

**ThinkPad**<sup>®</sup>

*Product Specifications Reference  
Lenovo<sup>®</sup> ThinkPad<sup>®</sup> Notebooks  
2013 to present - withdrawn*

*April 2015 - Version 471 (Western Europe)*



[http://www.lenovo.com/psref/psrefs\\_withdrawn.html](http://www.lenovo.com/psref/psrefs_withdrawn.html)

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# Summary of Changes

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This section describes the withdrawn products which are added in this edition and in previous editions.

## May 27, 2014 - Version 454

### ► Withdrawn product(s)

ThinkPad X131e is withdrawn and added in the book  
ThinkPad T430u is withdrawn and added in the book

## June 18, 2014 - Version 455

### ► Changes in this update

ThinkPad X131e is reactive and return into tabook

## August 19, 2014 - Version 458

### ► Withdrawn product(s)

ThinkPad L430 is withdrawn and added in the book  
ThinkPad L530 is withdrawn and added in the book  
ThinkPad T430 is withdrawn and added in the book  
ThinkPad T430s is withdrawn and added in the book  
ThinkPad T431s is withdrawn and added in the book  
ThinkPad T530 is withdrawn and added in the book  
ThinkPad W530 is withdrawn and added in the book  
ThinkPad X230 is withdrawn and added in the book  
ThinkPad X230 Tablet is withdrawn and added in the book  
ThinkPad X1 Carbon is withdrawn and added in the book

## January 7, 2015 - Version 466

### ► Withdrawn product(s)

ThinkPad X131e is withdrawn and added in the book

## April 15, 2015 - Version 471

### ► Withdrawn product(s)

ThinkPad W540 is withdrawn and added in the book



Lenovo® ThinkPad L430



Lenovo ThinkPad L430



Lenovo ThinkPad L430



Lenovo ThinkPad L430



Lenovo ThinkPad L430



Lenovo ThinkPad L430

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	SIM card	Card slot	Finger print reader	Blue-tooth	Bat-tery cells	Ann Date
2468-34G	i3-2370M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	None	Finger	BT	6	Pro 64 06/12
2468-35G	i5-3210M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	None	Finger	BT	6	Pro 64 06/12
2468-36G	i5-3210M	4GBx1	14.0" HD+	720p	500G 7200	TP 11b/g/n	Ericsson	selectable	None	Finger	BT	6	Pro 64 06/12
2468-37G	i5-3210M	4GBx1	14.0" HD+	720p	500G 7200	Intel 2200	WWAN upg	None	None	Finger	BT	6	Pro 64 07/12
2468-3HG	i3-2328M	4GBx1	14.0" HD	720p	320G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Pro 64 09/12
2468-3MG	i5-3210M	4GBx1	14.0" HD+	720p	500G 7200	Intel 2200	WWAN upg	None	Express 54	Finger	BT	6	Pro 64 09/12
2468-3LG	i5-3210M	4GBx1	14.0" HD+	720p	500G 7200	TP 11b/g/n	Ericsson	selectable	Express 54	Finger	BT	6	Pro 64 09/12
2468-3KG	i5-3210M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Pro 64 09/12
2468-3JG	i3-2370M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Pro 64 09/12

• Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<b>Mainstream business performance; two spindles</b> <b>Intel® Core™ i3-2328M processor (2 cores, 2.20GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), HT technology <b>Intel Core i3-2370M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), HT technology <b>Intel Core i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology											<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64		
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller										<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>			
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™										<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>			
mSATA™ SSD	None													
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio													
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													
Graphics	<b>Intel HD Graphics 3000</b> or <b>4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <b>Maximum external resolution:</b> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)													
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None													
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.94" x 9.57" x 1.17–1.24"; 354mm x 243mm x 29.6–31.4mm													
Weight <sup>2</sup>	6-cell: from 5.11 lb (2.32kg); 9-cell: from 5.48 lb (2.49kg)													
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic													
Battery - type	Lithium Ion 6-cell or 9-cell, HW Authentication													
Battery - life <sup>10</sup>	6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr													
Chipset	<b>Mobile Intel HM76 Express Chipset</b>													
ExpressCard	Some: One slot (ExpressCard/34, ExpressCard/54)													
Smart Card read	None													
Multicard Reader	4-in-1 reader (MMC, SD, SDHC, SDXC)													
Ports	One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)													
PCIe Mini Card	Two PCI Express Mini Card slots													
PCIe WLAN <sup>4</sup>	Some: 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1 Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2													
PCIe WWAN	Some: Wireless WAN upgradeable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS													
SIM card	Some: User selectable, contract required with service provider													
Modem	None													
Bluetooth™	Bluetooth 4.0 wireless													
Ethernet	Realtek® RTL8111F Gigabit Network Connection													
Intel AMT	None													
Audio support	HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack													
Security	Power-on password, hard disk password, supervisor password, security keyhole													
Security chip	Trusted Platform Module, TCG 1.2-compliant													
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip													
Limited warranty <sup>12</sup>	<b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available													

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	SIM card	Card slot	Fingerprint reader	Bluetooth	Battery cells	Preload	Ann Date (mm/yy)
2468-3CG	i3-2328M	4GBx1	14.0" HD	720p	320G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Win8 Pro64	10/12
2468-3DG	i5-3210M	4GBx1	14.0" HD+	720p	500G 7200	Intel 2200	WWAN upg	None	Express 54	Finger	BT	6	Win8 Pro64	10/12
2468-3EG	i3-3110M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Win8 Pro64	10/12
2468-3FG	i5-3210M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Win8 Pro64	10/12
2468-3GG	i5-3210M	4GBx1	14.0" HD+	720p	500G 7200	TP 11b/g/n	Ericsson selectable	Express 54	Finger	BT	6	Win8 Pro64	10/12	
2468-3SG	i3-2328M	4GBx1	14.0" HD	720p	320G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Win7 Pro64	10/12
2468-3RG	i3-3110M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Win7 Pro64	10/12
2468-3QG	i5-3210M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Win7 Pro64	10/12
2468-3PG	i5-3210M	4GBx1	14.0" HD+	720p	500G 7200	Intel 2200	WWAN upg	None	Express 54	Finger	BT	6	Win7 Pro64	10/12
2468-3NG	i5-3210M	4GBx1	14.0" HD+	720p	500G 7200	TP 11b/g/n	Ericsson selectable	Express 54	Finger	BT	6	Win7 Pro64	10/12	
2468-4CG	i5-2520M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Win7 Pro64	01/13

• Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<i>Mainstream business performance; two spindles</i> <b>Intel® Core™ i3-2328M processor (2 cores, 2.20GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), HT technology <b>Intel Core i3-3110M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), HT technology <b>Intel Core i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology <b>Intel Core i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology											<b>Preloaded operating system<sup>20</sup></b> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit												
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller											<b>Preloaded applications<sup>5</sup></b> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security (30 days of virus definitions)</li></ul>												
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™																							
mSATA™ SSD	None																							
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio																							
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																							
Graphics	<b>Intel HD Graphics 3000</b> or <b>4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <b>Maximum external resolution:</b> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)																							
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None																							
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.94" x 9.57" x 1.17–1.24"; 354mm x 243mm x 29.6–31.4mm 6-cell: from 5.11 lb (2.32kg); 9-cell: from 5.48 lb (2.49kg)																							
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr																							
Chipset ExpressCard	<b>Mobile Intel HM76 Express Chipset</b> One slot (ExpressCard/34, ExpressCard/54)																							
Smart Card read Multicard Reader Ports	None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)																							
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1 Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2																							
PCIe WWAN	Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS																							
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack																							
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip																							
Limited warranty <sup>12</sup>	<b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available																							
Supports ThinkVantage® technologies																								
65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																								

See footnotes for more detailed information



Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Card slot	Finger print reader	Blue-tooth	Bat-tery cells	Preload	Ann Date (mm/yy)
2468-6KG	i5-3320M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	None	BT	6	Win7 Pro64	06/13
2468-6JG	i5-3320M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	None	BT	6	Win8 Pro64	06/13
2468-67G	i5-3320M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Win7 Pro64	06/13
2468-66G	i5-3320M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	Finger	BT	6	Win8 Pro64	06/13
2468-6HG	i3-3120M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	None	BT	6	Win7 Pro64	06/13
2468-6GG	i3-3120M	4GBx1	14.0" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Express 54	None	BT	6	Win8 Pro64	06/13

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<i>Mainstream business performance; two spindles Intel® Core™ i3-3120M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</i>										<b>Preloaded operating system<sup>20</sup></b> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit			
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller										<b>Preloaded applications<sup>5</sup></b> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li></ul>			
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™													
mSATA™ SSD	None													
Widescreen display	<i>Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio</i>													
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</i>													
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None													
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.94" x 9.57" x 1.17–1.24"; 354mm x 243mm x 29.6–31.4mm 6-cell: from 5.11 lb (2.32kg); 9-cell: from 5.48 lb (2.49kg)													
Battery - type Battery - life <sup>10</sup>	Acrylonitrile-Butadiene-Styrene (ABS) plastic Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr													
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> One slot (ExpressCard/34, ExpressCard/54) None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader Limited warranty <sup>12</sup>	Two PCI Express Mini Card slots 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1 Wireless WAN upgradable None None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip <b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available										<b>Supports ThinkVantage® technologies</b> 65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>			

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> / rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Battery cells	Global (G)	GMP (P)	Ann Date (mm/yy)	
2465-62G	i7-3520M	4GBx1	14.0" HD+	720p	500G 7200	Intel 6205 <sup>28</sup>	WWAN upg	None	Finger	BT	6	G	Win8 Pro64	10/12
2465-65G	i5-3320M	4GBx1	14.0" HD	None	320G 7200	Intel 2200	WWAN upg	None	None	No	6	G	Win8 Pro64	10/12
2465-63G	i5-3320M	4GBx1	14.0" HD	720p	320G 7200	Intel 6205	WWAN upg	None	Finger	BT	6	G	Win8 Pro64	10/12
2465-64G	i5-3320M	4GBx1	14.0" HD	720p	500G 7200	Intel 6205	WWAN upg	None	Finger	BT	6	G	Win8 Pro64	10/12

• A depot repair service 3-year limited warranty

Positioning Processor	Mainstream business performance; two spindles <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> - Windows® 8 Pro 64-bit
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Preloaded applications<sup>5</sup></b> (only some listed)
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™	- <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security (30 days of virus definitions)</li><li>Skype™</li></ul>
mSATA™ SSD	None	
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio	
Camera	Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None	
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.94" x 9.57" x 1.17–1.24"; 354mm x 243mm x 29.6–31.4mm	
Weight <sup>2</sup>	6-cell: from 5.11 lb (2.32kg); 9-cell: from 5.48 lb (2.49kg)	
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic	
Battery - type	Lithium Ion 6-cell or 9-cell, HW Authentication	
Battery - life <sup>10</sup>	6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr	
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> None None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2 Wireless WAN upgradable	
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	None None Some: Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant	
Security Security chip Fingerprint reader	Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>	Supports ThinkVantage® technologies

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Card slot	Finger print reader	Blue-tooth	Bat-tery cells	Preload	Ann Date (mm/yy)
2465-5YG	i5-2520M	4GBx1	14.0" HD+	720p	500G 7200	Intel 6205 <sup>28</sup>	None	Express 54	Finger	BT	6	Pro 64	10/12
2465-5XG	i5-2520M	4GBx1	14.0" HD	720p	500G 7200	Intel 6205	None	Express 54	Finger	BT	6	Pro 64	10/12

• A depot repair service 3-year limited warranty

Positioning Processor	<i>Mainstream business performance; two spindles Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</i>												<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64
Memory	<i>8GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller</i>												<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>
Optical SATA disk	<i>DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™</i>												<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	None												
Widescreen display	<i>Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio</i>												
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	<i>NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 3000 in processor, and NVIDIA NVS™ 5400M, PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)</i>												
Keyboard TrackPoint® Touch pad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None</i>												
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.94" x 9.57" x 1.17–1.24"; 354mm x 243mm x 29.6–31.4mm												
Weight <sup>2</sup>	6-cell: from 5.16 lb (2.34kg); 9-cell: from 5.52 lb (2.51kg)												
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic												
Battery - type	Lithium Ion 6-cell or 9-cell, HW Authentication												
Battery - life <sup>10</sup>	6-cell (57Whr): up to 5.6 hr; 9-cell (94Whr): up to 9.3 hr												
Chipset	<b>Mobile Intel HM76 Express Chipset</b>												
ExpressCard	One slot (ExpressCard/34, ExpressCard/54)												
Smart Card read	None												
Multicard Reader	4-in-1 reader (MMC, SD, SDHC, SDXC)												
Ports	One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)												
PCIe Mini Card	Two PCI Express Mini Card slots												
PCIe WLAN <sup>4</sup>	11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2												
PCIe WWAN	None												
SIM card	None												
Modem	None												
Bluetooth™	Bluetooth 4.0 wireless												
Ethernet	Realtek® RTL8111F Gigabit Network Connection												
Intel AMT	None												
Audio support	HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack												
Security	Power-on password, hard disk password, supervisor password, security keyhole												
Security chip	Trusted Platform Module, TCG 1.2-compliant												
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip												
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available												

See footnotes for more detailed information

Supports ThinkVantage® technologies

90-watt AC adapter  
EPEAT™ Gold rating  
ENERGY STAR® 5.0-compliant  
GREENGUARD® certified  
RoHS-compliant  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	Smart Card Reader	Card slot	Finger print reader	Blue-tooth	Battery cells	Workhorse (W) Global (G) Pre-GMP (P)	Ann Date load (mm/y)
2466-33G	i5-3360M	4GBx1	14.0" HD	720p	500G 7200	Intel 6205 <sup>28</sup>	WWAN upg	Smart	Exp 54	Finger	BT	6	W G P Pro 64	06/12
2466-32G	i5-3320M	4GBx1	14.0" HD	720p	320G 7200	Intel 6205	WWAN upg	Smart	Exp 54	Finger	BT	6	W G P Pro 64	06/12
2466-3BG	i5-3360M	4GBx1	14.0" HD+	720p	500G 7200	Intel 6205	WWAN upg	None	Exp 54	Finger	BT	9	G P Pro 64	06/12
2466-3CG	i5-3320M	4GBx1	14.0" HD	720p	500G 7200	Intel 6205	WWAN upg	None	Exp 54	Finger	BT	6	G P Pro 64	06/12
2466-3DG	i5-3360M	4GBx1	14.0" HD	720p	320G 7200	Intel 6205	WWAN upg	None	Exp 54	Finger	BT	6	G P Pro 64	06/12
2466-3EG	i5-3360M	4GBx1	14.0" HD+	720p	320G 7200	Intel 6205	WWAN upg	None	Exp 54	Finger	BT	9	G P Pro 64	06/12
2466-3FG	i5-3320M	4GBx1	14.0" HD	720p	320G 7200	Intel 6205	WWAN upg	None	Exp 54	Finger	BT	6	G P Pro 64	06/12

• Part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<b>Mainstream business performance; two spindles</b> <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i5-3360M processor (2 cores, 2.80GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology											<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64		
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller											<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>		
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™											<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>		
mSATA™ SSD	None													
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio													
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)													
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None													
Dimensions <sup>3</sup>	14.00" (WxDxH): 13.94" x 9.57" x 1.17–1.24"; 354mm x 243mm x 29.6–31.4mm													
Weight <sup>2</sup>	6-cell: from 5.11 lb (2.32kg); 9-cell: from 5.48 lb (2.49kg)													
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic													
Battery - type	Lithium Ion 6-cell or 9-cell, HW Authentication													
Battery - life <sup>10</sup>	6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr													
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> One slot (ExpressCard/34, ExpressCard/54) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole													
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip											Supports ThinkVantage® technologies		
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available											65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>		

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Fingerprint reader	Bluetooth	Battery cells	Global (G) GMP (P)	Preload	Ann Date (mm/yy)
2466-62G	i7-3520M	4GBx1	14.0" HD+	720p	500G 7200	Intel 6205 <sup>28</sup>	WWAN upg	None	Finger	BT	6	G P	Win8 Pro64	10/12
2466-63G	i5-3320M	4GBx1	14.0" HD	720p	320G 7200	Intel 6205	WWAN upg	None	Finger	BT	6	G P	Win8 Pro64	10/12
2466-64G	i5-3320M	4GBx1	14.0" HD	720p	500G 7200	Intel 6205	WWAN upg	None	Finger	BT	6	G P	Win8 Pro64	10/12

• Part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	Mainstream business performance; two spindles <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology	Preloaded operating system <sup>20</sup> - Windows® 8 Pro 64-bit
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	Preloaded applications <sup>5</sup> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>• Lenovo® Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• ThinkVantage Power Manager</li><li>• Lenovo SimpleTap</li><li>• Adobe® Reader®</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>• Lenovo Support</li><li>• Lenovo Companion</li><li>• Lenovo QuickLaunch</li><li>• AccuWeather</li><li>• PC Device Stage</li><li>• Cyberlink Power2Go (DVD±RW)</li><li>• Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>• Lenovo Solution Center</li><li>• Password Manager</li><li>• ThinkVantage System Update</li><li>• Fingerprint Software (fingerprint models)</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security (30 days of virus definitions)</li></ul>
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™	
mSATA™ SSD	None	
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.94" x 9.57" x 1.17–1.24"; 354mm x 243mm x 29.6–31.4mm 6-cell: from 5.11 lb (2.32kg); 9-cell: from 5.48 lb (2.49kg)	
Battery - type Battery - life <sup>10</sup>	Acrylonitrile-Butadiene-Styrene (ABS) plastic Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr	
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> None None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack	
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available	Supports ThinkVantage® technologies 65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>



Lenovo® ThinkPad L530



Lenovo ThinkPad L530



Lenovo ThinkPad L530



Lenovo ThinkPad L530



Lenovo ThinkPad L530



Lenovo Sport Backpack - Blue	0B47298
Lenovo Sport Backpack - Red	0A33896
Lenovo Sport Backpack - Grey	0B47301

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Card slot	Finger print reader	Blue-tooth	Bat-tery cells	Ann Date
												(mm/y)
2481-2RG	i3-2370M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Finger	BT	6	Pro 64 06/12
2481-2SG	i5-3210M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Finger	BT	6	Pro 64 06/12
2481-2TG	i5-3210M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Finger	BT	6	Pro 64 06/12
2481-2VG	i3-2370M	4GBx1	15.6" HD+	720p	500G 7200	Intel 2200	WWAN upg	None	Finger	BT	6	Pro 64 07/12
2481-2WG	Cel B820	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Finger	BT	6	Pro 64 07/12
2481-2UG	i5-3210M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	16GB mSATA	None	Finger	BT	6	Pro 64 07/12
2481-3AG	i3-2328M	4GBx1	15.6" HD	720p	320G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Pro 64 09/12
2481-3NG	i5-3210M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	16GB mSATA	Express 54	Finger	BT	6	Pro 64 09/12
2481-3MG	i5-3210M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Pro 64 09/12
2481-3LG	i5-3210M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Pro 64 09/12
2481-3KG	i3-2370M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Pro 64 09/12

• Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<i>Mainstream business performance; two spindles</i> <b>Intel® Celeron® B820 processor (2 cores, 1.70GHz, 2MB cache), Intel HD Graphics, DDR3 memory controller (up to 1333MHz)</b> <b>Intel Core™ i3-2328M processor (2 cores, 2.20GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology</b> <b>Intel Core i3-2370M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology</b> <b>Intel Core i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology</b>									<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64														
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller									<b>Ready to install applications<sup>14</sup> (only some listed)</b> <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>														
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™									<b>Preloaded applications<sup>14</sup> (only some listed)</b> <ul style="list-style-type: none"><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>														
mSATA™ SSD	Some: mSATA Solid State Drive (SSD), via PCIe Mini Card slot																							
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio																							
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																							
Graphics	<b>Intel HD Graphics, Intel HD Graphics 3000, or Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)																							
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None																							
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery - type Battery - life <sup>10</sup>	15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm 6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg) Acrylonitrile-Butadiene-Styrene (ABS) plastic Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr																							
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> Some: One slot (ExpressCard/34, ExpressCard/54) None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)																							
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1 Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: Wireless WAN upgradable																							
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	None None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole																							
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip																							
Limited warranty <sup>12</sup>	<b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available																							
Supports ThinkVantage® technologies																								
65-watt AC adapter EPEAT™ Gold rating (except Celeron models) ENERGY STAR® 5.0-compliant (except Celeron models) GREENGUARD® certified (except Celeron models) RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																								

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Card slot	Finger print reader	Blue-tooth	Bat-tery cells	Ann Date
												Preload (mm/yy)
2481-2QG	Pen B970	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	None	Finger	BT	6	DOS-Lic. 06/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	Mainstream business performance; two spindles <b>Intel® Pentium® B970 processor (2 cores, 2.30GHz, 2MB cache), Intel HD Graphics,</b> DDR3 memory controller (up to 1333MHz)	<b>Preloaded operating system<sup>20</sup></b> - DOS-Lic.
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™	
mSATA™ SSD	None	
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery - type Battery - life <sup>10</sup>	15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm 6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg) Acrylonitrile-Butadiene-Styrene (ABS) plastic Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr	
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> None None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1 Wireless WAN upgradable None None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack	Supports ThinkVantage® technologies  65-watt AC adapter RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip	
Limited warranty <sup>12</sup>	1-year - depot repair service / service upgrades <sup>22</sup> available	

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Card slot	Finger print reader	Bat- terry cells	Blue- tooth cells	Preload	Ann Date (mm/yy)
2481-35G	i3-3110M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	10/12
2481-36G	i5-3210M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	10/12
2481-37G	i5-3210M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	10/12
2481-38G	i3-2328M	4GBx1	15.6" HD	720p	320G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	10/12
2481-39G	i5-3210M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	16GB mSATA	Express 54	Finger	BT	6	Win8 Pro64	10/12
2481-3TG	i3-2328M	4GBx1	15.6" HD	720p	320G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	10/12
2481-3SG	i3-3110M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	10/12
2481-3RG	i5-3210M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	10/12
2481-3QG	i5-3210M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	10/12
2481-3PG	i5-3210M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	16GB mSATA	Express 54	Finger	BT	6	Win7 Pro64	10/12
2481-48G	i5-2520M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	01/13
2481-5EG	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win7 Pro64	06/13
2481-5DG	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win8 Pro64	06/13
2481-5AG	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	06/13
2481-59G	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	06/13

**• Small and medium business (SMB) model(s), part of the WE TopSeller™ Program**

Positioning Processor	<i>Mainstream business performance; two spindles</i> <b>Intel® Core™ i3-2328M processor (2 cores, 2.20GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), HT technology <b>Intel Core i3-3110M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), HT technology <b>Intel Core i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology <b>Intel Core i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Preloaded applications<sup>5</sup></b> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>• Lenovo® Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• ThinkVantage Power Manager</li><li>• Lenovo SimpleTap</li><li>• Adobe® Reader®</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>• Lenovo Support</li><li>• Lenovo Companion</li><li>• Lenovo QuickLaunch</li><li>• AccuWeather</li><li>• PC Device Stage</li><li>• Cyberlink Power2Go (DVD±RW)</li><li>• Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>• Lenovo Solution Center</li><li>• Password Manager</li><li>• ThinkVantage System Update</li><li>• Fingerprint Software (fingerprint models)</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security (30 days of virus definitions)</li></ul>
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™	
mSATA™ SSD	Some: mSATA Solid State Drive (SSD), via PCIe Mini Card slot	
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 3000 or 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm 6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg) Acrylonitrile-Butadiene-Styrene (ABS) plastic	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr	
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> One slot (ExpressCard/34, ExpressCard/54) None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1 Some: Wireless WAN upgradable None None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack	
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip	
Limited warranty <sup>12</sup>	<b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available	
Supports ThinkVantage® technologies		
65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>		

See footnotes for more detailed information

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Card slot	Finger print reader	Bat- tery cells	Blue- tooth	Preload	Ann Date (mm/yy)													
2481-52G	i3-3120M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	03/13													
2481-4ZG	i5-3230M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	03/13													
2481-4YG	i5-3230M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	03/13													
2481-4XG	i5-3230M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	16GB mSATA	Express 54	Finger	BT	6	Win7 Pro64	03/13													
2481-4WG	i5-2520M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	03/13													
2481-4VG	i3-3120M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	03/13													
2481-4UG	i5-3230M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	03/13													
2481-4TG	i5-3230M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	03/13													
2481-4SG	i5-3230M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	16GB mSATA	Express 54	Finger	BT	6	Win8 Pro64	03/13													
2481-5QG	i3-3120M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win7 Pro64	06/13													
2481-5PG	i3-3120M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win8 Pro64	06/13													
2481-5NG	i5-3230M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win7 Pro64	06/13													
2481-5MG	i5-3230M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win8 Pro64	06/13													
2481-5LG	i5-3230M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win7 Pro64	06/13													
2481-5KG	i5-3230M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win8 Pro64	06/13													
2481-5JG	i5-3230M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	16GB mSATA	Express 54	None	BT	6	Win7 Pro64	06/13													
2481-5HG	i5-3230M	4GBx1	15.6" HD+	720p	500G 7200	TP 11b/g/n	16GB mSATA	Express 54	None	BT	6	Win8 Pro64	06/13													
2481-5GG	i5-3230M	4GBx1	15.6" HD+	720p	180G SSD	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win7 Pro64	06/13													
2481-5FG	i5-3230M	4GBx1	15.6" HD+	720p	180G SSD	TP 11b/g/n	WWAN upg	Express 54	None	BT	6	Win8 Pro64	06/13													
2481-5CG	i5-3230M	4GBx1	15.6" HD+	720p	180G SSD	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win7 Pro64	06/13													
2481-5BG	i5-3230M	4GBx1	15.6" HD+	720p	180G SSD	TP 11b/g/n	WWAN upg	Express 54	Finger	BT	6	Win8 Pro64	06/13													
Positioning Processor	<i>Mainstream business performance; two spindles</i>											<b>Preloaded operating system<sup>20</sup></b>														
	<b>Intel® Core™ i3-3120M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Hyper-Threading technology											<b>- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit</b>														
	<b>Intel Core i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology											<b>- Some: Windows 8 Pro 64-bit</b>														
	<b>Intel Core i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology											<b>Preloaded applications<sup>5</sup> (only some listed)</b>														
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller											<b>Windows 7 models</b>														
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™											<b>• Lenovo® Message Center Plus</b>														
mSATA™ SSD	<i>Some:</i> mSATA Solid State Drive (SSD), via PCIe Mini Card slot											<b>• ThinkVantage Product Recovery</b>														
Widescreen display	<i>Some:</i> <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio <i>Some:</i> <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio											<b>• Access Connections™</b>														
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											<b>• ThinkVantage Power Manager</b>														
Graphics	<b>Intel HD Graphics 3000 or 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)											<b>• Lenovo SimpleTap</b>														
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None											<b>• Adobe® Reader®</b>														
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery - type Battery - life <sup>10</sup>	15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm 6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg) Acrylonitrile-Butadiene-Styrene (ABS) plastic Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr											<b>• Windows Live™ Essentials</b>														
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> One slot (ExpressCard/34, ExpressCard/54) None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)											<b>• Corel® WinDVD® (DVD±RW)</b>														
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader	Two PCI Express Mini Card slots 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1 <i>Some:</i> Wireless WAN upgradable None None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant <i>Some:</i> AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip											<b>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</b>														
Limited warranty <sup>12</sup>	<b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available											<b>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</b>														
Supports ThinkVantage® technologies																										
65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																										

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	Smart Card Reader	Card slot	Finger print reader	Blue-tooth	Battery cells	Workhorse (W) Global (G)	Pre-load	Ann Date (mm/yy)
2478-25G	i5-3360M	4GBx1	15.6" HD+	720p	500G 7200	Intel 6205 <sup>28</sup>	WWAN upg	None	None	Finger	BT	<b>9</b>	G	Pro 64	06/12
2478-26G	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	Intel 6205	WWAN upg	None	None	Finger	BT	6	G	Pro 64	06/12
2478-27G	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	Intel 6205	WWAN upg	None	None	None	No	6	G	Pro 64	06/12
2478-28G	i5-3320M	4GBx1	15.6" HD	720p	320G 7200	Intel 2200	WWAN upg	None	None	Finger	BT	6	G	Pro 64	06/12
2478-29G	i5-3320M	4GBx1	15.6" HD	None	320G 7200	Intel 2200	WWAN upg	None	None	None	BT	6	G	Pro 64	06/12
2478-2AG	i5-3360M	4GBx1	15.6" HD+	720p	320G 7200	Intel 6205	WWAN upg	None	None	Finger	BT	<b>9</b>	G	Pro 64	06/12
2478-2BG	i5-3320M	4GBx1	15.6" HD	720p	320G 7200	Intel 6205	WWAN upg	None	None	Finger	BT	6	G	Pro 64	06/12
2478-2CG	i5-3320M	4GBx1	15.6" HD	720p	320G 7200	Intel 6205	WWAN upg	None	None	None	No	6	G	Pro 64	06/12
2478-2XG	i5-3360M	4GBx1	15.6" HD	720p	500G 7200	Intel 6205	WWAN upg	Smart	Exp 54	Finger	BT	<b>9</b>	G	Pro 64	06/12
2478-2YG	i5-3320M	4GBx1	15.6" HD	720p	320G 7200	Intel 6205	WWAN upg	Smart	Exp 54	Finger	BT	6	G	Pro 64	06/12
2478-32G	i5-3320M	4GBx1	15.6" HD	720p	320G 7200	Intel 6205	WWAN upg	Smart	Exp 54	Finger	BT	6	W G	Pro 64	06/12
2478-33G	i5-3360M	4GBx1	15.6" HD	720p	500G 7200	Intel 6205	WWAN upg	Smart	Exp 54	Finger	BT	<b>9</b>	W G	Pro 64	06/12

• A depot repair service 3-year limited warranty

Positioning Processor	<b>Mainstream business performance; two spindles</b> <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i5-3360M processor (2 cores, 2.80GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology														<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64														
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller														<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>														
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™														<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>														
mSATA™ SSD	None																												
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio																												
Camera	Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																												
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)																												
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None																												
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery - type Battery - life <sup>10</sup>	15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm 6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg) Acrylonitrile-Butadiene-Styrene (ABS) plastic Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr																												
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> Some: One slot (ExpressCard/34, ExpressCard/54) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)																												
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2 Wireless WAN upgradable																												
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	None None Some: Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole																												
Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip																												
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available																												
Supports ThinkVantage® technologies																													
65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																													

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	SIM card	Smart Card Reader	Card slot	Finger print reader	Blue-tooth	Battery cells	Ann Date	
2478-5GG	i5-2520M	4GBx1	15.6" HD+	720p	128G SSD	Intel 2200	WWAN upg	None	None	Exp 54	Finger	BT	6	Pro 64	10/12
2478-5FG	i5-2520M	4GBx1	15.6" HD+	720p	128G SSD	Intel 2200	Ericsson	selectable	None	Exp 54	Finger	BT	6	Pro 64	10/12
2478-5EG	i5-2520M	4GBx1	15.6" HD+	720p	500G 7200	Intel 2200	Ericsson	selectable	None	Exp 54	Finger	BT	6	Pro 64	10/12
2478-5DG	i5-2520M	4GBx1	15.6" HD+	720p	500G 7200	Intel 2200	WWAN upg	None	Smart	Exp 54	Finger	BT	6	Pro 64	10/12
2478-5CG	i5-2520M	4GBx1	15.6" HD	720p	500G 7200	Intel 2200	WWAN upg	None	None	Exp 54	Finger	BT	6	Pro 64	10/12
2478-5BG	i5-2520M	4GBx1	15.6" HD	720p	320G 7200	Intel 2200	WWAN upg	None	None	Exp 54	Finger	BT	6	Pro 64	10/12
2478-5AG	i5-2520M	4GBx1	15.6" HD	720p	500G 7200	TP 11b/g/n	None	None	None	Exp 54	Finger	BT	6	Pro 64	10/12
2478-59G	i5-2520M	4GBx1	15.6" HD	720p	320G 7200	TP 11b/g/n	None	None	None	Exp 54	Finger	BT	6	Pro 64	10/12
2478-58G	i5-2520M	2GBx1	15.6" HD	720p	320G 7200	TP 11b/g/n	None	None	None	Exp 54	Finger	BT	6	Pro 64	10/12
2478-57G	i5-2520M	2GBx1	15.6" HD	720p	320G 7200	TP 11b/g/n	None	None	None	None	Finger	BT	6	Pro 64	10/12

• A depot repair service 3-year limited warranty

Positioning Processor	<b>Mainstream business performance; two spindles</b> <b>Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000</b> , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology												Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller												Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™												Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	None												
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio												
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	<b>Intel HD Graphics 3000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)												
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None												
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm 6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg)												
Battery - type	Acrylonitrile-Butadiene-Styrene (ABS) plastic												
Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr												
Chipset ExpressCard	<b>Mobile Intel HM76 Express Chipset</b> Some: One slot (ExpressCard/34, ExpressCard/54)												
Smart Card read	Some: Smart Card reader												
Multicard Reader	4-in-1 reader (MMC, SD, SDHC, SDXC)												
Ports	One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)												
PCIe Mini Card	Two PCI Express Mini Card slots												
PCIe WLAN <sup>4</sup>	Some: 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1 Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2												
PCIe WWAN	Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS												
SIM card	Some: User selectable, contract required with service provider												
Modem	None												
Bluetooth™	Bluetooth 4.0 wireless												
Ethernet	Realtek® RTL8111F Gigabit Network Connection												
Intel AMT	None												
Audio support	HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack												
Security chip	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant												
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip												
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available												
See footnotes for more detailed information	Supports ThinkVantage® technologies 65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>												

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	SIM card	Finger print reader	Blue-tooth	Battery cells	Global (G)	GMP (P)	Ann Date (mm/yy)
2478-62G	i7-3520M	4GBx1	15.6" HD+	720p	500G 7200	Intel 6205 <sup>28</sup>	WWAN upg	None	Finger	BT	6	G	Win8 Pro64	10/12
2478-4NG	i5-3320M	4GBx1	15.6" HD	None	320G 7200	Intel 2200	WWAN upg	None	None	No	6	G	Win8 Pro64	10/12
2478-63G	i5-3320M	4GBx1	15.6" HD	720p	320G 7200	Intel 6205	WWAN upg	None	Finger	BT	6	G	Win8 Pro64	10/12
2478-64G	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	Intel 6205	WWAN upg	None	Finger	BT	6	G	Win8 Pro64	10/12

• A depot repair service 3-year limited warranty

Positioning Processor	<p>Mainstream business performance; two spindles  <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b>  DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology  <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b>  DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</p>													Preloaded operating system <sup>20</sup> - Windows® 8 Pro 64-bit
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller													Preloaded applications <sup>5</sup> (only some listed)
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™													- <b>Windows 7 models</b> • Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap • Adobe® Reader® • Windows Live™ Essentials • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
mSATA™ SSD	None													- <b>Windows 8 models</b> • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch • AccuWeather • PC Device Stage • Cyberlink Power2Go (DVD±RW) • Cyberlink PowerProducer (DVD±RW)
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio													- <b>All models</b> • Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security (30 days of virus definitions)
Camera	Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													Supports ThinkVantage® technologies
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)													6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None
Keyboard TrackPoint® Touch pad ThinkLight™	6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg) Acrylonitrile-Butadiene-Styrene (ABS) plastic Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr													15.6" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm 6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg) Acrylonitrile-Butadiene-Styrene (ABS) plastic Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material														HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Fingerprint reader Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip
Chipset ExpressCard Smart Card read Multicard Reader Ports	Mobile Intel HM76 Express Chipset None None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)													65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2 Wireless WAN upgradable None None													Some: Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support														HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Fingerprint reader Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip
Security Security chip Fingerprint reader														Limited warranty <sup>12</sup> 3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available

See footnotes for more detailed information

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ThinkPad L530 2479 (Onsite)

*Product Specifications Reference (PSREF)*

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>b</sup>	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Smart Card Reader	Card slot	Fingerprint reader	Blue-tooth	Battery cells	Workhorse Global (G)	Pre-load	Ann Date (mm/yy)	
2479-32G	i5-3320M	4GBx1	15.6" HD	720p	320G	7200	Intel 6205 <sup>28</sup>	WWAN upg	Smart	Exp 54	Finger	BT	6	W G P	Pro 64	06/12
2479-33G	i5-3360M	4GBx1	15.6" HD	720p	500G	7200	Intel 6205	WWAN upg	Smart	Exp 54	Finger	BT	9	W G P	Pro 64	06/12
2479-3B9	i5-3360M	4GBx1	15.6" HD+	720p	500G	7200	Intel 6205	WWAN upg	None	None	Finger	BT	9	G P	Pro 64	06/12
2479-3CG	i5-3320M	4GBx1	15.6" HD	720p	500G	7200	Intel 6205	WWAN upg	None	None	Finger	BT	6	G P	Pro 64	06/12
2479-3DG	i5-3360M	4GBx1	15.6" HD+	720p	320G	7200	Intel 6205	WWAN upg	None	None	Finger	BT	9	G P	Pro 64	06/12
2479-3EG	i5-3320M	4GBx1	15.6" HD	720p	320G	7200	Intel 6205	WWAN upg	None	None	Finger	BT	6	G P	Pro 64	06/12
2479-44G	i5-3360M	4GBx1	15.6" HD	720p	500G	7200	Intel 6205	WWAN upg	Smart	Exp 54	Finger	BT	9		Pro 64	06/12
2479-45G	i5-3320M	4GBx1	15.6" HD	720p	320G	7200	Intel 6205	WWAN upg	Smart	Exp 54	Finger	BT	6		Pro 64	06/12

- Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<i>Mainstream business performance; two spindles</i> <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i5-3360M processor (2 cores, 2.80GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology	<b>Preloaded operating system</b> <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Ready to install applications</b> <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™	<b>Preloaded applications</b> <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	None	
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None	
Dimensions <sup>3</sup> Weight <sup>2</sup>	15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm 6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg)	
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic	
Battery - type	Lithium Ion 6-cell or 9-cell, HW Authentication	
Battery - life <sup>10</sup>	6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr	
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> Some: One slot (ExpressCard/34, ExpressCard/54) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack	
Security chip	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant	
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service</b> <sup>24</sup> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available	Supports ThinkVantage® technologies 65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Bat- terry cells	Global (G) GMP (P)	Preload	Ann Date (mm/yy)
2479-62G	i7-3520M	4GBx1	15.6" HD+	720p	500G 7200	Intel 6205 <sup>28</sup>	WWAN upg	None	Finger	BT 6	G P	Win8 Pro64	10/12
2479-63G	i5-3320M	4GBx1	15.6" HD	720p	320G 7200	Intel 6205	WWAN upg	None	Finger	BT 6	G P	Win8 Pro64	10/12
2479-64G	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	Intel 6205	WWAN upg	None	Finger	BT 6	G P	Win8 Pro64	10/12

• Part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<b>Mainstream business performance; two spindles</b> <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology											Preloaded operating system <sup>20</sup> - Windows® 8 Pro 64-bit
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller											Preloaded applications <sup>5</sup> (only some listed)
Optical SATA disk	DVD burner, 12.7mm high, fixed, not removable, tray-in Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™											- <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security (30 days of virus definitions)</li></ul>
mSATA™ SSD	None											Supports ThinkVantage® technologies
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio											65-watt AC adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)											
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch None											
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm 6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg) Acrylonitrile-Butadiene-Styrene (ABS) plastic											
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, HW Authentication 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr											
Chipset ExpressCard Smart Card read Multicard Reader Ports	<b>Mobile Intel HM76 Express Chipset</b> None None 4-in-1 reader (MMC, SD, SDHC, SDXC) One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)											
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole											
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip											
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available											

See footnotes for more detailed information

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Lenovo® ThinkPad T430



Lenovo ThinkPad T430



Lenovo ThinkPad T430



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Lenovo ThinkPad T430 with  
ThinkPad Port Replicator Series 3 with USB 3.0  
433615W

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit key-board	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Finger print reader	Blue-tooth	Bat-tery cells	Intel AMT	Intel vPro	Ann Date
2344-4TG	i5-3210M	4GBx1	14.0" HD	720p	500G 7200	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	Finger	BT	6	None	None	Pro 64 06/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	<i>Premiere performance; two spindles Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology</i>											Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64												
Memory	<i>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller</i>											Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>												
Optical Ultrabay SATA disk	<i>DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</i>											Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>												
mSATA™ SSD	<i>None</i>																							
Widescreen display	<i>Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio</i>																							
Camera	<i>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</i>																							
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</i>																							
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>																							
Dimensions <sup>3</sup>	<i>14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm</i>																							
Weight <sup>2</sup>	<i>6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg)</i>																							
Case material	<i>Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic</i>																							
Battery - type	<i>Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication</i>																							
Battery - life <sup>10</sup>	<i>6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 32.5 hr</i>																							
Chipset ExpressCard	<i>Mobile Intel QM77 Express Chipset</i>																							
Smart Card read	<i>One slot (ExpressCard/34)</i>																							
Multicard reader	<i>None</i>																							
Ports	<i>4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)</i>																							
PCIe Mini Card	<i>Two PCI Express Mini Card slots</i>																							
PCIe WLAN <sup>4</sup>	<i>11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2</i>																							
PCIe WWAN	<i>Wireless WAN upgradable</i>																							
SIM card	<i>None</i>																							
Modem	<i>None</i>																							
IEEE 1394	<i>None</i>																							
Bluetooth™	<i>Bluetooth 4.0 wireless</i>																							
Ethernet	<i>Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1</i>																							
Intel AMT	<i>None</i>																							
Audio support	<i>HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</i>																							
Security	<i>Power-on password, hard disk password, supervisor password, security keyhole</i>																							
Security chip	<i>Trusted Platform Module, TCG 1.2-compliant</i>																							
Fingerprint reader	<i>AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</i>																							
<i>Limited warranty<sup>12</sup> 3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</i>													Supports ThinkVantage® technologies											
													65-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>											

