Dell™ Dock with USB Type-C™

Dell Dock with Monitor Stand with USB Type-C

Dell Thunderbolt™ Dock with Thunderbolt 3

Dell Wireless Dock with Intel® WiGig

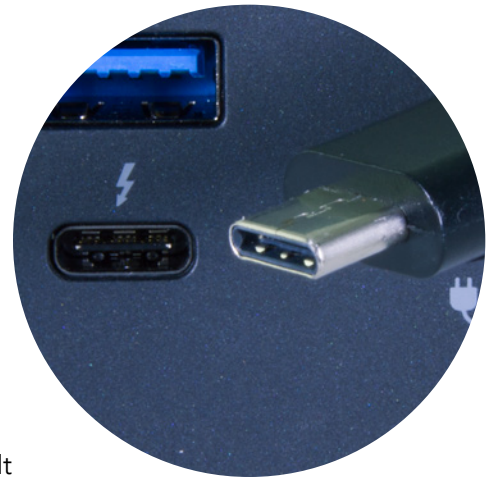
Connect to your workspace easily with the Dell dock that fits your needs

Experience fewer hassles and take advantage of the latest technologies by choosing a Dell solution

To have the most productive workday possible, your workspace should give you fast access to all your tools, from external keyboards to displays and more. New connectivity options, such as USB Type-C, Thunderbolt 3 via USB Type-C, and Intel WiGig, can make connecting to these peripherals quick and easy. A new dock utilizing one of these technologies can improve efficiency and help you build a workspace tailored to you.

We tested four new Dell docks with new Dell mobile devices powered by Intel Core™ processors against a Lenovo® ThinkPad® X1 Tablet with and without the Lenovo ThinkPad OneLink+ dock and Productivity Module. Across the board, the Dell solutions required the same or less time and effort to connect to peripherals, getting you to work faster. But the Dell docking portfolio also leveraged several new and evolving technologies accessible for many new mobile devices, while the Lenovo dock required a proprietary connector available only to a few specific Lenovo devices.

The four Dell docks we tested were suited to a variety of work types—whether you're a desk worker, on the go, in and out of meetings, or working remotely. For a flexible, easy-to-use dock, see how these options from the Dell docking portfolio worked for us.



The new industry standard: USB Type-C

USB Type-C, a new connectivity technology, is built to combine power, USB, audio, and video all into a single cable. With USB Type-C, you can power your device and connect displays and accessories using just one cable and port. The connector at the end of a USB Type-C cord has no vertical orientation, so you can plug it in easily without wasting time figuring out which end is up.

Two of the four Dell docks we tested offer USB Type-C connectivity, while the third uses Thunderbolt 3 via a USB Type-C connector. (The fourth, the Dell Wireless Dock with Intel WiGig technology, connects to laptops wirelessly.) Depending on its power requirements, a device equipped with DisplayPort™ over USB Type-C may be compatible with the first three Dell docks, even if the notebook or tablet is not manufactured by Dell.

The Lenovo dock we tested does not support USB Type-C. Instead, it uses a proprietary OneLink+ connector, which is only compatible with a small subset of Lenovo devices.[1] While the Dell docks with USB Type-C are available to a wide variety of users, including those without Dell devices, only users with specific Lenovo devices can use the Lenovo ThinkPad OneLink+ dock.

	Dell Dock	Dell Dock with Monitor Stand	Dell Thunderbolt Dock	Dell Wireless Dock	Lenovo ThinkPad OneLink+ Dock
Compatibility with third-party laptops[2]	Yes	Yes	Yes	Yes	No
Connection type	Industry-standard USB Type-C	Industry-standard USB Type-C	Industry-standard Thunderbolt 3 via USB Type-C	Intel WiGig technology	Proprietary Lenovo OneLink+

Start your day with the Dell Dock

Tianshu is based at her company's main office, but she frequently travels to its remote locations to lead staff training seminars. When she gets to the remote office, she checks in to one of the company's several open hotel cubes. She breathes a sigh of relief when she finds that the cube includes a Dell Dock with USB Type-C and an external monitor.

