

# Dell Vostro 5090

## Setup and specifications guide



# Contents

|                                        |           |
|----------------------------------------|-----------|
| <b>1 Set up your computer.....</b>     | <b>4</b>  |
| <b>2 Chassis overview.....</b>         | <b>9</b>  |
| Front.....                             | 9         |
| Back.....                              | 10        |
| System board layout.....               | 11        |
| <b>3 Technical specifications.....</b> | <b>12</b> |
| Dimensions and weight.....             | 12        |
| Processors.....                        | 12        |
| Chipset.....                           | 13        |
| Operating system.....                  | 13        |
| Memory.....                            | 13        |
| Storage.....                           | 14        |
| Ports and connectors.....              | 14        |
| Communications.....                    | 15        |
| Audio.....                             | 15        |
| Intel Optane memory.....               | 16        |
| Media-card reader.....                 | 16        |
| Power supply unit.....                 | 17        |
| Video.....                             | 17        |
| Computer environment.....              | 18        |
| Security hardware.....                 | 18        |
| <b>4 Getting help.....</b>             | <b>19</b> |
| Contacting Dell.....                   | 19        |

## Notes, cautions, and warnings

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

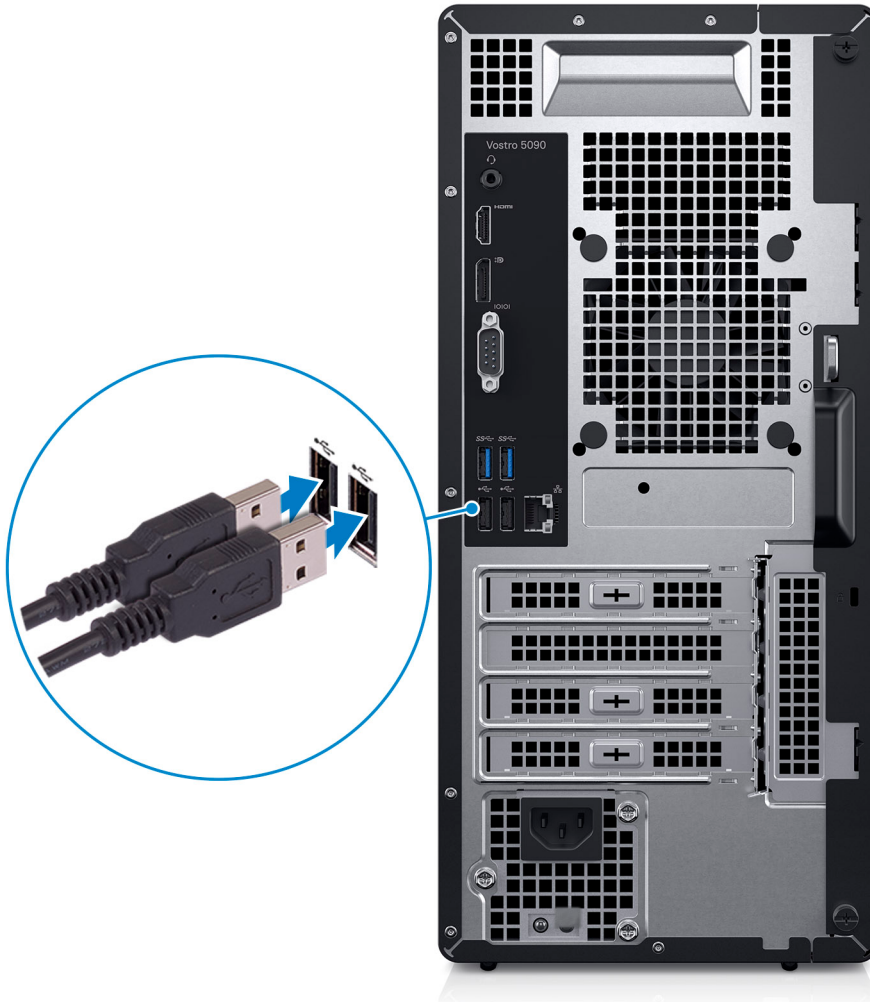
 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

