D&LLTechnologies

LATITUDE 5411 | 5511

High performance. Highly intelligent.





WORLD'S MOST INTELLIGENT BUSINESS PCS WITH BUILT-IN AI¹⁶

Latitude 5000 Series laptops feature Dell Optimizer, built-in AI that learns and responds to the way you work, to automatically improve application performance, battery life and audio settings in the background. ExpressResponse launches favorite applications faster and improves their performance. ExpressCharge learns your habits to apply appropriate charging or keep you running longer. And Intelligent Audio auto-adjusts for best sound quality and conferencing. All controlled through one module, at no additional cost, to reduce lag and help you run at peak performance.



STAY CONNECTED WHEREVER WORK TAKES YOU

Choose Intel® Wi-Fi 6 (Gig+), delivering nearly 3x faster speeds and next-gen security to PCs and wireless networks,¹⁹ or stay connected with LTE mobile broadband options. New eSIM technology connects to more global carriers without having to switch SIM cards. Up to latest 10th Gen Intel® Core™ i7 vPro® processors offer businesses the performance, manageability and built-in security features, while providing the foundation for future technology advancements.



A NEW LOOK FOR WORLD'S MOST POWERFUL MAINSTREAM BUSINESS LAPTOPS¹⁷

Our most powerful 5411 and 5511 laptops are the world's smallest, most scalable in their class¹⁷ with a modern design and new lighter color. Narrow border, anti-glare screens, with touch options increase productivity, wherever you work. Memory up to 64GB DDR4 (64GB option available from June 2020), storage up to 1 TB HD and battery up to 97Whr, offers flexibility for different business needs. Discrete graphics options improve high-resolution video and graphic intensive applications. Connect to more accessories with available ports including USB Type-CTM, ThunderboltTM 3 and legacy HDMI and RJ45.



A LEADER IN SUSTAINABILITY

Latitude 5000 Series laptops were the first to use reclaimed carbon fiber in the design and include up to 19% post-consumer recycled material. With our commitment to sustainability, we use low VOC waterborne paint for a healthier work environment.

The world's most intelligent PCs featuring Dell Optimizer¹⁶

New Latitude devices feature Dell Optimizer — built-in artificial intelligence that learns how you work and continuously adapts to your style to create a smarter, more-personal experience. The result? Improved system responsiveness, New Latitude devices feature Dell Optimizer a built-in artificial intelligence software that learns and adapts to your behavior to create a smarter, more personalized user experience. It automatically improves application performance, battery run time and more in the background, so you have fewer disruptions no matter where you're working.



Dell Optimizer uses built-in Al and Intel® Adaptix™ Technology to learn how you typically use your favorite applications, continuously improving and applying settings – quietly, in the background - so you get the most nimble performance possible.



Eliminate the stress of low battery. This technology learns your day-to-day charging habits and ensures your battery operates at its full potential. If you can't charge your system right away, it will subtly adjust settings to preserve resources, such as dimming your screen or turning-off Bluetooth when not in use. When you connect to power ExpressCharge Boost will gain a 35% charge in about 20 minutes¹⁹ or up to 80% in an hour with ExpressCharge²⁰.



Dell Optimizer's Intelligent Audio will automatically tune your system by adjusting background noise, managing speech volume, and refining overall sound experience. Every conference call will feel like you're in the room no matter where you are.

Recommended accessories

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ON-THE-GO



DELL NOTEBOOK POWER BANK PLUS (18,000 MAH) | PW7015L

Even when you're not near an outlet, you'll have enough power for your laptop and cell phone with the Dell Power Companion.





DELL MOBILE ADAPTER SPEAKERPHONE | MH3021P

World's first multiport adapter with integrated speakerphone offers an all-in-one connectivity and conferencing solution.²³



DELL PRO HYBRID BRIEFCASE BACKPACK 15 | PO1520HB

Protect your laptop from impact with this earth friendly backpack that is lined with EVA foam cushioning. Easily convert from backpack to briefcase mode and travel with ease.



