

Dell Latitude 3000 series (3490 and 3590)

Technical Guidebook



Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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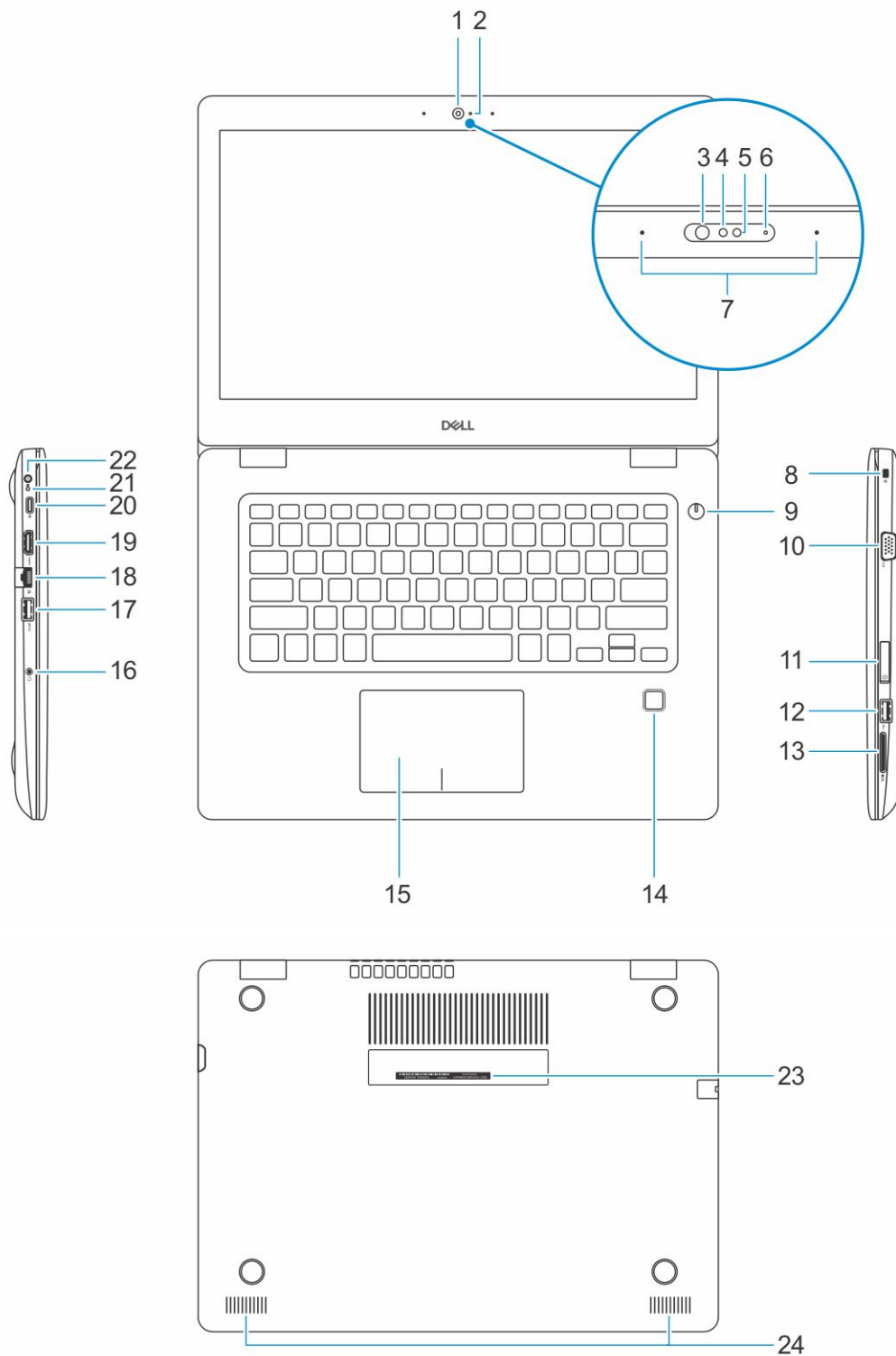


Product View and Technical Specifications

This chapter consists of the product view features along with technical specifications. The product view feature calls out the different ports, connectors and components available in the computer.


Features of Latitude 3490

The features topics call out the different views of the computer along with the ports and components available in each view .



- | | | | |
|---|----------------------------------|----|---------------------------------|
| 1 | Camera | 2 | Camera status light |
| 3 | Infrared (IR) emitter (optional) | 4 | Infrared (IR) camera (optional) |
| 5 | Camera (optional) | 6 | Camera-status light (optional) |
| 7 | Microphones | 8 | Noble Wedge security cable slot |
| 9 | Power button | 10 | VGA port |