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Smart Card Reader	Fingerprint reader	Battery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
2344-BTG	i7-3520M	4GBx1	14.0" HD+	720p	500G 7200	None	Intel 6205 <sup>28</sup>	WWAN upg	Smart	Finger	6	iAMT	vPro	Win7 Pro64	10/12
2344-BSG	i5-3210M	4GBx2	14.0" HD	720p	500G 7200	None	Intel 2200	WWAN upg	Smart	Finger	6	None	No	Win7 Pro64	10/12
2344-BJG	i5-3320M	4GBx1	14.0" HD+	720p	500G 7200	None	Intel 6205	WWAN upg	None	Finger	6	iAMT	vPro	Win7 Pro64	10/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache)</b> , Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache)</b> , Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache)</b> , Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> <ul style="list-style-type: none"> <li>- Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit</li> </ul> <b>Preloaded applications<sup>5</sup></b> (only some listed) <ul style="list-style-type: none"> <li>- <b>Windows 7 models</b> <ul style="list-style-type: none"> <li>• Lenovo® Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo SimpleTap</li> <li>• Adobe® Reader®</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul> </li> <li>- <b>Windows 8 models</b> <ul style="list-style-type: none"> <li>• Lenovo Support</li> <li>• Lenovo Companion</li> <li>• Lenovo QuickLaunch</li> <li>• AccuWeather</li> <li>• PC Device Stage</li> <li>• Cyberlink Power2Go (DVD±RW)</li> <li>• Cyberlink PowerProducer (DVD±RW)</li> </ul> </li> <li>- <b>All models</b> <ul style="list-style-type: none"> <li>• Lenovo Solution Center</li> <li>• Password Manager</li> <li>• ThinkVantage System Update</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security (30 days of virus definitions)</li> </ul> </li> </ul>
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	
mSATA™ SSD	None	
Widescreen display	Some: 14.0" (355mm) <b>HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) <b>HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 32.5 hr	
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2	
PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole	
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	Supports ThinkVantage® technologies

See footnotes for more detailed information

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Battery cells	Intel vPro	Preload	Ann Date (mm/yy)
2344-4SG	i5-3210M	4GBx1	14.0" HD+	720p	500G 7200	Backlit	Intel 2200	Ericsson	Lenovo	Finger	6	None	Pro 64	06/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology	Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	None	
Widescreen display	Some: 14.0" (355mm) <b>HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) <b>HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600 @60Hz (DisplayPort via optional Mini DP cable); 1920x1200 @60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536 @85Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.4 hr; 9-cell (94Whr): up to 15.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 31.6 hr	
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCIe Mini Card slots 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS	
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack	
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>	Supports ThinkVantage® technologies 90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information

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(G-NZ4-2) June 2012

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Smart Card Reader	Fingerprint reader	Battery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
2344-BUG	i7-3520M	4GBx2	14.0" HD+	500G 7200	None	Intel 6205 <sup>28</sup>	WWAN upg	Smart	Finger	9	iAMT	vPro	Win7 Pro64	10/12
2344-BRG	i5-3210M	4GBx1	14.0" HD+	500G 7200	None	Intel 2200	WWAN upg	Smart	Finger	6	None	No	Win7 Pro64	10/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache)</b> , Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache)</b> , Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> <ul style="list-style-type: none"> <li>- Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit</li> </ul> <b>Preloaded applications<sup>5</sup></b> (only some listed) <ul style="list-style-type: none"> <li>- <b>Windows 7 models</b> <ul style="list-style-type: none"> <li>• Lenovo® Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo SimpleTap</li> <li>• Adobe® Reader®</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul> </li> <li>- <b>Windows 8 models</b> <ul style="list-style-type: none"> <li>• Lenovo Support</li> <li>• Lenovo Companion</li> <li>• Lenovo QuickLaunch</li> <li>• AccuWeather</li> <li>• PC Device Stage</li> <li>• Cyberlink Power2Go (DVD±RW)</li> <li>• Cyberlink PowerProducer (DVD±RW)</li> </ul> </li> <li>- <b>All models</b> <ul style="list-style-type: none"> <li>• Lenovo Solution Center</li> <li>• Password Manager</li> <li>• ThinkVantage System Update</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security (30 days of virus definitions)</li> </ul> </li> </ul>
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	
mSATA™ SSD	None	
Widescreen display	Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.4 hr; 9-cell (94Whr): up to 15.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 31.6 hr	
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Two PCIe Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2 Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	Supports ThinkVantage® technologies 90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Finger print reader	Battery cells	Intel AMT	Global (G) Intel GMP	Ann Date
2347-GAG	i5-3320M	4GBx1	14.0" HD+	720p	180G SSD	None	Intel 6205 <sup>28</sup>	WWAN upg	Finger	6	iAMT	vPro	G Pro 64 06/12
2347-G8G	i5-3320M	4GBx1	14.0" HD+	720p	128G SSD	None	Intel 6205	WWAN upg	Finger	6	iAMT	vPro	G Pro 64 06/12
2347-GBG	i7-3520M	4GBx1	14.0" HD+	720p	500G 7200	None	Intel 6205	WWAN upg	Finger	6	iAMT	vPro	G Pro 64 06/12
2347-G5G	i5-3320M	4GBx1	14.0" HD+	720p	500G 7200	None	Intel 6205	WWAN upg	Finger	6	iAMT	vPro	G Pro 64 06/12
2347-G3G	i7-3520M	4GBx1	14.0" HD	720p	500G 7200	None	Intel 6205	WWAN upg	Finger	6	iAMT	vPro	G Pro 64 06/12
2347-G2G	i5-3320M	4GBx1	14.0" HD	720p	320G 7200	None	Intel 6205	WWAN upg	Finger	6	iAMT	vPro	G Pro 64 06/12
2347-KUG	i5-2520M	4GBx1	14.0" HD	720p	500G 7200	None	Intel 6205	WWAN upg	Finger	6	None	None	Pro 64 10/12
2347-KZG	i5-2520M	4GBx1	14.0" HD	720p	320G 7200	None	Intel 6205	WWAN upg	Finger	6	None	None	Pro 64 10/12

• A depot repair service 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>Rescue and Recovery™</li><li>Password Manager</li></ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>Lenovo® Solution Center</li><li>Lenovo Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>Fingerprint Software (fingerprint models)</li><li>ThinkVantage System Update</li><li>ThinkVantage Power Manager</li><li>Lenovo Cloud Storage by SugarSync</li><li>Lenovo SimpleTap</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>Adobe® Reader®</li><li>Skype™ for Windows</li><li>Evernote®</li><li>Intel Small Business Advantage</li><li>RapidBoot HDD Accelerator</li><li>Symantec™ VIP</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive None	
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 3000 or 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600 @60Hz (DisplayPort via optional Mini DP cable); 1920x1200 @60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536 @75Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 32.5 hr	
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole	
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>	

See footnotes for more detailed information

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> /rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Finger print reader	Bat- tery cells	Global (G) Intel vPro (P)	Ann Date (mm/yy)
2347-J9G	i5-3320M	4GBx1	14.0" HD+	720p	500G 7200	None	Intel 6205 <sup>28</sup>	WWAN upg	Finger	BT 6	vPro G	Win8 Pro64 10/12
2347-J8G	i5-3320M	4GBx1	14.0" HD	720p	320G 7200	None	Intel 6205	WWAN upg	Finger	BT 6	vPro G	Win8 Pro64 10/12

• A depot repair service 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> - Windows® 8 Pro 64-bit <b>Preloaded applications<sup>5</sup></b> (only some listed) <ul style="list-style-type: none"> <li>- <b>Windows 7 models</b></li> <li>• Lenovo® Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo SimpleTap</li> <li>• Adobe® Reader®</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul> <ul style="list-style-type: none"> <li>- <b>Windows 8 models</b></li> <li>• Lenovo Support</li> <li>• Lenovo Companion</li> <li>• Lenovo QuickLaunch</li> <li>• AccuWeather</li> <li>• PC Device Stage</li> <li>• Cyberlink Power2Go (DVD±RW)</li> <li>• Cyberlink PowerProducer (DVD±RW)</li> </ul> <ul style="list-style-type: none"> <li>- <b>All models</b></li> <li>• Lenovo Solution Center</li> <li>• Password Manager</li> <li>• ThinkVantage System Update</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security (30 days of virus definitions)</li> </ul>
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	
mSATA™ SSD	None	
Widescreen display	Some: 14.0" (355mm) <b>HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) <b>HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm	
Weight <sup>2</sup>	6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg)	
Case material	Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic	
Battery - type	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication	Supports ThinkVantage® technologies
Battery - life <sup>10</sup>	6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr, OA36304): up to 32.5 hr	
Chipset ExpressCard	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34)	
Smart Card read	None	
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)	
Ports	Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card	Two PCI Express Mini Card slots	
PCIe WLAN <sup>4</sup>	11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2	
PCIe WWAN	Wireless WAN upgradable	
SIM card	None	
Modem	None	
IEEE 1394	None	
Bluetooth™	Bluetooth 4.0 wireless	
Ethernet	Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1	
Intel AMT	Intel Active Management Technology (iAMT)	
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack	
Security	Power-on password, hard disk password, supervisor password, security keyhole	
Security chip	Trusted Platform Module, TCG 1.2-compliant	
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>	

See footnotes for more detailed information

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Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>3</sup>	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	Smart SIM card	Finger Card Reader	Battery cells	Intel AMT	Global GMP	Ann Date	
				rpm						vPro (P)	vPro	(G) Preload	(mm/yy)	
2347-G9G	i7-3520M	4GBx1	14.0" HD+	180G SSD	None	Intel 6205 <sup>28</sup>	upg	None	None	Finger	<b>9</b>	iAMT vPro	G Pro 64 06/12	
2347-G7G	i7-3520M	4GBx1	14.0" HD+	500G 7200	None	Intel 6205	upg	None	None	Finger	<b>9</b>	iAMT vPro	G Pro 64 06/12	
2347-G6G	i5-3320M	4GBx1	14.0" HD+	500G 7200	None	Intel 6205	upg	None	None	Finger	<b>9</b>	iAMT vPro	G Pro 64 06/12	
2347-G4G	i5-3320M	4GBx1	14.0" HD+	320G 7200	None	Intel 6205	upg	None	None	Finger	<b>9</b>	iAMT vPro	G Pro 64 06/12	
2347-KXG	i5-2520M	4GBx1	14.0" HD+	180G SSD	Backlit	Intel 6300 <sup>28</sup>	Ericsson selectable	Smart	Finger	<b>9</b>	None	No	Pro 64 10/12	
2347-KWG	i5-2520M	4GBx1	14.0" HD+	128G SSD	None	Intel 6205	upg	None	None	Finger	<b>9</b>	None	No	Pro 64 10/12
2347-KVG	i5-2520M	4GBx1	14.0" HD+	500G 7200	Backlit	Intel 6205	Ericsson selectable	Smart	Finger	<b>9</b>	None	No	Pro 64 10/12	

• A depot repair service 3-year limited warranty

Positioning Processor	<b>Premiere performance; two spindles</b> <b>Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, supports the second disk, Shock Mounted Hard Drive	<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul>
mSATA™ SSD	None	
Widescreen display	<i>Some:</i> <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 3000 or 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, <b>1GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg) <i>Display cover:</i> Carbon-fiber / Glass-fiber hybrid; <i>Bottom:</i> Carbon-Fiber Reinforced Plastic	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.4 hr; 9-cell (94Whr): up to 15.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 31.6 hr	
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) <i>Some:</i> Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3	
PCIe WWAN	<i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS	
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	<i>Some:</i> User selectable, contract required with service provider None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <i>Some:</i> Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack	
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup> 3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	Supports ThinkVantage® technologies 90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>	

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ msATA	Smart Card SIM card	Finger reader	Battery cells	Intel AMT	Intel vPro (P)	Global G	GMP	Pre-load	Ann Date (mm/yy)
2349-HFG	i5-3320M	4GBx1	14.0"	HD+	720p	320G 7200	None	Intel 6205 <sup>28</sup> upg	None	Smart	Fing	6	iAMT vPro	G P	Pro 64	06/12	
2349-H3G	i5-3210M	4GBx1	14.0"	HD+	720p	180G SSD	Backlit	Intel 6205	Ericsson	None	Fing	6	None	No	Pro 64	06/12	
2349-GZG	i5-3320M	4GBx1	14.0"	HD+	720p	320G 7200	None	Intel 6205	Ericsson	Selectable	Smart	Fing	6	iAMT vPro	Pro 64	06/12	
2349-GAG	i5-3320M	4GBx1	14.0"	HD+	720p	180G SSD	None	Intel 6205	upg	None	None	Fing	6	iAMT vPro	G P	Pro 64	06/12
2349-GDG	i5-3320M	4GBx1	14.0"	HD	720p	128G SSD	None	Intel 6205	upg	None	None	Fing	6	iAMT vPro	G P	Pro 64	06/12
2349-G8G	i5-3320M	4GBx1	14.0"	HD+	720p	128G SSD	None	Intel 6205	upg	None	None	Fing	6	iAMT vPro	G P	Pro 64	06/12
2349-G5G	i5-3320M	4GBx1	14.0"	HD+	720p	500G 7200	None	Intel 6205	upg	None	None	Fing	6	iAMT vPro	G P	Pro 64	06/12
2349-GCG	i5-3320M	4GBx1	14.0"	HD+	720p	320G 7200	None	Intel 6205	upg	None	None	Fing	6	iAMT vPro	G P	Pro 64	06/12
2349-G3G	i7-3520M	4GBx1	14.0"	HD	720p	500G 7200	None	Intel 6205	upg	None	None	Fing	6	iAMT vPro	G P	Pro 64	06/12
2349-G2G	i5-3320M	4GBx1	14.0"	HD	720p	320G 7200	None	Intel 6205	upg	None	None	Fing	6	iAMT vPro	G P	Pro 64	06/12
2349-HNG	i5-3320M	4GBx1	14.0"	HD	720p	320G 7200	None	Intel 6205	upg	None	None	No	6	iAMT vPro	G P	Pro 64	07/12
2349-LLG	i5-2520M	4GBx1	14.0"	HD	720p	320G 7200	None	Intel 6205	upg	None	None	Fing	6	None	No	Pro 64	10/12
2349-LQG	i5-2520M	4GBx1	14.0"	HD	720p	500G 7200	None	Intel 6205	upg	None	None	Fing	6	None	No	Pro 64	10/12
Positioning Processor	<p>Premiere performance; two spindles</p> <p><b>Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</p> <p><b>Intel Core i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology</p> <p><b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</p> <p><b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</p>																
Memory	<p>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets</p> <p>* System automatically clocks down for processors with 1333MHz DDR3 memory controller</p>																
Optical Ultrabay SATA disk	<p>DVD burner, 12.7mm Ultrabay Enhanced, removable</p> <p>One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access</p> <p>Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high</p> <p>Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™</p> <p>All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</p>																
mSATA™ SSD	<p>None</p>																
Widescreen display	<p>Some: <b>14.0" (355mm) HD (1366x768) color</b>, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio</p> <p>Some: <b>14.0" (355mm) HD+ (1600x900) color</b>, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio</p>																
Camera	<p>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</p>																
Graphics	<p><b>Intel HD Graphics 3000 or 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display;</p> <p><b>Maximum external resolution:</b> 2560x1600 @ 60Hz (DisplayPort via optional Mini DP cable); 1920x1200 @ 60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536 @ 75Hz (VGA)</p>																
Keyboard TrackPoint® Touchpad ThinkLight™	<p>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight</p> <p>TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass</p> <p>UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch</p> <p>Illuminates the keyboard to improve visibility in low-light conditions</p>																
Dimensions <sup>3</sup>	<p>14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm</p> <p>6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg)</p>																
Weight <sup>2</sup>	<p>Case material</p>																
Battery - type	<p>Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication</p>																
Battery - life <sup>10</sup>	<p>6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr;</p> <p>9-cell plus 9-cell Slice battery (94Whr): up to 32.5 hr</p>																
Chipset ExpressCard	<p><b>Mobile Intel QM77 Express Chipset</b></p>																
Smart Card read	<p>One slot (ExpressCard/34)</p>																
Multicard reader	<p>Some: Smart Card reader</p>																
Ports	<p>4-in-1 reader (MMC, SD, SDHC, SDXC)</p> <p>Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)</p>																
PCIe Mini Card	<p>Two PCI Express Mini Card slots</p>																
PCIe WLAN <sup>4</sup>	<p>11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2</p>																
PCIe WWAN	<p>Some: Wireless WAN upgradable</p>																
SIM card	<p>Some: Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required</p> <p>Some: User selectable, contract required with service provider</p>																
Modem IEEE 1394	<p>None</p>																
Bluetooth™	<p>Bluetooth 4.0 wireless</p>																
Ethernet	<p>Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1</p>																
Intel AMT	<p>Some: Intel Active Management Technology (iAMT)</p>																
Audio support	<p>HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</p>																
Security chip	<p>Power-on password, hard disk password, supervisor password, security keyhole</p>																
Fingerprint reader	<p>Trusted Platform Module, TCG 1.2-compliant</p> <p>Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</p>																
Limited warranty <sup>12</sup>	<p>3-years/1-year battery, <b>limited onsite service<sup>24</sup></b>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</p>																
<p><b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64</p> <p><b>Ready to install applications<sup>14</sup></b> (only some listed)  <ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul> <p><b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul> </p> <p><b>Supports ThinkVantage® technologies</b></p> <p>65-watt AC adapter</p> <p>ThinkPad Roll Cage (one-piece magnesium frame)</p> <p>EPEAT™ Gold rating</p> <p>ENERGY STAR® 5.0-compliant</p> <p>GREENGUARD® certified</p> <p>RoHS-compliant</p> <p>International Warranty Service<sup>17</sup> 24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup></p> </p>																	

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Battery cells	Intel AMT	Global (G) Intel vPro (P)	GMP	Ann Date (mm/yy)
2349-KDG	i5-3210M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	None	Finger	6	None	No	Win7 Pro64	10/12
2349-KCG	i5-3210M	4GBx1	14.0" HD+	180G SSD	Backlit	Intel 6205	Ericsson	Lenovo	Finger	6	None	No	Win7 Pro64	10/12
2349-JQG	i7-3520M	4GBx1	14.0" HD	500G 7200	None	Intel 6205	WWAN upg	None	Finger	6	iAMT	vPro	G P Win8 Pro64	10/12
2349-JPG	i5-3320M	4GBx1	14.0" HD+	180G SSD	None	Intel 6205	WWAN upg	None	Finger	6	iAMT	vPro	G P Win8 Pro64	10/12
2349-JNG	i5-3320M	4GBx1	14.0" HD+	500G 7200	None	Intel 6205	WWAN upg	None	Finger	6	iAMT	vPro	G P Win8 Pro64	10/12
2349-JMG	i5-3320M	4GBx1	14.0" HD	320G 7200	None	Intel 6205	WWAN upg	None	Finger	6	iAMT	vPro	G P Win8 Pro64	10/12
2349-JJJ	i5-3210M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205	WWAN upg	None	Finger	6	None	No	Win8 Pro64	10/12
2349-JHG	i5-3210M	4GBx1	14.0" HD+	180G SSD	Backlit	Intel 6205	Ericsson	Lenovo	Finger	6	None	No	Win8 Pro64	10/12

• Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<p>Premiere performance; two spindles  <b>Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000</b>, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology  <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b>, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology  <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000</b>, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</p>											<b>Preloaded operating system<sup>20</sup></b> <ul style="list-style-type: none"> <li>- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit</li> <li>- Some: Windows 8 Pro 64-bit</li> </ul>		
Memory	<p>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets  * System automatically clocks down for processors with 1333MHz DDR3 memory controller</p>											<b>Preloaded applications<sup>5</sup></b> (only some listed) <ul style="list-style-type: none"> <li>- <b>Windows 7 models</b> <ul style="list-style-type: none"> <li>• Lenovo® Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo SimpleTap</li> <li>• Adobe® Reader®</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul> </li> <li>- <b>Windows 8 models</b> <ul style="list-style-type: none"> <li>• Lenovo Support</li> <li>• Lenovo Companion</li> <li>• Lenovo QuickLaunch</li> <li>• AccuWeather</li> <li>• PC Device Stage</li> <li>• Cyberlink Power2Go (DVD±RW)</li> <li>• Cyberlink PowerProducer (DVD±RW)</li> </ul> </li> <li>- <b>All models</b> <ul style="list-style-type: none"> <li>• Lenovo Solution Center</li> <li>• Password Manager</li> <li>• ThinkVantage System Update</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security (30 days of virus definitions)</li> </ul> </li> </ul>		
Optical Ultrabay SATA disk	<p>DVD burner, 12.7mm Ultrabay Enhanced, removable  One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access  Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high  Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™  All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</p>													
mSATA™ SSD	<p>None</p>													
Widescreen display	<p>Some: <b>14.0" (355mm) HD (1366x768) color</b>, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio  Some: <b>14.0" (355mm) HD+ (1600x900) color</b>, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio</p>													
Camera	<p>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</p>													
Graphics	<p><b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display;  Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</p>													
Keyboard TrackPoint® Touchpad ThinkLight™	<p>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight  TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass  UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch  Illuminates the keyboard to improve visibility in low-light conditions</p>													
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	<p>14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm  6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg)  Display cover: Carbon-fiber / Glass-fiber hybrid;  Bottom: Carbon-Fiber Reinforced Plastic</p>													
Battery - type Battery - life <sup>10</sup>	<p>Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication  6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr;  9-cell plus 9-cell Slice battery (94Whr, OA36304): up to 32.5 hr</p>													
Chipset ExpressCard Smart Card read Multicard reader Ports	<p><b>Mobile Intel QM77 Express Chipset</b>  One slot (ExpressCard/34)  None  4-in-1 reader (MMC, SD, SDHC, SDXC)  Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)</p>													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	<p>Two PCI Express Mini Card slots  11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2  Some: Wireless WAN upgradable  Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS</p>													
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	<p>Some: Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required  None  None  Bluetooth 4.0 wireless  Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1  Some: Intel Active Management Technology (iAMT)  HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</p>													
Security Security chip Fingerprint reader	<p>Power-on password, hard disk password, supervisor password, security keyhole  Trusted Platform Module, TCG 1.2-compliant  AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</p>													
Limited warranty <sup>12</sup>	<p><b>3-years/1-year battery, limited onsite service<sup>24</sup></b>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</p>													
<p>Supports ThinkVantage® technologies</p> <p>65-watt AC adapter  ThinkPad Roll Cage (one-piece magnesium frame)  EPEAT™ Gold rating  ENERGY STAR® 5.0-compliant  GREENGUARD® certified  RoHS-compliant  International Warranty Service<sup>17</sup>  24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup></p>														

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	Smart SIM card Reader	Finger print reader	Battery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
2349-PHG	i5-3320M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205 <sup>28</sup>	upg	None	Smart	Finger 6	iAMT	vPro	Win7 Pro64	03/13
2349-PGG	i5-3320M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205	upg	None	Smart	Finger 6	iAMT	vPro	Win8 Pro64	03/13
2349-N8G	i5-3230M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205	upg	None	None	Finger 6	None	No	Win8 Pro64	03/13
2349-N7G	i5-3230M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205	upg	None	None	Finger 6	None	No	Win7 Pro64	03/13
2349-N6G	i5-3230M	4GBx1	14.0" HD+	180G SSD	Backlit	Intel 6205	Ericsson selectable	None	Finger 6	None	None	No	Win8 Pro64	03/13
2349-N5G	i5-3230M	4GBx1	14.0" HD+	180G SSD	Backlit	Intel 6205	Ericsson selectable	None	Finger 6	None	None	No	Win7 Pro64	03/13
2349-Q4G	i5-3320M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205	upg	None	Smart	None 6	iAMT	vPro	Win8 Pro64	06/13
2349-Q3G	i5-3320M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205	upg	None	Smart	None 6	iAMT	vPro	Win7 Pro64	06/13
2349-Q2G	i5-3230M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205	upg	None	None	None 6	None	No	Win8 Pro64	06/13
2349-PZG	i5-3230M	4GBx1	14.0" HD	500G 7200	Backlit	Intel 6205	upg	None	None	None 6	None	No	Win7 Pro64	06/13
2349-PYG	i5-3230M	4GBx1	14.0" HD+	180G SSD	Backlit	Intel 6205	Ericsson selectable	None	None	None 6	None	No	Win8 Pro64	06/13
2349-PXG	i5-3230M	4GBx1	14.0" HD+	180G SSD	Backlit	Intel 6205	Ericsson selectable	None	None	None 6	None	No	Win7 Pro64	06/13
2349-Q6G	i5-3230M	4GBx1	14.0" HD+	256G SSD OPAL	Backlit	Intel 6205	Ericsson selectable	None	None	None 6	None	No	Win8 Pro64	06/13
2349-Q5G	i5-3230M	4GBx1	14.0" HD+	256G SSD OPAL	Backlit	Intel 6205	Ericsson selectable	None	None	None 6	None	No	Win7 Pro64	06/13
Positioning Processor	<p>Premiere performance; two spindles  <b>Intel® Core™ i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b>  DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology  <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b>  DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</p>												<b>Preloaded operating system<sup>20</sup></b>	
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller												- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit	
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive												<b>Preloaded applications<sup>5</sup> (only some listed)</b>	
mSATA™ SSD	None												- <b>Windows 7 models</b> • Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap • Adobe® Reader® • Windows Live™ Essentials • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)	
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio												- <b>Windows 8 models</b> • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch • AccuWeather • PC Device Stage • Cyberlink Power2Go (DVD±RW) • Cyberlink PowerProducer (DVD±RW)	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												- <b>All models</b> • Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security (30 days of virus definitions)	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												Supports ThinkVantage® technologies	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr, 0A36304): up to 32.5 hr												65-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>	
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS													
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack													
Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available													

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Smart Card Reader	Battery cells	Intel AMT	Global (G) GMP	Ann Date
												Intel vPro (P)	Preload (mm/yy)
2349-H2G	i7-3520M	4GBx1	14.0" HD+	500G 7200	Backlit	Intel 6205 <sup>28</sup>	Ericsson	selectable	None	9	iAMT	vPro	Pro 64 06/12
2349-G9G	i7-3520M	4GBx1	14.0" HD+	180G SSD	None	Intel 6205	WWAN upg	None	None	9	iAMT	vPro	G P Pro 64 06/12
2349-G7G	i7-3520M	4GBx1	14.0" HD+	500G 7200	None	Intel 6205	WWAN upg	None	None	9	iAMT	vPro	G P Pro 64 06/12
2349-G6G	i5-3320M	4GBx1	14.0" HD+	500G 7200	None	Intel 6205	WWAN upg	None	None	9	iAMT	vPro	G P Pro 64 06/12
2349-G4G	i5-3320M	4GBx1	14.0" HD+	320G 7200	None	Intel 6205	WWAN upg	None	None	9	iAMT	vPro	G P Pro 64 06/12
2349-KMG	i7-3520M	4GBx2	14.0" HD+	500G 7200	None	Intel 6300 <sup>28</sup>	WWAN upg	None	Smart	6	iAMT	vPro	Pro 64 10/12
2349-LPG	i5-2520M	4GBx1	14.0" HD+	180G SSD	Backlit	Intel 6300	Ericsson	selectable	Smart	9	None	No	Pro 64 10/12
2349-LNG	i5-2520M	4GBx1	14.0" HD+	128G SSD	None	Intel 6205	WWAN upg	None	None	9	None	No	Pro 64 10/12
2349-LMG	i5-2520M	4GBx1	14.0" HD+	500G 7200	Backlit	Intel 6205	Ericsson	selectable	Smart	9	None	No	Pro 64 10/12

• Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>Rescue and Recovery™</li><li>Password Manager</li></ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>Lenovo® Solution Center</li><li>Lenovo Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>Fingerprint Software (fingerprint models)</li><li>ThinkVantage System Update</li><li>ThinkVantage Power Manager</li><li>Lenovo Cloud Storage by SugarSync</li><li>Lenovo SimpleTap</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>Adobe® Reader®</li><li>Skype™ for Windows</li><li>Evernote®</li><li>Intel Small Business Advantage</li><li>RapidBoot HDD Accelerator</li><li>Symantec™ VIP</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	None	
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 3000 or 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.4 hr; 9-cell (94Whr): up to 15.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 31.6 hr	
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCIe Mini Card slots Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3	
PCIe WWAN	Some: Wireless WAN upgradeable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS	
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack	Supports ThinkVantage® technologies
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available	

Type-model	Processor	Memory	Wide-screen display	Discrete graphics memory	Disk SATA GB <sup>8</sup>	Keyboard rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Smart SIM card Reader	Fingerprint reader	Battery cells	Intel AMT	Intel vPro	Ann Date (mm/yy)															
2349-KBG	i5-3210M	4GBx1	14.0"	HD+	1GB	500G	7200	Backlit	Intel 6205 <sup>28</sup>	Ericsson	Lenovo	Smart	Finger	6	None No Win7 Pro64 10/12															
2349-KAG	i7-3520M	4GBx1	14.0"	HD+	1GB	500G	7200	Backlit	Intel 6205	Ericsson	selectable	None	Finger	9	iAMT vPro Win7 Pro64 10/12															
2349-JGG	i5-3210M	4GBx1	14.0"	HD+	1GB	500G	7200	Backlit	Intel 6205	Ericsson	Lenovo	Smart	Finger	6	None No Win8 Pro64 10/12															
2349-JFG	i7-3520M	4GBx1	14.0"	HD+	1GB	500G	7200	Backlit	Intel 6205	Ericsson	selectable	None	Finger	9	iAMT vPro Win8 Pro64 10/12															
2349-N4G	i5-3230M	4GBx1	14.0"	HD+	2GB	500G	7200	Backlit	Intel 6205	Ericsson	selectable	Smart	Finger	6	None No Win8 Pro64 03/13															
2349-N3G	i5-3230M	4GBx1	14.0"	HD+	2GB	500G	7200	Backlit	Intel 6205	Ericsson	selectable	Smart	Finger	6	None No Win7 Pro64 03/13															
2349-PWG	i5-3230M	4GBx1	14.0"	HD+	2GB	500G	7200	Backlit	Intel 6205	Ericsson	selectable	Smart	None	6	None No Win8 Pro64 06/13															
2349-PVG	i5-3230M	4GBx1	14.0"	HD+	2GB	500G	7200	Backlit	Intel 6205	Ericsson	selectable	Smart	None	6	None No Win7 Pro64 06/13															
Positioning Processor	<i>Premiere performance; two spindles</i> <b>Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology <b>Intel Core i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology												<b>Preloaded operating system<sup>20</sup></b> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit																	
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller												<b>Preloaded applications<sup>5</sup></b> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security (30 days of virus definitions)</li></ul>																	
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive																													
mSATA™ SSD	None																													
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio																													
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																													
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, <b>1GB or 2GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)																													
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions																													
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm																													
Weight <sup>2</sup>	6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg)																													
Case material	Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic																													
Battery - type	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication																													
Battery - life <sup>10</sup>	6-cell (57Whr): up to 9.4 hr; 9-cell (94Whr): up to 15.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 31.6 hr																													
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)																													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS																													
SIM card	Some: Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required Some: User selectable, contract required with service provider																													
Modem IEEE 1394 Bluetooth™	None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1																													
Ethernet Intel AMT Audio support	Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack																													
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip																													
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available																													
Supports ThinkVantage® technologies																														
90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																														

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Finger print reader	Blue-tooth	Battery cells	Intel vPro	Preload	Ann Date (mm/yy)
2344-4UG	i3-2370M	4GBx1	14.0" HD	720p	320G 7200	Backlit	Intel 2200	WWAN upg	Finger	BT	6	None	Pro 64	06/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i3-2370M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul>
mSATA™ SSD	None	
Widescreen display	Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 3000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 32.5 hr	
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack	
Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant	
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>	

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Fingerprint reader	Battery cells	Intel vPro	Preload	Ann Date (mm/yy)
2344-BDG	i3-3110M	4GBx1	14.0" HD	720p	500G 7200	Backlit	Intel 2200	WWAN upg	Finger	6	None	Win7 Pro64	10/12
2344-72G	i3-3110M	4GBx1	14.0" HD	720p	500G 7200	Backlit	Intel 2200	WWAN upg	Finger	6	None	Win8 Pro64	10/12
2344-FHG	i3-3120M	4GBx1	14.0" HD+	720p	180G SSD	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	Finger	6	None	Win8 Pro64	03/13
2344-FGG	i3-3120M	4GBx1	14.0" HD+	720p	180G SSD	Backlit	Intel 6205	WWAN upg	Finger	6	None	Win7 Pro64	03/13
2344-FFG	i3-3120M	4GBx1	14.0" HD	720p	500G 7200	Backlit	Intel 2200	WWAN upg	Finger	6	None	Win8 Pro64	03/13
2344-FEG	i3-3120M	4GBx1	14.0" HD	720p	500G 7200	Backlit	Intel 2200	WWAN upg	Finger	6	None	Win7 Pro64	03/13
2344-FYG	i3-3120M	4GBx1	14.0" HD+	720p	256G SSD OPAL	Backlit	Intel 6205	WWAN upg	None	6	None	Win8 Pro64	06/13
2344-FXG	i3-3120M	4GBx1	14.0" HD+	720p	256G SSD OPAL	Backlit	Intel 6205	WWAN upg	None	6	None	Win7 Pro64	06/13

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i3-3110M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Hyper-Threading technology <b>Intel Core i3-3120M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Hyper-Threading technology	<b>Preloaded operating system<sup>20</sup></b> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Preloaded applications<sup>5</sup></b> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li></ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	
mSATA™ SSD	None	
Widescreen display	Some: 14.0" (355mm) <b>HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) <b>HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Carbon-Fiber Reinforced Plastic	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 32.5 hr	
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2	
PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole	
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	Supports ThinkVantage® technologies 65-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information



Lenovo® ThinkPad T430s



Lenovo ThinkPad T430s



Lenovo ThinkPad T430s with  
Lenovo Essential Notebook Stand 45J9292,  
notebook, keyboard and mouse



Lenovo ThinkPad T430s with  
USB 3.0 Secure 750GB Hard Drive  
0A65616



Lenovo ThinkPad T430s



Lenovo ThinkPad T430s with  
USB 3.0 Secure 750GB Hard Drive  
0A65616

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Bay battery cells	Battery cells	Global (G) Intel GMP (P)	Pre-load (mm/y)	Ann Date
2355-HMG	i7-3520M	4GBx1	14.0" HD+	720p	320G 7200	None	Intel 6205 <sup>28</sup>	WWAN upg	None	Finger	No	6	vPro	G	Pro 64 06/12
2355-HLG	i7-3520M	4GBx1	14.0" HD+	720p	500G 7200	None	Intel 6205	WWAN upg	None	Finger	No	6	vPro	G	Pro 64 06/12
2355-HKG	i7-3520M	4GBx2	14.0" HD+	720p	180G SSD	None	Intel 6205	WWAN upg	None	Finger	No	6	vPro	G	Pro 64 06/12
2355-HFG	i5-3320M	4GBx1	14.0" HD+	720p	128G SSD	None	Intel 6205	WWAN upg	None	Finger	No	6	vPro	G	Pro 64 06/12
2355-HDG	i5-3320M	4GBx1	14.0" HD+	None	320G 7200	None	Intel 6205	WWAN upg	None	Finger	3	6	vPro	G	Pro 64 06/12
2355-G3G	i7-3520M	4GBx1	14.0" HD+	720p	500G 7200	None	Intel 6205	WWAN upg	None	Finger	No	6	vPro	G	Pro 64 06/12
2355-G2G	i5-3320M	4GBx1	14.0" HD+	720p	320G 7200	None	Intel 6205	WWAN upg	None	Finger	No	6	vPro	G	Pro 64 06/12

• A depot repair service 3-year limited warranty

Positioning Processor	<b>Premiere performance and ultraportability; two spindles</b> <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology													Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller													Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>
Optical Bay battery Ultrabay SATA disk	DVD burner, 9.5mm Ultrabay slim, removable Some: ThinkPad Battery 43 (3-cell, bay) (0A36310), used in Option Bay One modular bay for interchangeable devices (right side), 9.5mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive													Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	None													
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio													
Camera	Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)													
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.5" x 9.05" x 0.83–1.02"; 343mm x 230mm x 21.2–26.0mm 6-cell: from 3.96 lb (1.79kg)													
Battery - type Battery - life <sup>10</sup>	Display cover: Hybrid Carbon-fiber reinforced plastic; Bottom: Magnesium alloy Lithium Ion 6-cell, supports optional Ultrabay Slim battery as 2nd battery, HW authentication 6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr): up to 13.2 hr													
Chipset ExpressCard Smart Card Read	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34)													
Multicard Reader Ports	4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort (Mini DP / Thunderbolt™ combo port on i7 integrated model, switch via BIOS)													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole													Supports ThinkVantage® technologies
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													65-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Silver rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available													

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Finger print reader	Battery cells	Bay cells	Global (G) Intel GMP vPro (P)	Ann Date (mm/yy)	
2355-K7G	i7-3520M	4GBx1	14.0" HD+	720p	180G SSD	None	Intel 6205 <sup>28</sup>	WWAN upg	Finger	6	No	vPro G	Win8 Pro64	10/12

• A depot repair service 3-year limited warranty

Positioning Processor	<i>Premiere performance and ultraportability; two spindles Intel® Core™ i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>												Preloaded operating system <sup>20</sup> - Windows® 8 Pro 64-bit
Memory	<i>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller</i>												Preloaded applications <sup>5</sup> (only some listed)
Optical Bay battery Ultrabay SATA disk	<i>DVD burner, 9.5mm Ultrabay slim, removable None One modular bay for interchangeable devices (right side), 9.5mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</i>												- Windows 7 models <ul style="list-style-type: none"><li>• Lenovo® Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• ThinkVantage Power Manager</li><li>• Lenovo SimpleTap</li><li>• Adobe® Reader®</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - Windows 8 models <ul style="list-style-type: none"><li>• Lenovo Support</li><li>• Lenovo Companion</li><li>• Lenovo QuickLaunch</li><li>• AccuWeather</li><li>• PC Device Stage</li><li>• Cyberlink Power2Go (DVD±RW)</li><li>• Cyberlink PowerProducer (DVD±RW)</li></ul> - All models <ul style="list-style-type: none"><li>• Lenovo Solution Center</li><li>• Password Manager</li><li>• ThinkVantage System Update</li><li>• Fingerprint Software (fingerprint models)</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security (30 days of virus definitions)</li></ul>
mSATA™ SSD	<i>None</i>												Supports ThinkVantage® technologies
Widescreen display	<i>Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio</i>												
Camera	<i>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</i>												
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</i>												
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>												
Dimensions <sup>3</sup>	<i>14.0W" (WxDxH): 13.5" x 9.05" x 0.83–1.02"; 343mm x 230mm x 21.2–26.0mm</i>												
Weight <sup>2</sup>	<i>6-cell: from 3.96 lb (1.79kg)</i>												
Case material	<i>Display cover: Hybrid Carbon-fiber reinforced plastic; Bottom: Magnesium alloy</i>												
Battery - type	<i>Lithium Ion 6-cell, supports optional Ultrabay Slim battery as 2nd battery, HW authentication</i>												
Battery - life <sup>10</sup>	<i>6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr, OA36310): up to 13.2 hr</i>												
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<i>Mobile Intel QM77 Express Chipset One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort (Mini DP / Thunderbolt™ combo port on i7 integrated model, switch via BIOS)</i>												
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	<i>Two PCI Express Mini Card slots 11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</i>												
Security Security chip Fingerprint reader	<i>Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</i>												
Limited warranty <sup>12</sup>	<i>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</i>												

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Optical or battery	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Finger print reader	Blue-tooth	Bat-tery cells	Global (G) Intel GMP (P)	Pre-load	Ann Date (mm/yy)
2355-HJG	i5-3320M	4GBx2	14.0" HD+	720p	180G SSD	DVD±RW	None	Intel 6205 <sup>28</sup>	WWAN upg	Finger	BT	6	vPro G	Pro 64	06/12
2355-HHG	i5-3320M	4GBx1	14.0" HD+	720p	320G 7200	DVD±RW	None	Intel 6205	WWAN upg	Finger	BT	6	vPro G	Pro 64	06/12
2355-HGG	i5-3320M	4GBx1	14.0" HD+	720p	500G 7200	DVD±RW	None	Intel 6205	WWAN upg	Finger	BT	6	vPro G	Pro 64	06/12

• A depot repair service 3-year limited warranty

Positioning Processor	<i>Premiere performance and ultraportability; two spindles Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</i>												Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	<i>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller</i>												Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>
Optical Bay battery Ultrabay SATA disk	<i>DVD burner, 9.5mm Ultrabay slim, removable None One modular bay for interchangeable devices (right side), 9.5mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</i>												Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	<i>None</i>												
Widescreen display	<i>Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio</i>												
Camera	<i>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</i>												
Graphics	<i>NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA NVS™ 5200M, PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort or Thunderbolt (i7 integrated models); supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)</i>												
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>												Supports ThinkVantage® technologies
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	<i>14.0W" (WxDxH): 13.5" x 9.05" x 0.83–1.02"; 343mm x 230mm x 21.2–26.0mm 6-cell: from 3.96 lb (1.79kg)</i>												
Battery - type Battery - life <sup>10</sup>	<i>Display cover: Hybrid Carbon-fiber reinforced plastic; Bottom: Magnesium alloy Lithium Ion 6-cell, supports optional Ultrabay Slim battery as 2nd battery, HW authentication 6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr): up to 13.2 hr</i>												
Chipset ExpressCard Smart Card Read	<i>Mobile Intel QM77 Express Chipset One slot (ExpressCard/34)</i>												
Multicard Reader Ports	<i>4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort</i>												
PCIe Mini Card	<i>Two PCI Express Mini Card slots</i>												
PCIe WLAN <sup>4</sup>	<i>11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2</i>												
PCIe WWAN	<i>Wireless WAN upgradable</i>												
SIM card	<i>None</i>												
Modem	<i>None</i>												
IEEE 1394	<i>None</i>												
Bluetooth™	<i>Bluetooth 4.0 wireless</i>												
Ethernet	<i>Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1</i>												
Intel AMT	<i>Intel Active Management Technology (iAMT)</i>												
Audio support	<i>HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</i>												
Security chip	<i>Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant</i>												
Fingerprint reader	<i>AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</i>												
Limited warranty <sup>12</sup>	<i>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</i>												

