



## Dell Latitude 9510: Longer battery life, cooler to the touch, and higher benchmark scores

### Compared to the Lenovo ThinkPad X1 Yoga Gen 5

The 15-inch Dell™ Latitude™ 9510 and the 14-inch Lenovo® ThinkPad® X1 Yoga Gen 5 are 2-in-1s that provide the compute power of a business PC and the convenience of a touchscreen—but which machine is better suited to demanding work, from home or elsewhere?

We put the 2-in-1s, both powered by Intel® Core™ i7-10610U processors, through industry-standard benchmark testing to measure battery life, compare surface temperature, and gauge system responsiveness—things that reflect everyday use. Then, we conducted hands-on evaluations of sign-in, webcam, and video-conferencing capabilities to see which system performed better in these areas. We found that the Dell Latitude 9510 was well-equipped to help you stay productive while working from home or elsewhere.



 Work where you want for more than two work days  
Up to 19+ hours of battery life  
as reported by MobileMark® 2018 on the Dell Latitude 9510 with an 88-Whr battery\*



 Stay more comfortable with a cooler base  
Up to 22.8°F (12.7°C) cooler surface temps  
in Cool Mode on the Dell Latitude 9510 with a 52-Whr battery\*

 Complete application-based office tasks faster  
Up to 6.9% better SYSmark® 2018 score  
on the Dell Latitude 9510 with a 52-Whr battery\*

\*compared to the Lenovo ThinkPad X1 Yoga Gen 5 with a 51-Whr battery

The Dell Latitude 9510 and Lenovo ThinkPad X1 Yoga Gen 5 models we tested were powered by an Intel Core i7-10610U processor and matching components. However, some business users prioritize battery life very highly, and Dell offers a battery upgrade for the Latitude 9510.<sup>1</sup> So, we configured a Dell Latitude 9510 with less storage and the larger battery for a battery-life-specific comparison. There was no battery upgrade option for the Lenovo ThinkPad X1 Yoga Gen 5, so the version we tested had a 51-Whr battery.<sup>2</sup>

## Day-to-day use

There is no single kind of business user, so we compared a few key factors that are near-universally important and could affect your decision.

For users who want the freedom to work wherever they want for as long as possible, we loaded the Latitude 9510 (A) and the ThinkPad X1 Yoga Gen 5 with the largest-capacity batteries available and used the MobileMark 2018 battery life benchmark to see how long they ran unplugged. The MobileMark 2018 benchmark also runs office productivity, creativity, and web-browsing scenarios, so you have the whole performance picture.

For users concerned with surface temperature, system responsiveness, sign-in experience, IR webcam quality, and video-conferencing capabilities, we compared the Latitude 9510 (B) to the ThinkPad X1 Yoga Gen 5. For system responsiveness testing, we used the SYSmark 2018 benchmark, which mimics business users' usage patterns to measure and compare how well devices handle a wide range of activities.



### Dell Latitude 9510 (A)

- 88-Whr battery upgrade
- 512 GB SSD



### Lenovo ThinkPad X1 Yoga Gen 5

- 51-Whr battery
- 1 TB SSD



### Dell Latitude 9510 (B)

- 52-Whr battery
- 1 TB SSD

We compared:

**MobileMark 2018**  
Battery life and overall performance qualification

We compared:

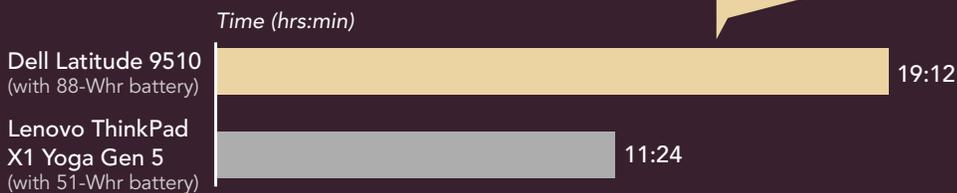
**Surface temperature**  
**SYSmark 2018**  
System responsiveness  
**Sign-in experience**  
**Low-light image quality**  
**Zoom quality**