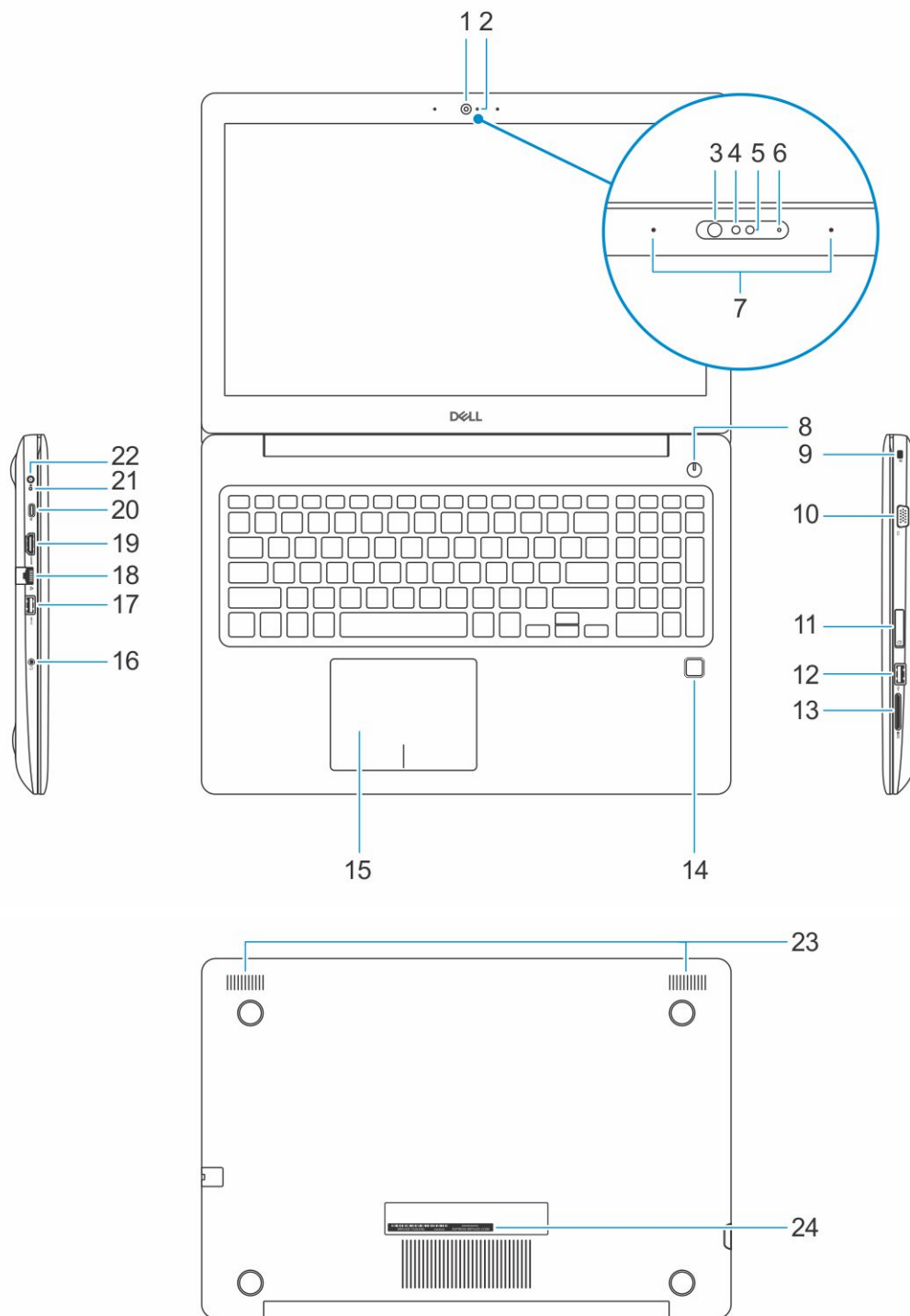


- | | | | |
|----|--|----|--|
| 11 | Micro-SIM card slot (optional) | 12 | USB 2.0 port |
| 13 | SD card slot | 14 | Fingerprint reader (optional) |
| 15 | Touchpad | 16 | Headset/microphone combo jack |
| 17 | USB 3.1 Gen 1 port with PowerShare | 18 | Network port |
| 19 | HDMI port | 20 | USB 3.1 Gen1 Type-C port / DisplayPort over USB Type-C |
| 21 | Battery-status light/Hard-drive activity light | 22 | Power adapter port |
| |  NOTE: Hard-drive activity light is supported only on computers shipped with a hard drive. | | |
| 23 | Service Tag label | 24 | Speakers |



Features of Latitude 3590

The features topics call out the different views of the computer along with the ports and components available in each view.



- | | | | |
|---|----------------------------------|---|---------------------------------|
| 1 | Camera | 2 | Camera status light |
| 3 | Infrared (IR) emitter (optional) | 4 | Infrared (IR) camera (optional) |
| 5 | Camera (optional) | 6 | Camera-status light (optional) |
| 7 | Microphones | 8 | Power button |



- | | | | |
|----|--|----|--|
| 9 | Noble Wedge security cable slot | 10 | VGA port |
| 11 | Micro-SIM card slot (optional) | 12 | USB 2.0 port |
| 13 | SD card slot | 14 | Fingerprint reader (optional) |
| 15 | Touchpad | 16 | Headset/microphone combo jack |
| 17 | USB 3.1 Gen 1 port with PowerShare | 18 | Network port |
| 19 | HDMI port | 20 | USB 3.1 Gen1 Type-C port / DisplayPort over USB Type-C |
| 21 | Battery-status light/Hard-drive activity light | 22 | Power adapter port |
- NOTE:** Hard-drive activity light is supported only on computers shipped with a hard drive.
- | | | | |
|----|-------------------|----|----------|
| 23 | Service Tag label | 24 | Speakers |
|----|-------------------|----|----------|

System dimensions 3490

This topic lists out the dimensions of the computer in detail.

System dimension

Weight (pounds/kilogram) Starts from 3.79 lb / 1.72 kg

Dimensions inches:

Height 21.0 mm (0.82 inch)

Width 339.0 mm (13.34 inch)

Depth 241.9 mm (9.52 inch)

NOTE: System weight and shipping weight is based on a typical configuration and may vary based on the actual configuration.

System dimensions 3590

System dimension

Weight (pounds/kilogram) Starts from 4.45 lb / 2.02 kg

Dimensions inches:

Height 22.7 mm (0.89 inch)

Width 380.0 mm (14.96 inch)

Depth 258.0 mm (10.15 inch)

NOTE: System weight and shipping weight is based on a typical configuration and may vary based on the actual configuration.

Technical Specifications 3490 and 3590

This topic lists out the technical specifications for your computer.

Model Number	Latitude 3490	Latitude 3590
Processor family	Kaby Lake U/R and SMB0	Kaby Lake U/R and SMB0
Memory	DDR4 2133/2400 MHz 2 slots supporting up to 32 GB	DDR4 2133/2400 MHz 2 slots supporting up to 32 GB

Chipset	Integrated with the Processor	Integrated with the Processor
Graphics	Integrated: <ul style="list-style-type: none"> Intel HD Graphics 520 Intel HD Graphics 610 Intel HD Graphics 620 Intel UHD Graphics 620 Discrete: AMD Radeon 530	Integrated: <ul style="list-style-type: none"> Intel HD Graphics 520 Intel HD Graphics 610 Intel HD Graphics 620 Intel UHD Graphics 620 Discrete: AMD Radeon 530
Display	<ul style="list-style-type: none"> 14" FHD (1920x1080), AG, IPS, eDP, flat, Ultra-slim, 220nits 14" FHD (1920x1080) IPS Touch, oTP-Lite, 220nits 14" HD (1366x768) 220 nits, TN, Anti-Glare, Ultra-slim 	<ul style="list-style-type: none"> 15.6" AG, FHD (1920x1080), TN, eDP, flat, Ultra-slim, 220nits 15.6" HD TN Touch (1366x768), oTP-Lite, 200nits 15.6" HD (1366x768) 220 nits, TN, Anti-Glare, Ultra-slim
Storage options	<ul style="list-style-type: none"> 2.5" 500GB 7200 RPM (7mm) 2.5" 500GB 8GB Value Hybrid (7mm) 2.5" 1TB 8GB Value Hybrid (7mm) 2.5" 1TB 5400 RPM HDD (7mm) 128GB M.2 2280 SATA SSD 256GB M.2 2280 SATA SSD 256GB M.2 2280 PCIe SSD 512GB M.2 2280 PCIe SSD 	<ul style="list-style-type: none"> 2.5" 500GB 7200 RPM (7mm) 2.5" 500GB 8GB Value Hybrid (7mm) 2.5" 1TB 8GB Value Hybrid (7mm) 2.5" 1TB 5400 RPM HDD (7mm) 128GB M.2 2280 SATA SSD 256GB M.2 2280 SATA SSD 256GB M.2 2280 PCIe SSD 512GB M.2 2280 PCIe SSD
Multimedia	<ul style="list-style-type: none"> Integrated High Quality Speakers Universal Headphone Jack Integrated digital array microphone Integrated Infra-Red HD video webcam supporting Windows Hello Ready with Facial Recognition (included with Touch systems) Integrated HD video webcam (included with non-Touch systems) 	<ul style="list-style-type: none"> Integrated High Quality Speakers Universal Headphone Jack Integrated digital array microphone Integrated Infra-Red HD video webcam supporting Windows Hello Ready with Facial Recognition (included with Touch systems) Integrated HD video webcam (included with non-Touch systems)
Battery options	<ul style="list-style-type: none"> 42 Whr ExpressCharge Capable (Prismatic) 56 Whr ExpressCharge Capable (Prismatic) 	<ul style="list-style-type: none"> 42 Whr ExpressCharge Capable (Prismatic) 56 Whr ExpressCharge Capable (Prismatic)
Power adapter	E4 65W adapter, 4.5 mm barrel	E4 65W adapter, 4.5 mm barrel
Connectivity	LAN: 10/100/1000 Ethernet WLAN option: <ul style="list-style-type: none"> Qualcomm QCA9377 802.11ac Dual Band (1x1) Wireless Adapter+ Bluetooth 4.1 Qualcomm QCA61x4A 802.11ac Dual Band (2x2) Wireless Adapter+ Bluetooth 4.1 Intel® Dual-Band Wireless-AC 8265 (2x2) Wireless Adapter + Bluetooth 4.2 WWAN option:	LAN: 10/100/1000 Ethernet WLAN option: <ul style="list-style-type: none"> Qualcomm QCA9377 802.11ac Dual Band (1x1) Wireless Adapter+ Bluetooth 4.1 Qualcomm QCA61x4A 802.11ac Dual Band (2x2) Wireless Adapter+ Bluetooth 4.1 Intel® Dual-Band Wireless-AC 8265 (2x2) Wireless Adapter + Bluetooth 4.2 WWAN option:



