ThinkPad X1 Fold Gen 1

User Guide

Contents

Read this first

Thank you for choosing ThinkPad X1 Fold Gen 1! We are dedicated to delivering the best solution to you.

Important information about OLED screen and folio cover

Do not scratch the screen with glass, tweezers, or any other hard or sharp objects that are not recommended to use with the ThinkPad X1 Fold Gen 1.

Avoid splash and wipe off liquids from the screen as soon as possible. Any extended contact with the screen could result in deformations and color fading.

Handle the folio cover gently. The folio cover is made of genuine leather. It is not removable and is intended to protect the computer. Pulling hard will result in permanent damage to the folio cover.

Your foldable PC contains magnets. Keep a safe distance away from devices and objects that may be affected by magnets, such as credit cards.

Notes:

- Before beginning your tour with ThinkPad X1 Fold Gen 1, ensure that you read and understand the following:

  - Appendix A "Important safety information" on page 43
  - *Safety and Warranty Guide*
  - *Setup Guide*

  Documentation content is subject to change without notice. To get the latest documentation, go to https://pcsupport.lenovo.com.

- Illustrations in this documentation might look different from your product.

- Depending on the model, some optional accessories, features, software programs, and user interface instructions might not be applicable to your computer.

Chapter 1. Welcome

Enjoy your tour with ThinkPad X1 Fold Gen 1, the world's first foldable OLED PC. Your ThinkPad X1 Fold Gen 1 features the following:

- Foldable OLED screen for superior image quality
- Genuine leather folio cover with integrated kickstand
- Wireless keyboard *
- Stylus pen * for easy and effective input
- Always on, always connected, blazing fast 5G *
- Fold closed for compact mobility

* for selected models

Overview

https://support.lenovo.com/us/zh/videos/vid500152
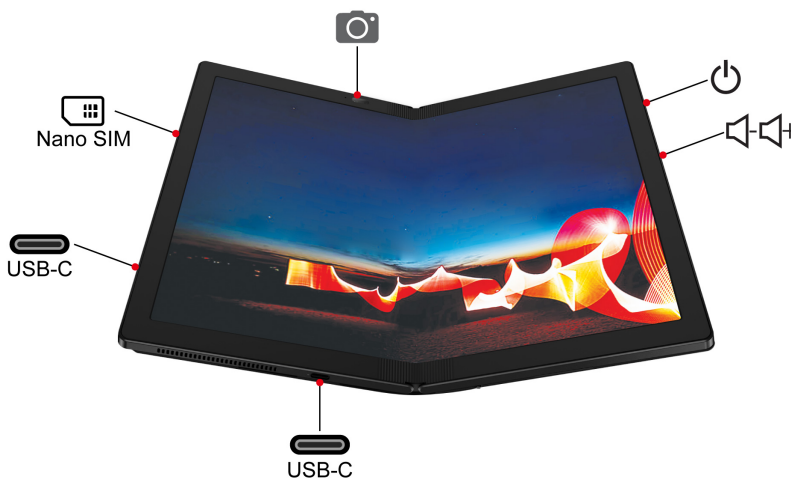
📷	Camera with infrared (IR) function	⏻	Power button
🔉	Volume button	USB-C	USB-C™ connector (USB 3.2 Gen 2)
Nano SIM	Nano-SIM-card tray *		

* for selected models

📷 Camera with IR function

- Take pictures or record videos by typing `Camera` in the Windows search box and press enter, then follow the on-screen instructions. The indicator next to the camera is on when the camera is in use.
- If you use other apps that support photographing, video chatting, and video conference, the camera starts automatically when you enable the camera-required feature from the app.

⏻ Power button

The LED indicator in the power button shows the system status of your computer.

- **Blinking for three times:** The computer is initially connected to power.
- **On:** The computer is on or the computer is connected to power.
- **Off:**
  - The computer is in hibernation mode while disconnected from power.
  - The computer is off.
- **Blinking slowly:** The computer is in sleep mode.

⊐ USB-C connector (USB 3.2 Gen 2)

- Charge your computer.
- Charge USB-C compatible devices with the output voltage and current of 5 V and 1.5 A.
- Transfer data at USB 3.2 speed, up to 10 Gbps.
- Connect to an external display:
  - USB-C to VGA: 1900 x 1200 pixels, 60 Hz
  - USB-C to DP: 3840 x 2160 pixels, 60 Hz
- Connect to USB-C accessories to help expand your computer functionality. To purchase USB-C accessories, go to https://www.lenovo.com/accessories.

Features and specifications

Maximum heat output (depending on the model)	65 W (222 Btu/hr)
Power source (ac power adapter)	• Sine-wave input at 50 Hz to 60 Hz • Input rating of the ac power adapter: 100 V to 240 V ac, 50 Hz to 60 Hz
Memory	Lower Power Double data rate 4 (LPDDR4), included in microprocessor package, soldered on the system board, 8 GB
Storage device	• M.2 solid-state drive
Display	• Brightness control • Flexible Organic Light-Emitting Diode (OLED) screen • Color display with Thin Film Transistor (TFT) technology • Display size: 337.82 mm (13.3 inches) • Display resolution: 2048 x 1536 pixels • Multi-touch technology • Integrated graphics
Security features	• Password • Trusted Platform Module (TPM) *
Wireless features	• Bluetooth • GPS satellite receiver (available on models with wireless WAN) * • Wireless LAN • Wireless WAN with 5G CAT20 *

* for selected models

Statement on USB transfer rate

Depending on many factors such as the processing capability of the host and peripheral devices, file attributes, and other factors related to system configuration and operating environments, the actual transfer rate using the various USB connectors on this device will vary and will be slower than the data rate listed below for each corresponding device.

USB device	Data rate (Gbit/s)
3.2 Gen 1 / 3.1 Gen 1	5
3.2 Gen 2 / 3.1 Gen 2	10
3.2 Gen 2 × 2	20

Chapter 2. Let's get started

Integrated kickstand

Open the kickstand at an angle up to 85 degrees so that your foldable PC works as a hands-off, full-screen display. The kickstand is designed to open no more than 85 degrees.

Note: Only use the kickstand in landscape mode. The kickstand is not designed for use in portrait mode.
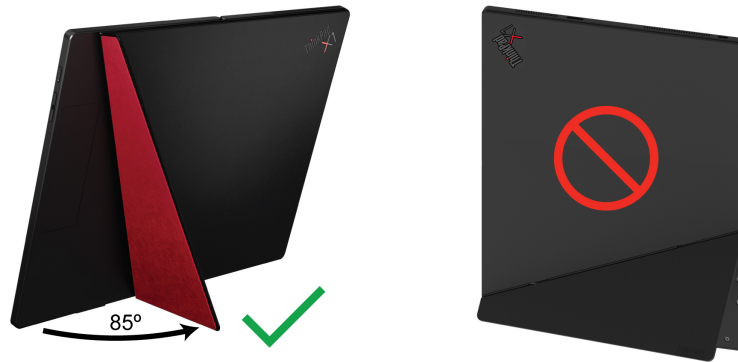
Work with the foldable screen

Your foldable PC features the following modes. Switch between different modes to experience the most of the 4-in-1 foldable PC.

Mode	Recommended scenario(s)
Landscape mode	• Giving presentations • Watching movies
Mini clamshell mode	• Multi-tasking • Writing e-mails
Book mode	• Browsing multiple web pages • Note-taking while reading
Portrait mode	• Browsing extra-long documents • Drawing or sketching

Split-screen function

Before using the split-screen function, view the tutorial video at ▶️ https://support.lenovo.com/us/zh/videos/vid500154.

The split-screen function allows you to handle multiple tasks simultaneously in different areas of the computer screen. Select one of following methods to switch between split-screen view and full-screen view:

- Tap the desktop splitter icon in the task bar to launch the Lenovo Mode Switcher window (hereafter referred to as window), then choose a preferred layout in the window.

  Note: You can customize screen behaviors or feedback your use experience by long pressing the desktop splitter icon.

- Slightly fold the computer to launch the window, then choose a preferred layout in the window.

  Note: You can customize screen behaviors or feedback your use experience by long pressing the desktop splitter icon.
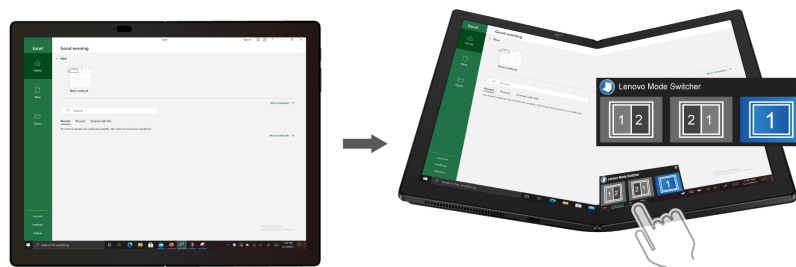
- Slightly open the computer flat to launch the window, then choose a preferred layout in the window.

  Note: You can customize screen behaviors or feedback your use experience by long pressing the desktop splitter icon.
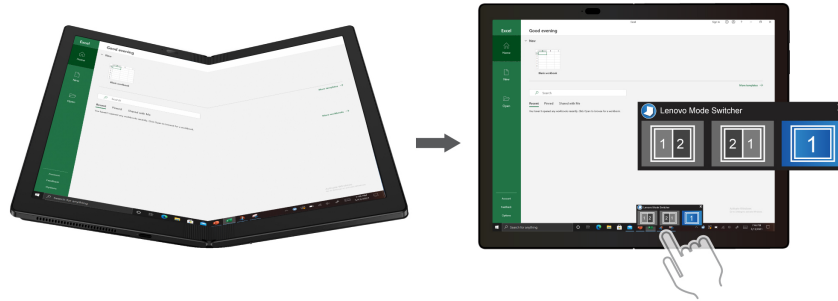
Connect to Wi-Fi networks

Tap the network icon in the Windows® notification area, and then select a network for connection. Provide required information, if needed.
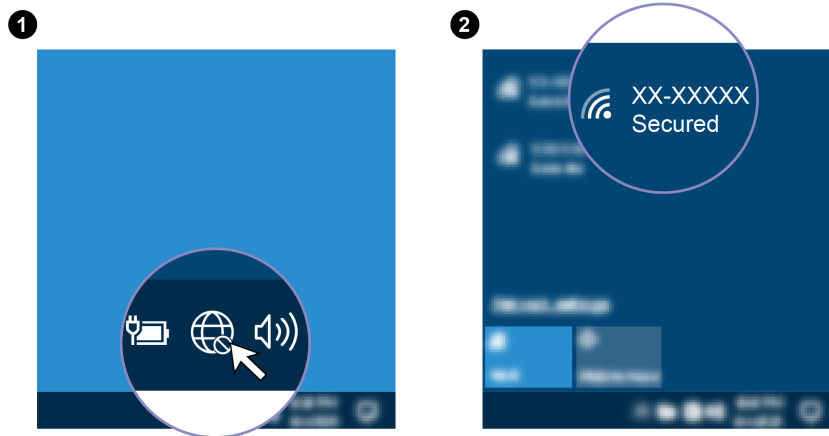
Connect to a cellular network

If your computer has a wireless wide area network (WAN) card and a micro-SIM card installed, you can connect to a cellular data network and get online using the cellular signal.

Note: The cellular service is provided by authorized mobile service carriers in some countries or regions. You must have a cellular plan from a service carrier to connect to the cellular network.

To establish a cellular connection:
1. Turn off the computer. If a nano-SIM card is installed, skip step 1 to 3.

2. Install a nano-SIM card as shown.
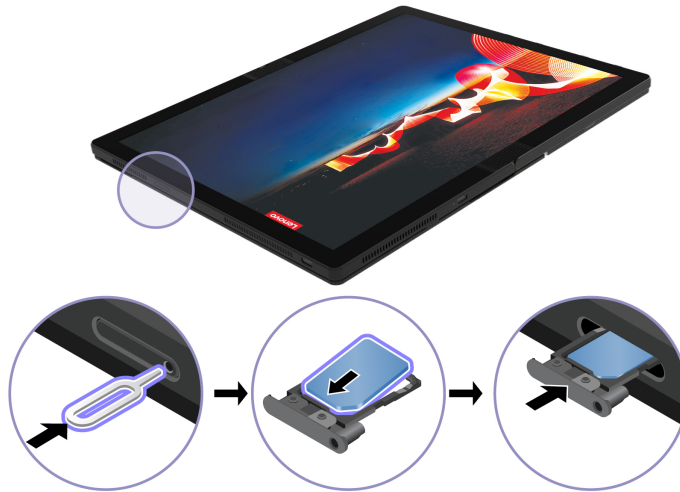
3. Turn on the computer.
4. Tap the network icon in the Windows notification area, and then select the cellular network icon ⁪⁪⁪ from the list. Provide required information, if needed.

Turn on the Airplane mode

When the Airplane mode is enabled, all wireless features are disabled.

1. Tap the action center icon ▭ in the Windows notification area.
2. Tap **Airplane mode** to turn on the Airplane mode.

Interact with your foldable PC

Your foldable PC provides you various ways to navigate the screen.

Use the touch screen

You can navigate the screen with following simple touch gestures.

Note: Some gestures might not be available when you are using certain apps.

