

Review Librem 13 - The most secure laptop today

Hardware maker Linux Purism has released a pair of laptops focused on security. Librem 13 and Librem 15 run the PureOS distribution, and also have hardware security features.

Concerned about the drawbacks associated with digital security and privacy? Do you feel like you're constantly under attack from cyber criminals and nefarious organizations? Your data is important, but there is nothing you can do to protect it.

So is there any solution to this problem? Hardware maker Linux Purism has released a pair of laptops focused on security. Librem 13 and Librem 15 run the PureOS distribution, and also have hardware security features.

To find out more, today **TipsMake.com** will review for readers about Librem 13, a lightweight ultrabook, sold directly from Purism for \$ 1399 (VND 32,387,000).



Is Librem 13 the right Linux laptop for you?

1. Specifications of Librem 13
2. A few things about Purism
3. Does this Linux laptop have online security concerns?
4. Respect privacy and security

5. Librem is a Linux laptop running PureOS super safe
6. The body and design of Librem 13
7. Is the keyboard suitable for use?
8. What's inside Librem 13?
9. Software and Linux updates on Librem 13
10. Battery life
11. Do you need Librem 13?

Specifications of Librem 13

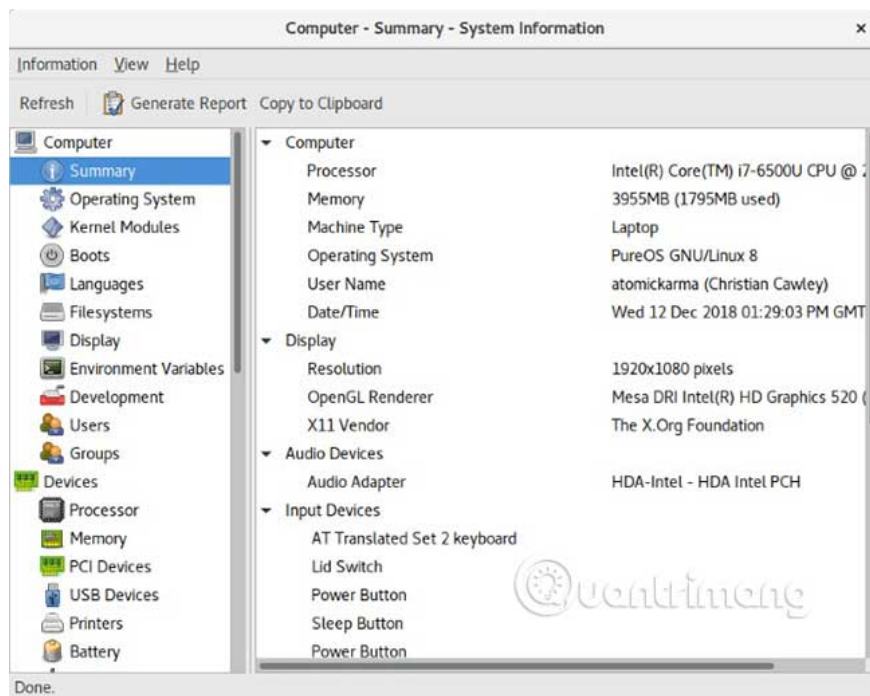
Available from the Purism website and starting at \$ 1399, the Librem 13 has configurable memory, wireless and RAM options. Specifications of Librem 13 are as follows:

1. **Operating system** : PureOS
2. **Battery life** : About 7 to 9 hours
3. **Processor** : Intel Core i7 6500U (Skylake)
4. **RAM**: 4GB (up to 16GB available) DDR4 at 2133 MHz
5. **Storage capacity** : 120GB (up to 4TB option is available. You can select M.2 memory capacity up to 2TB)
6. **Graphics Card**: Intel HD 520 graphics card
7. **Screen** : 13.3" IPS
8. **Frame**: Black anodized aluminum frame with low-noise fan
9. **Webcam**: 720p 1.0 megapixel
10. **Dimensions**: 325 × 219 × 18mm
11. **Weight**: 1.4kg
12. **Wireless connection** : 802.11n dual antenna (no wireless option available)
13. **Audio port** : 1 headphone output jack
14. **USB port**: 2 USB 3.0 ports (1 USB type-C port),
15. **External output** : 1 HDMI port (capable of 4K)
16. **Card reader** : SD / MMC 2 in 1

In addition, the Librem 13 also features a backlit keyboard with two brightness settings and an impressive Elantech multi-point touchpad.

