard Reader and touch Fingerprint Reader
- Display Port over USB Type C™
- Noble Wedge Lock slot

---

Security

- TPM 2.0 FIPS 140-2 Certified, TCG Certified
- Optional Hardware Authentication Bundle 1: FIPS 201 Contacted Smart Card with Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification
- Optional Hardware Authentication Bundle 2: Touch Fingerprint Reader, FIPS 201 Contacted Smart Card, Contactless Smart Card, NFC, Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification
- Optional Hardware Authentication Bundle 4: Touch Fingerprint Reader, Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification
- Dell Client Command Suite
- Optional Dell Data Security and Management Software
- Dell Data Protection | Endpoint Security Suite Enterprise
- Dell Data Protection | Encryption (Enterprise or Personal Edition)
- MozyPro®, MozyEnterprise®
- Dell Data Protection | Threat Defense
- Dell Data Protection | Secure Lifecycle
- RSA NetWitness® Endpoint<sup>17</sup>
- VMware Airwatch®<sup>17</sup>
- Absolute Data & Device Security
- RSA SecurID Access<sup>17</sup>

---

Input device

Single Point non-backlit Keyboard

Dual Pointing backlit Keyboard

Microsoft Precision Touchpad

---

Docking

Dell Business Dock WD15 (optional, sold separately)

Dell Business Dock w/Monitor Stand DS1000 (optional, sold separately)



# Product View and Technical Specifications for Latitude 5590

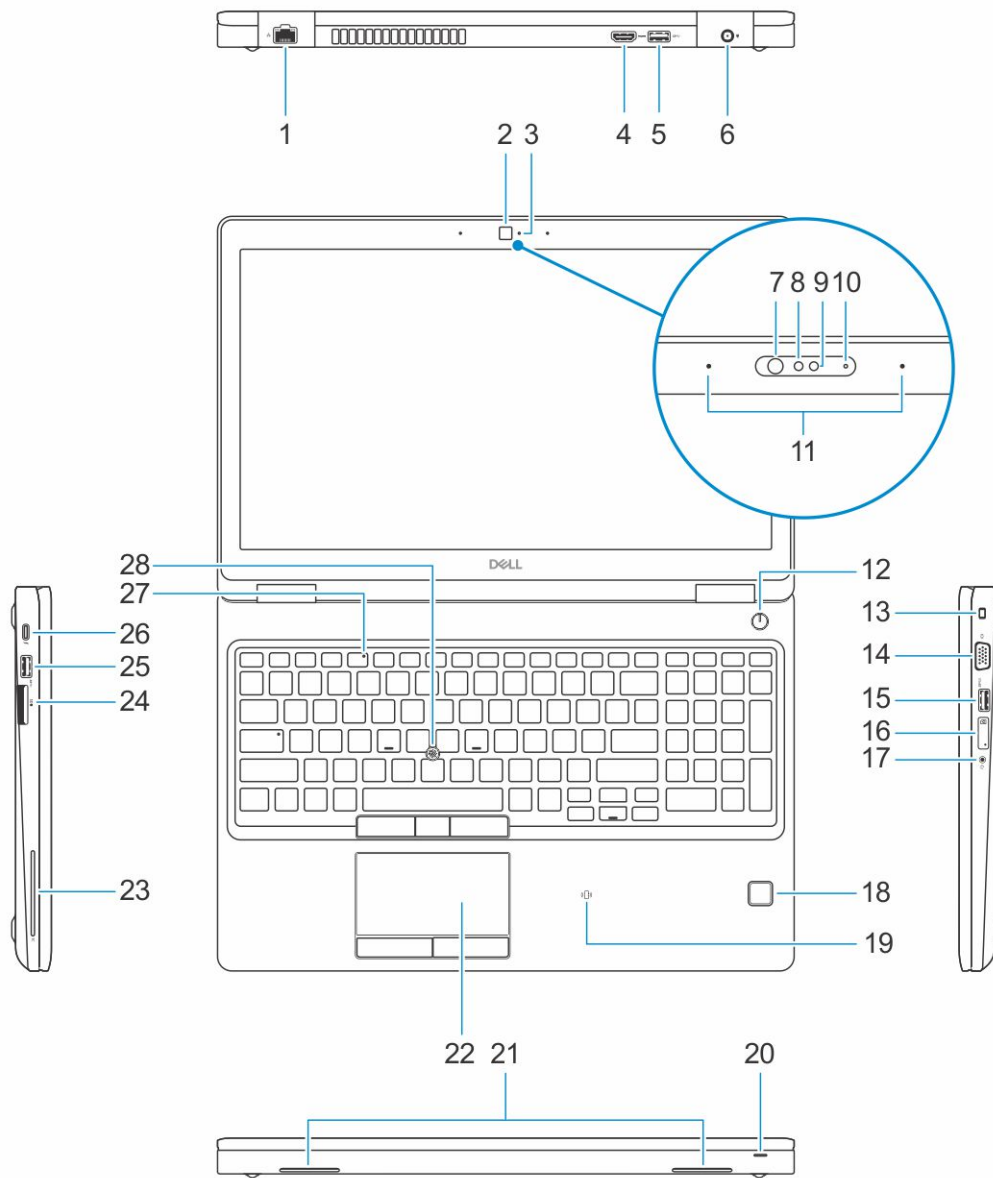
This chapter consists of the product view features along with technical specifications. The product view feature calls out the different ports, connectors and components available in the computer.

## Features of Latitude 5590

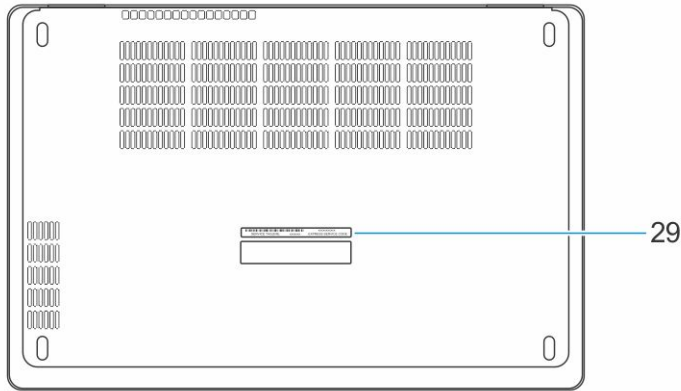
The features topics call out the different views of the computer along with the ports and components available in each view for Latitude 5590.



# Front and back view







- |    |                                    |    |                                     |
|----|------------------------------------|----|-------------------------------------|
| 1  | Network port                       | 2  | Camera                              |
| 3  | Camera status light                | 4  | HDMI port                           |
| 5  | USB 3.1 Gen 1 port                 | 6  | Power connector port                |
| 7  | Infrared (IR) emitter (optional)   | 8  | Infrared (IR) camera (optional)     |
| 9  | Camera (optional)                  | 10 | Camera status light (optional)      |
| 11 | Dual array microphones             | 12 | Power button/Power status light     |
| 13 | Nobel Wedge lock slot              | 14 | VGA port                            |
| 15 | USB 3.1 Gen 1 port with PowerShare | 16 | Micro SIM card slot (optional)      |
| 17 | Headset port                       | 18 | Touch Fingerprint reader (optional) |
| 19 | NFC sensor (optional)              | 20 | Battery charge status light         |
| 21 | Speakers                           | 22 | Touchpad                            |
| 23 | Smart card reader (optional)       | 24 | SD Card reader                      |
| 25 | USB 3.1 Gen1 port                  | 26 | DisplayPort over Type-C connector   |
| 27 | Microphone status light            | 28 | Pointstick (optional)               |
| 29 | Service tag label                  |    |                                     |

## Technical Specifications

This topics lists out the technical specifications for your computer.