DELL MOBILE PRO WIRELESS MOUSE | MS5120W

Connect your mouse conveniently via 2.4GHz wireless or bluetooth and enhance your productivity with programmable shortcut buttons and $$36\ months^{21}$$ of battery life.

DELL USB-C MOBILE ADAPTER | DA300

Connect your Latitude to almost any device with a convenient 6-in-1 compact adapter.

AT THE DESK



DELL THUNDERBOLT DOCK | WD19TB

Work at full speed with Dell's powerful Thunderbolt Dock. Charge your system faster, support up to two 4K displays and connect to your peripherals via a single cable.



DELL MULTI-DEVICE WIRELESS KEYBOARD AND MOUSE COMBO | KM7120W

Designed to work seamlessly across 3 devices, this compact keyboard mouse combo keeps your desk clutter-free and lets you stay productive with up to 36 months²² of battery life.



DELL 27 MONITOR | P2720D

See more and do more with this 27" QHD monitor that expands your workspace and gives you a better view of all your important tasks.



DELL PRO STEREO HEADSET | UC350

Hear every word clearly on your next call with the Dell Pro Stereo Headset, optimized to provide in-person call quality.



DELL DUAL MONITOR STAND | MDS19

This space saving stand mounts up to two 27-inch monitors, providing the screen real estate you need to be most productive.

Built for business

Experience a new way to work with Dell Technologies Unified Workspace. Intelligence built in. Modernization built on.

We know that having the right device is just the start to a great workday. Employees need intelligent, intuitive and responsive experiences that allow them to work productively and without interruption. According to research, 1 out of every 4 users would question their job and the company they work for if they had a negative experience with their technology. Dell Technologies Unified Workspace is transforming the employee experience and ensuring IT has proactive, predictive and automated solutions to deliver on the promise of a modern workday, while simplifying their ability to deploy, secure, manage and support their environment.



ProDeploy in the Unified Workspace allows IT to move away from traditional, high-touch, manual deployment, and instead, ship devices preconfigured with company apps and settings from the Dell factory directly to their end users—having end users up and working on day one.



Dell Trusted Devices provide a foundation to a modern workforce environment with invisible and seamless protection to ensure smarter, faster experiences. End users stay productive and IT stays confident with modern security solutions for the Dell Trusted Device.



Dell Client Command Suite + VMware Workspace ONE offers integrated capabilities that deliver a unified endpoint management experience for IT, enabling them to manage firmware, OS, and apps from one console, while also creating seamless experiences for end users.



ProSupport resolves hardware issues up to 11x faster than the competition. ProSupport for PCs offers 24x7 access to in-region ProSupport engineers who contact IT when critical issues arise,² so you can focus on what's next, not what just happened.

ProSupport Plus helps IT stay a step ahead and virtually eliminate unplanned downtime due to hardware issues. You get all the capabilities of ProSupport, as well as Al-driven alerts to prevent failures and repairs for accidents.³

¹ ESG Research Report. 2019 Digital Work Survey. December 2019.

² Based on a Principled Technologies test report, "Spend Less Time and Effort Troubleshooting Laptop Hardware Failures" dated April 2018. Testing commissioned by Dell, conducted in the United States. Actual results will vary. Full report: http://facts.pt/L52XKM

³ Based on a Principled Technologies test report, "Dell ProSupport Plus with SupportAssist warns you about hardware issues so you can fix them before they cause downtime" dated April 2019. Testing commissioned by Dell, conducted in the United States. Actual results will vary. Full report: http://facts.pt/0xvze8. Hardware issues detected by SupportAssist include hard drives, solid state drives, batteries and fans.