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

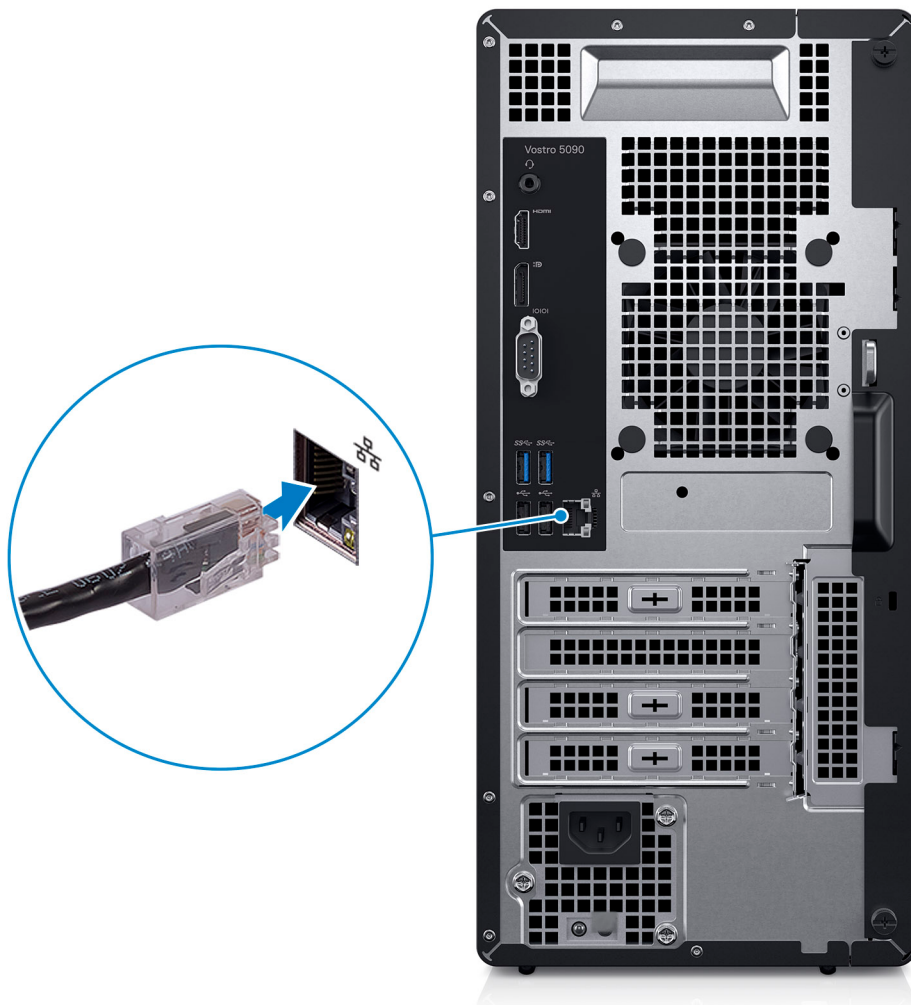
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# Set up your computer