	Qualcomm Snapdragon X7 HSPA+ (DW5811e)	Qualcomm Snapdragon X7 HSPA+ (DW5811e)
Ports, Slots and Chassis	<ul style="list-style-type: none"> 1 USB 2.0, 1 USB 3.1 Gen 1 port with PowerShare, 1 USB3.1 Gen1 Type-C port / DisplayPort over USB Type-C, HDMI 1.4, VGA RJ-45, external uSIM card tray option SD 3.0 Memory card reader Universal Jack (global headset jack + mic phone in + line in support) Optional Touch Fingerprint Reader Noble Wedge Lock slot 	<ul style="list-style-type: none"> 1 USB 2.0, 1 USB 3.1 Gen 1 port with PowerShare, 1 USB3.1 Gen1 Type-C port / DisplayPort over USB Type-C, HDMI 1.4, VGA RJ-45, external uSIM card tray option SD 3.0 Memory card reader Universal Jack (global headset jack + mic phone in + line in support) Optional Touch Fingerprint Reader Noble Wedge Lock slot
Security	<ul style="list-style-type: none"> TPM 2.0 FIPS 140-2 Certified, TCG Certified (Windows® 10 only) Noble Wedge Lock Slot Optional Touch Fingerprint Reader Optional DDP E Encryption Software 	<ul style="list-style-type: none"> TPM 2.0 FIPS 140-2 Certified, TCG Certified (Windows® 10 only) Noble Wedge Lock Slot Optional Touch Fingerprint Reader Optional DDP E Encryption Software
Input device	<ul style="list-style-type: none"> Single Pointing, non backlit w/Precision compliant Clickpad Touchpad (no buttons) Single Pointing, backlit w/Precision compliant Clickpad Touchpad (no buttons) 	<ul style="list-style-type: none"> Single Pointing, non backlit w/Precision compliant Clickpad Touchpad (no buttons) Single Pointing, backlit w/Precision compliant Clickpad Touchpad (no buttons)
Intel Responsiveness Technologies	Intel Rapid Storage Technology	Intel Rapid Storage Technology
Docking	USB Type C with full Type C Dell docking support	USB Type C with full Type C Dell docking support
Dimensions & Weight	<ul style="list-style-type: none"> Width: 339.0 mm (13.34 inch) Height: 21.0 mm (0.82 inch) Depth: 241.9 mm (9.52 inch) Weight: Starts from 3.79 lb / 1.72 kg 	<ul style="list-style-type: none"> Width: 380.0 mm (14.96 inch) Height: 22.7 mm (0.89 inch) Depth: 258.0 mm (10.15 inch) Weight: Starts from 4.45 lb / 2.02 kg
Regulatory and Environmental Compliance	<ul style="list-style-type: none"> Regulatory Model: P89G Regulatory Type: P89G001 ENERGY STAR 6.1 EPEAT Gold Registered. For specific country participation and rating, please see www.epeat.net No TAA configurations available 	<ul style="list-style-type: none"> Regulatory Model: P75F Regulatory Type: P75F001 ENERGY STAR 6.1 EPEAT Gold Registered. For specific country participation and rating, please see www.epeat.net No TAA configurations available
Systems Management	Dell Client Command Suite available (dell.com/command), Factory Installed Dell Client Command Update, Dell Command Cirrus Delivered for Dell Command Power Manager.	Dell Client Command Suite available (dell.com/command), Factory Installed Dell Client Command Update, Dell Command Cirrus Delivered for Dell Command Power Manager.
Warranty and Service	Limited Hardware Warranty Standard 1 year Mail-in Service after Remote Diagnosis optional 2, 3, 4 and 5 year hardware warranty extensions and 2-5 year Dell ProSupport contracts available	Limited Hardware Warranty Standard 1 year Mail-in Service after Remote Diagnosis optional 2, 3, 4 and 5 year hardware warranty extensions and 2-5 year Dell ProSupport contracts available



Peripheral Ecosystem

Purpose built ecosystem to enable productivity on the go or at the desk, includes Dell Urban Backpack 15, Dell Wireless Mouse - WM126, Dell Power Companion 18000mAh, Dell Urban Briefcase 15, Dell Adapter - USB-C to HDMI/VGA/Ethernet/USB 3.0, Dell Business Dock WD 15, Dell 23 Monitor - E2318HN, Dell 23.8 Monitor - E2418HN, Dell Pro Stereo Headset - UC150, Dell Wireless Keyboard and Mouse Combo - KM636

Purpose built ecosystem to enable productivity on the go or at the desk, includes Dell Urban Backpack 15, Dell Wireless Mouse - WM126, Dell Power Companion 18000mAh, Dell Adapter - USB-C to HDMI/VGA/Ethernet/USB 3.0, Dell Business Dock WD 15, Dell 23 Monitor - E2318HN, Dell 23.8 Monitor - E2418HN, Dell Pro Stereo Headset - UC150, Dell Wireless Keyboard and Mouse Combo - KM636



Marketing System Configurations

This chapter lists the operating system configurations supported in a system. It also lists the processor, memory, storage options available for this system. It will help the team in identifying whether a specific configuration is supported by the system.