Tap once to single click

Tap twice quickly to double-click

Tap and hold to right-click
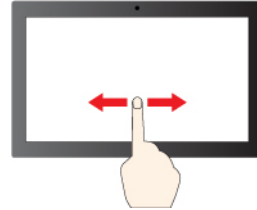
Slide to scroll through items
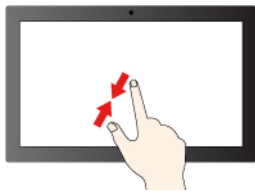
Zoom out
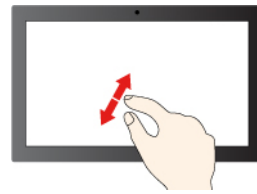
Zoom in
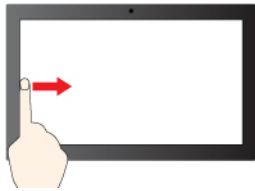
Swipe from the left: view all open windows
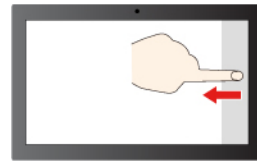
Swipe from the right: open action center
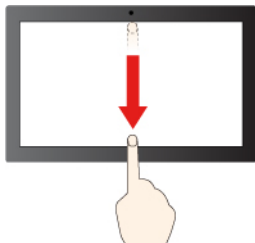
Swipe downwards shortly: show title bar

Swipe downwards: close the current app
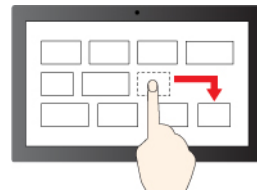
Drag

Wireless keyboard (for selected models)

▶️ https://support.lenovo.com/us/zh/videos/vid500153

Your foldable PC might come with the Lenovo Fold Mini Keyboard (model: TK008), a wireless, magnetic keyboard with touchpad. Use the keyboard to work more easily and effectively.

The keyboard is available as an option. You can purchase one from Lenovo at https://www.lenovo.com/accessories.

Pair the keyboard

To pair the keyboard with your foldable PC, do the following:

1. Enable Bluetooth function on your foldable PC. You also can enable the Swift Pair function for easy connection.
2. Turn on the keyboard and the LED indicator is in solid green for about three seconds, then the LED indicator turns off.
3. Press and hold the Bluetooth key ⊞ F11 for about three seconds until the LED indicator is blinking in blue.
4. Place the keyboard close to your foldable PC to establish Bluetooth connection.
5. Follow the on-screen instructions.

Use the keyboard in different modes

The keyboard works best with your foldable PC in both landscape mode and mini clamshell mode.

Landscape mode

Mini clamshell mode

When placing the keyboard onto your foldable PC, ensure that the camera side is upward as shown, otherwise the keyboard does not attach properly.

Keyboard overview

1 Pen loop: Store Lenovo Mod Pen or Lenovo Pen Pro if available.

2 Special keys

- Press F1–F12 key to invoke the special function printed as an icon on each key.

- Press Fn Key and F1–F12 key simultaneously to invoke the standard function of F1–F12 function keys.

F1	Enable / disable speakers
F2 F3	Decrease / increase volume
F4	Enable / disable microphones
F5 F6	Darken / brighten display
F7	Manage external displays
F8	Open or collapse the notification center
F9	Open Windows Settings
F10	Lock the screen
F11	Open Bluetooth settings
F12	Customize the function of this key on the Vantage app

3 Power switch: Slide the power switch to turn on or turn off your keyboard. To wake up the keyboard, press any key or tap the touchpad.

To check the battery power status, do the following:

1. Open the **Start** menu and select **Settings** ➙ **Devices** ➙ **Bluetooth & other devices**.
2. View the battery status in the **Mouse, keyboard, & pen** section.

4 Micro USB connector: When the keyboard is placed between the completely folded computer, the keyboard charges automatically (for selected models). On rare occasions, you might need to work with your computer and charge the keyboard at the same time. As an alternative, use a 5V ac power adapter and a Micro USB cable to charge the keyboard. Selected keyboard models come with a Micro USB cable. If your keyboard does not come with a Micro USB cable, prepare it by yourself. Your keyboard does not come with a 5V ac power adapter, prepare it by yourself.

5 **Expressive input key**: Press the key and choose punctuation, emojis, or symbols.
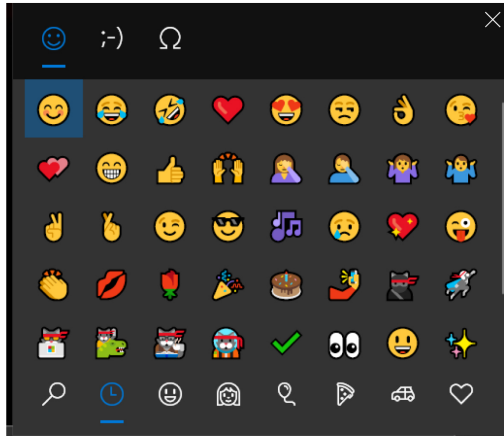
6 Touchpad: Performs basic finger touch functions, such as left-click, right-click, and two-finger scroll.

Charge the keyboard

Wired charging

You also can use a 5V ac power adapter and a Micro USB cable to charge the keyboard. The keyboard is fully charged in about two hours.
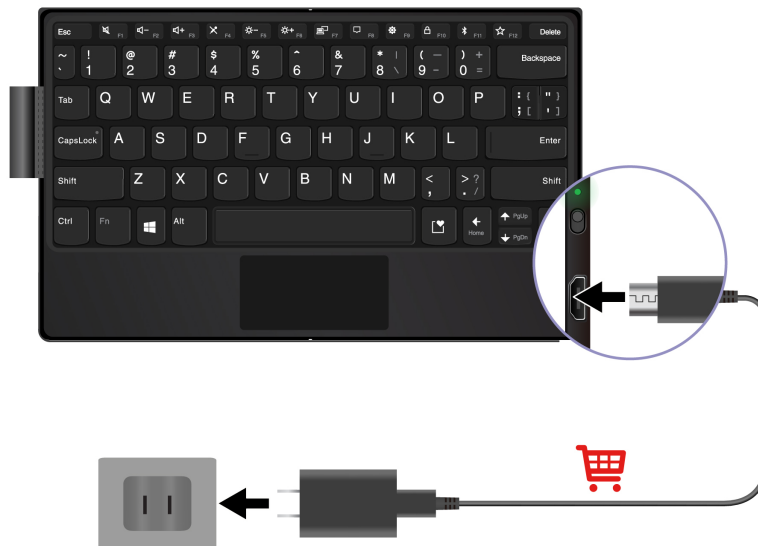
The LED indicator is in solid amber during charging and is solid green when the keyboard is fully charged.

Wireless charging (for selected models)

Put your foldable PC in the mini clamshell mode with the camera side upward, and then attach the keyboard to the magnetic side as shown. Fold the computer and the keyboard charges automatically. One four-hour charge enables you to use the keyboard for up to eight hours. Ensure that the remaining battery power of the computer is higher than 50%, otherwise the keyboard does not charge.

The LED indicator blinks amber three times when the keyboard is connected to computer power, then the LED indicator turns off.

Lenovo Mod Pen (for selected models)

🎬 https://support.lenovo.com/us/zh/videos/vid500156

The Lenovo Mod pen (a rechargeable stylus pen) enables you to write and draw in a natural and precise manner. To purchase the pen, go to https://www.lenovo.com/accessories.

Note: The default function of each barrel button might vary in different apps.

Overview
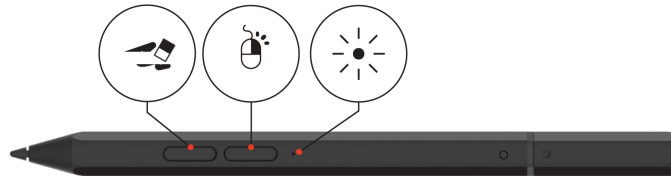
Bottom barrel button	To erase text or drawings, hold the button to erase the object in supported apps.
Top barrel button	To right-click, hold the button and tap the screen in supported apps.
LED indicator	Shows the battery power status.

To customize the barrel button functions, use Lenovo Pen Settings. If Lenovo Pen Settings is not installed on your foldable PC, download and install the latest WinTab driver from https://pcsupport.lenovo.com.

Charge the pen

When the LED indicator blinks in amber, the pen battery power is low. Use the ac power adapter that comes with your foldable PC to charge the pen. The LED indicator is in solid amber during charging and is solid white when the pen is fully charged. The pen is fully charged in about two hours.

When you install the pen cap, ensure that the dome on the pen cap is aligned with the circle icon on the pen body.
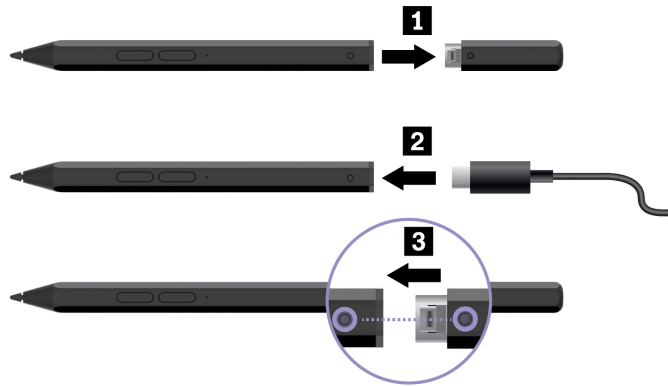
One full-charge delivers up to 14 days of battery standby time for continuous use. To check the remaining battery power, go to Lenovo Pen Settings and follow the on-screen instructions.

Maintenance tips

- The pen is not waterproof. Keep the pen away from water and excessive moisture.
- The pen contains pressure sensors. Apply an appropriate amount of pressure when writing on the screen. Do not subject the pen to shock or vibration.
- If possible, place your pen in a well-ventilated and dry area without direct exposure to sunshine.
- Do not use or store the pen in a place where excessive changes in temperature may occur such as in a car.

Lenovo Pen Pro (for selected models)

The Lenovo Pen Pro (a rechargeable stylus pen) enables you to write and draw in a natural manner. To purchase the pen, go to https://www.lenovo.com/accessories.

Note: The color of the pen might vary by country or region. Depending on the model, the pen might look slightly different from the illustrations in this topic.

Pen overview

Bottom barrel button	To erase text or drawings, hold the button to erase the object in supported apps.
Top barrel button	To right-click, hold the button and tap the screen in supported apps.

USB-C connector	Use the ac power adapter that comes with your foldable PC to charge the pen.
LED indicator	When the LED indicator blinks in amber, the pen battery power is low. The LED indicator is in solid amber during charging and is solid green when the pen is fully charged. The pen is fully charged in about two hours.
Top pen button	Hold the top pen button for at least three seconds to enable Bluetooth pairing on the pen.

Notes:

- The default function of each barrel button might vary in different apps.
- To customize the barrel button functions, use Lenovo Pen Settings. If Lenovo Pen Settings is not installed on your computer, download and install the latest WinTab driver from https://support.lenovo.com.

Pair the pen

1. Enable Bluetooth pairing on the pen by pressing and holding the top of the pen for at least three seconds until the LED indicator flashes in green.
2. Enable Bluetooth pairing on your computer to discover and pair the pen. See "Set up a Bluetooth connection" on page 26. The pen is discoverable as Lenovo Pen Pro.

After pairing, press or double-press the top pen button to access more functions. To customize the top pen button functions, use Lenovo Pen Settings or open the Start menu and tap **Settings ➙ Devices ➙ Pen & Windows Ink ➙ Pen shortcuts**.

Maintenance tips

- The pen is not waterproof. Keep the pen away from water and excessive moisture.
- The pen contains pressure sensors. Apply an appropriate amount of pressure when writing on the screen. Do not subject the pen to shock or vibration.
- If possible, place your pen in a well-ventilated and dry area without direct exposure to sunshine.
- Do not use or store the pen in a place where excessive changes in temperature may occur such as in a car.

USB-C accessories

The USB-C connector delivers quick and easy connections between your foldable PC and accessories.

On very rare occasions, the USB-C compatible devices connected to the USB-C connector might interfere with the wireless features. If your foldable PC cannot be connected to Wi-Fi or cellular network, or if your location cannot be pinpointed through the GPS function, detach the USB-C compatible devices from the USB-C connector.

Lenovo Powered USB-C Travel Hub (for selected models)

The Lenovo Powered USB-C Travel Hub provides quick and easy connections between your computer and computer accessories.

The Lenovo Powered USB-C Travel Hub is available as an option and shipped with some computer models. You can purchase one from Lenovo at https://www.lenovo.com/accessories.

Overview
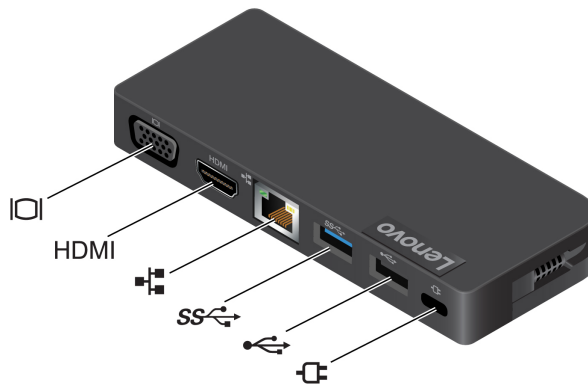
⎸〇⎹	VGA connector	HDMI	HDMI™ connector
⊶	Ethernet connector	ss⟷	Always On USB connector (USB 3.0)
⟵	USB 2.0 connector	⊶□	Power connector

Use the Lenovo Powered USB-C Travel Hub

Before you use the hub with your foldable PC, download and install the latest driver at:
https://support.lenovo.com/accessories/lenovo_powerd_usb-c_travel_hub

Connect the Lenovo Powered USB-C Travel Hub to either USB-C connector on your foldable PC.

For more information, refer to the documentation of the hub.

USB-C to audio

Connect speakers, headphones, or a headset to your foldable PC through a USB-C to audio cable.

Your foldable PC does not come with a USB-C to audio cable. To purchase one from Lenovo, go to https:// www.lenovo.com/accessories.