1. Connect the keyboard and mouse.



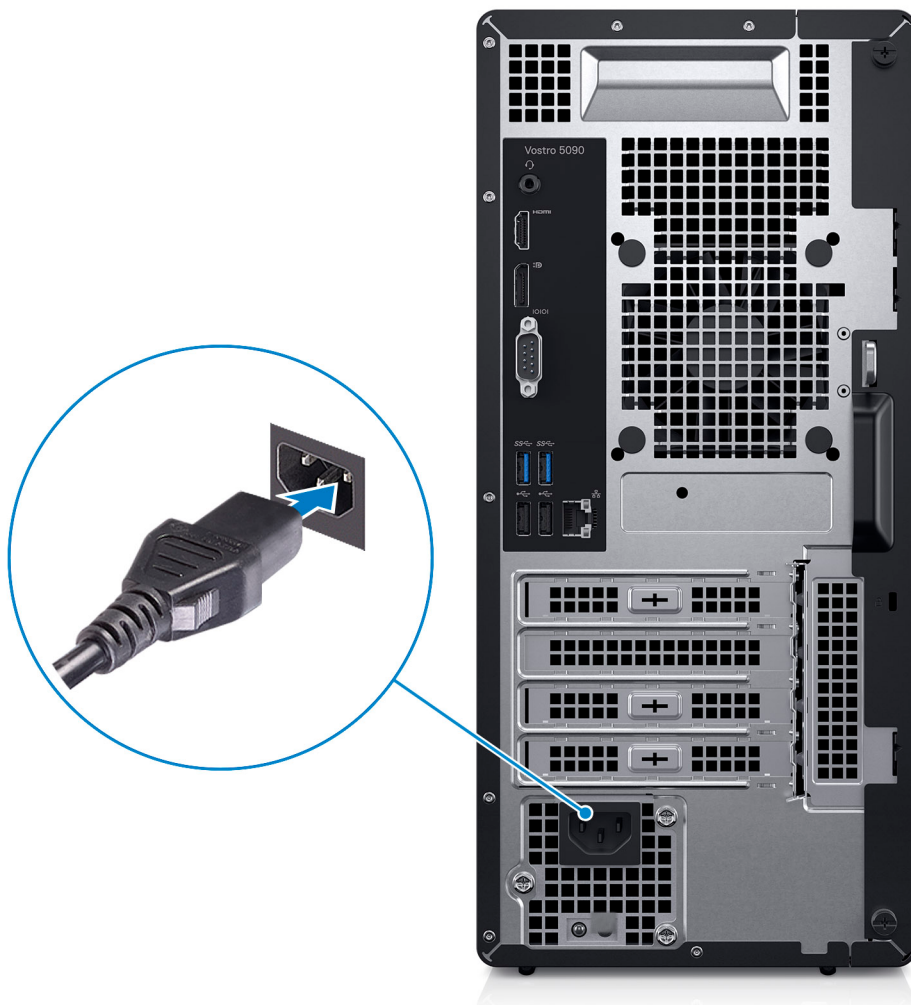
2. Connect to your network using a cable, or connect to a wireless network.



3. Connect the display.



4. Connect the power cable.



5. Press the power button.



6. Finish operating system setup.

**For Ubuntu:**

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

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

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

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

**Table 1. Locate Dell apps**

| Dell apps                                                                           | Details                                                                      |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
|  | <b>Dell Product Registration</b><br>Register your computer with Dell.        |
|  | <b>Dell Help &amp; Support</b><br>Access help and support for your computer. |

## Dell apps

## Details



### SupportAssist

Proactively checks the health of your computer's hardware and software.



**NOTE:** Renew or upgrade your warranty by clicking the warranty expiry date in SupportAssist.



### Dell Update

Updates your computer with critical fixes and important device drivers as they become available.

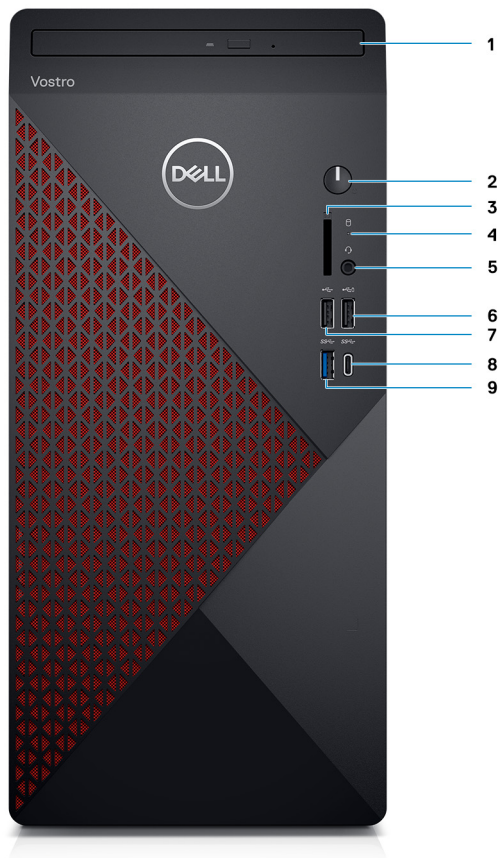


### Dell Digital Delivery

Download software applications including software that is purchased but not preinstalled on your computer.