**Table 3. Specifications**

Type	Feature
Model Number	Latitude 5590
Processor family	<ul style="list-style-type: none"> <li>8th Gen Intel® Core™ Processors up to i7, U Quad Core</li> <li>7th Gen Intel® Core™ Processors up to i5, U Dual Core</li> </ul>
Operating System	<ul style="list-style-type: none"> <li>Microsoft® Windows 10 Pro 64 bit</li> <li>Mircosoft® Windows 10 Home 64 bit</li> <li>Ubuntu 16.04 LTS 64-bit</li> </ul>
Memory	<ul style="list-style-type: none"> <li>DDR4 2400 MHz non ECC for 8th Gen processors</li> <li>DDR4 2133 MHz for 7th Gen processors</li> </ul> <p>2 SoDIMM slots; maximum memory– 32 GB</p>



Chipset	Intel Kaby Lake (integrated with the processor)
Intel Responsiveness Technologies	Intel Rapid Storage Technology
Graphics	<ul style="list-style-type: none"> <li>Intel® HD Graphics 620 (Integrated in Intel 7th core processors)</li> <li>Intel® UHD Graphics 620 (Integrated in Intel 8th core processors)</li> <li>NVIDIA GeForce® MX130, 2GB GDDR5</li> </ul>
Display	<ul style="list-style-type: none"> <li>15.6" HD (1366 x 768) Anti-glare (16:9) WLED, 220 nits, non-touch, Carbon Fiber Reinforced Polymer LCD Back</li> <li>15.6" FHD WVA (1920 x 1080) Anti-glare (16:9) WLED, 220 nits, non-touch, Carbon Fiber Reinforced Polymer LCD Back</li> <li>15.6" FHD WVA (1920 x 1080) Embedded Touch Display with Truelife, 220 nits, Carbon Fiber Reinforced Polymer LCD Back</li> </ul>
Storage options	<ul style="list-style-type: none"> <li>HDD: up to 1TB, Hybrid, OPAL SED options</li> <li>SSD M.2 2280 SATA: up to 512GB, OPAL SED options</li> <li>SSD M.2 2230 PCIe/NVMe : up to 512GB</li> <li>SSD M.2 2280 PCIe/NVMe: up to 1TB, OPAL SED options</li> </ul>
Multimedia	<ul style="list-style-type: none"> <li>High Quality Speakers</li> <li>Headphone/Headset/Microphone combo jack</li> <li>Noise reducing array microphones</li> <li>Optional HD, IR or no camera</li> <li>Skype For Business Certified</li> </ul>
Battery options	<ul style="list-style-type: none"> <li>3 Cell 42Whr ExpressCharge™ Capable Battery (UMA only)</li> <li>3 Cell 51Whr ExpressCharge™ Capable Battery</li> <li>4 Cell 68Whr ExpressCharge™ Capable Battery</li> <li>4 cell Long Cycle Life Battery</li> </ul>
Power adapter	<ul style="list-style-type: none"> <li>65W adapter, 7.4mm barrel</li> <li>65W BFR/PVC Halogen Free adapter, 7.4mm barrel</li> <li>90W adapter, 7.4mm barrel</li> </ul>
Connectivity	<p><b>Wireless LAN options:</b></p> <ul style="list-style-type: none"> <li>Qualcomm QCA61x4A 802.11ac MU-MIMO Dual Band (2x2) Wireless Adapter+ Bluetooth 4.1</li> <li>Qualcomm® QCA6174A Extended Range 802.11ac MU-MIMO Dual Band (2x2) Wi-Fi + Bluetooth 4.1 LE</li> <li>Intel® Dual-Band Wireless-AC 8265 Wi-Fi + BT 4.2 Wireless Card (2x2). Bluetooth Optional</li> </ul> <p><b>Optional Broad band options:</b></p> <ul style="list-style-type: none"> <li>Qualcomm® Snapdragon™ X7 LTE-A (DW5811e) (EMEA/APJ/ROW)</li> <li>Qualcomm® Snapdragon™ X7 LTE-A (DW5811e) for AT&amp;T, Verizon &amp; Sprint, US</li> <li>Qualcomm® Snapdragon™ X7 HSPA+ (DW5811e) (Indonesia)</li> <li>Qualcomm® Snapdragon™ X7 LTE-A (DW5816e) (Japan/ANZ/China/India)</li> </ul>
Ports, Slots and Chassis	<ul style="list-style-type: none"> <li>3 USB 3.1 Gen 1 (one with PowerShare), HDMI 1.4 (UMA)/ HDMI 2.0 (Discrete), VGA</li> <li>RJ-45, external uSIM card tray option</li> <li>SD 4.0 Memory card reader</li> <li>Headset/mic combo jack</li> </ul>



- Contacted SmartCard Reader and touch Fingerprint Reader(Optional)
- Display Port over USB Type C™
- Noble Wedge Lock slot

---

Security

- TPM 2.0 FIPS 140-2 certified, TCG certified.
- Bundle 1: FIPS 201 Contacted Smart Card with control vault 2.0 advanced authentication with FIPS 140-2 Level 3 certification (Optional)
- Bundle 2: Touch Fingerprint Reader, FIPS 201 Contacted Smart Card, Contactless Smart Card, NFC, Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification (Optional)
- Bundle 3: Touch FIPS 201 Fingerprint Reader, FIPS 201 Contacted Smart Card, Contactless Smart Card, NFC, Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification (Optional)

**Dell Client Command Suite (Optional)**

- Dell Data Protection | Endpoint Security Suite Enterprise
- Dell Data Protection | Encryption (Enterprise or Personal Edition)
- MozyPro®, MozyEnterprise®
- Dell Data Protection | Threat Defense
- Dell Data Protection | Secure Lifecycle
- RSA NetWitness® Endpoint
- VMware Airwatch®
- RSA SecurID Access
- Absolute Data & Device Security

---

Input device

Dual Pointing non-backlit Keyboard

Dual Pointing backlit Keyboard

Microsoft Precision Touchpad

---

Docking

Dell Business Dock WD15 (optional, sold separately)

Dell Business Dock w/Monitor Stand DS1000 (optional, sold separately)



# Marketing System Configurations

This chapter lists the operating system configurations supported in computer. It also lists the processor, memory, storage options available for this system. It will help the team in identifying whether a specific configuration is supported by the system.

## Operating system configurations

This topic lists the operating system supported by your system.

**Table 4. Operating systems**

Microsoft Windows	Microsoft® Windows 10 Pro 64 bit
	Mircosoft® Windows 10 Home 64 bit
Other	Ubuntu 16.04 LTS 64-bit
	NeoKylin 6.0 64 bit

## Processor

Your system is built with Intel Dual and Quad Core processors.

**Table 5. Processor specifications**

Processors Support List	UMA Graphics
Intel® Core™ i3-7130U (Dual Core, 3M Cache, 2.7GHz,15W)	Intel® HD Graphics 620
Intel® Core™ i5-7300U (Dual Core, 3M Cache, 2.6GHz,15W, vPro)	Intel® HD Graphics 620
Intel® Core™ i5-8250U (Quad Core, 6M Cache, 1.6GHz,15W)	Intel® UHD Graphics 620
Intel® Core™ i5-8350U (Quad Core, 6M Cache, 1.7GHz,15W, vPro)	Intel® UHD Graphics 620
Intel® Core™ i7-8650U ( Quad Core, 8M Cache, 1.9GHz,15W, vPro)	Intel® UHD Graphics 620

## Memory

Your computer supports a maximum of 32 GB of memory.

**Table 6. Memory specifications**

Minimum Memory Configuration	4 GB
Maximum Memory Configuration	32 GB
Number of slots	2 SoDIMM)
Maximum memory supported per slot	16 GB
Memory options	<ul style="list-style-type: none"> <li>• 4 GB — 1 x 4 GB</li> <li>• 8 GB — 1 x 8 GB</li> <li>• 8 GB — 2 x 4 GB</li> </ul>

- 16 GB — 2 x 8 GB
- 16 GB — 1 x 16 GB
- 32 GB — 2 x 16 GB

Type

DDR4

Speed

- 2400 MHz for 8th Gen Processor
- 2133 MHz for 7th Gen Processor

## Storage options- Latitude 5X90

Primary Storage		12" U	14" U	15" U
500GB 7200RPM HDD 2.5" 7mm		Yes <sup>a</sup>	Yes	Yes
1TB 5400RPM HDD 2.5" 7mm		Yes <sup>a</sup>	Yes	Yes
500GB HDD Hybrid 8GB 2.5" 7mm		Yes <sup>a</sup>	Yes	Yes
1TB HDD Hybrid 8GB 2.5" 7mm		Yes <sup>a</sup>	Yes	Yes
500GB 7200RPM OPAL SED FIPS 2.5" 7mm		Yes <sup>a</sup>	Yes	Yes
128GB SSD SATA M.2 2280	Class 20	Yes	Yes	Yes
256GB SSD SATA M.2 2280	Class 20	Yes	Yes	Yes
512GB SSD SATA M.2 2280	Class 20	Yes	Yes	Yes
512GB SSD OPAL SED M.2 SATA 2280	Class 20	Yes	Yes	Yes
128GB PCIe/NVMe SSD M.2 2230	Class 35	Yes	Yes	Yes
256GB PCIe/NVMe SSD M.2 2230	Class 35	Yes	Yes	Yes
512GB PCIe/NVMe SSD M.2 2230	Class 35	Yes	Yes	Yes
256GB PCIe/NVMe SSD M.2 2280	Class 40	Yes	Yes	Yes
512GB PCIe/NVMe SSD M.2 2280	Class 40	Yes	Yes	Yes
1TB PCIe/NVMe SSD M.2 2280	Class 40	Yes	Yes	Yes
256GB PCIe/NVMe OPAL SED M.2 2280	Class 40	Yes	Yes	Yes
512GB PCIe/NVMe OPAL SED M.2 2280	Class 40	Yes	Yes	Yes

### NOTE:

- <sup>a</sup> = not supported with 4 cell battery



## Engineering specifications

This chapter lists out the specification of each and every component in a comprehensive format. Specific features/models/configurations/options discussed in the document may or may not be available.

### System dimensions

This topic lists out the dimensions of the computer in detail.