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Finger print reader	Battery cells	Global (G) Intel GMP vPro (P)	Ann Date (mm/yy)
2355-K6G	i5-3320M	4GBx1	14.0" HD+	720p	180G SSD	None	Intel 6205 <sup>28</sup>	WWAN upg	Finger	BT	6 vPro G	Win8 Pro64 10/12

• A depot repair service 3-year limited warranty

Positioning Processor	<i>Premiere performance and ultraportability; two spindles Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</i>											
Memory	<i>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller</i>											
Optical Bay battery Ultrabay SATA disk	<i>DVD burner, 9.5mm Ultrabay slim, removable None One modular bay for interchangeable devices (right side), 9.5mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</i>											
mSATA™ SSD	<i>None</i>											
Widescreen display	<i>Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio</i>											
Camera	<i>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</i>											
Graphics	<i>NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA NVS™ 5200M, PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort or Thunderbolt (i7 integrated models); supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)</i>											
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>											
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery - type Battery - life <sup>10</sup>	<i>14.0W" (WxDxH): 13.5" x 9.05" x 0.83–1.02"; 343mm x 230mm x 21.2–26.0mm 6-cell: from 3.96 lb (1.79kg) Display cover: Hybrid Carbon-fiber reinforced plastic; Bottom: Magnesium alloy Lithium Ion 6-cell, supports optional Ultrabay Slim battery as 2nd battery, HW authentication 6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr, 0A36310): up to 13.2 hr</i>											
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<i>Mobile Intel QM77 Express Chipset One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort</i>											
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	<i>Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant</i>											
Security Security chip Fingerprint reader	<i>AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</i>											
Limited warranty <sup>12</sup>	<i>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</i>											

See footnotes for more detailed information

#### Preloaded operating system<sup>20</sup>

- Windows® 8 Pro 64-bit

#### Preloaded applications<sup>5</sup> (only some listed)

##### - Windows 7 models

- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader®
- Windows Live™ Essentials
- Corel® WinDVD® (DVD±RW)
- Corel Burn.Now™ Lenovo Edition (DVD±RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD±RW)

##### - Windows 8 models

- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD±RW)
- Cyberlink PowerProducer (DVD±RW)

##### - All models

- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- Fingerprint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded; purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

Supports ThinkVantage® technologies

90-watt AC adapter  
ThinkPad Roll Cage (one-piece magnesium frame)  
EPEAT™ Silver rating  
ENERGY STAR® 5.0-compliant  
GREENGUARD® certified  
RoHS-compliant  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>

**ThinkPad T430s 2356 (Onsite)**

*Product Specifications Reference (PSREF)*

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Optical or battery	Backlit keyboard	PCIe Mini Card WWAN/mSATA	Smart Card Reader	Finger print reader	Power Adapter (watt)	Global (G) vPro (P)	Ann Date
2356-HCG	i7-3520M	4GBx1	14.0" HD	720p	500G 7200	DVD±RW	None	upg	None	None	Finger 65W	vPro G P	Pro 64 06/12
2356-HBG	i7-3520M	4GBx1	14.0" HD+	720p	320G 7200	DVD±RW	None	upg	None	None	Finger 65W	vPro G P	Pro 64 06/12
2356-HAG	i7-3520M	4GBx2	14.0" HD+	720p	180G SSD	DVD±RW	None	upg	None	None	Finger 65W	vPro G P	Pro 64 06/12
2356-GUG	i7-3520M	4GBx1	14.0" HD+	720p	320G 7200	DVD±RW	None	upg	None	None	65W vPro	G P	Pro 64 06/12
2356-GTG	i5-3320M	4GBx1	14.0" HD+	No	320G 7200	DVD±RW	None	upg	None	None	Finger 65W	vPro G P	Pro 64 06/12
2356-GRG	i5-3320M	4GBx1	14.0" HD+	720p	128G SSD	DVD±RW	None	upg	None	None	Finger 65W	vPro G P	Pro 64 06/12
2356-GPG	i5-3320M	4GBx1	14.0" HD+	720p	320G 7200	DVD±RW	None	upg	None	None	65W vPro	G P	Pro 64 06/12
2356-GJG	i5-3320M	4GBx1	14.0" HD+	720p	128G SSD	DVD±RW	None	upg	None	None	65W vPro	G P	Pro 64 06/12
2356-GDG	i5-3320M	4GBx1	14.0" HD+	720p	500G 7200	DVD±RW	Backlit	Ericsson selectable	None	Finger 65W	vPro	Pro 64 06/12	
2356-GCG	i7-3520M	4GBx1	14.0" HD+	720p	180G SSD	DVD±RW	Backlit	Ericsson selectable	None	Finger 90W vPro		Pro 64 06/12	
2356-GBG	i5-3320M	4GBx1	14.0" HD+	720p	180G SSD	Blank bezel	None	Ericsson selectable	Smart	Finger 65W vPro		Pro 64 06/12	
2356-G3G	i7-3520M	4GBx1	14.0" HD+	720p	500G 7200	DVD±RW	None	upg	None	Finger 65W vPro	G P	Pro 64 06/12	
2356-G2G	i5-3320M	4GBx1	14.0" HD+	720p	320G 7200	DVD±RW	None	upg	None	Finger 65W vPro	G P	Pro 64 06/12	
2356-L3G	i5-3320M	4GBx1	14.0" HD+	720p	180G SSD	DVD±RW	Backlit	Ericsson selectable	None	Finger 65W vPro		Pro 64 07/12	
2356-L2G	i5-3320M	4GBx1	14.0" HD+	720p	128G SSD	DVD±RW	None	Ericsson selectable	Smart	Finger 65W vPro		Pro 64 07/12	
Positioning Processor	Premiere performance and ultraportability; two spindles <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology										<b>Preloaded operating system<sup>20</sup></b> Genuine Windows <sup>®</sup> 7 Professional 64		
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller										<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery<sup>TM</sup></li><li>• Password Manager</li></ul>		
Optical Bay battery Ultrabay SATA disk	Some: DVD burner, 9.5mm Ultrabay slim, removable None One modular bay for interchangeable devices (right side), 9.5mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System <sup>TM</sup> All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive										<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo<sup>®</sup> Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections<sup>TM</sup></li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft<sup>®</sup> Office preloaded; purchase a product key to activate</li><li>• Norton<sup>™</sup> Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe<sup>®</sup> Reader<sup>®</sup></li><li>• Skype<sup>™</sup> for Windows</li><li>• Evernote<sup>®</sup></li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec<sup>™</sup> VIP</li><li>• Windows Live<sup>™</sup> Essentials</li><li>• Corel<sup>®</sup> WinDVD<sup>®</sup> (DVD±RW)</li><li>• Corel Burn.Now<sup>™</sup> Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory<sup>®</sup> Lenovo Edition (DVD±RW)</li></ul>		
mSATA <sup>™</sup> SSD	None												
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio												
Camera	Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)												
Keyboard TrackPoint <sup>®</sup> Touchpad ThinkLight <sup>™</sup>	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint <sup>®</sup> pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav <sup>™</sup> , wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												
Dimensions <sup>3</sup> Weight <sup>2</sup>	14.0W <sup>4</sup> (WxDxH): 13.5" x 9.05" x 0.83–1.02", 343mm x 230mm x 21.2–26.0mm 6-cell: from 3.96 lb (1.79kg)												
Case material	Display cover: Hybrid Carbon-fiber reinforced plastic; Bottom: Magnesium alloy												
Battery - type	Lithium Ion 6-cell, supports optional Ultrabay Slim battery as 2nd battery, HW authentication												
Battery - life <sup>10</sup>	6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr): up to 13.2 hr												
Chipset ExpressCard	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34)												
Smart Card Read	Some: Smart Card reader												
Multicard Reader	4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter												
Ports	Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort (Mini DP / Thunderbolt <sup>™</sup> combo port on i7 integrated model, switch via BIOS)												
PCIe Mini Card	Two PCI Express Mini Card slots												
PCIe WLAN <sup>4</sup>	11a/b/g/n, PCIe Half Mini Card, Intel Centrino <sup>®</sup> Advanced-N 6205, 2x2												
PCIe WWAN	Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson <sup>®</sup> H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS												
SIM card	Some: User selectable, contract required with service provider												
Modem	None												
IEEE 1394	None												
Bluetooth <sup>™</sup>	Bluetooth 4.0 wireless												
Ethernet	Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1												
Intel AMT	Intel Active Management Technology (iAMT)												
Audio support	HD Audio, Realtek <sup>®</sup> ALC3202 codec, Dolby <sup>®</sup> Home Theater <sup>®</sup> v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack												
Security	Power-on password, hard disk password, supervisor password, security keyhole												
Security chip	Trusted Platform Module, TCG 1.2-compliant												
Fingerprint reader	Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available												
	International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>												

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup>	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	Mini Card SIM card	Finger print reader	Battery cells	Global (G) Intel vPro (P)	GMP	Ann Date (mm/yy)
2356-LRG	i5-3320M	4GBx1	14.0"	HD+	720p 500G 7200	Backlit	Intel 6205 <sup>28</sup>	Ericsson	selectable	Finger	6	vPro	Win7 Pro64	10/12
2356-LQG	i5-3320M	4GBx1	14.0"	HD+	720p 180G SSD	Backlit	Intel 6205	Ericsson	selectable	Finger	6	vPro	Win7 Pro64	10/12
2356-LNG	i7-3520M	4GBx1	14.0"	HD+	720p 240G FDE SSD	Backlit	Intel 6205	Ericsson	selectable	Finger	6	vPro	Win7 Pro64	10/12
2356-LDG	i7-3520M	4GBx1	14.0"	HD+	720p 180G SSD	None	Intel 6205	upg	None	Finger	6	vPro G P	Win8 Pro64	10/12
2356-LAG	i5-3320M	4GBx1	14.0"	HD+	720p 320G 7200	None	Intel 6205	upg	None	Finger	6	vPro G P	Win8 Pro64	10/12
2356-L7G	i5-3320M	4GBx1	14.0"	HD+	720p 500G 7200	Backlit	Intel 6205	Ericsson	selectable	Finger	6	vPro	Win8 Pro64	10/12
2356-L6G	i5-3320M	4GBx1	14.0"	HD+	720p 180G SSD	Backlit	Intel 6205	Ericsson	selectable	Finger	6	vPro	Win8 Pro64	10/12
2356-L5G	i7-3520M	4GBx1	14.0"	HD+	720p 240G FDE SSD	Backlit	Intel 6205	Ericsson	selectable	Finger	6	vPro	Win8 Pro64	10/12
2356-N7G	i5-3320M	4GBx1	14.0"	HD+	720p 256G SSD OPAL	Backlit	Intel 6205	Ericsson	selectable	Finger	6	vPro	Win8 Pro64	06/13
2356-N6G	i5-3320M	4GBx1	14.0"	HD+	720p 256G SSD OPAL	Backlit	Intel 6205	Ericsson	selectable	Finger	6	vPro	Win7 Pro64	06/13
2356-N3G	i7-3520M	4GBx1	14.0"	HD+	720p 256G SSD OPAL	Backlit	Intel 6205	Ericsson	selectable	Finger	6	vPro	Win8 Pro64	06/13
2356-N2G	i7-3520M	4GBx1	14.0"	HD+	720p 256G SSD OPAL	Backlit	Intel 6205	Ericsson	selectable	Finger	6	vPro	Win7 Pro64	06/13

• Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<i>Premiere performance and ultraportability; two spindles Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>											Preloaded operating system <sup>20</sup>
Memory	<i>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller</i>											- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
Optical Bay battery Ultrabay SATA disk	<i>DVD burner, 9.5mm Ultrabay slim, removable None One modular bay for interchangeable devices (right side), 9.5mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</i>											- Some: Windows 8 Pro 64-bit
mSATA™ SSD	<i>None</i>											Preloaded applications <sup>5</sup> (only some listed)
Widescreen display	<i>Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio</i>											- Windows 7 models
Camera	<i>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</i>											• Lenovo® Message Center Plus
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</i>											• ThinkVantage Product Recovery
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>											• Access Connections™
Dimensions <sup>3</sup>	<i>14.0W" (WxDxH): 13.5" x 9.05" x 0.83–1.02"; 343mm x 230mm x 21.2–26.0mm</i>											• ThinkVantage Power Manager
Weight <sup>2</sup>	<i>6-cell: from 3.96 lb (1.79kg)</i>											• Lenovo SimpleTap
Case material	<i>Display cover: Hybrid Carbon-fiber reinforced plastic; Bottom: Magnesium alloy</i>											• Adobe® Reader®
Battery - type	<i>Lithium Ion 6-cell, supports optional Ultrabay Slim battery as 2nd battery, HW authentication</i>											• Windows Live™ Essentials
Battery - life <sup>10</sup>	<i>6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr, 0A36310): up to 13.2 hr</i>											• Corel® WinDVD® (DVD±RW)
Chipset ExpressCard	<i>Mobile Intel QM77 Express Chipset One slot (ExpressCard/34)</i>											• Corel Burn.Now™ Lenovo Edition (DVD±RW)
Smart Card Read	<i>None</i>											• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
Multicard Reader	<i>4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter</i>											- Windows 8 models
Ports	<i>Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort (Mini DP / Thunderbolt™ combo port on i7 integrated model, switch via BIOS)</i>											• Lenovo Support
PCIe Mini Card	<i>Two PCI Express Mini Card slots</i>											• Lenovo Companion
PCIe WLAN <sup>4</sup>	<i>11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2</i>											• Lenovo QuickLaunch
PCIe WWAN	<i>Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS</i>											• AccuWeather
SIM card	<i>Some: User selectable, contract required with service provider</i>											• PC Device Stage
Modem	<i>None</i>											• Cyberlink Power2Go (DVD±RW)
IEEE 1394	<i>None</i>											• Cyberlink PowerProducer (DVD±RW)
Bluetooth™	<i>Bluetooth 4.0 wireless</i>											- All models
Ethernet	<i>Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1</i>											• Lenovo Solution Center
Intel AMT	<i>Intel Active Management Technology (iAMT)</i>											• Password Manager
Audio support	<i>HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</i>											• ThinkVantage System Update
Security	<i>Power-on password, hard disk password, supervisor password, security keyhole</i>											• Fingerprint Software (fingerprint models)
Security chip	<i>Trusted Platform Module, TCG 1.2-compliant</i>											• Lenovo Cloud Storage by SugarSync
Fingerprint reader	<i>AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</i>											• Microsoft® Office preloaded; purchase a product key to activate
Limited warranty <sup>12</sup>	<i>3-years/1-year battery, limited onsite service<sup>24</sup>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</i>											• Norton™ Internet Security (30 days of virus definitions)
												Supports ThinkVantage® technologies
												65-watt AC adapter
												ThinkPad Roll Cage (one-piece magnesium frame)
												EPEAT™ Silver rating
												ENERGY STAR® 5.0-compliant
												GREENGUARD® certified
												RoHS-compliant
												International Warranty Service <sup>17</sup>
												24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	SIM card	Finger print reader	Bat- tery cells	Global (G) Intel vPro (P)	GMP	Ann Date
2356-H9G	i5-3320M	4GBx2	14.0" HD+	720p	180G SSD	None	Intel 6205 <sup>28</sup>	WWAN upg	None	Finger	6 vPro	G P	Pro 64	06/12
2356-H8G	i5-3320M	4GBx1	14.0" HD+	720p	320G 7200	None	Intel 6205	WWAN upg	None	Finger	6 vPro	G P	Pro 64	06/12
2356-H7G	i5-3320M	4GBx1	14.0" HD+	720p	500G 7200	None	Intel 6205	WWAN upg	None	Finger	6 vPro	G P	Pro 64	06/12
2356-L4G	i5-3320M	4GBx1	14.0" HD+	720p	180G SSD	Backlit	Intel 6205	Ericsson selectable		Finger	6 vPro		Pro 64	07/12

- Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<i>Premiere performance and ultraportability; two spindles Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</i>										<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64			
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets <small>* System automatically clocks down for processors with 1333MHz DDR3 memory controller</small>										<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>			
Optical Bay battery Ultrabay SATA disk	DVD burner, 9.5mm Ultrabay slim, removable None One modular bay for interchangeable devices (right side), 9.5mm high, bottom access <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, supports the second disk, Shock Mounted Hard Drive										<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>			
mSATA™ SSD	None													
Widescreen display	<i>Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio</i>													
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA NVS™ 5200M, PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort or Thunderbolt (i7 integrated models); supports three independent displays; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)													
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery - type Battery - life <sup>10</sup>	14.0W" (WxDxH): 13.5" x 9.05" x 0.83–1.02"; 343mm x 230mm x 21.2–26.0mm 6-cell: from 3.96 lb (1.79kg) <i>Display cover:</i> Hybrid Carbon-fiber reinforced plastic; <i>Bottom:</i> Magnesium alloy Lithium Ion 6-cell, supports optional Ultrabay Slim battery as 2nd battery, HW authentication 6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr): up to 13.2 hr													
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS													
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant													
Security Security chip Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available													

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	SIM card	Fingerprint reader	Battery cells	Global (G) Intel vPro (P)	GMP	Ann Date (mm/yy)
2356-LPG	i7-3520M	4GBx2	14.0" HD+	240G FDE SSD	Backlit	Intel 6205 <sup>28</sup>	Ericsson upg	selectable	Finger	6	vPro	Win7 Pro	64 10/12
2356-LCG	i5-3320M	4GBx1	14.0" HD+	180G SSD	None	Intel 6205	upg	None	Finger	6	vPro	G P Win8 Pro	64 10/12
2356-LBG	i5-3320M	4GBx1	14.0" HD+	500G 7200	None	Intel 6205	upg	None	Finger	6	vPro	G P Win8 Pro	64 10/12
2356-L8G	i7-3520M	4GBx2	14.0" HD+	240G FDE SSD	Backlit	Intel 6205	Ericsson upg	selectable	Finger	6	vPro	Win8 Pro	64 10/12
2356-MMG	i5-3320M	4GBx1	14.0" HD+	500G 7200	Backlit	Intel 6205	Ericsson upg	selectable	Finger	6	vPro	Win8 Pro	64 03/13
2356-MLG	i5-3320M	4GBx1	14.0" HD+	500G 7200	Backlit	Intel 6205	Ericsson upg	selectable	Finger	6	vPro	Win7 Pro	64 03/13
2356-N5G	i7-3520M	8GBx1	14.0" HD+	256G SSD OPAL	Backlit	Intel 6205	Ericsson upg	selectable	Finger	6	vPro	Win8 Pro	64 06/13
2356-N4G	i7-3520M	8GBx1	14.0" HD+	256G SSD OPAL	Backlit	Intel 6205	Ericsson upg	selectable	Finger	6	vPro	Win7 Pro	64 06/13

• Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<b>Premiere performance and ultraportability; two spindles</b> <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology												<b>Preloaded operating system<sup>20</sup></b> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller												<b>Preloaded applications<sup>5</sup></b> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security (30 days of virus definitions)</li></ul>
Optical Bay battery Ultrabay SATA disk	DVD burner, 9.5mm Ultrabay slim, removable None One modular bay for interchangeable devices (right side), 9.5mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive												
mSATA™ SSD	None												
Widescreen display	Some: <b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: <b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio												
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA NVS™ 5200M</b> , PCI Express® x16, <b>1GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort or Thunderbolt (i7 integrated models); supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)												
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery - type Battery - life <sup>10</sup>	14.0W <sup>1</sup> (WxDxH): 13.5" x 9.05" x 0.83–1.02"; 343mm x 230mm x 21.2–26.0mm 6-cell: from 3.96 lb (1.79kg) Display cover: Hybrid Carbon-fiber reinforced plastic; Bottom: Magnesium alloy Lithium Ion 6-cell, supports optional Ultrabay Slim battery as 2nd battery, HW authentication 6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr, 0A36310): up to 13.2 hr												
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort												
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS												
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (AMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant												Supports ThinkVantage® technologies
Security Security chip Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available												90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Silver rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information

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Lenovo® ThinkPad T430u



Lenovo ThinkPad T430u



Lenovo ThinkPad T430u



Lenovo ThinkPad T430u



Lenovo ThinkPad T430u



Lenovo ThinkPad T430u

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Bat- tery cells	Preload	Ann Date (mm/yy)
8614-BDG	i5-3337U	4GBx2	14.0" HD	720p	1T 5400	Intel 2230	Ericsson	selectable	Finger	BT	3	Win7 Pro64 06/13

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	<i>Mainstream Ultrabook™; one spindle Intel® Core™ i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology</i>											Preloaded operating system <sup>20</sup>
Memory	<i>8GB max<sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets</i>											Preloaded applications <sup>5</sup> (only some listed)
Optical SATA disk	<i>None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™</i>											- Windows 7 models
mSATA™ SSD	<i>None</i>											• Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap • Adobe® Reader® • Windows Live™ Essentials
Widescreen display	<i>14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio</i>											- Windows 8 models
Camera	<i>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</i>											• Lenovo Support • Lenovo Companion • Lenovo QuickLaunch • AccuWeather • PC Device Stage
Graphics	<i>Intel HD Graphics 4000 in processor, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz</i>											- All models
Keyboard	<i>6-row, spill-resistant, multimedia Fn keys</i>											• Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security (30 days of virus definitions)
TrackPoint®	<i>TrackPoint® pointing device, Internet Scroll Bar<sup>13</sup></i>											Supports ThinkVantage® technologies
Touchpad	<i>UltraNav™, buttonless touchpad below keyboard, multi-touch</i>											
ThinkLight™	<i>Illuminates the keyboard to improve visibility in low-light conditions</i>											
Dimensions <sup>3</sup>	<i>14.0W" (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm</i>											
Weight <sup>2</sup>	<i>3-cell: from 4.08 lb (1.85kg)</i>											
Case material	<i>Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic</i>											
Battery - type	<i>Integrated Li-Polymer 3-cell</i>											
Battery - life <sup>10</sup>	<i>3-cell (47Whr): up to 7.1 hr</i>											
Chipset	<b>Mobile Intel UM77 Express Chipset</b>											
ExpressCard	<i>None</i>											
Smart Card read	<i>None</i>											
Multicard reader	<i>4-in-1 reader (MMC, SD, SDHC, SDXC)</i>											
Ports	<i>Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)</i>											
PCIe Mini Card	<i>Two PCIe Mini Card slots</i>											
PCIe WLAN <sup>4</sup>	<i>11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter</i>											
PCIe WWAN	<i>Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS</i>											
SIM card	<i>User selectable, contract required with service provider</i>											
Modem	<i>None</i>											
IEEE 1394	<i>None</i>											
Bluetooth™	<i>Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter</i>											
Ethernet	<i>Realtek® RTL8111F Gigabit Network Connection</i>											
Intel AMT	<i>None</i>											
Audio support	<i>HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack</i>											
Security	<i>Power-on password, hard disk password, supervisor password, security keyhole</i>											
Security chip	<i>Trusted Platform Module, TCG 1.2-compliant</i>											
Fingerprint reader	<i>AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip</i>											
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>											

See footnotes for more detailed information  
WE model(s) withdrawn effective January 2014

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(G-ABBA1-10) May 2014

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Finger print reader	Blue-tooth	Bat-tery cells	Preload	Ann Date (mm/yy)
8614-ATG	i3-3227U	4GBx1	14.0" HD	720p	500G 7200	Intel 2230	24GB mSATA	Finger	BT	3	Win8 Pro64	03/13
8614-ASG	i3-3227U	4GBx1	14.0" HD	720p	500G 7200	Intel 2230	24GB mSATA	Finger	BT	3	Win7 Pro64	03/13

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	Mainstream Ultrabook™; one spindle <b>Intel® Core™ i3-3227U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), HT technology</b>	<b>Preloaded operating system<sup>20</sup></b>
Memory	8GB max <sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
Optical SATA disk	None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™	- Some: Windows 8 Pro 64-bit
mSATA™ SSD	mSATA Solid State Drive (SSD), via PCIe Mini Card slot	<b>Preloaded applications<sup>5</sup></b> (only some listed)
Widescreen display	<b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio	- <b>Windows 7 models</b>
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	<ul style="list-style-type: none"> <li>Lenovo® Message Center Plus</li> <li>ThinkVantage Product Recovery</li> <li>Access Connections™</li> <li>ThinkVantage Power Manager</li> <li>Lenovo SimpleTap</li> <li>Adobe® Reader®</li> <li>Windows Live™ Essentials</li> </ul>
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA GeForce® GT 620M</b> , PCI Express® x16, <b>1GB</b> memory, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; <i>Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz</i>	- <b>Windows 8 models</b>
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, spill-resistant, multimedia Fn keys TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	<ul style="list-style-type: none"> <li>Lenovo Support</li> <li>Lenovo Companion</li> <li>Lenovo QuickLaunch</li> <li>AccuWeather</li> <li>PC Device Stage</li> </ul>
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm 3-cell: from 4.12 lb (1.87kg) Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic	- <b>All models</b>
Battery - type Battery - life <sup>10</sup>	Integrated Li-Polymer 3-cell 3-cell (47Whr): up to 6.6 hr	<ul style="list-style-type: none"> <li>Lenovo Solution Center</li> <li>Password Manager</li> <li>ThinkVantage System Update</li> <li>Fingerprint Software (fingerprint models)</li> <li>Lenovo Cloud Storage by SugarSync</li> <li>Microsoft® Office preloaded; purchase a product key to activate</li> <li>Norton™ Internet Security (30 days of virus definitions)</li> </ul>
Chipset ExpressCard Smart Card read Multicard reader Ports	<b>Mobile Intel UM77 Express Chipset</b> None None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)	<b>Supports ThinkVantage® technologies</b>
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader	Two PCI Express Mini Card slots 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter None None None None Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter Realtek® RTL8111F Gigabit Network Connection None HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip	<p>65-watt AC adapter ThinkPad Roll Cage (bottom cover) EPEAT™ Silver rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service<sup>17</sup> 24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup></p>
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>	

See footnotes for more detailed information  
WE model(s) withdrawn effective January 2014

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(G-ABBA1-9) May 2014

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Blue-tooth	Bat- tery cells	Ann Date
3353-38G	i5-3317U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	Ericsson	selectable	Finger	BT	3	Pro 64 08/12
3353-37G	i5-3317U	4GBx1	14.0" HD	720p	500G 7200	Intel 2230	24GB mSATA	None	Finger	BT	3	Pro 64 08/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<b>Mainstream Ultrabook™; one spindle Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology</b>											Preloaded operating system <sup>20F</sup> Genuine Windows® 7 Professional 64
Memory	8GB max <sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets											Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>Rescue and Recovery™</li> <li>Password Manager</li> </ul>
Optical SATA disk	None <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™											Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>Lenovo® Solution Center</li> <li>Lenovo Message Center Plus</li> <li>ThinkVantage Product Recovery</li> <li>Access Connections™</li> <li>Fingerprint Software (fingerprint models)</li> <li>ThinkVantage System Update</li> <li>ThinkVantage Power Manager</li> <li>Lenovo Cloud Storage by SugarSync</li> <li>Lenovo SimpleTap</li> <li>Microsoft® Office preloaded; purchase a product key to activate</li> <li>Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>Adobe® Reader®</li> <li>Skype™ for Windows</li> <li>Evernote®</li> <li>Intel Small Business Advantage</li> <li>RapidBoot HDD Accelerator</li> <li>Symantec™ VIP</li> <li>Windows Live™ Essentials</li> </ul>
mSATA™ SSD	<i>Some:</i> mSATA Solid State Drive (SSD), via PCIe Mini Card slot											
Widescreen display	<b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio											
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; <i>Maximum external resolution:</i> 2560x1600 (Mini-DisplayPort or HDMI)@60Hz											
Keyboard	6-row, spill-resistant, multimedia Fn keys											
TrackPoint®	TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup>											
Touchpad	UltraNav™, buttonless touchpad below keyboard, multi-touch											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm											
Weight <sup>2</sup>	3-cell: from 4.08 lb (1.85kg)											
Case material	Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic											
Battery - type	Integrated Li-Polymer 3-cell											
Battery - life <sup>10</sup>	3-cell (47Whr): up to 7.1 hr											
Chipset	<b>Mobile Intel UM77 Express Chipset</b>											
ExpressCard	None											
Smart Card read	None											
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)											
Ports	Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)											
PCIe Mini Card	Two PCI Express Mini Card slots											
PCIe WLAN <sup>4</sup>	11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter											
PCIe WWAN	Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS											
SIM card	Some: User selectable, contract required with service provider											
Modem	None											
IEEE 1394	None											
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter											
Ethernet	Realtek® RTL8111F Gigabit Network Connection											
Intel AMT	None											
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack											
Security	Power-on password, hard disk password, supervisor password, security keyhole											
Security chip	Trusted Platform Module, TCG 1.2-compliant											
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip											
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available											Supports ThinkVantage® technologies
	65-watt AC adapter ThinkPad Roll Cage (bottom cover) EPEAT™ Silver rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>											

See footnotes for more detailed information  
WE model(s) withdrawn effective January 2014

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	SIM card	Finger print reader	Bat- tery cells	Blue- tooth	Preload	Ann Date (mm/yy)
3353-3MG	i5-3317U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	Ericsson	selectable	Finger	BT	3	Win7 Pro64	10/12
3353-3LG	i5-3317U	4GBx1	14.0" HD	720p	500G 7200	Intel 2230	24GB mSATA	None	Finger	BT	3	Win7 Pro64	10/12
3353-3JG	i5-3317U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	Ericsson	selectable	Finger	BT	3	Win8 Pro64	10/12
3353-3HG	i5-3317U	4GBx1	14.0" HD	720p	500G 7200	Intel 2230	24GB mSATA	None	Finger	BT	3	Win8 Pro64	10/12
3353-3TG	i5-3337U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	Ericsson	selectable	Finger	BT	3	Win8 Pro64	03/13
3353-3SG	i5-3337U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	Ericsson	selectable	Finger	BT	3	Win7 Pro64	03/13
3353-3RG	i5-3337U	4GBx1	14.0" HD	720p	500G 7200	Intel 2230	24GB mSATA	None	Finger	BT	3	Win8 Pro64	03/13
3353-3QG	i5-3337U	4GBx1	14.0" HD	720p	500G 7200	Intel 2230	24GB mSATA	None	Finger	BT	3	Win7 Pro64	03/13

• Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<b>Mainstream Ultrabook™; one spindle</b> <b>Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology <b>Intel Core i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology																									
Memory	8GB max <sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets																									
Optical SATA disk	None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™																									
mSATA™ SSD	Some: mSATA Solid State Drive (SSD), via PCIe Mini Card slot																									
Widescreen display	<b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio																									
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																									
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; <i>Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz</i>																									
Keyboard	6-row, spill-resistant, multimedia Fn keys																									
TrackPoint®	TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup>																									
Touchpad	UltraNav™, buttonless touchpad below keyboard, multi-touch																									
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions																									
Dimensions <sup>3</sup>	<b>14.0W" (WxDxH): 13.39" x 9.29" x 0.83"</b> ; 340mm x 236mm x 21mm																									
Weight <sup>2</sup>	3-cell: from 4.08 lb (1.85kg)																									
Case material	Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic																									
Battery - type	Integrated Li-Polymer 3-cell																									
Battery - life <sup>10</sup>	3-cell (47Whr): up to 7.1 hr																									
Chipset	<b>Mobile Intel UM77 Express Chipset</b>																									
ExpressCard	None																									
Smart Card read	None																									
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)																									
Ports	Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)																									
PCIe Mini Card	Two PCI Express Mini Card slots																									
PCIe WLAN <sup>4</sup>	11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter																									
PCIe WWAN	Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS																									
SIM card	Some: User selectable, contract required with service provider																									
Modem	None																									
IEEE 1394	None																									
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter																									
Ethernet	Realtek® RTL8111F Gigabit Network Connection																									
Intel AMT	None																									
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack																									
Security	Power-on password, hard disk password, supervisor password, security keyhole																									
Security chip	Trusted Platform Module, TCG 1.2-compliant																									
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip																									
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available																									
Supports ThinkVantage® technologies																										
65-watt AC adapter ThinkPad Roll Cage (bottom cover) EPEAT™ Silver rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																										

See footnotes for more detailed information  
WE model(s) withdrawn effective January 2014

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Blue-tooth	Bat-tery cells	Preload	Ann Date (mm/yy)
3353-36G	i5-3317U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	None	None	Finger	BT	3	Pro 64	08/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	Mainstream Ultrabook™; one spindle <b>Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology	Preloaded operating system <sup>20F</sup> Genuine Windows® 7 Professional 64
Memory	8GB max <sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul>
Optical SATA disk	None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™	Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> </ul>
mSATA™ SSD	None	
Widescreen display	<b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA GeForce® GT 620M</b> , PCI Express® x16, <b>1GB</b> memory, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; <i>Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz</i>	
Keyboard	6-row, spill-resistant, multimedia Fn keys	
TrackPoint®	TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup>	
Touchpad	UltraNav™, buttonless touchpad below keyboard, multi-touch	
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm	
Weight <sup>2</sup>	3-cell: from 4.12 lb (1.87kg)	
Case material	Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic	
Battery - type	Integrated Li-Polymer 3-cell	
Battery - life <sup>10</sup>	3-cell (47Whr): up to 6.6 hr	
Chipset	<b>Mobile Intel UM77 Express Chipset</b>	
ExpressCard	None	
Smart Card read	None	
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)	
Ports	Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)	
PCIe Mini Card	Two PCI Express Mini Card slots	
PCIe WLAN <sup>4</sup>	11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter	
PCIe WWAN	None	
SIM card	None	
Modem	None	
IEEE 1394	None	
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	
Ethernet	Realtek® RTL8111F Gigabit Network Connection	
Intel AMT	None	
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack	
Security	Power-on password, hard disk password, supervisor password, security keyhole	
Security chip	Trusted Platform Module, TCG 1.2-compliant	
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available	Supports ThinkVantage® technologies  65-watt AC adapter ThinkPad Roll Cage (bottom cover) EPEAT™ Silver rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information

WE model(s) withdrawn effective January 2014

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	SIM card	Finger print reader	Blue-tooth	Battery cells	Ann Date (mm/yy)	Preload
3353-3KG	i5-3317U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	None	None	Finger	BT	3	Win7 Pro64	10/12
3353-3GG	i5-3317U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	None	None	Finger	BT	3	Win8 Pro64	10/12
3353-3PG	i5-3337U	4GBx1	14.0" HD	720p	180G SSD	Intel 2230	None	None	Finger	BT	3	Win8 Pro64	03/13
3353-3NG	i5-3337U	4GBx1	14.0" HD	720p	180G SSD	Intel 2230	None	None	Finger	BT	3	Win7 Pro64	03/13

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<b>Mainstream Ultrabook™; one spindle</b> <b>Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology <b>Intel Core i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology																							
Memory	8GB max <sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets																							
Optical SATA disk	None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™																							
mSATA™ SSD	None																							
Widescreen display	<b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio																							
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																							
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA GeForce® GT 620M</b> , PCI Express® x16, <b>1GB</b> memory, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; <i>Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz</i>																							
Keyboard TrackPoint®	6-row, spill-resistant, multimedia Fn keys																							
Touchpad	TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup>																							
ThinkLight™	UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions																							
Dimensions <sup>3</sup>	14.0W <sup>4</sup> (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm																							
Weight <sup>2</sup>	3-cell: from 4.12 lb (1.87kg)																							
Case material	Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic																							
Battery - type	Integrated Li-Polymer 3-cell																							
Battery - life <sup>10</sup>	3-cell (47Whr): up to 6.6 hr																							
Chipset	<b>Mobile Intel UM77 Express Chipset</b>																							
ExpressCard	None																							
Smart Card read	None																							
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)																							
Ports	Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)																							
PCIe Mini Card	Two PCIe Mini Card slots																							
PCIe WLAN <sup>4</sup>	11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter																							
PCIe WWAN	None																							
SIM card	None																							
Modem	None																							
IEEE 1394	None																							
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter																							
Ethernet	Realtek® RTL8111F Gigabit Network Connection																							
Intel AMT	None																							
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack																							
Security	Power-on password, hard disk password, supervisor password, security keyhole																							
Security chip	Trusted Platform Module, TCG 1.2-compliant																							
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip																							
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available																							
Supports ThinkVantage® technologies																								
65-watt AC adapter ThinkPad Roll Cage (bottom cover) EPEAT™ Silver rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																								

See footnotes for more detailed information  
WE model(s) withdrawn effective January 2014

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Finger print reader	Blue-tooth	Bat-tery cells	Global (G) GMP (P)	Ann Date (mm/yy)	
3352-2SG	i5-3427U	4GBx1	14.0" HD	720p	128G SSD	TP 11a/b/g/n	None	Finger	BT	3	G	Pro 64	08/12

• A depot repair service 3-year limited warranty

Positioning Processor	<i>Mainstream Ultrabook™; one spindle Intel® Core™ i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology</i>											Preloaded operating system <sup>20F</sup> Genuine Windows® 7 Professional 64
Memory	<i>8GB max<sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets</i>											Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul>
Optical SATA disk	<i>None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™</i>											Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> </ul>
mSATA™ SSD	<i>None</i>											
Widescreen display	<i>14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio</i>											
Camera	<i>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</i>											
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Keyboard	<i>6-row, spill-resistant, multimedia Fn keys</i>											
TrackPoint®	<i>TrackPoint® pointing device, Internet Scroll Bar<sup>13</sup></i>											
Touchpad	<i>UltraNav™, buttonless touchpad below keyboard, multi-touch</i>											
ThinkLight™	<i>Illuminates the keyboard to improve visibility in low-light conditions</i>											
Dimensions <sup>3</sup>	<i>14.0W" (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm</i>											
Weight <sup>2</sup>	<i>3-cell: from 4.08 lb (1.85kg)</i>											
Case material	<i>Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic</i>											
Battery - type	<i>Integrated Li-Polymer 3-cell</i>											
Battery - life <sup>10</sup>	<i>3-cell (47Whr): up to 7.1 hr</i>											
Chipset	<b>Mobile Intel UM77 Express Chipset</b>											
ExpressCard	<i>None</i>											
Smart Card read	<i>None</i>											
Multicard reader	<i>4-in-1 reader (MMC, SD, SDHC, SDXC)</i>											
Ports	<i>Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)</i>											
PCIe Mini Card	<i>Two PCI Express Mini Card slots</i>											
PCIe WLAN <sup>4</sup>	<i>11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + BT combo adapter</i>											
PCIe WWAN	<i>None</i>											
SIM card	<i>None</i>											
Modem	<i>None</i>											
IEEE 1394	<i>None</i>											
Bluetooth™	<i>Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter</i>											
Ethernet	<i>Realtek® RTL8111F Gigabit Network Connection</i>											
Intel AMT	<i>None</i>											
Audio support	<i>HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack</i>											
Security chip	<i>Trusted Platform Module, TCG 1.2-compliant</i>											
Fingerprint reader	<i>AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip</i>											
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>											

See footnotes for more detailed information  
WE model(s) withdrawn effective January 2014

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(G-ABBA1-3) May 2014

65-watt AC adapter  
ThinkPad Roll Cage (bottom cover)  
EPEAT™ Silver rating  
ENERGY STAR® 5.0-compliant  
GREENGUARD® certified  
RoHS-compliant  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free support  
during the warranty period<sup>12</sup>

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Fingerprint reader	Battery tooth cells	Global GMP (P)	Ann Date (mm/yy)
3352-3KG	i5-3427U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	Ericsson	selectable	Finger BT	3	Win7 Pro64	10/12
3352-3JG	i5-3427U	4GBx1	14.0" HD	720p	500G 7200	Intel 2230	Ericsson	selectable	Finger BT	3	Win7 Pro64	10/12
3352-3CG	i5-3427U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	None	None	Finger BT	3 G	Win8 Pro64	10/12
3352-3TG	i5-3427U	4GBx1	14.0" HD	720p	128G SSD	TP 11a/b/g/n	None	None	Finger BT	3	Win7 Pro64	12/12
3352-3SG	i5-3427U	4GBx1	14.0" HD	720p	500G 7200	TP 11a/b/g/n	24GB mSATA	None	Finger BT	3	Win7 Pro64	12/12

• A depot repair service 3-year limited warranty

Positioning Processor	<b>Mainstream Ultrabook™; one spindle Intel® Core™ i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology</b>											
Memory	8GB max <sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets											
Optical SATA disk	None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™											
mSATA™ SSD	Some: mSATA Solid State Drive (SSD), via PCIe Mini Card slot											
Widescreen display	<b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio											
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; <i>Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz</i>											
Keyboard	6-row, spill-resistant, multimedia Fn keys											
TrackPoint®	TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup>											
Touchpad	UltraNav™, buttonless touchpad below keyboard, multi-touch											
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm											
Weight <sup>2</sup>	3-cell: from 4.08 lb (1.85kg)											
Case material	Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic											
Battery - type	Integrated Li-Polymer 3-cell											
Battery - life <sup>10</sup>	3-cell (47Whr): up to 7.1 hr											
Chipset	<b>Mobile Intel UM77 Express Chipset</b>											
ExpressCard	None											
Smart Card read	None											
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)											
Ports	Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)											
PCIe Mini Card	Two PCI Express Mini Card slots											
PCIe WLAN <sup>4</sup>	Some: 11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + BT combo adapter Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + Bluetooth combo adapter											
PCIe WWAN	Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS											
SIM card	Some: User selectable, contract required with service provider											
Modem	None											
IEEE 1394	None											
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter											
Ethernet	Realtek® RTL8111F Gigabit Network Connection											
Intel AMT	None											
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack											
Security	Power-on password, hard disk password, supervisor password, security keyhole											
Security chip	Trusted Platform Module, TCG 1.2-compliant											
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip											
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>											

See footnotes for more detailed information  
WE model(s) withdrawn effective January 2014