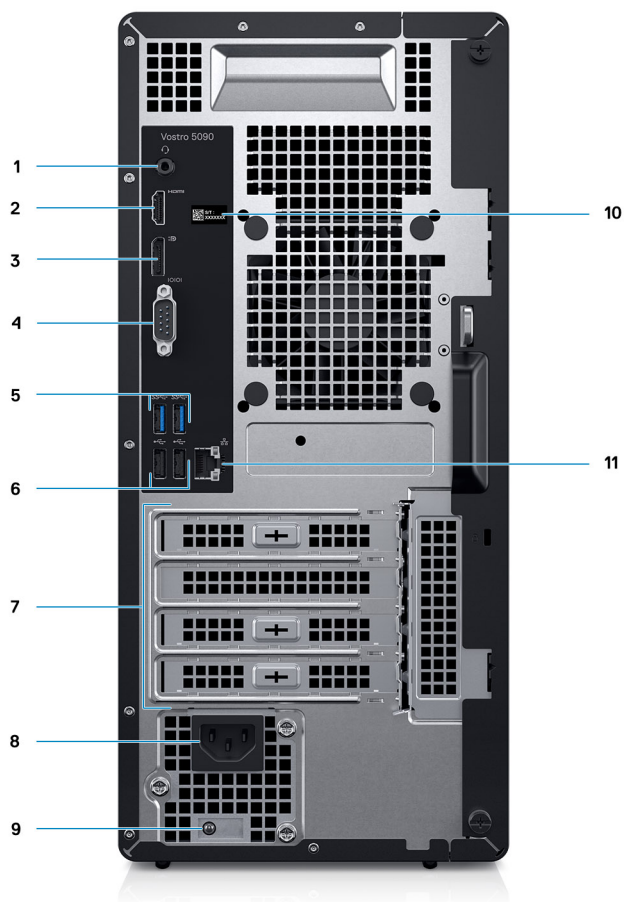
## Chassis overview

### Front



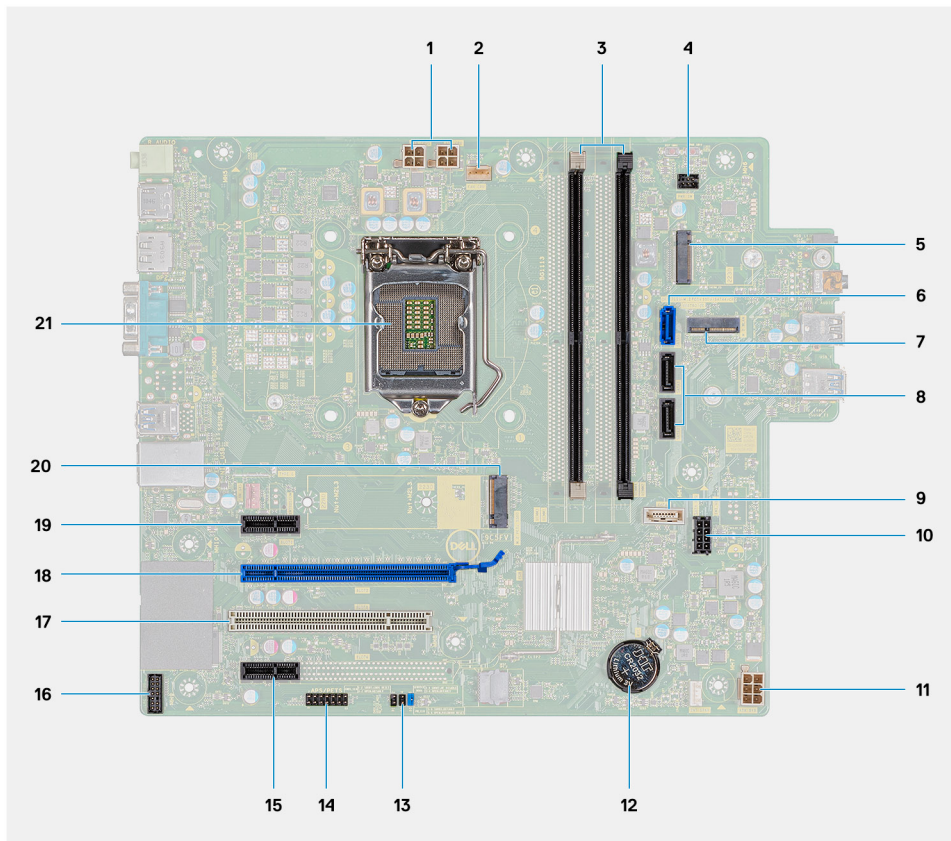
1. Optical drive
2. Power button
3. SD-card reader
4. Hard drive activity light
5. Universal audio/microphone connector
6. USB 2.0 ports
7. USB 2.0 ports
8. USB 3.1 Gen 1 (Type-C) port
9. USB 3.1 Gen 1 port