Operating system configurations

This topic lists the operating system supported by

Table 1. Operating systems

	3490	3590
Windows 10	<ul style="list-style-type: none"> • Microsoft Windows 10 Home 64 bit • Microsoft Windows10 Professional 64 bit • Microsoft Windows 10 National Academic 64-bit (Bid Desk) 	<ul style="list-style-type: none"> • Microsoft Windows 10 Home 64 bit • Microsoft Windows10 Professional 64 bit • Microsoft Windows 10 National Academic 64-bit (Bid Desk)
Others	<ul style="list-style-type: none"> • Ubuntu 16.04 LTS 64-bit • NeoKylin 6.0 64 bit 	<ul style="list-style-type: none"> • Ubuntu 16.04 LTS 64-bit • NeoKylin 6.0 64 bit

Processor

The system is built with Intel Celeron Processors and Core i processors.

Table 2. Supported processors

Processors Support List	UMA Graphics
Intel® Celeron™ 3865U (2MB Cache, up to 1.8 GHz)	Intel® HD Graphics 610
Intel® Core™ i3-6006U (3MB Cache, up to 2.0 GHz)	Intel® HD Graphics 520
Intel® Core™ i5-7200U (3MB Cache, up to 3.1 GHz)	Intel® HD Graphics 620
Intel® Core™ i3-7130U (3MB Cache, up to 2.7 GHz)	Intel® HD Graphics 620
Intel® Core™ i5-8350U (6MB Cache, up to 3.6 GHz)	Intel® UHD Graphics 620
Intel® Core™ i7-8550U (8MB Cache, up to 4.0 GHz)	Intel® UHD Graphics 620
Intel® Core™ i5-8250U (6MB Cache, up to 3.4 GHz)	Intel® UHD Graphics 620

Memory

Your computer supports a maximum of 32 GB of memory when you use two 16 GB DIMMs; however, 32-bit operating systems, such as the 32-bit version of Microsoft Windows 10, can only use a maximum of 4GB of address space. Moreover, certain components within the computer require address space in the 4GB range. Any address space reserved for these components cannot be used by computer memory; therefore, the amount of memory available to a 32-bit operating system is less than 4GB. •Greater than 4GB memory requires a 64-bit operating system.

Memory	Feature
SoDIMM Slots	2
Minimum Memory Configuration	4 GB
Maximum Memory Configuration	32 GB
DIMM Configurations:	(1 X 4GB; 1 x 8GB; 1 x 16 GB; 2 x 4GB; 2 x 8GB; 2 x 16GB;) 2400 MHz DDR4

Storage — Latitude 3000 Series (3490 and 3590)

Memory	14	15
2.5" 500GB 7200 RPM (7mm)	Yes	Yes
2.5" 500GB 8GB Value Hybrid (7mm)	Yes	Yes
2.5" 1TB 8GB Value Hybrid (7mm)	Yes	Yes
2.5" 1TB 5400RPM SMR (7mm)	Yes	Yes
128GB M.2 2280 SATA SSD	Yes	Yes
256GB M.2 2280 SATA SSD	Yes	Yes
256GB M.2 2280 PCIe SSD	Yes	Yes
512GB M.2 2280 PCIe SSD	Yes	Yes

Connectivity — Latitude 3000 Series (3490 and 3590)

LAN	10/100/1000 Ethernet
WLAN options	<ul style="list-style-type: none"> Qualcomm QCA9377 802.11ac Dual Band (1x1) Wireless Adapter + Bluetooth 4.1 Qualcomm QCA61x4A 802.11ac Dual Band (2x2) Wireless Adapter+ Bluetooth 4.1 Intel® Dual-Band Wireless-AC 8265 (2x2) Wireless Adapter + Bluetooth 4.2
WWAN options	<ul style="list-style-type: none"> Qualcomm Snapdragon X7 HSPA+ (DW5811e) for China and Indonesia DW5811e Snapdragon™ X7 LTE (US AT&T, Verizon, Sprint Wireless, Canada Rogers, Telus, and Generic)

Security options

This topic lists the security information.

- TPM 2.0 FIPS 140-2 Certified, TCG Certified (Windows® 10 only)
- Noble Wedge Lock Slot
- Optional Touch Fingerprint Reader
- Optional DDP|E Encryption Software



Engineering specifications

This chapter lists out the specification of each and every component in a comprehensive format. Specific features/models/configurations/options discussed in the document may or may not be available.

Storage options

This topic lists out the detailed specifications of the supported SSD.

Table 3. 500GB 7200rpm HDD

Capacity (GB)	500GB 7200rpm HDD
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	976,773,168
Power Source	
Power Consumption (reference only)	Idle 0.7W, Active 3.10 W
Environmental Operating Conditions (Non-Condensing):	
Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@0.5ms)	350G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 65°C
Relative Humidity Range	5% to 95%

Table 4. 500GB 8GB Value Hybrid HDD

Capacity (GB)	500GB 5400 RPM HYBRID 8GB
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	976,773,168
Power Source	

Power Consumption (reference only)	Idle 0.7W, Active 3.10 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@0.5ms)	350G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 65°C
Relative Humidity Range	5% to 95%

Table 5. 1TB HDD 5400 RPM

Capacity (GB)	1TB
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	1,953,525,168
Power Source	
Power Consumption (reference only)	Idle 0.7W, Active 3.10 W

Environmental Operating Conditions (Non-Condensing):

Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@0.5ms)	350G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 65°C
Relative Humidity Range	5% to 95%

Table 6. 1TB HDD 8GB Value Hybrid

Capacity (GB)	1TB HDD 5400 RPM HYBRID 8GB
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)
MTBF	550,000 hours
Logical Blocks	1,953,525,168
Power Source	



Power Consumption (reference only)	Idle 0.7W, Active 3.10 W
------------------------------------	--------------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	5°C to 60°C
Relative Humidity Range	5 to 90%
Op Shock (@0.5ms)	350G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 65°C
Relative Humidity Range	5% to 95%

Table 7. 128GB M.2 2280 SATA SSD

Capacity (GB)	128
Dimensions inches (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)
MTBF	800K hours
Logical Blocks	250,069,680
Power Source	
Power Consumption (reference only)	Idle 0.5W, Active 2.5W

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
Relative Humidity Range	10 to 90%
Op Shock (@0.5ms)	1,500G

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
Relative Humidity Range	5% to 95%

Table 8. 256GB M.2 2280 SATA SSD

Capacity (GB)	256
Dimensions inches (W x D x H)	22 x 80 x 2.38
Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)
MTBF	800K hours
Logical Blocks	500,118,192
Power Source	



Power Consumption (reference only)	Idle 0.5W, Active 2.5W
------------------------------------	------------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
-------------------	-------------

Relative Humidity Range	10 to 90%
-------------------------	-----------

Op Shock (@0.5ms)	1,500G
-------------------	--------

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
-------------------	---------------

Relative Humidity Range	5% to 95%
-------------------------	-----------

Table 9. 256GB M.2 2280 PCIeSSD

Capacity (GB)	256
---------------	-----

Dimensions inches (W x D x H)	22 x 80 x 2.38
-------------------------------	----------------

Interface type and Maximum speed	Up to 6Gb/s (SATA 3.0)
----------------------------------	------------------------