## For people who want max battery life

Working from home doesn't mean you have to be tethered to a desk—or an outlet—if your computer and its battery work as hard as you do. We found that the Dell Latitude 9510 (A), with its battery upgrade, not only ran unplugged for over nineteen hours; it also handled MobileMark 2018 productivity, creativity, and web-browsing scenarios better than the Lenovo ThinkPad X1 Yoga Gen 5. You can have your cake and eat it too.



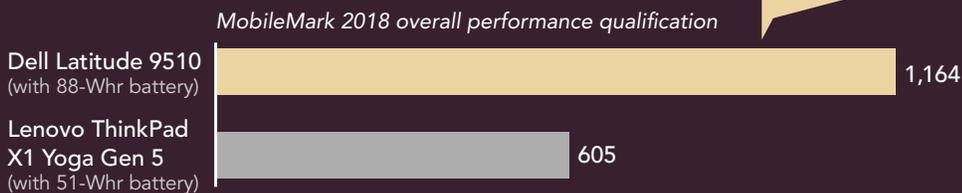
### Up to 19+ hours battery life based on MobileMark 2018



MobileMark 2018 battery life results. Time (hrs:min). More time is better. Source: Principled Technologies.



### Realize up to 92% better performance based on MobileMark 2018 overall scores



MobileMark 2018 benchmark overall scores. Higher is better. Source: Principled Technologies.



## Hanging with the cool kids

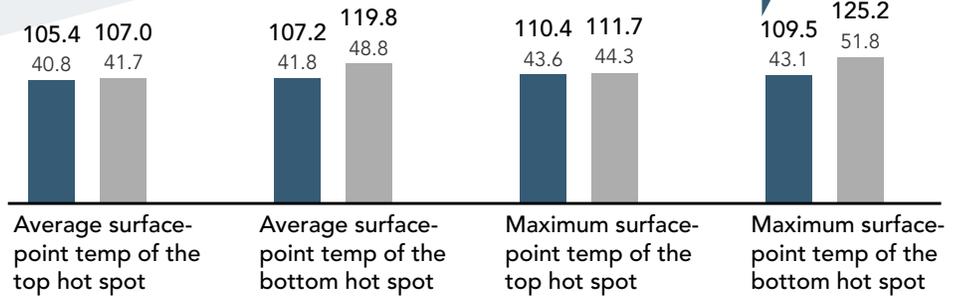
Sometimes, opting for a high-performing processor, such as the Intel Core i7 processor in the devices we tested, can mean you'd have to deal with more heat coming from the unit. That might be a problem if you routinely use the laptop on your lap. To measure the difference Latitude 9510 thermal settings make, we ran the resource-intensive Cinebench R20 benchmark on both 2-in-1 laptops for 15 minutes and took their temperatures twice: Once when we set the Latitude 9510 thermal preference to Optimized Mode and once when we set it to Cool Mode.

For more information and to see a diagram of the hot spots we tested, read [the science behind the report](#).

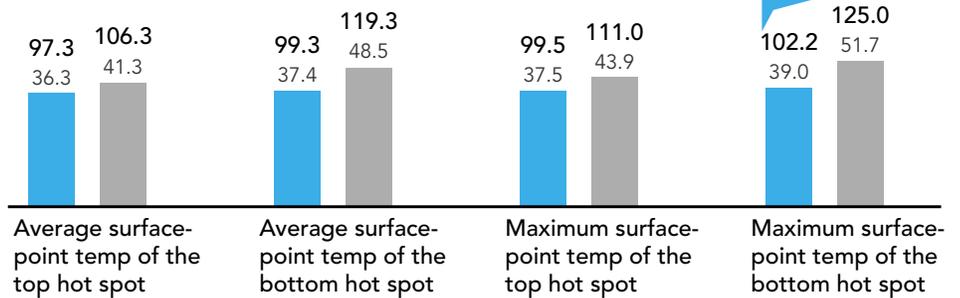
### Up to 22.8°F cooler to the touch while under load