USB-C to Ethernet

To connect your foldable PC to a local network, a USB-C to Ethernet adapter is needed. The Lenovo USB-C to Ethernet Adapter is available as an option and shipped with some computer models. You can purchase one from Lenovo at https://www.lenovo.com/accessories.

Connect to an external display

Connect your foldable PC to a projector or a monitor to give presentations or expand your workspace.

Connect to a wired display

Your foldable PC comes with two USB-C connectors (USB 3.2 Gen 2), and you can connect your foldable PC to up to two external displays simultaneously. The supported maximum resolution of the external display is 3840 x 2160 pixels / 60 Hz.

If your foldable PC cannot detect the external display, tap and hold a blank area on the desktop and select display settings. Then follow the on-screen instructions to detect the external display.

Connect to a wireless display

To use a wireless display, ensure that both your foldable PC and the external display support the Miracast® feature. Open the **Start** menu, and then tap **Settings ➙ Devices ➙ Bluetooth & other devices**. In the Add a device window, tap **Wireless display or dock**. Then, follow the instructions on the screen. If your foldable

PC comes with the Lenovo Fold Mini Keyboard, press + and then select a wireless display to connect with.

Set the display mode

Open the **Start** menu, and then tap **Settings ➙ System ➙ Display**. Then, follow the instructions on the

screen. If your foldable PC comes with a Lenovo Fold Mini Keyboard, press and then select a display mode of your preference.

Change display settings

1. Tap and hold a blank area on the desktop and select display settings.
2. Select the display that you want to configure and change display settings of your preference.

You can change the settings for both the computer display and the external display. For example, you can define which one is the main display and which one is the secondary display. You also can change the resolution and orientation.

Chapter 3. Explore more

Lenovo Voice

 https://support.lenovo.com/us/zh/videos/vid500155

Lenovo Voice is a voice assistant that enables you to use voice to control your computer, translate voice into on-screen text, and convert voice to text. Ensure that you sign in the app before using both translation/subtitle function and voice-to-text function.

Notes:

- The available features and languages vary depending on the computer model and delivery of countries and regions.
- Lenovo Voice makes periodic updates of the features to keep improving your experience. The description of features might be different from that on your actual user interface.

To download the latest version of Lenovo Voice, go to Microsoft Store and search for the app name.

To access Lenovo Voice, do one of the following:

- Open the **Start** menu and tap **Lenovo Voice**.
- Type `Lenovo Voice` in the search box.
- Tap Windows key + alt + V on the On-Screen Keyboard, or press Windows key + alt + V on the Lenovo Fold Mini Keyboard if available.

Voice commands

This function allows you to use voice to control certain functions of your computer, such as:

- Brighten or darken computer screen.
- Adjust the speaker volume.
- Enable or disable airplane mode.
- Put computer into hibernation mode.
- Enable or disable the Bluetooth function.
- Go to the previous or next slide in a PPT file.

Translation/Subtitles

Lenovo Voice enables you to translate voice or audio into on-screen text in one of the supported languages. During conference calls, the translation function can translate a foreign conversation into on-screen text in your preferred language in real time.

In addition, the subtitle function allows you to watch foreign videos and see the translated text in a subtitle form.

Voice-to-text

This function allows you to use voice to input text in any typable field. Select any typable field (such as document editing area, web site browser input filed, and windows input bar) and use voice instead of typing. Your voice is converted to text and is inserted at the position of the cursor.

Lenovo Display Refresh

After use of two or three years, OLED displays may experience image retention if an image is continuously displayed for a long time. This is normal and it is caused by the characteristics of the OLED displays to achieve high-definition imaging.

To mitigate image retention, Lenovo Display Refresh reminds you to refresh your OLED display. During refreshment, Lenovo Display Refresh automatically adjusts the uniformity of the OLED screen.

To download the latest version of Lenovo Display Refresh, go to Microsoft Store and search by the app name.

Note: Lenovo Display Refresh makes periodic updates of the features to keep improving your experience. The description of features might be different from that on your actual user interface.

Use Lenovo Display Refresh

A pop-up window is displayed every two or three years, reminding you to refresh the OLED display. The actual interval between two prompts depends on how frequently you are using your foldable PC. When you are prompted, follow the on-screen instructions to complete the refreshment.

You also can refresh OLED display as desired:

1. Open the **Start** menu and select **Settings** ➙ **System** ➙ **Display**.
2. Locate the **Lenovo Display Refresh** section, and follow the on-screen instructions.

Tips on mitigating image retention

- Avoid placing one image / app to the same place on the screen over time
- Turn off your computer when not in use
- Use a screen saver

Smart Displays (for Windows 10 only)

Smart Displays is an app that helps you get the most out of returning to your desk with USB-C adapters and external displays. The The app allows you to save the layout of all apps in your display workspace and restores them automatically when the same monitor configuration is detected. Smart Displays also allows you to create and manage different workspaces to customize your layout when working on multiple projects.

Smart Displays is ideal for both users who work in an open-office, shared desk environment and for travelers returning to their home offices.

To access the app, type `Smart Displays` in the Windows search box.

Key features

- Automatically detects external display when connected and prompts you to arrange apps across the displays.
- Save, edit, restore layout configuration to help you easily move from one workspace to another.
- Create, deploy, and maintain function-based display layouts.

Notes:

- The available features and languages vary depending on the computer model and delivery of countries and regions.
- Smart Displays makes periodic updates of the features to keep improving your experience. The description of features might be different from that on your actual user interface.

The Vantage app

The preinstalled Vantage app is a customized one-stop solution to help you maintain your computer with automated updates and fixes, configure hardware settings, and get personalized support.

To access the Vantage app, type `Vantage` in the Windows search box.

Key features

The Vantage app enables you to:

- Know the device status easily and customize device settings.
- Download and install UEFI BIOS, firmware, and driver updates to keep your computer up-to-date.
- Monitor your computer health, and secure your computer against outside threats.
- Scan your computer hardware and diagnose hardware problems.
- Look up warranty status (online).
- Access *User Guide* and helpful articles.

Notes:

- The available features vary depending on the computer model.
- The Vantage app makes periodic updates of the features to keep improving your experience with your computer. The description of features might be different from that on your actual user interface.

Manage power

Use the information in this section to achieve the best balance between performance and power efficiency.

Check the battery status
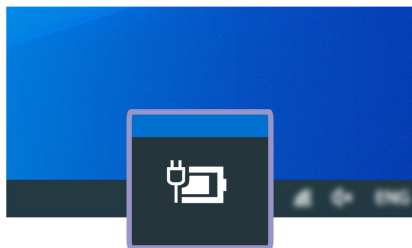
Tap the battery icon in the Windows notification area to check the battery status, view the current power plan, change the power mode, and access battery settings quickly. For more details about your battery, refer to the Vantage app.

Change the power settings

For ENERGY STAR® compliant computers, the following power plan takes effect when your computers have been idle for a specified duration:

- Turn off the display: After 10 minutes
- Put the computer to sleep: After 10 minutes

To reset the power plan to achieve the best balance between performance and power saving:

1. Tap and hold the battery status icon and select **Power Options**.
2. Choose or customize a power plan of your preference.

To reset the power button function:

1. Tap and hold the battery status icon and select **Power Options** ➙ **Choose what the power buttons do**.
2. Change the settings as you prefer.

Set dark/light theme mode

By default, your computer comes in dark theme mode to help extend battery capacity retention.

To switch between dark and light theme mode, do the following:

1. Open the **Start** menu and select **Settings** ➙ **Personalization** ➙ **Colors**.
2. In the **Choose your default app mode** section, select **Dark** or **Light**.

Use the Intelligent Cooling feature

The Intelligent Cooling feature helps you adjust fan speed, computer temperature, and performance by switching between following modes.

- Auto mode: switch between each mode automatically based on the amount of system activity.
- Performance mode: the highest performance and normal fan speed
- Balanced mode: balanced performance and fan speed
- Quiet mode: the lower fan speed

Choose a power modes

This feature works in auto mode by default. To choose a power mode:

1. Enter the UEFI BIOS menu. See "Enter the UEFI BIOS menu" on page 31.
2. Select **Config** ➙ **Power** ➙ **Intelligent Cooling Mode**.
3. Choose a power mode as desired.
4. Tap **F10** to save the changes and exit.

Set up a Bluetooth connection

You can connect all types of Bluetooth-enabled devices to your computer, such as a keyboard, a mouse, a smartphone, or speakers. To ensure successful connection, place the devices at most 10 meters (33 feet) from the computer.

1. Type `Bluetooth` in the Windows search box and then press Enter.
2. Turn on Bluetooth, if it is off.
3. Select a Bluetooth device, and then follow the on-screen instructions.

Maintenance tips and usage notices

Follow the instructions in this topic in daily use.

For OLED screen

- Do not attach any adhesives to the display such as a screen protector or sticker.
- Do not apply excessive pressure or place any metallic objects on the screen, which could damage the touch panel or cause it to malfunction.
- Do not use fingernails, gloved fingers, or other incompatible objects for touch input. Use clean fingers or an approved pen such as Lenovo Mod Pen or Lenovo Pen Pro.
- When folding the ThinkPad X1 Fold Gen 1, do not place any objects between the folded computer except the Lenovo Fold Mini Keyboard.
- Turn off your computer before cleaning the screen.
- Use a dry, soft, and lint-free cloth or a piece of absorbent cotton to remove fingerprints or dust from the screen. Do not apply solvents to the cloth.
- You may notice a crease or pattern at the center of the screen due to the unique display materials but it is a normal characteristic of the foldable OLED display. It will not affect the display's quality, lifespan, and performance and will not hinder the experience when using the device.
- When the computer is folded, you may see bright bands along the inside of the fold, especially when the screen content is white or bright. This is a normal characteristic of the foldable OLED display. It will not affect the display's quality, lifespan, and performance and will not hinder the experience when using the device.

For folio cover

- The folio cover is made of genuine leather, which ages naturally over time. This is normal. The appearance, color, and texture of the folio cover might vary slightly depending on computer models.
- Care for the leather folio cover by regularly wiping the leather folio cover with a soft, clean cloth, or brushing it. If dirt does not come off, use a high-quality leather cleaner.
- Do not expose the folio cover to sunshine or moisture for long periods of time. Clean with a soft cloth if the folio cover becomes wet. Dry it by dabbing with an absorbent lint-free cloth and keep it out of direct sunlight.
- Do not clean the folio cover with alcohol-based solvents, such as benzine and thinner, or other strong chemicals.
- Take special care when cosmetics, such as foundation or creams, come in contact with the folio cover. If any such products contact with the folio cover, immediately wipe them off using a dry cloth.
- For better folding experience, the center of the folio cover is made of soft genuine leather. Therefore, the center of the folio cover looks thinner. You might notice a slight bump or gap in the leather folio near the hinge over time. This is a normal characteristic of the genuine leather, and it does not affect the folio cover quality.

Chapter 4. Configure advanced settings

This chapter provides information about UEFI BIOS, recovery, operating system installation, and system management.

UEFI BIOS passwords

You can set passwords in UEFI (Unified Extensible Firmware Interface) BIOS (Basic Input/Output System) to strengthen the security of your computer.

Password types

You can set a power-on password, supervisor password, system management password, or hard disk password in UEFI BIOS to prevent unauthorized access to your computer. However, you are not prompted to enter any UEFI BIOS password when your computer resumes from sleep mode.

Power-on password

If you set a power-on password, a window is displayed on the screen when you turn on the computer. Enter the correct password to use the computer.

Supervisor password

The supervisor password protects the system information stored in UEFI BIOS. When entering the UEFI BIOS menu, enter the correct supervisor password in the window prompted. You also can tap Enter to skip the password prompt. However, you cannot change most of the system configuration options in UEFI BIOS.

If you have set both the supervisor password and power-on password, you can use the supervisor password to access your computer when you turn it on. The supervisor password overrides the power-on password.

System management password

The system management password can also protect the system information stored in UEFI BIOS like a supervisor password, but it has lower authority by default. The system management password can be set through the UEFI BIOS menu or through Windows Management Instrumentation (WMI) with the Lenovo client-management interface.

You can enable the system management password to have the same authority as the supervisor password to control security related features. To customize the authority of the system management password through the UEFI BIOS menu:

1. Enter the UEFI BIOS menu. See "Enter the UEFI BIOS menu" on page 31.
2. Select **Security** ➙ **Password** ➙ **System Management Password Access Control**.
3. Follow the on-screen instructions.

If you have set both the supervisor password and the system management password, the supervisor password overrides the system management password. If you have set both the system management password and the power-on password, the system management password overrides the power-on password.

Hard disk passwords

The hard disk password prevents unauthorized access to the data on the storage drive. When a hard disk password is set, you are prompted to type a correct password each time you try to access the storage drive.

To set the hard disk password, select one of the following types:

- **User hard disk password only**

  When a user hard disk password is set without a master hard disk password, the user must enter the user hard disk password to access files and applications on the storage drive.

- **Master hard disk password + User hard disk password**

  The master hard disk password is set and used by a system administrator. It enables the administrator to access any storage drive in a system or any computer connected in the same network. The administrator can also assign a user hard disk password for each computer in the network. The user of the computer can change the user hard disk password as desired, but only the administrator can remove the user hard disk password.

When prompted to enter a hard disk password, tap the icon and then tap **F1** to switch between the master hard disk password and user hard disk password.

Note: The hard disk password is not available in the following situations:

- A Trusted Computing Group (TCG) Opal-compliant storage drive and a TCG Opal management software program are installed in the computer, and the TCG Opal management software program is activated.
- An eDrive storage drive is installed in the computer preinstalled with the Windows operating system.