**Table 7. System dimension for Latitude 5290**

Weight (pounds/kilogram)	Starting weight: 2.99 lbs. / 1.36 kg
Dimensions inches:	
Height	<ul style="list-style-type: none"> <li>· Front—19.4 mm (0.80 inch)</li> <li>· Back— 21.4 mm (0.90 inch)</li> </ul>
Width	305.1 mm (12.0 inches)
Depth	211.3 mm (8.30 inches)

**Table 8. System dimension for Latitude 5490**

		<b>Touch</b>
Weight (pounds/kilogram)		Start from 3.52 lb / 1.60 kg
Dimensions inches		
	Height	Touch system: <ul style="list-style-type: none"> <li>· Front – 20.3 mm (0.8 inch)</li> <li>· Back – 23.45mm (0.9 inch)</li> </ul> Non-touch system: <ul style="list-style-type: none"> <li>· Front – 20.3 mm (0.8 inch)</li> <li>· Back – 22.45 mm (0.9 inch)</li> </ul>
	Width	333.4 mm (13.1 inch)
	Depth	228.9 mm (9.0 inch)

**Table 9. System dimension for Latitude 5590**

		<b>Touch</b>
Weight (pounds/kilogram)		Start from 4.14 lbs / 1.88 kg
Dimensions inches		
	Height	<ul style="list-style-type: none"> <li>· Front – 23.25 mm (0.9 inch)</li> </ul>

		Touch
		<ul style="list-style-type: none"> <li>Back – 23.25 mm (0.9 inch)</li> </ul>
	Width	376.0 mm (14.8 inch)
	Depth	250.7 mm (9.9 inches)

**NOTE:** System weight and shipping weight is based on a typical configuration and may vary based on the actual configuration.

## Operating Conditions

This topics lists the operating conditions of your system.

**Table 10. Operating conditions**

Temperature Range	<ul style="list-style-type: none"> <li>Operating: 0 °C to 35 °C (32 °F to 95 °F)</li> <li>Storage: -40 °C to 65 °C (-40 °F to 149 °F)</li> </ul>
Relative humidity	<ul style="list-style-type: none"> <li>Operating : 10 % to 90 % (non-condensing)</li> <li>Storage: 0% to 95% (non-condensing)</li> </ul>
Altitude (maximum)	<ul style="list-style-type: none"> <li>Operating : 3048 m (10,000 ft)</li> <li>Storage: 10668 m (35,000 ft)</li> </ul>
Shock	<ul style="list-style-type: none"> <li>Operating: 160 G with pulse duration of 2 ms (equivalent to 80 in/sec)</li> <li>Storage: 160 G with pulse duration of 2 ms (equivalent to 80 in/sec)</li> </ul>
Vibration	<ul style="list-style-type: none"> <li>Operating: 0.66 Grms</li> <li>Storage: 1.33 Grms</li> </ul>

## Graphics options

This topic lists the graphic specifications.

**Table 11. Integrated Graphics specification**

Integrated Graphics Controller	Intel HD Graphics 620	Intel UHD Graphics 620
Model	Latitude 5290 / Latitude 5490 / Latitude 5590	Latitude 5290 / Latitude 5490 / Latitude 5590
Memory Interface	N/A (unified memory architecture)	N/A (unified memory architecture)
Graphics Level	i3/i5: GT2 (HD 620)	i5/i7: GT2 (UHD 620)
Display Support	On System: eDP (internal), HDMI 1.4 (UMA) / HDMI 2.0 (Discrete), VGA Via Optional Type-C Port: DisplayPort	On System: eDP (internal), HDMI 1.4 (UMA) / HDMI 2.0 (Discrete), VGA Via Optional Type-C Port: DisplayPort
Operating Systems Graphics/ Video API Support	DirectX 12, OpenGL 4.4	DirectX 12, OpenGL 4.4



Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or digital)	System ports: <ul style="list-style-type: none"> <li>• HDMI 1.4 (UMA): 4096x2160 @ 30 Hz, 24bpp</li> <li>• HDMI 2.0 (DSC): 4096x2160 @ 60 Hz, 24bpp</li> <li>• Analog: (VGA) system 1920x1200 @ 60Hz with 24-bit color depth</li> <li>• Max Digital: (DP 1.2 over Type-C Port) 4096x2304 @ 60Hz, 24bpp</li> </ul>	System ports: <ul style="list-style-type: none"> <li>• HDMI 1.4 (UMA): 4096x2160 @ 30 Hz, 24bpp</li> <li>• HDMI 2.0 (DSC): 4096x2160 @ 60 Hz, 24bpp</li> <li>• Analog: (VGA) system 1920x1200 @ 60Hz with 24-bit color depth</li> <li>• Max Digital: (DP 1.2 over Type-C Port) 4096x2304 @ 60Hz, 24bpp</li> </ul>
Numbers of Displays Supported	<ul style="list-style-type: none"> <li>• 3 display max with LCD, HDMI and plus 1 display for VGA or DP on type-C port</li> </ul>	<ul style="list-style-type: none"> <li>• 3 display max with LCD, HDMI and plus 1 display for VGA or DP on type-C port</li> </ul>

**Table 12. Discrete Graphics specification only for Latitude 5490 and Latitude 5590**

<b>Discrete Graphics Controller</b>	<b>NVIDIA GeForce® MX130, GDDR5</b>
Graphics Memory	2GB – GDDR5
Bus Type	Internal PCIe 3.0
Memory Interface	64-Bit
Estimated Maximum Power Consumption	25.3 W

## Adapter options

This topic lists the adapter specifications for your system.

**Table 13. AC Adapter**

<b>Wattage</b>	<b>E4 65W - 65 Watt AC Adapter</b>	<b>E4 65W BFR/PVC free</b>	<b>90W adapter, 7.4mm barrel</b>
Adapter Specifications			
System supportability	UMA/Discrete	UMA/Discrete	UMA/Discrete (upsell)
Input voltage	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC
Input current (max)	1.7 A	1.7 A	1.6 A
Input Frequency	50 Hz to 60 Hz	50 Hz to 60 Hz	50 Hz to 60 Hz
Output current	3.34 A (continuous)	3.34 A (continuous)	4.62 A (continuous)
Rated output voltage	19.5 VDC	19.5 VDC	19.5 VDC
Weight (kg)	0.23	0.29	0.32
Dimensions (HxWxD inches)	0.87 x 2.60 x 4.27	1.1 x 1.9 x 4.3	0.87 x 2.60 x 5.12
Temperature range:	0° to 40°C	0° to 40°C	0° to 40°C
Operating	32° to 104°F	32° to 104°F	32° to 104°F
Storage	-40° to 70°C -40° to 158°F	-40° to 70°C -40° to 158°F	-40° to 70°C -40° to 158°F





# Connectivity options

This chapter lists the supported connectivity options.

## Wired communications

### Network Adapter (NIC) — Intel

Intel i219LM Gigabit Ethernet Controller	Integrated on system board
External connector type	RJ-45
Data rates	10/100/1000 Mbps
Controller bus architecture	PCI-e V1.1x1
Power consumption (full operation per data rate connection speed)	WOL Disabled: DMW (LAN disabled using BIOS) No link (w/ WOLI: 0.13 mW (cable Disconnect) 10 Mbps Idle (w/ WOLI: 76 mW 100 Mbps Idle (w/ WOL): 169 mW
IEEE standards compliance	802.3, 802.3ab, 802.3u, 802.3 az
Boot ROM support	Support boot from PXE option ROM
Network transfer rate	Full duplex at 10, 100, or 1000 Mbps and half duplex at 10 or 100 Mbps
Operating temp/storage temp	0 °C to 85 °C / – 40°C to 125°C (storage)
Operating humidity	20% to 80% (non-condensing)
Operating System driver support	Linux, Win7, Win9, Win10
Manageability	WOL PXE
Manageability capabilities alerting	AMT 11 / DASH 1.1

## Wireless communications

**Table 14. Qualcomm QCA61x4A 802.11ac Dual Band (2x2) Wireless Adapter+ Bluetooth 4.1**

Host interface	M.2 2230 form factor (WiFi – PCIe, Bluetooth – USB)
Network standard	802.11a, 802.11b, 802.11g, 802.11n and 802.11ac, MU-MIMO RX
Wi-Fi Alliance Certifications	802.11a, 802.11b, 802.11g, WPA, WPA2, WMM
Operating Frequency Bands	2.4 GHz (802.11b/g/n) and 5 GHz (802.11a/n/ac)
Dual Diversity Antenna Switching	Dual diversity antenna switching for systems designed with main and auxiliary antennas  2x2 MIMO operation when in 802.11n mode with 2x2 or greater Access Point
Data Rate	802.11ac – Up to 867 Mbps; 802.11n - Up to 450 Mbps; 802.11a/g - Up to 54 Mbps