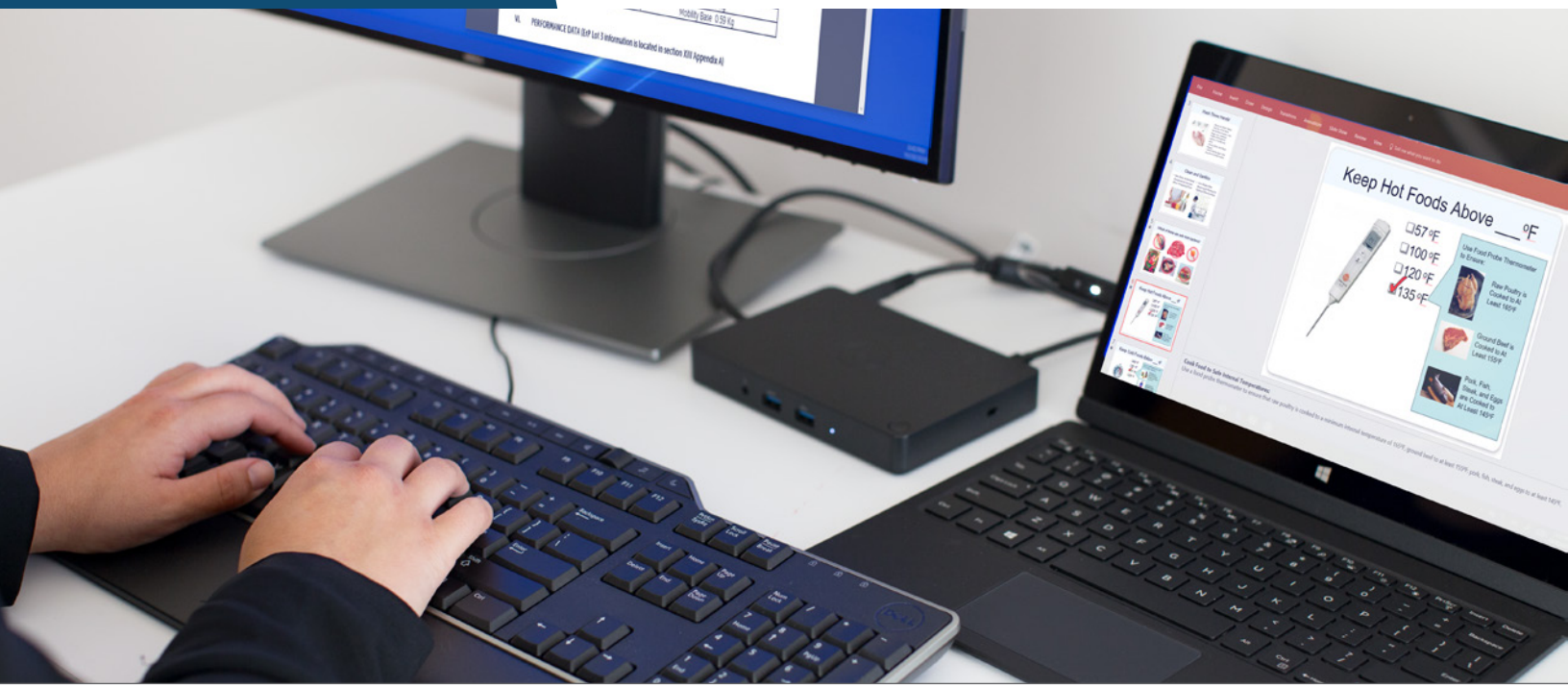
Tianshu connects her Intel processor-powered Dell Latitude™ 7275 to the dock and plugs in the USB drive drive where she keeps her reports and presentations. She pulls the PDF with her notes off the drive and prints it. Then, she opens the presentation on the drive so she can review her plan before starting the training session.

Dell Dock with USB Type-C

USB Type-C

The Dell Dock with USB Type-C is an excellent dock for Tianshu's Dell Latitude 7275 powered by Intel. But in fact, the Dell Dock should be compatible with any device supporting Display Port over USB Type-C, whether or not Dell is the maker of the device. This compatibility makes it a compelling choice for companies utilizing shared workspaces, which might play host to multiple users and laptops every day.

If Tianshu were using a Lenovo ThinkPad X1 Tablet with no dock, it would take her nine more steps and over 84 more seconds to complete the exact same workflow. By using the Dell Dock with the Dell Latitude 7275 instead of the Lenovo system without a dock, she gets almost a minute and a half more to prepare for her presentation. With those crucial extra seconds, she could remember a few more facts, which will benefit her, her students, and her company.