Set, change, and remove a password

Before you start, print these instructions.

1. Enter the UEFI BIOS menu. See "Enter the UEFI BIOS menu" on page 31.
2. Select **Security → Password**.
3. Select the password type. Then, follow the on-screen instructions to set, change, or remove a password.

You should record all your passwords and store them in a safe place. If you forget any of your passwords, any potential repair actions required are not covered under warranty.

What to do if you forget your power-on password

If you forget your power-on password, do the following to remove the power-on password:

- If you have set a supervisor password or a system management password and remember it:
    1. Enter the UEFI BIOS menu. See "Enter the UEFI BIOS menu" on page 31. Enter the supervisor password or the system management password when prompted.
    2. Select **Security → Password → Power-On Password**.
    3. Type the current supervisor password or the system management password in the **Enter Current Password** field. Then, leave both the **Enter New Password** and **Confirm New Password** field blank, and tap **Save**.
    4. In the Changes have been saved window, tap **Continue**.
    5. Tap **F10** to save changes and exit the UEFI BIOS menu.
- If you have not set a supervisor password or a system management password, contact a Lenovo authorized service provider to have the power-on password removed.

What to do if you forget your system management password

If you forget your system management password, do the following to remove the system management password:

- If you have set a supervisor password and remember it:
  1. Enter the UEFI BIOS menu. See "Enter the UEFI BIOS menu" on page 31. Enter the supervisor password when prompted.
  2. Select **Security** ➙ **Password** ➙ **System Management Password**.
  3. Enter the current supervisor password in the **Enter Current Password** field. Then, leave both the **Enter New Password** and **Confirm New Password** field blank, and tap **Save**.
  4. In the Changes have been saved window, tap **Continue**.
  5. Tap **F10** to save changes and exit the UEFI BIOS menu.
- If you have not set a supervisor password, contact a Lenovo authorized service provider to have the system management password removed.

What to do if you forget your hard disk password

If you forget your user hard disk password or both user and master hard disk passwords, Lenovo cannot reset your passwords or recover data from the storage drive. You can contact a Lenovo authorized service provider to have the storage drive replaced. A fee will be charged for parts and service.

What to do if you forget your supervisor password

If you forget your supervisor password, there is no service procedure to remove the password. You have to contact a Lenovo authorized service provider to have the system board replaced. A fee will be charged for parts and service.

UEFI BIOS

UEFI BIOS is the first program that the computer runs. When the computer turns on, UEFI BIOS performs a self test to make sure that various devices in the computer are functioning.

Enter the UEFI BIOS menu

To enter the UEFI BIOS menu, do the following:
1. Restart the computer. When the logo screen is displayed, tap the prompt. The Startup Interrupt Menu window is displayed.
2. In the Startup Interrupt Menu window, tap **F1** to enter the UEFI BIOS menu.

Note: If you have set the supervisor password, enter the correct password when prompted. You also can press Enter to skip the password prompt and enter the UEFI BIOS menu. However, you cannot change the system configurations that are protected by the supervisor password.

Navigate in the UEFI BIOS interface

You can navigate in the UEFI BIOS interface by using the following:
- F1: General Help
- F9: Setup Defaults
- F10: Save and Exit
- F5 / F6: Change boot priority order
- ↑↓ or PgUp / PgDn: Select / Scroll page
- ← →: Move keyboard focus
- Esc: Back / Close dialog
- Enter: Select / Open submenu

Set the system date and time

1. Enter the UEFI BIOS menu. See "Enter the UEFI BIOS menu" on page 31.
2. Select **Date/Time** and set the system date and time as desired.
3. Tap **F10** to save changes and exit.

Change the startup sequence

1. Enter the UEFI BIOS menu. See "Enter the UEFI BIOS menu" on page 31.
2. Select **Startup ➙ Boot**. Then, tap **Enter**. The default device order list is displayed.

   Note: No bootable device is displayed if the computer cannot start from any devices or the operating system cannot be found.
3. Set the startup sequence as desired.
4. Tap **F10** to save the changes and exit.

To change the startup sequence temporarily:

1. Restart the computer. When the logo screen is displayed, tap the prompt. The Startup Interrupt Menu window is displayed.
2. In the Startup Interrupt Menu window, tap **F12**.
3. Select the device that you want the computer to start from and tap **Enter**.

Update UEFI BIOS

When you install a new program, device driver, or hardware component, you might need to update UEFI BIOS.

Download and install the latest UEFI BIOS update package by one of the following methods:

- Open the Vantage app to check the available update packages. If the latest UEFI BIOS update package is available, follow the on-screen instructions to download and install the package.
- Go to https://pcsupport.lenovo.com and select the entry for your computer. Then, follow the on-screen instructions to download and install the latest UEFI BIOS update package.

To know more about UEFI BIOS, visit Knowledge Base of your computer at https://pcsupport.lenovo.com.

Install Windows operating system and drivers

This section provides instructions on installing a Windows operating system and device drivers.

Install a Windows operating system

Microsoft constantly makes updates to the Windows operating system. Before installing a particular Windows version, check the compatibility list for the Windows version. For details, go to https://support.lenovo.com/us/en/solutions/windows-support.

Attention:

- It is recommended that you update your operating system through official channels. Any unofficial update might cause security risks.
- The process of installing a new operating system deletes all the data on your internal storage drive, including the data stored in a hidden folder.

1. If you are using the Windows BitLocker Drive Encryption feature and your computer has a Trusted Platform Module, ensure that you have disabled the feature.

2. Ensure that the security chip is set to **Active**.

   a. Enter the UEFI BIOS menu. See "Enter the UEFI BIOS menu" on page 31.

   b. Select **Security ➙ Security Chip** and tap Enter. The **Security Chip** submenu opens.

   c. Ensure that the security chip for TPM 2.0 is set to **Active**.

   d. Tap F10 to save the settings and exit.

3. Connect the drive that contains the operating system installation program to the computer.

4. Enter the UEFI BIOS menu. See "Enter the UEFI BIOS menu" on page 31.

5. Select **Startup ➙ Boot** to display the **Boot Priority Order** submenu.

6. Select the drive that contains the operating system installation program, for example, **USB HDD**. Then, tap Esc.

   Attention: After you change the startup sequence, ensure that you select the correct device during a copy, a save, or a format operation. If you select the wrong device, the data on that device might be erased or overwritten.

7. Select **Restart** and ensure that **OS Optimized Defaults** is enabled. Then, tap F10 to save the settings and exit.

8. Follow the on-screen instructions to install the device drivers and necessary programs.

9. After installing the device drivers, apply Windows Update to get the latest updates, for example the security patches.

Install device drivers

You should download the latest driver for a component when you notice poor performance from that component or when you added a component. This action might eliminate the driver as the potential cause of a problem. Download and install the latest driver by one of the following methods:

- Open the Vantage app to check the available update packages. Select the update packages you want, and then follow the on-screen instructions to download and install the packages.

- Go to https://pcsupport.lenovo.com and select the entry for your computer. Then, follow the on-screen instructions to download and install necessary drivers and software.

Chapter 5. Help and support

Frequently asked questions

How do I access **Control Panel**?	Type `Control Panel` in the Windows search box and then press Enter.
How do I turn off my computer?	Open the **Start** menu and tap ⏻ **Power**. Then, tap **Shut down**.
How do I partition my storage drive?	https://support.lenovo.com/solutions/ht503851
What do I do if my computer stops responding.	1. Press and hold the power button until the computer turns off. Then, restart the computer. 2. If step 1 does not work, insert a straightened paper clip into the emergency reset hole to cut off power supply temporarily. Then, restart the computer with ac power connected. 3. If step 2 does not work, ensure that the computer is connected to ac power and insert a straightened paper clip into the emergency reset hole and hold the paper clip for more than 10 seconds to reset the computer. Then, restart the computer with ac power connected and reset the system date and time in the UEFI BIOS menu.
What do I do if I spill liquid on the computer?	1. Carefully unplug the ac power adapter and turn off the computer immediately. The more quickly you stop the current from passing through the computer the more likely you will reduce damage from short circuits. **Attention:** Although you might lose some data or work by turning off the computer immediately, leaving the computer on might make your computer unusable. 2. Wipe off liquids from screen as soon as possible. Any extended contact with computer screen could result in deformations and color fading.
How do I enter the UEFI BIOS menu?	See "Enter the UEFI BIOS menu" on page 31.
Where can I get the latest device drivers and UEFI BIOS?	Download from Lenovo Support Web site at https://pcsupport.lenovo.com.

Error messages

If you see a message that is not included in the following table, record the error message first, then shut down the computer and call Lenovo for help. See "Lenovo Customer Support Center" on page 40.

Message	Solution
0190: Critical low-battery error	The computer turned off because the battery power is low. Connect the ac power adapter to the computer and charge the batteries.
0191: System Security - Invalid remote change requested	The system configuration change has failed. Confirm the operation and try again.
0199: System Security - Security password retry count exceeded.	This message is displayed when you enter a wrong supervisor password more than three times. Confirm the supervisor password and try again.
0271: Check Date and Time settings.	The date or the time is not set in the computer. Enter the UEFI BIOS menu and set the date and time.
210x/211x: Detection/Read error on HDDx/SSDx	The storage drive is not working. Reinstall the storage drive. If the problem still exists, replace the storage drive.
Error: The non-volatile system UEFI variable storage is nearly full.	**Note:** This error indicates that the operating system or programs cannot create, modify, or delete data in the non-volatile system UEFI variable storage due to insufficient storage space after POST. The non-volatile system UEFI variable storage is used by the UEFI BIOS and by the operating system or programs. This error occurs when the operating system or programs store large amounts of data in the variable storage. All data needed for POST, such as UEFI BIOS setup settings, chipset, or platform configuration data, are stored in a separate UEFI variable storage. Press F1 after the error message is displayed to enter the UEFI BIOS menu. A dialog asks for confirmation to clean up the storage. If you select "Yes", all data that were created by the operating system or programs will be deleted except global variables defined by the Unified Extensible Firmware Interface Specification. If you select "No", all data will be kept, but the operating system or programs will not be able to create, modify, or delete data in the storage. If this error happens at a service center, Lenovo authorized service personnel will clean up the non-volatile system UEFI variable storage using the preceding solution.
Fan error. Press ESC to startup with limited performance.	The thermal fan might not work correctly. After the error message is displayed, press ESC within five seconds to start up the computer with limited performance. Otherwise, the computer will shut down immediately. If the problem still exists when you starts up next time, have your computer serviced.

Self-help resources

Use the following self-help resources to learn more about the computer and troubleshoot problems.

Resources	How to access?
Troubleshooting and FAQ	• https://www.lenovo.com/tips • https://forums.lenovo.com
Accessibility information	https://www.lenovo.com/accessibility

Reset or restore Windows	• Use Lenovo recovery options.
	  1. Go to https://support.lenovo.com/HowToCreateLenovoRecovery.
	  2. Follow the on-screen instructions.
	 • Use Windows recovery options.
	  1. Go to https://pcsupport.lenovo.com.
	  2. Detect your computer or manually select your computer model.
	  3. Click **Diagnostics ➙ Operating System Diagnostics** and then follow the on-screen instructions.

Use the Vantage app to: • Configure device settings. • Download and install UEFI BIOS, drivers, and firmware updates. • Check the computer warranty status. • Access *User Guide* and helpful articles.	Type `Vantage` in the Windows search box and then press Enter.
Product documentation: • *Safety and Warranty Guide* • *Setup Guide* • This *User Guide* • *Regulatory Notice*	Go to https://pcsupport.lenovo.com. Then, follow the on-screen instructions to filter out the documentation you want.
Lenovo Support Web site with the latest support information of the following: • Drivers and software • Diagnostic solutions • Product and service warranty • Product and parts details • Knowledge base and frequently asked questions	https://pcsupport.lenovo.com
Windows help information	• Open the Start menu and tap **Get Help** or **Tips**. • Use Windows Search or the Cortana® personal assistant. • Microsoft support Web site: https://support.microsoft.com

Windows label

Your computer might have a Windows Genuine Microsoft label affixed to its cover depending on the following factors:

- Your geographic location
- Edition of Windows that is preinstalled

Go to https://www.microsoft.com/en-us/howtotell/Hardware.aspx for illustrations of the various types of Genuine Microsoft labels.

- In the People's Republic of China, the Genuine Microsoft label is required on all computer models preinstalled with any edition of the Windows operating system.
- In other countries and regions, the Genuine Microsoft label is required only on computer models licensed for Windows Pro editions.

The absence of a Genuine Microsoft label does not indicate that the preinstalled Windows version is not genuine. For details on how to tell whether your preinstalled Windows product is genuine, refer to the information provided by Microsoft at https://www.microsoft.com/en-us/howtotell/default.aspx.

There are no external, visual indicators of the Product ID or Windows version for which the computer is licensed. Instead, the Product ID is recorded in the computer firmware. Whenever a Windows product is installed, the installation program checks the computer firmware for a valid, matching Product ID to complete the activation.

In some cases, an earlier Windows version might be preinstalled under the terms of the Windows Pro edition license downgrade rights.

What are CRUs

Customer Replaceable Units (CRUs) are parts that can be upgraded or replaced by the customer. The computers contain the following types of CRUs:

- **Self-service CRUs:** Refer to parts that can be installed or replaced easily by customer themselves or by trained service technicians at an additional cost.
- **Optional-service CRUs:** Refer to parts that can be installed or replaced by customers with a greater skill level. Trained service technicians can also provide service to install or replace the parts under the type of warranty designated for the customer's machine.