# Back



1. Line-out audio Jack
2. HDMI 1.4
3. Display port
4. Serial port
5. USB 3.1 Gen 1 port
6. USB 2.0 ports
7. Expansion card slots
8. Power connector port
9. Power-supply diagnostics light
10. Service tag
11. Network port

# System board layout



1. PSU power connector
2. Processor fan connector
3. Memory module connector
4. Power button connector
5. M.2 SSD card reader slot
6. SATA0 connector (blue)
7. M.2 WLAN connector
8. SATA1/2 connector (black)
9. SATA3 connector (white)
10. SATA power connector
11. ATX power connector
12. Coin-cell battery
13. CMOS\_CLR/Password/Service\_Mode jumper
14. APS/PETS connector (Debug)
15. PCIe x1 (Slot4)
16. LPC debug card connector
17. PCI-32 (Slot3)
18. PCIe x16 (Slot2)
19. PCIe x1 (Slot1)
20. Chassis fan connector
21. M.2 2280 SSD/Optane card connector
22. Processor socket

# Technical specifications

**NOTE:** Offerings may vary by region. The following specifications are only those required by law to ship with your computer. For more information about the configuration of your computer, go to Help and Support in your Windows operating system and select the option to view information about your computer.

## Topics:

- [Dimensions and weight](#)
- [Processors](#)
- [Chipset](#)
- [Operating system](#)
- [Memory](#)
- [Storage](#)
- [Ports and connectors](#)
- [Communications](#)
- [Audio](#)
- [Intel Optane memory](#)
- [Media-card reader](#)
- [Power supply unit](#)
- [Video](#)
- [Computer environment](#)
- [Security hardware](#)

## Dimensions and weight

**Table 2. Dimensions and weight**

| Description                                                                                                      | Values                |
|------------------------------------------------------------------------------------------------------------------|-----------------------|
| Height:                                                                                                          |                       |
| Front                                                                                                            | 367 mm (14.45 in.)    |
| Rear                                                                                                             | 367 mm (14.45 in.)    |
| Width                                                                                                            | 169 mm (6.65 in.)     |
| Depth                                                                                                            | 300.50 mm (11.83 in.) |
| Weight (maximum)                                                                                                 | 7.90 kg (17.42 lb)    |
| <b>NOTE:</b> The weight of your computer depends on the configuration ordered and the manufacturing variability. |                       |

## Processors

**Table 3. Processors**

| Description | Values                                        |                                               |                                               |
|-------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| Processors  | 9 <sup>th</sup> Generation Intel Core i3-9100 | 9 <sup>th</sup> Generation Intel Core i5-9400 | 9 <sup>th</sup> Generation Intel Core i7-9700 |

| Description         |                        | Values                 |                        |
|---------------------|------------------------|------------------------|------------------------|
| Wattage             | 65 W                   | 65 W                   | 65 W                   |
| Core count          | 4                      | 6                      | 8                      |
| Thread count        | 4                      | 6                      | 8                      |
| Speed               | Up to 4.2 GHz          | Up to 4.1 GHz          | Up to 4.8 GHz          |
| Cache               | 6 MB                   | 9 MB                   | 12 MB                  |
| Integrated graphics | Intel UHD Graphics 630 | Intel UHD Graphics 630 | Intel UHD Graphics 630 |

## Chipset

Table 4. Chipset

| Description    |  | Values                             |
|----------------|--|------------------------------------|
| Chipset        |  | B360                               |
| Processor      |  | 9th Generation Intel core i3/i5/i7 |
| DRAM bus width |  | 64-bit                             |
| PCIe bus       |  | Up to Gen2                         |

## Operating system

- Windows 10 Home (64-bit)
- Windows 10 Professional (64-bit)

