



Processor	7th Generation Intel® Core™ i5 Processor								Dimensions Weight	WxDxH: 14.40" x 9.95" x 0.79-0.80"; 365.8mm x 252.8mm x 19.95-20.2mm <i>Integrated model:</i> starting at 4.29 lb / 1.95 kg; <i>Discrete model:</i> starting at 4.39 lb / 1.99 kg								
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics		Case color <i>Black</i> Case material <i>Display cover:</i> Glass-Fiber Reinforced Plastic (PPS); <i>Bottom:</i> Glass-Fiber Reinforced Plastic								
or 8th Generation Intel Core i5 / i7 Processor																		
Processor	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Types	Processor Graphics	Smart card reader Media reader Ports	<i>Optional:</i> Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.1 Gen 1 (one Always On), USB 3.1 Type-C Gen 1, USB 3.1 Type-C Gen 2 / Thunderbolt 3, HDMI 1.4b, Ethernet (RJ-45), nano-SIM card slot (WWAN models), headphone / microphone combo jack, optional smart card reader, 4-in-1 reader (MMC, SD, SDHC, SDXC), side docking connector, security keyhole <i>HDMI to VGA:</i> Lenovo HDMI to VGA Monitor Adapter <i>USB-C to DP:</i> Lenovo USB-C to DisplayPort Adapter								
										<i>Monitor cable (optional)</i> <i>Camera (optional)</i> <i>One of the following, configurable by model:</i> <ul style="list-style-type: none"><li>• HD720p camera with ThinkShutter camera privacy, fixed focus</li><li>• IR camera and HD720p camera, fixed focus</li></ul> <i>Audio support</i> HD Audio, Realtek® ALC3287 codec, Dolby® Audio™ Premium / stereo speakers, 2W x 2 / dual array microphone, headphone / microphone combo jack								
Graphics	Intel HD Graphics 620 or Intel UHD Graphics 620 in processor only or Intel HD Graphics 620 or Intel UHD Graphics 620 in processor and NVIDIA® GeForce® MX150, 2GB GDDR5 memory; supports external digital monitor via HDMI or USB Type-C; supports three independent displays; Max resolution: 4096x2304@60Hz (USB Type-C); 4096x2160@30Hz (HDMI)								Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and buttonless Mylar surface multi-touch touchpad								
Chipset Memory	Intel SoC (System on Chip) platform 32GB max / 2400MHz DDR4, dual-channel capable, two DDR4 SO-DIMM sockets <i>* System clocks down for processors with lower memory controller</i>								Security Security chip vPro (optional)	Power-on password, hard disk password, supervisor password, security keyhole Discrete TPM 2.0, TCG Certified Intel vPro Technology								
Display	<i>Some:</i> 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, IPS, 250 nits, 16:9 aspect ratio, 700:1 contrast ratio, 170° viewing angle <i>Some:</i> 15.6" (396mm) UHD (3840x2160), anti-glare, LED backlight, IPS, 300 nits, 16:9 aspect ratio, 1000:1 contrast ratio, 72% gamut, 170° viewing angle								Fingerprint reader NFC (optional)	<i>Optional:</i> Touch style match on chip fingerprint reader on the palm rest, anti-spoofing technology Near Field Communication								
Multi-touch (opt)	On-cell touch, supports 10-finger gesture (FHD only)								Battery	Optional integrated Li-Ion 32Wh battery and external Li-Ion 24Wh, 48Wh, or 72Wh battery								
Storage	System has one HDD slot or one M.2 2280 slot exclusively for storage <i>Some:</i> HDD / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>Some:</i> SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high (e.g. xxxGB SSD) <i>Some:</i> M.2 SSD / PCIe NVMe, PCIe 3.0 x4, 32Gb/s <i>Some:</i> 128GB M.2 SSD / PCIe NVMe, PCIe 3.0 x 2, 16Gb/s, in WWAN slot as 2nd Storage, mutually exclusive with WWAN <i>Some:</i> 16GB Intel Optane™ memory, PCIe NVMe, PCIe 3.0 x 2, 16Gb/s, in WWAN slot as storage cache for HDD, mutually exclusive with WWAN								Max battery life (MobileMark® 2014)	<i>Models</i> 24Wh 48Wh 72Wh 32Wh + 24Wh 32Wh + 48Wh 32Wh + 72Wh <i>Max battery life</i> 5.8 hr 12.5 hr 18.1 hr 13.8 hr 20.3 hr 26.1 hr								
Optical	None								AC adapter	* Battery life varies significantly with settings, usage, & other factors 45W or 65W USB Type-C AC adapter								
	<i>Non-vPro model:</i> Intel Ethernet Connection I219-V (Jacksonville) <i>vPro model:</i> Intel Ethernet Connection I219-LM (Jacksonville)								Preload	Windows® 10 Home 64 or Windows 10 Pro 64								
WWAN (optional)	Intel Dual Band Wireless-AC 8265, Wi-Fi 2x2 802.11ac + Bluetooth 4.1, M.2 card <i>* Intel 8265ac card supports BT4.2 but is limited to BT4.1 by Windows OS</i>								Limited warranty	<i>One of the following, configurable by model:</i> <ul style="list-style-type: none"><li>• 1-year depot repair service</li><li>• 3-year/1-yr battery depot repair service</li><li>• 3-year/1-yr battery limited onsite service</li></ul>								
	<i>One of the following, configurable by model:</i> <ul style="list-style-type: none"><li>• Integrated Mobile Broadband 4G LTE, Intel XMM™ 7262 (Fibocom L830-EB), M.2 card (EMEA only)</li><li>• Integrated Mobile Broadband 4G LTE-A, Intel XMM™ 7360 (Fibocom L850-GL), M.2 card</li></ul>								Mil-Spec test	MIL-STD-810G military certification								
SIM card (opt)	Nano-SIM card slot, optional Verizon LTE (US) SIM card								Environment	EPEAT™ Gold; ENERGY STAR® 6.1; RoHS-compliant								