If you intend on installing a CRU, Lenovo will ship the CRU to you. CRU information and replacement instructions are shipped with your product and are available from Lenovo at any time upon request. You might be required to return the defective part that is replaced by the CRU. When return is required: (1) return instructions, a prepaid shipping label, and a container will be included with the replacement CRU; and (2) you might be charged for the replacement CRU if Lenovo does not receive the defective CRU within thirty (30) days of your receipt of the replacement CRU. For full details, see the Lenovo Limited Warranty documentation at https://www.lenovo.com/warranty/llw_02.

The following is a list of CRUs of your computer.

Self-service CRUs
- ac power adapter
- Power cord
- Lenovo Fold Mini Keyboard *

- Lenovo Mod Pen *
- Lenovo Pen Pro *
- Lenovo Powered USB-C Travel Hub *
- Nano-SIM-card tray *

* for selected models

Note: Replacement of any parts not listed above, including the built-in rechargeable battery, must be done by a Lenovo-authorized repair facility or technician. Go to https://support.lenovo.com/partnerlocation for more information.

Call Lenovo

If you have tried to correct the problem yourself and still need help, you can call Lenovo Customer Support Center.

Before you contact Lenovo

Prepare the following before you contact Lenovo:

1. Record the problem symptoms and details:

   - What is the problem? Is it continuous or intermittent?
   - Any error message or error code?
   - What operating system are you using? Which version?
   - Which software applications were running at the time of the problem?
   - Can the problem be reproduced? If so, how?

2. Record the system information:

   - Product name
   - Machine type and serial number

The following illustration shows where to find the machine type and serial number of your computer.

Lenovo Customer Support Center

During the warranty period, you can call Lenovo Customer Support Center for help.

Telephone numbers

For a list of the Lenovo Support phone numbers for your country or region, go to https://pcsupport.lenovo.com/supportphonelist for the latest phone numbers.

Note: Phone numbers are subject to change without notice. If the number for your country or region is not provided, contact your Lenovo reseller or Lenovo marketing representative.

Services available during the warranty period

- Problem determination - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.
- Lenovo hardware repair - If the problem is determined to be caused by Lenovo hardware under warranty, trained service personnel are available to provide the applicable level of service.
- Engineering change management - Occasionally, there might be changes that are required after a product has been sold. Lenovo or your reseller, if authorized by Lenovo, will make selected Engineering Changes (ECs) that apply to your hardware available.

Services not covered

- Replacement or use of parts not manufactured for or by Lenovo or nonwarranted parts
- Identification of software problem sources
- Configuration of UEFI BIOS as part of an installation or upgrade
- Changes, modifications, or upgrades to device drivers
- Installation and maintenance of network operating systems (NOS)
- Installation and maintenance of programs

For the terms and conditions of the Lenovo Limited Warranty that apply to your Lenovo hardware product, go to:

- https://www.lenovo.com/warranty/llw_02
- https://pcsupport.lenovo.com/warrantylookup

Purchase additional services

During and after the warranty period, you can purchase additional services from Lenovo at https://pcsupport.lenovo.com/warrantyupgrade.

Service availability and service name might vary by country or region.

Appendix A. Important safety information

Safety notices

This information can help you safely use your computer. Follow and retain all information included with your computer. The information in this document does not alter the terms of your purchase agreement or the Limited Warranty. For more information, see *Safety and Warranty Guide* that comes with your computer.

Customer safety is important. Our products are developed to be safe and effective. However, personal computers are electronic devices. Power cords, power adapters, and other features can create potential safety risks that can result in physical injury or property damage, especially if misused. To reduce these risks, follow the instructions included with your product, observe all warnings on the product and in the operating instructions, and review the information included in this document carefully. By carefully following the information contained in this document and provided with your product, you can help protect yourself from hazards and create a safer computer work environment.

Note: This information includes references to power adapters and batteries. In addition, some products (such as speakers and monitors) ship with external power adapters. If you have such a product, this information applies to your product. In addition, computer products contain a coin-sized internal battery that provides power to the system clock even when the computer is unplugged, so the battery safety information applies to all computer products.

Important information about using your computer

Ensure that you follow the important tips given here to get the most use and enjoyment out of your computer. Failure to do so might lead to discomfort or injury, or cause the computer to fail.

Protect yourself from the heat that your computer generates.
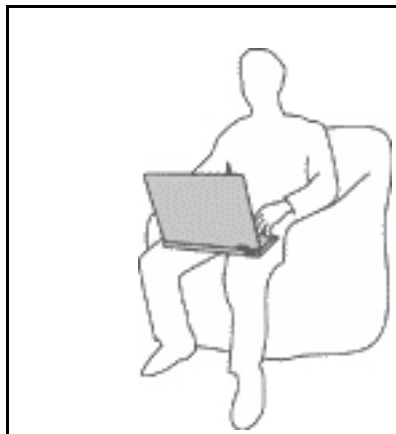
When your computer is turned on or the battery is charging, the base, the palm rest, and some other parts may become hot. The temperature they reach depends on the amount of system activity and the level of charge in the battery.

Extended contact with your body, even through clothing, could cause discomfort or even a skin burn.

- Avoid keeping your hands, your lap, or any other part of your body in contact with a hot section of the computer for any extended time.

- Periodically take your hands away from the keyboard by lifting your hands from the palm rest.

Protect yourself from the heat generated by the ac power adapter.

When the ac power adapter is connected to an electrical outlet and your computer, it generates heat.

Extended contact with your body, even through clothing, may cause a skin burn.

- Do not place the ac power adapter in contact with any part of your body while it is in use.
- Never use it to warm your body.
- Do not wrap the cords around the ac power adapter while in use.

Prevent your computer from getting wet.

To avoid spills and the danger of electrical shock, keep liquids away from your computer.

Protect the cables from being damaged.
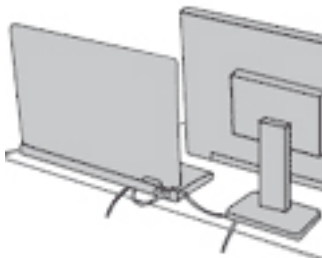
Applying strong force to cables may damage or break them.

Route communication lines, or the cables of an ac power adapter, a mouse, a keyboard, a printer, or any other electronic device, so that they cannot be walked on, tripped over, pinched by your computer or other objects, or in any way subject to treatment that could interfere with the operation of your computer.

Protect your computer and data when moving it.
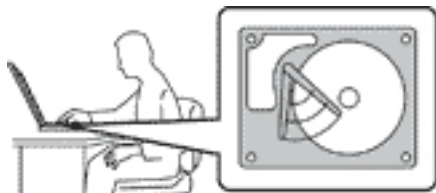
Before moving a computer equipped with a storage drive, do one of the following:

- Turn it off.
- Put it in sleep mode.
- Put it in hibernation mode.

This helps to prevent damage to the computer, and possible loss of data.

Handle your computer gently.

Do not drop, bump, scratch, twist, hit, vibrate, push, or place heavy objects on your computer, display, or external devices.
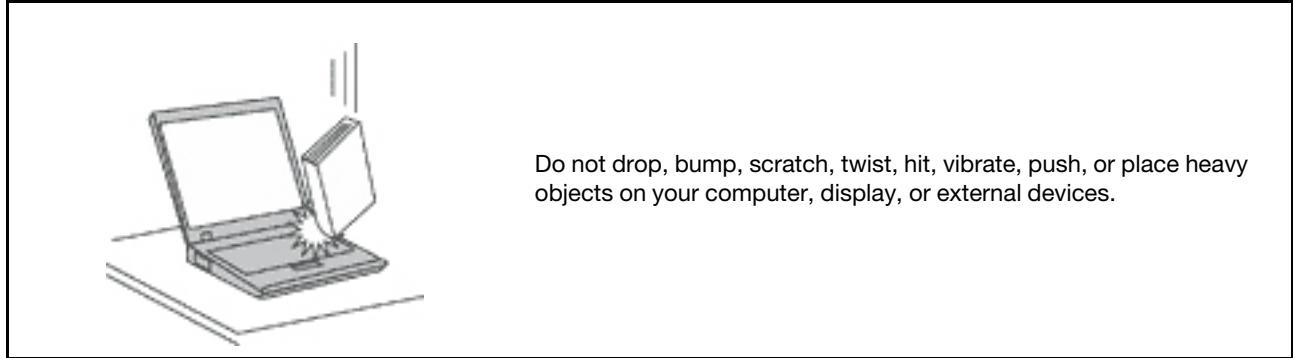
Carry your computer carefully.

- Use a quality carrying case that provides adequate cushioning and protection.
- Do not pack your computer in a tightly packed suitcase or bag.
- Before putting your computer in a carrying case, make sure that it is off, in sleep mode, or in hibernation mode. Do not put a computer in a carrying case while it is turned on.
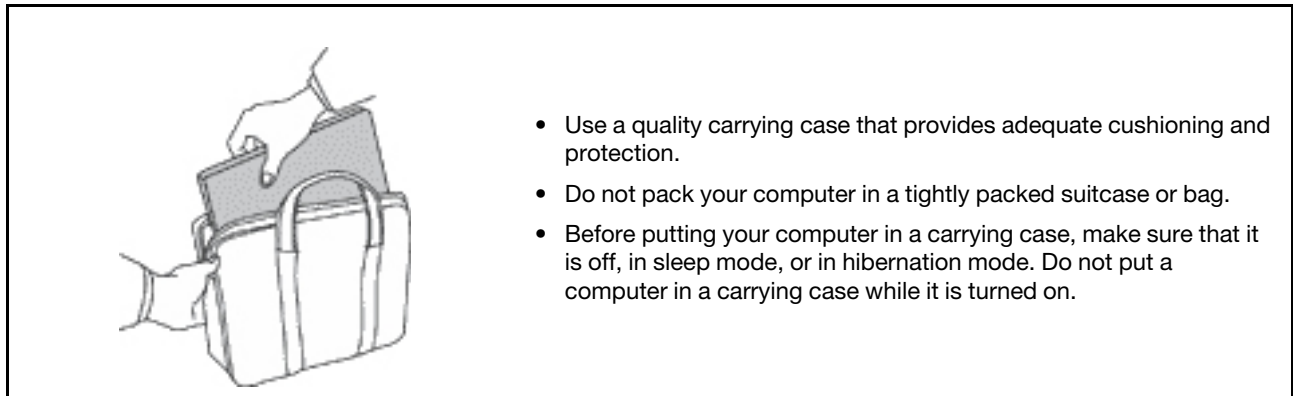
Conditions that require immediate action

Products can become damaged due to misuse or neglect. Some product damage is serious enough that the product should not be used again until it has been inspected and, if necessary, repaired by an authorized servicer.

As with any electronic device, pay close attention to the product when it is turned on.

On very rare occasions, you might notice an odor or see a puff of smoke or sparks vent from your product. You might also hear sounds like popping, cracking, or hissing. These might merely mean that an internal electronic component has failed in a safe and controlled manner. Or, they might indicate a potential safety issue. Do not take risks or attempt to diagnose the situation yourself. Contact the Customer Support Center for further guidance. For a list of Service and Support phone numbers, see the following Web site:

https://pcsupport.lenovo.com/supportphonelist

Frequently inspect your computer and its components for damage, wear, or signs of danger. If you have any question about the condition of a component, do not use the product. Contact the Customer Support Center or the product manufacturer for instructions on how to inspect the product and have it repaired, if necessary.

In the unlikely event that you notice any of the following conditions, or if you have any safety concerns with your product, stop using the product and unplug it from the power source and telecommunication lines until you can speak to the Customer Support Center for further guidance.

- Power cords, plugs, power adapters, extension cords, surge protectors, or power supplies that are cracked, broken, or damaged.

- Signs of overheating, smoke, sparks, or fire.

- Damage to a battery (such as cracks, dents, or creases), discharge from a battery, or a buildup of foreign substances on the battery.

- A cracking, hissing, or popping sound, or strong odor that comes from the product.

- Signs that liquid has been spilled or an object has fallen onto the computer product, the power cord, or power adapter.

- The computer product, power cord, or power adapter has been exposed to water.

- The product has been dropped or damaged in any way.

- The product does not operate normally when you follow the operating instructions.

Note: If you notice these conditions with a product (such as an extension cord) that is not manufactured for or by Lenovo, stop using that product until you can contact the product manufacturer for further instructions, or until you get a suitable replacement.

Service and upgrades

Do not attempt to service a product yourself unless instructed to do so by the Customer Support Center or your documentation. Only use a Service Provider who is approved to repair your particular product.

Note: Some computer parts can be upgraded or replaced by the customer. Upgrades typically are referred to as options. Replacement parts approved for customer installation are referred to as Customer Replaceable Units, or CRUs. Lenovo provides documentation with instructions when it is appropriate for customers to install options or replace CRUs. You must closely follow all instructions when installing or replacing parts. The Off state of a power indicator does not necessarily mean that voltage levels inside a product are zero. Before you remove the covers from a product equipped with a power cord, always ensure that the power is turned off and that the product is unplugged from any power source. If you have any questions or concerns, contact the Customer Support Center.

Although there are no moving parts in your computer after the power cord has been disconnected, the following warnings are required for your safety.

Keep fingers and other parts of your body away from hazardous, moving parts. If you suffer an injury, seek medical care immediately.

Do not touch hot surface of hot components inside the computer. During operation, some components become hot enough to burn the skin. Before you open the computer cover, turn off the computer, disconnect power, and wait approximately 10 minutes for the components to cool.

After replacing a CRU, reinstall all protective covers, including the computer cover, before connecting power and operating the computer. This action is important to help prevent unexpected electrical shock and help ensure the containment of an unexpected fire that could happen under extremely rare conditions.

When replacing CRUs, be cautious of sharp edges or corners that might cause injury. If you suffer an injury, seek medical care immediately.