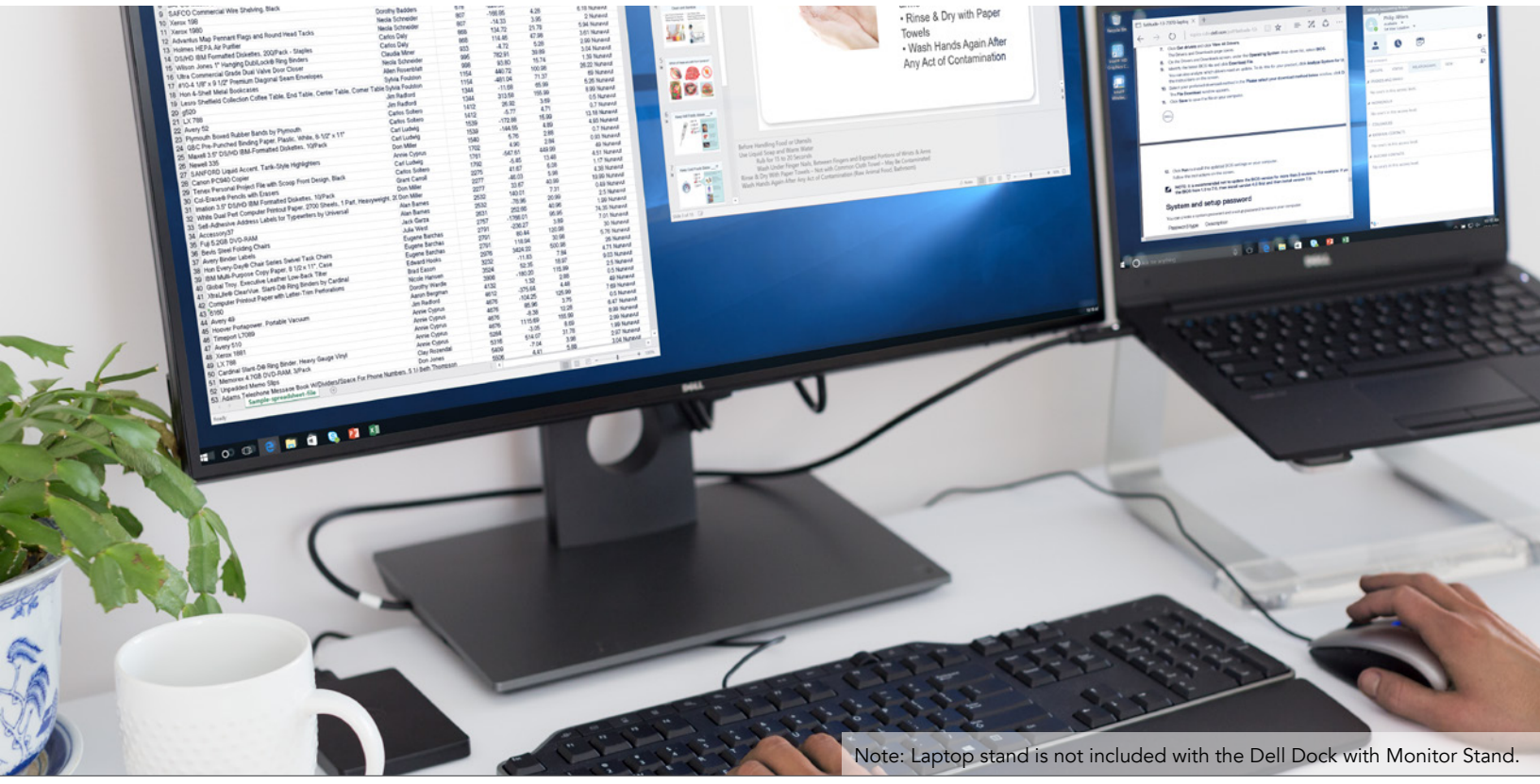
Make the sale with the Dell Dock with Monitor Stand

Dell Dock with Monitor Stand with USB Type-C

As a remote salesperson, Camille spends most of her time in her home office, working in Microsoft® Office apps on her Dell Latitude 7370 powered by Intel. Her Dell Dock with Monitor Stand has a small footprint that helps her make the most of her limited desk space. When she does leave her office for meetings with clients, her laptop helps her easily make presentations and work with clients. On those days when she works in her company's office, she may also make use of shared workspaces that are compatible with her USB Type-C-enabled Latitude 7370.

Camille configured the Dell Dock with Monitor Stand when she first received it. Today, like every day, she has her printer, portable hard disk drive, keyboard, mouse, and Ethernet connected to the dock. Upon entering her office, she connects her dock and opens Microsoft PowerPoint® and Skype® for Business to work on her next sales presentation while video chatting with a colleague. She also opens and prints a document she'll need for reference later, and to familiarize herself with some of the details of her company's new product, she plays a video presentation.

If Camille had had to use the Lenovo ThinkPad X1 Tablet without a dock, this workflow would have taken her ten more steps and 37 more seconds. That may not seem like a lot, but with over half a minute, she could have reviewed another short video about her company's product or added another few bullet points to her presentation. When Camille has to spend less time waiting for basic tasks to finish, she is better able to focus on the day's work.



Note: Laptop stand is not included with the Dell Dock with Monitor Stand.

Find inspiration with the Dell Thunderbolt Dock

Tomas is his team's jack-of-all-trades graphic designer and video editor. For his work to go smoothly, he needs a dock that will make it easy and quick to connect to his accessories. He works with large files all day, so a fast connection is crucial. If docking connection issues cause delays, his productivity could plummet.