MTBF	800K hours
------	------------

Logical Blocks	500,118,192
----------------	-------------

Power Source

Power Consumption (reference only)	Idle 400mW, Active 6W
------------------------------------	-----------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
-------------------	-------------

Relative Humidity Range	10 to 90%
-------------------------	-----------

Op Shock (@0.5ms)	1,500G
-------------------	--------

Environmental Non-Operating Conditions (Non-Condensing):

Temperature Range	-40°C to 70°C
-------------------	---------------

Relative Humidity Range	5 to 95%
-------------------------	----------

Table 10. 512GB M.2 2280 PCIeSSD

Capacity (GB)	512
---------------	-----

Dimensions inches (W x D x H)	22 x 80 x 2.38
-------------------------------	----------------

Interface type and Maximum speed	Up to PCIe Gen 3 x4
----------------------------------	---------------------

MTBF	800K hours
------	------------

Logical Blocks	1,000,215,216
----------------	---------------

Power Source

Power Consumption (reference only)	Idle 400mW, Active 6W
------------------------------------	-----------------------

Environmental Operating Conditions (Non-Condensing):

Temperature Range	0°C to 70°C
-------------------	-------------

Relative Humidity Range	10 to 90%
-------------------------	-----------



Op Shock (@0.5ms)	1,500G
Environmental Non-Operating Conditions (Non-Condensing):	
Temperature Range	-40°C to 70°C
Relative Humidity Range	5 to 95%

Ports and Connectors

Table 11. Ports and Connectors

Feature	Specifications
USB	USB Type-C with display port and power delivery
Modem	NA
Audio	Two channel high definition audio Waves MaxxAudio Pro Stereo conversion: 24-bit (analog-to-digital and digital-to-analog) Internal Interface - high-definition audio codec. External Interface - microphone-in and stereo headphones/speakers universal connector Speakers:Power / Peak Power: 2X2Wrms/2X2.5Wpeak, Internal speaker amplifier: 2 watt per channel, Internal microphone: digital microphone dual microphone with camera) No volume control buttons, only support hot-key keyboard button
Expansion	SD 3.0 Memory card reader
Express Card	NA

Webcam specifications

This topics lists out the detailed camera specifications.

Easy Remote Collaboration:

- Video conference online with a built-in camera.
- Touch configurations include Infra-Red camera which is dedicated to support Windows Hello feature but also functions as normal RGB camera.

Table 12. Webcam specifications

Webcam Features	HD		VGA Infra-Red
Mode	RGB	Infra-Red	RGB
Camera Type	HD fixed focus	VGA fixed focus	HD fixed focus
Sensor Type	CMOS sensor technology	CMOS sensor technology	CMOS sensor technology
Resolution: Motion Video	Up to 1280 x 720 (0.92 MP)	Up to 640 X 480 (0.3 MP)	Up to 1280 x 720 (0.92 MP)

Resolution: Still Image	Up to 1280 x 720 (0.92MP)	Up to 640 X 480 (0.3MP)	Up to 1280 x 720 (0.92MP)
Imaging Rate	Up to 30 frames per second	Up to 30 frames per second	Up to 30 frames per second

Wired communications

Table 13. Realtek RTL8111-HSD Gigabit Ethernet Controller

Network Adapter (NIC)	Realtek RTL8111-HSD Gigabit Ethernet Controller	Integrated on system board
External connector type		RJ-45
Data Rates		10/100/1000 Mbps
Controller bus architecture		PCI-e V1.1x1
Power consumption (full operation per data rate connection speed)		1000 Mbps: 828 mW 100 Mbps: 441.77 mW 10 Mbps: 387.94 mW
Power consumption (standby operation)		WOL Disabled: 10mW (Disabled using driver) No Link (w/ WOL): 51.89 mW (cable Disconnect) 10 Mbps Idle (w/ WOL): 68 mW 100 Mbps Idle (w/ WOL): 176 mW
IEEE standards compliance		802.3, 802.3ab, 802.3u, 802.az
Boot ROM Support		Support boot from PXE option ROM
Network Transfer Rate		Full duplex at 10, 100, or 1000 Mbps and half duplex at 10 or 100 Mbps.
Operating Temp/Storage Temp		0C to70C/-55C to 125C
Operating Humidity		30°C / 60% RH (Level 3)
Operating System Driver support		Linux, Win7, Win10
Manageability		WOL, PXE

Wireless communications

Table 14. Qualcomm QCA9377 802.11ac MU-MIMO Dual Band (1x1) Wi-Fi + Bluetooth 4.1 LE M.2 Wireless Card

Attribute	Specification
Host interface	M.2 2230 form factor (WiFi– PCIe, Bluetooth – USB)
Network standard	802.11a, 802.11b, 802.11g, 802.11n and 802.11ac
11ac Wave2 feature	MU-MIMO RX



Attribute	Specification
Wi-Fi Alliance Certifications	802.11a, 802.11b, 802.11g, WPA, WPA2, WMM, 11ac, Wifi-Direct, WMM-Power Save, WifiProtected Setup, Voice-Personal
Operating Frequency Bands	2.4 GHz (802.11b/g/n) and 5 GHz (802.11a/n/ac)
Dual Diversity Antenna Switching	Dual diversity antenna switching for systems designed with main and auxiliary antennas
Data Rate	802.11ac – Up to 433 Mbps; 802.11n - Up to 150 Mbps; 802.11a/g - Up to 54 Mbps 802.11b - Up to 11 Mbps
Receive Sensitivity	802.11ac: -59 dBm@ 433.3 Mbps 802.11n/a: -65 dBm@ 150 Mbps ; -68 dBm @ 72.2Mbps 802.11g/a: -72 dBm@ 54 Mbps 802.11b: -85 dBm@ 11 Mbps
Security Authentication EAP Methods	Open, Shared, WPA, WPA-PSK, WPA2, WPA2-PSK EAP-TLS, EAP-TTLS (MSCHAPv2), PEAPv0(EAP-MS-CHAPv2)
Client Utility	Native Wi-Fi and Bluetooth Microsoft UI support
Radio On/Off	Hardware and software on/off disables transmit and receive to comply with aviation in-flight restrictions
Roaming	Seamless roaming between 802.11a, 802.11b, 802.11b/g, 802.11n and 802.11ac access points
Wake On Wireless	Supported
Miracast (WiFi Display)	Supports Miracast (WiFi Display) on Win8.1/10
Wireless PAN Standard	Dual-mode Bluetooth™ 4.1, BLE
Bluetooth Data rates	Up to 3Mbps
Bluetooth Operating Frequency Bands	2.4GHz
Transmission	FHSS (Frequency Hopping Spread Spectrum)
Bluetooth Data Encryption	128-bit encryption
Bluetooth Receive Sensitivity	-70dBm@BER≤0.01% (EDR) -100dBm@BER≤30.8% (LE nominal)
Temperature	Operating temperature -10° to +65° C Storage temperature of -40° to +70° C
Humidity	Up to 90%