■ Dell Latitude 9510 ■ Lenovo ThinkPad X1 Yoga Gen 5

#### Optimized Mode Temperature (F/C)



#### Cool Mode Temperature (F/C)



Surface hot-spot temps after running Cinebench R20 for 15-min. Results shown in Fahrenheit (larger text) and Celsius (smaller text). Cooler temps are better. Source: Principled Technologies.

## Not your shared space's thermostat

The Dell Latitude 9510, unlike the folks you live with, allows you to choose the performance, noise, and temperature balance that most suits your preferences—not the group consensus. You can configure these thermal settings in the BIOS.

**Optimized Mode** is the standard setting. It balances performance, noise, and temperature.

**Cool Mode** prioritizes keeping the heat of the device low, which also means keeping you comfortable.

**Quiet Mode** is for users trying to keep the peace in a shared space or wherever noise is a concern.

**Ultra Performance Mode** sacrifices low temps and noise for high performance. It is ideal for multi-taskers or anyone using graphics-intensive programs who can also handle a little rumble under the hood.



## Put the “pro” in productivity

Staying focused when you’re working from home can be challenging—so when you settle down for an hour or two of focused work, a system that responds quickly can help you finish more work during that sprint. We found that the Dell Latitude 9510 (B) handled SYSmark 2018 real-world application-based productivity, creativity, and responsiveness scenarios better than the Lenovo ThinkPad X1 Yoga Gen 5.

### Realize up to 6.9% better performance based on SYSmark 2018 overall scores



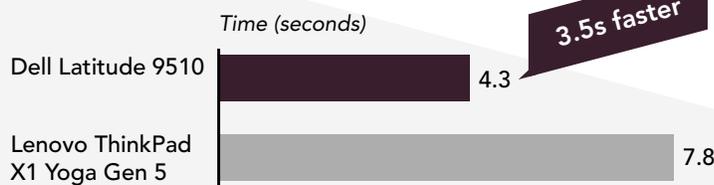
## Personal experience

Productivity hinges on more than system responsiveness—stress can affect it as well. According to a survey by mental health provider Ginger, “nearly 7 in 10 employees indicated that the COVID-19 pandemic is the most stressful time in their entire professional career.”<sup>3</sup> And, while a new business laptop isn’t going to fix all your problems, it can help to have a system that makes it less stressful to communicate with far-flung teammates and attend meetings virtually instead of face-to-face. We conducted hands-on evaluations of sign-in, webcam, and video-conferencing capabilities so you can gauge your own stress levels in these situations.

### Feel like a VIP

The Dell Latitude 9510 comes with ExpressSign-In, which is like having a fob for your car instead of a key. It uses proximity sensors that automatically wake up the system when it senses you’re near. With the Lenovo ThinkPad X1 Yoga Gen 5, you have to press a key before Windows Hello can use facial recognition to log you in. Our three-and-a-half second win per sign-in shows this keyless entry could be convenient for almost anyone. For example, if you sit down to work, get up for coffee, grab lunch, take a bathroom break, stretch, grab a snack, run your dishes to the kitchen, and check in on your housemates over the course of a workday, you’d trim almost thirty seconds off sign-ins during a single day. That’s over two minutes a week and two hours per year.

### Up to 3.5 seconds faster to sign in with Dell ExpressSign-In



Time to sign in (sec) with Dell ExpressSign-In on the Dell Latitude 9510 and Windows Hello face authentication on the Lenovo ThinkPad X1 Yoga Gen 5. Lower is better. Source: Principled Technologies.