	802.11b - Up to 11 Mbps
Security Authentication EAP Methods	Open, Shared, WPA, WPA-PSK, WPA2, WPA2-PSK EAP-FAST, EAP-TLS, EAP-TTLS (MSCHAPv2), PEAPv0(EAP-MS-CHAPv2), PEAPv1(EAP-GTC)
Client Utility	Native Wi-Fi and Bluetooth Microsoft UI support
Software Support	Microsoft® WHQL certified for Windows® 7/8.1 and Windows® 10; Linux
Radio On/Off	Hardware and software on/off disables transmit and receive to comply with aviation in-flight restrictions
LED output	Wireless enable.
Roaming	Seamless roaming between 802.11a, 802.11b, 802.11b/g, 802.11n and 802.11ac access points
Wake On Wireless	Supported when using Magic Packet over the Air
Miracast (WiFi Display)	Supports WFA Miracast (WiFi Display) on Win8.1/10
Country Restrictions	All (except Tunisia)
Wireless PAN Standard	Dual-mode Bluetooth™ 4.1, BLE
Bluetooth Data rates	Up to 3Mbps
Bluetooth Operating Frequency Bands	2.4GHz
Transmission	FHSS (Frequency Hopping Spread Spectrum)
Bluetooth Data Encryption	128-bit encryption
Bluetooth Receive Sensitivity	-70dBm@BER≤0.1%
Temperature	Operating temperature 0° to +65° C Storage temperature of -45° to +70° C
Humidity	Up to 90%

**Table 15. Qualcomm QCA6174A Extended Range 802.11ac MU-MIMO Dual Band (2x2) Wi-Fi + Bluetooth 4.1 LE**

Attribute	Specification
Host interface	M.2 2230 form factor (WiFi- PCIe, Bluetooth - USB)
Network standard	802.11a, 802.11b, 802.11g, 802.11n and 802.11ac
11ac Wave2 feature	MU-MIMO RX
Wi-Fi Alliance Certifications	802.11a, 802.11b, 802.11g, WPA, WPA2, WMM, 11ac, Wifi-Direct, WMM-Power Save, WifiProtected Setup, Voice-Personal
Operating Frequency Bands	2.4 GHz (802.11b/g/n) and 5 GHz (802.11a/n/ac)

Attribute	Specification
Dual Diversity Antenna Switching	Dual diversity antenna switching for systems designed with main and auxiliary antennas 2x2 MIMO operation when in 802.11n mode with 2x2 or greater Access Point
Data Rate	802.11ac – Up to 867 Mbps; 802.11n - Up to 450 Mbps; 802.11a/g - Up to 54 Mbps  802.11b - Up to 11 Mbps
Receive Sensitivity	802.11ac: -59 dBm@ 400 Mbps; - 57dBm @ 866.7Mbps  802.11n/a: -67 dBm@ 300 Mbps ; -70 dBm @ 144.4Mbps  802.11g/a: -75 dBm@ 54 Mbps  802.11b: -85 dBm@ 11 Mbps
Security Authentication EAP Methods	Open, Shared, WPA, WPA-PSK, WPA2, WPA2-PSK  EAP-TLS, EAP-TTLS (MSCHAPv2), PEAPv0(EAP-MS-CHAPv2)
Client Utility	Native Wi-Fi and Bluetooth Microsoft UI support
Radio On/Off	Hardware and software on/off disables transmit and receive to comply with aviation in-flight restrictions
Roaming	Seamless roaming between 802.11a, 802.11b, 802.11b/g, 802.11n and 802.11ac access points
Wake On Wireless	Supported
Miracast (WiFi Display)	Supports Miracast (WiFi Display) on Win8.1/10
Wireless PAN Standard	Dual-mode Bluetooth™ 4.1, BLE
Bluetooth Data rates	Up to 3Mbps
Bluetooth Operating Frequency Bands	2.4GHz
Transmission	FHSS (Frequency Hopping Spread Spectrum)
Bluetooth Data Encryption	128-bit encryption
Bluetooth Receive Sensitivity	-70dBm@BER≤0.01% (EDR)  -100dBm@BER≤30.8% (LE nominal)
Temperature	Operating temperature -10° to +65° C  Storage temperature of -45° to +70° C
Humidity	Up to 90%



**Table 16. Intel® Dual Band Wireless-AC 8265 (Windstorm Peak) 802.11AC 2x2 Wi-Fi + BT 4.2 LE M.2 Wireless Card**

Host interface	M.2 2230 form factor (WiFi – PCIe, Bluetooth – USB)
Network standard	IEEE 802.11a/b/g/n/ac MU-MIMO RX
Wi-Fi Alliance Certifications	802.11a/b/g/n/ac, WPA, WPA2, WMM, WPS, Wi-Fi Direct
Operating Frequency Bands	2.4 GHz and 5 GHz
Dual Stream N	Support for two transmit and receive antennas enable better wireless at the same distance when compared to older 802.11a/b/g solutions.
Data Rate	Up to 867 Mbps
Power Consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Authentication Authentication Protocols Encryption Product Safety	WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA  PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2  64-bit and 128-bit WEP, 128-bit AES-CCMP  UL, C-UL, CB (IEC60950-1)
Management Capabilities Alerting	Support for Intel® AMT 11.x
Government Compliance	FIPS, FISMA
Client Utility	Intel® PRO/Set Wireless Software v19.0 and later.
Radio On/Off	Supported
Roaming	Supports seamless roaming between respective access points (802.11b, 802.11g, 802.11a/b/g, and 802.11a/b/g/n/ac)
Wake On Wireless	Supported
Wireless Display	Native Miracast support by Windows 10
Wireless PAN Standard	Dual Mode Bluetooth 4.2, BLE (HW ready, SW depends on OS, Windows 10 supports up to 4.1)
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 10
Bluetooth Data Encryption	128-bit encryption
Bluetooth Output Power	Power class 1
Temperature	Operating temperature 0° to +50° C (Full performance at shield temperatures up to 80° C)  Storage temperature of -40° to +70° C
Humidity	Up to 90% RH non-condensing (at temperatures of 25° C to 35° C)



## Connectivity options: Mobile Broadband(optional)

**Table 17. Connectivity options**

Connectivity Option	Regions	Carriers
Qualcomm Snapdragon X7 LTE (DW5811e) (EMEA/APJ/ROW)	APJ/EMEA/ROW, Except China, Indonesia	EMEA: generic (no SIM); APJ: generic (no SIM)
Qualcomm Snapdragon X7 HSPA+ (DW5811e) (Indonesia)	Indonesia	Generic (no SIM)
Qualcomm Snapdragon X7 LTE (DW5811e) for AT&T, Verizon & Sprint, US	US/Canada	US: AT&T, Verizon, Sprint; Canada: generic (no SIM)
Qualcomm Snapdragon X7 LTE-A (DW5816e) (Japan/ANZ/China/India)	Japan / ANZ /China / India	Docomo , KDDI,  Softbank, Telstra  Generic FW (GCF certified)

**Table 18. Qualcomm® Snapdragon™ X7 LTE-A (DW5811e) for AT&T, Verizon & Sprint, US**

Carrier	Verizon	AT&T	Sprint
Network	LTE CAT6	LTE CAT6	LTE CAT6
Speed (Downlink)	< 300 Mbps	< 300 Mbps	< 300 Mbps
Speed (Uplink)	< 50 Mbps	< 50 Mbps	< 50 Mbps
Fallback Network	NA	HSPA+	NA
Fallback Speed (Downlink)	NA	HSPA+ 42 Mbps	NA
Frequency Bands	Band 4, 13 LTE	Band 13 LTE Band 2, 4, 5, 17 and 7	Band 25, 26, 41 LTE
LTE/WWAN Antenna	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)
Operating System Support	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits
Host Interface	Supported both USB 3.1 Gen 1/ USB 2.0	Supported both USB 3.1 Gen 1/ USB 2.0	Supported both USB 3.1 Gen 1/ USB 2.0

**Table 19. Qualcomm® Snapdragon™ X7 HSPA+ (DW5811e) (Indonesia)**

Carrier	Generic	Indonesia
Network	HSPA+	HSPA+
Speed (Downlink)	< 100 Mbps	< 100 Mbps



Carrier	Generic	Indonesia
Speed (Uplink)	< 50 Mbps	< 50 Mbps
Fallback Network	HSPA+	HSPA+
Fallback Speed (Downlink)	HSPA+ 42 Mbps	HSPA+ 42 Mbps
Frequency Bands	Band 1, 2, 3, 4, 5, 8, HSPA+	Band 1, 2, 3, 4, 5, 8, HSPA+
SIM	Yes	Yes
LTE/WWAN Antenna	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)
Operating System Support	Windows 8.1, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 10, 32/64 bits
GNSS	Supports both autonomous GNSS (GPS + GLONASS) and assisted GNSS (A-GNSS)	Supports both autonomous GNSS (GPS + GLONASS) and assisted GNSS (A-GNSS)
Host Interface	USB 3.1 Gen 1/USB 2.0	USB 3.1 Gen 1/USB 2.0