The article will review Librem 13's privacy and security information in the following section. However, at this stage, you should know that it has a Trusted Platform Module (TPM), a special chip that adds security features.

You will also find two kill switches (details are reviewed below). Included in the box is a charger and quick start guide.



A few things about Purism

Registered as a socially active corporation, Purism was founded by Todd Weaver in 2014 and manufactures equipment that focuses on three key values:

1. Free and open source software (English name is 'Software Freedom')
2. Computer security
3. Privacy on the Internet

Purism claims that profit maximization is not the main business purpose.

To learn more, Purism has published relevant sections in Articles of Incorporation (link: <https://puri.sm/about/social-purpose/>). You may be interested in statements such as 'The Group will only use and distribute free, open source software' and 'respect for privacy, security, and user freedom'.

The Librem 13 laptop is one of Purism's designed devices for this purpose. This computer relies on reliable hardware and runs without the need for proprietary firmware or driver. For example, Librem 13 uses the Coreboot firmware, instead of the Intel Management Engine. Coreboot is basically a lightweight, secure BIOS, listed on the Purism website.

Does this Linux laptop have online security concerns?

Maintaining online security and protecting privacy has become as important as making sure you have new equipment and the fastest Internet connection.

In recent years, online security responsibilities have been increasingly placed in users' hands. In addition to the relatively basic implementations of the latest wireless networking standards, the security on your PC or laptop depends on yourself and the operating system you're using.

Along with antivirus software, there's a security option that connects to the VPN and sets a routine to ensure you're always safe online.

You probably already know things like: Avoid ransomware, don't open unwanted email attachments, don't share login details, etc. But that's not all.

Purism's website describes the Librem 13 as 'the first 13-inch ultraportable laptop designed to protect your digital life'. But what does that mean, and how does this laptop achieve what you expect?

Respect privacy and security

Purism describes this computer as designed to respect the privacy, security and freedom of users in every detail. Every hardware and software component conforms to this principle.

This is expressed in many ways. The most obvious are the kill switches, mounted on the left side of the laptop, next to the audio port. These two switches are for the radio (wireless and Bluetooth), as well as the built-in webcam and mic.



All you need to do is make sure these switches are turned off if you don't use those features.

Another important security feature is the browser, PureBrowser, based on Mozilla Firefox.

There is also TPM. The Trusted Platform Module is a chip on the Librem 13 motherboard that helps integrate various features on the computer. These include GPG encryption, tamper detection and kill switches.

Librem is a Linux laptop running PureOS super safe

If you've ever used Linux before, you're probably well aware of Ubuntu.

Like Ubuntu, PureOS is based on Debian and has a GNOME 3. desktop. However, PureOS is completely different from Ubuntu. Although they look similar, they are a little different in nature.

For example, if you like running some games on Librem 13, unfortunately you can't get them from Steam. There is a Linux version, but it cannot run on PureOS because some packages are not available.



After all, this is not a gaming laptop. However, you can install another operating system.

Although PureOS comes preinstalled on Librem 13, you can still install an entirely new Linux operating system. You can use on whole disk or dual boot from two partitions. There is also a dual boot option with a secondary drive, such as an M.2 drive.

Purism said it encrypts the **root** and **swap** partitions on the HDD, leaving the / **boot partition** unencrypted for dual booting.

If you choose to reinstall PureOS, the default will re-enable encryption on the root and swap partitions, so no additional configuration is required.

In general, the choice is clear: PureOS for a more secure computing experience or even installing a new distribution gives you flexibility.

The first time you use PureOS requires that you set an encrypted password. After this, you can not boot the laptop without a password, this account is separate from the standard user account. This level of security "permeates" deep into every experience on Librem 13.

The body and design of Librem 13

The black anodized aluminum casing on the Librem 13 is cool to the touch, giving this laptop a quality feel that matches what's inside.

With the shape of an ultraportable laptop, the Librem 13 is remarkably thin, suitable for all types of tablet and laptop bags.