## Memory

Table 5. Memory specifications

| Description              |  | Values                                                                                                                                                                                                                                                                                                       |
|--------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slots                    |  | Two UDIMM slots                                                                                                                                                                                                                                                                                              |
| Type                     |  | Dual-channel DDR4                                                                                                                                                                                                                                                                                            |
| Speed                    |  | 2666 MHz, 2400 MHz                                                                                                                                                                                                                                                                                           |
| Maximum memory           |  | 32 GB                                                                                                                                                                                                                                                                                                        |
| Minimum memory           |  | 4 GB                                                                                                                                                                                                                                                                                                         |
| Memory size per slot     |  | 4 GB, 8 GB, 16 GB                                                                                                                                                                                                                                                                                            |
| Configurations supported |  | <ul style="list-style-type: none"> <li>• 4 GB DDR4 at 2666 MHz (1 x 4 GB)</li> <li>• 8 GB DDR4 at 2666 MHz (2 x 4 GB), (1 x 8 GB)</li> <li>• 12 GB DDR4 at 2666 MHz (1 x 4 GB + 1 x 8 GB)</li> <li>• 16 GB DDR4 at 2666 MHz (1 x 16 GB), (2 x 8 GB)</li> <li>• 32 GB DDR4 at 2666 MHz (2 x 16 GB)</li> </ul> |

# Storage

Your computer supports one of the following configurations:

- One 3.5-inch hard drive
- One M.2 2230 SSD or One M.2 2280 SSD/Intel Optane Module

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

- with a M.2 drive, the M.2 drive is the primary drive
- without a M.2 drive, the 3.5-inch hard drive is the primary drive

**Table 6. Storage specifications**

| Storage type        | Interface type | Capacity     |
|---------------------|----------------|--------------|
| 3.5-inch hard drive | SATA 3.0       | 2TB          |
| M.2 2230 SSD        | PCI-e          | Up to 512 GB |
| M.2 2280 SSD        | PCI-e          | Up to 512 GB |

# Ports and connectors

**Table 7. External ports and connectors**

| Description        | Values                                                                                                                                                                                                                                           |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>External:</b>   |                                                                                                                                                                                                                                                  |
| Network            | One RJ-45 port                                                                                                                                                                                                                                   |
| USB                | <ul style="list-style-type: none"><li>• Two USB 2.0 ports (front)</li><li>• Two USB 2.0 ports (rear)</li><li>• One USB 3.1 Gen 1 Type-C port (front)</li><li>• One USB 3.1 Gen 1 port (front)</li><li>• Two USB 3.1 Gen 1 ports (rear)</li></ul> |
| Audio              | <ul style="list-style-type: none"><li>• One universal audio jack (front)</li><li>• One line-out audio jack (rear)</li></ul>                                                                                                                      |
| Video              | One HDMI 1.4b port/One DisplayPort v1.2                                                                                                                                                                                                          |
| Media card reader  | One SD-card 3.0 slot (optional)                                                                                                                                                                                                                  |
| Expansion card     | Supported                                                                                                                                                                                                                                        |
| Smart card reader  | Supported                                                                                                                                                                                                                                        |
| Docking port       | Not supported                                                                                                                                                                                                                                    |
| Power adapter port | AC-in                                                                                                                                                                                                                                            |
| Security           | <ul style="list-style-type: none"><li>• One Padlock loop</li><li>• One Kensington slot</li></ul>                                                                                                                                                 |

**Table 8. Internal ports and connectors**

| Description      | Values                                                      |
|------------------|-------------------------------------------------------------|
| <b>Internal:</b> |                                                             |
| Expansion        | Two PCI-e x1 / One PCI-e x16 / 1 PCI-32 expansion card slot |

| Description | Values                                                                                                                                                                                                                                                                                     |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SATA slots  | Four SATA Slots for 2.5-inch HDD/ 3.5-inch HDD/ ODD                                                                                                                                                                                                                                        |
| M.2         | <ul style="list-style-type: none"> <li>One M.2 slot for WiFi</li> <li>One M.2 2230/2280 slot for solid-state drive/Intel Optane</li> </ul> <p><b>NOTE:</b> To learn more about the features of different types of M.2 cards, see the knowledge base article <a href="#">SLN301626</a>.</p> |