Features & technical specifications

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Feature

Technical Specifications

Technical Specifications

Model Number ¹	5411	5511
Processor ¹	10 th Generation Intel [®] Core [™] CML-H Processor, up to i7 6 core	10 th Generation Intel [®] Core [™] CML-H Processor, up to i7 6 core
Operating System ¹	Microsoft® Windows 10 Pro 64 bit Microsoft® Windows 10 Home 64 bit Ubuntu 18.04 LTS 64-bit	Microsoft® Windows 10 Pro 64 bit Microsoft® Windows 10 Home 64 bit Ubuntu 18.04 LTS 64-bit
Memory Options ^{1,2,3}	DDR4 3200 MHz Non-ECC SDRAM operates at 2933 MHz 2 slots supporting up to 64GB: 1x4GB, 2x4GB, 1x8GB, 2x8GB, 1x16GB, 2x16GB, 1x32*GB, 2x32*GB *options: 1x32GB and 2x32GB (from June 2020)	DDR4 3200 MHz Non-ECC SDRAM operates at 2933 MHz 2 slots supporting up to 64GB: 1x4GB, 2x4GB, 1x8GB, 2x8GB, 1x16GB, 2x16GB, 1x32*GB, 2x32*GB *options: 1x32GB and 2x32GB (from June 2020)
Chipset ¹	Intel® WM490 Chipset	Intel® WM490 Chipset
Intel Responsiveness Technologies ^{1,7}	Intel® Rapid Storage Technology (Intel® RST) 17.x	Intel® Rapid Storage Technology (Intel® RST) 17.x
Graphics ^{1,13}	Intel® UHD Graphics Nvidia GeForce MX250 NV N17S-G2 Discrete Graphics	Intel [®] UHD Graphics Nvidia GeForce MX250 N17S-G1-B Discrete Graphics
Display ¹	14" HD (1366 x 768) Anti-Glare (16:9) WLED, 60Hz, 220 nits, 45% NTSC, Narrow Bezel, Non-Touch, Carbon Fiber Reinforced Polymer LCD Back	15.6" HD (1366 x 768) Anti-Glare (16:9) WLED, 60Hz, 220 nits, 45% NTSC, Narrow Bezel, Non-Touch, Carbon Fiber Reinforced Polymer LCD Back
	14" FHD WVA (1920 x 1080) Anti-Glare (16:9) WLED, 60Hz, 220 nits, 45% NTSC, Narrow Bezel, Non-Touch, Carbon Fiber Reinforced Polymer LCD Back	15.6" FHD WVA (1920 x 1080) Anti-Glare (16:9) WLED, 60Hz, 220 nits, 45%NTSC, Narrow Bezel, Non-Touch, Carbon Fiber Reinforced Polymer LCD Back
	14" FHD WVA (1920 x 1080) Anti-Glare (16:9) WLED, 60Hz, Super Low Power, 300nits, 72% NTSC, Narow Bezel, Non-Touch, Carbon Fiber Reinforced Polymer LCD Back	15.6" FHD WVA (1920 x 1080) Anti-Glare (16:9) WLED, 60Hz, 300nits, 72%NTSC, Narrow Bezel, Non-Touch, Carbon Fiber Reinforced Polymer LCD Back
	14" FHD WVA (1920 x 1080) Anti-Glare (16:9) WLED, 60Hz, with Embedded Touch, 220 nits, 45% NTSC, Narrow Bezel, Carbon Fiber Reinforced Polymer LCD Back	15.6" FHD WVA (1920 X 1080) Anti-Glare (16:9) WLED, 60Hz, 300nits, 72%NTSC, Narrow Bezel, Non-touch, Aluminum LCD Back
		15.6" FHD WVA (1920 \times 1080) Anti-Glare (16:9) WLED, 60Hz, 220 nits, 45%NTSC, Narrow Bezel, with Embedded Touch, Carbon Fiber Reinforced Polymer LCD Back
		15.6" FHD WVA (1920 x 1080) Anti-Glare (16:9) WLED, 60Hz, 220 nits, 45%NTSC, Narrow Bezel, with Embedded Touch, Aluminum LCD Back
Storage ^{1,3}	HDD: up to 1TB, Hybrid, OPAL SED options SSD M.2 2230 PCle/NVMe (class 35): up to 512GB SSD M.2 2280 PCle/NVMe (class 40): up to 1TB, OPAL SED options	HDD: up to 1TB, Hybrid, OPAL SED options SSD M.2 2230 PCle/NVMe (class 35): up to 512GB SSD M.2 2280 PCle/NVMe (class 40): up to 1TB, OPAL SED options
Security ¹	TPM 2.0 FIPS 140-2 Certified, TCG Certified Optional Windows Hello Compliant Fingerprint Reader in power button	TPM 2.0 FIPS 140-2 Certified, TCG Certified Optional Windows Hello compliant fingerprint reader in power button
	Optional Security Hardware Authentication Bundles: 1: Touch Fingerprint Reader (in Power Button) with Control Vault 3.0 Advanced Authentication with FIPS 140-2 Level 3 Certification	Optional Security Hardware Authentication Bundles: 1: Touch Fingerprint Reader (in Power Button) with Control Vault 3.0 Advanced Authentication with FIPS 140-2 Level 3 Certification
	2: FIPS 201 Contacted Smart Card with Control Vault 3.0 Advanced Authentication with FIPS 140-2 Level 3 Certification	2: FIPS 201 Contacted Smart Card with Control Vault 3.0 Advanced Authentication with FIPS 140-2 Level 3 Certification
	3: Touch Fingerprint Reader (in Power Button) & FIPS 201 Contacted Smart Card with Control Vault 3.0 Advanced Authentication with FIPS 140-2 Level 3 Certification	3: Touch Fingerprint Reader (in Power Button) & FIPS 201 Contacted Smart Card with Control Vault 3.0 Advanced Authentication with FIPS 140-2 Level 3 Certification
	4: Touch Fingerprint Reader (in Power Button), FIPS 201 Contacted Smart Card, Contactless Smart Card, NFC, Control Vault 3.0	4: Touch Fingerprint Reader (in Power Button), FIPS 201 Contacted Smart Card, Contactless Smart Card, NFC, Control Vault 3.0