#### Preloaded operating system<sup>20</sup>

- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
  - Some: Windows 8 Pro 64-bit
- #### Preloaded applications<sup>5</sup> (only some listed)
- **Windows 7 models**
    - Lenovo® Message Center Plus
    - ThinkVantage Product Recovery
    - Access Connections™
    - ThinkVantage Power Manager
    - Lenovo SimpleTap
    - Adobe® Reader®
    - Windows Live™ Essentials
  - **Windows 8 models**
    - Lenovo Support
    - Lenovo Companion
    - Lenovo QuickLaunch
    - AccuWeather
    - PC Device Stage
  - **All models**
    - Lenovo Solution Center
    - Password Manager
    - ThinkVantage System Update
    - Fingerprint Software (fingerprint models)
    - Lenovo Cloud Storage by SugarSync
    - Microsoft® Office preloaded; purchase a product key to activate
    - Norton™ Internet Security (30 days of virus definitions)

Supports ThinkVantage® technologies

65-watt AC adapter  
ThinkPad Roll Cage (bottom cover)  
EPEAT™ Silver rating  
ENERGY STAR® 5.0-compliant  
GREENGUARD® certified  
RoHS-compliant  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	Finger print reader	Blue-tooth	Bat-tery cells	Global (G) GMP (P)	Preload	Ann Date (mm/yy)
6273-2SG	i5-3427U	4GBx1	14.0" HD	720p	128G SSD	TP 11a/b/g/n	None	Finger	BT	3	G P	Pro 64	08/12

• Part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	Mainstream Ultrabook™; one spindle <b>Intel® Core™ i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology	<b>Preloaded operating system<sup>20F</sup></b> Genuine Windows® 7 Professional 64  <b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul> <b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> </ul>
Memory	8GB max <sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	
Optical SATA disk	None <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™	
mSATA™ SSD	None	
Widescreen display	<b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; <i>Maximum external resolution:</i> 2560x1600 (Mini-DisplayPort or HDMI)@60Hz	
Keyboard	6-row, spill-resistant, multimedia Fn keys	
TrackPoint®	TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup>	
Touchpad	UltraNav™, buttonless touchpad below keyboard, multi-touch	
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm	<b>Supports ThinkVantage® technologies</b>  3-cell: from 4.08 lb (1.85kg) Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic Integrated Li-Polymer 3-cell 3-cell (47Whr): up to 7.1 hr
Weight <sup>2</sup>	3-cell: from 4.08 lb (1.85kg)	
Case material	Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic	
Battery - type	Integrated Li-Polymer 3-cell	
Battery - life <sup>10</sup>	3-cell (47Whr): up to 7.1 hr	
Chipset	<b>Mobile Intel UM77 Express Chipset</b>	
ExpressCard	None	
Smart Card read	None	
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)	
Ports	Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)	
PCIe Mini Card	Two PCI Express Mini Card slots	65-watt AC adapter ThinkPad Roll Cage (bottom cover) EPEAT™ Silver rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
PCIe WLAN <sup>4</sup>	11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + BT combo adapter	
PCIe WWAN	None	
SIM card	None	
Modem	None	
IEEE 1394	None	
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	
Ethernet	Realtek® RTL8111F Gigabit Network Connection	
Intel AMT	None	
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack	
Security	Power-on password, hard disk password, supervisor password, security keyhole	
Security chip	Trusted Platform Module, TCG 1.2-compliant	
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available	

See footnotes for more detailed information

WE model(s) withdrawn effective January 2014

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	Finger print reader	Blue-tooth	Bat-tery cells	Global (G) GMP (P)	Preload	Ann Date (mm/yy)
6273-23G	i5-3427U	4+2GB	14.0" HD	720p	500G 7200	TP 11a/b/g/n	None	Finger	BT	3	G P	Win8 Pro64	10/12
6273-24G	i5-3427U	8GBx1	14.0" HD	720p	500G 7200	TP 11a/b/g/n	None	Finger	BT	3	G P	Win8 Pro64	10/12
6273-25G	i5-3427U	8GBx1	14.0" HD	720p	1T 5400	TP 11a/b/g/n	None	Finger	BT	3	G P	Win8 Pro64	10/12
6273-26G	i5-3427U	4GBx1	14.0" HD	720p	500G 7200	TP 11a/b/g/n	None	Finger	BT	3	G P	Win8 Pro64	10/12
6273-3CG	i5-3427U	4GBx1	14.0" HD	720p	128G SSD	Intel 2230	None	Finger	BT	3	G P	Win8 Pro64	10/12
6273-3DG	i5-3337U	2GBx1	14.0" HD	720p	128G SSD	WLAN upg	None	Finger	No	3	G P	Win8 Pro64	03/13

• Part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<b>Mainstream Ultrabook™; one spindle</b> <b>Intel® Core™ i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology <b>Intel Core i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology												
Memory	8GB max <sup>7</sup> (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets												
Optical SATA disk	None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™												
mSATA™ SSD	None												
Widescreen display	<b>14.0" (355mm) HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio												
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; <i>Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz</i>												
Keyboard	6-row, spill-resistant, multimedia Fn keys												
TrackPoint®	TrackPoint® pointing device, Internet Scroll Bar <sup>13</sup>												
Touchpad	UltraNav™, buttonless touchpad below keyboard, multi-touch												
ThinkLight™	Illuminates the keyboard to improve visibility in low-light conditions												
Dimensions <sup>3</sup>	<b>14.0W" (WxDxH): 13.39" x 9.29" x 0.83"</b> ; 340mm x 236mm x 21mm												
Weight <sup>2</sup>	3-cell: from 4.08 lb (1.85kg)												
Case material	Display cover: Aluminum; Bottom: Glass-Fiber Reinforced Plastic												
Battery - type	Integrated Li-Polymer 3-cell												
Battery - life <sup>10</sup>	3-cell (47Whr): up to 7.1 hr												
Chipset	<b>Mobile Intel UM77 Express Chipset</b>												
ExpressCard	None												
Smart Card read	None												
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)												
Ports	Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)												
PCIe Mini Card	Two PCI Express Mini Card slots												
PCIe WLAN <sup>4</sup>	Some: Wireless LAN upgradable Some: 11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + BT combo adapter Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + Bluetooth combo adapter												
PCIe WWAN	None												
SIM card	None												
Modem	None												
IEEE 1394	None												
Bluetooth™	Some: Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter												
Ethernet	Realtek® RTL8111F Gigabit Network Connection												
Intel AMT	None												
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack												
Security	Power-on password, hard disk password, supervisor password, security keyhole												
Security chip	Trusted Platform Module, TCG 1.2-compliant												
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip												
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available												

**Preloaded operating system<sup>20</sup>**

- Windows® 8 Pro 64-bit

**Preloaded applications<sup>5</sup> (only some listed)****Windows 7 models**

- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader®
- Windows Live™ Essentials

**Windows 8 models**

- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage

**All models**

- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- Fingerprint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded; purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

Supports ThinkVantage® technologies

- 65-watt AC adapter
- ThinkPad Roll Cage (bottom cover)
- EPEAT™ Silver rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service<sup>17</sup>
- 24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>



Lenovo® ThinkPad T431s



Lenovo ThinkPad T431s



Lenovo ThinkPad T431s



Lenovo ThinkPad T431s



Lenovo ThinkPad T431s



Lenovo ThinkPad T431s with  
ThinkPad Mini Dock Series 3 with USB 3.0 - 90W  
433715U

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	M.2 Card WLAN	M.2 Card WWAN/ SSD	SIM card	Smart Card Reader	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
20AA000E++	i7-3687U	4+4GB	14.0" HD+	240G FDE SSD	Backlit	Intel 6235 <sup>28</sup>	Ericsson	selectable	None	iAMT	vPro	Win7 Pro64	03/13
20AA0012++	i7-3687U	4+4GB	14.0" HD+	240G FDE SSD	Backlit	Intel 6235	Ericsson	selectable	None	iAMT	vPro	Win7 Pro64	03/13
20AA0014++	i5-3337U	4GB	14.0" HD+	180G SSD	Backlit	Intel 6235	Ericsson	selectable	Smart	None	No	Win7 Pro64	03/13
20AA0015++	i5-3337U	4GB	14.0" HD+	180G SSD	Backlit	Intel 6235	Ericsson	selectable	Smart	None	No	Win7 Pro64	03/13
20AA0016++	i5-3337U	4GB	14.0" HD+	500G 7200	Backlit	Intel 6235	24GB SSD	None	None	None	No	Win7 Pro64	03/13
20AA0018++	i5-3437U	4GB	14.0" HD+	180G SSD	Backlit	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win7 Pro64	03/13
20AA0019++	i5-3437U	4GB	14.0" HD+	180G SSD	Backlit	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win7 Pro64	03/13
20AA001A++	i5-3437U	4GB	14.0" HD+	500G 7200	Backlit	Intel 6235	24GB SSD	None	Smart	iAMT	vPro	Win7 Pro64	03/13
20AA001C++	i7-3687U	4+4GB	14.0" HD+	240G FDE SSD	Backlit	Intel 6235	Ericsson	selectable	None	iAMT	vPro	Win8 Pro64	03/13
20AA001D++	i7-3687U	4+4GB	14.0" HD+	240G FDE SSD	Backlit	Intel 6235	Ericsson	selectable	None	iAMT	vPro	Win8 Pro64	03/13
20AA001F++	i5-3337U	4GB	14.0" HD+	180G SSD	Backlit	Intel 6235	Ericsson	selectable	Smart	None	No	Win8 Pro64	03/13
20AA001G++	i5-3337U	4GB	14.0" HD+	180G SSD	Backlit	Intel 6235	Ericsson	selectable	Smart	None	No	Win8 Pro64	03/13
20AA001H++	i5-3337U	4GB	14.0" HD+	500G 7200	Backlit	Intel 6235	24GB SSD	None	None	None	No	Win8 Pro64	03/13
20AA001K++	i5-3437U	4GB	14.0" HD+	180G SSD	Backlit	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win8 Pro64	03/13
20AA001L++	i5-3437U	4GB	14.0" HD+	180G SSD	Backlit	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win8 Pro64	03/13
20AA001M++	i5-3437U	4GB	14.0" HD+	500G 7200	Backlit	Intel 6235	24GB SSD	None	Smart	iAMT	vPro	Win8 Pro64	03/13

Country Code "+" : AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)

Note: models listed above might not be available in all WE countries

Positioning Processor	<b>Thin and light enterprise-class Ultrabook™; one spindle</b> <b>Intel® Core™ i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology <b>Intel Core i5-3437U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.90GHz), HT technology <b>Intel Core i7-3687U processor (2 cores, 2.10GHz, 4MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology												
Memory	12GB max <sup>7</sup> / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, 4GB memory soldered to systemboard, one 204-pin SO-DIMM socket	<b>Preloaded applications<sup>5</sup></b> (only some listed)											
Optical SATA disk	None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Shock Mounted Hard Drive, Active Protection System™	- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit											
M.2 SSD	Some: M.2 Solid State Drive (SSD), via M.2 Card slot	- Some: Windows 8 Pro 64-bit											
Widescreen display	<b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio	<b>Windows 7 models</b>											
Camera	HD720p resolution, low light sensitive, face tracking, fixed focus	<ul style="list-style-type: none"> <li>Lenovo® Message Center Plus</li> <li>ThinkVantage Product Recovery</li> <li>Access Connections™</li> <li>ThinkVantage Power Manager</li> <li>Lenovo SimpleTap</li> <li>Adobe® Reader®</li> </ul>											
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <b>Maximum external resolution:</b> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	<b>Windows 8 models</b>											
Keyboard UltraNav™ ThinkLight™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and glass surface touchpad, integrated five buttons, multi-touch None	<ul style="list-style-type: none"> <li>Lenovo Support</li> <li>Lenovo Companion</li> <li>Lenovo QuickLaunch</li> </ul>											
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm	<b>All models</b>											
Weight <sup>2</sup>	3-cell: from 3.6 lb (1.63kg)	<ul style="list-style-type: none"> <li>Lenovo Solution Center</li> <li>Password Manager</li> <li>ThinkVantage System Update</li> <li>Fingerprint Software (fingerprint models)</li> </ul>											
Case color	Graphite Black	<ul style="list-style-type: none"> <li>Lenovo Cloud Storage by SugarSync</li> <li>Microsoft® Office preloaded; purchase a product key to activate</li> </ul>											
Case material	Display cover: Carbon-fiber / Glass-fiber hybrid; Base: Magnesium alloy	<ul style="list-style-type: none"> <li>Norton™ Internet Security (30 days of virus definitions)</li> <li>Skype™</li> <li>AccuWeather</li> <li>Amazon Kindle</li> <li>Intel AppUp®</li> <li>Nitro Pro</li> <li>PC Device Stage</li> <li>Evernote</li> </ul>											
Battery - type	Integrated Li-Polymer 3-cell (47Whr), HW Authentication												
Battery - life <sup>10</sup>	MobileMark® 2007: Windows 7: up to 9.0 hr MobileMark 2012: Windows 7: up to 5.9 hr; Windows 8: up to 6.4 hr												
Chipset ExpressCard	<b>Mobile Intel QM77 Express Chipset</b>	Supports ThinkVantage® technologies											
Smart Card read	None	45-watt AC adapter											
Multicard reader	Some: Smart Card reader	EPEAT™ Silver rating											
Ports	4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), Dock connector	ENERGY STAR® 5.0-compliant											
PCIe WLAN <sup>4</sup>	11a/b/g/n, M.2 Card, Intel Centrino® Advanced-N 6235, 2x2, Wi-Fi + BT combo adapter	GREENGUARD® certified											
PCIe WWAN	Some: Wireless WAN, Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS, M.2 Card	RoHS-compliant											
SIM card	Some: User selectable, contract required with service provider	International Warranty Service <sup>17</sup>											
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>											
Ethernet	Intel 82579LM Gigabit Network Connection (Hanksville), PHY, PCIe x1												
Intel AMT	Some: Intel Active Management Technology (iAMT)												
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack												
Security	Power-on password, hard disk password, supervisor password, security keyhole												
Security chip	Trusted Platform Module, TCG 1.2-compliant												
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, Power On Authentication, supports the security chip												
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available												

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	M.2 Card WLAN	M.2 Card WWAN/SSD	SIM card	Smart Card Reader	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
20AA002A++	i7-3687U	4+4GB	14.0" HD+	256G SSD OPAL	Backlit	Intel 6235 <sup>28</sup>	Ericsson	selectable	None	iAMT	vPro	Win7 Pro64	06/13
20AA002B++	i5-3437U	4GB	14.0" HD+	256G SSD OPAL	Backlit	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win8 Pro64	06/13
20AA002C++	i5-3437U	4GB	14.0" HD+	256G SSD OPAL	Backlit	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win7 Pro64	06/13
20AA002H++	i5-3337U	4GB	14.0" HD+	256G SSD OPAL	Backlit	Intel 6235	Ericsson	selectable	Smart	None	No	Win8 Pro64	06/13
20AA002J++	i5-3337U	4GB	14.0" HD+	256G SSD OPAL	Backlit	Intel 6235	Ericsson	selectable	Smart	None	No	Win7 Pro64	06/13
20AA002P++	i5-3437U	4GB	14.0" HD+	256G SSD OPAL	None	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win7 Pro64	06/13
20AA002Q++	i5-3437U	4GB	14.0" HD+	256G SSD OPAL	None	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win8 Pro64	06/13
20AA002T++	i5-3437U	4GB	14.0" HD+	256G SSD OPAL	Backlit	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win7 Pro64	06/13
20AA002U++	i5-3437U	4GB	14.0" HD+	256G SSD OPAL	Backlit	Intel 6235	Ericsson	selectable	Smart	iAMT	vPro	Win8 Pro64	06/13
20AA002V++	i7-3687U	4+4GB	14.0" HD+	256G SSD OPAL	Backlit	Intel 6235	Ericsson	selectable	None	iAMT	vPro	Win8 Pro64	06/13

Country Code"++": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)

Note: models listed above might not be available in all WE countries

Positioning Processor	<b>Thin and light enterprise-class Ultrabook™; one spindle Intel® Core™ i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology Intel Core i5-3437U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.90GHz), HT technology Intel Core i7-3687U processor (2 cores, 2.10GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</b>											
Memory	12GB max <sup>7</sup> / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, 4GB memory soldered to systemboard, one 204-pin SO-DIMM socket											
Optical SATA disk	None Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Shock Mounted Hard Drive, Active Protection System™											
M.2 SSD	None											
Widescreen display Camera	14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio HD720p resolution, low light sensitive, face tracking, fixed focus											
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)											
Keyboard UltraNav™ ThinkLight™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device and glass surface touchpad, integrated five buttons, multi-touch None											
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm											
Weight <sup>2</sup>	3-cell: from 3.6 lb (1.63kg)											
Case color	Graphite Black											
Case material	Display cover: Carbon-fiber / Glass-fiber hybrid; Base: Magnesium alloy											
Battery - type	Integrated Li-Polymer 3-cell (47Whr), HW Authentication											
Battery - life <sup>10</sup>	MobileMark® 2007: Windows 7: up to 9.0 hr MobileMark 2012: Windows 7: up to 5.9 hr; Windows 8: up to 6.4 hr											
Chipset ExpressCard	<b>Mobile Intel QM77 Express Chipset</b>											
Smart Card read	None											
Multicard reader	Some: Smart Card reader											
Ports	4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), Dock connector											
PCIe WLAN <sup>4</sup>	11a/b/g/h, M.2 Card, Intel Centrino® Advanced-N 6235, 2x2, Wi-Fi + BT combo adapter											
PCIe WWAN	Wireless WAN, Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS, M.2 Card											
SIM card	User selectable, contract required with service provider											
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter											
Ethernet	Intel 82579LM Gigabit Network Connection (Hanksville), PHY, PCIe x1											
Intel AMT	Some: Intel Active Management Technology (iAMT)											
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack											
Security	Power-on password, hard disk password, supervisor password, security keyhole											
Security chip	Trusted Platform Module, TCG 1.2-compliant											
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, Power On Authentication, supports the security chip											
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available											

See footnotes for more detailed information

Supports ThinkVantage® technologies

45-watt AC adapter  
EPEAT™ Silver rating  
ENERGY STAR® 5.0-compliant  
GREENGUARD® certified  
RoHS-compliant  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	M.2 Card WLAN	M.2 Card WWAN/ SSD	Finger print reader	Bat- tery cells	Blue- tooth	Global (G) GMP (P)	Intel vPro	Ann Date (mm/yy)	
20AC000A++	i5-3437U	4GB	14.0" HD+	500G 7200	Backlit	Intel 6235 <sup>28</sup>	24GB	Finger	BT	3	vPro	G	Win8 Pro64	03/13

Country Code"++": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)

Note: models listed above might not be available in all WE countries

Positioning Processor	<i>Thin and light enterprise-class Ultrabook™; one spindle Intel® Core™ i5-3437U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.90GHz), HT technology</i>	<b>Preloaded operating system<sup>20F</sup></b>
Memory	12GB max <sup>7</sup> / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, 4GB memory soldered to systemboard, one 204-pin SO-DIMM socket	<b>Preloaded applications<sup>5</sup></b> (only some listed)
Optical SATA disk	None <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Shock Mounted Hard Drive, Active Protection System™	- <b>Windows 7 models</b> • Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap • Adobe® Reader®
M.2 SSD	M.2 Solid State Drive (SSD), via M.2 Card slot	- <b>Windows 8 models</b> • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch
Widescreen display	<b>14.0" (355mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio	- <b>All models</b>
Camera	HD720p resolution, low light sensitive, face tracking, fixed focus	• Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security (30 days of virus definitions) • Skype™ • AccuWeather • Amazon Kindle • Intel AppUp® • Nitro Pro • PC Device Stage • Evernote
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, optional LED backlight	
ThinkLight™	TrackPoint® pointing device and glass surface touchpad, integrated five buttons, multi-touch	
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm	
Weight <sup>2</sup>	3-cell: from 3.6 lb (1.63kg)	
Case color	Graphite Black	
Case material	<i>Display cover:</i> Carbon-fiber / Glass-fiber hybrid; <i>Base:</i> Magnesium alloy	
Battery - type	Integrated Li-Polymer 3-cell (47Whr), HW Authentication	
Battery - life <sup>10</sup>	<i>MobileMark® 2007:</i> Windows 7: up to 9.0 hr <i>MobileMark 2012:</i> Windows 7: up to 5.9 hr; Windows 8: up to 6.4 hr	
Chipset	<b>Mobile Intel QM77 Express Chipset</b>	
ExpressCard	None	
Smart Card read	None	
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)	
Ports	Two USB 3.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), Dock connector	
PCIe WLAN <sup>4</sup>	11a/b/g/h, M.2 Card, Intel Centrino® Advanced-N 6235, 2x2, Wi-Fi + BT combo adapter	
PCIe WWAN	None	
SIM card	None	
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	
Ethernet	Intel 82579LM Gigabit Network Connection (Hanksville), PHY, PCIe x1	
Intel AMT	Intel Active Management Technology (iAMT)	
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack	
Security	Power-on password, hard disk password, supervisor password, security keyhole	
Security chip	Trusted Platform Module, TCG 1.2-compliant	
Fingerprint reader	AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>	

See footnotes for more detailed information

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Supports ThinkVantage® technologies

45-watt AC adapter  
EPEAT™ Silver rating  
ENERGY STAR® 5.0-compliant  
GREENGUARD® certified  
RoHS-compliant  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free support  
during the warranty period<sup>12</sup>



Lenovo® ThinkPad T530



Lenovo ThinkPad T530



Lenovo ThinkPad T530



Lenovo ThinkPad T530



Lenovo ThinkPad T530



Lenovo ThinkPad T530

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit key-board	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Finger print reader	Blue-tooth cells	Bat-tery cells	Intel vPro	Ann Date
2392-38G	i5-3210M	4GBx1	15.6" HD	720p	500G 7200	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	None	Finger	BT	6	None	Pro 64 06/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	<i>Premiere performance; two spindles Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology</i>										<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64			
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller										<b>Ready to install applications<sup>14</sup> (only some listed)</b>			
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ <i>All:</i> removable, upgradable, supports the second disk, Shock Mounted Hard Drive										<b>Preloaded applications<sup>14</sup> (only some listed)</b>			
mSATA™ SSD	None										<ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul>			
Widescreen display	<i>Some:</i> 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some:</i> 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some:</i> 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut										<ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> </ul>			
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus										<ul style="list-style-type: none"> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul>			
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)													
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													
Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm													
Weight <sup>2</sup>	6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg)													
Case material	<i>Display cover:</i> Carbon-fiber / Glass-fiber hybrid; <i>Bottom:</i> Glass-fiber reinforced plastic without paint													
Battery - type	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication													
Battery - life <sup>10</sup>	6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 15.3 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 30.6 hr													
Chipset	<b>Mobile Intel QM77 Express Chipset</b>													
ExpressCard	One slot (ExpressCard/34)													
Smart Card Read	None													
Multicard Reader	4-in-1 reader (MMC, SD, SDHC, SDXC)													
Ports	Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)													
PCIe Mini Card	Two PCI Express Mini Card slots													
PCIe WLAN <sup>4</sup>	11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2													
PCIe WWAN	Wireless WAN upgradable													
SIM card	None													
Modem	None													
IEEE 1394	None													
Bluetooth™	Bluetooth 4.0 wireless													
Ethernet	Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1													
Intel AMT	None													
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack													
Security	Power-on password, hard disk password, supervisor password, security keyhole													
Security chip	Trusted Platform Module, TCG 1.2-compliant													
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>													

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	Smart Card Reader	Fingerprint reader	Battery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
2392-AWG	i5-3320M	4GBx1	15.6" HD+	500G 7200	None	Intel 6205 <sup>28</sup>	WWAN upg	Smart	Finger	6	iAMT	vPro	Win7 Pro64	10/12
2392-AUG	i5-3210M	4GBx1	15.6" HD	500G 7200	None	Intel 6205	WWAN upg	Smart	Finger	6	None	None	Win7 Pro64	10/12
2392-EKG	i3-3120M	4GBx1	15.6" HD+	180G SSD	Backlit	Intel 6205	WWAN upg	None	None	6	None	None	Win8 Pro64	06/13
2392-EJG	i3-3120M	4GBx1	15.6" HD+	180G SSD	Backlit	Intel 6205	WWAN upg	None	None	6	None	None	Win7 Pro64	06/13
2392-EHG	i3-3120M	4GBx1	15.6" HD	500G 7200	Backlit	Intel 2200	WWAN upg	None	None	6	None	None	Win8 Pro64	06/13
2392-EGG	i3-3120M	4GBx1	15.6" HD	500G 7200	Backlit	Intel 2200	WWAN upg	None	None	6	None	None	Win7 Pro64	06/13

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	<b>Premiere performance; two spindles</b> <b>Intel® Core™ i3-3120M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Hyper-Threading technology <b>Intel Core i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Preloaded applications<sup>5</sup> (only some listed)</b> <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security (30 days of virus definitions)</li></ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	
mSATA™ SSD	None	
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 15.3 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 30.6 hr	
Chipset ExpressCard	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34)	
Smart Card Read Multicard Reader Ports	Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2	
PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole	
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	Supports ThinkVantage® technologies

See footnotes for more detailed information

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Finger print reader	Bat-tery cells	Intel vPro	Ann Date
2392-37G	i5-3210M	4GBx1	15.6" HD+	720p	500G 7200	Backlit	Intel 6205 <sup>28</sup>	Ericsson	Selectable	Finger	6	None	Pro 64 06/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	<i>Premiere performance; two spindles Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology</i>										<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64		
Memory	<i>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller</i>										<b>Ready to install applications<sup>14</sup> (only some listed)</b>		
Optical Ultrabay SATA disk	<i>DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</i>										<b>Preloaded applications<sup>14</sup> (only some listed)</b>		
mSATA™ SSD	<i>None</i>										<ul style="list-style-type: none"><li>Lenovo® Solution Center</li><li>Lenovo Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>Fingerprint Software (fingerprint models)</li><li>ThinkVantage System Update</li><li>ThinkVantage Power Manager</li><li>Lenovo Cloud Storage by SugarSync</li><li>Lenovo SimpleTap</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>Adobe® Reader®</li><li>Skype™ for Windows</li><li>Evernote®</li><li>Intel Small Business Advantage</li><li>RapidBoot HDD Accelerator</li><li>Symantec™ VIP</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>		
Widescreen display	<i>Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut</i>												
Camera	<i>HD720p resolution; wide view angle, low light sensitive, face tracking, fixed focus</i>												
Graphics	<i>NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA NVS™ 5400M, PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)</i>												
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>												
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	<i>15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint</i>												
Battery - type Battery - life <sup>10</sup>	<i>Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr</i>												
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<i>Mobile Intel QM77 Express Chipset One slot (ExpressCard/34) Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)</i>												
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	<i>Two PCI Express Mini Card slots 11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS</i>												
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	<i>User selectable, contract required with service provider None IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard) Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</i>												
Security Security chip Fingerprint reader	<i>Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</i>												
Limited warranty <sup>12</sup>	<i>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</i>												

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	Smart Card Reader	Finger print reader	Bat- tery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
2392-AYG	i7-3520M	4GBx2	15.6" FHD	500G 7200	None	Intel 6205 <sup>28</sup>	WWAN upg	Smart	Finger	9	iAMT	vPro	Win7 Pro64	10/12
2392-AXG	i7-3520M	4GBx2	15.6" HD+	1T 5400	None	Intel 6205	WWAN upg	Smart	Finger	9	iAMT	vPro	Win7 Pro64	10/12
2392-AVG	i5-3320M	4GBx1	15.6" HD	500G 7200	None	Intel 6300 <sup>28</sup>	WWAN upg	Smart	Finger	6	iAMT	vPro	Win7 Pro64	10/12
2392-ATG	i5-3210M	4GBx1	15.6" HD+	500G 7200	None	Intel 6205	WWAN upg	None	Finger	6	None	None	Win7 Pro64	10/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	<i>Premiere performance; two spindles</i> <b>Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology													Preloaded operating system <sup>20</sup>
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller													Preloaded applications <sup>5</sup> (only some listed)
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive													- Windows 7 models
mSATA™ SSD	None													• Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap • Adobe® Reader® • Windows Live™ Essentials • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
Widescreen display	<i>Some: 15.6" (396mm) HD (1366x768) color</i> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some: 15.6" (396mm) HD+ (1600x900) color</i> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some: 15.6" (396mm) Full HD (1920x1080) color</i> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut													- Windows 8 models
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													• Lenovo Support • Lenovo Companion • Lenovo QuickLaunch • AccuWeather • PC Device Stage • Cyberlink Power2Go (DVD±RW) • Cyberlink PowerProducer (DVD±RW)
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, <b>1GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)													- All models
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													• Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security (30 days of virus definitions)
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint													Supports ThinkVantage® technologies
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr													90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)													
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3													
PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Wireless WAN upgradable None None IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard) Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack													
Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available													

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe WWAN / mSATA	Smart Card Reader	Fingerprint reader	Battery cells	Intel AMT	Global (G) GMP (P)	Ann Date
2394-5UG	i5-3320M	4GBx1	15.6" HD+	720p	180G SSD	None	Intel 6205 <sup>28</sup>	upg	None	Finger	BT	6	iAMT vPro	G Pro 64 06/12
2394-5VG	i5-3320M	4GBx1	15.6" HD+	720p	128G SSD	None	Intel 6205	upg	None	Finger	BT	6	iAMT vPro	G Pro 64 06/12
2394-5YG	i7-3520M	4GBx1	15.6" HD+	720p	500G 7200	None	Intel 6205	upg	None	Finger	BT	6	iAMT vPro	G Pro 64 06/12
2394-62G	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	None	Intel 6205	upg	None	Finger	BT	6	iAMT vPro	G Pro 64 06/12
2394-63G	i5-3320M	4GBx1	15.6" HD	720p	500G 7200	None	Intel 6205	upg	None	Finger	BT	6	iAMT vPro	G Pro 64 06/12
2394-64G	i5-3320M	4GBx1	15.6" HD	None	320G 7200	None	Intel 6205	upg	Smart	None	No	9	iAMT vPro	G Pro 64 06/12
2394-23G	i7-3520M	4GBx1	15.6" HD	720p	500G 7200	None	Intel 6205	upg	None	Finger	BT	6	iAMT vPro	G Pro 64 06/12
2394-22G	i5-3320M	4GBx1	15.6" HD	720p	320G 7200	None	Intel 6205	upg	None	Finger	BT	6	iAMT vPro	G Pro 64 06/12
2394-70G	i5-3320M	4GBx1	15.6" HD+	720p	320G 7200	None	Intel 6205	upg	Smart	Finger	BT	6	iAMT vPro	G Pro 64 06/12
2394-7DG	i5-2520M	4GBx1	15.6" HD+	720p	500G 7200	None	Intel 6205	upg	None	Finger	BT	6	None No	Pro 64 10/12
2394-7HG	i5-2520M	4GBx1	15.6" HD	720p	320G 7200	None	Intel 6205	upg	None	Finger	BT	6	None No	Pro 64 10/12

**• A depot repair service 3-year limited warranty**

Positioning Processor	<p>Premiere performance; two spindles</p> <p><b>Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</p> <p><b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</p> <p><b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</p>	Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64												
Memory	<p>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets</p> <p>* System automatically clocks down for processors with 1333MHz DDR3 memory controller</p>	Ready to install applications <sup>14</sup> (only some listed)												
Optical Ultrabay SATA disk	<p>DVD burner, 12.7mm Ultrabay Enhanced, removable</p> <p>One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access</p> <p>Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high</p> <p>Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™</p> <p>All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</p>	Preloaded applications <sup>14</sup> (only some listed)												
mSATA™ SSD	<p>None</p>	<ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul>												
Widescreen display	<p>Some: <b>15.6" (396mm) HD (1366x768) color</b>, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut</p> <p>Some: <b>15.6" (396mm) HD+ (1600x900) color</b>, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut</p> <p>Some: <b>15.6" (396mm) Full HD (1920x1080) color</b>, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut</p>													
Camera	<p>Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</p>													
Graphics	<p><b>Intel HD Graphics 3000</b> or <b>4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display;</p> <p><b>Maximum external resolution:</b> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</p>													
Keyboard TrackPoint® Touchpad ThinkLight™	<p>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight</p> <p>TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass</p> <p>UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch</p> <p>Illuminates the keyboard to improve visibility in low-light conditions</p>													
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	<p>15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm</p> <p>6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg)</p> <p>Display cover: Carbon-fiber / Glass-fiber hybrid;</p> <p>Bottom: Glass-fiber reinforced plastic without paint</p>													
Battery - type Battery - life <sup>10</sup>	<p>Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication</p> <p>6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 15.3 hr;</p> <p>9-cell plus 9-cell Slice battery (94Whr): up to 30.6 hr</p>													
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<p><b>Mobile Intel QM77 Express Chipset</b></p> <p>One slot (ExpressCard/34)</p> <p>Some: Smart Card reader</p> <p>4-in-1 reader (MMC, SD, SDHC, SDXC)</p>													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	<p>Two PCI Express Mini Card slots</p> <p>11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2</p> <p>Wireless WAN upgradable</p> <p>None</p> <p>None</p> <p>None</p> <p>Some: Bluetooth 4.0 wireless</p> <p>Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1</p> <p>Some: Intel Active Management Technology (iAMT)</p> <p>HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</p>													
Security Security chip Fingerprint reader	<p>Power-on password, hard disk password, supervisor password, security keyhole</p> <p>Trusted Platform Module, TCG 1.2-compliant</p> <p>Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</p>	Supports ThinkVantage® technologies												
<p>Limited warranty<sup>12</sup> <b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b></p>														

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	Finger print reader	Bat- tery cells	Blue- tooth	Global (G) Intel vPro (P)	GMP	Ann Date (mm/yy)	
2394-42G	i7-3520M	4GBx1	15.6" HD+	720p	500G 7200	None	Intel 6205 <sup>28</sup>	WWAN upg	Finger	BT	6	vPro	G	Win8 Pro64	10/12
2394-43G	i5-3320M	4GBx1	15.6" HD+	720p	180G SSD	None	Intel 6205	WWAN upg	Finger	BT	6	vPro	G	Win8 Pro64	10/12
2394-44G	i5-3320M	4GBx1	15.6" HD+	720p	500G 7200	None	Intel 6205	WWAN upg	Finger	BT	6	vPro	G	Win8 Pro64	10/12
2394-45G	i5-3320M	4GBx1	15.6" HD	720p	320G 7200	None	Intel 6205	WWAN upg	Finger	BT	6	vPro	G	Win8 Pro64	10/12

• A depot repair service 3-year limited warranty

Positioning Processor	<p>Premiere performance; two spindles</p> <p><b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</p> <p><b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</p>													Preloaded operating system <sup>20</sup>
Memory	<p>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets</p> <p>* System automatically clocks down for processors with 1333MHz DDR3 memory controller</p>													Preloaded applications <sup>5</sup> (only some listed)
Optical Ultrabay SATA disk	<p>DVD burner, 12.7mm Ultrabay Enhanced, removable</p> <p>One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access</p> <p>Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high</p> <p>Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™</p> <p>All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</p>													- <b>Windows 7 models</b>
mSATA™ SSD	<p>None</p>													• Lenovo® Message Center Plus
Widescreen display	<p>Some: <b>15.6" (396mm) HD (1366x768) color</b>, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut</p> <p>Some: <b>15.6" (396mm) HD+ (1600x900) color</b>, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut</p> <p>Some: <b>15.6" (396mm) Full HD (1920x1080) color</b>, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut</p>													- <b>Windows 8 models</b>
Camera	<p>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</p>													• Lenovo Support
Graphics	<p><b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display;</p> <p>Maximum external resolution: 2560x1600 @60Hz (DisplayPort via optional Mini DP cable); 1920x1200 @60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536 @75Hz (VGA)</p>													- <b>Windows 8 models</b>
Keyboard TrackPoint® Touchpad ThinkLight™	<p>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight</p> <p>TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass</p> <p>UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch</p> <p>Illuminates the keyboard to improve visibility in low-light conditions</p>													- <b>All models</b>
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	<p>15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm</p> <p>6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg)</p> <p>Display cover: Carbon-fiber / Glass-fiber hybrid;</p> <p>Bottom: Glass-fiber reinforced plastic without paint</p>													• Lenovo Solution Center
Battery - type Battery - life <sup>10</sup>	<p>Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication</p> <p>6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 15.3 hr;</p> <p>9-cell plus 9-cell Slice battery (94Whr, 0A36304): up to 30.6 hr</p>													• Password Manager
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<p><b>Mobile Intel QM77 Express Chipset</b></p> <p>One slot (ExpressCard/34)</p> <p>None</p> <p>4-in-1 reader (MMC, SD, SDHC, SDXC)</p> <p>Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)</p>													• ThinkVantage System Update
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	<p>Two PCI Express Mini Card slots</p> <p>11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2</p> <p>Wireless WAN upgradable</p> <p>None</p> <p>None</p> <p>None</p> <p>Bluetooth 4.0 wireless</p> <p>Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1</p> <p>Intel Active Management Technology (iAMT)</p> <p>HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</p>													• Fingerprint Software (fingerprint models)
Security Security chip Fingerprint reader	<p>Power-on password, hard disk password, supervisor password, security keyhole</p> <p>Trusted Platform Module, TCG 1.2-compliant</p> <p>AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</p>													• Lenovo Cloud Storage by SugarSync
Limited warranty <sup>12</sup>	<p>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</p>													• Microsoft® Office preloaded; purchase a product key to activate
<p>Supports ThinkVantage® technologies</p> <p>65-watt AC adapter</p> <p>ThinkPad Roll Cage (one-piece magnesium frame)</p> <p>EPEAT™ Gold rating</p> <p>ENERGY STAR® 5.0-compliant</p> <p>GREENGUARD® certified</p> <p>RoHS-compliant</p> <p>International Warranty Service<sup>17</sup></p> <p>24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup></p>														

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Smart Card Reader	Finger print reader	Battery cells	Intel AMT	Intel vPro	Global (G) GMP (P)	Ann Date
2394-5RG	i7-3520M	4GBx1	15.6" FHD	180G SSD	None	Intel 6205 <sup>28</sup>	WWAN upg	None	None	Finger	9	iAMT	vPro	G	Pro 64 06/12
2394-5TG	i7-3520M	4GBx1	15.6" HD+	180G SSD	None	Intel 6205	WWAN upg	None	None	Finger	9	iAMT	vPro	G	Pro 64 06/12
2394-5WG	i7-3520M	4GBx1	15.6" FHD	500G 7200	None	Intel 6205	WWAN upg	None	None	Finger	9	iAMT	vPro	G	Pro 64 06/12
2394-5XG	i7-3520M	4GBx1	15.6" HD+	500G 7200	None	Intel 6205	WWAN upg	None	None	Finger	9	iAMT	vPro	G	Pro 64 06/12
2394-5ZG	i5-3320M	4GBx1	15.6" FHD	500G 7200	None	Intel 6205	WWAN upg	None	None	Finger	9	iAMT	vPro	G	Pro 64 06/12
2394-61G	i5-3320M	4GBx1	15.6" HD+	500G 7200	None	Intel 6205	WWAN upg	None	None	Finger	9	iAMT	vPro	G	Pro 64 06/12
2394-65G	i5-3320M	4GBx1	15.6" HD+	320G 7200	None	Intel 6205	WWAN upg	None	None	Finger	9	iAMT	vPro	G	Pro 64 06/12
2394-7GG	i5-2520M	4GBx1	15.6" FHD	180G SSD	Backlit	Intel 6300 <sup>28</sup>	Ericsson selectable	Smart	Finger	9	None	No	No	Pro 64 10/12	
2394-7FG	i5-2520M	4GBx1	15.6" FHD	128G SSD	None	Intel 6205	WWAN upg	None	None	Finger	9	None	No	Pro 64 10/12	
2394-7EG	i5-2520M	4GBx1	15.6" HD+	500G 7200	Backlit	Intel 6205	Ericsson selectable	Smart	Finger	9	None	No	No	Pro 64 10/12	
Positioning Processor	<p>Premiere performance; two spindles  <b>Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b>  DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology  <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b>  DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology  <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b>  DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</p>												<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64		
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller												<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>		
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ <i>All:</i> removable, upgradable, supports the second disk, Shock Mounted Hard Drive												<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>		
mSATA™ SSD	None														
Widescreen display	<i>Some:</i> <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some:</i> <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some:</i> <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut														
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus														
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 3000 or 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, <b>1GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <i>Maximum external resolution:</i> 2560x1600 @60Hz (DisplayPort via optional Mini DP cable); 1920x1200 @60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536 @85Hz (VGA)														
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions														
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint														
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr														
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) <i>Some:</i> Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)														
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3														
PCIe WWAN	<i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS														
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	<i>Some:</i> User selectable, contract required with service provider None IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard) Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <i>Some:</i> Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack														
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip														
Limited warranty <sup>12</sup>	<b>3-years/1-yr</b> battery - depot repair service / service upgrades <sup>22</sup> available														

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	Finger print reader	Battery cells	Global (G) Intel GMP (P)	Ann Date (mm/yy)
2394-41G	i7-3520M	4GBx1	15.6" HD+	720p	500G 7200	None	Intel 6205 <sup>28</sup>	WWAN upg	Finger	9	vPro G	Win8 Pro64 10/12

• A depot repair service 3-year limited warranty

Positioning Processor	<b>Premiere performance; two spindles</b> <b>Intel® Core™ i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology											
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller											
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive											
mSATA™ SSD	None											
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut											
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, <b>1GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)											
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint											
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr, OA36304): up to 25.6 hr											
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)											
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader	Two PCI Express Mini Card slots 11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard) Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (AMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip											
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>											

See footnotes for more detailed information

#### Preloaded operating system<sup>20</sup>

- Windows® 8 Pro 64-bit

#### Preloaded applications<sup>5</sup> (only some listed)

##### - Windows 7 models

- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader®
- Windows Live™ Essentials
- Corel® WinDVD® (DVD±RW)
- Corel Burn.Now™ Lenovo Edition (DVD±RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD±RW)