Table 15. Qualcomm QCA61x4A 802.11ac MU-MIMO Dual Band (2x2) Wi-Fi + Bluetooth 4.1 LE M.2 Wireless Card

Attribute	Specification
Host interface	M.2 2230 form factor (WiFi– PCIe, Bluetooth – USB)
Network standard	802.11a, 802.11b, 802.11g, 802.11n and 802.11ac
11ac Wave2 feature	MU-MIMO RX
Wi-Fi Alliance Certifications	802.11a, 802.11b, 802.11g, WPA, WPA2, WMM, 11ac, Wifi-Direct, WMM-Power Save, WifiProtected Setup, Voice-Personal
Operating Frequency Bands	2.4 GHz (802.11b/g/n) and 5 GHz (802.11a/n/ac)
Dual Diversity Antenna Switching	Dual diversity antenna switching for systems designed with main and auxiliary antennas 2x2 MIMO operation when in 802.11n mode with 2x2 or greater Access Point
Data Rate	802.11ac – Up to 867 Mbps; 802.11n - Up to 450 Mbps; 802.11a/g - Up to 54 Mbps 802.11b - Up to 11 Mbps
Receive Sensitivity	802.11ac: -59 dBm@ 400 Mbps; - 57dBm @ 866.7Mbps 802.11n/a: -67 dBm@ 300 Mbps ; -70 dBm @ 144.4Mbps 802.11g/a: -75 dBm@ 54 Mbps 802.11b: -85 dBm@ 11 Mbps
Security	Open, Shared, WPA, WPA-PSK, WPA2, WPA2-PSK
Authentication	EAP-TLS, EAP-TTLS (MSCHAPv2), PEAPv0(EAP-MS-CHAPv2)
EAP Methods	
Client Utility	Native Wi-Fi and Bluetooth Microsoft UI support
Radio On/Off	Hardware and software on/off disables transmit and receive to comply with aviation in-flight restrictions
Roaming	Seamless roaming between 802.11a, 802.11b, 802.11b/g, 802.11n and 802.11ac access points
Wake On Wireless	Supported
Miracast (WiFi Display)	Supports Miracast (WiFi Display) on Win8.1/10
Wireless PAN Standard	Dual-mode Bluetooth™ 4.1, BLE
Bluetooth Data rates	Up to 3Mbps
Bluetooth Operating Frequency Bands	2.4GHz
Transmission	FHSS (Frequency Hopping Spread Spectrum)
Bluetooth Data Encryption	128-bit encryption

Attribute	Specification
Bluetooth Receive Sensitivity	-70dBm@BER≤0.01% (EDR) -100dBm@BER≤30.8% (LE nominal)
Temperature	Operating temperature -10° to +65° C Storage temperature of -45° to +70° C
Humidity	Up to 90%

Table 16. Intel® Dual Band Wireless-AC 8265 802.11AC 2x2 Wi-Fi + BT 4.2 LE M.2 Wireless Card

Attribute	Specification
Host interface	M.2 2230 form factor (WiFi- PCIe, Bluetooth – USB)
Network standard	IEEE 802.11a/b/g/n/ac MU-MIMO RX
Wi-Fi Alliance Certifications	802.11a/b/g/n/ac, WPA, WPA2, WMM, WPS, Wi-Fi Direct
Operating Frequency Bands	2.4 GHz and 5 GHz
Dual Stream N	Support for two transmit and receive antennas enable better wireless at the same distance when compared to older 802.11a/b/g solutions.
Data Rate	Up to 867 Mbps
Power Consumption	Optimized power modes (sleep states) reduce power consumption during periods of inactivity
Authentication Authentication Protocols Encryption Product Safety	WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 64-bit and 128-bit WEP, 128-bit AES-CCMP UL, C-UL, CB (IEC60950-1)
Management Capabilities Alerting	Support for Intel® AMT 11.x on KabyLake
Government Compliance	FIPS, FISMA
Client Utility	Intel PRO/Set Wireless Software v19.0 and later.
Radio On/Off	Supported
Roaming	Supports seamless roaming between respective access points (802.11b, 802.11g, 802.11a/b/g, and 802.11a/b/g/n/ac)
Wake On Wireless	Supported
Wireless Display	Native Miracast support by Windows 8.1 and 10
Wireless PAN Standard	Dual Mode Bluetooth 4.2, BLE (HW ready, SW depends on OS, Windows 10 supports up to Bluetooth 4.1)
Bluetooth Data rates	2.4GHz
Bluetooth Operating Frequency Bands	128-bit encryption

Attribute	Specification
Bluetooth Profiles Supported	For Windows 7, includes DID, HID, PAN, HCRP, SPP, HFP, HSP DUN, OPP, FTP, BIP, BPP, SYNCH, A2DP(source/sink), AVRCP (target/controller), HOGP (LE HID) Support for Microsoft Inbox Bluetooth profiles in Windows 8.1 and future OS versions.
Bluetooth Data Encryption	128-bit encryption
Bluetooth Output Power	Power class 1
Temperature	Operating temperature 0° to +50° C (Full performance at shield temperatures up to 80° C) Storage temperature of -40° to +70° C
Humidity	Up to 90% RH non-condensing (at temperatures of 25° C to 35° C)

Table 17. DW5811e Snapdragon™ X7 LTE (US AT&T, Verizon, Sprint Wireless, Canada Rogers, Telus, and Generic)

Carrier	Verizon	AT&T	Sprint	Rogers	Telus	Generic
Network	LTE CAT6	LTE CAT6	LTE CAT6	LTE CAT6	LTE CAT6	LTE CAT6
Speed (Downlink)	< 300 Mbps	< 300 Mbps	< 300 Mbps	< 300 Mbps	< 300 Mbps	< 300 Mbps
Speed (Uplink)	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps	< 50 Mbps
Fallback Network	NA	HSPA+	NA	HSPA+	HSPA+	HSPA+
Fallback Speed (Downlink)	NA	HSPA+ 42 Mbps	NA	HSPA+ 42 Mbps	HSPA+ 42 Mbps	HSPA+ 42 Mbps
Frequency Bands	Band 4, 13 LTE	Band 13 LTE Band 2, 4, 5, 17 and 7	Band 25, 26, 41 LTE	Band 13 LTE Band 2, 4, 5, 17 and 7	Band 13 LTE Band 2, 4, 5, 17 and 7	Band 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 20, 25, 26, 29, 30, 41 LTE
LTE/WWAN Antenna	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)
Operating System Support	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 7, 32/64 bits Windows 10, 32/64 bits
Host Interface	Supported both USB 3.1 Gen 1/ USB 2.0	Supported both USB 3.1 Gen 1/ USB 2.0	Supported both USB 3.1 Gen 1/ USB 2.0	Supported both USB 3.1 Gen 1/ USB 2.0	Supported both USB 3.1 Gen 1/ USB 2.0	Supported both USB 3.1 Gen 1/ USB 2.0