Power cords and power adapters

DANGER

Use only the power cords and power adapters supplied by the product manufacturer.

The power cords shall be safety approved. For Germany, it shall be H03VV-F, 3G, 0.75 mm², or better. For other countries, the suitable types shall be used accordingly.

Never wrap a power cord around a power adapter or other object. Doing so can stress the cord in ways that can cause the cord to fray, crack, or crimp. This can present a safety hazard.

Always route power cords so that they will not be walked on, tripped over, or pinched by objects.

Protect power cords and power adapters from liquids. For instance, do not leave your power cord or power adapter near sinks, tubs, toilets, or on floors that are cleaned with liquid cleansers. Liquids can cause a short circuit, particularly if the power cord or power adapter has been stressed by misuse. Liquids also can cause gradual corrosion of power cord terminals and/or the connector terminals on a power adapter, which can eventually result in overheating.

Ensure that all power cord connectors are securely and completely plugged into receptacles.

Do not use any power adapter that shows corrosion at the ac input pins or shows signs of overheating (such as deformed plastic) at the ac input pins or anywhere on the power adapter.

Do not use any power cords where the electrical contacts on either end show signs of corrosion or overheating or where the power cord appears to have been damaged in any way.

To prevent possible overheating, do not cover the power adapter with clothing or other objects when the power adapter is plugged into an electrical outlet.

Extension cords and related devices

Ensure that extension cords, surge protectors, uninterruptible power supplies, and power strips that you use are rated to handle the electrical requirements of the product. Never overload these devices. If power strips are used, the load should not exceed the power strip input rating. Consult an electrician for more information if you have questions about power loads, power requirements, and input ratings.

Plugs and outlets

⚠️DANGER

If a receptacle (power outlet) that you intend to use with your computer equipment appears to be damaged or corroded, do not use the outlet until it is replaced by a qualified electrician.

Do not bend or modify the plug. If the plug is damaged, contact the manufacturer to obtain a replacement.

Do not share an electrical outlet with other home or commercial appliances that draw large amounts of electricity; otherwise, unstable voltage might damage your computer, data, or attached devices.

Some products are equipped with a three-pronged plug. This plug fits only into a grounded electrical outlet. This is a safety feature. Do not defeat this safety feature by trying to insert it into a non-grounded outlet. If you cannot insert the plug into the outlet, contact an electrician for an approved outlet adapter or to replace the outlet with one that enables this safety feature. Never overload an electrical outlet. The overall system load should not exceed 80 percent of the branch circuit rating. Consult an electrician for more information if you have questions about power loads and branch circuit ratings.

Be sure that the power outlet you are using is properly wired, easily accessible, and located close to the equipment. Do not fully extend power cords in a way that will stress the cords.

Be sure that the power outlet provides the correct voltage and current for the product you are installing.

Carefully connect and disconnect the equipment from the electrical outlet.

Power supply statement

Never remove the cover on a power supply or any part that has the following label attached.

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

External devices

CAUTION:
Do not connect or disconnect any external device cables other than Universal Serial Bus (USB) and 1394 cables while the computer power is on; otherwise, you might damage your computer. To avoid possible damage to attached devices, wait at least five seconds after the computer is shut down to disconnect external devices.

General battery notice

⚠️**DANGER**

Batteries supplied by Lenovo for use with your product have been tested for compatibility and should only be replaced with approved parts. A battery other than the one specified by Lenovo, or a disassembled or modified battery is not covered by the warranty.

Battery abuse or mishandling can cause overheat, liquid leakage, or an explosion. To avoid possible injury:

- Do not open, dissemble, or service any battery.
- Do not crush or puncture the battery.
- Do not short-circuit the battery, or expose it to water or other liquids.
- Keep the battery away from children.
- Keep the battery away from fire.

Stop using the battery if it is damaged, or if you notice any discharge or the buildup of foreign materials on the battery leads.

Store the rechargeable batteries or products containing the rechargeable batteries at room temperature, charged to approximately 30 to 50% of capacity. We recommend that the batteries be charged about once per year to prevent overdischarge.

Do not put the battery in trash that is disposed of in landfills. When disposing of the battery, comply with local ordinances or regulations.

Notice for built-in rechargeable battery

⚠️**DANGER**

Do not attempt to remove or replace the built-in rechargeable battery. Replacement of the battery must be done by a Lenovo-authorized repair facility or technician.

Only recharge the battery strictly according to instructions included in the product documentation.

The Lenovo-authorized repair facilities or technicians recycle Lenovo batteries according to local laws and regulations.

Heat and product ventilation

⚠️**DANGER**

Computers, ac power adapters, and many accessories can generate heat when turned on and when batteries are charging. Notebook computers can generate a significant amount of heat due to their compact size. Always follow these basic precautions:

- When your computer is turned on or the battery is charging, the base, the palm rest, and some other parts may become hot. Avoid keeping your hands, your lap, or any other part of your body in contact with a hot section of the computer for any extended length of time. When you use the keyboard, avoid keeping your palms on the palm rest for a prolonged period of time. Your computer generates some heat during normal operation. The amount of heat depends on the amount of system activity and the battery charge level. Extended contact with your body, even through clothing, could cause discomfort or even a skin burn. Periodically take breaks from using the keyboard by lifting your hands from the palm rest; and be careful not to use the keyboard for any extended length of time.

- Do not operate your computer or charge the battery near flammable materials or in explosive environments.

- Ventilation slots, fans and/or heat sinks are provided with the product for safety, comfort, and reliable operation. These features might inadvertently become blocked by placing the product on a bed, sofa, carpet, or other flexible surface. Never block, cover, or disable these features.

- When the ac power adapter is connected to an electrical outlet and your computer, it generates heat. Do not place the adapter in contact with any part of your body while using it. Never use the ac power adapter to warm your body. Extended contact with your body, even through clothing, may cause a skin burn.

For your safety, always follow these basic precautions with your computer:

- Keep the cover closed whenever the computer is plugged in.

- Regularly inspect the outside of the computer for dust accumulation.

- Remove dust from vents and any perforations in the bezel. More frequent cleanings might be required for computers in dusty or high-traffic areas.

- Do not restrict or block any ventilation openings.

- Do not operate your computer inside furniture, as this might increase the risk of overheating.

- Airflow temperatures into the computer should not exceed 35°C (95°F).

Electrical current safety information

⚠️**DANGER**

Electric current from power, telephone, and communication cables is hazardous.

To avoid a shock hazard:

- **Do not use your computer during a lightning storm.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **Connect all power cords to a properly wired and grounded electrical outlet.**
- **Connect properly wired outlets to any equipment that will be attached to this product.**
- **Whenever possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, battery, and all the cables before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Do not use your computer until all internal parts enclosures are fastened into place. Never use the computer when internal parts and circuits are exposed.**

⚠️**DANGER**

Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.

To connect:	To disconnect:
1. **Turn everything OFF.**	1. **Turn everything OFF.**
2. **First, attach all cables to devices.**	2. **First, remove power cords from outlets.**
3. **Attach signal cables to connectors.**	3. **Remove signal cables from connectors.**
4. **Attach power cords to outlets.**	4. **Remove all cables from devices.**
5. **Turn devices ON.**	

The power cord must be disconnected from the wall outlet or receptacle before installing all other electrical cables connected to the computer.

The power cord may be reconnected to the wall outlet or receptacle only after all other electrical cables have been connected to the computer.

⚠️**DANGER**

During electrical storms, do not perform any replacement and do not connect the telephone cable to or disconnect it from the telephone outlet on the wall.

Liquid crystal display (LCD) notice

CAUTION:
The liquid crystal display (LCD) is made of glass, and rough handling or dropping the computer can cause the LCD to break. If the LCD breaks and the internal fluid gets into your eyes or on your hands, immediately wash the affected areas with water for at least 15 minutes; if any symptoms are present after washing, get medical care.

Note: For products with mercury-containing fluorescent lamps (for example, non-LED), the fluorescent lamp in the liquid crystal display (LCD) contains mercury; dispose of according to local, state, or federal laws.

Use earphones, headphones, or a headset

Excessive sound pressure from earphones and headphones can cause hearing loss. Adjustment of the equalizer to maximum increases the earphone and headphone output voltage and the sound pressure level. Therefore, to protect your hearing, adjust the equalizer to an appropriate level.

Excessive use of headphones or earphones for a long period of time at high volume can be dangerous if the output of the headphone or earphone connectors do not comply with specifications of EN 50332-2. The headphone output connector of your computer complies with EN 50332-2 Sub clause 7. This specification limits the computer's maximum wide band true RMS output voltage to 150 mV. To help protect against hearing loss, ensure that the headphones or earphones you use also comply with EN 50332-2 (Clause 7 limits) for a wide band characteristic voltage of 75 mV. Using headphones that do not comply with EN 50332-2 can be dangerous due to excessive sound pressure levels.

If your Lenovo computer came with headphones or earphones in the packaging, as a set, the combination of the headphones or earphones and the computer already complies with the specifications of EN 50332-1. If different headphones or earphones are used, ensure that they comply with EN 50332-1 (Clause 6.5 Limitation Values). Using headphones that do not comply with EN 50332-1 can be dangerous due to excessive sound pressure levels.

Choking hazard notice

CHOKING HAZARD – Product contains small parts.

Keep away from children under three years.

Plastic bag notice

DANGER

Plastic bags can be dangerous. Keep plastic bags away from babies and children to avoid danger of suffocation.

Glass parts notice

CAUTION:
Some parts of your product may be made of glass. This glass could break if the product is dropped on a hard surface or receives a substantial impact. If glass breaks, do not touch or attempt to remove it. Stop using your product until the glass is replaced by trained service personnel.

Static electricity prevention

Static electricity, although harmless to you, can seriously damage computer components and options. Improper handling of static-sensitive parts can damage the part. When you unpack an option or CRU, do not open the static-protective package containing the part until the instructions direct you to install it.

When you handle options or CRUs, or perform any work inside the computer, take the following precautions to avoid static-electricity damage:

- Limit your movement. Movement can cause static electricity to build up around you.
- Always handle components carefully. Handle adapters, memory modules, and other circuit boards by the edges. Never touch exposed circuitry.
- Prevent others from touching components.
- When you install a static-sensitive option or CRU, touch the static-protective packaging containing the part to a metal expansion-slot cover or other unpainted metal surface on the computer for at least two seconds. This reduces static electricity in the package and your body.
- When possible, remove the static-sensitive part from the static-protective packaging and install the part without setting it down. When this is not possible, place the static-protective packaging on a smooth, level surface and place the part on it.
- Do not place the part on the computer cover or other metal surface.

Operating environment

Maximum altitude (without pressurization)

3048 m (10 000 ft)

Temperature

- Operating: 5°C to 35°C (41°F to 95°F)
- Storage and transportation in original shipping package: -20°C to 60°C (-4°F to 140°F)
- Storage without package: 5°C to 43°C (41°F to 109°F)

Note: When you charge the battery, its temperature must be no lower than 10°C (50°F).

Relative humidity

- Operating: 10% to 90% at wet-bulb temperature 23°C (73°F)
- Storage and transportation: 10% to 90% at wet-bulb temperature 27°C (81°F)

Cleaning and maintenance

With appropriate care and maintenance, your computer will serve you reliably. The following topics offer information to help you keep your computer working with best performance.

Basic maintenance tips

Here are some basic points about keeping your computer functioning properly:

- If possible, place your computer in a well-ventilated and dry area without direct exposure to sunshine.
- Store packing materials safely out of the reach of children to prevent the risk of suffocation from plastic bags.
- Keep your computer away from magnets, activated cellular phones, electrical appliances, or speakers (more than 13 cm or 5 inches).
- Avoid subjecting your computer to extreme temperatures (below 5°C/41°F or above 35°C/95°F).
- Avoid placing any objects (including paper) between the display and the keyboard or the palm rest.
- Computer display might be designed to be opened and used at a certain angle. Do not open the display with force. Otherwise, the computer hinge might get damaged.
- Do not turn your computer over when the ac power adapter is plugged in, otherwise, it could break the adapter plug.
- Before moving your computer, be sure to remove any media, turn off attached devices, and disconnect cords and cables.
- When picking up your open computer, hold it by the bottom. Do not pick up or hold your computer by the display.
- Only an authorized Lenovo repair technician should disassemble and repair your computer.
- Do not modify or tape the latches to keep the display open or closed.
- Avoid directly exposing your computer and peripherals to the air from an appliance that can produce negative ions. Wherever possible, ground your computer to facilitate safe electrostatic discharge.

Clean your computer

It is a good practice to clean your computer periodically to protect the surfaces and ensure trouble-free operation.

Clean the computer cover: Wipe it with a lint-free cloth dampened in mild soap and water. Avoid applying liquids directly to the cover.

Clean the keyboard: Wipe the keys one by one with a lint-free cloth dampened in mild soap and water. If you wipe several keys at a time, the cloth might hook onto an adjacent key and possibly damage it. Avoid spraying cleaner directly onto the keyboard. To remove any crumbs or dust from beneath the keys, you can use a camera blower with a brush or use cool air from a hair dryer.

Clean the computer screen: Scratches, oil, dust, chemicals, and ultraviolet light can affect the performance of your computer screen. Use a dry, soft lint-free cloth to wipe the screen gently. If you see a scratchlike mark on your screen, it might be a stain. Wipe or dust the stain gently with a soft, dry cloth. If the stain remains, moisten a soft, lint-free cloth with water or eyeglass cleaner, but do not apply liquids directly to your computer screen. Ensure that the computer screen is dry before closing it.

Appendix B. Accessibility and ergonomic information

This chapter provides information about accessibility and ergonomics.