## Communications

### Ethernet

**Table 9. Ethernet specifications**

| Description   | Values           |
|---------------|------------------|
| Model number  | I219V            |
| Transfer rate | 10/100/1000 Mbps |

### Wireless module

**Table 10. Wireless module specifications**

| Description               | Values                                                                                           |                                                                                                  |                                                                                                  |
|---------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| Model number              | Qualcomm QCA9565 (DW1707)                                                                        | Intel 9462                                                                                       | Intel 9560 (160 MHz)                                                                             |
| Transfer rate             | Up to 150 Mbps                                                                                   | Up to 433 Mbps                                                                                   | Up to 1730 Mbps                                                                                  |
| Frequency bands supported | 2.4 GHz/NA GHz                                                                                   | 2.4 GHz/5 GHz                                                                                    | 2.4 GHz/5 GHz                                                                                    |
| Wireless standards        | <ul style="list-style-type: none"> <li>WiFi 802.11b/g/n</li> </ul>                               | <ul style="list-style-type: none"> <li>WiFi 802.11ac</li> </ul>                                  | <ul style="list-style-type: none"> <li>Wi-Fi 802.11ac</li> </ul>                                 |
| Encryption                | <ul style="list-style-type: none"> <li>64/128-bit WEP</li> <li>AES-CCMP</li> <li>TKIP</li> </ul> | <ul style="list-style-type: none"> <li>64/128-bit WEP</li> <li>AES-CCMP</li> <li>TKIP</li> </ul> | <ul style="list-style-type: none"> <li>64/128-bit WEP</li> <li>AES-CCMP</li> <li>TKIP</li> </ul> |
| Bluetooth                 | Bluetooth 4.0                                                                                    | Bluetooth 5 (Windows 10 supports Bluetooth 5 with the latest Windows update)                     | Bluetooth 5 (HW ready, SW depends on OS)                                                         |

## Audio

**Table 11. Audio specifications**

| Description        | Values                          |
|--------------------|---------------------------------|
| Controller         | Realtek ALC3246                 |
| Stereo conversion  | Supported                       |
| Internal interface | High definition audio interface |
| External interface | Universal Audio Jack            |
| Speakers           | N/A                             |

| Description                | Values        |
|----------------------------|---------------|
| Internal speaker amplifier | Not supported |
| External volume controls   | N/A           |
| Speaker output:            |               |
| Average                    | _2__ W        |
| Peak                       | _2.5__ W      |
| Subwoofer output           | Not supported |
| Microphone                 | Not supported |

## Intel Optane memory

Intel Optane memory functions only as a storage accelerator. It neither replaces nor adds to the memory (RAM) installed on your computer.

**NOTE:** Intel Optane memory is supported on computers that meet the following requirements:

- 7<sup>th</sup> Generation or higher Intel Core i3/i5/i7 processor
- Windows 10 64-bit version or higher (Anniversary Update)
- Latest version of Intel Rapid Storage Technology driver

**Table 12. Intel Optane memory**

| Description              | Values              |
|--------------------------|---------------------|
| Type                     | Storage accelerator |
| Interface                | PCIe 3.0            |
| Connector                | M.2 2280            |
| Configurations supported | 16 GB, 32 GB        |
| Capacity                 | Up to 32 GB         |

## Media-card reader

**Table 13. Media-card reader specifications**

| Description     | Values                                                                                                                                                                                                                                            |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type            | One SD 3.0 card slot (optional)                                                                                                                                                                                                                   |
| Cards supported | <ul style="list-style-type: none"> <li>• Secure Digital (SD)</li> <li>• Secure Digital High Capacity (SDHC)</li> <li>• Secure Digital Extended Capacity (SDXC)</li> <li>• Multimedia card (MMC)</li> <li>• Multimedia plus card (MMC+)</li> </ul> |