Table 18. Qualcomm Snapdragon X7 HSPA+ (DW5811e) for China and Indonesia regions

Carrier	Generic	China / Indonesia
Network	HSPA+	HSPA+
Speed (Downlink)	< 100 Mbps	< 100 Mbps
Speed (Uplink)	< 50 Mbps	< 50 Mbps
Fallback Network	HSPA+	HSPA+
Fallback Speed (Downlink)	HSPA+ 42 Mbps	HSPA+ 42 Mbps
Frequency Bands	Band 1, 2, 3, 4, 5, 8, HSPA+	Band 1, 2, 3, 4, 5, 8, HSPA+
SIM	Yes	Yes
LTE/WWAN Antenna	Main (Tx/Rx) +Aux (Rx/GNSS)	Main (Tx/Rx) +Aux (Rx/GNSS)
Operating System Support	Windows 8.1, 32/64 bits Windows 10, 32/64 bits	Windows 8.1, 32/64 bits Windows 10, 32/64 bits
GNSS	Supports both autonomous GNSS (GPS + GLONASS) and assisted GNSS (A-GNSS)	Supports both autonomous GNSS (GPS + GLONASS) and assisted GNSS (A-GNSS)
Host Interface	USB 3.1 Gen 1/USB 2.0	USB 3.1 Gen 1/USB 2.0

Graphics options

This topic lists the graphic specifications.

Table 19. Intel HD Graphics 620 specification

Integrated Graphics Controller	Intel HD Graphics 620
Model	Latitude 3490 and 3590
Bus Type	Internal PCIe
Memory Interface	N/A (unified memory architecture)
Graphics Level	i3/i5/i7: GT2
Estimated Maximum Power Consumption (TDP)	15W included in the CPU power
Display Support	eDP (internal), HDMI
Maximum Vertical Refresh Rate	Up to 85Hz depending on resolution
Operating Systems Graphics/ Video API Support	Support for DirectX 12, OpenCL 2.0, OpenGL 4.3/4.4
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or digital)	eDP: Panel 4096x2304@60Hz. HDMI: V1.4 @1.65Gb/s
Numbers of Displays Supported	3max

Table 20. Intel® UHD Graphics 620

Integrated Graphics Controller	Intel UHD Graphics 620
Model	Latitude 3490 and 3590
Bus Type	Internal PCIe
Memory Interface	N/A (unified memory architecture)
Graphics Level	i3/i5/i7: GT2
Display Support	On System: eDP (internal), HDMI 1.4 (UMA) / HDMI 1.4 (Discrete), VGA Via Optional Type-C Port: DisplayPort
Operating Systems Graphics/ Video API Support	DirectX 12, OpenGL 4.4
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or digital)	System ports: HDMI 1.4: 4096x2160 @ 24 Hz, 24bpp Analog: (VGA) system 1920x1200 @ 60Hz with 24-bit color depth· Max Digital: (DP 1.2 over Type-C Port) 4096x2304 @ 60Hz, 24bpp
Numbers of Displays Supported	3 display max with LCD, HDMI and plus 1 display for VGA or DP on type-C port

Table 21. Intel HD Graphics 610

Integrated Graphics Controller	Intel HD Graphics 610
Model	Latitude 3490 and 3590
Bus Type	Internal PCIe
Memory Interface	N/A (unified memory architecture)
Graphics Level	i3/i5/i7: GT2
Display Support	On System: eDP (internal), HDMI 1.4 (UMA) / HDMI 1.4 (Discrete), VGA Via Optional Type-C Port: DisplayPort
Operating Systems Graphics/ Video API Support	DirectX 12, OpenGL 4.4
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or digital)	System ports: HDMI 1.4 : 4096x2160 @ 24 Hz, 24bpp· Analog: (VGA) system 1920x1200 @ 60Hz with 24-bit color depth· Max Digital: (DP 1.2 over Type-C Port) 4096x2304 @ 60Hz, 24bpp
Numbers of Displays Supported	3 display max with LCD, HDMI and plus 1 display for VGA or DP on type-C port



Table 22. Intel HD Graphics 520

Integrated Graphics Controller	Intel HD Graphics 520
Model	Latitude 3490 and 3590
Bus Type	Internal PCIe
Memory Interface	N/A (unified memory architecture)
Graphics Level	i3
Display Support	On System: eDP (internal), HDMI 1.4 (UMA) / HDMI 1.4 (Discrete), VGA Via Optional Type-C Port: DisplayPort
Operating Systems Graphics/ Video API Support	DirectX 12, OpenGL 4.4
Supported Resolutions and Max Refresh Rates (Hz) (Note: Analog and/or digital)	System ports: HDMI 1.4: 4096x2160 @ 24 Hz, 24bpp. Analog: (VGA) system 1920x1200 @ 60Hz with 24-bit color depth. Max Digital: (DP 1.2 over Type-C Port) 4096x2304 @ 60Hz, 24bpp
Numbers of Displays Supported	3 display max with LCD, HDMI and plus 1 display for VGA or DP on type-C port

Table 23. AMD Discrete Graphics Controller

Graphics Controller	AMD Radeon 530
Model	Latitude 3490 and 3590
Graphics Memory	2 GB
Bus Type	PCI Express
Memory Interface	GDDR5
Estimated Maximum Power Consumption (TDP)	25W

Display specifications

This topics lists out the detailed display specifications.

Table 24. 3490 Display specifications

	14.0– HD Non touch	14.0– FHD Non touch	14.0– FHD Touch
Type	HD Anti-Glare	FHD Anti-Glare	FHD True-Life
Luminance/ Brightness (typical)	HD 220nits	FHD 220nits	FHD 220nits
Diagonal	14.0 inches	14.0 inches	14.0 inches
Native Resolution	HD 1366x768	FHD 1920x1080	FHD 1920x1080

	14.0– HD Non touch	14.0– FHD Non touch	14.0– FHD Touch
Megapixels (millions of pixels)	HD 1.05	FHD 2.07	FHD 2.07
Pixels per Inch (PPI)	112 for HD	157 for FHD	157 for FHD
Contrast Ratio (min)	300:1 for HD	600:1 for FHD	600:1 for FHD
Refresh Rate	60 Hz	60 Hz	60 Hz
Horizontal Viewing Angle (min)	HD +40/- 40 degrees	FHD +80/- 80 degrees	FHD +80/- 80 degrees
Vertical Viewing Angle (min)	HD +10/-30 degrees	FHD +80/-80 degrees	FHD +80/- 80 degrees
Pixel Pitch	HD 0.226 mm	FHD 0.161 mm	FHD 0.161 mm
Power Consumption (max)	HD 3.0 W	FHD 2.85 W	FHD 3.5 W

Table 25. 3590 Display specifications

	15.6– HD Non touch	15.6– FHD Anti-glare Non touch	15.6– HD Touch
Type	HD Anti-Glare	FHD Anti-Glare	HD True-Life
Luminance/ Brightness (typical)	HD 220nits	FHD 220nits	HD 200nits
Diagonal	15.6 inches	15.6 inches	15.6 inches
Native Resolution	HD 1366x768	FHD 1920x1080	HD 1366x768
Megapixels (millions of pixels)	HD 1.05	FHD 2.07	HD 1.05
Pixels per Inch (PPI)	101 for HD	141 for FHD	101 for HD
Contrast Ratio (min)	400:1 for HD	400:1 for FHD	400:1 for HD
Refresh Rate	60 Hz	60 Hz	60 Hz
Horizontal Viewing Angle	HD +40/- 40 degrees	FHD +40/- 40 degrees	HD +40/- 40 degrees
Vertical Viewing Angle	HD +10/- 30 degrees	FHD +10/- 30 degrees	HD +10/- 30 degrees
Pixel Pitch	HD 0.252 mm	FHD 0.179 mm	HD 0.252 mm
Power Consumption (max)	HD 4.0 W	FHD 3.7 W	HD 4.0 W



Battery specifications

This topics lists out the detailed battery specifications.