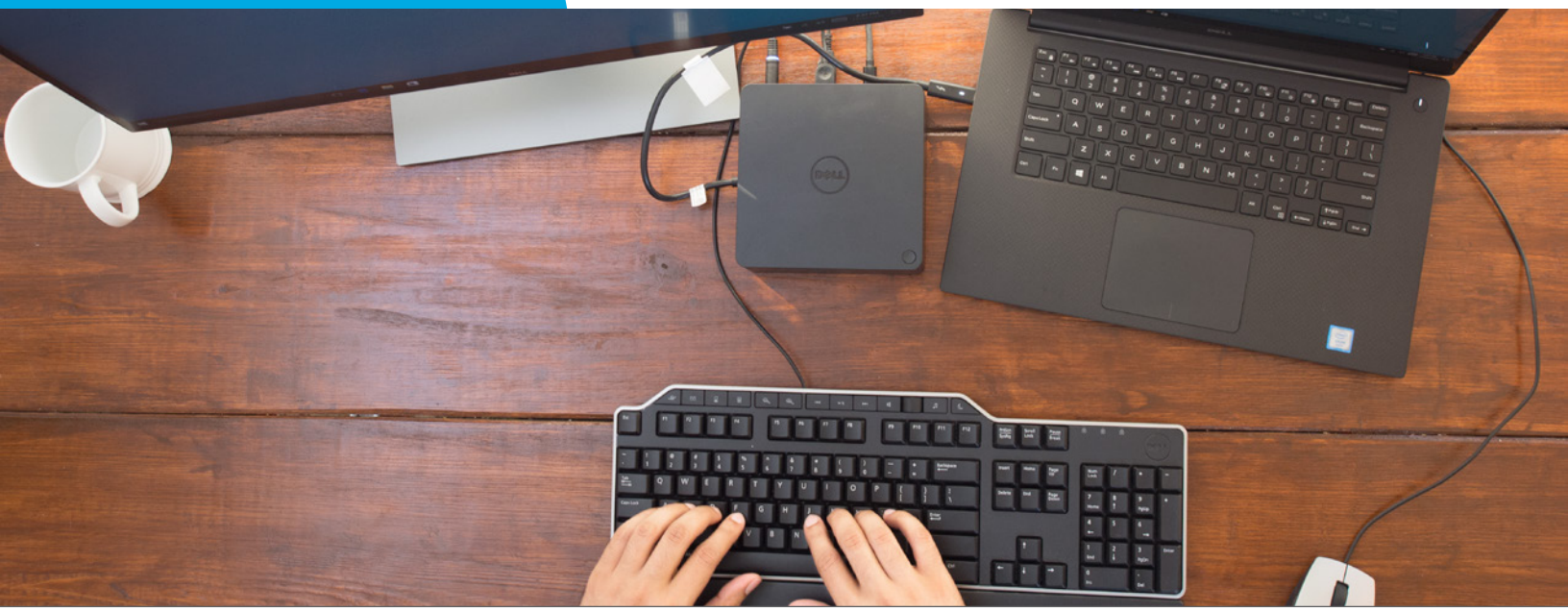
After lunch, Tomas sits down to figure out the projects he's juggling today. Along with his monitors, mouse, and keyboard, he also has an external storage drive, headset, and thumb drive plugged into his Dell Thunderbolt Dock. He connects his Intel processor-powered Dell Precision™ 5510 to the dock and saves that morning's work, a large graphic file, to the external drive. Then he opens an infographic-in-progress from the thumb drive and examines a spreadsheet of the data the infographic will show off. Finally, he opens an Adobe® Premiere® Pro project from the external drive to work on the video that will accompany the infographic.

Dell Thunderbolt Dock

Now let's imagine Tomas is using the Lenovo ThinkPad X1 Tablet with the Lenovo ThinkPad OneLink+ Dock. The exact same workflow would have required over fifty more seconds of unproductive waiting. Tomas has a lot to get done in a short time, and when he has to put his creative flow on pause, it can really throw him off. The Dell Thunderbolt Dock lets him keep his work moving with significantly less waiting.

Thunderbolt

Thunderbolt 3 cables are ideal for users seeking high-speed connections between their laptops and peripherals. Thunderbolt 3 cables use USB Type-C connectors, making them easy to integrate into your workspace. They provide data transfer rates of up to 40 Gbps, doubled from the 20 Gbps transfer rate of Thunderbolt 2 cables.[3] This ultra-fast tranfer rate enables them to offer high-resolution graphics on external displays and high power transfer rates.



Lead the team with the Dell Wireless Dock with Intel WiGig

James, a busy executive, isn't the typical user of a traditional dock. He's constantly moving from meeting to meeting. When he has a break for a few minutes, he spends it in his office, attacking the growing message count in his inbox and preparing for the next meeting.

Dell Wireless Dock with Intel WiGig

James is much more productive when he can use his peripherals, especially his external display. But there's no time to plug in his Intel processor-powered Dell Latitude 7370 laptop and wait while everything connects. Every few seconds he spends waiting translates to an email he doesn't get to, which causes holdups in other parts of the company.

With the Dell Wireless Dock with Intel WiGig, James gets to lose the wires without losing time. As soon as he walks into his office, his Latitude 7370 starts connecting to the dock automatically and securely, and he begins composing an email. From the external hard drive plugged into his dock, he opens a presentation for his next meeting. Then he plugs in his USB3 thumb drive and opens a spreadsheet from it to input some of the numbers into the presentation. Finally, he transfers a file to the external hard drive.

If James were completing this same workflow with the Lenovo ThinkPad X1 Tablet and Lenovo dock, he'd have to manually plug in rather than connecting wirelessly. It would also require an extra component, because the Lenovo dock is not capable of connecting directly to the ThinkPad X1 Tablet. Instead, the dock connects to the Productivity Module, which users must purchase if they wish to use the OneLink+ dock.

In addition to offering easy connectivity, the Dell Wireless Dock also gives you a cleaner workspace free of wires. That's ideal for James, who is better able to focus when his work area is tidy and organized.

Intel WiGig technology

Intel WiGig offers high-speed wireless docking, minimizing or eliminating the need for cables to connect accessories like monitors, external storage, and keyboards. With Intel WiGig, you can connect to all compatible devices and forget the hassle of constant plugging and unplugging. Though we did not test other laptops with the Dell Wireless Dock, you should be able to use the dock with any device that includes Intel WiGig technology.

Conclusion

Your time is precious: you shouldn't have to spend it connecting your laptops to peripherals. The four Dell docks we tested gave us four different ways to quickly connect our Intel processor-powered Dell laptops to monitors, external hard drives, and other peripherals. Those connections utilized the latest technologies, such as USB Type-C, Intel WiGig technology, and Thunderbolt 3.