See important information on page 8

Advanced Authentication with FIPS 140-2 Level 3 Certification

5: Touch FIPS 201 Full Scan Fingerprint Reader, FIPS 201 Contacted Smart Card with Control Vault 3.0 Advanced Authentication with FIPS 140-2 Level 3 Certification (15" only)

Advanced Authentication with FIPS 140-2 Level 3 Certification

Features & technical specifications

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Feature	Technical Specifications
Security ¹	Dell Client Command Suite Dell BIOS Verification
	Optional Dell Endpoint Security and Management Software
	VMware Carbon Black Endpoint Standard

VMware Carbon Black Endpoint Standard + Secureworks Threat

Detection and Response Dell Encryption Enterprise Dell Encryption Personal Carbonite

VMware Workspace ONE

Absolute® Endpoint Visibility and Control

Netskope

Dell Supply Chain Defense

Docking¹ Dell Thunderbolt™ Dock - WD19TB (optional, sold separately)

Dell Dock - WD19 (optional, sold separately)

Optical Drive Options

External Options Only

Multimedia¹ High Quality Speakers Universal Audio jack

Noise reducing array microphones

Optional HD RGB Camera with Dell Privacy Shutter Optional IR Camera with Dell Privacy Shutter

Optional No camera Skype For Business Certified

Battery Options^{1,5} 3 cell 51 WHr ExpressCharge™ Capable Battery 4 cell 68 WHr ExpressCharge™ Capable Battery

4 cell 68 WHr Long Lifecycle Battery (includes 3yr limited hardware

warranty)

Power Options¹ E5 90W AC adapter, 7.4mm barrel E5 90W AC adapter, Type-C

E5 130W AC adapter, Type-C

Connectivity options^{1,14}

10/100/1000 Ethernet Wireless LAN Options:

Qualcomm QCA61x4A, 2x2 MIMO, 867 Mbps, 2.4/5 GHz, Wi-Fi 5

(WiFi 802.11ac), Bluetooth 5.0

Intel® AX201, 2x2 MIMO, 2400 Mbps, 2.4/5 GHz, Wi-Fi 6 (WiFi

802.11ax), Bluetooth 5.1

Intel® AX201, 2x2 MIMO, 2400 Mbps, 2.4/5 GHz, Wi-Fi 6 (WiFi

Optional Mobile Broadband Options:8,10

Intel XMM 7360 LTE-Advanced (DW5820e), with eSIM capability Intel XMM 7360 LTE-Advanced (DW5820e) for China and Turkey Intel XMM 7360 LTE-Advanced (DW5820e) for AT&T, Verizon, Sprint

Ports, Slots & Chassis¹

1x Display Port over USB Type C[™] 3.2 Gen 2 with Thunderbolt[™] 3 with Power Delivery & Display Port 1.4

3x USB 3.2 Gen 1 (one with PowerShare) 1x HDMI 2.0

1x Flip-down RJ-45 1x external uSIM card tray (Optional) 1x uSD 4.0 Memory card reader

1x Optional Contacted SmartCard Reader

1x Optional Touch Fingerprint Reader in Power Button

Wedge-shaped Lock slot

Technical Specifications

Dell Client Command Suite Dell BIOS Verification

Optional Dell Endpoint Security and Management Software

VMware Carbon Black Endpoint Standard

VMware Carbon Black Endpoint Standard + Secureworks Threat

Detection and Response Dell Encryption Enterprise Dell Encryption Personal

Carbonite

VMware Workspace ONE

Absolute® Endpoint Visibility and Control

Netskope

Dell Supply Chain Defense

Dell Thunderbolt™ Dock - WD19TB (optional, sold separately)

Dell Dock - WD19 (optional, sold separately)

External Options Only

High Quality Speakers Universal Audio jack

Noise reducing array microphones

Optional HD RGB Camera with Dell Privacy Shutter Optional IR Camera with Dell Privacy Shutter

Optional No camera Skype For Business Certified

3 cell 51 WHr ExpressCharge™ Capable Battery 4 cell 68 WHr ExpressCharge™ Capable Battery

4 cell 68 WHr Long Lifecycle Battery (includes 3yr limited hardware

6 cell 97 WHr ExpressCharge™ Capable Battery

Note: The 6 cell battery option is available on 5511 only

E5 90W AC adapter, 7.4mm barrel E5 90W AC adapter, Type-C E5 130W AC adapter, Type-C

10/100/1000 Ethernet Wireless LAN Options:

Qualcomm QCA61x4A, 2x2 MIMO, 867 Mbps, 2.4/5 GHz, Wi-Fi 5

(WiFi 802.11ac), Bluetooth 5.0

Intel® AX201, 2x2 MIMO, 2400 Mbps, 2.4/5 GHz, Wi-Fi 6 (WiFi

802.11ax), Bluetooth 5.1

Intel® AX201, 2x2 MIMO, 2400 Mbps, 2.4/5 GHz, Wi-Fi 6 (WiFi

Optional Mobile Broadband Options:8,10

Intel XMM 7360 LTE-Advanced (DW5820e), with eSIM capability Intel XMM 7360 LTE-Advanced (DW5820e) for China and Turkey Intel XMM 7360 LTE-Advanced (DW5820e) for AT&T, Verizon, Sprint

1x Display Port over USB Type C™ 3.2 Gen 2 with Thunderbolt™ 3

with Power Delivery & Display Port 1.4 3x USB 3.2 Gen 1 (one with PowerShare)