##### - Windows 8 models

- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD±RW)
- Cyberlink PowerProducer (DVD±RW)

##### - All models

- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- Fingerprint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded; purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

Supports ThinkVantage® technologies

90-watt AC adapter  
 ThinkPad Roll Cage (one-piece magnesium frame)  
 EPEAT™ Gold rating  
 ENERGY STAR® 5.0-compliant  
 GREENGUARD® certified  
 RoHS-compliant  
 International Warranty Service<sup>17</sup>  
 24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>

# ThinkPad T530 2429 (Onsite)

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup>	Backlit keyboard rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Smart Card Reader	Battery cells	Power Adapter (watt)	Intel AMT	Global (G) Intel vPro (P)	GMP	Ann Date	
2429-2WG	i7-3520M	4GBx1	15.6" HD+	500G	7200	Backlit	Intel 6205 <sup>28</sup>	Ericsson	Selectable	None	6	90W iAMT	vPro	Pro 64	06/12	
2429-5UG	i5-3320M	4GBx1	15.6" HD+	180G SSD	None	Intel 6205	WWAN upg	None	None	6	65W iAMT	vPro	G P	Pro 64	06/12	
2429-5VG	i5-3320M	4GBx1	15.6" HD+	128G SSD	None	Intel 6205	WWAN upg	None	None	6	65W iAMT	vPro	G P	Pro 64	06/12	
2429-5YG	i7-3520M	4GBx1	15.6" HD+	500G	7200	None	Intel 6205	WWAN upg	None	None	6	65W iAMT	vPro	G P	Pro 64	06/12
2429-62G	i5-3320M	4GBx1	15.6" HD+	500G	7200	None	Intel 6205	WWAN upg	None	None	6	65W iAMT	vPro	G P	Pro 64	06/12
2429-64G	i5-3320M	4GBx1	15.6" HD+	320G	7200	None	Intel 6205	WWAN upg	None	None	6	65W iAMT	vPro	G P	Pro 64	06/12
2429-2DG	i5-3320M	4GBx1	15.6" HD+	320G	7200	None	Intel 6205	Ericsson	Selectable	Smart	6	90W iAMT	vPro	Pro 64	06/12	
2429-23G	i7-3520M	4GBx1	15.6" HD	500G	7200	None	Intel 6205	WWAN upg	None	None	6	65W iAMT	vPro	G P	Pro 64	06/12
2429-22G	i5-3320M	4GBx1	15.6" HD	320G	7200	None	Intel 6205	WWAN upg	None	None	6	65W iAMT	vPro	G P	Pro 64	06/12
2429-70G	i5-3320M	4GBx1	15.6" HD+	320G	7200	None	Intel 6205	WWAN upg	None	Smart	6	65W iAMT	vPro	G P	Pro 64	07/12
2429-74G	i5-2520M	4GBx1	15.6" HD+	500G	7200	None	Intel 6205	WWAN upg	None	None	6	65W	None	No	Pro 64	10/12
2429-73G	i5-2520M	4GBx1	15.6" HD	320G	7200	None	Intel 6205	WWAN upg	None	None	6	65W	None	No	Pro 64	10/12
Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology												Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64			
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller												Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>			
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive												Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>			
mSATA™ SSD	None															
Widescreen display	Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut															
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus															
Graphics	<b>Intel HD Graphics 3000 or 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)															
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions															
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint															
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 15.3 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 30.6 hr															
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)															
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS															
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack															
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip															
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available												Supports ThinkVantage® technologies			
	65-watt or 90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>															

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup>	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Finger print reader	Bat-tery cells	Intel AMT	Intel vPro (P)	Global (G) GMP	Ann Date (mm/yy)
2429-6MG	i5-3210M	4GBx1	15.6" HD	500G 7200	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	None	Finger	6	None	No	Win7 Pro64	10/12
2429-6KG	i7-3520M	4GBx1	15.6" HD+	500G 7200	Backlit	Intel 6205	Ericsson selectable	Finger	6	iAMT	vPro	Win7 Pro64	10/12	
2429-42G	i7-3520M	4GBx1	15.6" HD	500G 7200	None	Intel 6205	WWAN upg	None	Finger	6	iAMT	vPro	G P Win8 Pro64	10/12
2429-43G	i5-3320M	4GBx1	15.6" HD+	180G SSD	None	Intel 6205	WWAN upg	None	Finger	6	iAMT	vPro	G P Win8 Pro64	10/12
2429-44G	i5-3320M	4GBx1	15.6" HD+	500G 7200	None	Intel 6205	WWAN upg	None	Finger	6	iAMT	vPro	G P Win8 Pro64	10/12
2429-45G	i5-3320M	4GBx1	15.6" HD	320G 7200	None	Intel 6205	WWAN upg	None	Finger	6	iAMT	vPro	G P Win8 Pro64	10/12
2429-6DG	i5-3210M	4GBx1	15.6" HD	500G 7200	Backlit	Intel 6205	WWAN upg	None	Finger	6	None	No	Win8 Pro64	10/12
2429-6BG	i7-3520M	4GBx1	15.6" HD+	500G 7200	Backlit	Intel 6205	Ericsson selectable	Finger	6	iAMT	vPro	Win8 Pro64	10/12	

• Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology	Preloaded operating system <sup>20</sup> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	Preloaded applications <sup>5</sup> (only some listed) <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security (30 days of virus definitions)</li></ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	
mSATA™ SSD	None	
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 15.3 hr; 9-cell plus 9-cell Slice battery (94Whr, OA36304): up to 30.6 hr	
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS	
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack	
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	Supports ThinkVantage® technologies
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available	65-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	Finger print reader	Bat- terry cells	Blue- tooth cells	Intel vPro	Preload	Ann Date (mm/yy)
2429-86G	i5-3230M	4GBx1	15.6" HD+	720p	240G FDE SSD	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	Finger	BT	6	No	Win8 Pro64	03/13
2429-85G	i5-3230M	4GBx1	15.6" HD+	720p	240G FDE SSD	Backlit	Intel 6205	WWAN upg	Finger	BT	6	No	Win7 Pro64	03/13
2429-84G	i5-3230M	4GBx1	15.6" HD	720p	500G 7200	Backlit	Intel 6205	WWAN upg	Finger	BT	6	No	Win8 Pro64	03/13
2429-7TG	i5-3230M	4GBx1	15.6" HD	720p	500G 7200	Backlit	Intel 6205	WWAN upg	Finger	BT	6	No	Win7 Pro64	03/13
2429-8EG	i5-3230M	4GBx1	15.6" HD+	720p	240G FDE SSD	Backlit	Intel 6205	WWAN upg	None	BT	6	No	Win8 Pro64	06/13
2429-8DG	i5-3230M	4GBx1	15.6" HD+	720p	240G FDE SSD	Backlit	Intel 6205	WWAN upg	None	BT	6	No	Win7 Pro64	06/13
2429-8CG	i5-3230M	4GBx1	15.6" HD	720p	500G 7200	Backlit	Intel 6205	WWAN upg	None	BT	6	No	Win8 Pro64	06/13
2429-8BG	i5-3230M	4GBx1	15.6" HD	720p	500G 7200	Backlit	Intel 6205	WWAN upg	None	BT	6	No	Win7 Pro64	06/13
2429-8JG	i5-3230M	4GBx1	15.6" HD+	720p	256G SSD OPAL	Backlit	Intel 6205	WWAN upg	None	BT	6	No	Win8 Pro64	06/13
2429-8HG	i5-3230M	4GBx1	15.6" HD+	720p	256G SSD OPAL	Backlit	Intel 6205	WWAN upg	None	BT	6	No	Win7 Pro64	06/13
Positioning Processor	<i>Premiere performance; two spindles</i> <b>Intel® Core™ i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology												<b>Preloaded operating system<sup>20</sup></b>	
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller												- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive												<b>Preloaded applications<sup>5</sup> (only some listed)</b>	
mSATA™ SSD	None												<b>Windows 7 models</b>	
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut												<b>Windows 8 models</b>	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												<b>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</b>	
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)												<b>All models</b>	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												<b>Lenovo Support</b>	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint												<b>Lenovo Companion</b>	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 15.3 hr; 9-cell plus 9-cell Slice battery (94Whr, OA36304): up to 30.6 hr												<b>Lenovo QuickLaunch</b>	
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)												<b>AccuWeather</b>	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack												<b>PC Device Stage</b>	
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												<b>Cyberlink Power2Go (DVD±RW)</b>	
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available												<b>Cyberlink PowerProducer (DVD±RW)</b>	
													<b>Norton™ Internet Security (30 days of virus definitions)</b>	
													<b>Lenovo Cloud Storage by SugarSync</b>	
													<b>Microsoft® Office preloaded; purchase a product key to activate</b>	
													<b>Norton™ Internet Security (30 days of virus definitions)</b>	
													<b>Supports ThinkVantage® technologies</b>	
	65-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>													

See footnotes for more detailed information

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ThinkPad T530 2429 (Optimus) - Onsite

*Product Specifications Reference (PSREF)*

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Battery cells	Power Adapter (watt)	Intel AMT	Global (G) Intel vPro	Global (G) GMP (P)	Ann Date Preload(mm/y)
2429-2VG	i7-3610QM	4GBx1	15.6" HD+	500G 7200	Backlit	Intel 6205 <sup>28</sup>	Ericsson	selectable	9	135W	None	No	Pro 64	06/12
2429-2UG	i7-3610QM	4GBx1	15.6" FHD	180G SSD	Backlit	Intel 6205	Ericsson	selectable	9	135W	None	No	Pro 64	06/12
2429-5RG	i7-3520M	4GBx1	15.6" FHD	180G SSD	None	Intel 6205	WWAN upg	None	9	90W	iAMT	vPro G P	Pro 64	06/12
2429-5TG	i7-3520M	4GBx1	15.6" HD+	180G SSD	None	Intel 6205	WWAN upg	None	9	90W	iAMT	vPro G P	Pro 64	06/12
2429-5WG	i7-3520M	4GBx1	15.6" FHD	500G 7200	None	Intel 6205	WWAN upg	None	9	90W	iAMT	vPro G P	Pro 64	06/12
2429-5XG	i7-3520M	4GBx1	15.6" HD+	500G 7200	None	Intel 6205	WWAN upg	None	9	90W	iAMT	vPro G P	Pro 64	06/12
2429-5ZG	i5-3320M	4GBx1	15.6" FHD	500G 7200	None	Intel 6205	WWAN upg	None	9	90W	iAMT	vPro G P	Pro 64	06/12
2429-61G	i5-3320M	4GBx1	15.6" HD+	500G 7200	None	Intel 6205	WWAN upg	None	9	90W	iAMT	vPro G P	Pro 64	06/12
2429-63G	i5-3320M	4GBx1	15.6" HD+	320G 7200	None	Intel 6205	WWAN upg	None	9	90W	iAMT	vPro G P	Pro 64	06/12
2429-65G	i5-3320M	4GBx1	15.6" HD	320G 7200	None	Intel 6205	WWAN upg	None	9	90W	iAMT	vPro G P	Pro 64	06/12
Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology <b>Intel Core i7-3610QM processor (4 cores, 2.30GHz, 6MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology												Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64	
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller												Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul>	
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive												Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> </ul>	
mSATA™ SSD	None													
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut													
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, <b>1GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)													
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													
Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40", 372.8mm x 245.1mm x 31.8-35.6mm													
Weight <sup>2</sup>	6-cell: starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg)													
Case material	Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint													
Battery - type	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication													
Battery - life <sup>10</sup>	6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr													
Chipset	<b>Mobile Intel QM77 Express Chipset</b>													
ExpressCard	One slot (ExpressCard/34)													
Smart Card Read	None													
Multicard Reader	4-in-1 reader (MMC, SD, SDHC, SDXC)													
Ports	Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)													
PCIe Mini Card	Two PCI Express Mini Card slots													
PCIe WLAN <sup>4</sup>	11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2													
PCIe WWAN	Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS													
SIM card Modem	Some: User selectable, contract required with service provider													
IEEE 1394	None													
Bluetooth™	IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)													
Ethernet	Bluetooth 4.0 wireless													
Intel AMT	Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1													
Audio support	Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack													
Security	Power-on password, hard disk password, supervisor password, security keyhole													
Security chip	Trusted Platform Module, TCG 1.2-compliant													
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available													
	International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>													

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Smart Card Reader	Fingerprint reader	Battery cells	Intel vPro	Ann Date
													(mm/y)
2429-77G	i5-2520M	4GBx1	15.6" FHD	180G SSD	Backlit	Intel 6300 <sup>28</sup>	Ericsson	Selectable	Smart	Finger 9	None	Pro 64	10/12
2429-76G	i5-2520M	4GBx1	15.6" FHD	128G SSD	None	Intel 6205 <sup>28</sup>	WWAN upg	None	None	Finger 9	None	Pro 64	10/12
2429-75G	i5-2520M	4GBx1	15.6" HD+	500G 7200	Backlit	Intel 6205	Ericsson	Selectable	Smart	Finger 9	None	Pro 64	10/12

Positioning Processor	<i>Premiere performance; two spindles Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</i>										Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	<i>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller</i>										Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>
Optical Ultrabay SATA disk	<i>DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</i>										Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	<i>None</i>										Widescreen display
Widescreen display	<i>Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut</i>										Camera
Camera	<i>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</i>										Graphics
Graphics	<i>NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 3000 in processor, and NVIDIA NVS™ 5400M, PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)</i>										Keyboard TrackPoint® Touchpad ThinkLight™
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>										Dimensions <sup>3</sup> Weight <sup>2</sup> Case material
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	<i>15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint</i>										Battery - type Battery - life <sup>10</sup>
Battery - type Battery - life <sup>10</sup>	<i>Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr</i>										Chipset ExpressCard Smart Card Read Multicard Reader Ports
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<i>Mobile Intel QM77 Express Chipset One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)</i>										PCIe Mini Card PCIe WLAN <sup>4</sup>
PCIe Mini Card PCIe WLAN <sup>4</sup>	<i>Two PCI Express Mini Card slots Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS</i>										PCIe WWAN
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	<i>Some: User selectable, contract required with service provider None IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard) Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</i>										Security Security chip Fingerprint reader
Security Security chip Fingerprint reader	<i>Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</i>										Limited warranty <sup>12</sup>
Limited warranty <sup>12</sup>	<i>3-years/1-year battery, limited onsite service<sup>24</sup>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</i>										Supports ThinkVantage® technologies
											90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> /rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe WWAN /mSATA	Mini Card SIM card	Smart Card Reader	Battery cells	Power Adapter (watt)	Intel AMT	Global (G) Intel vPro (P)	GMP	Ann Date
2429-6LG	i5-3210M	4GBx1	15.6" HD+	500G 7200	Backlit	6205 <sup>28</sup>	Ericsson	selectable	Smart	6	90W	No	No	Win7 Pro64	10/12
2429-6JG	i7-3630QM	4GBx1	15.6" HD+	500G 7200	Backlit	6205	Ericsson	selectable	None	9	135W	No	No	Win7 Pro64	10/12
2429-6HG	i7-3630QM	4GBx2	15.6" FHD	180G SSD	Backlit	6205	Ericsson	selectable	None	9	135W	No	No	Win7 Pro64	10/12
2429-41G	i7-3520M	4GBx1	15.6" HD+	500G 7200	None	6205	upg	None	None	9	90W	iAMT	vPro G P	Win8 Pro64	10/12
2429-6FG	i7-3630QM	4GBx1	15.6" HD+	500G 7200	Backlit	6205	Ericsson	selectable	None	9	135W	No	No	Win8 Pro64	10/12
2429-6EG	i7-3630QM	4GBx2	15.6" FHD	180G SSD	Backlit	6205	Ericsson	selectable	None	9	135W	No	No	Win8 Pro64	10/12
2429-6CG	i5-3210M	4GBx1	15.6" HD+	500G 7200	Backlit	6205	Ericsson	selectable	Smart	6	90W	No	No	Win8 Pro64	10/12
2429-8GG	i7-3630QM	8GBx1	15.6" FHD	256G SSD OPAL	Backlit	6205	Ericsson	selectable	None	9	135W	No	No	Win8 Pro64	06/13
2429-8FG	i7-3630QM	8GBx1	15.6" FHD	256G SSD OPAL	Backlit	6205	Ericsson	selectable	None	9	135W	No	No	Win7 Pro64	06/13

• Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology <b>Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology <b>Intel Core i7-3630QM processor (4 cores, 2.40GHz, 6MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology	<b>Preloaded operating system<sup>20</sup></b> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	<b>Preloaded applications<sup>5</sup></b> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>Access Connections™</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li><li>Adobe® Reader®</li><li>Windows Live™ Essentials</li><li>Corel® WinDVD® (DVD±RW)</li><li>Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li><li>AccuWeather</li><li>PC Device Stage</li><li>Cyberlink Power2Go (DVD±RW)</li><li>Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>ThinkVantage System Update</li><li>Fingerprint Software (fingerprint models)</li><li>Lenovo Cloud Storage by SugarSync</li><li>Microsoft® Office preloaded; purchase a product key to activate</li><li>Norton™ Internet Security (30 days of virus definitions)</li></ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	
mSATA™ SSD	None	
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, <b>1GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr, OA36304): up to 25.6 hr	
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS	
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard) Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack	
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available	
Supports ThinkVantage® technologies		
90-watt or 135-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>		

Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe WWAN /mSATA	Mini Card SIM card	Smart Card Reader	Fingerprint reader	Battery cells (watt)	Power Adapter vPro	Power Adapter Intel vPro	Ann Date (mm/yy)	
2429-82G	i5-3230M	4GBx1	15.6" HD+	500G 7200	Backlit	6205 <sup>28</sup>	Ericsson	selectable	Smart	Finger	6	90W	No	Win8 Pro64	03/13
2429-7ZG	i5-3230M	4GBx1	15.6" HD+	500G 7200	Backlit	6205	Ericsson	selectable	Smart	Finger	6	90W	No	Win7 Pro64	03/13
2429-7YG	i7-3630QM	8GBx1	15.6" FHD	240G FDE SSD	Backlit	6205	Ericsson	selectable	None	Finger	9	135W	No	Win8 Pro64	03/13
2429-7XG	i7-3630QM	8GBx1	15.6" FHD	240G FDE SSD	Backlit	6205	Ericsson	selectable	None	Finger	9	135W	No	Win7 Pro64	03/13
2429-8AG	i5-3230M	4GBx1	15.6" HD+	500G 7200	Backlit	6205	Ericsson	selectable	Smart	None	6	90W	No	Win8 Pro64	06/13
2429-89G	i5-3230M	4GBx1	15.6" HD+	500G 7200	Backlit	6205	Ericsson	selectable	Smart	None	6	90W	No	Win7 Pro64	06/13

Positioning Processor	<i>Premiere performance; two spindles</i> <b>Intel® Core™ i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology <b>Intel Core i7-3630QM processor (4 cores, 2.40GHz, 6MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology													Preloaded operating system <sup>20</sup>
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller													- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive													Preloaded applications <sup>5</sup> (only some listed)
mSATA™ SSD	None													- <b>Windows 7 models</b>
Widescreen display	<i>Some:</i> <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some:</i> <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some:</i> <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut													• Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap • Adobe® Reader® • Windows Live™ Essentials • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													- <b>Windows 8 models</b>
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA NVS™ 5400M</b> , PCI Express® x16, <b>1GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)													• Lenovo Support • Lenovo Companion • Lenovo QuickLaunch • AccuWeather • PC Device Stage • Cyberlink Power2Go (DVD±RW) • Cyberlink PowerProducer (DVD±RW)
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													- <b>All models</b>
Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm													• Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security (30 days of virus definitions)
Weight <sup>2</sup>	6-cell: starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg)													
Case material	Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint													
Battery - type	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication													
Battery - life <sup>10</sup>	6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr, OA36304): up to 25.6 hr													
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS													Supports ThinkVantage® technologies
SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	User selectable, contract required with service provider None IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard) Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack													
Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available													

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit key-board	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Finger print reader	Blue-tooth	Bat-tery cells	Intel vPro	Ann Date (mm/yy)
2392-39G	i3-2370M	4GBx1	15.6" HD	720p	320G 7200	Backlit	Intel 2200	WWAN upg	None	Finger	BT	6	None	Pro 64 06/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	Premiere performance; two spindles <b>Intel® Core™ i3-2370M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 3000,</b> DDR3 memory controller (up to 1333MHz), HT technology	Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive	Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD™ (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul>
mSATA™ SSD	None	
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 3000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint	
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 15.3 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 30.6 hr	
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack	
Security chip	Power-on password, hard disk password, supervisor password, security keyhole	Supports ThinkVantage® technologies
Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	90-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	

See footnotes for more detailed information

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	Fingerprint reader	Battery toothcells	Bat- Intel vPro	Ann Date (mm/yy)
2392-AHG	i3-3110M	4GBx1	15.6" HD	720p	500G 7200	Backlit	Intel 2200	WWAN upg	Finger	BT 6	None	Win7 Pro64 10/12
2392-5WG	i3-3110M	4GBx1	15.6" HD	720p	500G 7200	Backlit	Intel 2200	WWAN upg	Finger	BT 6	None	Win8 Pro64 10/12
2392-CMG	i3-3120M	4GBx1	15.6" HD	720p	500G 7200	Backlit	Intel 2200	WWAN upg	Finger	BT 6	None	Win8 Pro64 02/13
2392-E6G	i3-3120M	4GBx1	15.6" HD+	720p	180G SSD	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	Finger	BT 6	None	Win8 Pro64 03/13
2392-E5G	i3-3120M	4GBx1	15.6" HD+	720p	180G SSD	Backlit	Intel 6205	WWAN upg	Finger	BT 6	None	Win7 Pro64 03/13
2392-E4G	i3-3120M	4GBx1	15.6" HD	720p	500G 7200	Backlit	Intel 2200	WWAN upg	Finger	BT 6	None	Win7 Pro64 03/13
2392-ENG	i3-3120M	4GBx1	15.6" HD+	720p	256G SSD OPAL	Backlit	Intel 6205	WWAN upg	None	BT 6	None	Win8 Pro64 06/13
2392-EMG	i3-3120M	4GBx1	15.6" HD+	720p	256G SSD OPAL	Backlit	Intel 6205	WWAN upg	None	BT 6	None	Win7 Pro64 06/13

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

- A depot repair service 3-year limited warranty

Positioning Processor	<i>Premiere performance; two spindles</i> <b>Intel® Core™ i3-3110M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology</b> <b>Intel Core i3-3120M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology</b>											
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller											
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive											
mSATA™ SSD	None											
Widescreen display	Some: <b>15.6" (396mm) HD (1366x768) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut											
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)											
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions											
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint											
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 15.3 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 30.6 hr											
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)											
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2											
PCIe WWAN SIM card Modem IEEE 1394 Bluetooth™ Ethernet Intel AMT Audio support	Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack											
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip											
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available											

See footnotes for more detailed information

#### Preloaded operating system<sup>20</sup>

- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
- Some: Windows 8 Pro 64-bit

#### Preloaded applications<sup>5</sup> (only some listed)

- **Windows 7 models**
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader®
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD±RW)
  - Corel Burn.Now™ Lenovo Edition (DVD±RW)
  - Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
- **Windows 8 models**
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go (DVD±RW)
  - Cyberlink PowerProducer (DVD±RW)

#### All models

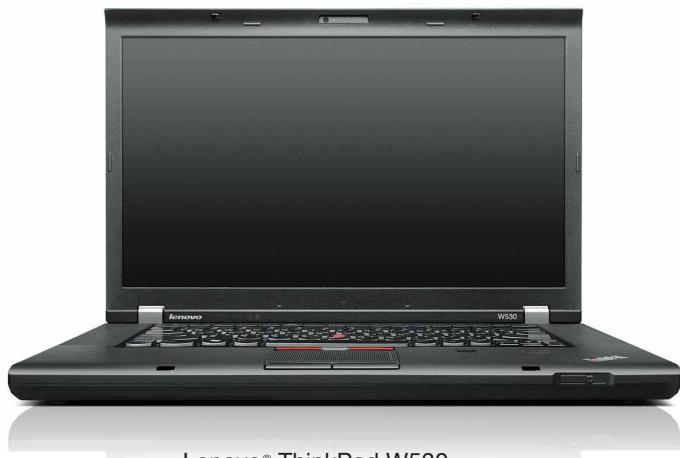
- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- Fingerprint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded; purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

#### Supports ThinkVantage® technologies

- 65-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)
- EPEAT™ Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service<sup>17</sup>
- 24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>

## ThinkPad W530

Product Specifications Reference (PSREF)



Lenovo® ThinkPad W530



Lenovo ThinkPad W530



Lenovo ThinkPad W530



Lenovo ThinkPad W530



Lenovo ThinkPad W530 with  
four displays



Lenovo ThinkPad W530

Type-model	Processor	Memory	Wide-screen display	Discrete graphics	Disk SATA GB <sup>8</sup> rpm	RAID	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Color calib	Battery cells	Intel vPro	Preload	Ann Date (mm/y)
2438-4GG	i7-3720QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	None	Intel 6205 <sup>28</sup>	WWAN upg	None	6	vPro	Win7 Pro64	10/12
2438-4FG	i7-3820QM	4GBx1	15.6" FHD	K1000M	1x500G 7200	No	None	Intel 6205	WWAN upg	None	6	vPro	Win7 Pro64	10/12
2438-4EG	i7-3720QM	4GBx1	15.6" HD	K1000M	1x320G 7200	No	None	Intel 6205	WWAN upg	None	6	vPro	Win7 Pro64	10/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty
- Power-packed engineering with Open GL graphics and ISV certifications

Positioning Processor	<i>Mobile workstation; two spindles</i> <b>Intel® Core™ i7-3720QM processor (4 cores, 2.60GHz, 6MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology <b>Intel Core i7-3820QM processor (4 cores, 2.70GHz, 8MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology													Preloaded operating system <sup>20</sup>
Memory	<i>dual-core model:</i> 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets <i>quad-core model:</i> 32GB max, four 204-pin SO-DIMM sockets <i>All:</i> PC3-12800 1600MHz DDR3, non-parity, dual-channel capable													Preloaded applications <sup>5</sup> (only some listed)
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ <i>All:</i> removable, upgradable, supports the second disk, Shock Mounted Hard Drive													- <b>Windows 7 models</b>
mSATA™ SSD	None													• Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap • Adobe® Reader® • Windows Live™ Essentials • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
Widescreen display	<i>Some:</i> 14.0" (355mm) <b>HD (1366x768) color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> 15.6" (396mm) <b>HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some:</i> 15.6" (396mm) <b>Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut													- <b>Windows 8 models</b>
Color calibration Camera	None HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													• Lenovo Support • Lenovo Companion • Lenovo QuickLaunch • AccuWeather • PC Device Stage • Cyberlink Power2Go (DVD±RW) • Cyberlink PowerProducer (DVD±RW)
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA Quadro® K1000M or K2000M</b> , PCI Express® x16, <b>2GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <i>Maximum external resolution:</i> 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)													- <b>All models</b>
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													• Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security (30 days of virus definitions)
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.76 lb (2.62kg); 9-cell: starting at 6.19 lb (2.81kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint													
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr, 0A36304): up to 25.6 hr													
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)													Supports ThinkVantage® technologies
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCIe Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack													170-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available													

See footnotes for more detailed information

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# ThinkPad W530 2441 (Optimus)

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Wide-screen display	Discrete graphics	Disk SATA GB <sup>8</sup> rpm	RAID	SATA optical	Backlit keyboard	PCIe Mini WLAN	PCIe Mini Card WWAN mSATA	Finger reader	Battery cells	Global (G) Intel vPro (P)	GMP	Ann Date
2441-3TG	i7-3720QM	4GBx1	15.6" FHD	K1000M	2x500G 7200	1	None	None	Intel 6205 <sup>28</sup>	upg	Finger	9	vPro	G	Pro 64 06/12
2441-3SG	i7-3720QM	4GBx1	15.6" FHD	K1000M	2x500G 7200	0	None	None	Intel 6205	upg	Finger	9	vPro	G	Pro 64 06/12
2441-23G	i7-3820QM	4GBx2	15.6" FHD	K2000M	1x500G 7200	No	DVD±RW	None	Intel 6205	upg	Finger	9	vPro	G	Pro 64 06/12
2441-22G	i7-3720QM	4GBx1	15.6" HD+	K1000M	1x320G 7200	No	DVD±RW	None	Intel 6205	upg	Finger	9	vPro	G	Pro 64 06/12
2441-5RG	i7-3740QM	4GBx1	15.6" HD+	K1000M	1x320G 7200	No	DVD±RW	None	Intel 6205	upg	Finger	9	vPro	G	Pro 64 02/13
2441-5QG	i7-3840QM	4GBx2	15.6" FHD	K2000M	1x500G 7200	No	DVD±RW	None	Intel 6205	upg	Finger	9	vPro	G	Pro 64 02/13

- A depot repair service 3-year limited warranty
- Power-packed engineering with Open GL graphics and ISV certifications

Positioning Processor	<p>Mobile workstation; two spindles</p> <p><b>Intel® Core™ i7-3720QM processor (4 cores, 2.60GHz, 6MB cache), Intel HD Graphics 4000</b>, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</p> <p><b>Intel Core i7-3740QM processor (4 cores, 2.70GHz, 6MB cache)</b>, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology</p> <p><b>Intel Core i7-3820QM processor (4 cores, 2.70GHz, 8MB cache)</b>, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology</p> <p><b>Intel Core i7-3840QM processor (4 cores, 2.80GHz, 8MB cache)</b>, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.80GHz), HT technology</p>	Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	<p>dual-core model: 16GB max<sup>7</sup>, two 204-pin SO-DIMM sockets</p> <p>quad-core model: 32GB max, four 204-pin SO-DIMM sockets</p> <p>All: PC3-12800 1600MHz DDR3, non-parity, dual-channel capable</p>	Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul>
Optical Ultrabay SATA disk	<p>Some: DVD burner, 12.7mm Ultrabay Enhanced, removable</p> <p>One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access</p> <p>Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high</p> <p>Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™</p> <p>All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</p>	Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> <li>• X-Rite® Pantone® Color Calibrator (color calibration models)</li> </ul>
mSATA™ SSD	<p>None</p>	
Widescreen display	<p>Some: 15.6" (396mm) <b>HD+ (1600x900) color</b>, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut</p> <p>Some: 15.6" (396mm) <b>Full HD (1920x1080) color</b>, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut</p>	
Color calibration Camera	<p>None</p> <p>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</p>	
Graphics	<p>NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and</p> <p><b>NVIDIA Quadro® K1000M or K2000M</b>, PCI Express® x16, <b>2GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays;</p> <p><b>Maximum external resolution:</b> 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)</p>	
Keyboard TrackPoint® Touchpad ThinkLight™	<p>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight</p> <p>TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass</p> <p>UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch</p> <p>Illuminates the keyboard to improve visibility in low-light conditions</p>	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	<p>15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm</p> <p>6-cell: starting at 5.76 lb (2.62kg); 9-cell: starting at 6.19 lb (2.81kg)</p> <p>Display cover: Carbon-fiber / Glass-fiber hybrid;</p> <p>Bottom: Glass-fiber reinforced plastic without paint</p>	
Battery - type Battery - life <sup>10</sup>	<p>Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication</p> <p>6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr;</p> <p>9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr</p>	
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<p><b>Mobile Intel QM77 Express Chipset</b></p> <p>One slot (ExpressCard/34)</p> <p>None</p> <p>4-in-1 reader (MMC, SD, SDHC, SDXC)</p> <p>Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)</p>	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	<p>Two PCI Express Mini Card slots</p> <p>11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2</p> <p>Wireless WAN upgradable</p> <p>None</p> <p>None</p> <p>Bluetooth 4.0 wireless</p> <p>Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1</p> <p>Intel Active Management Technology (iAMT)</p> <p>HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</p>	Supports ThinkVantage® technologies
Security Security chip Fingerprint reader	<p>Power-on password, hard disk password, supervisor password, security keyhole</p> <p>Trusted Platform Module, TCG 1.2-compliant</p> <p>AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</p>	
Limited warranty <sup>12</sup> 3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available		170-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Discrete graphics	Disk SATA GB <sup>8</sup> /rpm	RAID board	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Fingerprint reader	Battery cells	Global (G) Intel GMP (P)	Ann Date (mm/yy)
2441-45G	i7-3820QM	4GBx2	15.6" FHD	K2000M	1x500G 7200	No	None	Intel 6205 <sup>28</sup>	WWAN upg	Finger	9	vPro G	Win8 Pro64 10/12
2441-46G	i7-3720QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	None	Intel 6205	WWAN upg	Finger	9	vPro G	Win8 Pro64 10/12

- A depot repair service 3-year limited warranty
- Power-packed engineering with Open GL graphics and ISV certifications

Positioning Processor	<i>Mobile workstation; two spindles</i> <b>Intel® Core™ i7-3720QM processor (4 cores, 2.60GHz, 6MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology <b>Intel Core i7-3820QM processor (4 cores, 2.70GHz, 8MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology												<b>Preloaded operating system<sup>20</sup></b> - Windows® 8 Pro 64-bit
Memory	<i>dual-core model:</i> 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets <i>quad-core model:</i> 32GB max, four 204-pin SO-DIMM sockets <i>All:</i> PC3-12800 1600MHz DDR3, non-parity, dual-channel capable												<b>Preloaded applications<sup>5</sup></b> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>• Lenovo® Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• ThinkVantage Power Manager</li><li>• Lenovo SimpleTap</li><li>• Adobe® Reader®</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>• Lenovo Support</li><li>• Lenovo Companion</li><li>• Lenovo QuickLaunch</li><li>• AccuWeather</li><li>• PC Device Stage</li><li>• Cyberlink Power2Go (DVD±RW)</li><li>• Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>• Lenovo Solution Center</li><li>• Password Manager</li><li>• ThinkVantage System Update</li><li>• Fingerprint Software (fingerprint models)</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security (30 days of virus definitions)</li></ul>
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ <i>All:</i> removable, upgradable, supports the second disk, Shock Mounted Hard Drive												
mSATA™ SSD	None												
Widescreen display	<i>Some:</i> 15.6" (396mm) <b>HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <i>Some:</i> 15.6" (396mm) <b>Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut												
Color calibration Camera	Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA Quadro® K1000M or K2000M</b> , PCI Express® x16, 2GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <i>Maximum external resolution:</i> 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)												
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.76 lb (2.62kg); 9-cell: starting at 6.19 lb (2.81kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint												
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr, 0A36304): up to 25.6 hr												
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)												
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader Limited warranty <sup>12</sup>	Two PCIe Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip <b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>												Supports ThinkVantage® technologies
	170-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>												

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display graphics	Disk SATA GB <sup>8</sup> rpm	RAID	SATA optical	Backlit key-board	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	Smart Card SIM card	Bat-tery	Global (G) Intel AMT	Global (G) Intel vPro	GMP (P)	Global (G) Preload															
2447-44G	i7-3720QM	4GBx1	HD+ K1000M	1x500G 7200	No	DVD±RW	Backlit	6300 <sup>28</sup>	upg	None	Smart Card Reader	X-Rite 9	iAMT	vPro	Pro 64															
2447-43G	i7-3820QM	4GBx2	FHD K2000M	1x500G 7200	No	DVD±RW	Backlit	6300	upg	None	None	X-Rite 9	iAMT	vPro	Pro 64															
2447-3TG	i7-3720QM	4GBx1	FHD K1000M	2x500G 7200	1	None	None	6205 <sup>28</sup>	upg	None	None	None 9	iAMT	vPro	G P Pro 64															
2447-3SG	i7-3720QM	4GBx1	FHD K1000M	2x500G 7200	0	None	None	6205	upg	None	None	None 9	iAMT	vPro	G P Pro 64															
2447-2EG	i7-3610QM	4GBx1	HD+ K1000M	1x500G 7200	No	DVD±RW	Backlit	6300	upg	None	None	None 9	None	None	Pro 64															
2447-29G	i7-3720QM	4GBx2	FHD K1000M	1x180G SSD	No	DVD±RW	None	6205	Ericsson	Lenovo	Smart None 9	iAMT	vPro	Pro 64																
2447-23G	i7-3820QM	4GBx2	FHD K2000M	1x500G 7200	No	DVD±RW	None	6205	upg	None	None	None 9	iAMT	vPro	G P Pro 64															
2447-22G	i7-3720QM	4GBx1	HD+ K1000M	1x320G 7200	No	DVD±RW	None	6205	upg	None	None	None 9	iAMT	vPro	G P Pro 64															
Positioning Processor	<b>Mobile workstation; two spindles</b> <b>Intel® Core™ i7-3610QM processor (4 cores, 2.30GHz, 6MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</b> <b>Intel Core i7-3720QM processor (4 cores, 2.60GHz, 6MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</b> <b>Intel Core i7-3820QM processor (4 cores, 2.70GHz, 8MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology</b>												<b>Preloaded operating system<sup>20</sup></b> Genuine Windows® 7 Professional 64																	
Memory	<b>dual-core model:</b> 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets <b>quad-core model:</b> 32GB max, four 204-pin SO-DIMM sockets <b>All:</b> PC3-12800 1600MHz DDR3, non-parity, dual-channel capable												<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>																	
Optical Ultrabay SATA disk	<b>Some:</b> DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access <b>Some:</b> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <b>Some:</b> HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ <b>All:</b> removable, upgradable, supports the second disk, Shock Mounted Hard Drive												<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Intel Small Business Advantage</li><li>• RapidBoot HDD Accelerator</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li><li>• X-Rite® Pantone® Color Calibrator (color calibration models)</li></ul>																	
mSATA™ SSD	<b>None</b>																													
Widescreen display	<b>Some:</b> 15.6" (396mm) <b>HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <b>Some:</b> 15.6" (396mm) <b>Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut																													
Color calibration Camera	<b>Some:</b> Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																													
Graphics	<b>NVIDIA® Optimus™</b> technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA Quadro® K1000M or K2000M</b> , PCI Express® x16, <b>2GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <b>Maximum external resolution:</b> 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)																													
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions																													
Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm																													
Weight <sup>2</sup>	6-cell: starting at 5.76 lb (2.62kg); 9-cell: starting at 6.19 lb (2.81kg)																													
Case material	<b>Display cover:</b> Carbon-fiber / Glass-fiber hybrid; <b>Bottom:</b> Glass-fiber reinforced plastic without paint																													
Battery - type	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication																													
Battery - life <sup>10</sup>	6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr																													
Chipset ExpressCard	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34)																													
Smart Card Read Multicard Reader Ports	Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)																													
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots <b>Some:</b> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <b>Some:</b> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 <b>Some:</b> Wireless WAN upgradable <b>Some:</b> Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS																													
PCIe WWAN																														
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	<b>Some:</b> Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <b>Some:</b> Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole																													
Security chip	Trusted Platform Module, TCG 1.2-compliant																													
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip																													
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available																													
Supports ThinkVantage® technologies																														
170-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																														

Type-model	Processor	Memory	Wide-screen display	Discrete graphics	Disk SATA GB <sup>8</sup> / rpm	RAID	Backlit key-board	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	SIM card	Smart Card Reader	Battery calib cells	Color Intel vPro	Ann Date	Pre-load (mm/yy)
2447-42G	i7-3720QM	4GBx2	15.6" FHD	K1000M	1x180G SSD	No	Backlit	6300 <sup>28</sup>	WWAN upg	None	Smart	X-Rite	9 vPro	Pro 64	07/12
2447-3ZG	i7-3720QM	4GBx2	15.6" FHD	K1000M	1x128G SSD	No	None	6205 <sup>28</sup>	Ericsson	Lenovo	Smart	None	9 vPro	Pro 64	07/12
2447-2BG	i7-3720QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	Backlit	6300	16GB mSATA	None	Smart	X-Rite	9 vPro	Pro 64	07/12
2447-2AG	i7-3820QM	4GBx2	15.6" FHD	K2000M	1x500G 7200	No	Backlit	6300	16GB mSATA	None	None	X-Rite	9 vPro	Pro 64	07/12
2447-48G	i7-3720QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	Backlit	6300	32GB mSATA	None	Smart	X-Rite	9 vPro	Pro 64	07/12
2447-47G	i7-3820QM	4GBx2	15.6" FHD	K2000M	1x500G 7200	No	Backlit	6300	32GB mSATA	None	None	X-Rite	9 vPro	Pro 64	07/12