**Table 20. Qualcomm® Snapdragon™ X7 LTE-A (DW5816e) (Japan/ANZ/China/India)**

Carrier	Docomo	KDDI	Softbank	Telstra	Generic
Network	HSPA+LTE CAT6	LTE CAT6	LTE CAT6	LTE CAT6	LTE CAT6
Speed (Downlink)	< 300 Mbps	< 300 Mbps	< 300 Mbps	< 300 Mbps	< 300 Mbps
Speed (Uplink)	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps
Fallback Network	HSPA+	NA	HSPA+	HSPA+	HSPA+
Fallback Speed (Downlink)	HSPA+ 42 Mbps	NA	HSPA+ 42 Mbps	HSPA+ 42 Mbps	HSPA+ 42 Mbps
Frequency Bands	LTE Band 1,3,19,21,28 UMTS Band 1, 9, 19	LTE Band 1,18,28,41	LTE Band 1,8,41 UMTS band 1,8	LTE Band 1,3,7,8, 28 UMTS Band 1, 5	LTE Band 1,3,5,7,8, 18,19,21,28,38,39,40,4 1 UMTS Band 1,5,6,8,9,19 TD- SCDMA Band 39
LTE/WWAN Antenna	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)
Operating System Support	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits
Host Interface	Supported both	Supported both	Supported both	Supported both	Supported both



Carrier	Docomo	KDDI	Softbank	Telstra	Generic
	USB 3.1 Gen 1/USB 2.0	USB 3.1 Gen 1/USB 2.0	USB 3.1 Gen 1/USB 2.0	USB 3.1 Gen 1/USB 2.0	USB 3.1 Gen 1/USB 2.0

**Table 21. Qualcomm Snapdragon X7 LTE (DW5811e)(EMEA/APJ/ROW)**

Carrier	Docomo	KDDI	Softbank	Telstra	Generic
Network	LTE CAT6	LTE CAT6	LTE CAT6	LTE CAT6	LTE CAT6
Speed (Downlink)	< 300 Mbps	< 300 Mbps	< 300 Mbps	< 300 Mbps	< 300 Mbps
Speed (Uplink)	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps
Fallback Network	HSPA+	NA	HSPA+	HSPA+	HSPA+
Fallback Speed (Downlink)	HSPA+ 42 Mbps	NA	HSPA+ 42 Mbps	HSPA+ 42 Mbps	HSPA+ 42 Mbps
Frequency Bands	LTE Band 1,3,19,21,28 UMTS Band 1, 9, 19	LTE Band 1,18,28,41	LTE Band 1,8,41 UMTS band 1,8	LTE Band 1,3,7,8, 28 UMTS Band 1, 5	LTE Band 1,3,5,7,8, 18,19,21,28,38,39,40,41 UMTS Band 1,5,6,8,9,19 TD-SCDMA Band 39
LTE/WWAN Antenna	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)
Operating System Support	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits
Host Interface	Supported both USB 3.1 Gen 1/USB 2.0	Supported both USB 3.1 Gen 1/USB 2.0	Supported both USB 3.1 Gen 1/USB 2.0	Supported both USB 3.1 Gen 1/USB 2.0	Supported both USB 3.1 Gen 1/USB 2.0

**NOTE:**

- SIM connector is 100% populated on PWA
- SIM feature support is tied only to (1) back cover with WWAN Antenna, and (2) Palmrest Chassis with SIM Tray Slot. Both of these decisions are at POS, not APOS.
- SIM Slot is not 100%, but tied to hinge up with WWAN antenna.
- WWAN antenna decision must be made at POS.
- No WLAN CUST kits



# Camera option

This topic lists out the detailed camera specifications for your system.

**Table 22. Camera specification**

Camera type	HD fixed focus
IR Camera	Optional
Sensor type	CMOS sensor technology
Resolution: Motion video	Up to 1280 X 720 (1 MP)
Resolution: Still image	Up to 1280 X 720 (1 MP)
Imaging rate	Up to 30 frames per second

**NOTE:** The system is offered with no camera in one of the configurations.

# Storage options

This topic lists out the detailed specifications of the supported SSD and HDD options.

**Table 23. 2.5" 500GB SATA 7200 RPM HDD**

## 2.5" 500GB SATA 7200 RPM HDD

Capacity (bytes)	500 GB
Dimensions inches (W x D x H)	Approximately (2.760 x 3.959 x 0.276 inches)
Interface type and maximum speed	Up to 6Gb/s (SATA 3.0)
MTTF	550,000 hours
Logical blocks	976,773,168

### Power Source

Power consumption (reference only)	Idle 0.7 W, Active 3.10 W
------------------------------------	---------------------------

### Environmental Operating Conditions (Non-Condensing):

Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2ms)	350G

### Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

**Table 24. 2.5" 1 TB SATA 5400 RPM HDD**

## 2.5" 1 TB SATA 5400 RPM HDD

Capacity (bytes)	1 TB
Dimensions inches (W x D x H)	Approximately (2.760 x 3.959 x 0.276 inches)





## 2.5" 1 TB SATA 5400 RPM HDD

---

Interface type and maximum speed	Up to 6Gb/s (SATA 3.0)
MTTF	550,000 hours
Logical blocks	1,953,525,168

### Power Source

Power consumption (reference only)	Idle 0.7 W, Active 3.10 W
------------------------------------	---------------------------

### Environmental Operating Conditions (Non-Condensing):

Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2ms)	350G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

**Table 25. 2.5" 500GB SATA 7200 RPM SED FIPs HDD**

## 2.5" 500GB SATA 7200 RPM SED FIPs HDD

---

Capacity (bytes)	500 GB
Dimensions inches (W x D x H)	100.35 +0.2/-0.25mm x 69.85 ± 0.25mm x 6.8 ± 0.2mm
Interface type and maximum speed	SATA 6.0Gbps
Internal buffer size	32 MB
Rotational Speed	7200 rpm
Logical blocks	
<b>Power Source</b>	
Power consumption (reference only)	Idle 0.7W, Active 3.10 W
Spin up current (reference only)	1000 mA
<b>Environmental Operating Conditions (Non-Condensing):</b>	
Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2ms)	350G
Environmental Non-Operating Conditions (Non-Condensing):	5 to 95%



**Table 26. 2.5" 500GB SATA 7200 RPM SED FIPs HDD****2.5" 500GB SATA 7200 RPM SED FIPs HDD**

Capacity (bytes)	500 GB
Dimensions inches (W x D x H)	100.35 +0.2/-0.25mm x 69.85 ± 0.25mm x 6.8 ± 0.2mm
Interface type and maximum speed	SATA 6.0Gbps
Internal buffer size	32 MB
Rotational Speed	7200 rpm
Logical blocks	
<b>Power Source</b>	Idle 0.7W, Active 3.10 W

**Table 27. 2.5" 500GB Hybrid 8GB (7mm)****2.5" 500GB Hybrid 8GB (7mm)**

Capacity (bytes)	500GB HDD HYBRID 8GB
Dimensions inches (W x D x H)	Approximately (2.760 x 3.959 x 0.276 inches)
Interface type and maximum speed	Up to 6Gb/s (SATA 3.0)
MTTF	550,000 hours
Logical Blocks	976,773,168

**Power Source**

Power Consumption (reference only)	Idle 0.7W, Active 3.10 W
------------------------------------	--------------------------

**Environmental Operating Conditions (Non-Condensing):**

Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@2ms)	350G

**Environmental Non-Operating Conditions (Non-Condensing):**

Temperature Range	-40°C to 65°C
Relative Humidity Range	5 to 95%

**Table 28. 2.5" 1TB Hybrid 8GB (7mm Only)****2.5" 1TB Hybrid 8GB (7mm Only)**

Capacity (bytes)	1TB HDD HYBRID 8GB
Dimensions inches (W x D x H)	Approximately (2.760 x 3.959 x 0.374 inches)
Interface type and maximum speed	Up to 6Gb/s (SATA 3.0)
MTTF	550,000 hours
Logical Blocks	1,953,525,168

**Power Source**

## 2.5" 1TB Hybrid 8GB (7mm Only)

Power Consumption (reference only) Idle 0.7W, Active 3.10 W

### Environmental Operating Conditions (Non-Condensing):

Temperature Range 5°C to 60°C

Relative Humidity Range 5 to 90%

Op Shock (@2ms) 350G

### Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range -40°C to 65°C

Relative Humidity Range 5 to 95%

**Table 29. 128GB M.2 2280 SATA Class 20 SSD**

### 128GB M.2 2280 SATA Class 20 SSD

Capacity (bytes)	128
Dimensions inches (W x D x H)	22 x 80 x 2.38
Interface type and maximum speed	Up to 6Gb/s (SATA 3.0)
MTTF	1.4M hours
Logical Blocks	250,069,680