Accessibility information

Lenovo is committed to providing users who have hearing, vision, and mobility limitations with greater access to information and technology. You can get the most up-to-date accessibility information from https://www.lenovo.com/accessibility.

If you need additional support with the accessibility features, go to https://pcsupport.lenovo.com/supportphonelist to find the support phone numbers for your country or region.

Ergonomic information

Good ergonomic practice is important to get the most from your personal computer and to avoid discomfort. Arrange your workplace and the equipment you use to suit your individual needs and the kind of work that you perform. In addition, use healthy work habits to maximize your performance and comfort when using your computer.

Working in the virtual office might mean adapting to frequent changes in your environment. Adapting to the surrounding light sources, active seating, and the placement of your computer hardware, can help you improve your performance and achieve greater comfort.

This example shows someone in a conventional setting. Even when not in such a setting, you can follow many of these tips. Develop good habits, and they will serve you well.

General posture: Make minor modifications in your working posture to deter the onset of discomfort caused by long periods of working in the same position. Frequent short breaks from your work also help to prevent minor discomfort associated with your working posture.

Display: Position the display to maintain a comfortable viewing distance of 510 mm to 760 mm (20 inches to 30 inches). Avoid glare or reflections on the display from overhead lighting or outside sources of light. Keep the display screen clean and set the brightness to levels that enable you to see the screen clearly. Press the brightness control keys to adjust display brightness.

Head position: Keep your head and neck in a comfortable and neutral (vertical, or upright) position.

Chair: Use a chair that gives you good back support and seat height adjustment. Use chair adjustments to best suit your comfort posture.

Arm and hand position: If available, use chair arm rests or an area on your working surface to provide weight support for your arms. Keep your forearms, wrists, and hands in a relaxed and neutral (horizontal) position. Type with a soft touch without pounding the keys.

Leg position: Keep your thighs parallel to the floor and your feet flat on the floor or on a footrest.

What if you are traveling?

It might not be possible to observe the best ergonomic practices when you are using your computer while on the move or in a casual setting. Regardless of the setting, try to observe as many of the tips as possible. Sitting properly and using adequate lighting, for example, helps you maintain desirable levels of comfort and performance. If your work area is not in an office setting, ensure to take special note of employing active sitting and taking work breaks. Many product solutions are available to help you modify and expand your computer to best suit your needs. You can find some of these options at https://www.lenovo.com/accessories. Explore your options for docking solutions and external products that provide the adjustability and features that you want.

Questions about vision?

The visual display screens of notebook computers are designed to meet the highest standards. These visual display screens provide you with clear, crisp images and large, bright displays that are easy to see, yet easy on the eyes. Any concentrated and sustained visual activity can be tiring. If you have questions on eye fatigue or visual discomfort, consult a vision-care specialist for advice.

Appendix C. Compliance and TCO Certified information

This chapter provides regulatory, environmental, RoHS, and ENERGY STAR information about Lenovo products.

Radio frequency compliance statements

Computer models equipped with wireless communications comply with the radio frequency and safety standards of any country or region in which it has been approved for wireless use.

Besides this document, ensure that you read the *Regulatory Notice* for your country or region before using the wireless devices contained in your computer.

Wireless-related information

This topic provides wireless-related information about Lenovo products.

Wireless interoperability

Wireless-LAN card is designed to be interoperable with any wireless-LAN product that is based on Direct Sequence Spread Spectrum (DSSS), Complementary Code Keying (CCK), and/or Orthogonal Frequency Division Multiplexing (OFDM) radio technology, and is compliant to:

- The 802.11b/g Standard, 802.11a/b/g, 802.11n, 802.11ax, or 802.11ac on wireless-LANs, as defined by the Institute of Electrical and Electronics Engineers.
- The Wireless Fidelity (Wi-Fi®) certification as defined by the Wi-Fi Alliance®.

Notes:

- Some models may not support 802.11ax, depending on your wireless configurations.
- For some countries or regions, use of 802.11ax may be disabled according to your local regulations.

Usage environment and your health

This computer contains integrated wireless cards that operate within the guidelines identified by radio frequency (RF) safety standards and recommendations; therefore, Lenovo believes that this product is safe for use by consumers. These standards and recommendations reflect the consensus of the worldwide scientific community, and result from deliberations of panels and committees of scientists, who continually review and interpret the extensive research literature.

In some situations or environments, the use of wireless devices might be restricted by the proprietor of a building or responsible representatives of an organization. For example, these situations and areas might include the following:

- On board of airplanes, in hospitals or near petrol stations, blasting areas (with electro-explosive devices), medical implants or body-worn electronic medical devices, such as pace makers.
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies to the use of wireless devices in a specific area (such as an airport or hospital), you are encouraged to ask for authorization to use a wireless device prior to turning on the computer.

Locate the UltraConnect wireless antennas

Your computer has an UltraConnect™ wireless antenna system. You can enable wireless communication wherever you are.

The following illustration shows the antenna locations on your computer:
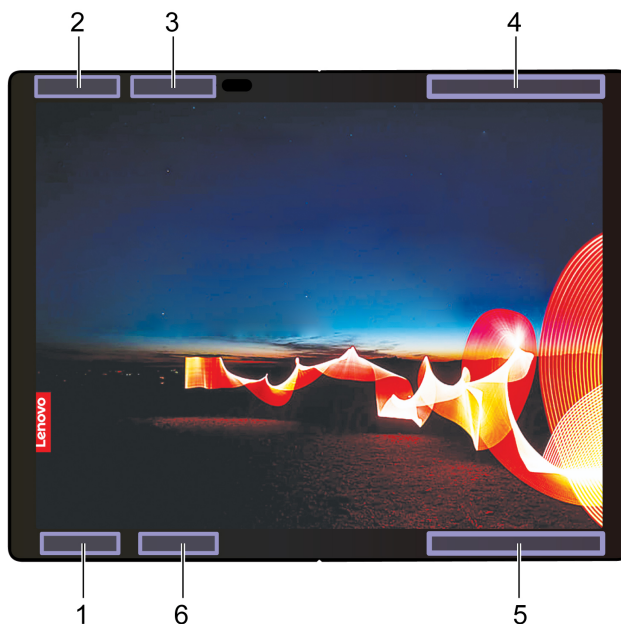
1 Wireless LAN antenna (main)
2 Wireless LAN antenna (auxiliary)
3 Wireless WAN antenna (MIMO 1, for selected models)
4 Wireless WAN antenna (main, for selected models)
5 Wireless WAN antenna (auxiliary, for selected models)
6 Wireless WAN antenna (MIMO 2, for selected models)

Locate wireless regulatory notices

For more information about the wireless regulatory notices, refer to the *Regulatory Notice* at https://support.lenovo.com.

European Union (EU) / United Kingdom (UK) — Radio Equipment Compliance

CE   EU Contact: Lenovo (Slovakia), Landererova 12, 811 09 Bratislava, Slovakia

UK CA   UK contact: Lenovo, Redwood, Crockford Lane, Basingstoke, RG24 8WQ, UK.

This product is in conformity with all the requirements and essential norms that apply to EU Council Radio Equipment Directive 2014/53/EU on the approximation of the laws of the Member States, as well as the UK Radio Equipment Regulations SI 2017 No. 1206, relating to radio equipment.

The full text of the system EU declaration of conformity is available at:
https://www.lenovo.com/us/en/compliance/eu-doc

The full text of the system UK declaration of conformity is available at:
https://www.lenovo.com/us/en/compliance/uk-doc

Lenovo cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the installation of option cards from other manufacturers. This product has been tested and found to comply with the limits for Class B equipment according to European and UK compliance standards. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with certified communication devices.

Brazil

Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.

This equipment is not protected against harmful interference and may not cause interference with duly authorized systems.

Mexico

Advertencia: En Mexico la operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

Singapore

Complies with
IMDA Standards
DB102306
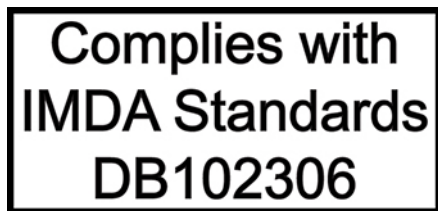
Korea radio frequency compliance statement

무선설비 전파 혼신 **(사용주파수 2400～2483.5 , 5725～5825 무선제품해당)**

해당 무선설비가 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없음

SAR 정보

본 장치는 전파 노출에 대한 가이드라인을 충족합니다.

본 장치는 무선 송수신기 입니다. 본 장치는 국제 가이드라인으로 권장되는 전파 노출에 대한 제한을 초과하지 않도록 설계되었습니다. 장치 액세서리 및 최신 부품을 사용할 경우 SAR 값이 달라질 수 있 습니다. SAR 값은 국가 보고 및 테스트 요구 사항과 네트워크 대역에 따라 다를 수 있습니다. 본 장치 는 사람의 신체에서 20mm 이상의 거리에서 사용할 수 있습니다.

Environmental information of countries and regions

This section provides environmental, recycling, and RoHS information about Lenovo products.

Recycling and environmental information

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. For information about recycling Lenovo products, go to:

https://www.lenovo.com/recycling

The latest environmental information about our products is available at:

https://www.lenovo.com/ecodeclaration

Important battery recycling and WEEE information

Take back and recycling information for WEEE and batteries/accumulators in the European Union and the United Kingdom

The crossed-out wheeled bin marking applies only to countries with WEEE and batteries waste regulations including the European Union (EU), and United Kingdom (UK).

Appliances and batteries/accumulators are labeled in accordance with local regulations concerning waste electrical and electronic equipment (WEEE) and waste batteries and waste accumulators. These regulations determine the framework for the return and recycling of used appliances and used batteries/accumulators as applicable within each geography. This label is applied to various products to indicate that the product is not to be thrown away, but rather put in the established collection systems for reclaiming these end of life products.

The label on the battery may also include a chemical symbol for the metal concerned in the battery (Pb for lead, Hg for mercury, and Cd for cadmium).

Users of electrical and electronic equipment (EEE) and users of batteries/accumulators with the crossed-out wheeled bin marking must not dispose of end of life products as unsorted municipal waste, but use the collection framework available to them for the return, recycle, and recovery of WEEE and waste batteries/accumulators and to minimize any potential effects of EEE and batteries on the environment and human health due to the presence of hazardous substances.

Lenovo electrical and electronic equipment (EEE) may contain parts and components, which at end-of-life might qualify as hazardous waste.

EEE and waste electrical and electronic equipment (WEEE) can be delivered free of charge to the place of sale or any distributor that sells electrical and electronic equipment of the same nature and function as the used EEE or WEEE.

Before placing electrical and electronic equipment (EEE) in the waste collection stream or in waste collection facilities, the end user of equipment containing batteries and/or accumulators must remove those batteries and accumulators for separate collection.

Dispose of lithium batteries and battery packs from Lenovo products:
A coin-cell type lithium battery might be installed inside your Lenovo product. You can find details about the battery in the product documentation. If the battery needs to be replaced, contact your place of purchase or contact Lenovo for service. If you need to dispose of a lithium battery, insulate it with vinyl tape, contact your place of purchase or a waste-disposal operator, and follow their instructions.

Your Lenovo device might contain a lithium-ion battery pack or a nickel metal hydride battery pack. You can find details on the battery pack in the product documentation. If you need to dispose of a battery pack, insulate it with vinyl tape, contact Lenovo sales, service, or your place of purchase, or a waste-disposal operator, and follow their instructions. You also can refer to the instructions provided in the user guide for your product.

For proper collection and treatment, go to:

https://www.lenovo.com/environment

For additional WEEE information, go to:

https://www.lenovo.com/recycling

WEEE information for Hungary

Lenovo, as a producer, bears the cost incurred in connection with the fulfillment of Lenovo's obligations under Hungary Law No. 197/2014 (VIII.1.) subsections (1)-(5) of section 12.

Japan recycling statements

Collect and recycle a disused Lenovo computer or monitor

If you are a company employee and need to dispose of a Lenovo computer or monitor that is the property of the company, you must do so in accordance with the Law for Promotion of Effective Utilization of Resources. Computers and monitors are categorized as industrial waste and should be properly disposed of by an industrial waste disposal contractor certified by a local government. In accordance with the Law for Promotion of Effective Utilization of Resources, Lenovo Japan provides, through its PC Collecting and Recycling Services, for the collecting, reuse, and recycling of disused computers and monitors. For details, visit the Lenovo Web site at:

https://www.lenovo.com/recycling/japan

Pursuant to the Law for Promotion of Effective Utilization of Resources, the collecting and recycling of home-used computers and monitors by the manufacturer was begun on October 1, 2003. This service is provided free of charge for home-used computers sold after October 1, 2003. For details, go to:

https://www.lenovo.com/recycling/japan

Dispose of Lenovo computer components

Some Lenovo computer products sold in Japan may have components that contain heavy metals or other environmental sensitive substances. To properly dispose of disused components, such as a printed circuit board or drive, use the methods described above for collecting and recycling a disused computer or monitor.

Dispose of disused lithium batteries from Lenovo computers

A button-shaped lithium battery is installed inside your Lenovo computer to provide power to the computer clock while the computer is off or disconnected from the main power source. If you need to replace it with a new one, contact your place of purchase or contact Lenovo for service. If you need to dispose of a disused lithium battery, insulate it with vinyl tape, contact your place of purchase or an industrial-waste-disposal operator, and follow their instructions.

Disposal of a lithium battery must comply with local ordinances and regulations.