One of the laptop's main weaknesses, apart from being easily stolen, is the hinge. If it is broken, the computer will not be able to use it again. There are many ways to extend the life of a hinge on a laptop, such as opening with two hands, each at an angle or slowly opening in the middle.

Fortunately, Librem 13 has a very solid hinge. It has the ability to hold the screen angle within a 130 degree arc.

Is the keyboard suitable for use?

When it comes to using a laptop, you first need a comfortable, responsive keyboard, with everything you need at your fingertips. Sure, there's no number pad, but the **FN** button works because the number keys have been copied in the middle, slightly to the right on the keyboard.

As with any keyboard, it takes time to get used to, but many users have achieved normal typing speed within minutes. This is always a good point!

However, it should be noted that there are no **Caps Lock** or **Number Lock** LEDs. This is not ideal.



But not without any LED lights on the keyboard. The WiFi indicator light, battery charge light and main power LED light are found on the upper right.

The touchpad, on the other hand, is not as slick as some others, but it is quite powerful and has good clickability. The touchpad and PureOS support a variety of gestures, such as two-finger touch to show context menu (right-click) or drag two fingers up and down to scroll.

A laptop depends heavily on the quality of the keyboard and touchpad. Librem 13 makes users happy with a decent quality touchpad and surprisingly comfortable keyboard.

What's inside Librem 13?

Inside the anodized black case, you'll find a powerful collection of hardware. The Intel Core i7 6500U Skylake processor is accompanied by 4GB DDR4 RAM and 120GB of storage. There's also an optional fast M.2 storage, up to 2TB. M.2 is a form factor (SSD) that connects directly to the motherboard and provides enhanced storage speeds.

The Librem 13 comes with an Intel HD 520 graphics card, which is displayed on a surprisingly good 13.3-inch IPS screen, with a matte anti-glare coating.



You will also find common connection options. Along with wireless networking, the Librem 13 has two USB 3.0 ports, a USB Type-C port, a headphone port, a standard HDMI output (with 4K support) and an MMC / SD card reader.

On the left side, you will find radio and multimedia kill switches.

Software and Linux updates on Librem 13

Using PureOS is very simple. You should see the GNOME desktop when you log in, which is almost present on every Linux computer today. There is a white printed rectangular key, matching the Purism logo on it. It gives users an overview, where open applications, search boxes, docks, and additional desktops can all be accessed.



New applications can be found through the **Software** tool , **which** lists applications, utilities and games that can run on PureOS. Installing the software is easy: Just search, select and click **Install**. You can also install the software via the command line, as usual with Linux.

Integrated software includes LibreOffice, ToDo, Kodi, PDF viewer and PureBrowser compatible documents. Instead of something new, basically, Mozilla Firefox with the HTTPS Everywhere extension and uBlock Origin preinstalled.

Notably, some websites do not work by default in this browser. For example, YouTube does not play videos, otherwise disables uBlock Origin.

Battery life

The website of Purism says the Librem 13 provides battery life of about 7 to 9 hours.

Test equipment has been in use for a week often, mainly for web browsing and word processing on the go. Battery life is still within the stated range, maybe a little less. Definitely good enough to not have to worry about trips about 3 hours to your favorite coffee shop without plugging in.

While intensive tasks may be required, the Librem 13 is ideally suited for use on the road.

Encrypting an entire drive, meanwhile, means that if your laptop is stolen when you're out and about, no one can access your data.

Do you need Librem 13?

Librem 13 is super secure, lightweight, powerful and easy to use. Sure, there are a few inconveniences if you want to use closed source software, but overall the Librem 13 is one of the 'sexiest' laptops available.



With a reliable, comfortable keyboard, gorgeous IPS display, responsive touchpad, a host of impressive storage and battery life options, this is probably the best laptop you've ever had. use. The Librem 13 cannot replace a desktop computer, nor is it a gaming laptop, but it is powerful enough to sit on par with a Dell XPS or MacBook Air.

Now, the security options may not be right for you. You may like the interface of Librem 13 but not the Pure operating system. That's fine, as it can be replaced, although you'll lose the ability to support TPM, and kill switches won't necessarily work.

From the point of view of a laptop computer user, Linux fan and security enthusiast, this is a great machine that can do pretty much anything, anytime, anywhere. When it comes to laptops, you can't ask for more than that.

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