### Power Source

Power Consumption (reference only) Idle 0.5W, Active 2.5W

### Environmental Operating Conditions (Non-Condensing):

Temperature Range 0°C to 70°C

Relative Humidity Range 10 to 90%

Non-Op Shock (@0.5ms) 1500G

### Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range -40°C to 70°C

Relative Humidity Range 5 to 95%

**Table 30. 256GB M.2 2280 SATA Class 20 SSD**

### 256GB M.2 2280 SATA Class 20 SSD

Capacity (bytes)	256
Dimensions inches (W x D x H)	22 x 80 x 2.38
Interface type and maximum speed	Up to 6Gb/s (SATA 3.0)
MTTF	1.4M hours
Logical Blocks	500,118,192



## 256GB M.2 2280 SATA Class 20 SSD

---

### Power Source

Power Consumption (reference only) Idle 0.5W, Active 2.5W

### Environmental Operating Conditions (Non-Condensing):

Temperature Range 0°C to 70°C

Relative Humidity Range 10 to 90%

Non-Op Shock (@0.5ms) 1500G

### Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range -40°C to 70°C

Relative Humidity Range 5 to 95%

**Table 31. 512GB M.2 2280 SATA Class 20 SSD**

## 512GB M.2 2280 SATA Class 20 SSD

---

Capacity (bytes) 512

Dimensions inches (W x D x H) 22 x 80 x 2.38

Interface type and maximum speed Up to 6Gb/s (SATA 3.0)

MTTF 1.4M hours

Logical Blocks 1,000,215,216

### Power Source

Power Consumption (reference only) Idle 0.5W, Active 2.5W

### Environmental Operating Conditions (Non-Condensing):

Temperature Range 0°C to 70°C

Relative Humidity Range 10 to 90%

Non-Op Shock (@0.5ms) 1500G

### Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range -40°C to 70°C

Relative Humidity Range 5 to 95%

**Table 32. 512GB M.2 2280 SATA Class 20 Opal 2.0 SED SSD**

## 512GB M.2 2280 SATA Class 20 Opal 2.0 SED SSD

---

Capacity (bytes) 512

Dimensions inches (W x D x H) 22 x 80 x 2.38

Interface type and maximum speed Up to 6Gb/s (SATA 3.0)

MTTF 1.4M hours

### 512GB M.2 2280 SATA Class 20 Opal 2.0 SED SSD

Logical Blocks	1,000,215,216
<b>Power Source</b>	
Power Consumption (reference only)	Idle 0.5W, Active 2.5W
<b>Environmental Operating Conditions (Non-Condensing):</b>	
Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Non-Op Shock (@0.5ms)	1500G
<b>Environmental Non-Operating Conditions (Non-Condensing):</b>	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

**Table 33. 128GB PCIe NVMe Class 35 SSD**

### 128GB PCIe NVMe Class 35 SSD

Capacity (bytes)	128
Dimensions inches (W x D x H)	22 x 30 x 2.38
Interface type and maximum speed	PCIe Gen3 8Gb/s (up to 2 lanes)
MTTF	1.4M hours
Logical Blocks	250,069,680
<b>Power Source</b>	
Power Consumption (reference only)	Idle 1.7W, Active 4.5W
<b>Environmental Operating Conditions (Non-Condensing):</b>	
Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Non-Op Shock (@0.5ms)	1500G
<b>Environmental Non-Operating Conditions (Non-Condensing):</b>	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

**Table 34. 256GB PCIe NVMe Class 35 SSD**

### 256GB PCIe NVMe Class 35 SSD

Capacity (bytes)	256
Dimensions inches (W x D x H)	22 x 30 x 2.38
Interface type and maximum speed	PCIe Gen3 8Gb/s (up to 2 lanes)



## 256GB PCIe NVMe Class 35 SSD

---

MTTF	1.4M hours
Logical Blocks	500,118,192

### Power Source

Power Consumption (reference only)	Idle 1.7W, Active 4.5W
------------------------------------	------------------------

### Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Non-Op Shock (@0.5ms)	1500G

### Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

**Table 35. 512 GB M.2 2230 PCIe NVMe Class 35 Solid State drive**

## 512 GB M.2 2230 PCIe NVMe Class 35 Solid State drive

---

Capacity (GB)	512 GB
Dimensions inches (W x D x H)	22.0 mm x 30.0 mm x 2.38 mm (W x D x H)
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 2 lanes)
MTTF	1.4M hours
Logical Blocks	1,000,215,216
Power Source	
Power Consumption (reference only)	Idle 1.7W, Active 4.5W

### Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Op Shock (@0.5ms)	1500G

### Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%



**Table 36. 256 GB M.2 2280 PCIe NVMe Class 40 OPAL SED SSD****512 GB M.2 2280 PCIe NVMe Class 40 OPAL Self-Encrypting drive - Solid State drive**

Capacity (GB)	512 GB
Dimensions inches (W x D x H)	22.0 mm x 80.0 mm x 2.38 mm (W x D x H)
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical Blocks	1,000,215,216
Power Source	
Power Consumption (reference only)	Idle 1.7W, Active 4.5W
<b>Environmental Operating Conditions (Non-Condensing):</b>	
Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Op Shock (@0.5ms)	1500G
<b>Environmental Non-Operating Conditions (Non-Condensing):</b>	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%

**Table 37. 512 GB M.2 2280 PCIe NVMe Class 40 OPAL SED SSD****512 GB M.2 2280 PCIe NVMe Class 40 OPAL Self-Encrypting drive - Solid State drive**

Capacity (GB)	512 GB
Dimensions inches (W x D x H)	22.0 mm x 80.0 mm x 2.38 mm (W x D x H)
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical Blocks	1,000,215,216
Power Source	
Power Consumption (reference only)	Idle 1.7W, Active 4.5W
<b>Environmental Operating Conditions (Non-Condensing):</b>	
Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Op Shock (@0.5ms)	1500G



**512 GB M.2 2280 PCIe NVMe Class 40 OPAL Self-Encrypting drive - Solid State drive****Environmental Non-Operating Conditions (Non-Condensing):**

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%

**Table 38. M.2 1TB PCIe NVMe Class 40 SSD****1 TB M.2 2280 PCIe NVMe Class 40 Solid State drive**

Capacity (GB)	1 TB
Dimensions mm (W x D x H)	22 x 80 x 3.73
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical Blocks	2,000,409,264
Power Source	
Power Consumption (reference only)	Idle 1.7W, Active 4.5W

**Environmental Operating Conditions (Non-Condensing):**

Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Op Shock (@0.5ms)	1500G

**Environmental Non-Operating Conditions (Non-Condensing):**

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%

**Table 39. 256GB M.2 2280 PCIe NVMeClass 40 SED SSD (Opal certified)****256GB M.2 2280 PCIe NVMeClass 40 SED SSD (Opal certified)**

Capacity (GB)	256
Dimensions mm (W x D x H)	22 x 80 x 3.73
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical Blocks	500,118,192
Power Source	
Power Consumption (reference only)	Idle 1.7W, Active 4.5W





## 256GB M.2 2280 PCIe NVMeClass 40 SED SSD (Opal certified)

---

### Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Op Shock (@0.5ms)	1500G

### Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%

**Table 40. 512GB M.2 2280 PCIe NVMeClass 40 SED SSD (Opal certified)**

## 512GB1 M.2 2280 PCIe NVMe Class 40 OPAL Self-Encrypting drive – Solid State drive

---

Capacity (GB)	256
Dimensions mm (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	PCIe Gen3 8Gb/s (up to 4 lanes)
MTTF	1.4M hours
Logical Blocks	1,000,215,216
Power Source	
Power Consumption (reference only)	Idle 1.7W, Active 4.5W

### Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10% to 90%
Op Shock (@0.5ms)	1500G

### Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%



# Security options

This topic lists the security information.

## Hardware and Software Security

<b>Hardware and Software Security</b>	<b>Latitude 5290</b>	<b>Latitude 5490</b>	<b>Latitude 5590</b>
FIPS 140-2 Certified TPM 2.0, TCG Certified	Yes	Yes	Yes
BIOS disable TPM (China/Russia)	Yes	Yes	Yes
Control Vault 2.0 Advanced Authentication with FIPS 140-2 level 3 certification (HW authentication configs)	Optional	Optional	Optional
Optional Hardware Authentication Bundle 1: FIPS 201 Contacted Smart Card with Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification	Yes	Yes	Yes
Optional Hardware Authentication Bundle 2: Touch Fingerprint Reader, FIPS 201 Contacted Smart Card, Contactless Smart Card, NFC, Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification	Yes	Yes	Yes
Optional Hardware Authentication Bundle 3: Touch FIPS 201 Fingerprint Reader, FIPS 201 Contacted Smart Card, Contactless Smart Card, NFC, Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification (15" only)	No	No	Yes
Optional Hardware Authentication Bundle 4: Touch Fingerprint Reader, Control Vault 2.0 Advanced Authentication with FIPS 140-2 Level 3 Certification (14" only)	No	Yes	No
Security lock slot (Noble Wedge Lock)	Yes	Yes	Yes
<b>Data Security and Management software</b>	<b>Latitude 5290/5490/5590</b>		
Dell Client Command Suite	Yes		
Optional Dell Data Security and Management Software	Yes		
Dell Endpoint Security Suite Enterprise	Yes		
Dell Data Guardian	Yes		
Dell Encryption (Enterprise or Personal)	Yes		
Dell Threat Defense	Yes		
MozyPro®, or MozyEnterprise®	Yes		
RSA NetWitness® Endpoint	Yes		
VMware Airwatch®	Yes		
RSA SecurID Access	Yes		
Absolute Data & Device Security	Yes		