Dispose of a disused battery from Lenovo notebook computers

Your Lenovo notebook computer has a lithium ion battery or a nickel metal hydride battery. If you are a company employee who uses a Lenovo notebook computer and need to dispose of a battery, contact the proper person in Lenovo sales, service, or marketing, and follow that person's instructions. You also can refer to the instructions at:

https://www.lenovo.com/jp/ja/environment/recycle/battery/

If you use a Lenovo notebook computer at home and need to dispose of a battery, you must comply with local ordinances and regulations. You also can refer to the instructions at:

https://www.lenovo.com/jp/ja/environment/recycle/battery/

Recycling information for Brazil

Declarações de Reciclagem no Brasil

Descarte de um Produto Lenovo Fora de Uso

Equipamentos elétricos e eletrônicos não devem ser descartados em lixo comum, mas enviados à pontos de coleta, autorizados pelo fabricante do produto para que sejam encaminhados e processados por empresas especializadas no manuseio de resíduos industriais, devidamente certificadas pelos orgãos ambientais, de acordo com a legislação local.

A Lenovo possui um canal específico para auxiliá-lo no descarte desses produtos. Caso você possua um produto Lenovo em situação de descarte, ligue para o nosso SAC ou encaminhe um e-mail para: reciclar@lenovo.com, informando o modelo, número de série e cidade, a fim de enviarmos as instruções para o correto descarte do seu produto Lenovo.

Recycling information for mainland China

《废弃电器电子产品回收处理管理条例》提示性说明

联想鼓励拥有联想品牌产品的用户当不再需要此类产品时,遵守国家废弃电器电子产品回收处理相关法律法规,将其交给当地具有国家认可的回收处理资质的厂商进行回收处理。更多回收服务信息,请点击进入http://support.lenovo.com.cn/activity/551.htm

Battery recycling information for Taiwan

Battery recycling information for the United States and Canada

Restriction of Hazardous Substances (RoHS) Directive of countries and regions

The latest environmental information about Lenovo products is available at:

https://www.lenovo.com/ecodeclaration

European Union (EU) / United Kingdom (UK) RoHS

This Lenovo product, with included parts (cables, cords, and so on) meets the requirements of EU Directive 2011/65/EU (as amended by Directive 2015/863/EU) and UK SI 2012 No. 3032 on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("RoHS recast" or "RoHS 2").

For more information about Lenovo worldwide compliance on RoHS, go to:

https://www.lenovo.com/rohs-communication

Turkish WEEE / RoHS
Türkiye AEEE Yönetmeliğine Uygunluk Beyanı

Bu Lenovo ürünü, T.C. Çevre ve Orman Bakanlığı'nın "Atık Elektrik ve Elektronik Eşyalarda Bazı Zararlı Maddelerin Kullanımının Sınırlandırılmasına Dair Yönetmelik (AEEE)" direktiflerine uygundur.

AEEE Yönetmeliğine Uygundur.

Ukraine RoHS

Цим підтверджуємо, що продукція Леново відповідає вимогам нормативних актів України, які обмежують вміст небезпечних речовин

India RoHS

RoHS compliant as per E-Waste (Management) Rules.

Mainland China RoHS

The information in the following table is applicable to products manufactured on or after January 1, 2015 for sale in the People's Republic of China.

产品中有害物质的名称及含量

部件名称	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr（VI）)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板组件*	X	O	O	O	O	O
硬盘	X	O	O	O	O	O
光驱	X	O	O	O	O	O
LCD 面板 （LED 背光源）	X	O	O	O	O	O
键盘	X	O	O	O	O	O
内存	X	O	O	O	O	O
电池	X	O	O	O	O	O
电源适配器	X	O	O	O	O	O
底壳、顶盖和扬声器	X	O	O	O	O	O

注:

本表依据SJ/T 11364的规定编制。

O：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572标准规定的限量要求以下。

X：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572标准规定的限量要求。标有"X"的部件，皆因全球技术发展水平限制而无法实现有害物质的替代。

* 印刷电路板组件包括印刷电路板及其零部件、电容和连接器等。

图示:

在中华人民共和国境内销售的电子信息产品上将印有"环保使用期限"（EPuP）符号。圆圈中的数字代表产品的正常环保使用期限。

Supplier's declaration of conformity label for mainland China RoHS

依照《电器电子产品有害物质限制使用合格评定制度实施安排》，《绿色产品标识使用管理办法》以及市场监管总局关于明确电器电子产品有害物质限制使用合 格评定制度"供方符合性标志"的公告中对于合格评定标识的相关要求，联想公司 针对纳入《电器电子产品有害物质限制使用达标管理目录》内的产品，使用自我声明的合格评定方式，并使用如下合格评定标识：

Taiwan RoHS

單元Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominate d biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
印刷電路板組件	－	○	○	○	○	○
儲存裝置	－	○	○	○	○	○
顯示螢幕	－	○	○	○	○	○
輸入裝置	－	○	○	○	○	○
電源設備	－	○	○	○	○	○
外殼	－	○	○	○	○	○
機械組件	－	○	○	○	○	○
配件	－	○	○	○	○	○

備考1.〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。

Note 1： "Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2："○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3.〝－〞係指該項限用物質為排除項目。

Note 3：The "–" indicates that the restricted substance corresponds to the exemption.

單元說明

單元	說明
儲存裝置	泛指硬碟機、固態硬碟、記憶體等
輸入裝置	泛指鍵盤、觸控板、攝影機、麥克風等
機械組件	泛指風扇、散熱器、喇叭、光碟機（選配）等
配件	泛指觸控筆（選配）、耳機（選配）、外接式光碟機（選配）、轉接線（選配）、滑鼠（選配）等

Electromagnetic emission notices

Federal Communications Commission (FCC) Supplier's Declaration of Conformity

Notes:

- The statements below regarding FCC are only valid for products that are shipping to the United States.

- Refer to the product label information to identify the specific model name and number of your product.

The following information refers to ThinkPad X1 Fold Gen 1, machine types: 20RK and 20RL.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an authorized dealer or service representative for help.

Lenovo is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

> Responsible Party:
> Lenovo (United States) Incorporated
> 7001 Development Drive
> Morrisville, NC 27560
> Email: FCC@lenovo.com

FCC ID and IC Certification information

You can find the FCC and IC Certification information through one of the following methods:

- Through an electronic-label screen (E-label screen) preinstalled on your computer. To view the E-label screen, see "Regulatory labels" on page 68.
- On a physical label attached to the outside of your computer shipping carton.

Industry Canada compliance statement

CAN ICES-003(B)/NMB-003(B)

European Union / United Kingdom (UK) conformity

European Union (EU) / United Kingdom (UK) — Electromagnetic Compatibility Compliance

This product is in conformity with the protection requirements of EU Council Directive 2014/30/EU on the approximation of the laws of the Member States, as well as UK SI 2016 No. 1091 with amendments, relating to the electromagnetic compatibility limits for Class B equipment. These Class B requirements are intended to offer adequate protection to broadcast services within residential environments.

EU ErP (EcoDesign) Directive (2009/125/EC) - external power adapters (Regulation (EU) 2019/1782), Ecodesign for Energy-Related Products Regulations 2010 - UK SI 2010 No. 2617 (Ext PSU), SI 2020 No. 485 (Ntwk Standby), SI 2014 No. 1290 as amended

Lenovo products are compliant with the EU EcoDesign (ErP) Directive and UK EcoDesign for Energy-related Products Regulations. Refer to the following for details. For EU, refer to the system declaration https://www.lenovo.com/us/en/compliance/eu-doc, and for UK refer to the system declaration https://www.lenovo.com/us/en/compliance/uk-doc.

German Class B compliance statement

Hinweis zur Einhaltung der Klasse B zur elektromagnetischen Verträglichkeit

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie zur elektromagnetischen Verträglichkeit Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der Klasse B der Norm gemäß Richtlinie.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der Lenovo empfohlene Kabel angeschlossen werden. Lenovo übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der Lenovo verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der Lenovo gesteckt/eingebaut werden.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Betriebsmitteln, EMVG vom 20. Juli 2007 (früher Gesetz über die elektromagnetische Verträglichkeit von Geräten), bzw. der EU Richtlinie 2014/30/EU, der EU Richtlinie 2014/53/EU Artikel 3.1b), für Geräte der Klasse B.

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen. Verantwortlich für die Konformitätserklärung nach Paragraf 5 des EMVG ist die Lenovo (Deutschland) GmbH, Meitnerstr. 9, D-70563 Stuttgart.

Japan VCCI Class B compliance statement

この装置は、クラスB機器です。この装置は、住宅環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
　取扱説明書に従って正しい取り扱いをして下さい。

VCCI-B

Japan compliance statement for products which connect to the power mains with rated current less than or equal to 20 A per phase

日本の定格電流が 20A/相 以下の機器に対する高調波電流規制
高調波電流規格 JIS C 61000-3-2 適合品

Japan notice for ac power cord

The ac power cord shipped with your product can be used only for this specific product. Do not use the ac power cord for other devices.

本製品およびオプションに電源コード・セットが付属する場合は、
それぞれ専用のものになっていますので他の電気機器には使用し
ないでください。

Other compliance and TCO Certified information of countries and regions

This section provides other compliance information about Lenovo products.

Certification-related information

Product name	Compliance ID	Machine types
• ThinkPad X1 Fold Gen 1 • ThinkPad X1 Fold Gen 1 5G	• TP00122A • TP00122A1 *	20RK and 20RL

* for BIS (Bureau of Indian Standards) second battery only

Further compliance information related to your product is available at https://www.lenovo.com/compliance.

Regulatory labels

Depending on your country or region, you can find the government-required regulatory information through one of the following methods:

- On a physical label attached to the outside of your computer shipping carton
- On a physical label attached to your computer
- Through an electronic-label screen (E-label screen) preinstalled on your computer

To access the E-label screen, restart the computer. When the logo screen is displayed, tap the prompt to enter the Startup Interrupt menu. In the Startup Interrupt Menu window, tap **F9** to enter the Regulatory Information option.

Korean E-label notice

이 제품은 전자적표시(e-labelling)가 되어있습니다.

TCO Certified

Selected models are TCO Certified and bear the TCO Certified logo.

Note: TCO Certified is an international third-party sustainability certification for IT products. For details, go to https://www.lenovo.com/us/en/compliance/tco.

Export classification notice

This product is subject to the United States Export Administration Regulations (EAR) and has an Export Classification Control Number (ECCN) of 5A992.c. It can be re-exported except to any of the embargoed countries in the EAR E1 country list.

Lenovo product service information for Taiwan

委製商/進口商名稱: 荷蘭商聯想股份有限公司台灣分公司
進口商地址: 臺北市中山區樂群三路128號16樓
進口商電話: 0800-000-702 (代表號)

Taiwan precautionary vision statement

警語：使用過度恐傷害視力

注意事項：

- 使用30分鐘請休息10分鐘。
- 未滿2歲幼兒不看螢幕，2歲以上每天看螢幕不要超過1小時。

Supplemental information for the Eurasian Union

Назначение	персональный компьютер для личного и служебного использования, для передачи данных, с поддержкой различных профилей подключения (Wi-Fi, Bluetooth и пр.).
Изготовитель	Леново ПЦ ХК Лимитед, 23/Ф Линколн Хаус, Тайку Плэйс 979 Кингз Роуд, Куарри Бэй, Гонконг (Lenovo PC HK Limited, 23/F Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong)
Страна производства	Китай

Наименование и местонахождение уполномоченного изготовителем лица	ООО «Леново (Восточная Европа/Азия)» 143401, Московская область, г. Красногорск, бульвар Строителей, дом 4, корпус 1, помещение VII, тел. +7 495 645 83 38, факс +7 495 645 78 77.
Импортер	Наименование, адрес импортера и информация для связи с ним указаны на этикетке* на упаковке продукции. **Согласно ГОСТ 2.601-2013 «Единая система конструкторской документации. Эксплуатационные документы», пункт 5.1, подпункт 5.1.2, этикетка является видом эксплуатационных документов.*
Дата изготовления (месяц и год)	Указана на этикетке* на упаковке продукции, в графе Date (дата указана в формате год-месяц-дата). Для получения более подробной информации посетите веб-сайт: https://support.lenovo.com
Единый знак обращения на рынке стран Таможенного союза	

Brazil audio notice

Ouvir sons com mais de 85 decibéis por longos períodos pode provocar danos ao sistema auditivo.

ENERGY STAR model information

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy aimed at saving money and protecting the environment through energy efficient products and practices.

Lenovo is proud to offer products with the ENERGY STAR certified designation. Lenovo computers, if carry an ENERGY STAR mark, have been designed and tested to conform to the ENERGY STAR program requirements for computers as prescribed by the U.S. Environmental Protection Agency. For a certified computer, an ENERGY STAR mark may be affixed to the product, the product packaging, or displayed electronically on the E-label screen or the power settings interface.

By using ENERGY STAR compliant products and taking advantage of the power management features of your computer, you reduce the consumption of electricity. Reduced electrical consumption contributes to potential financial savings, a cleaner environment, and the reduction of greenhouse gas emissions. For more information about ENERGY STAR, go to https://www.energystar.gov.

Lenovo encourages you to make efficient use of energy an integral part of your day-to-day operations. To help in this endeavor, Lenovo has preset a default power plan. To change the power plan, see "Change the power settings" on page 26.

Appendix D. Notices and trademarks

Notices

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> *Lenovo (United States), Inc.*
> *8001 Development Drive*
> *Morrisville, NC 27560*
> *U.S.A.*
> *Attention: Lenovo Director of Licensing*

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The software interface and function and hardware configuration described in the manuals included with your computer might not match exactly the actual configuration of the computer that you purchase. For the configuration of the product, refer to the related contract (if any) or product packing list, or consult the distributor for the product sales. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

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Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

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For the latest information or any questions or comments, contact or visit the Lenovo Web site:

https://pcsupport.lenovo.com

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