• Power-packed engineering with Open GL graphics and ISV certifications

Positioning Processor	<p><i>Mobile workstation; two spindles</i></p> <p><b>Intel® Core™ i7-3720QM processor (4 cores, 2.60GHz, 6MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</b></p> <p><b>Intel Core i7-3820QM processor (4 cores, 2.70GHz, 8MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology</b></p>													Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	<p><i>dual-core model:</i> 16GB max<sup>7</sup>, two 204-pin SO-DIMM sockets</p> <p><i>quad-core model:</i> 32GB max, four 204-pin SO-DIMM sockets</p> <p><i>All:</i> PC3-12800 1600MHz DDR3, non-parity, dual-channel capable</p>												Ready to install applications <sup>14</sup> (only some listed)	<ul style="list-style-type: none"> <li>• Rescue and Recovery™</li> <li>• Password Manager</li> </ul>
Optical Ultrabay SATA disk	<p>DVD burner, 12.7mm Ultrabay Enhanced, removable</p> <p>One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access</p> <p><i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high</p> <p><i>Some:</i> HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™</p> <p><i>All:</i> removable, upgradable, supports the second disk, Shock Mounted Hard Drive</p> <p><i>Some:</i> mSATA Solid State Drive (SSD), via PCIe Mini Card slot</p>												Preloaded applications <sup>14</sup> (only some listed)	<ul style="list-style-type: none"> <li>• Lenovo® Solution Center</li> <li>• Lenovo Message Center Plus</li> <li>• ThinkVantage Product Recovery</li> <li>• Access Connections™</li> <li>• Fingerprint Software (fingerprint models)</li> <li>• ThinkVantage System Update</li> <li>• ThinkVantage Power Manager</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• Lenovo SimpleTap</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li> <li>• Adobe® Reader®</li> <li>• Skype™ for Windows</li> <li>• Evernote®</li> <li>• Intel Small Business Advantage</li> <li>• RapidBoot HDD Accelerator</li> <li>• Symantec™ VIP</li> <li>• Windows Live™ Essentials</li> <li>• Corel® WinDVD® (DVD±RW)</li> <li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li> <li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li> <li>• X-Rite® Pantone® Color Calibrator (color calibration models)</li> </ul>
mSATA™ SSD	<p><i>Some:</i> 15.6" (396mm) <b>HD+ (1600x900) color</b>, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut</p> <p><i>Some:</i> 15.6" (396mm) <b>Full HD (1920x1080) color</b>, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut</p>												Color calibration Camera	<i>Some:</i> Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus
Graphics	<p>NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and</p> <p><b>NVIDIA Quadro® K1000M or K2000M</b>, PCI Express® x16, <b>2GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays;</p> <p><i>Maximum external resolution:</i> 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)</p>												Graphics	
Keyboard TrackPoint® Touchpad ThinkLight™	<p>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight</p> <p>TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass</p> <p>UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch</p> <p>Illuminates the keyboard to improve visibility in low-light conditions</p>												Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm
Weight <sup>2</sup>	<p>6-cell: starting at 5.76 lb (2.62kg); 9-cell: starting at 6.19 lb (2.81kg)</p>												Case material	Display cover: Carbon-fiber / Glass-fiber hybrid;
	<p><i>Bottom:</i> Glass-fiber reinforced plastic without paint</p>												Battery - type	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication
Battery - life <sup>10</sup>	<p>6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr;</p> <p>9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr</p>												Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) <i>Some:</i> Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)
PCIe Mini Card PCIe WLAN <sup>4</sup>	<p>Two PCI Express Mini Card slots</p> <p><i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2</p> <p><i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3</p>												PCIe WWAN	<i>Some:</i> Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	<p><i>Some:</i> Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required</p> <p>None</p> <p>Bluetooth 4.0 wireless</p> <p>Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1</p> <p>Intel Active Management Technology (iAMT)</p> <p>HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</p>												Security chip	Power-on password, hard disk password, supervisor password, security keyhole
Security chip	<p>Trusted Platform Module, TCG 1.2-compliant</p>												Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip
Limited warranty <sup>12</sup>	<p><b>3-years/1-year battery, limited onsite service<sup>24</sup></b>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</p>													Supports ThinkVantage® technologies
	<p>170-watt AC adapter</p> <p>ThinkPad Roll Cage (one-piece magnesium frame)</p> <p>EPEAT™ Gold rating</p> <p>ENERGY STAR® 5.0-compliant</p> <p>GREENGUARD® certified</p> <p>RoHS-compliant</p> <p>International Warranty Service<sup>17</sup></p> <p>24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup></p>													

See footnotes for more detailed information

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# ThinkPad W530 2447 (Optimus) - Onsite (Windows 8)

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Wide-screen display	Discrete graphics	Disk SATA GB <sup>8</sup> rpm	RAID board	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Smart Reader cells	Battery vPro (P)	Global (G) Intel GMP	Ann Date (mm/yy)
2447-45G	i7-3720QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	None	Intel 6205 <sup>28</sup>	WWAN upg	None	9 vPro	G P Win8 Pro64	10/12
2447-46G	i7-3820QM	4GBx2	15.6" FHD	K2000M	1x500G 7200	No	None	Intel 6205	WWAN upg	None	9 vPro	G P Win8 Pro64	10/12
2447-4JG	i7-3720QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	Backlit	Intel 6300 <sup>28</sup>	32GB mSATA	Smart	9 vPro	Win7 Pro64	10/12
2447-4HG	i7-3720QM	4GBx2	15.6" FHD	K2000M	1x240G FDE SSD	No	Backlit	Intel 6300	WWAN upg	Smart	9 vPro	Win7 Pro64	10/12
2447-4GG	i7-3820QM	4GBx2	15.6" FHD	K2000M	1x500G 7200	No	Backlit	Intel 6300	32GB mSATA	None	9 vPro	Win7 Pro64	10/12
2447-4BG	i7-3720QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	Backlit	Intel 6300	32GB mSATA	Smart	9 vPro	Win8 Pro64	10/12
2447-4AG	i7-3720QM	4GBx2	15.6" FHD	K2000M	1x240G FDE SSD	No	Backlit	Intel 6300	WWAN upg	Smart	9 vPro	Win8 Pro64	10/12
2447-49G	i7-3820QM	4GBx2	15.6" FHD	K2000M	1x500G 7200	No	Backlit	Intel 6300	32GB mSATA	None	9 vPro	Win8 Pro64	10/12

- Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty
- Power-packed engineering with Open GL graphics and ISV certifications

Positioning Processor	Mobile workstation; two spindles <b>Intel® Core™ i7-3720QM processor (4 cores, 2.60GHz, 6MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology <b>Intel Core i7-3820QM processor (4 cores, 2.70GHz, 8MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology											Preloaded operating system <sup>20</sup>
Memory	<b>dual-core model:</b> 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets <b>quad-core model:</b> 32GB max, four 204-pin SO-DIMM sockets All: PC3-12800 1600MHz DDR3, non-parity, dual-channel capable											Preloaded applications <sup>5</sup> (only some listed)
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive											- Windows 7 models
mSATA™ SSD	Some: mSATA Solid State Drive (SSD), via PCIe Mini Card slot											• Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap • Adobe® Reader® • Windows Live™ Essentials • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
Widescreen display	Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut											- Windows 8 models
Color calibration Camera	Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											• Lenovo Support • Lenovo Companion • Lenovo QuickLaunch • AccuWeather • PC Device Stage • Cyberlink Power2Go (DVD±RW) • Cyberlink PowerProducer (DVD±RW)
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA Quadro® K1000M or K2000M</b> , PCI Express® x16, <b>2GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)											- All models
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions											• Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security (30 days of virus definitions)
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.76 lb (2.62kg); 9-cell: starting at 6.19 lb (2.81kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint											Supports ThinkVantage® technologies
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr, OA36304): up to 25.6 hr											170-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)											
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 Some: Wireless WAN upgradable											
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack											
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip											
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available											

# ThinkPad W530 2447 (Optimus) - Onsite (Windows 8) - II

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Wide-screen display	Discrete graphics	Disk SATA GB <sup>8</sup> rpm	RAID	Backlit keyboard	PCIe Mini Card WLAN	Battery calib	Power Adapter (watt)	Intel AMT	Intel vPro (P)	Global (G) GMP	Ann Date (mm/yy)												
2447-4MG	i5-3320M	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	Backlit	Intel 6300 <sup>28</sup>	None	9 135W	iAMT vPro	Win7 Pro64	10/12													
2447-4LG	i5-3320M	4GBx1	15.6" FHD	K1000M	1x500G 7200	No	Backlit	Intel 6300	None	9 135W	iAMT vPro	Win7 Pro64	10/12													
2447-4KG	i7-3630QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	Backlit	Intel 6300	None	9 170W	None No	Win7 Pro64	10/12													
2447-4EG	i7-3630QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	Backlit	Intel 6300	None	9 170W	None No	Win8 Pro64	10/12													
2447-4DG	i5-3320M	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	Backlit	Intel 6300	None	9 135W	iAMT vPro	Win8 Pro64	10/12													
2447-4CG	i5-3320M	4GBx1	15.6" FHD	K1000M	1x500G 7200	No	Backlit	Intel 6300	None	9 135W	iAMT vPro	Win8 Pro64	10/12													
2447-5KG	i7-3840QM	4GBx1	15.6" FHD	K2000M	1x500G 7200	No	None	Intel 6205 <sup>28</sup>	X-Rite	9 170W	iAMT vPro G P	Win8 Pro64	05/13													
2447-5JG	i7-3840QM	4GBx1	15.6" FHD	K1000M	1x500G 7200	No	None	Intel 6205	X-Rite	9 170W	iAMT vPro G P	Win8 Pro64	05/13													
2447-5HG	i7-3840QM	4GBx2	15.6" HD+	K2000M	1x500G 7200	No	None	Intel 6205	X-Rite	9 170W	iAMT vPro G P	Win8 Pro64	05/13													
2447-5GG	i7-3840QM	4GBx2	15.6" HD+	K1000M	1x500G 7200	No	None	Intel 6205	X-Rite	9 170W	iAMT vPro G P	Win8 Pro64	05/13													
2447-5FG	i7-3740QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	None	Intel 6205	X-Rite	9 170W	iAMT vPro G P	Win8 Pro64	05/13													
Positioning Processor	<b>Mobile workstation; two spindles</b> <b>Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i7-3630QM processor (4 cores, 2.40GHz, 6MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology <b>Intel Core i7-3740QM processor (4 cores, 2.70GHz, 6MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology <b>Intel Core i7-3840QM processor (4 cores, 2.80GHz, 8MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.80GHz), HT technology												Preloaded operating system <sup>20</sup> - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit													
Memory	<b>dual-core model:</b> 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets <b>quad-core model:</b> 32GB max, four 204-pin SO-DIMM sockets All: PC3-12800 1600MHz DDR3, non-parity, dual-channel capable												Preloaded applications <sup>5</sup> (only some listed) - <b>Windows 7 models</b> <ul style="list-style-type: none"><li>• Lenovo® Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• ThinkVantage Power Manager</li><li>• Lenovo SimpleTap</li><li>• Adobe® Reader®</li><li>• Windows Live™ Essentials</li><li>• Corel® WinDVD® (DVD±RW)</li><li>• Corel Burn.Now™ Lenovo Edition (DVD±RW)</li><li>• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)</li></ul> - <b>Windows 8 models</b> <ul style="list-style-type: none"><li>• Lenovo Support</li><li>• Lenovo Companion</li><li>• Lenovo QuickLaunch</li><li>• AccuWeather</li><li>• PC Device Stage</li><li>• Cyberlink Power2Go (DVD±RW)</li><li>• Cyberlink PowerProducer (DVD±RW)</li></ul> - <b>All models</b> <ul style="list-style-type: none"><li>• Lenovo Solution Center</li><li>• Password Manager</li><li>• ThinkVantage System Update</li><li>• Fingerprint Software (fingerprint models)</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security (30 days of virus definitions)</li></ul>													
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive																									
mSATA™ SSD	None																									
Widescreen display	Some: <b>15.6" (396mm) HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: <b>15.6" (396mm) Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut																									
Color calibration Camera	Some: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																									
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA Quadro® K1000M or K2000M</b> , PCI Express® x16, <b>2GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <i>Maximum external resolution:</i> 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)																									
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions																									
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm 6-cell: starting at 5.76 lb (2.62kg); 9-cell: starting at 6.19 lb (2.81kg) Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint																									
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr, OA36304): up to 25.6 hr																									
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) None 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)																									
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3																									
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack																									
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip																									
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available																									
Supports ThinkVantage® technologies																										
135-watt or 170-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																										

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Discrete graphics	Disk SATA GB <sup>8</sup> rpm	RAID	SATA optical	Backlit keyboard	PCIe Mini Card WWAN/ mSATA	Smart Card Reader	Battery cells (watt)	Power Adapter (watt)	Intel vPro	Ann Date (mm/yy)
2447-59G	i7-3840QM	8GBx1	15.6" FHD	K2000M	1T 5400 + 240G FDE SSD	No	None	Backlit	WWAN upg	None	9	170W	vPro	03/13
2447-58G	i7-3740QM	4GBx1	15.6" HD+	K1000M	1x500G 7200	No	DVD±RW	Backlit	32GB mSATA	Smart	9	135W	vPro	03/13
2447-57G	i7-3740QM	8GBx1	15.6" FHD	K2000M	1x240G FDE SSD	No	DVD±RW	Backlit	WWAN upg	Smart	9	170W	vPro	03/13
2447-54G	i7-3840QM	8GBx1	15.6" FHD	K2000M	1x500G 7200	No	DVD±RW	Backlit	32GB mSATA	None	9	170W	vPro	03/13
2447-5MG	i7-3840QM	8GBx1	15.6" FHD	K2000M	1T 5400 + 256G SSD OPAL	No	None	Backlit	WWAN upg	None	9	170W	vPro	06/13
2447-5LG	i7-3740QM	8GBx1	15.6" FHD	K2000M	1x256G SSD OPAL	No	DVD±RW	Backlit	WWAN upg	Smart	9	170W	vPro	06/13

- Power-packed engineering with Open GL graphics and ISV certifications

Positioning Processor	<b>Mobile workstation; two spindles</b> <b>Intel® Core™ i7-3740QM processor (4 cores, 2.70GHz, 6MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology <b>Intel Core i7-3840QM processor (4 cores, 2.80GHz, 8MB cache), Intel HD Graphics 4000</b> , DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.80GHz), HT technology													Preloaded operating system <sup>20</sup>
Memory	<b>dual-core model:</b> 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets <b>quad-core model:</b> 32GB max, four 204-pin SO-DIMM sockets <b>All:</b> PC3-12800 1600MHz DDR3, non-parity, dual-channel capable													Preloaded applications <sup>5</sup> (only some listed)
Optical Ultrabay SATA disk	<b>Some:</b> DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access <b>Some:</b> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <b>Some:</b> HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ <b>All:</b> removable, upgradable, supports the second disk, Shock Mounted Hard Drive <b>Some:</b> mSATA Solid State Drive (SSD), via PCIe Mini Card slot													- <b>Windows 7 models</b>
mSATA™ SSD	<b>Some:</b> 15.6" (396mm) <b>HD+ (1600x900) color</b> , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut <b>Some:</b> 15.6" (396mm) <b>Full HD (1920x1080) color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut													- <b>Windows 8 models</b>
Widescreen display	<b>Some:</b> Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													- <b>All models</b>
Color calibration Camera	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4000</b> in processor, and <b>NVIDIA Quadro® K1000M or K2000M</b> , PCI Express® x16, <b>2GB</b> memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; <b>Maximum external resolution:</b> 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)													• Lenovo® Message Center Plus
Graphics	• ThinkVantage Product Recovery													• Access Connections™
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													• ThinkVantage Power Manager
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	<b>15.6W" (WxDxH):</b> 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm <b>6-cell:</b> starting at 5.76 lb (2.62kg); <b>9-cell:</b> starting at 6.19 lb (2.81kg) <b>Display cover:</b> Carbon-fiber / Glass-fiber hybrid; <b>Bottom:</b> Glass-fiber reinforced plastic without paint													• Lenovo SimpleTap
Battery - type Battery - life <sup>10</sup>	Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication <b>6-cell (57Whr):</b> up to 7.7 hr; <b>9-cell (94Whr):</b> up to 12.8 hr; <b>9-cell plus 9-cell Slice battery (94Whr, OA36304):</b> up to 25.6 hr													• Adobe® Reader®
Chipset ExpressCard Smart Card Read Multicard Reader Ports	<b>Mobile Intel QM77 Express Chipset</b> One slot (ExpressCard/34) <b>Some:</b> Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)													• Windows Live™ Essentials
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCIe Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Ultimate-N 6300, 3x3 <b>Some:</b> Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (AMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant													• Corel® WinDVD® (DVD±RW)
Security Security chip Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													• Corel Burn.Now™ Lenovo Edition (DVD±RW)
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup>:</b> 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available													• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
														• Lenovo Support
														• Lenovo Companion
														• Lenovo QuickLaunch
														• AccuWeather
														• PC Device Stage
														• Cyberlink Power2Go (DVD±RW)
														• Cyberlink PowerProducer (DVD±RW)
														• Norton™ Internet Security (30 days of virus definitions)
														Supports ThinkVantage® technologies
														135-watt or 170-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information

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Lenovo® ThinkPad W540



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Lenovo ThinkPad W540

# ThinkPad W540 Platform Specifications

Product Specifications Reference (PSREF)

Positioning	Mobile workstation; two spindles								Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack			
Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor								WLAN <sup>4</sup>	<i>One of the following, configurable by model:</i> <ul style="list-style-type: none"> <li>• ThinkPad 11b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter, M.2 card</li> <li>• Intel Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card</li> <li>• Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card</li> <li>• Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card</li> </ul>			
	Processor Number	# of Cores	# of Threads	Base Frequency	Max Turbo Frequency	Cache	Memory Speed	Processor Graphics	WWAN (optional)	<i>One of the following, configurable by model (mutually exclusive with M.2 SSD):</i> <ul style="list-style-type: none"> <li>• Wireless WAN upgradable</li> <li>• Wireless WAN, Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE/HSPA+/EVDO/GSM/GPRS/EDGE, GPS, M.2 card (US models)</li> <li>• Wireless WAN, Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS, M.2 card (WE models)</li> <li>• Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card (WE models)</li> </ul>			
	i5-4200M	2	4	2.5 GHz	3.1 GHz	3MB	DDR3L-1600 Intel HD Graphics 4600		SIM card (optional)	<i>One of the following, configurable by model:</i> <ul style="list-style-type: none"> <li>• AT&amp;T® or Verizon® LTE (4G), contract required with service provider (US models)</li> <li>• Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required (WE models)</li> <li>• User selectable, contract required with service provider</li> </ul>			
	i5-4210M			2.6 GHz	3.2 GHz	3MB			Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter			
	i5-4330M			2.8 GHz	3.5 GHz	3MB			Ethernet	Intel Ethernet Connection I217-LM (Clarkville)			
	i7-4600M			2.9 GHz	3.6 GHz	4MB			NFC	<i>Optional:</i> Near Field Communication			
	i7-4700MQ	4	8	2.4 GHz	3.4 GHz	6MB			Security	Power-on password, hard disk password, supervisor password, security keyhole			
	i7-4710MQ			2.5 GHz	3.5 GHz	6MB			Security chip	Trusted Platform Module, TCG 1.2-compliant			
	i7-4800MQ			2.7 GHz	3.7 GHz	6MB			vPro (optional)	Intel vPro Technology			
	i7-4810MQ			2.8 GHz	3.8 GHz	6MB			Fingerprint reader	<i>Optional:</i> Fingerprint reader on the palm rest, swipe sensor			
	i7-4900MQ			2.8 GHz	3.8 GHz	8MB			Limited warranty <sup>12</sup>	<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<sup>24</sup></li> <li>• 3-year/1-yr battery limited onsite service, IWS (International Warranty Service<sup>17</sup>)</li> </ul>			
	i7-4910MQ			2.9 GHz	3.9 GHz	8MB			Preload	Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit			
	i7-4930MX			3 GHz	3.9 GHz	8MB				<ul style="list-style-type: none"> <li>• Lenovo Solution Center</li> <li>• ThinkVantage Product Recovery</li> <li>• Rescue and Recovery™</li> <li>• ThinkVantage System Update</li> <li>• Lenovo Cloud Storage by SugarSync</li> <li>• PC Device Stage</li> <li>• Adobe® Reader®</li> <li>• Nitro Pro</li> <li>• Evernote®</li> <li>• Skype™</li> <li>• Microsoft® Office preloaded; purchase a product key to activate</li> <li>• Norton™ Internet Security (30 days of virus definitions)</li> <li>• Cyberlink PowerDVD (DVD±RW)</li> <li>• Cyberlink Power2Go (DVD±RW)</li> <li>• Cyberlink PowerProducer (DVD±RW)</li> </ul>			
										<ul style="list-style-type: none"> <li>• Norton Internet Security (30 days of virus definitions)</li> <li>• Cyberlink PowerDVD(DVD±RW)</li> <li>• Cyberlink Power2Go (DVD±RW)</li> <li>• Cyberlink PowerProducer (DVD±RW)</li> </ul>			
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable								Environment	For ISV certifications, please visit <a href="http://www.lenovo.com/support/ISV">www.lenovo.com/support/ISV</a> EPEAT™ Gold; ENERGY STAR® 6.0; GREENGUARD®; RoHS-compliant			
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable One modular bay for removable devices (right side, cold swap), 9.5mm high, bottom access												
Ultrabay													
Storage	Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive (HDD) / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted												
M.2 SSD	Some: M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card												
Widescreen display	Some: 15.6" (396mm) FHD (1920x1080), anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), anti-glare, LED backlight, 350 nits, 16:9 aspect ratio, 1000:1 contrast ratio, IPS												
Multi-touch	None												
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator												
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory, supports external analog monitor via VGA and digital monitor via Mini DisplayPort / Thunderbolt™; supports three independent displays; Max external resolution: 3840x2160@60Hz (DisplayPort via MiniDP cable); 3840x2160@60Hz (Thunderbolt); 1920x1200@60Hz (VGA)												
Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch												
ThinkLight™	None												
Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm												
Weight <sup>2</sup>	6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)												
Case material	Glass-Fiber Reinforced Plastic												
Battery type	Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication												
Max battery life <sup>10</sup>	6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr												
AC adapter	dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter												
Chipset	<b>Mobile Intel QM87 Express Chipset</b>												
ExpressCard	One slot (ExpressCard/34)												
Smart card reader	Optional: Smart card reader												
Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card												
Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector												

# ThinkPad W540 20BG (Optimus) - TopSeller

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Cam-era	Backlit key-board	Finger-print reader	NFC	Color calibrator	Battery cells (watt)	Power adapter	Base Preload	warranty (year)	Glob-al	Ann date (m/y)
20BG003X++	i7-4810MQ	vPro	K1100M	8GBx2	15.6" FHD	1T 5400	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	Smart	720p	None	Finger	None	None	9	170W	Win8.1 DG Win7	3-depot	No	06/14
20BG003Y++	i7-4710MQ	No	K1100M	8GBx1	15.6" FHD	1T 5400	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	Smart	720p	None	Finger	None	None	9	170W	Win8.1 DG Win7	3-depot	No	06/14
20BG0040++	i7-4810MQ	vPro	K1100M	8GBx1	15.6" FHD	1T 5400	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	Smart	720p	None	Finger	None	None	9	170W	Win8.1 DG Win7	3-depot	No	06/14
20BG0041++	i7-4810MQ	vPro	K1100M	8GBx2	15.6" FHD	512G SSD	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	Smart	720p	None	Finger	None	None	9	170W	Win8.1 DG Win7	3-depot	No	06/14

Country Code"+": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)

Note: models listed above might not be available in all WE countries

- For detailed platform specifications, please see [ThinkPad W540 Platform Specifications](#) sheet

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor						DDR3L-1600	Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)														
i5-4200M	2	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache		Weight <sup>2</sup>	6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)														
i5-4210M				2.5 GHz	3.1 GHz	3MB		Case material	Glass-Fiber Reinforced Plastic														
i5-4330M	4			2.6 GHz	3.2 GHz	3MB		Battery type	Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication														
i7-4600M				2.8 GHz	3.5 GHz	3MB		Max battery life <sup>10</sup>	6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr														
i7-4700MQ				2.9 GHz	3.6 GHz	4MB		AC adapter	dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter														
i7-4710MQ				2.4 GHz	3.4 GHz	6MB		Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack														
i7-4800MQ				2.5 GHz	3.5 GHz	6MB		Chipset	<b>Mobile Intel QM87 Express Chipset</b>														
i7-4810MQ				2.7 GHz	3.7 GHz	6MB		ExpressCard	One slot (ExpressCard/34)														
i7-4900MQ				2.8 GHz	3.8 GHz	6MB		Smart card reader	Optional: Smart card reader														
i7-4910MQ				2.8 GHz	3.8 GHz	8MB		Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card														
i7-4930MX				2.9 GHz	3.9 GHz	8MB		Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector														
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable							WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card														
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable							WWAN (optional)	Upg: Wireless WAN upgradable EM7345: Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS N5321: Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS														
Ultrabay Storage	One modular bay for removable devices (right side, cold swap), 9.5mm high							SIM card (opt)	Lenovo: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required Select: User selectable, contract required with service provider														
M.2 SSD (opt)	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card							Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter														
Widescreen display	Some: 15.6" (396mm) <b>FHD (1920x1080)</b> , 300 nits, 500:1 contrast ratio Some: 15.5" (394mm) <b>3K (2880x1620)</b> , 350 nits, 1000:1 contrast ratio, IPS							Ethernet	Intel Ethernet Connection I217-LM (Clarkville)														
Multi-touch	None							NFC (optional)	Near Field Communication														
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest							Security	Power-on password, hard disk password, supervisor password, security keyhole														
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus							Security chip	Trusted Platform Module, TCG 1.2-compliant														
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4600</b> in processor, and <b>NVIDIA Quadro® K1100M or K2100M</b> , PCI Express® x16, <b>2GB</b> memory							vPro (optional)	Intel vPro Technology														
Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch							Fingerprint reader	Optional: Fingerprint reader on the palm rest, swipe sensor														
ThinkLight™	None							Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit Win8 / 8.1 64: Windows 8 / 8.1 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit														
Limited warranty <sup>12</sup> <b>1-year</b> - depot / <b>3-years</b> (1-yr battery) - depot / <b>3-years</b> (1-year battery) <b>onsite</b>																							

# ThinkPad W540 20BG (Optimus) - TopSeller (Onsite)

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Cam- era	Backlit key- board	Finger- print reader	NFC	Color cali- brator	Bat- tery cells (watt)	Power adapter	Base warranty (year)	Glob- al	Ann- date (m/y)	
20BG0045++	i7-4710MQ	No	K1100M	4GBx1	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8.1 DG	Win7	3-onsite	No 06/14
20BG0046++	i7-4710MQ	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	None	9	170W	Win8.1 DG	Win7	3-onsite	No 06/14
20BG0047++	i5-4210M	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	135W	Win8.1 DG	Win7	3-onsite	No 06/14
20BG001E++	i7-4700MQ	No	K1100M	4GBx1	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No 11/13
20BG001H++	i5-4200M	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	135W	Win8 DG	Win7	3-onsite	No 11/13
20BG001K++	i7-4700MQ	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	None	9	170W	Win8 DG	Win7	3-onsite	No 11/13
20BG001T++	i5-4330M	vPro	K1100M	8GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	None	9	135W	Win8 DG	Win7	3-onsite	No 11/13
20BG002W++	i7-4700MQ	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	EM7345	Select	Smart	720p	Backlit	Finger	None	None	9	170W	Win8 DG	Win7	3-onsite	No 01/14
20BG0032++	i7-4700MQ	No	K1100M	4GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	EM7345	Select	Smart	None	Backlit	Finger	None	None	9	170W	Win8 DG	Win7	3-onsite	No 03/14
20BG0042++	i7-4910MQ	vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8.1 DG	Win7	3-onsite	No 06/14
20BG0044++	i7-4810MQ	vPro	K2100M	8GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8.1 DG	Win7	3-onsite	No 06/14
20BG001B++	i7-4800MQ	vPro	K2100M	8GBx1	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No 11/13
20BG001C++	i7-4900MQ	vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No 11/13
20BG001S++	i7-4930MX	vPro	K2100M	8GBx2	15.5" 3K IPS	2x512G SSD	0	None	7260 ac+BT	N5321	Select	Smart	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No 11/13
20BG002V++	i7-4900MQ	vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	EM7345	Select	None	720p	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No 01/14
20BG0031++	i7-4900MQ	vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	EM7345	Select	None	None	Backlit	Finger	None	X-Rite	9	170W	Win8 DG	Win7	3-onsite	No 03/14

• For detailed platform specifications, please see [ThinkPad W540 Platform Specifications](#) sheet

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor						DDR3L-1600	Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery type Max battery life <sup>10</sup> AC adapter	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg) Glass-Fiber Reinforced Plastic Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter																																													
	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed																																																
	i5-4200M	2	2.5 GHz	3.1 GHz	3MB	One slot (ExpressCard/34) Smart card reader Media reader Ports																																																
	i5-4210M		2.6 GHz	3.2 GHz	3MB																																																	
	i5-4330M		2.8 GHz	3.5 GHz	3MB																																																	
	i7-4600M		2.9 GHz	3.6 GHz	4MB																																																	
	i7-4700MQ	4	2.4 GHz	3.4 GHz	6MB																																																	
	i7-4710MQ		2.5 GHz	3.5 GHz	6MB																																																	
	i7-4800MQ		2.7 GHz	3.7 GHz	6MB																																																	
	i7-4810MQ		2.8 GHz	3.8 GHz	6MB																																																	
	i7-4900MQ		2.8 GHz	3.8 GHz	8MB																																																	
	i7-4910MQ		2.9 GHz	3.9 GHz	8MB																																																	
	i7-4930MX		3 GHz	3.9 GHz	8MB																																																	
	All:	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable																																																				
Memory																																																						
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable																																																					
Ultrabay Storage	One modular bay for removable devices (right side, cold swap), 9.5mm high																																																					
M.2 SSD (opt)	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card																																																					
Widescreen display	Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS																																																					
Multi-touch	None																																																					
Color calibration Camera (optional)	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																																																					
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory																																																					
Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch																																																					
ThinkLight™	None																																																					
Limited warranty <sup>12</sup> 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite																																																						

See footnotes for more detailed information

(G-KM1W-2) © Lenovo

# ThinkPad W540 20BG (Optimus) - TopSeller (Onsite) - II

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Camera	Backlit keyboard	Finger-print reader	NFC	Color calibrator	Battery cells (watt)	Power adapter	Base warranty (year)	Glob-al	Ann date (m/y)
20BG001U++	i7-4600M	vPro	K1100M	8GBx1	15.6" FHD	256G SSD eDrive + 500G 7200	No	None	7260 ac+BT	N5321	Select	None	720p	Backlit	Finger	None X-Rite	9	135W	Win8 DG Win7	3-onsite	No	11/13
20BG0043++	i7-4810MQ	vPro	K2100M	8GBx1	15.6" FHD	256G SSD eDrive + 1T 5400	No	None	7260 ac+BT	Upg	None	Smart	720p	Backlit	Finger	None X-Rite	9	170W	Win8.1 DG Win7	3-onsite	No	06/14
20BG001D++	i7-4800MQ	vPro	K2100M	8GBx1	15.6" FHD	256G SSD eDrive + 1T 5400	No	None	7260 ac+BT	Upg	None	None	720p	Backlit	Finger	None X-Rite	9	170W	Win8 DG Win7	3-onsite	No	11/13

Country Code"++": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)

Note: models listed above might not be available in all WE countries

• For detailed platform specifications, please see [ThinkPad W540 Platform Specifications](#) sheet

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor						DDR3L-1600	Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)														
	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed		Case material	Glass-Fiber Reinforced Plastic														
	i5-4200M	2	2.5 GHz	3.1 GHz	3MB	Battery type		Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication															
	i5-4210M		2.6 GHz	3.2 GHz	3MB	Max battery life <sup>10</sup>		6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr															
	i5-4330M		2.8 GHz	3.5 GHz	3MB	AC adapter		dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter															
	i7-4600M		2.9 GHz	3.6 GHz	4MB	Audio support		HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack															
	i7-4700MQ	4	2.4 GHz	3.4 GHz	6MB	Chipset		<b>Mobile Intel QM87 Express Chipset</b>															
	i7-4710MQ		2.5 GHz	3.5 GHz	6MB	ExpressCard		One slot (ExpressCard/34)															
	i7-4800MQ		2.7 GHz	3.7 GHz	6MB	Smart card reader		Optional: Smart card reader															
	i7-4810MQ		2.8 GHz	3.8 GHz	6MB	Media reader		4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card															
	i7-4900MQ		2.8 GHz	3.8 GHz	8MB	Ports		Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector															
	i7-4910MQ		2.9 GHz	3.9 GHz	8MB	WLAN <sup>4</sup>		11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card															
	i7-4930MX		3 GHz	3.9 GHz	8MB	WWAN (optional)		Upg: Wireless WAN upgradable EM7345: Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS N5321: Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS															
	Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable						SIM card (opt)	Lenovo: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required Select: User selectable, contract required with service provider														
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable							Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter														
Ultrabay Storage	One modular bay for removable devices (right side, cold swap), 9.5mm high							Ethernet	Intel Ethernet Connection I217-LM (Clarkville)														
M.2 SSD (opt)	Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card							NFC (optional)	Near Field Communication														
Widescreen display	Some: 15.6" (396mm) <b>FHD (1920x1080)</b> , 300 nits, 500:1 contrast ratio							Security	Power-on password, hard disk password, supervisor password, security keyhole														
Multi-touch	Some: 15.5" (394mm) <b>3K (2880x1620)</b> , 350 nits, 1000:1 contrast ratio, IPS							Security chip	Trusted Platform Module, TCG 1.2-compliant														
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest							vPro (optional)	Intel vPro Technology														
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus							Fingerprint reader	Optional: Fingerprint reader on the palm rest, swipe sensor														
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, <b>Intel HD Graphics 4600</b> in processor, and <b>NVIDIA Quadro® K1100M or K2100M</b> , PCI Express® x16, <b>2GB</b> memory							Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit Win8 / 8.1 64: Windows 8 / 8.1 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit														
Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight							Limited warranty <sup>12</sup>	1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite														
ThinkLight™	TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch																						(G-KM1W-5) © Lenovo

# ThinkPad W540 20BH (Optimus) - Windows 8

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Camera	Backlit keyboard	Fingerprint reader	NFC	Color calibrator cells	Battery adapter (watt)	Power (watt)	Base warranty (year)	Glob-al (m/y)	Ann date
20BH002C++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	180G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002D++	i7-4800MQ	vPro	K1100M	4GBx2	15.5" 3K IPS	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002F++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002H++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002R++	i7-4800MQ	vPro	K1100M	8GBx1	15.6" FHD	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002T++	i7-4800MQ	vPro	K1100M	8GBx1	15.5" 3K IPS	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH004M++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	180G SSD Opal	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	04/14
20BH004N++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	500G 7200	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p None	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	04/14
20BH004Q++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	128G SSD	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	04/14
20BH002K++	i7-4800MQ	vPro	K2100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-depot	Yes	11/13
20BH002P++	i7-4800MQ	vPro	K2100M	4GBx2	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	X-Rite	9	170W	Win8 P64	3-depot	Yes	11/13
20BH004P++	i7-4800MQ	vPro	K2100M	4GBx2	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p Backlit	Finger	None	X-Rite	9	170W	Win8 P64	3-depot	Yes	04/14
20BH004R++	i7-4900MQ	vPro	K2100M	8GBx1	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 a/b/g/n+BT	Upg	None	None	720p Backlit	Finger	NFC	X-Rite	9	170W	Win8 P64	3-depot	Yes	04/14

Country Code"++": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)

Note: models listed above might not be available in all WE countries

• For detailed platform specifications, please see [ThinkPad W540 Platform Specifications](#) sheet

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor						DDR3L-1600	Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery type Max battery life <sup>10</sup> AC adapter	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg) Glass-Fiber Reinforced Plastic Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter																														
	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed																																	
	i5-4200M	2	2.5 GHz	3.1 GHz	3MB	Mobile Intel QM87 Express Chipset One slot (ExpressCard/34) Optional: Smart card reader 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector																																	
	i5-4210M		2.6 GHz	3.2 GHz	3MB																																		
	i5-4330M		2.8 GHz	3.5 GHz	3MB																																		
	i7-4600M		2.9 GHz	3.6 GHz	4MB																																		
	i7-4700MQ	4	2.4 GHz	3.4 GHz	6MB																																		
	i7-4710MQ		2.5 GHz	3.5 GHz	6MB																																		
	i7-4800MQ		2.7 GHz	3.7 GHz	6MB																																		
	i7-4810MQ		2.8 GHz	3.8 GHz	6MB																																		
	i7-4900MQ		2.8 GHz	3.8 GHz	8MB																																		
	i7-4910MQ		2.9 GHz	3.9 GHz	8MB																																		
	i7-4930MX		3 GHz	3.9 GHz	8MB																																		
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable																																						
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable One modular bay for removable devices (right side, cold swap), 9.5mm high Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card																																						
M.2 SSD (opt)	Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS None																																						
Widescreen display	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest Camera (optional): HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																																						
Multi-touch	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest Camera (optional): HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																																						
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest Camera (optional): HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																																						
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory																																						
Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch																																						
ThinkLight™	None																																						
Limited warranty <sup>12</sup> 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite																																							

See footnotes for more detailed information

(G-KM1W-3) © Lenovo

# ThinkPad W540 20BH (Optimus) - Onsite (Windows 8)

Product Specifications Reference (PSREF)

Model	Processor	vPro	Graphics	Memory	Display	Storage	RAID	Optical	WLAN & Bluetooth	WWAN / M.2 SSD	SIM card	Smart card reader	Camera	Backlit keyboard	Finger-print reader	NFC	Color calibrator cells	Battery adapter (watt)	Power (watt)	Base warranty (year)	Glob-al (m/y)	Ann date (m/y)
20BH002E++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	2x500G	7200	0	None	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes 11/13
20BH002J++	i7-4800MQ	vPro	K1100M	4GBx2	15.5" 3K IPS	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes 11/13	
20BH002M++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes 11/13	
20BH002N++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	500G	7200	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes 11/13
20BH002Q++	i7-4800MQ	vPro	K1100M	4GBx2	15.6" FHD	180G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes 11/13	
20BH002S++	i7-4800MQ	vPro	K1100M	8GBx1	15.6" FHD	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes 11/13	
20BH002U++	i7-4800MQ	vPro	K1100M	8GBx1	15.5" 3K IPS	240G SSD Opal	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes 11/13	
20BH002G++	i7-4800MQ	vPro	K2100M	4GBx2	15.6" FHD	256G SSD eDrive	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	None	9	170W	Win8 P64	3-onsite	Yes 11/13	
20BH002L++	i7-4800MQ	vPro	K2100M	4GBx2	15.5" 3K IPS	512G SSD	No	DVD±RW	7260 ac+BT	Upg	None	None	720p Backlit	Finger	None	X-Rite	9	170W	Win8 P64	3-onsite	Yes 11/13	

Country Code"++": AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom)

Note: models listed above might not be available in all WE countries

• For detailed platform specifications, please see [ThinkPad W540 Platform Specifications](#) sheet

Processor	4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor						DDR3L-1600	Dimensions <sup>3</sup>	15.6W" (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)																	
	Processor	# of Cores	Base Frequency	Max Turbo Frequency	Cache	Memory Speed		Case material	Glass-Fiber Reinforced Plastic																	
	i5-4200M	2	2.5 GHz	3.1 GHz	3MB	AC adapter		Battery type	Li-Ion 6-cell (56Wh) or 9-cell (99.9Wh), HW Authentication																	
	i5-4210M		2.6 GHz	3.2 GHz	3MB			Max battery life <sup>10</sup>	6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr																	
	i5-4330M		2.8 GHz	3.5 GHz	3MB			AC adapter	dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter																	
	i7-4600M		2.9 GHz	3.6 GHz	4MB			Audio support	HD Audio, Realtek® ALC3232 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack																	
	i7-4700MQ	4	2.4 GHz	3.4 GHz	6MB			Chipset	<b>Mobile Intel QM87 Express Chipset</b>																	
	i7-4710MQ		2.5 GHz	3.5 GHz	6MB			ExpressCard	One slot (ExpressCard/34)																	
	i7-4800MQ		2.7 GHz	3.7 GHz	6MB			Smart card reader	Optional: Smart card reader																	
	i7-4810MQ		2.8 GHz	3.8 GHz	6MB			Media reader	4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card																	
	i7-4900MQ		2.8 GHz	3.8 GHz	8MB			Ports	Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector																	
	i7-4910MQ		2.9 GHz	3.9 GHz	8MB			WLAN <sup>4</sup>	11b/g/n+BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card 7260 b/g/n+BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 a/b/g/n+BT: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card 7260 ac+BT: Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT, M.2 card																	
	i7-4930MX		3 GHz	3.9 GHz	8MB			WWAN (optional)	Upg: Wireless WAN upgradable EM7345: Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS N5321: Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS																	
Memory	dual-core model: 16GB max <sup>7</sup> , two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported All: PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable							SIM card (opt)	Lenovo: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required Select: User selectable, contract required with service provider																	
Optical (optional)	DVD burner, 9.5mm Ultrabay slim, removable One modular bay for removable devices (right side, cold swap), 9.5mm high Some: SSD / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 6.0Gb/s, 2.5" wide, 7mm or 9.5mm high, APS							Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter																	
M.2 SSD (opt)	M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card							Ethernet	Intel Ethernet Connection I217-LM (Clarkville)																	
Widescreen display	Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 500:1 contrast ratio Some: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS							NFC (optional)	Near Field Communication																	
Multi-touch	None							Security	Power-on password, hard disk password, supervisor password, security keyhole																	
Color calibration	Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest							Security chip	Trusted Platform Module, TCG 1.2-compliant																	
Camera (optional)	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus							vPro (optional)	Intel vPro Technology																	
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory							Fingerprint reader	Optional: Fingerprint reader on the palm rest, swipe sensor																	
Keyboard UltraNav™	6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch							Preload	Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit Win8 / 8.1 64: Windows 8 / 8.1 64-bit Win8 / 8.1 P64: Windows 8 / 8.1 Pro 64-bit																	
ThinkLight™	None							Limited warranty <sup>12</sup>	1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite																	

See footnotes for more detailed information

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Lenovo® ThinkPad X131e



Lenovo ThinkPad X131e



Lenovo ThinkPad X131e



Lenovo ThinkPad X131e



Lenovo ThinkPad X131e



Lenovo ThinkPad X131e

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Top color	Fingerprint reader	Bluetooth	Battery cells	Ann Date
													Preload (mm/yy)
3368-2NG	i3-2367M	4GBx1	11.6" HD	720p	320G 7200	TP 11a/b/g/n	WWAN upg	None	Black	None	BT	6	Pro 64 07/12
3368-3XG	i3-3227U	4GBx1	11.6" HD	720p	320G 7200	TP 11a/b/g/n	WWAN upg	None	Black	None	BT	6	Pro 64 02/13