1x HDMI 2.0 1x Flip-down RJ-45

1x external uSIM card tray (Optional) 1x uSD 4.0 Memory card reader

1x Optional Contacted SmartCard Reader

1x Optional Touch Fingerprint Reader in Power Button

1x Optional Full Scan FIPS Fingerprint Reader

Wedge-shaped Lock slot

Features & technical specifications

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Feature	Technical Specifications	Technical Specifications
Dimensions & Weight ^{1,15}	Width: 12.71" / 323.05mm Height (Non-Touch): 0.83"/ 20.96mm (front) - 0.91"/ 23.17mm (rear) Depth: 8.50" / 216mm Starting weight: 3.40 lbs. / 1.54 kg (non-touch HD, WLAN only, UMA, 3-cell 51Whr battery, M.2 SSD)	Width: 14.13" / 359.1mm Height (Non-Touch): 0.88"/ 22.48mm (front) - 0.98"/ 24.92mm (rear) Depth: 9.30" / 236.25mm Starting weight: 4.16 lbs. / 1.89 kg (non-touch HD, WLAN only, UMA, 3-cell 51Whr battery, M.2 SSD)
Regulatory and Environmental Compliance ¹	Regulatory Model: P98G Regulatory Type: P98G008 ENERGY STAR compliant configurations available EPEAT Registered. For specific country participation and rating, please see www.epeat.net BFR/PVC free ⁹ Trade Agreements Acts (TAA) configurations available	Regulatory Model: P80F Regulatory Type: P80F004 ENERGY STAR compliant configurations available EPEAT Registered. For specific country participation and rating, please see www.epeat.net BFR/PVC free ⁹ Trade Agreements Acts (TAA) configurations available
Input ¹	Single Pointing Non-Backlit Keyboard, Spill Resistant Single Pointing Backlit Keyboard (Japanese only), Spill Resistant Dual Pointing Backlit Keyboard, Spill Resistant Microsoft® Precision Touchpad	Single Pointing Non-backlit Keyboard, Spill Resistant Dual Pointing Backlit Keyboard, Spill Resistant Microsoft® Precision Touchpad 10 Key Numeric Keypad
Systems Management¹	Intel® vPro™ Technology (iAMT 12) (optional, requires Intel WiFi® Link WLAN and a vPro compatible processor), Dell Client Command Suite available (dell.com/command), Factory Installed Dell Client Command Update, Dell Command Power Manager Dell Optimizer	Intel® vPro™ Technology (iAMT 12) (optional, requires Intel WiFi® Link WLAN and a vPro compatible processor), Dell Client Command Suite available (dell.com/command), Factory Installed Dell Client Command Update, Dell Command Power Manager Dell Optimizer
Warranty and Service ¹	Limited Hardware Warranty ⁴ Standard 1 year Mail-in Service after Remote Diagnosis ¹¹ optional 2, 3, 4 and 5 year hardware warranty extensions and 3-5 year Dell ProSupport contracts available ¹²	Limited Hardware Warranty ⁴ Standard 1 year Mail-in Service after Remote Diagnosis ¹¹ optional 2, 3, 4 and 5 year hardware warranty extensions and 3-5 year Dell ProSupport contracts available ¹²
Peripheral Ecosystem ¹	Purpose built ecosystem to enable productivity on the go or at the desk. Includes Dell Thunderbolt Dock- WD19TB, Dell Power Companions, Dell Professional Briefcases, Dell 24" & 27" Monitors and Dell Wireless Keyboard and Mouse	Purpose built ecosystem to enable productivity on the go or at the desk. Includes Dell Thunderbolt Dock- WD19TB, Dell Power Companions, Dell Professional Briefcases, Dell 24" & 27" Monitors and Dell Wireless Keyboard and Mouse



High performance. Highly intelligent.



- Offering may vary by country and by configuration

- 2 A 64-bit operating system is required to support 4GB or more of system memory.
 3 GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.
 4 Limited Hardware Warranty: For copy of Limited Hardware Warranty, write Dell USA LP, Attn: Warranties, One Dell Way, Round Rock, TX 78682 or see www.dell.com/
- The state of the s

- o Wieless affel file available only at filting or system perchase.