When we tested the Dell Wireless Dock against the Lenovo ThinkPad X1 Tablet with ThinkPad OneLink+ dock, we found that the Dell Wireless Dock offered a slightly faster experience with no need to plug in the laptop at all, making it easy for workers on the move to walk into their office and start working. And while the Dell Thunderbolt Dock did require one USB Type-C cable to connect to a laptop, it offered a significantly faster user experience than the Lenovo tablet and its dock. Those extra seconds of productivity can make a big difference when you're trying to finish a stack of work before dark.

Of course, the Lenovo device also required an extra component—the Productivity Module—to connect to its dock. The Productivity Module carries an extra cost of over a hundred dollars. Without it, users would have to use the Lenovo device without its dock. When we compared that scenario to using two Dell devices with the Dell Dock and Dell Dock with Monitor Stand, the complete Dell solutions allowed users to connect to and use their peripherals more quickly and with fewer steps.

Your job is unique, so you shouldn't need to buy one-size-fits-all technology. Fortunately, the Dell portfolio gives you the option to choose the device and dock that work best for you.

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1 ThinkPad, ThinkCentre and ThinkStation systems – Option Compatibility Matrix. https://support.lenovo.com/us/en/documents/um006391

2 Requires support from third-party laptop vendors.

3 https://thunderbolttechnology.net/sites/all/themes/tb/images/Thunderbolt3_infographic_100715.jpg

On September 5, 2016, we finalized the hardware and software configurations we tested. Updates for current and recently released hardware and software appear often, so unavoidably these configurations may not represent the latest versions available when this report appears. For older systems, we chose configurations representative of typical purchases of those systems. We concluded hands-on testing on November 29, 2016.

Appendix A: System information

System	Dell Latitude 7275	Dell Latitude 7370	Dell Precision 5510	Lenovo ThinkPad X1 Tablet
Screen size (inches)	12.5	13.3	15.6	12
Display resolution	1920 x 1080	1920 x 1080	3840 x 2160	2160 x 1440
Dimensions (inches)	.67 x 11.45 x 7.59	.56 x 12 x 8.3	.45 x 14.06 x 9.27	.53 x 11.45 x 8.24
Weight (lbs.)	1.61	2.48	3.93	1.69
CPU	Intel Core™ m3-6Y30	Intel Core m5-6Y57	Intel Xeon™ E3-2505M v5	Intel Core m5-6Y57
Storage	Samsung® PM871 128GB SSD	Samsung PM871 512GB SSD	LiteOn CX2-8B512-Q11 512GB NVMe SSD	Samsung MZNLN256HCHP 256GB SSD
RAM	4 GB DDR3	8 GB DDR3	32 GB DDR4	8 GB DDR3
OS	Microsoft Windows® 10 Pro	Windows 10 Pro	Windows 10 Pro	Windows 10 Pro

Table 1: System configuration information for the test laptops.

System	Dell Dock with USB Type-C	Dell Dock with Monitor Stand with USB Type-C	Dell Thunderbolt Dock with Thunderbolt 3	Dell Wireless Dock with Intel WiGig	Lenovo ThinkPad OneLink+ Dock
Physical specifications					
Docking interface	USB Type-C	USB Type-C	Thunderbolt 3 via USB Type-C	Wireless	OneLink+ Connector
Dimensions (inches)	6.1 x 4.3 x .83	12.4 x 7.7 x 16.7	5.7 x 5.7 x 2.05	4.72 x 4.72 x 2.76	1.49 x 6.22 x 3.15
Weight (lbs.)	.93	6.17	1.58	.8	.68
USB ports	(3) USB 3.0, (2) USB 2.0	(2) USB 3.0, (2) USB 2.0	(3) USB 3.0, (2) USB 2.0	(3) USB 3.0, (2) USB 2.0	(4) USB 3.0, (2) USB 2.0
Ports					
USB 3.0	2	1	2	2	3
Always powered USB 3.0	1	1	1	1	1
USB 2.0	2	2	2	2	2

Thunderbolt 3	–	–	1	–	–
Gigabit Ethernet (RJ-45)	1	1	1	1	1
HDMI	1	1	1	1	–
Mini DisplayPort	1	–	1	1	–
Display ports	VGA, mini DisplayPort, HDMI	VGA, DisplayPort, HDMI	VGA, mini DisplayPort, DisplayPort, HDMI, Thunderbolt	VGA, mini DisplayPort, HDMI	VGA, (2) DisplayPort
VGA	1	1	1	1	1
Line-out connector	1	1	1	1	–
Headset connector	1	1	1	1	1
Kensington lock slot	1	1	1	1	1
Sleep/wake button	1	1	1	–	1

Table 2: System configuration information for the test docks.

Appendix B: How we tested

Dell Dock and Dell Latitude 7275

Before testing, we configured the Dell Dock and connected the following peripherals:

- Dell USB 3.0 64GB thumb drive
- Dell U2717D Monitor
- Dell USB 3.0 1TB portable hard drive
- Dell C1760nw printer

Where applicable, we used the same peripherals for our testing with the Lenovo ThinkPad X1 Tablet.