# Power supply unit

**Table 14. Power supply unit specifications**

| Description                 | Values                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                            |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type                        | D10 460 W EPA Bronze                                                                                                                                                                                                                                                       | D9 260 W EPA Bronze                                                                                                                                                                                                        |
| Diameter (connector)        | Not supported                                                                                                                                                                                                                                                              | Not supported                                                                                                                                                                                                              |
| Input voltage               | 90 VAC to 264 VAC                                                                                                                                                                                                                                                          | 90 VAC to 264 VAC                                                                                                                                                                                                          |
| Input frequency             | 47 Hz to 63 Hz                                                                                                                                                                                                                                                             | 47 Hz to 63 Hz                                                                                                                                                                                                             |
| Input current (maximum)     | 7 A                                                                                                                                                                                                                                                                        | 4.20 A                                                                                                                                                                                                                     |
| Output current (continuous) | <ul style="list-style-type: none"> <li>• +12 VA1/18 A</li> <li>• +12 VA2/18 A</li> <li>• +12 VB/18 A</li> <li>• +12 VC/18 A</li> </ul> Standby mode: <ul style="list-style-type: none"> <li>• +12 VA1/1.50 A</li> <li>• +12 VA2/1.50 A</li> <li>• +12 VB/2.50 A</li> </ul> | <ul style="list-style-type: none"> <li>• +12 VA/16.50 A</li> <li>• +12 VB/16 A</li> <li>• +12 VSB/2.50 A</li> </ul> Standby mode: <ul style="list-style-type: none"> <li>• +12 VA/0.5 A</li> <li>• +12 VB/2.5 A</li> </ul> |
| Rated output voltage        | <ul style="list-style-type: none"> <li>• +12 VA1</li> <li>• +12 VA2</li> <li>• +12 VB</li> <li>• +12 VC</li> </ul>                                                                                                                                                         | <ul style="list-style-type: none"> <li>• +12 VA</li> <li>• +12 VB</li> </ul>                                                                                                                                               |
| 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)                                                                                                                                                                                             |

## Video

**Table 15. Discrete graphics specifications**

| Discrete graphics |                                          |             |             |
|-------------------|------------------------------------------|-------------|-------------|
| Controller        | External display support                 | Memory size | Memory Type |
| AMD RX550         | One Display port/Two Mini-Display port   | 4 GB        | GDDR5       |
| NVIDIA 1660 TI    | One DVI-D/One Display port/One HDMI port | 6 GB        | GDDR6       |
| NVIDIA 2060       | One DVI-D/One Display port/One HDMI port | 6 GB        | GDDR6       |
| NVIDIA 2070       | One DVI-D/Two Display port/One HDMI port | 8 GB        | GDDR6       |
| NVIDIA GT 730     | One DVI-D/One VGA/One HDMI port          | 2 GB        | GDDR5       |

**Table 16. Integrated graphics specifications**

| Integrated graphics    |                                |                      |                                    |
|------------------------|--------------------------------|----------------------|------------------------------------|
| Controller             | External display support       | Memory size          | Processor                          |
| Intel UHD 630 Graphics | One HDMI port/One Display port | Shared system memory | 9th Generation Intel core i3/i5/i7 |

# Computer environment

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

Table 17. Computer environment

| Description                 | Operating                         | Storage                            |
|-----------------------------|-----------------------------------|------------------------------------|
| Temperature range           | 10°C to 35°C (50°F to 95°F)       | -40°C to 65°C (-40°F to 149°F)     |
| Relative humidity (maximum) | 20% to 80% (non-condensing)       | 5% to 95% (non-condensing)         |
| Vibration (maximum)*        | 0.26 GRMS                         | 1.37 GRMS                          |
| Shock (maximum)             | 40 G†                             | 105 G†                             |
| Altitude (maximum)          | 0 m to 3048 m (32 ft to 10000 ft) | 0 m to 10668 m (32 ft to 35000 ft) |

\* Measured using a random vibration spectrum that simulates user environment.

† Measured using a 2 ms half-sine pulse when the hard drive is in use.

# Security hardware

Table 18. Security hardware

| Feature     | Specifications                                                                                                                                                                                                          |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Security HW | <ul style="list-style-type: none"><li>• Kensington Lock Slot</li><li>• Padlock Loop</li><li>• Microsoft Windows Bitlocker</li><li>• Local HDD data wipe via BIOS ("Secure Erase")</li><li>• HW TPM (optional)</li></ul> |

# Getting help

## Topics:

- [Contacting Dell](#)

## 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.