Table 26. Battery specifications

	42 Whr (3 Cell) Prismatic with ExpressCharge	56 Whr (4 Cell) Prismatic with ExpressCharge
Type	Li-polymer	Li-polymer
Length	184.00 mm (7.24 inch)	233.06 mm (9.170 inch)
Width	97.00 mm (3.82 inch)	90.73 mm (3.572 inch)
Weight	185 g	250.00 g
Height	5.90 mm (0.23 inch)	5.90 mm (0.23 inch)
Voltage	11.4VDC	15.2VDC
Typical Amp-hour capacity	3.5Ahr	3.67Ahr
Typical Watt-hour capacity	42Whr	56Whr
Temperature:		
Operating	<ul style="list-style-type: none"> Charge: 0 °C to 50 °C (32 °F to 122 °F) Discharge: 0 °C to 70 °C (32 °F to 158 °F) 	<ul style="list-style-type: none"> Charge: 0 °C to 50 °C (32 °F to 122 °F) Discharge: 0 °C to 70 °C (32 °F to 158 °F)
Non-operating	-20 °C to 65 °C (-4 °F to 149 °F)	-20 °C to 65 °C (-4 °F to 149 °F)
Charging time:		
Express Charge mode	<ul style="list-style-type: none"> 0~15°C: 4 hours 16~45°C: 2 hours 46~60°C: 3 hours 	<ul style="list-style-type: none"> 0~15°C: 4 hours 16~45°C: 2 hours 46~60°C: 3 hours
Standard mode	<ul style="list-style-type: none"> 0~15°C: 4 hours 16~60°C: 3 hours 	<ul style="list-style-type: none"> 0~15°C: 4 hours 16~60°C: 3 hours
ExpressCharge capable	Yes	Yes
BattMan capable	Yes	Yes

Adapter options

This topic lists the adapter specifications.

Table 27. AC Adapter

Wattage	E4 65W - 65 WATT AC AdapterE4	E4 65W BFR/PVC free
System supportability	UMA/Discrete	UMA/Discrete
Input voltage	100 to 240 VAC	100 to 240 VAC
Input current (max)	1.7 A	1.7 A
Input Frequency	50 Hz to 60 Hz	50 Hz to 60 Hz
Output current	3.34 A (continuous)	3.34 A (continuous)

Rated output voltage	19.5 VDC	19.5 VDC
Weight (kg)	0.23	0.29
Dimensions (HxWxD inches)	1.1x1.9x4.3	1.1 x 1.9 x 4.3
Dimensions (HxWxD mm)	28 x 47 x 108	28 x 47 x 108
Temperature range:	0° to 40°C	0° to 40°C
Operating	32° to 104°F	32° to 104°F
Storage	-40° to 70°C	-40° to 70°C
	-40° to 158°F	-40° to 158°F

Power Cord + Adapter: Length and Weight

Table 28. E4 BFR/PVC free Standard Power Cord+ Adapter

Weight	Grams	Pounds
E4	450	0.99
Length	Meters	Feet + Inches
E4	2.9	9' 6.17"

NOTE: Different regional cords have different weights

Keyboard

Table 29. Keyboard Specifications

	3490	3590
	M16NSC-us/M16NSC-ubs	M16NXC-us/M16NXC-ubs
Number of keys	80 (U.S), 81 (UK), 82 (Brazil), 84 (Japan)	101 (U.S), 102 (UK), 104 (Brazil), 105 (Japan)
Layout	US/UK/BZ/JP	US/UK/BZ/JP
KB Diemnsion (X&Y)	277.18 mm x107.15 mm	345.87 mm x107.15 mm
Key travel	1.4 mm	1.4 mm
Key pitch	X = 19.05 mm; Y = 18.05	X = 19.05 mm; Y = 18.05

Keyboards Hot Key Definitions

Table 30. Keyboards Hot Key Definitions

Fn Key Combination	Function
Fn+ESC	Fn Toggle
Fn+ F1	Speaker Mute



Fn + F2	Volume Down
Fn + F3	Volume Up
Fn + F4	Rewind
Fn + F5	Play/Pause
Fn + F6	Fast forward
Fn + F8	Display Toggle (Win + P)
Fn + F9	Search
Fn + F10	Increase Keyboard Backlight Brightness
Fn + F11	Brightness up
Fn + F12	Brightness down
Fn + Printscreen	Wireless

- Primary behavior is F1–F12 keys; Secondary behavior is media keys.
- Fn Lock only switches primary and secondary behavior on F1–F12
- F7 will behave the same because there is no secondary behavior

Touch pad

Table 31. Touch Pad

Dimensions	3490
Width	104.4mm
Height	64.4 mm
Dimensions	3590
Width	104.4mm
Height	79.4 mm
Supported Gestures	Windows 10
Cursor moving	Supported
Clicking/ tapping	Supported
Click and drag	Supported
2-finger scroll	Supported
2-finger Pinch/ Zoom	Supported
2-finger tapping	Supported
3-finger tapping (Invoke Cortana)	Supported

Supported Gestures	Windows 10
3-finger swipe up (See all open windows)	Supported
3-finger swipe down (Show the desktop)	Supported
3-finger swipe right or left (Switch between open windows)	Supported
4-finger tapping (Invoke Action Center)	Supported
4-finger swipe right or left (Switch virtual desktops)	Supported

Security Options — Fingerprint reader

Table 32. Fingerprint reader

Category	Synaptics FM-3397
Sensor Technology	Capacitive
Sensor Area	8mm x 8mm
Dell ControlVault	Not Supported
Host Interface	USB
Anti-spoofing	Supported
Template storage	On host with Microsoft encryption
Match on chip	No
FIPS 201 Certified	No

Operating conditions

Table 33. Operating conditions

Model	Dell Latitude 3000 series
Temperature Range	Operating 0° to 35°C (32° to 95°F) Storage -40° to 65°C (-40° to 149°F)
Relative humidity (maximum)	Operating 10% to 90% Storage 0% to 95%
Altitude (maximum)	Operating 0 to 3048 m (0 to 10,000 ft) Storage 0 to 10,668 m (0 to 35,000 ft)



Getting help

Contacting Dell

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- 3 Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
- 4 Select the appropriate service or support link based on your need.