Testing the Dell Latitude 7275 with the Dell Dock

Sit at the workstation with the Latitude 7275 attached to the keyboard and closed on the desk.

1. Start the timer.
2. Set up the Latitude 7275 in a laptop configuration.
3. Plug in the USB Type-C cable from the Dell Dock into the lower port on the Latitude 7275.
4. Stop the timer when the external monitor displays the desktop. Record as dock connect.
5. Simultaneously start the timer and plug the USB 3.0 thumb drive into the front USB 3.0 port on the dock.
6. When the Latitude 7275 finishes detecting the drive, stop the timer, and record as drive connect.
7. Navigate to the USB 3.0 portable hard drive in Windows Explorer. Copy the large 3GB file. Navigate to the USB 3.0 thumb drive.
8. Start the timer, and paste the file onto the USB 3.0 thumb drive.
9. Stop the timer when the transfer is complete. Record as data transfer time.
10. Simultaneously start the timer and open the 5MB test report on the Desktop.
11. Click File, and select Print. Stop the timer when the Print Preview loads completely.
12. Start the timer, and open the test 10MB PowerPoint file residing on the USB 3.0 thumb drive.
13. Stop the timer when the presentation completely finishes loading. Record as open presentation time.
14. Unplug the dock, reboot the system, and wait five minutes after Windows finishes restarting between each test run.

Testing the Lenovo ThinkPad X1 Tablet without the Lenovo ThinkPad OneLink+ Dock or Productivity Module

Start with the Lenovo ThinkPad X1 Tablet closed on the desk. Attach the Productivity Module to the tablet before testing.

1. Simultaneously start the timer and plug the USB Type-C power cable into the right side of the X1 Tablet.
2. Plug the mini DisplayPort cable into the right side of the X1 Tablet.
3. Stop the timer when all devices are detected and the external monitor displays the desktop. Record the time as connect time.
4. Plug the USB 3.0 portable hard drive into the right side of the X1 Tablet.
5. Navigate to the USB 3.0 portable hard drive in Windows Explorer. Copy the large 3GB file. Simultaneously start the timer, and paste the 3GB file onto the Desktop.
6. In the taskbar, select Safely Remove Hardware and Eject Media. Select Eject Portable Disk.
7. Remove the USB 3.0 portable hard drive.
8. Simultaneously start another timer and plug the USB 3.0 thumb drive into the USB 3.0 port on the right side of the X1 Tablet.
9. When the X1 Tablet finishes detecting the drive, stop the second timer, and record as drive connect.
10. Copy the 3GB test file stored on the desktop, and paste the file onto the USB 3.0 thumb drive.
11. Stop the timer when the transfer is complete. Record as data transfer time.
12. Start the timer.
13. In the taskbar, select Safely Remove Hardware and Eject Media. Select Eject Portable Disk.
14. Remove the thumb drive from the USB 3.0 port.
15. Plug the printer USB cable into the X1 Tablet.
16. Open the 5MB Test Report on the Desktop.
17. Click File, and select Print. Stop the timer when the Print Preview loads completely.
18. Start the timer.
19. Disconnect the printer.
20. Connect the USB 3.0 thumb drive.
21. Open the test 10MB PowerPoint file residing on the USB 3.0 thumb drive.
22. Stop the timer when the presentation completely finishes loading. Record as open presentation time.
23. Unplug the dock, reboot the system, and wait five minutes after Windows finishes restarting between each run.

Dell Dock with Monitor Stand and Dell Latitude 7370

Before testing, we configured the Dell Dock with Monitor Stand and connected the following peripherals:

- Dell U2717D Monitor
- Dell USB 3.0 1TB portable HDD
- Dell USB headset
- Dell USB wired keyboard
- Logitech c930 Webcam
- Dell USB laser mouse

Where applicable, we used the same peripherals for our testing with the Lenovo ThinkPad X1 Tablet.

Testing the Dell Latitude 13 7370 with the Dell Dock with Monitor Stand

1. With the closed Latitude 7370 on the desk, start the timer.
2. Open the Latitude 7370.
3. Plug the USB Type-C cable from the dock into the left side of the Latitude 7370.
4. When the Windows desktop appears, launch Microsoft PowerPoint.
5. Stop the timer when PowerPoint completes loading. Record as Dock connection and open PowerPoint.
6. Start the timer, and launch Skype for Business.
7. Stop the timer when Skype for Business completes signing in. Record as Prepare for conference call.
8. Start the timer, and navigate to the USB 3.0 HDD.
9. Open the 10MB test Microsoft Word document stored on the USB 3.0 portable HDD.
10. Click File, and select Print. Print Page 1.
11. Stop the timer when the document prints completely. Record as Open document and print document.
12. Start the timer, and navigate to the USB 3.0 HDD.
13. Open the 500MB video presentation.
14. When the video begins to play, stop the timer. Record as Play a video presentation.
15. Disconnect from the dock, and reboot the system. Before each test run, wait five minutes after Windows finishes restarting, and close the Latitude 7370.