### Dell Optimizer

The Dell Latitude 9510 comes with Dell Optimizer, which Dell says is “a built-in, AI-based optimization software for business that learns and responds to the way you work. It’s designed to automatically improve application performance, battery run time and audio settings in the background—so you have a seamless experience with fewer disruptions.”<sup>4</sup>

## A picture is worth 1,000 words

Well, a good one is, at least. And that assessment is subjective. So, here are two selfies, taken by a PT engineer, in the same dimly-lit room, using the IR webcams pre-installed on both the Dell Latitude 9510 and the Lenovo ThinkPad X1 Yoga Gen 5. You be the judge—which IR webcam offered the better-quality image?



Unedited selfie taken in low light on the Dell Latitude 9510.  
Source: Principled Technologies.



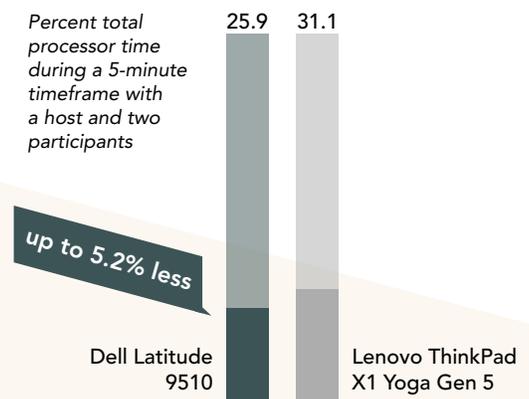
Unedited selfie taken in low light on the Lenovo ThinkPad X1 Yoga Gen 5.  
Source: Principled Technologies.

## “Coming through loud and clear!”

We can't tell you when face-to-face meetings will resume, but we can reassure you that both systems performed similarly while hosting a Zoom meeting where we shared a video and added a new participant every five minutes—with the caveat that the Dell Latitude 9510 typically delivered slightly lower CPU utilization than the Lenovo ThinkPad X1 Yoga Gen 5. Lower CPU utilization is important because the fewer CPU resources a resource-hungry video-conferencing application ties up, the more headroom your laptop has for other things.

## Average CPU utilization while sharing a video in fullscreen on a Zoom call

Percent total processor time during a 5-minute timeframe with a host and two participants



Average CPU utilization while a Zoom meeting host screen-shared a 720p video during a five-minute call with two participants. Lower is better. Source: Principled Technologies.



## Conclusion

No matter where you're working from these days, a capable computer is an important part of your setup. We found that the Dell Latitude 9510 scored higher in benchmark comparisons, was cooler to the touch, and lasted much longer unplugged than the Lenovo ThinkPad X1 Yoga Gen 5. These strengths, as well as the faster sign-in and subjective personal webcam and Zoom meeting experience comparisons, make the Dell Latitude 9510 a solid choice when shopping for your next business laptop.

- 1 Dell, "New Latitude 9510: Tech Specs & Customization," accessed August 6, 2020, <https://www.dell.com/en-us/work/shop/2-in-1-laptops-tablets/new-latitude-9510/spd/latitude-15-9510-2-in-1-laptop/cto0319510us?view=configurations>.
- 2 Lenovo, "ThinkPad X1 Yoga Gen 5: Configuration," accessed August 6, 2020, <https://www.lenovo.com/us/en/laptops/thinkpad/thinkpad-x1/X1-Yoga-Gen-5/p/20UBCTO1WWENUS0/customize?>
- 3 Matthew Gavidia, AJMC, "How has COVID-19 Affected Mental Health, Severity of Stress Among Employees?," accessed August 6, 2020, <https://www.ajmc.com/view/how-has-covid19-affected-mental-health-severity-of-stress-among-employees>.
- 4 Dell, "Dell Optimizer. Technology that adapts as fast as you do," accessed August 6, 2020. <https://www.delltechnologies.com/en-us/work-at-full-speed/optimizer.htm>.

Read the science behind this report at <http://facts.pt/12gb7lc> ►



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