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<b>Entry ultraportable for excellent usability and reliability; one spindle Intel® Core™ i3-2367M processor (2 cores, 1.40GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Hyper-Threading technology Intel Core i3-3227U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), HT technology</b>											Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller											Ready to install applications <sup>14</sup> (only some listed)
Optical SATA disk	None (use optional USB-based optical drive) Some: Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable, Active Protection System™											Preloaded applications <sup>14</sup> (only some listed)
mSATA™ SSD	None											• Lenovo® Solution Center • Lenovo Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage System Update • ThinkVantage Power Manager • Lenovo Cloud Storage by SugarSync • Lenovo SimpleTap • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security 2012 (30 days of virus definitions) • Adobe® Reader® • Skype™ for Windows • Evernote® • Intel Small Business Advantage • Symantec™ VIP • Windows Live™ Essentials
Widescreen display	<b>11.6" (295mm) HD (1366x768) TFT color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio											
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											
Graphics	<b>Intel HD Graphics 3000 or 4000</b> in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display; <i>Maximum external resolution: 2048x1536 (VGA)@75Hz; 1920x1200 (HDMI)@60Hz</i>											
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, spill-resistant, multimedia Fn keys TrackPoint pointing device, Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless touchpad below keyboard, multi-touch None											
Dimensions <sup>3</sup>	11.6W" (WxDxH): 11.6" x 8.5" x 1.27"; 293.4mm x 216mm x 32.3mm											
Weight <sup>2</sup>	6-cell: from 3.92 lb (1.78kg)											
Case color	Midnight black or Heatwave red (top); black bottom											
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic											
Battery - type	Lithium Ion 6-cell, HW Authentication											
Battery - life <sup>10</sup>	6-cell (62.4Whr): up to 8.5 hr											
Chipset	<b>Mobile Intel HM77 Express Chipset</b>											
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)											
ExpressCard Ports	None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, HDMI), ethernet (RJ-45)											
PCIe Mini Card	Two PCI Express Mini Card slots											
PCIe WLAN <sup>4</sup>	11a/b/g/n, PCIe Half Mini Card, ThinkPad a/b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter											
PCIe WWAN	Wireless WAN upgradable											
SIM card	None											
Modem	None											
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter											
Ethernet	Realtek® RTL8111F Gigabit Network Connection											
Intel AMT	None											
Audio support	HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 2 watt x 2 / monaural digital microphone, combo audio/mic jack											
Security chip	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant											
Fingerprint reader	None											
Limited warranty <sup>12</sup>	<b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available											

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup>	SATA rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Top color	Fingerprint reader	Battery cells	Bluetooth	Ann Date (mm/yy)	Preload
3368-42G	i3-3227U	4GBx1	11.6" HD	720p	320G	7200	TP 11a/b/g/n	WWAN upg	None	Red	None	BT	6	Win7 Pro64	02/13
3368-3ZG	i3-3227U	4GBx1	11.6" HD	720p	320G	7200	TP 11a/b/g/n	WWAN upg	None	Black	None	BT	6	Win8 Pro64	02/13
3368-3YG	i3-3227U	4GBx1	11.6" HD	720p	320G	7200	TP 11a/b/g/n	WWAN upg	None	Black	None	BT	6	Win7 Pro64	02/13
3368-5KG	i3-3227U	4GBx1	11.6" HD	720p	500G	7200	TP 11a/b/g/n	Ericsson	select	Black	None	BT	6	Win8 Pro64	03/14
3368-5GG	i3-3227U	4GBx1	11.6" HD	720p	500G	7200	TP 11a/b/g/n	WWAN upg	None	Black	None	BT	6	Win8 Pro64	03/14
3368-5JG	i3-3227U	4GBx1	11.6" HD	720p	500G	7200	TP 11a/b/g/n	Ericsson	select	Black	None	BT	6	Win7 Pro64	03/14
3368-5HG	i3-3227U	4GBx1	11.6" HD	720p	500G	7200	TP 11a/b/g/n	WWAN upg	None	Black	None	BT	6	Win7 Pro64	03/14

• Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<i>Entry ultraportable for excellent usability and reliability; one spindle Intel® Core™ i3-3227U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), HT technology</i>													Preloaded operating system <sup>20</sup>	
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller													- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Optical SATA disk	None (use optional USB-based optical drive) Some: Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable, Active Protection System™													- Some: Windows 8 Pro 64-bit	Preloaded applications <sup>5</sup> (only some listed)
mSATA™ SSD	None													- Windows 7 models	
Widescreen display	11.6" (295mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio													• Lenovo® Message Center Plus	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													• ThinkVantage Product Recovery	
Graphics	Intel HD Graphics 4000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display; <i>Maximum external resolution: 2048x1536 (VGA)@75Hz; 1920x1200 (HDMI)@60Hz</i>													• Access Connections™	
Keyboard TrackPoint®	6-row, spill-resistant, multimedia Fn keys													• ThinkVantage Power Manager	
Touch pad	TrackPoint pointing device, Internet Scroll Bar <sup>13</sup>													• Lenovo SimpleTap	
ThinkLight™	UltraNav™, buttonless touchpad below keyboard, multi-touch													- Windows 8 models	
Dimensions <sup>3</sup>	11.6W" (WxDxH): 11.6" x 8.5" x 1.27"; 293.4mm x 216mm x 32.3mm													• Lenovo Support	
Weight <sup>2</sup>	6-cell: from 3.92 lb (1.78kg)													• Lenovo Companion	
Case color	Midnight black or Heatwave red (top); black bottom													• Lenovo QuickLaunch	
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic													• PC Device Stage	
Battery - type	Lithium Ion 6-cell, HW Authentication													- All models	
Battery - life <sup>10</sup>	6-cell (62.4Whr): up to 8.5 hr													• Lenovo Solution Center	
Chipset	<b>Mobile Intel HM77 Express Chipset</b>													• Password Manager	
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)													• ThinkVantage System Update	
ExpressCard	None													• Fingerprint Software (fingerprint models)	
Ports	Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, HDMI), ethernet (RJ-45)													• Lenovo Cloud Storage by SugarSync	
PCIe Mini Card	Two PCI Express Mini Card slots													• Microsoft® Office preloaded; purchase a product key to activate	
PCIe WLAN <sup>4</sup>	11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + BT combo adapter													• Norton™ Internet Security (30 days of virus definitions)	
PCIe WWAN	Some: Wireless WAN upgradeable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS													• Skype™	
SIM card	Some: User selectable, contract required with service provider													Supports ThinkVantage® technologies	
Modem	None													65-watt AC Adapter	
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter													EPEAT™ Gold rating	
Ethernet	Realtek® RTL8111F Gigabit Network Connection													ENERGY STAR® 6.0-compliant	
Intel AMT	None													GREENGUARD® certified	
Audio support	HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 2 watt x 2 / monaural digital microphone, combo audio/mic jack													ROHS-compliant	
Security	Power-on password, hard disk password, supervisor password, security keyhole													International Warranty Service <sup>17</sup>	
Security chip	Trusted Platform Module, TCG 1.2-compliant													24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>	
Fingerprint reader	None														
Limited warranty <sup>12</sup>	<b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available														

See footnotes for more detailed information

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(G-JT1-3) June 2014

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>o</sup>	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Top color	Finger print reader	Blue-tooth	Bat-tery cells	Preload	Ann Date (mm/yy)
3368-5FG	i3-3227U	4GBx1	11.6" HD	720p	500G 7200	Intel 2230	WWAN upg	None	Black	None	BT	6	DOS-Lic.	03/14

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	Entry ultraportable for excellent usability and reliability; one spindle Intel® Core™ i3-3227U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), HT technology	Preloaded operating system <sup>20</sup> - DOS-Lic.
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller	
Optical SATA disk	None (use optional USB-based optical drive) Some: Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable, Active Protection System™	
mSATA™ SSD	None	
Widescreen display	11.6" (295mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	Intel HD Graphics 4000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display; Maximum external resolution: 2048x1536 (VGA)@75Hz; 1920x1200 (HDMI)@60Hz	
Keyboard TrackPoint® Touch pad ThinkLight™	6-row, spill-resistant, multimedia Fn keys TrackPoint pointing device, Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless touchpad below keyboard, multi-touch None	
Dimensions <sup>3</sup>	11.6W" (WxDxH): 11.6" x 8.5" x 1.27"; 293.4mm x 216mm x 32.3mm	
Weight <sup>2</sup>	6-cell: from 3.92 lb (1.78kg)	
Case color	Midnight black or Heatwave red (top); black bottom	
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic	
Battery - type	Lithium Ion 6-cell, HW Authentication	
Battery - life <sup>10</sup>	6-cell (62.4Whr): up to 8.5 hr	
Chipset	Mobile Intel HM77 Express Chipset	
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)	
ExpressCard	None	
Ports	Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, HDMI), ethernet (RJ-45)	
PCIe Mini Card	Two PCI Express Mini Card slots	
PCIe WLAN <sup>4</sup>	11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter	
PCIe WWAN	Wireless WAN upgradable	
SIM card	None	
Modem	None	
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter	
Ethernet	Realtek® RTL8111F Gigabit Network Connection	
Intel AMT	None	
Audio support	HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 2 watt x 2 / monaural digital microphone, combo audio/mic jack	
Security	Power-on password, hard disk password, supervisor password, security keyhole	
Security chip	Trusted Platform Module, TCG 1.2-compliant	
Fingerprint reader	None	
Limited warranty <sup>12</sup>	1-year - depot repair service / service upgrades <sup>22</sup> available	

See footnotes for more detailed information

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Supports ThinkVantage® technologies

65-watt AC Adapter  
ROHS-compliant  
International Warranty Service<sup>17</sup>  
24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Finger print reader	Blue-tooth	Bat-tery cells	Preload	Ann Date (mm/yy)	
3367-98G	Cel 1007U	4GBx1	11.6" HD	720p	320G 7200	TP 11a/b/g/n	WWAN upg	None	Black	None	BT	6	Win7 Pro64	02/13

Positioning Processor	<i>Entry ultraportable for excellent usability and reliability; one spindle Intel® Celeron® 1007U processor (2 cores, 1.50GHz, 2MB cache), Intel HD Graphics, DDR3 memory controller (up to 1600MHz)</i>											<b>Preloaded operating system<sup>20</sup></b>
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller											<b>Preloaded applications<sup>5</sup></b> (only some listed)
Optical SATA disk	None (use optional USB-based optical drive) <i>Some:</i> Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable, Active Protection System™											<b>- Windows 7 models</b> <ul style="list-style-type: none"><li>• Lenovo® Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• ThinkVantage Power Manager</li><li>• Lenovo SimpleTap</li></ul> <b>- Windows 8 models</b> <ul style="list-style-type: none"><li>• Lenovo Support</li><li>• Lenovo Companion</li><li>• Lenovo QuickLaunch</li></ul> <b>- All models</b> <ul style="list-style-type: none"><li>• Lenovo Solution Center</li><li>• Password Manager</li><li>• ThinkVantage System Update</li><li>• Fingerprint Software (fingerprint models)</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Skype™</li></ul>
mSATA™ SSD	None											
Widescreen display	<b>11.6" (295mm) HD (1366x768) TFT color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio											
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											
Graphics	<b>Intel HD Graphics</b> in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display; <i>Maximum external resolution: 2048x1536 (VGA)@75Hz; 1920x1200 (HDMI)@60Hz</i>											
Keyboard TrackPoint®	6-row, spill-resistant, multimedia Fn keys											
Touch pad	TrackPoint pointing device, Internet Scroll Bar <sup>13</sup>											
ThinkLight™	UltraNav™, buttonless touchpad below keyboard, multi-touch											
Dimensions <sup>3</sup>	11.6W" (WxDxH): 11.6" x 8.5" x 1.27"; 293.4mm x 216mm x 32.3mm											
Weight <sup>2</sup>	6-cell: from 3.92 lb (1.78kg)											
Case color	Midnight black or Heatwave red (top); black bottom											
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic											
Battery - type	Lithium Ion 6-cell, HW Authentication											
Battery - life <sup>10</sup>	6-cell (62.4Whr): up to 8.5 hr											
Chipset	<b>Mobile Intel HM77 Express Chipset</b>											
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)											
ExpressCard Ports	None											
	Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, HDMI), ethernet (RJ-45)											
PCIe Mini Card	Two PCI Express Mini Card slots											
PCIe WLAN <sup>4</sup>	11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter											
PCIe WWAN	Wireless WAN upgradable											
SIM card	None											
Modem	None											
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter											
Ethernet	Realtek® RTL8111F Gigabit Network Connection											
Intel AMT	None											
Audio support	HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 2 watt x 2 / monaural digital microphone, combo audio/mic jack											
Security	Power-on password, hard disk password, supervisor password, security keyhole											
Security chip	Trusted Platform Module, TCG 1.2-compliant											
Fingerprint reader	None											
Limited warranty <sup>12</sup>	<b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available											

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini WWAN /mSATA	SIM card	Top color	Finger print reader	Blue-tooth	Bat-tery cells	Ann Date	
3372-2KG	E2-1800	4GBx1	11.6" HD	720p	320G 7200	TP 11a/b/g/n	WWAN upg	None	Red	None	BT	6	Pro 64	07/12

• Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

Positioning Processor	<i>Entry ultraportable for excellent usability and reliability; one spindle AMD Accelerated Processor E2-1800 (2 cores, 1.70GHz, 1MB L2 cache), integrated AMD Radeon™ HD 7340 Graphics, integrated DDR3 memory controller (up to 1333MHz)</i>										Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64	
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, two 204-pin SO-DIMM sockets * System clocks down for processors with 1066MHz or 1333MHz DDR3 memory controller										Ready to install applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>	
Optical SATA disk	None (use optional USB-based optical drive) <i>Some:</i> Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable, Active Protection System™										Preloaded applications <sup>14</sup> (only some listed) <ul style="list-style-type: none"><li>• Lenovo® Solution Center</li><li>• Lenovo Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• ThinkVantage System Update</li><li>• ThinkVantage Power Manager</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Lenovo SimpleTap</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Adobe® Reader®</li><li>• Skype™ for Windows</li><li>• Evernote®</li><li>• Symantec™ VIP</li><li>• Windows Live™ Essentials</li></ul>	
mSATA™ SSD	None										Dimensions <sup>3</sup> Weight <sup>2</sup> Case color Case material Battery - type Battery - life <sup>10</sup>	11.6" (295mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus
Graphics	<b>AMD Radeon HD 7340 graphics</b> in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display; <i>Maximum external resolution: 1920x1080 (VGA or HDMI)</i>										Keyboard TrackPoint® Touch pad ThinkLight™	6-row, spill-resistant, multimedia Fn keys TrackPoint pointing device, Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless touchpad below keyboard, multi-touch None
Dimensions <sup>3</sup> Weight <sup>2</sup> Case color Case material Battery - type Battery - life <sup>10</sup>	11.6W" (WxDxH): 11.6" x 8.5" x 1.27"; 293.4mm x 216mm x 32.3mm 6-cell: from 3.92 lb (1.78kg) Midnight black or Heatwave red (top); black bottom Acrylonitrile-Butadiene-Styrene (ABS) plastic Lithium Ion 6-cell, HW Authentication 6-cell (62.4Whr): up to 8.5 hr										Chipset Multicard reader ExpressCard Ports	AMD A68M FCH Chipset 4-in-1 reader (MMC, SD, SDHC, SDXC) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, HDMI), ethernet (RJ-45)
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Audio support	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter Wireless WAN upgradable None None Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter Realtek® RTL8111F Gigabit Network Connection HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 2 watt x 2 / monaural digital microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole										Security Security chip Fingerprint reader	None None None
Limited warranty <sup>12</sup>	1-year - depot repair service / service upgrades <sup>22</sup> available										Supports ThinkVantage® technologies	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 6.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	SIM card	Finger print reader	Battery cells	Blue-tooth	Bat-tery cells	Preload	Ann Date (mm/yy)
3371-8HG	E1-1200	4GBx1	11.6" HD	720p	320G 7200	TP 11a/b/g/n	WWAN upg	None	Red	None	BT	6	Win7 Pro64	04/13

Positioning Processor	<i>Entry ultraportable for excellent usability and reliability; one spindle AMD Accelerated Processor E1-1200 (2 cores, 1.40GHz, 1MB L2 cache), integrated AMD Radeon™ HD 7310 Graphics, integrated DDR3 memory controller (up to 1066MHz)</i>											<b>Preloaded operating system<sup>20</sup></b> - Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit																
Memory	8GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, two 204-pin SO-DIMM sockets * System clocks down for processors with 1066MHz or 1333MHz DDR3 memory controller																											
Optical SATA disk	None (use optional USB-based optical drive) Some: Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable, Active Protection System™													<b>Preloaded applications<sup>5</sup></b> (only some listed) <ul style="list-style-type: none"><li>- <b>Windows 7 models</b><ul style="list-style-type: none"><li>• Lenovo® Message Center Plus</li><li>• ThinkVantage Product Recovery</li><li>• Access Connections™</li><li>• ThinkVantage Power Manager</li></ul></li><li>- <b>Windows 8 models</b><ul style="list-style-type: none"><li>• Lenovo Support</li><li>• Lenovo Companion</li><li>• Lenovo QuickLaunch</li></ul></li><li>- <b>All models</b><ul style="list-style-type: none"><li>• Lenovo Solution Center</li><li>• Password Manager</li><li>• ThinkVantage System Update</li><li>• Fingerprint Software (fingerprint models)</li><li>• Lenovo Cloud Storage by SugarSync</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Skype™</li></ul></li></ul>														
mSATA™ SSD	None																											
Widescreen display	11.6" (295mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio																											
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																											
Graphics	<b>AMD Radeon HD 7310 graphics</b> in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display; <i>Maximum external resolution: 1920x1080 (VGA or HDMI)</i>																											
Keyboard	6-row, spill-resistant, multimedia Fn keys																											
TrackPoint®	TrackPoint pointing device, Internet Scroll Bar <sup>13</sup>																											
Touch pad	UltraNav™, buttonless touchpad below keyboard, multi-touch																											
ThinkLight™	None																											
Dimensions <sup>3</sup>	11.6W" (WxDxH): 11.6" x 8.5" x 1.27"; 293.4mm x 216mm x 32.3mm																											
Weight <sup>2</sup>	6-cell: from 3.92 lb (1.78kg)																											
Case color	Midnight black or Heatwave red (top); black bottom																											
Case material	Acrylonitrile-Butadiene-Styrene (ABS) plastic																											
Battery - type	Lithium Ion 6-cell, HW Authentication																											
Battery - life <sup>10</sup>	6-cell (62.4Whr): up to 8.5 hr																											
Chipset	<b>AMD A68M FCH Chipset</b>																											
Multicard reader	4-in-1 reader (MMC, SD, SDHC, SDXC)																											
ExpressCard	None																											
Ports	Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, HDMI), ethernet (RJ-45)																											
PCIe Mini Card	Two PCI Express Mini Card slots																											
PCIe WLAN <sup>4</sup>	11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter																											
PCIe WWAN	Wireless WAN upgradable																											
SIM card	None																											
Modem	None																											
Bluetooth™	Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter																											
Ethernet	Realtek® RTL8111F Gigabit Network Connection																											
Audio support	HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 2 watt x 2 / monaural digital microphone, combo audio/mic jack																											
Security	Power-on password, hard disk password, supervisor password, security keyhole																											
Security chip	None																											
Fingerprint reader	None																											
Limited warranty <sup>12</sup>	<b>1-year</b> - depot repair service / service upgrades <sup>22</sup> available																											
Supports ThinkVantage® technologies																												
65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 6.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																												

See footnotes for more detailed information

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Lenovo® ThinkPad X230



Lenovo ThinkPad X230



Lenovo ThinkPad X230



Lenovo ThinkPad X230



Lenovo ThinkPad X230



Lenovo ThinkPad X230

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup> rpm	Optical in Ultrabay Series 3	ThinkPad Ultrabase Series 3	Backlit keyboard	PCIe Mini Card WLAN	Smart Card Reader	Fingerprint reader	Blue-tooth	Battery cells	Global (G) Intel GMP vPro (P)	Pre-load	Ann Date (mm/yy)	
2324-3WG	i5-3320M	4GBx1	12.5" HD	Prem	720p	500G 7200	Optional	Opt	None	Intel 6205 <sup>28</sup>	None	Fing	BT	6	vPro	G	Pro 64 06/12
2324-3VG	i5-3320M	4GBx1	12.5" HD	Prem	720p	500G 7200	DVD±RW	UltraB	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64 06/12
2324-3QG	i5-3320M	4GBx1	12.5" HD	Prem	720p	320G 7200	Optional	Opt	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64 06/12
2324-3PG	i5-3320M	4GBx1	12.5" HD		720p	320G 7200	DVD±RW	UltraB	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64 06/12
2324-23G	i7-3520M	4GBx1	12.5" HD	Prem	No	180G SSD	Optional	Opt	None	Intel 6300 <sup>28</sup>	None	Fing	BT	9	vPro	G	Pro 64 06/12
2324-22G	i5-3360M	4GBx1	12.5" HD		720p	320G 7200	Optional	Opt	None	Intel 6205	None	No	No	6	vPro	G	Pro 64 06/12
2324-5SG	i5-3320M	4GBx1	12.5" HD	Prem	720p	320G 7200	Optional	Opt	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64 07/12
2324-5RG	i5-3320M	4GBx1	12.5" HD		720p	500G 7200	DVD±RW	UltraB	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64 07/12
2324-5QG	i5-3320M	4GBx1	12.5" HD		720p	180G SSD	Optional	Opt	None	Intel 6205	None	Fing	BT	6	vPro	G	Pro 64 07/12
2324-5NG	i5-3320M	4GBx1	12.5" HD		720p	320G 7200	Optional	Opt	None	Intel 6205	None	No	BT	6	vPro	G	Pro 64 07/12
2324-5PG	i5-3320M	4GBx1	12.5" HD		720p	320G 7200	DVD±RW	UltraB	None	Intel 6205	Gemplus	Fing	BT	6	vPro	G	Pro 64 07/12

**• A depot repair service 3-year limited warranty**

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i5-3360M processor (dual-core, 2.80GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>													<b>Preloaded operating system<sup>20</sup></b> - Genuine Windows® 7 Professional 64			
Memory	<i>16GB max<sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets</i>													<b>Ready to install applications<sup>14</sup></b> (only some listed) • Rescue and Recovery™ • Password Manager			
Optical Ultrabay SATA disk	<i>Some: DVD burner, removable from ThinkPad Ultrabay Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabay Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabay Series 3</i>													<b>Preloaded applications<sup>14</sup></b> (only some listed) • Norton™ Internet Security 2012 (30 days of virus definitions) • Access Connections™ • ThinkVantage Power Manager • ThinkVantage Tools • Fingerprint Software (fingerprint models) • ThinkVantage System Update • Adobe® Reader® • Microsoft® Office preloaded; purchase a product key to activate • Skype™ for Windows			
mSATA™ SSD	<i>None</i>																
Widescreen display	<i>Some: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: (Premium) 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing)</i>																
Camera	<i>Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</i>																
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</i>																
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>													<b>Supports ThinkVantage® technologies</b>			
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	<i>without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr</i>													<b>ThinkPad Ultrabay Series 3</b> • Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side			
Chipset Ultrabay Multicard reader ExpressCard Smart Card Read Ports	<i>Mobile Intel QM77 Express Chipset Some: ThinkPad Ultrabay Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) Some: Gemplus Smart Card Reader in ExpressCard slot Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)</i>													<b>Other features:</b> • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 4J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g			
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader	<i>Two PCI Express Mini Card slots Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 Wireless WAN upgradable None None Some: Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</i>													<b>65-watt AC Adapter</b> <b>EPEAT™ Gold rating</b> <b>ENERGY STAR® 5.0-compliant</b> <b>GREENGUARD® certified</b> <b>ROHS-compliant</b> <b>International Warranty Service<sup>17</sup></b> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>			
Limited warranty <sup>12</sup> 3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available																	

See footnotes for more detailed information

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Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA	Optical in UltraBase	ThinkPad Backlit	PCIe Mini Card	Finger print reader	Battery tooth cells	Intel AMT	Global (G)	Ann date	
					GB <sup>8</sup>	rpm	UltraBase Series 3	WLAN			Intel vPro (P)	iAMT GMP	(mm/yy)	
2324-67G	i5-3320M	4GBx1	12.5"	HD	No	320G 7200	Optional	Opt	None	Intel 2200	None	No	G Win8 Pro64	10/12
2324-66G	i7-3520M	4GBx1	12.5"	HD	720p	180G SSD	Optional	Opt	None	Intel 6205 <sup>28</sup>	Finger BT	6	iAMT vPro G Win8 Pro64	10/12
2324-65G	i7-3520M	4GBx1	12.5"	HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger BT	6	iAMT vPro G Win8 Pro64	10/12
2324-64G	i5-3320M	4GBx1	12.5"	HD	720p	180G SSD	Optional	Opt	None	Intel 6205	Finger BT	6	iAMT vPro G Win8 Pro64	10/12
2324-63G	i5-3320M	4GBx1	12.5"	HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger BT	6	iAMT vPro G Win8 Pro64	10/12
2324-62G	i5-3320M	4GBx1	12.5"	HD	720p	320G 7200	Optional	Opt	None	Intel 6205	Finger BT	6	iAMT vPro G Win8 Pro64	10/12

**• A depot repair service 3-year limited warranty**

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology, Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>												Preloaded operating system <sup>20</sup>
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets												- Windows® 8 Pro 64-bit
Optical Ultrabay SATA disk	Option for ThinkPad Ultrabay Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabay Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabay Series 3												Preloaded applications <sup>5</sup> (only some listed)
mSATA™ SSD	None												- Windows 7 models • Lenovo® Message Center Plus • ThinkVantage Product Recovery • ThinkVantage Power Manager • Lenovo SimpleTap
Widescreen display Camera	12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												- Windows 8 models • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600 @60Hz (DisplayPort via optional Mini DP cable); 1920x1200 @60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536 @75Hz (VGA)												- All models • Lenovo Solution Center • Password Manager • Microsoft® Office preloaded; purchase a product key to activate
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												Supports ThinkVantage® technologies
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy												ThinkPad Ultrabay Series 3
Standard Battery External Battery Battery - life <sup>10</sup>	Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr, 0A36280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr												• Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: – Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412 Disks supported (some): • 128GB SSD 6.0Gb/s 0A65629 • 180GB SSD 6.0Gb/s 0A65630 • 500GB Disk 7200 rpm 0A65632
Chipset Ultrabay Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset <i>Option:</i> ThinkPad Ultrabay Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)												Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 45J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots <i>Some:</i> 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2												65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Wireless WAN upgradable None None <i>Some:</i> Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <i>Some:</i> Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack												
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant <i>Some:</i> AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available												

See footnotes for more detailed information

Type-model	Processor	Wide-screen display	Disk SATA	Optical in UltraB	ThinkPad Backlit	PCIe key- Mini Card	PCIe Mini Card	Smart SIM card	Finger Card Reader	Battery	Global (G) Ann
		Camera	GB <sup>8</sup> rpm	UltraB	Series 3 board	WLAN	WWAN		readertothe	cells	GMP (P) Date
2325-2UG	i5-3320M 4GBx1 12.5" HD	720p	180G SSD	Optional	Opt	None	6205 <sup>28</sup> upg	None	None	Fing BT	6 vPro G P 06/12
2325-2SG	i5-3320M 4GBx1 12.5" HD	720p	500G 7200 DVD±RW	UltraB	None	6205 upg	None	None	Fing BT	6 vPro G P 06/12	
2325-2QG	i5-3320M 4GBx1 12.5" HD Prem	720p	320G 7200	Optional	Opt	None	6205 upg	None	Fing BT	6 vPro G P 06/12	
2325-2EG	i7-3520M 4GBx2 12.5" HD Prem	720p	180G SSD	Optional	Opt	Backlit	6205 Ericsson select	None	Fing BT	9 vPro 06/12	
2325-2DG	i7-3520M 4GBx1 12.5" HD Prem	720p	500G 7200 DVD±RW	UltraB	Backlit	6205 Ericsson select	None	Fing BT	9 vPro 06/12		
2325-2CG	i5-3320M 4GBx1 12.5" HD	720p	320G 7200	Optional	Opt	None	6205 Ericsson select	Gemplus	Fing BT	6 vPro 06/12	
2325-23G	i7-3520M 4GBx1 12.5" HD Prem	No	180G SSD	Optional	Opt	None	6300 <sup>28</sup> upg	None	Fing BT	9 vPro G P 06/12	
2325-22G	i5-3360M 4GBx1 12.5" HD	720p	320G 7200	Optional	Opt	None	6205 upg	None	No	No	6 vPro G P 06/12

• Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i5-3360M processor (dual-core, 2.80GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>																					
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets																					
Optical Ultrabay SATA disk	<i>Some: DVD burner, removable from ThinkPad Ultrabay Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabay Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabay Series 3</i>																					
mSATA™ SSD	None																					
Widescreen display	<i>Some: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: (Premium) 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing)</i>																					
Camera	Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																					
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600 @60Hz (DisplayPort via optional Mini DP cable); 1920x1200 @60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536 @75Hz (VGA)</i>																					
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions																					
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	<i>without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr</i>																					
Chipset Ultrabay Multicard reader ExpressCard Smart Card Read Ports	<b>Mobile Intel QM77 Express Chipset</b> Some: ThinkPad Ultrabay Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) Some: Gemplus Smart Card Reader in ExpressCard slot Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)																					
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS																					
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader	Some: User selectable, contract required with service provider None Some: Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip																					
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available																					
<b>Preloaded operating system<sup>20</sup></b> - Genuine Windows® 7 Professional 64																						
<b>Ready to install applications<sup>14</sup></b> (only some listed) • Rescue and Recovery™ • Password Manager																						
<b>Preloaded applications<sup>14</sup></b> (only some listed) • Norton™ Internet Security 2012 (30 days of virus definitions) • Access Connections™ • ThinkVantage Power Manager • ThinkVantage Tools • Fingerprint Software (fingerprint models) • ThinkVantage System Update • Adobe® Reader® • Microsoft® Office preloaded; purchase a product key to activate • Skype™ for Windows																						
<b>Supports ThinkVantage® technologies</b>																						
<b>ThinkPad Ultrabay Series 3</b> • Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side																						
Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 4J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g																						
65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																						

Type-model	Processor	Memory	Widescreen display	Disk SATA GB <sup>8</sup> rpm	Optical in UltraB	ThinkPad Ultrab Series 3	Backlit key-board	PCIe Mini Card WWAN	SIM card	Smart Card Reader	Finger print reader	Battery cells	Ext Battery cells	Intel AMT	Global (G) Intel vPro (P)	GMP (mm/y)	Ann Date
2325-2GG	i5-3210M 4GBx1	12.5" HD	500G 7200	Optional Opt	Backlit	Ericsson select	None	Fing	6	No	None	No	06/12				
2325-2FG	i5-3210M 4GBx1	12.5" HD	500G 7200	DVD±RW	UltraB	Backlit	Ericsson select	None	Fing	6	No	None	No	06/12			
2325-5VG	i5-3210M 4GBx1	12.5" HD	500G 7200	Optional Opt	Backlit	upg	None	None	Fing	6	No	None	No	07/12			
2325-5UG	i5-3210M 4GBx1	12.5" HD	500G 7200	Optional Opt	Backlit	Ericsson select	None	Fing	6	6	None	No	07/12				
2325-5TG	i5-3320M 4GBx1	12.5" HD Prem	320G 7200	DVD±RW	UltraB	None	upg	None	None	Fing	6	No	iAMT	vPro G P	07/12		
2325-3QG	i5-3320M 4GBx1	12.5" HD Prem	320G 7200	Optional Opt	None	upg	None	None	Fing	6	No	iAMT	vPro G P	07/12			
2325-5SG	i5-3320M 4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	None	upg	None	None	Fing	6	No	iAMT	vPro G P	07/12		
2325-5RG	i5-3320M 4GBx1	12.5" HD Prem	500G 7200	Optional Opt	None	upg	None	None	Fing	6	No	iAMT	vPro G P	07/12			
2325-5PG	i5-3320M 4GBx1	12.5" HD	320G 7200	DVD±RW	UltraB	None	upg	None	Gemplus	Fing	6	No	iAMT	vPro G P	07/12		
2325-5NG	i5-3320M 4GBx1	12.5" HD	320G 7200	Optional Opt	None	upg	None	None	No	6	No	iAMT	vPro G P	07/12			

• Limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology</i>															
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets															Ready to install applications <sup>14</sup> (only some listed)
Optical Ultrabay SATA disk	<i>Some: DVD burner, removable from ThinkPad Ultrabay Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabay Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabay Series 3</i>															Preloaded applications <sup>14</sup> (only some listed)
mSATA™ SSD	None															Access Connections™
Widescreen display	<i>Some: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: (Premium) 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing)</i>															ThinkVantage Power Manager
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus															ThinkVantage Tools
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</i>															Fingerprint Software (fingerprint models)
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>															ThinkVantage System Update
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	<i>without UltraBase: 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery Some: Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+, 0A36280) 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr</i>															Microsoft® Office preloaded; purchase a product key to activate Skype™ for Windows
Chipset Ultrabay Multicard reader ExpressCard Smart Card Read Ports	<i>Mobile Intel QM77 Express Chipset Some: ThinkPad Ultrabay Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) Some: Gemplus Smart Card Reader in ExpressCard slot Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)</i>															Supports ThinkVantage® technologies
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	<i>Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS</i>															ThinkPad Ultrabay Series 3
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	<i>Some: User selectable, contract required with service provider None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack</i>															Provides desktop expansion and cable management for X230 and X230 Tablet
Security Security chip Fingerprint reader	<i>Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</i>															Easily connects to the bottom of the X230 or X230 Tablet for traveling
Limited warranty <sup>12</sup>	<i>3-years/1-year battery, limited onsite service<sup>24</sup>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</i>															Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side
																Other features:
																Power button (front)
																Security key lock, security keyhole
																Analog VGA DB-15 monitor port
																DisplayPort (supports single-link DVI-D via cable 4J7915)
																Four USB 2.0 ports
																Gigabit ethernet (RJ-45) port
																Microphone in and headphone out
																Requires 65W or 90W AC adapter
																1.39 lb; 630g
																65-watt AC Adapter
																EPEAT™ Gold rating
																ENERGY STAR® 5.0-compliant
																GREENGUARD® certified
																ROHS-compliant
																International Warranty Service <sup>17</sup>
																24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

# ThinkPad X230 (2325) - Onsite (Windows 8)

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Disk SATA GB <sup>3</sup> rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	Backlit keyboard	PCIe Mini Card WWAN	Battery cells	Ext Battery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)														
2325-7BG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	selectable	6	6	None	No	Win7 Pro64 10/12														
2325-7AG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	None	No	Win7 Pro64 10/12														
2325-79G	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	6	No	None	No	Win7 Pro64 10/12														
2325-78G	i7-3520M	4GBx2	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	selectable	9	No	iAMT	vPro	Win7 Pro64 10/12														
2325-77G	i7-3520M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	9	No	iAMT	vPro	Win7 Pro64 10/12														
2325-6GG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	selectable	6	6	None	No	Win8 Pro64 10/12														
2325-6FG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	None	No	Win8 Pro64 10/12														
2325-6EG	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	6	No	None	No	Win8 Pro64 10/12														
2325-6DG	i7-3520M	4GBx2	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	selectable	9	No	iAMT	vPro	Win8 Pro64 10/12														
2325-6CG	i7-3520M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	9	No	iAMT	vPro	Win8 Pro64 10/12														
2325-7MG	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	iAMT	vPro	Win7 Pro64 10/12														
Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology												<b>Preloaded operating system<sup>20</sup></b>															
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets												- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit															
Optical Ultrabay SATA disk	Some: DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3												- Some: Windows 8 Pro 64-bit															
mSATA™ SSD	None												<b>Preloaded applications<sup>5</sup> (only some listed)</b>															
Widescreen display Camera	(Premium) 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing) HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												<b>Windows 7 models</b>															
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)												<b>Windows 8 models</b>															
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												<b>All models</b>															
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery Some: Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+, 0A36280) 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr, 0A36280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr												Supports ThinkVantage® technologies															
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	<b>Mobile Intel QM77 Express Chipset</b> Some: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)												<b>ThinkPad Ultrabase Series 3</b>															
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS												• Provides desktop expansion and cable management for X230 and X230 Tablet															
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												• Easily connects to the bottom of the X230 or X230 Tablet for traveling															
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												• Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side:															
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available												- Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412 Disks supported (some): • 128GB SSD 6.0Gb/s 0A65629 • 180GB SSD 6.0Gb/s 0A65630 • 500GB Disk 7200 rpm 0A65632															
Other features:																												
• Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 4J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g																												
65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																												

See footnotes for more detailed information

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Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA	Optical in	ThinkPad Ultrabase Series	Backlit key-board	PCIe Mini Card	Finger print reader	Battery toothcells	Intel AMT	Global (G) GMP	Ann Date	
					GB <sup>8</sup>	rpm	UltraBase Series 3	WLAN					vPro (P)	Preload	
2325-67G	i5-3320M	4GBx1	12.5"	HD	No	320G	7200	Optional	Opt	None	Intel 2200	None	No	6 G P Win8 Pro64	10/12
2325-66G	i7-3520M	4GBx1	12.5"	HD	720p	180G	SSD	Optional	Opt	None	Intel 6205 <sup>28</sup>	Finger BT	6 iAMT vPro G P Win8 Pro64	10/12	
2325-65G	i7-3520M	4GBx1	12.5"	HD	720p	500G	7200	Optional	Opt	None	Intel 6205	Finger BT	6 iAMT vPro G P Win8 Pro64	10/12	
2325-64G	i5-3320M	4GBx1	12.5"	HD	720p	180G	SSD	Optional	Opt	None	Intel 6205	Finger BT	6 iAMT vPro G P Win8 Pro64	10/12	
2325-63G	i5-3320M	4GBx1	12.5"	HD	720p	500G	7200	Optional	Opt	None	Intel 6205	Finger BT	6 iAMT vPro G P Win8 Pro64	10/12	
2325-62G	i5-3320M	4GBx1	12.5"	HD	720p	320G	7200	Optional	Opt	None	Intel 6205	Finger BT	6 iAMT vPro G P Win8 Pro64	10/12	

• Part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>													Preloaded operating system <sup>20</sup> - Windows® 8 Pro 64-bit
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets													Preloaded applications <sup>5</sup> (only some listed)
Optical Ultrabay SATA disk	Option for ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3													- Windows 7 models • Lenovo® Message Center Plus • ThinkVantage Product Recovery • ThinkVantage Power Manager • Lenovo SimpleTap
mSATA™ SSD	None													- Windows 8 models • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch
Widescreen display Camera	12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													- All models • Lenovo Solution Center • Password Manager • Microsoft® Office preloaded; purchase a product key to activate
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)													Supports ThinkVantage® technologies
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													ThinkPad Ultrabase Series 3
Dimensions <sup>3</sup>	<i>without UltraBase: 4/6-cell: 12.0" x 8.13" x 0.75-1.05": 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg)</i>													Provides desktop expansion and cable management for X230 and X230 Tablet
Weight <sup>2</sup>	<i>4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg)</i>													Easily connects to the bottom of the X230 or X230 Tablet for traveling
Case material	<i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy													Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side:
Standard Battery	Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery													- Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412 Disks supported (some): • 128GB SSD 6.0Gb/s 0A65629 • 180GB SSD 6.0Gb/s 0A65630 • 500GB Disk 7200 rpm 0A65632
External Battery	None													4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr, 0A36280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr
Battery - life <sup>10</sup>														Other features:
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	<b>Mobile Intel QM77 Express Chipset</b> <i>Option:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)													• Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 45J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI Express Mini Card slots <i>Some:</i> 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2													65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Wireless WAN upgradable None None <i>Some:</i> Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <i>Some:</i> Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack													
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant <i>Some:</i> AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available													

Type-model	Processor	Memory	Widescreen display	Disk SATA GB <sup>3</sup> rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	Backlit keyboard	PCIe Mini Card WWAN	Battery cells	Ext Battery cells	Intel AMT	Intel vPro	Ann Date (mm/yy)												
2325-ALG	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	iAMT	vPro	Win8 Pro64 03/13											
2325-AKG	i5-3230M	4GBx1	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	selectable	6	No	None	No	Win8 Pro64 03/13											
2325-AJG	i5-3230M	4GBx1	12.5" HD Prem	180G SSD	Optional	Opt	Backlit	Ericsson	selectable	6	No	None	No	Win7 Pro64 03/13											
2325-AHG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	selectable	6	6	None	No	Win8 Pro64 03/13											
2325-AGG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Ericsson	selectable	6	6	None	No	Win7 Pro64 03/13											
2325-AFG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	None	No	Win8 Pro64 03/13											
2325-AEG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	None	No	Win7 Pro64 03/13											
2325-ADG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	6	No	None	No	Win8 Pro64 03/13											
2325-ACG	i5-3230M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Ericsson	selectable	6	No	None	No	Win7 Pro64 03/13											
2325-B3G	i5-3380M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	WWAN upg	None	6	No	iAMT	vPro	Win7 Pro64 05/13											
Positioning Processor	<i>An ultraportable for the executive on the move; one spindle</i> <b>Intel® Core™ i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology <b>Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology <b>Intel Core i5-3380M processor (2 cores, 2.90GHz, 3MB cache), Intel HD Graphics 4000,</b> DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology												Preloaded operating system <sup>20</sup>												
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets												- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit												
Optical Ultrabay SATA disk	Some: DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3												- Some: Windows 8 Pro 64-bit												
mSATA™ SSD	None												Preloaded applications <sup>5</sup> (only some listed)												
Widescreen display	Some: <b>12.5" (317.5mm) HD (1366x768) TFT color</b> , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio Some: (Premium) <b>12.5" (317.5mm) HD (1366x768) TFT color</b> , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing)												Windows 7 models												
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												• Lenovo® Message Center Plus												
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)												• ThinkVantage Product Recovery												
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												• ThinkVantage Power Manager												
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	without UltraBase: 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery Some: Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+, 0A36280) 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr, 0A36280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr												• Lenovo SimpleTap												
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	<b>Mobile Intel QM77 Express Chipset</b> Some: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)												Windows 8 models												
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradeable Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS												• Lenovo QuickLaunch												
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack												All models												
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												• Lenovo Solution Center												
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available												• Microsoft® Office preloaded; purchase a product key to activate												
Supports ThinkVantage® technologies																									
<b>ThinkPad Ultrabase Series 3</b>																									
• Provides desktop expansion and cable management for X230 and X230 Tablet																									
• Easily connects to the bottom of the X230 or X230 Tablet for traveling																									
• Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: - Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412 Disks supported (some): • 128GB SSD 6.0Gb/s 0A65629 • 180GB SSD 6.0Gb/s 0A65630 • 500GB Disk 7200 rpm 0A65632																									
Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 4J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g																									
65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																									