Testing the Lenovo ThinkPad X1 Tablet without the Lenovo ThinkPad OneLink+ Dock or Productivity Module

1. With the closed Lenovo ThinkPad X1 Tablet on the desk, start the timer.
2. Open the Lenovo ThinkPad X1 Tablet, and deploy the kickstand.
3. Plug the USB Type-C power cable from the AC Adapter into the right side of the X1 Tablet.
4. Plug the mini DisplayPort cable from the monitor into the right side of the X1 Tablet.
5. When the Windows desktop appears on the external monitor, launch Microsoft PowerPoint.
6. Stop the timer when PowerPoint completes loading. Record as Dock connection and open PowerPoint.
7. Start the timer, and plug in the USB headset.
8. Launch Skype for Business.
9. Stop the timer when Skype for Business completes signing in. Record as Prepare for conference call.
10. Start the timer, and unplug the USB headset.
11. Plug the USB 3.0 HDD into the available USB port on the right side of the X1 Tablet.
12. Navigate to the USB 3.0 HDD.
13. Copy the 10MB test Microsoft Word document stored on the USB 3.0 portable HDD.
14. Paste the file to the desktop.
15. From the Windows Taskbar, select Safely Remove Devices. Select Safely Remove USB Device.
16. Plug the printer into the available USB port on the right side of the X1 Tablet.
17. Open the 10MB test Microsoft Word document now stored on the Desktop.
18. Click File, and select Print. Print Page 1.

19. Stop the timer when the document prints completely. Record as Open document and print document.
20. Start the timer, and unplug the printer.
21. Plug in the USB 3.0 HDD.
22. Navigate to the USB 3.0 HDD.
23. Start the timer, and open the 500MB video presentation.
24. When the video begins to play, stop the timer. Record as Play a video presentation.
25. Reboot the system. Before each test run, wait five minutes after Windows finishes restarting, and close the X1 Tablet.

Dell Thunderbolt Dock and Dell Precision 5510

Before testing, we configured each dock and connected the following peripherals:

- Dell mouse and keyboard
- Two Dell U2717D Monitors
- OWC Thunderbolt/USB 3.0 drive dock
- Samsung 850 Pro 512 GB SSD (SATA)
- Dell USB headset
- Dell 64GB USB 3.0 thumb drive

Where applicable, we used the same peripherals for our testing with the Lenovo ThinkPad X1 Tablet.

Testing the Dell Precision 5510 with the Dell Thunderbolt Dock

Start with the Dell Precision on the desk and open to the desktop.

1. Start the timer, and plug the Thunderbolt 3 cable into the left side of the Precision 5510.
2. When both monitors display the desktop, stop the timer. Record as dock connection.
3. Start the timer, and plug the OWC drive dock into the USB 3.0 connection on the Dell Thunderbolt Dock.
4. On the desktop, copy the 10GB test file.
5. Open File Explorer, and navigate to the Samsung SSD in the OWC drive dock.
6. Paste the file onto the Samsung SSD. Stop the timer when the transfer completes. Record as 10GB file transfer.
7. Start the timer, and plug the USB 3.0 thumb drive into an available USB 3.0 port on the Dell Thunderbolt Dock.
8. Open the test Adobe Illustrator file stored on the USB thumb drive.
9. When the file completes opening, stop the timer. Record as open Adobe Illustrator® file.
10. Simultaneously open the 10MB Excel file on the desktop and start the timer.
11. Stop the timer when the Excel file loads completely. Record as view spreadsheet.
12. Start the timer, and open the test Adobe Premiere Pro project on the drive dock.
13. Stop the timer when Adobe Premiere Pro is open and all video thumbnails have loaded. Record as Open Adobe Premiere Pro project from drive dock.
14. Reboot the system. Wait five minutes after Windows finishes restarting between each test run.

Testing the Lenovo ThinkPad X1 Tablet with the Lenovo ThinkPad OneLink+ Dock and Productivity Module

Start with the Lenovo ThinkPad X1 Tablet on the desk and open to the desktop. Attach the Productivity Module to the tablet before testing.

1. Start the timer, and plug the OneLink+ cable into the left side of the Lenovo ThinkPad X1 Tablet.
2. When both monitors display the desktop, stop the timer. Record as Dock connection.
3. Start the timer, and plug the OWC drive dock into the USB 3.0 connection on the Lenovo OneLink+ Dock.
4. On the desktop, copy the 10GB test file.
5. Open File Explorer, and navigate to the Samsung SSD in the OWC drive dock.
6. Paste the file onto the Samsung SSD. Stop the timer when the transfer completes. Record as 10GB file transfer.
7. Start the timer, and plug the USB 3.0 thumb drive into an available USB 3.0 port on the Lenovo OneLink+ Dock.
8. Open the test Adobe Illustrator file stored on the USB thumb drive.
9. When the file opens completely, stop the timer. Record as Open Adobe Illustrator file.
10. Simultaneously open the 10MB Excel file on the desktop and start the timer.
11. When the Excel file loads completely, stop the timer. Record as View spreadsheet.
12. Start the timer, and open the test Adobe Premiere project stored on the drive dock.
13. Stop the timer when Adobe Premiere Pro is open and all video thumbnails have loaded. Record as open Adobe Premiere Pro project

from drive dock.