## Security Options - Fingerprint Reader

Category	NEXT NB-2024-S2 / NB-2034-S2	Synaptics FM-191-001
Sensor Technology	Active Thermal	Capacitive
Sensor Resolution	385 dpi	385 dpi
Sensor Size	11.9mm x 11.9mm	10mm x 10mm
Sensor Pixel Size	180 x 180 pixels	144 x 144 pixels
Dell ControlVault™ support	No	No
Dell ControlVault™ 2.0 support	Yes	Yes
Connection to Dell ControlVault™ 2.0	SPI	SPI
Anti-spoofing	Yes	Yes
Template Storage	Dell ControlVault HW protected and encrypted	Dell ControlVault HW protected and encrypted
Match on Chip	Yes	Yes
FIPS 201 Certified	No	No

## Security Options –Dell ControlVault™ 2.0

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 associated with fingerprint readers and contacted or contactless smartcard readers

Title	Description	Dell ControlVault 2.0
CPU Technology	N/A	250Mhz ARM M3
RAM	N/A	512KB
ROM	N/A	256KB
TPM included	TPM enumeration included within ControlVault™	No
Host Interface	N/A	USB 2.0
Fingerprint Processing 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
FIPS 140-2 Level 3 Compliant	Device compliant with FIPS 140-3 Level 2 requirements	Yes
FIPS 140-2 Level 3 Certified	Device certified with FIPS 140-3 Level 2 requirements	Yes



Windows Certified	WHCK certified drivers for Windows 7, 8, 8.1, 10	Yes
Compliance	Selective Suspend Support, Connected Standby Support, Modern Standby Support	Supports Selective Suspend as defined by Microsoft requirements

## Security Options – Contacted Smartcard Reader

Title	Description	Dell ControlVault 2.0 Smartcard Reader
ISO 7816 -3 Class A Card Support	Reader capable of reading 5V powered smartcard	Yes
ISO 7816 -3 Class B Card Support	Reader capable of reading 3V powered smartcard	Yes
ISO 7816 -3 Class C Card support	Reader capable of reading 1.8V powered smartcard	No
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) smartcard standards as posted to <a href="http://www.emvco.com">www.emvco.com</a>	Yes
EMVCo Certified	Formally certified based on EMVCO smartcard 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 Microsoft WHCK	Yes
FIPS 201 (PIV/HSPD-12) Compliant via GSA	Device compliant with FIPS 201/PIV/HSPD-12 requirements	Yes
ISO 7816-1 Compliant -	Specification for the reader	Yes
ISO 7816 -2 Compliant -	Specification for smartcard device physical characteristics (size, location of connection points, etc.)	N/A
Dell ControlVault™ support	Device connects to Dell ControlVault™ for usage and processing	Yes

## Security options- Contactless Smartcard Reader

Type	Description	Dell ControlVault 2 Contactless Smartcard Reader with NFC
Felica Card Support	Reader and software capable of supporting Felica contactless cards	Yes
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
EMVCo Compliant	Compliant with EMVCO smartcard standards as posted to <a href="http://www.emvco.com">www.emvco.com</a>	Yes
EMVCo Certified	Formally certified based on EMVCO smartcard standards	Yes
NFC Proximity OS Interface	Enumerates NFP (Near Field Proximity) device for OS to utilize	Yes <sup>1</sup>
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



Host Interface	What physical interface is the reader connected to the host on?	USB
Windows Certified	Device certified by Microsoft WHCK	Yes
Dell ControlVault™ support	Device connects to Dell ControlVault™ for usage and processing	Yes

## Supported Cards

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

## Ports and Connectors

**Table 41. Ports and Connectors**

USB	For 5290: Two USB 3.1 Gen 1 (one with PowerShare) For 5490 and 5590: Three USB 3.1 Gen 1 (one with PowerShare)
Video	One VGA, HDMI 1.4 (UMA) / HDMI 2.0 (Discrete)
Network	One RJ-45

Modem	NA
Expansion	For 5290: microSD Memory card reader For 5490 and 5590: SD 4.0 Memory card reader
Smart Card Reader	Yes (optional)
Touch Fingerprint Reader	Yes (optional)
Contactless card reader	Yes (optional)
Audio	Universal Audio JAck High Quality Speakers Noise reducing array microphones Volume control buttons, supports hot-key keyboard button
Docking	Display Port over USB Type C™ Noble Wedge Lock slot

## Battery specifications

This topics lists out the detailed battery specifications.

**Table 42. Battery specifications**

	42 WHr	51 WHr	68 WHr	4 cell Long Cycle Life Battery
Battery Type	Li-ion/Prismatic	Li-ion/Polymer	Li-ion/Polymer	Li-polymer
Dimension:				
Length	181mm (7.126")	181mm (7.126")	233mm (9.17")	233mm (9.17")
Width	95.9mm (3.78")	95.9mm ( 3.78")	95.9mm ( 3.78")	95.9mm ( 3.78")
Height	7.05mm (0.28")	7.05mm (0.28")	7.05mm (0.28")	7.05mm (0.28")
Weight	210.00 g	250.00 g	340.00 g	340.00 g
Voltage	11.4VDC	11.4VDC	7.6VDC	7.6VDC
Typical Amp-hour capacity	3.684Ahr	4.473Ahr	8.947Ahr	8.947Ahr
Typical Watt-hour capacity	42 Whr	51 Whr	68 Whr	68 Whr
Operating time	<ul style="list-style-type: none"> <li>0°C to 35°C (32°F to 95°F)</li> <li>Charge: 0 °C to 50 °C (32 °F to 122 °F)</li> <li>Discharge: 0 °C to 70 °C (32 °F to 158 °F)</li> </ul>	<ul style="list-style-type: none"> <li>0°C to 35°C (32°F to 95°F)</li> <li>Charge: 0 °C to 50 °C (32 °F to 122 °F)</li> <li>Discharge: 0 °C to 70 °C (32 °F to 158 °F)</li> </ul>	<ul style="list-style-type: none"> <li>0°C to 35°C (32°F to 95°F)</li> <li>Charge: 0 °C to 50 °C (32 °F to 122 °F)</li> <li>Discharge: 0 °C to 70 °C (32 °F to 158 °F)</li> </ul>	<ul style="list-style-type: none"> <li>0°C to 35°C (32°F to 95°F)</li> <li>Charge: 0 °C to 50 °C (32 °F to 122 °F)</li> <li>Discharge: 0 °C to 70 °C (32 °F to 158 °F)</li> </ul>
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			
Temperature range: Non-Operating	-20 °C to 65 °C (-4 °F to 149 °F )			



	42 WHr	51 WHr	68 WHr	4 cell Long Cycle Life Battery
Charging time ( ExpressCharge )	0~15degC: 4 hour, 16~45degC: 2 hours, 46~60degC: 3 hours			
ExpressCharge Capable	Yes	Yes	Yes	No
BATTMAN Capable	Yes			

## Keyboard specification

### Keyboard specification for Latitude 5290

**Table 43. Keyboard specifications**

Number of keys	82 (US), 83 (UK), 84 (BZ), 86 (JP)
Size	Full sized X= 18.05 mm key pitch Y= 18.05 mm key pitch
Backlit keyboard option	Yes (optional)

### Keyboard hot key definitions for Latitude 5290

**Table 44. Keyboard hot key definitions**

Fn Key Combination	Function
Fn+ESC	Fn Toggle
Fn+ F1	Speaker Mute
Fn + F2	Volume Down
Fn + F3	Volume Up
Fn + F4	Mic Mute
Fn + F6	Scroll Lock
Fn + F8	Display Toggle (Win + P)
Fn + F9	Search
Fn + F10	Increase Keyboard Backlight Brightness
Fn + F11	Print Screen
Fn + F12	Insert
Fn + Home	Toggle Wireless On/Off
Fn + End	Sleep
Fn + Up cursor	Brightness increase
Fn + down cursor	Brightness decrease



FnKey Mode:

Standard = The F1-F12 keys behave as function keys. Holding <Fn> is required to access their secondary functions.

## Keyboard specification for Latitude 5490

**Table 45. Keyboard specifications**

Number of keys	82 (US), 83 (UK), 84 (BZ), 86 (JP)
Size	Full sized X= 19.05 mm key pitch Y= 19.05 mm key pitch
Backlit keyboard option	Yes (optional)

## Keyboard hot key definitions for Latitude 5490

**Table 46. Keyboard hot key definitions**

Fn Key Combination	Function
Fn+ESC	Fn Toggle
Fn+ F1	Speaker Mute
Fn + F2	Volume Down
Fn + F3	Volume Up
Fn + F4	Mic Mute
Fn + F5	Num Lock
Fn + F6	Scroll Lock
Fn + F8	Display Toggle (Win + P)
Fn + F9	Search
Fn + F10	Keyboard backlight on/off
Fn + F11	Brightness down
Fn + F12	Brightness up
Fn + Insert	Sleep
Fn + Print Screen	Wireless on/off
Fn + left arrow	Home



Fn + right arrow	End
------------------	-----

FnKey Mode:

Standard = The F1-F12 keys behave as function keys. Holding <Fn> is required to access their secondary functions.

