



DURABLE

Sustained 30 drops and still functioned properly

TOUGHER

Handled 13 more drops than the HP EliteBook 640 G10

The Dell Latitude 5440 survived 30 drops and still functioned properly

In comparison, the HP EliteBook 640 G10 stopped working after 17 drops from the same 30-inch height

Dropping a laptop can have severe consequences, posing significant danger to both the device and its data. The impact of a fall can cause myriad issues, from minor cosmetic damage to critical internal components being compromised. These issues include cracked screens that make visibility challenging, damaged hard drives that can lose or corrupt data, and malfunctioning keyboards that make typing difficult, if not impossible. Choosing a tough, durable laptop, such as the Dell™ Latitude™ 5440, can help mitigate these risks should such an accident occur.

We wanted to gauge the durability of the Dell Latitude 5440 and one of its competitors, the HP EliteBook 640 G10. To do so, we conducted drop testing on each laptop from a height of 30 inches. After 30 drops, the Latitude device had sustained some damage, but it still worked properly. That was 13 drops more than the EliteBook could sustain—after its 17th drop, the system was unusable. These results demonstrate that the Latitude is better poised to survive more falls from similar heights, such as desks or dining room tables. This durability could assure even your most accident-prone users (and the IT support teams that love them).

About the Dell Latitude 5440

The Dell Latitude 5440 is a 14-inch business laptop equipped with a 13th Gen Intel® Core™ processor, offering Core i3, Core i5, and Core i7 processor options. (The laptop we used in our testing had an Intel Core i5-1335U processor.) The Windows-based device includes a touchpad, FHD camera and screen, and various security options, such as a smart card reader, near-field communication, and a fingerprint reader. The Latitude 5440 also includes two USB 3.2 Type-A Gen 1 ports and two Thunderbolt™ 4 ports, a variety of memory and storage options, and a backlit keyboard.

How we tested

One way to measure physical durability is drop testing: controlled drops of an item (for our purposes, laptops) from a set height. We placed our systems under test on a 30-inch-high mechanized platform that released the laptops in a consistent manner once we activated the mechanism. We planned drops in sets of ten with each drop at a different orientation or angle and checked device functionality after each drop. If a device still functioned properly after the set of ten, we repeated the next set of ten drops in the same order. Once a device stopped functioning properly, we stopped dropping it. To collect a representative sample of how durable both systems are, we planned to execute no more than 30 drops for each system under test.

As Table 1 highlights, the Dell Latitude system was slightly smaller than the HP EliteBook system.

Table 1: The physical dimensions of the systems we tested.

	Dell Latitude 5440	HP EliteBook 640 G10
Width (in.)	12.65	12.67
Depth (in.)	8.35	8.42
Height (in.)	0.75	0.78
Minimum weight (lbs.)*	3.06	3.13

The Dell Latitude 5440 was the tougher, more durable laptop

After 30 drops from 30 inches, the Dell Latitude 5440 system was still fully functional (though it had suffered some exterior damage in the form of scratches, cracks, and shell separation and breakage). In contrast, the HP EliteBook 640 G10 stopped working properly after 17 damaging drops—the same 17 drops that the Dell Latitude 5440 had experienced. We observed the screen of the HP system was cracked. When we booted the system, most of the screen was black. At that point, we considered the system to be unusable. In other words, the Dell system experienced nearly twice as many drops (or 43 percent more) as the HP system but was still functional. Although we performed only 30 drop tests on the Dell system, it is possible that the laptop could have continued to function after many more drops. The tougher, more durable Dell Latitude 5440 could minimize downtime due to loss of functionality or time out for repair while reducing the possibility of costly fixes or replacements.

*May not represent the actual weight of the systems we tested.

NUMBER OF DROPS DURING TESTING

Dell Latitude 5440



30 drops
still functional

HP EliteBook 640 G10



17 drops
rendered unusable

Figure 1: Number of drops that each laptop sustained during testing. Higher is better. Source: Principled Technologies.

NOTABLE VISIBLE DAMAGE TO EACH SYSTEM

Dell Latitude 5440

Drop 5



Small scratch on the bottom surface of the system. System fully functional.

Drop 10



Small crack near the bottom front left corner screw. System fully functional.

Drop 15



Some separation of the bottom cover on the rear right corner. System fully functional.

Drop 29



Scratch observed on rear left corner of system. System still fully functional.

Drop 30



No additional damage. System fully functional.

HP EliteBook 640 G10

Drop 3



Separation on the left and right front bottom corners of the system. The edges of the aluminum keyboard cover were bent and scuffed. System fully functional.

Drop 7



Significant bending and separation along the front right corner of the system chassis. System fully functional.

Drop 10



The front left corner of the system chassis was bent. System fully functional.

Drop 17



Additional bending on the front right corner of the system chassis. The screen was cracked, mostly black, and unusable. System broken and unusable.

Figure 2: Images of damage to the two systems during testing.



Conclusion

The potential repercussions of dropping a laptop, from impaired functionality to data loss, show why selecting a durable device is vital. In our hands-on experience, the Dell Latitude 5440 survived 30 falls from a 30-inch height and still functioned properly, whereas the HP EliteBook 640 G10 stopped working after 17 drops from the same height. Opting for the tougher, more durable Dell Latitude 5440 for your organization instead of the HP EliteBook 640 G10 system could mitigate the costly risks that come from falls and drops while enabling your users to focus on their productivity.

Read the science behind this report at <https://facts.pt/irtBa18> ▶



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