14. Reboot the system. Wait five minutes after Windows finishes restarting between each test run.

Dell Wireless Dock and Dell Latitude 7370

Before testing, we configured each dock and connected the following peripherals:

- Dell USB 3.0 64GB thumb drive
- Dell U2717D Monitor
- Dell USB 3.0 1TB portable HDD
- Dell USB headset

Testing the Dell Latitude 7370 with the Dell Wireless Dock

Start a standard, predefined distance away from the dock. We marked the location in our labs with a piece of tape. The distance must be far enough so that the dock remains disconnected from the laptop.

1. Start the timer, and begin walking toward the desk with the Dell Wireless Dock. The dock and laptop should automatically connect.
2. Continue walking to the desk, sit down, and launch Microsoft Outlook®. Click New Email. Stop the timer when the message composing window appears. Record as Automatic dock connection and email compose.
3. Open File Explorer, and navigate to the USB 3.0 HDD.
4. Simultaneously open the 10MB PowerPoint file and start the timer.
5. Stop the timer when the PowerPoint file loads completely. Record as View presentation.
6. Start the timer.
7. Plug the USB 3.0 thumb drive into an available USB 3.0 port on the Latitude 7370.
8. Navigate to the thumb drive using File Explorer. Open the 6MB Microsoft Excel® spreadsheet.
9. Stop the timer when the spreadsheet completes loading. Record as View spreadsheet.
10. Copy the large 2GB video presentation file stored on the desktop.
11. Simultaneously paste the file onto the USB 3.0 HDD and start the timer.
12. Stop the timer when the file transfer completes.
13. Walk from the dock back to the start point, and reboot the system. Wait five minutes after Windows finishes restarting between each test run.

Testing the Lenovo ThinkPad X1 Tablet with the Lenovo ThinkPad OneLink+ Dock and Productivity Module

Start a standard, predefined distance away from the dock. We marked the location in our labs with a piece of tape. It must be the same distance as the distance you used for the Dell testing.

1. Start the timer, and begin walking toward the desk with the OneLink+ dock.
2. Continue walking to the desk, and sit down.
3. Plug in the OneLink+ connector into the left side of the X1 Tablet and Productivity Module.
4. Launch Microsoft Outlook. Click New Email. Stop the timer when the message composing window appears. Record as Dock connection and email compose.
5. Open File Explorer, and navigate to the USB 3.0 HDD.
6. Simultaneously open the 10MB PowerPoint file and start the timer.
7. Stop the timer when the PowerPoint file loads completely. Record as View presentation.
8. Plug the USB 3.0 thumb drive into an available USB 3.0 port on the OneLink+ dock.
9. Navigate to the thumb drive using File Explorer. Simultaneously start the timer and open the 6MB Excel spreadsheet.
10. Stop the timer when the spreadsheet loads completely. Record as View spreadsheet.
11. Copy the large 2GB video presentation stored on the desktop.
12. Simultaneously paste the file onto the USB 3.0 HDD and start the timer.
13. Stop the timer when the file transfer completes.
14. Disconnect from the dock, return to the start point, reboot the system, and wait five minutes after Windows finishes restarting between each test run.

Appendix C: Complete results

	Dell Dock with Dell Latitude 7275	Lenovo ThinkPad X1 Tablet with no dock	Percent less time required with Dell solution
Connect dock (sec.)	17.1	31	
Connect drive (sec.)	3.6	3	
Transfer 3GB file (sec.)	165.6	210.5	
Print report (sec.)	12.5	29.6	
Open presentation from drive (sec.)	4.1	13	
Total time (sec.)	202.9	287.1	29.3%
Total steps required	13	22	

Table 3: Complete results for the Dell Dock testing.

	Dell Dock with Monitor Stand with Dell Latitude 7370	Lenovo ThinkPad X1 Tablet with no dock	Percent less time required with Dell solution
Connect to dock and open PowerPoint file (sec.)	17.2	22.1	
Launch Skype for Business (sec.)	6.1	10.2	
Open and print document (sec.)	48.5	66.0	
Play video presentation (sec.)	2.6	13.0	
Total time (sec.)	74.4	111.3	33.2%
Total steps required	14	24	

Table 4: Complete results for the Dell Dock with Monitor Stand testing.

	Dell Thunderbolt Dock with Dell Precision 5510	Lenovo ThinkPad X1 Tablet with Lenovo ThinkPad OneLink+ Dock	Percent less time required with Dell solution
Connect dock (sec.)	12.5	12.6	
10GB file transfer	28.5	49.9	
Open Adobe Illustrator file (sec.)	12.4	23.2	
View spreadsheet (sec.)	2.7	3.4	
Open Adobe Premiere Pro project (sec.)	13.4	30.5	
Total time (sec.)	69.5	119.6	41.9%
Total steps required	14	14	

Table 5: Complete results for the Dell Thunderbolt Dock testing.

	Dell Wireless Dock with Dell Latitude 7370	Lenovo ThinkPad X1 Tablet with Lenovo ThinkPad OneLink+ Dock	Percent less time required with Dell solution
Connect to dock and compose email (sec.)	28.3	29.5	
Open presentation from hard disk drive (sec.)	3.2	3.4	
Open presentation from thumb drive (sec.)	9.8	10	
Transfer 2GB file (sec.)	23	21.5	
Total time (sec.)	64.3	64.4	0.2%
Total steps required	11	12	

Table 6: Complete results for the Dell Wireless Dock testing.

This project was commissioned by Dell Technologies.

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