## Keyboard specification for Latitude 5590

**Table 47. Keyboard specifications**

Number of keys	82 (US), 83 (UK), 84 (BZ), 86 (JP)
Size	X= 19.05 mm key pitch Y= 18.05 mm key pitch
Backlit keyboard option	NA

## Keyboard hot key definitions for Latitude 5590

**Table 48. Keyboard hot key definitions**

Fn Key Combination	Function
Fn+ESC	Fn Toggle
Fn+ F1	Speaker Mute
Fn + F2	Volume Down
Fn + F3	Volume Up
Fn + F4	Mic Mute
Fn + F5	Num Lock
Fn + F6	Scroll Lock
Fn + F8	Display Toggle (Win + P)
Fn + F9	Search
Fn + F10	Keyboard backlight on/off
Fn + F11	Brightness down
Fn + F12	Brightness up
Fn + Insert	Sleep
Fn + Print Screen	Wireless on/off



Fn + left arrow	Home
Fn + right arrow	End

FnKey Mode:

Standard = The F1-F12 keys behave as function keys. Holding <Fn> is required to access their secondary functions.

# Touch pad specifications

**Table 49. Touch Pad specifications**

Dimensions	Width: 101.7mm Height: 55.2mm
Interface	Inter-Integrated Circuit
Multi-Touch	Support 4 fingers

**Table 50. Supported gestures**

Supported Gestures	Windows 10
Cursor moving	Supported
Clicking/ tapping	Supported
Click and drag	Supported
2-finger scroll	Supported
2-finger Pinch/ Zoom	Supported
2-finger tap (Right Clicking)	Supported
3-finger tap (Invoke Cortana)	Supported
3-finger swipe up (See all open windows)	Supported
3-finger swipe down (Show the desktop)	Supported
3-finger swipe right or left (Switch between open windows)	Supported
4-finger tap (Invoke Action Center)	Supported
4-finger swipe right or left (Switch virtual desktops)	Supported



# Display specifications for Latitude 5290

This topics lists out the detailed display specifications.

**Table 51. Display specifications**

Specifications	<b>12.5 inches HD (1366 x 768) Anti-glare (16:9) WLED, 200 nits, Carbon Fiber Reinforced Polymer LCD Back</b>
Type	HD Anti-Glare
Luminance/Brightness (typical)	200nits
Dimension: Height x Weight X Diagonal	155.52 mm x 276.62 mm x 12.5 inches
Native Resolution	1366 x 768
Megapixels (millions of pixels)	1.05
Pixels per Inch (PPI)	125
Contrast Ratio (typical)	300:1
Refresh Rate	60 Hz
Horizontal Viewing Angle	+/- 40 degrees
Vertical Viewing Angle	+ 10/- 30 degrees
Pixel Pitch	0.2025 mm
Power Consumption (max)	2.9 W

# Display specifications for Latitude 5490

This topics lists out the detailed display specifications.

**Table 52. 14.0" FHD WVA (1920 x 1080) Anti-glare (16:9) WLED, 220 nits, Carbon Fiber Reinforced Polymer LCD Back**

	<b>14.0" FHD WVA (1920 x 1080) Anti-glare (16:9) WLED, 220 nits, Carbon Fiber Reinforced Polymer LCD Back</b>
Type	FHD AG
Luminance/Brightness (typical)	220 nits
Diagonal	14.0 inch
Native Resolution	1920x1080
Megapixels (millions of pixels)	2.07
Pixels per Inch (PPI)	157
Contrast Ratio (typical)	700:1
Response Time (typ)	35 msec black to white
Refresh Rate	60 Hz
Horizontal Viewing Angle	+85/- 85 degrees
Vertical Viewing Angle	+85/-85 degrees
Pixel Pitch	0.161 mm
Power Consumption (max)	2.85 W



**Table 53. 14.0" HD (1366 x 768) Anti-glare (16:9) WLED, 220 nits, Carbon Fiber Reinforced Polymer LCD Back**

	<b>14.0" HD (1366 x 768) Anti-glare (16:9) WLED, 220 nits, Carbon Fiber Reinforced Polymer LCD Back</b>
Type	HD Anti-Glare
Luminance/Brightness (typical)	220 nits
Diagonal	14.0 inch
Native Resolution	1366 x 768
Megapixels (millions of pixels)	1.05
Pixels per Inch (PPI)	112
Contrast Ratio (typical)	400:1
Response Time (typ)	25 msec rise/fall
Refresh Rate	60 Hz
Horizontal Viewing Angle	+/- 40 degrees
Vertical Viewing Angle	+10/-30 degrees
Pixel Pitch	0.2265 mm
Power Consumption (max)	3.0 W

**Table 54. 14.0" FHD WVA (1920 x 1080) Embedded Touch Display with Truelife (OTP Lite), 220 nits, Carbon Fiber Reinforced Polymer LCD Back**

	<b>14.0" FHD WVA (1920 x 1080) Embedded Touch Display with Truelife (OTP Lite), 220 nits, Carbon Fiber Reinforced Polymer LCD Back</b>
Type	FHD touch
Luminance/Brightness (typical)	220 nits
Diagonal	14.0 inch
Native Resolution	1920 x 1080
Megapixels (millions of pixels)	2.07
Pixels per Inch (PPI)	157
Contrast Ratio (typical)	700:1
Response Time (typ)	35 msec rise/fall
Refresh Rate	60 Hz
Horizontal Viewing Angle	+85/- 85 degrees
Vertical Viewing Angle	+85/- 85 degrees
Pixel Pitch	0.161 mm
Power Consumption (max)	4.4



# Display specifications for Latitude 5590

This topics lists out the detailed display specifications.

**Table 55. 15.6" FHD WVA (1920 x 1080) Anti-glare (16:9) WLED, 220 nits, Carbon Fiber Reinforced Polymer LCD Back**

	<b>15.6" FHD WVA (1920 x 1080) Anti-glare (16:9) WLED, 220 nits, Carbon Fiber Reinforced Polymer LCD Back</b>
Type	FHD Anti-Glare
Luminance/Brightness (typical)	220nits
Diagonal	15.6 inch
Native Resolution	1920x1080
Megapixels (millions of pixels)	2.07
Pixels per Inch (PPI)	157
Contrast Ratio (typical)	600:1
Response Time (typ)	35 msec black to white
Refresh Rate	60 Hz
Horizontal Viewing Angle	+80/- 80 degrees
Vertical Viewing Angle	+80/-80 degrees
Pixel Pitch	0.161 mm
Power Consumption (max)	4.2 W

**Table 56. 15.6" HD WVA (1366x 768) Anti-glare (16:9) WLED, 220 nits, Carbon Fiber Reinforced Polymer LCD Back**

	<b>15.6" HD (1366 x 768) Anti-glare (16:9) WLED, 220 nits, Carbon Fiber Reinforced Polymer LCD Back</b>
Type	HD Anti-Glare
Luminance/Brightness (typical)	220nits
Diagonal	15.6 inch
Native Resolution	1366 x 768
Megapixels (millions of pixels)	1.05
Pixels per Inch (PPI)	112
Contrast Ratio (typical)	300:1
Response Time (typ)	25 msec rise/fall
Refresh Rate	60 Hz
Horizontal Viewing Angle	+/- 40 degrees
Vertical Viewing Angle	+10/-30 degrees
Pixel Pitch	0.2265 mm
Power Consumption (max)	3.0 W



**Table 57. 15.6" FHD WVA (1920 x 1080) Embedded Touch Display with Truelife (OTP Lite), 220 nits, Carbon Fiber Reinforced Polymer LCD Back**

	<b>15.6" FHD WVA (1920 x 1080) Embedded Touch Display with Truelife (OTP Lite), 220 nits, Carbon Fiber Reinforced Polymer LCD Back</b>
Type	FHD touch
Luminance/Brightness (typical)	220 nits
Diagonal	15.6 inch
Native Resolution	1920 x 1080
Megapixels (millions of pixels)	2.07
Pixels per Inch (PPI)	157
Contrast Ratio (typical)	600:1
Response Time (typ)	35 msec rise/fall
Refresh Rate	60 Hz
Horizontal Viewing Angle	+/- 80 degrees
Vertical Viewing Angle	+/- 80 degrees
Pixel Pitch	0.161 mm
Power Consumption (max)	4.4



# Getting help

## Contacting Dell

**NOTE:** If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

- 1 Go to **Dell.com/support**.
- 2 Select your support category.
- 3 Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
- 4 Select the appropriate service or support link based on your need.