 9 Dell Latitude 5000 Series are brominated flame retardant free (BFR-free) and polyvinyl chloride free (PVC-free); meeting the definition of BFR-/PVC-free as set forth in the iNEMI Position Statement on the 'Definition of Low-Halogen Electronics (BFR-/CFR-/PVC-free)'. Plastic parts contain less than 1,000 ppm (0.1%) of bromine (if the Br source is from BFRs) and less than 1,000 ppm (0.1%) of chlorine (if the Cl source is from CFRs or PVC or PVC copolymers). All printed circuit board (PCB) and substrate laminates contain bromine/chlorine total less than 1,500 ppm (0.15%) with a maximum chlorine of 900 ppm (0.09%) and maximum bromine being 900 ppm
- Substitute familiaries contain Brohime total less than 1,500 ppm (0.09%).

 10 Mobile Broadband Subject to service provider's broadband subscription and coverage area; additional charges apply.

 11 Mail-in Service after Remote Diagnosis: Remote Diagnosis is determination by online/phone technician of cause of issue; may involve customer access to inside of system and multiple or extended sessions. If issue is covered by Limited Hardware Warranty (www.dell.com/warranty) and not resolved remotely, technician and/or part will be dispatched, usually within 1 business day following completion of Remote Diagnosis. Availability varies. Other conditions apply.

 12 Dell Services: Availability and terms of Dell Services vary by region. For more information, visit www.dell.com/servicedescriptions.

 13 GB means 1 billion bytes and TB equals 1 trillion bytes; significant system memory may be used to support graphics, depending on system memory size and other factors.

- 15 Weights vary depending on configuration and manufacturing variability.

- 15 Weights vary depending on configuration and manufacturing variability.
 16 Based on Dell analysis, November 2019.
 17 Based on Dell analysis using publicly available data, Januray 2020. The smallest refers to the total surface area. Most powerful when equipped with Intel® 10th Generation Core™ i7-10850H, NVIDIA® GeForce® MX250 NV graphics. Based on Dell analysis, January 2020.
 18 Nearly 3X Faster: 802.11ax 2x2 160 MHz enables 2402 Mbps maximum theoretical data rates, ~3X (2.8X) faster than standard 802.11ac 2x2 80 MHz (867 Mbps) as documented in IEEE 802.11 wireless standard specifications, and require the use of similarly configured 802.11ax wireless network routers. WPA3 Wi-Fi Security Features: The Wi-Fi Alliance industry consortium will certify Wi-Fi 6 products for compliance with the IEEE 802.11ax standard, and will require WPA3 security certification as a pre-requisite to ensure the latest in Wi-Fi security features. WPA3 Simplified Passwords: WPA3 uses Simultaneous Authentication of Equals (SAE) to replace the Pre-Shared Key (PSK) exchange protocol used by WPA2. SAE more securely handles initial key exchange and uses forward secrecy, which makes it more resistant to offline decryption attacks and provides stronger password-based authentication. WPA3 Enhanced Protection: Additional network protection comes from the equivalent of 192-bit cryptographic strength across an 802.11ax network and is superior to the 128-bit AES encryption utilized with WPA2. Claim D is based on industry standard WAP3 certification which parameters are broadly available https://www.wi-fi.org/discover-wi-fi/security

 19 Based on Dell internal analysis, February 2019. Within Dell Power Manager software, selecting either the Default mode of Adaptive Charge or ExpressCharge can recharge system battery from 0% up to 35% within 20 minutes when system is powered-off and battery temperature is between 16-45 degrees C. With ExpressCharge mode enabled, the system battery can then continue charging up to 80% within 60 minutes. After chargi
- due to system tolerance.
- 20 Based on Dell internal analysis, February 2019. When used with Dell systems with ExpressCharge. Within Dell Power Manager software, selecting ExpressCharge can recharge system battery from 0% up to 80% within 60 minutes. After charging has reached 80% capacity, charging speed will return to normal speed. Recommended for use with the provided Dell power adapter; not recommended with a smaller capacity power adapter. Charging time may vary +/-10% due to system tolerance. 21 Based on Dell internal analysis of battery life usage model calculations, Nov 2019. Results vary depending on usage and computing conditions. 22 Based on Dell internal analysis of battery life usage model calculations and 3 million keystrokes per year, Nov 2019. Results vary depending on usage and computing
- conditions. 23 Based on Dell analysis, March 2020.