See footnotes for more detailed information

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Type-model	Processor	Memory	Widescreen display	Disk SATA GB <sup>8</sup> rpm	Optical in Ultrabay Series 3	ThinkPad Backlit key-board	PCIe Mini Card	WWAN SIM card	Finger print reader	Battery cells	Ext Battery cells	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
2325-BDG	i5-3320M 4GBx1	12.5" HD Prem	500G 7200	Optional Opt	Backlit upg	None	None	6	No	iAMT vPro	Win8 Pro64	06/13			
2325-BCG	i5-3320M 4GBx1	12.5" HD Prem	500G 7200	Optional Opt	Backlit upg	None	None	6	No	iAMT vPro	Win7 Pro64	06/13			
2325-BBG	i5-3230M 4GBx1	12.5" HD Prem	180G SSD	Optional Opt	Backlit Ericsson	select	None	6	No	No	No	Win8 Pro64	06/13		
2325-BAG	i5-3230M 4GBx1	12.5" HD Prem	180G SSD	Optional Opt	Backlit Ericsson	select	None	6	No	No	No	Win7 Pro64	06/13		
2325-B9G	i5-3230M 4GBx1	12.5" HD Prem	500G 7200	Optional Opt	Backlit Ericsson	select	None	6	6	No	No	Win8 Pro64	06/13		
2325-B8G	i5-3230M 4GBx1	12.5" HD Prem	500G 7200	Optional Opt	Backlit Ericsson	select	None	6	6	No	No	Win7 Pro64	06/13		
2325-B7G	i5-3230M 4GBx1	12.5" HD Prem	500G 7200	Optional Opt	Backlit upg	None	None	6	No	No	No	Win8 Pro64	06/13		
2325-B6G	i5-3230M 4GBx1	12.5" HD Prem	500G 7200	Optional Opt	Backlit upg	None	None	6	No	No	No	Win7 Pro64	06/13		
2325-B5G	i5-3230M 4GBx1	12.5" HD Prem	500G 7200	DVD±RW UltraB	Backlit Ericsson	select	None	6	No	No	No	Win8 Pro64	06/13		
2325-B4G	i5-3230M 4GBx1	12.5" HD Prem	500G 7200	DVD±RW UltraB	Backlit Ericsson	select	None	6	No	No	No	Win7 Pro64	06/13		
2325-BHG	i5-3230M 4GBx1	12.5" HD Prem	256G SSD OPAL	Optional Opt	Backlit Ericsson	select	None	6	No	No	No	Win8 Pro64	06/13		
2325-BGG	i5-3230M 4GBx1	12.5" HD Prem	256G SSD OPAL	Optional Opt	Backlit Ericsson	select	None	6	No	No	No	Win7 Pro64	06/13		
2325-BFG	i7-3520M 8GBx1	12.5" HD Prem	256G SSD OPAL	Optional Opt	Backlit Ericsson	select	Finger	9	No	iAMT vPro	Win7 Pro64	06/13			
2325-BEG	i7-3520M 8GBx1	12.5" HD Prem	256G SSD OPAL	Optional Opt	Backlit Ericsson	select	Finger	9	No	iAMT vPro	Win8 Pro64	06/13			

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Core™ i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>													Preloaded operating system <sup>20</sup>
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets													Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit Some: Windows 8 Pro 64-bit
Optical Ultrabay SATA disk	<i>Some: DVD burner, removable from ThinkPad Ultrabay Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabay Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabay Series 3</i>													Preloaded applications <sup>5</sup> (only some listed)
mSATA™ SSD	None													<b>Windows 7 models</b> <ul style="list-style-type: none"><li>Lenovo® Message Center Plus</li><li>ThinkVantage Product Recovery</li><li>ThinkVantage Power Manager</li><li>Lenovo SimpleTap</li></ul> <b>Windows 8 models</b> <ul style="list-style-type: none"><li>Lenovo Support</li><li>Lenovo Companion</li><li>Lenovo QuickLaunch</li></ul> <b>All models</b> <ul style="list-style-type: none"><li>Lenovo Solution Center</li><li>Password Manager</li><li>Microsoft® Office preloaded; purchase a product key to activate</li></ul>
Widescreen display Camera	(Premium) 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing) HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													Supports ThinkVantage® technologies
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</i>													ThinkPad Ultrabay Series 3
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions</i>													• Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: <ul style="list-style-type: none"><li>Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412</li><li>Disks supported (some):<ul style="list-style-type: none"><li>128GB SSD 6.0Gb/s 0A65629</li><li>180GB SSD 6.0Gb/s 0A65630</li><li>500GB Disk 7200 rpm 0A65632</li></ul></li></ul>
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	<i>without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery Some: Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+, 0A36280) 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr, 0A36280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr</i>													Other features: <ul style="list-style-type: none"><li>Power button (front)</li><li>Security key lock, security keyhole</li><li>Analog VGA DB-15 monitor port</li><li>DisplayPort (supports single-link DVI-D via cable 4J7915)</li><li>Four USB 2.0 ports</li><li>Gigabit ethernet (RJ-45) port</li><li>Microphone in and headphone out</li><li>Requires 65W or 90W AC adapter</li><li>1.39 lb; 630g</li></ul>
Chipset Ultrabay Multicard reader ExpressCard Smart Card Read Ports	<i>Mobile Intel QM77 Express Chipset Some: ThinkPad Ultrabay Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)</i>													65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Limited warranty <sup>12</sup>	<i>3-years/1-year battery, limited onsite service<sup>24</sup>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</i>													

Type-model	Processor	Memory	Wide-screen display	Camera	Disk SATA GB <sup>8</sup>	Optical in UltraB rpm	ThinkPad Ultrab	Backlit key-board	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Finger print	Bat-tery	Blue-tooth	Intel vPro	Pre-load	Ann date (mm/yy)	
2320-2DG	i3-2370M	4GBx1	12.5" HD	720p	320G	7200	Opt	Opt	Backlit	Intel 6205 <sup>28</sup>	upg	Fing	BT	6	None	Pro 64	06/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Core™ i3-2370M processor (dual-core, 2.40GHz, 3MB Cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology</i>															Preloaded operating system <sup>20</sup>															
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller															Genuine Windows® 7 Professional 64															
Optical Ultrabay SATA disk	Option for ThinkPad Ultrabay Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabay Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabay Series 3															Ready to install applications <sup>14</sup> (only some listed)															
msATA™ SSD	None															Preloaded applications <sup>14</sup> (only some listed)															
Widescreen display Camera	12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus															Access Connections™															
Graphics	Intel HD Graphics 3000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)															ThinkVantage Power Manager															
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions															Fingerprint Software (fingerprint models)															
Dimensions <sup>3</sup>	without UltraBase: 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg)															ThinkVantage System Update															
Weight <sup>2</sup>	Case material															Microsoft® Office preloaded; purchase a product key to activate															
Standard Battery	Standard Battery															Skype™ for Windows															
External Battery	External Battery															Supports ThinkVantage® technologies															
Battery - life <sup>10</sup>	4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr															ThinkPad Ultrabay Series 3															
Chipset Ultrabay Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset Option: ThinkPad Ultrabay Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)															• Provides desktop expansion and cable management for X230 and X230 Tablet															
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip															• Easily connects to the bottom of the X230 or X230 Tablet for traveling															
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available															• Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side															
Other features:																															
• Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 45J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g																															
65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																															

See footnotes for more detailed information

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Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA	Optical in UltraBase	ThinkPad Series 3	Backlit keyboard	PCIe Mini Card	PCIe Mini Card	Finger print reader	Bat-tery cells	Intel vPro	Pre-load	Ann Date (mm/yy)
2324-97G	Cel 877	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	Backlit	Intel 2200	WWAN upg	Finger	6	No	Pro 64	03/13

• A depot repair service 3-year limited warranty

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Celeron® 877 processor (2 cores, 1.40GHz, 2MB cache), Intel HD Graphics, DDR3 memory controller (up to 1333MHz)</i>												<b>Preloaded operating system<sup>20</sup></b> - Genuine Windows® 7 Professional 64		
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets												<b>Ready to install applications<sup>14</sup> (only some listed)</b> <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>		
Optical Ultrabay SATA disk	Option for ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3												<b>Preloaded applications<sup>14</sup> (only some listed)</b> <ul style="list-style-type: none"><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Access Connections™</li><li>• ThinkVantage Power Manager</li><li>• ThinkVantage Tools</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• Adobe® Reader®</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Skype™ for Windows</li></ul>		
mSATA™ SSD	None												<b>Supports ThinkVantage® technologies</b>		
Widescreen display Camera	12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												<b>ThinkPad Ultrabase Series 3</b> <ul style="list-style-type: none"><li>• Provides desktop expansion and cable management for X230 and X230 Tablet</li><li>• Easily connects to the bottom of the X230 or X230 Tablet for traveling</li><li>• Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side</li></ul>		
Graphics	<b>Intel HD Graphics</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)												<b>Other features:</b> <ul style="list-style-type: none"><li>• Power button (front)</li><li>• Security key lock, security keyhole</li><li>• Analog VGA DB-15 monitor port</li><li>• DisplayPort (supports single-link DVI-D via cable 4J7915)</li><li>• Four USB 2.0 ports</li><li>• Gigabit ethernet (RJ-45) port</li><li>• Microphone in and headphone out</li><li>• Requires 65W or 90W AC adapter</li><li>• 1.39 lb; 630g</li></ul>		
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												<b>65-watt AC Adapter</b> EPEAT™ Gold rating (except Celeron models) ENERGY STAR® 5.0-compliant (except Celeron models) GREENGUARD® certified (except Celeron models) ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>		
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr														
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	<b>Mobile Intel QM77 Express Chipset</b> Option: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)														
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader Limited warranty <sup>12</sup>	Two PCI Express Mini Card slots 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip <b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>														

See footnotes for more detailed information

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Type-model	Processor	Memory	Wide-screen display	Disk SATA GB <sup>8</sup> rpm	Optical in UltraB	ThinkPad Ultrab	Backlit Series 3 key-board	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Finger print reader	Bat- tery cells	Intel vPro	Preload	Ann Date (mm/yy)
2324-7PG	i3-3110M	4GBx1	12.5" HD	320G 7200	Optional	Opt	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	Finger	6	None	Win7 Pro64	10/12
2324-6SG	i3-3110M	4GBx1	12.5" HD	320G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	Finger	6	None	Win8 Pro64	10/12
2324-96G	i3-3120M	4GBx1	12.5" HD	320G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	Finger	6	None	Win8 Pro64	03/13
2324-95G	i3-3120M	4GBx1	12.5" HD	320G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	Finger	6	None	Win7 Pro64	03/13
2324-9GG	i3-3120M	4GBx1	12.5" HD	320G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	None	6	None	Win8 Pro64	06/13
2324-9FG	i3-3120M	4GBx1	12.5" HD	320G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	None	6	None	Win7 Pro64	06/13

- A depot repair service 3-year limited warranty

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Core™ i3-3110M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology Intel Core i3-3120M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology</i>												Preloaded operating system <sup>20</sup>	
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller												- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Optical Ultrabay SATA disk	Option for ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3												- Some: Windows 8 Pro 64-bit	
mSATA™ SSD	None												Preloaded applications <sup>5</sup> (only some listed)	
Widescreen display	12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio												- Windows 7 models	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												• Lenovo® Message Center Plus	
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)												• ThinkVantage Product Recovery	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												• ThinkVantage Power Manager	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr												• Lenovo SimpleTap	
Chipset Ultrabay Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset Option: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)												• Windows 8 models	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader Limited warranty <sup>12</sup>	Two PCI Express Mini Card slots 11a/b/g/h, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip 3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available												• Lenovo Support	
													• Lenovo Companion	
													• Lenovo QuickLaunch	
													• All models	
													• Lenovo Solution Center	
													• Password Manager	
													• Microsoft® Office preloaded; purchase a product key to activate	
													Supports ThinkVantage® technologies	
													• ThinkPad Ultrabase Series 3	
													• Provides desktop expansion and cable management for X230 and X230 Tablet	
													• Easily connects to the bottom of the X230 or X230 Tablet for traveling	
													• Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side	
													Other features:	
													• Power button (front)	
													• Security key lock, security keyhole	
													• Analog VGA DB-15 monitor port	
													• DisplayPort (supports single-link DVI-I via cable 4J7915)	
													• Four USB 2.0 ports	
													• Gigabit ethernet (RJ-45) port	
													• Microphone in and headphone out	
													• Requires 65W or 90W AC adapter	
													• 1.39 lb; 630g	
													65-watt AC Adapter	
													EPEAT™ Gold rating	
													ENERGY STAR® 5.0-compliant	
													GREENGUARD® certified	
													ROHS-compliant	
													International Warranty Service <sup>17</sup>	
													24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>	

See footnotes for more detailed information

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Type-model	Processor	Memory	Widescreen display	Disk SATA GB <sup>8</sup>	Optical in UltraBase	ThinkPad Ultrabase Series 3	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN	SIM card	Battery cells	Intel vPro	Preload	Ann Date (mm/yy)
2325-A9G	i3-3130M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	None	6	None	Win7 Pro64	02/13
2325-A8G	i3-3120M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	None	6	None	Win7 Pro64	02/13

Positioning Processor	<i>An ultraportable for the executive on the move; one spindle Intel® Core™ i3-3120M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology Intel Core i3-3130M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology</i>												Preloaded operating system <sup>20</sup>
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets												Preloaded applications <sup>5</sup> (only some listed)
Optical Ultrabay SATA disk	Option for ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) <i>Some:</i> Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3												- Windows 7 models • Lenovo® Message Center Plus • ThinkVantage Product Recovery • ThinkVantage Power Manager • Lenovo SimpleTap
mSATA™ SSD	None												- Windows 8 models • Lenovo Support
Widescreen display Camera	12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												- All models • Lenovo Solution Center • Password Manager • Microsoft® Office preloaded; purchase a product key to activate
Graphics	Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; <i>Maximum external resolution:</i> 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)												Supports ThinkVantage® technologies
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions												ThinkPad Ultrabase Series 3 • Provides desktop expansion and cable management for X230 and X230 Tablet
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	without UltraBase; 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 305mm x 206.5mm x 19.0-26.6mm 4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery None 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr, 0A36280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr												• Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side: - Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412 Disks supported (some): • 128GB SSD 6.0Gb/s 0A65629 • 180GB SSD 6.0Gb/s 0A65630 • 500GB Disk 7200 rpm 0A65632
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset Option: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)												Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 45J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader Limited warranty <sup>12</sup>	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 None High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip 3-years/1-year battery, limited onsite service <sup>24</sup> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available												65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

See footnotes for more detailed information

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Lenovo® ThinkPad X230 Tablet



Lenovo ThinkPad X230 Tablet



Lenovo ThinkPad X230 Tablet



Lenovo ThinkPad X230 Tablet



Lenovo ThinkPad X230 Tablet

# ThinkPad X230 Tablet (3437)

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup> rpm	Optical in UltraB	ThinkPad Ultrab Series 3	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Battery cells	Global GMP (P)	Pre-load	Ann Date (mm/yy)
3437-3LG	i5-3320M	4GBx1	12.5" HD Multi	720p	320G 7200	Optional	Optional	None	Intel 6205 <sup>28</sup>	WWAN upg	6	vPro	G	Pro 64 06/12
3437-2YG	i7-3520M	4GBx1	12.5" HD Multi	720p	500G 7200	Optional	Optional	None	Intel 6205	WWAN upg	6	vPro	G	Pro 64 06/12
3437-2WG	i5-3320M	4GBx1	12.5" HD Multi	720p	500G 7200	Optional	Optional	None	Intel 6205	WWAN upg	6	vPro	G	Pro 64 06/12
3437-2TG	i5-3320M	4GBx1	12.5" HD Out	720p	320G 7200	Optional	Optional	None	Intel 6205	WWAN upg	6	vPro	G	Pro 64 06/12
3437-2SG	i5-3320M	4GBx1	12.5" HD Multi	720p	320G 7200	DVD±RW	UltraBase	None	Intel 6205	WWAN upg	6	vPro	G	Pro 64 06/12
3437-2AG	i5-3320M	4GBx1	12.5" HD Multi	720p	320G 7200	Optional	Optional	None	Intel 6205	WWAN upg	6	vPro	G	Pro 64 06/12
3437-23G	i7-3520M	4GBx1	12.5" HD Multi	720p	180G SSD	DVD±RW	UltraBase	None	Intel 6205	WWAN upg	6	vPro	G	Pro 64 06/12
3437-22G	i5-3320M	4GBx1	12.5" HD Out	720p	320G 7200	DVD±RW	UltraBase	None	Intel 6205	WWAN upg	6	vPro	G	Pro 64 06/12
3437-3KG	i7-3520M	4GBx1	12.5" HD Multi	720p	128G SSD	Optional	Optional	None	Intel 6205	WWAN upg	6	vPro	G	Pro 64 07/12
3437-2ZG	i5-3320M	4GBx1	12.5" HD Out	720p	128G SSD	Optional	Optional	None	Intel 6205	WWAN upg	6	vPro	G	Pro 64 07/12

• A depot repair service 3-year limited warranty

Positioning Processor	<i>Convertible tablet ultraportable; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>													Preloaded operating system <sup>20</sup> - Genuine Windows® 7 Professional 64
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets													Ready to install applications <sup>14</sup> (only some listed) • Rescue and Recovery™ • Password Manager
Optical Ultrabay SATA disk	<i>Some: DVD burner, removable from ThinkPad Ultrabay Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabay Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabay Series 3</i>													Preloaded applications <sup>14</sup> (only some listed) • Norton™ Internet Security 2012 (30 days of virus definitions) • Access Connections™ • ThinkVantage Power Manager • ThinkVantage Tools • Fingerprint Software (fingerprint models) • ThinkVantage System Update • Adobe® Reader® • Microsoft® Office preloaded; purchase a product key to activate • Skype™ for Windows
mSATA™ SSD	None													Supports ThinkVantage® technologies
Widescreen display	<i>Outdoor: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare display with scratch resistant Corning® Gorilla® Glass, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, 1.2% reflectivity, multiple anti-reflectivity layers, IPS MultiTouch: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, MultiTouch screen supports pen &amp; five-finger gesture All: WideView (170° viewing), anti-reflective and anti-glare protective coatings, write on screen with standard digitizer pen, pen holder in side base (right), rotate and swivel hinge, power, reset, and rotation buttons on display bottom</i>													ThinkPad Ultrabay Series 3 • Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 4J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600 (DisplayPort) @ 60Hz; 2048x1536 (VGA) @ 75Hz; 1920x1200 @ 60Hz (single-link DVI-D via cable 45J7915)</i>													65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, buttonless touchpad below keyboard, Tap Zones, multi-touch None</i>													
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Battery - type Extended Battery Battery - life <sup>10</sup>	<i>without UltraBase; 3-cell: 12.0" x 9.0" x 1.1-1.23"; 305mm x 228.7mm x 27-31.3mm 3-cell: from 3.67 lb (1.66kg); 6-cell: from 3.97 lb (1.80kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Li-Polymer 3-cell or Li-Ion 6-cell, HW Authentication; optional external battery as 2nd battery None 3-cell (30Whr): up to 4.7 hr; 6-cell (66Whr): up to 9.9 hr; external battery (64Whr): up to 10.2 hr; 6-cell plus external battery: up to 20.1 hr</i>													
Chipset Ultrabay Multicard Reader ExpressCard Smart Card Read Ports	<i>Mobile Intel QM77 Express Chipset Some: ThinkPad Ultrabay Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)</i>													
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader	<i>Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader (right base of display), used in tablet/notebook mode, LED indicator, Power On Authentication, supports the security chip</i>													
Limited warranty <sup>12</sup>	<i>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</i>													

See footnotes for more detailed information

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Type-model	Processor	Memory	Widescreen display	Disk SATA GB <sup>a</sup> rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN	SIM card	Battery cells	Intel vPro (P)	Global (G) Ann Date (mm/yy)
3438-3UG	i5-3320M	4GBx1	12.5" HD Multi	320G 7200	DVD±RW	UltraBase	None	Intel 6205 <sup>28</sup>	WWAN upg	None	6	vPro	G P 06/12
3438-3TG	i5-3320M	4GBx1	12.5" HD Multi	320G 7200	Optional	Optional	None	Intel 6205	WWAN upg	None	6	vPro	G P 06/12
3438-2BG	i5-3320M	4GBx1	12.5" HD Multi	500G 7200	Optional	Optional	Backlit	Intel 6205	Ericsson selectable	6	vPro	06/12	
3438-2AG	i5-3320M	4GBx1	12.5" HD Multi	180G SSD	Optional	Optional	Backlit	Intel 6205	Ericsson selectable	6	vPro	06/12	
3438-27G	i5-3320M	4GBx1	12.5" HD Out	320G 7200	Optional	Optional	None	Intel 6205	WWAN upg	None	6	vPro	G P 06/12
3438-26G	i5-3320M	4GBx1	12.5" HD Multi	320G 7200	Optional	Optional	None	Intel 6205	WWAN upg	None	6	vPro	G P 06/12
3438-25G	i7-3520M	4GBx1	12.5" HD Multi	500G 7200	Optional	Optional	None	Intel 6205	WWAN upg	None	6	vPro	G P 06/12
3438-24G	i5-3320M	4GBx1	12.5" HD Multi	500G 7200	Optional	Optional	None	Intel 6205	WWAN upg	None	6	vPro	G P 06/12
3438-23G	i7-3520M	4GBx1	12.5" HD Multi	180G SSD	DVD±RW	UltraBase	None	Intel 6205	WWAN upg	None	6	vPro	G P 06/12
3438-22G	i5-3320M	4GBx1	12.5" HD Out	320G 7200	DVD±RW	UltraBase	None	Intel 6205	WWAN upg	None	6	vPro	G P 06/12
Positioning Processor	<i>Convertible tablet ultraportable; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>											<b>Preloaded operating system<sup>20</sup></b> <ul style="list-style-type: none"><li>- Genuine Windows® 7 Professional 64</li></ul>	
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets											<b>Ready to install applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Rescue and Recovery™</li><li>• Password Manager</li></ul>	
Optical Ultrabay SATA disk	<i>Some: DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3</i>											<b>Preloaded applications<sup>14</sup></b> (only some listed) <ul style="list-style-type: none"><li>• Norton™ Internet Security 2012 (30 days of virus definitions)</li><li>• Access Connections™</li><li>• ThinkVantage Power Manager</li><li>• ThinkVantage Tools</li><li>• Fingerprint Software (fingerprint models)</li><li>• ThinkVantage System Update</li><li>• Adobe® Reader®</li><li>• Microsoft® Office preloaded; purchase a product key to activate</li><li>• Skype™ for Windows</li></ul>	
mSATA™ SSD	None												
Widescreen display	<i>Outdoor: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare display with scratch resistant Corning® Gorilla® Glass, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, 1.2% reflectivity, multiple anti-reflectivity layers, IPS MultiTouch: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, MultiTouch screen supports pen &amp; five-finger gesture All: WideView (170° viewing), anti-reflective and anti-glare protective coatings, write on screen with standard digitizer pen, pen holder in side base (right), rotate and swivel hinge, power, reset, and rotation buttons on display bottom</i>												
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	<b>Intel HD Graphics 4000</b> in processor, supports external analog monitor via VGA DB-15 and digital monitor via DisplayPort; supports dual independent display; <i>Maximum external resolution: 2560x1600 (DisplayPort) @ 60Hz; 2048x1536 (VGA) @ 75Hz; 1920x1200 @ 60Hz (single-link DVI-D via cable 45J7915)</i>												
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> , magnifying glass UltraNav™, buttonless touchpad below keyboard, Tap Zones, multi-touch None											<b>Supports ThinkVantage® technologies</b>	
Dimensions <sup>3</sup>	<i>without UltraBase; 3-cell: 12.0" x 9.0" x 1.1-1.23"; 305mm x 228.7mm x 27-31.3mm 3-cell: from 3.67 lb (1.66kg); 6-cell: from 3.97 lb (1.80kg)</i>												
Weight <sup>2</sup>	<i>Case material</i>												
Battery - type	<i>Battery - type</i>												
Extended Battery	<i>Extended Battery</i>												
Battery - life <sup>10</sup>	<i>3-cell (30Whr): up to 4.7 hr; 6-cell (66Whr): up to 9.9 hr; external battery (64Whr): up to 10.2 hr; 6-cell plus external battery: up to 20.1 hr</i>												
Chipset Ultrabase Multicard Reader ExpressCard Smart Card Read Ports	<b>Mobile Intel QM77 Express Chipset</b> <i>Some: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)</i>											<b>ThinkPad Ultrabase Series 3</b> <ul style="list-style-type: none"><li>• Provides desktop expansion and cable management for X230 and X230 Tablet</li><li>• Easily connects to the bottom of the X230 or X230 Tablet for traveling</li><li>• Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side</li></ul>	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	<i>Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Some: Wireless WAN upgradable Some: Wireless WAN, Ericsson® F5521gw Mobile Broadband Module, PCIe Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS</i>											<b>Other features:</b> <ul style="list-style-type: none"><li>• Power button (front)</li><li>• Security key lock, security keyhole</li><li>• Analog VGA DB-15 monitor port</li><li>• DisplayPort (supports single-link DVI-D via cable 45J7915)</li><li>• Four USB 2.0 ports</li><li>• Gigabit ethernet (RJ-45) port</li><li>• Microphone in and headphone out</li><li>• Requires 65W or 90W AC adapter</li><li>• 1.39 lb; 630g</li></ul>	
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	<i>Some: User selectable, contract required with service provider None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack</i>												
Security chip Fingerprint reader	<i>Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader (right base of display), used in tablet/notebook mode, LED indicator, Power On Authentication, supports the security chip</i>												
Limited warranty <sup>12</sup>	<i>3-years/1-year battery, limited onsite service<sup>24</sup>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</i>												

Type-model	Processor	Memory	Widescreen display	Disk SATA GB <sup>8</sup> rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	Backlit keyboard	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Battery cells	Intel vPro	Global (G) GMP (P)	Ann Date
3438-3SG	i5-3320M	4GBx1	12.5" HD Out	128G SSD	Optional	Optional	None	Intel 6205 <sup>28</sup>	WWAN upg	6	vPro	G P	Pro 64 07/12
3438-2RG	i7-3520M	4GBx1	12.5" HD Multi	128G SSD	Optional	Optional	None	Intel 6205	WWAN upg	6	vPro	G P	Pro 64 07/12

- Part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<i>Convertible tablet ultraportable; one spindle Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology</i>											Preloaded operating system <sup>20</sup> - Genuine Windows® 7 Professional 64
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets											Ready to install applications <sup>14</sup> (only some listed) • Rescue and Recovery™ • Password Manager
Optical Ultrabay SATA disk	<i>Option for ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932) Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3</i>											Preloaded applications <sup>14</sup> (only some listed) • Norton™ Internet Security 2012 (30 days of virus definitions) • Access Connections™ • ThinkVantage Power Manager • ThinkVantage Tools • Fingerprint Software (fingerprint models) • ThinkVantage System Update • Adobe® Reader® • Microsoft® Office preloaded; purchase a product key to activate • Skype™ for Windows
mSATA™ SSD	None											Supports ThinkVantage® technologies
Widescreen display	<i>Outdoor: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare display with scratch resistant Corning® Gorilla® Glass, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, 1.2% reflectivity, multiple anti-reflectivity layers, IPS MultiTouch: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, MultiTouch screen supports pen &amp; five-finger gesture All: WideView (170° viewing), anti-reflective and anti-glare protective coatings, write on screen with standard digitizer pen, pen holder in side base (right), rotate and swivel hinge, power, reset, and rotation buttons on display bottom</i>											ThinkPad Ultrabase Series 3 • Provides desktop expansion and cable management for X230 and X230 Tablet • Easily connects to the bottom of the X230 or X230 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via cable 45J7915) • Four USB 2.0 ports • Gigabit ethernet (RJ-45) port • Microphone in and headphone out • Requires 65W or 90W AC adapter • 1.39 lb; 630g
Graphics	<i>Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600 (DisplayPort) @ 60Hz; 2048x1536 (VGA) @ 75Hz; 1920x1200 @ 60Hz (single-link DVI-D via cable 45J7915)</i>											65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Keyboard TrackPoint® Touchpad ThinkLight™	<i>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar<sup>13</sup>, magnifying glass UltraNav™, buttonless touchpad below keyboard, Tap Zones, multi-touch None</i>											
Dimensions <sup>3</sup>	<i>without UltraBase; 3-cell: 12.0" x 9.0" x 1.1-1.23"; 305mm x 228.7mm x 27-31.3mm 3-cell: from 3.67 lb (1.66kg); 6-cell: from 3.97 lb (1.80kg)</i>											
Weight <sup>2</sup>												
Case material	<i>Display cover: Magnesium + PCABS; Bottom: Magnesium alloy</i>											
Battery - type	<i>Li-Polymer 3-cell or Li-Ion 6-cell, HW Authentication; optional external battery as 2nd battery</i>											
Extended Battery	None											
Battery - life <sup>10</sup>	<i>3-cell (30Whr): up to 4.7 hr; 6-cell (66Whr): up to 9.9 hr; external battery (64Whr): up to 10.2 hr; 6-cell plus external battery: up to 20.1 hr</i>											
Chipset Ultrabase Multicard Reader ExpressCard Smart Card Read Ports	<i>Mobile Intel QM77 Express Chipset Option: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) None Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)</i>											
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support Security Security chip Fingerprint reader	<i>Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable None None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader (right base of display), used in tablet/notebook mode, LED indicator, Power On Authentication, supports the security chip</i>											
Limited warranty <sup>12</sup>	<i>3-years/1-year battery, limited onsite service<sup>24</sup>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</i>											

See footnotes for more detailed information

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## ThinkPad X1 Carbon (1st Gen)

Product Specifications Reference (PSREF)



Lenovo® ThinkPad X1 Carbon (1st Gen)



Lenovo ThinkPad X1 Carbon (1st Gen)



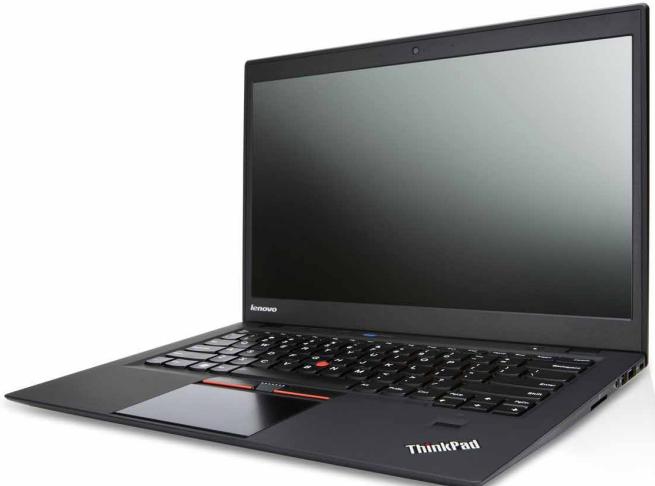
Lenovo ThinkPad X1 Carbon (1st Gen)



Lenovo ThinkPad X1 Carbon (1st Gen)



Lenovo ThinkPad X1 Carbon (1st Gen)



Lenovo ThinkPad X1 Carbon (1st Gen)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Blue-tooth	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
3444-57G	i7-3667U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S <sup>28</sup>	Ericsson	Lenovo	Finger	BT	iAMT	vPro	Pro 64	08/12
3444-ATG	i5-3317U	4GBx1	14.0" HD	720p	120G SSD	Intel 6205S	None	None	Finger	BT	None	None	Prem 64	10/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	<i>Ultralight, durable, secure, and stylish Ultrabook™; one spindle Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.0GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</i>	Preloaded operating system <sup>20</sup> Some: Genuine Windows® 7 Home Premium 64 Some: Genuine Windows 7 Professional 64
Memory	4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets	Ready to install applications <sup>14</sup> (only some listed) • Rescue and Recovery™ • Password Manager
Optical SATA disk msSATA™ SSD	None Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor None	Preloaded applications <sup>14</sup> (only some listed) • Lenovo® Solution Center • Lenovo Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • Fingerprint Software (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • Lenovo Cloud Storage by SugarSync • Lenovo SimpleTap • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security 2012 (30 days of virus definitions) • Adobe® Reader® • Skype™ for Windows • Evernote® • Symantec™ VIP • Windows Live™ Essentials
Widescreen display	<i>Some: 14.0" (355mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 400:1 contrast ratio</i>	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display; <i>Max external resolution: 2560x1600 (Mini-DisplayPort)@60Hz</i>	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch None	
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.0" x 8.9" x 0.31-0.74"; 331mm x 226mm x 8.0-18.8mm	
Weight <sup>2</sup>	Integrated battery: from 3.0 lb (1.36kg)	
Case material	Display cover: Carbon Fiber; Bottom: Magnesium/Aluminum	
Battery - type Battery - life <sup>10</sup>	Integrated Lithium Polymer 4-cell RapidCharge battery Integrated battery (45.8Whr): up to 8.2 hr	
Chipset Multicard reader ExpressCard Ports Monitor Cable	<b>Mobile Intel QS77 Express Chipset</b> 4-in-1 reader (SD, SDHC, SDXC, MMC) None One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort) None	
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/h, PCIe Small Form Factor Mini Card, Intel Centrino® Advanced-N 6205S, 2x2 Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS	
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Some: Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required None Bluetooth 4.0 wireless None Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack	Supports ThinkVantage® technologies
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole, reset switch Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip	90-watt AC Adapter (RapidCharge) ThinkPad Roll Cage (bottom cover) EPEAT™ Gold rating ENERGY STAR® 5.2-compliant ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>	

See footnotes for more detailed information

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Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Blue-tooth	Intel AMT	Intel vPro	Preload	Ann Date (mm/yy)
3444-AVG	i5-3427U	4GBx1	14.0" HD+	720p	120G SSD	Intel 6205S <sup>28</sup>	None	None	Finger	BT	iAMT	vPro	Win8 Pro64	10/12
3444-6PG	i5-3317U	4GBx1	14.0" HD+	720p	120G SSD	Intel 6205S	None	None	Finger	BT	None	None	Win8 Pro64	10/12

- Small and medium business (SMB) model(s), part of the WE TopSeller™ Program
- A depot repair service 3-year limited warranty

Positioning Processor	<i>Ultralight, durable, secure, and stylish Ultrabook™; one spindle Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology Intel Core i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology</i>													Preloaded operating system <sup>20</sup> - Windows® 8 Pro 64-bit
Memory	4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets													Preloaded applications <sup>5</sup> (only some listed)
Optical SATA disk	None													- Windows 7 models • Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap
mSATA™ SSD	Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor													- Windows 8 models • Lenovo Support • Lenovo Companion • Lenovo QuickLaunch
Widescreen display	14.0" (355mm) HD+ (1600x900) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 400:1 contrast ratio													- All models • Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus													
Graphics	Intel HD Graphics 4000 in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display; <i>Max external resolution: 2560x1600 (Mini-DisplayPort)@60Hz</i>													
Keyboard TrackPoint®	6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys													
Touchpad	TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup>													
ThinkLight™	UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch													
Dimensions <sup>3</sup>	None													
Weight <sup>2</sup>	14.0W" (WxDxH): 13.0" x 8.9" x 0.31-0.74"; 331mm x 226mm x 8.0-18.8mm													
Case material	Integrated battery: from 3.0 lb (1.36kg)													
Battery - type	Display cover: Carbon Fiber;													
Battery - life <sup>10</sup>	Bottom: Magnesium/Aluminum													
Chipset	Integrated Lithium Polymer 4-cell RapidCharge battery													
Multicard reader	<i>Integrated battery (45.8Whr): up to 8.2 hr</i>													
ExpressCard	Mobile Intel QS77 Express Chipset													
Ports	4-in-1 reader (SD, SDHC, SDXC, MMC)													
Monitor Cable	None													
PCIe Mini Card	One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort)													
PCIe WLAN <sup>4</sup>	None													
PCIe WWAN	None													
SIM card	None													
Modem	None													
Bluetooth™	Bluetooth 4.0 wireless													
Ethernet	None													
Intel AMT	<i>Some: Intel Active Management Technology (iAMT)</i>													
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack													
Security	Power-on password, hard disk password, supervisor password, security keyhole, reset switch													
Security chip	Trusted Platform Module, TCG 1.2-compliant													
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available													

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Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Blue-tooth	Global (G) Intel vPro	GMP (P)	Ann Date	
3448-34G	i5-3427U	8GBx1	14.0" HD+	720p	128G SSD	Intel 6205S <sup>28</sup>	None	None	Finger	BT	vPro	G	Pro 64	08/12
3448-35G	i5-3427U	8GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Pro 64	08/12
3448-25G	i7-3667U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Pro 64	08/12
3448-24G	i7-3667U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Pro 64	08/12
3448-23G	i5-3427U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Pro 64	08/12
3448-22G	i5-3427U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Pro 64	08/12

• A depot repair service 3-year limited warranty

Positioning Processor	<i>Ultra-light, durable, secure, and stylish Ultrabook™; one spindle Intel® Core™ i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.0GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</i>											Preloaded operating system <sup>20</sup> Genuine Windows® 7 Professional 64
Memory	4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets											Ready to install applications <sup>14</sup> (only some listed)
Optical SATA disk msSATA™ SSD	None Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor None											Preloaded applications <sup>14</sup> (only some listed)
Widescreen display	14.0" (355mm) HD+ (1600x900) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 400:1 contrast ratio											• Rescue and Recovery™ • Password Manager
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus											• Lenovo® Solution Center • Lenovo Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • Fingerprint Software (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • Lenovo Cloud Storage by SugarSync • Lenovo SimpleTap • Microsoft® Office preloaded; purchase a product key to activate • Norton™ Internet Security 2012 (30 days of virus definitions) • Adobe® Reader® • Skype™ for Windows • Evernote® • Symantec™ VIP • Windows Live™ Essentials
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch None											Supports ThinkVantage® technologies
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.0" x 8.9" x 0.31-0.74"; 331mm x 226mm x 8.0-18.8mm Integrated battery: from 3.0 lb (1.36kg) Display cover: Carbon Fiber; Bottom: Magnesium/Aluminum											90-watt AC Adapter (RapidCharge) ThinkPad Roll Cage (bottom cover) EPEAT™ Gold rating ENERGY STAR® 5.2-compliant ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>
Battery - type Battery - life <sup>10</sup>	Integrated Lithium Polymer 4-cell RapidCharge battery Integrated battery (45.8Whr): up to 8.2 hr											
Chipset Multicard reader ExpressCard Ports Monitor Cable	Mobile Intel QS77 Express Chipset 4-in-1 reader (SD, SDHC, SDXC, MMC) None One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort) None											
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11a/b/g/h, PCIe Small Form Factor Mini Card, Intel Centrino® Advanced-N 6205S, 2x2 None None None Bluetooth 4.0 wireless None Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole, reset switch											
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip											
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available											

See footnotes for more detailed information

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Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Blue-tooth	Intel vPro	Global (G) GMP (P)	Preload	Ann Date (mm/yy)
3448-5DG	i7-3667U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S <sup>28</sup>	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-5CG	i7-3667U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-5BG	i5-3427U	8GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-5AG	i5-3427U	8GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-59G	i5-3427U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-58G	i5-3427U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-AYG	i7-3667U	8GBx1	14.0" HD+	720p	240G FDE SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-AXG	i7-3667U	8GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-AWG	i7-3667U	8GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-AVG	i7-3667U	8GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	10/12
3448-C4G	i5-3427U	4GBx1	14.0" HD+	720p	240G FDE SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	02/13

• A depot repair service 3-year limited warranty

Positioning Processor	<b>Ultralight, durable, secure, and stylish Ultrabook™; one spindle Intel® Core™ i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.0GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</b>												
Memory	4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets												
Optical SATA disk msATA™ SSD	None Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor None												
Widescreen display	<b>14.0" (355mm) HD+ (1600x900) TFT color</b> , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 400:1 contrast ratio												
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display; <i>Max external resolution: 2560x1600 (Mini-DisplayPort)@60Hz</i>												
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch None												
Dimensions <sup>3</sup>	14.0W" (WxDxH): 13.0" x 8.9" x 0.31-0.74"; 331mm x 226mm x 8.0-18.8mm												
Weight <sup>2</sup>	Integrated battery: from 3.0 lb (1.36kg)												
Case material	Display cover: Carbon Fiber; Bottom: Magnesium/Aluminum												
Battery - type Battery - life <sup>10</sup>	Integrated Lithium Polymer 4-cell RapidCharge battery <i>Integrated battery (45.8Whr): up to 8.2 hr</i>												
Chipset Multicard reader ExpressCard Ports Monitor Cable	<b>Mobile Intel QS77 Express Chipset</b> 4-in-1 reader (SD, SDHC, SDXC, MMC) None One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort) None												
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Two PCI Express Mini Card slots 11a/b/g/h, PCIe Small Form Factor Mini Card, Intel Centrino® Advanced-N 6205S, 2x2 None None None Bluetooth 4.0 wireless None Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack												
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole, reset switch Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>												

See footnotes for more detailed information

#### Preloaded operating system<sup>20</sup>

- Windows® 8 Pro 64-bit

#### Preloaded applications<sup>5</sup> (only some listed)

##### - Windows 7 models

- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap

##### - Windows 8 models

- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch

##### - All models

- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- Fingerprint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded; purchase a product key to activate

#### Supports ThinkVantage® technologies

- 90-watt AC Adapter (RapidCharge)
- ThinkPad Roll Cage (bottom cover)
- EPEAT™ Gold rating
- ENERGY STAR® 5.2-compliant
- ROHS-compliant
- International Warranty Service<sup>17</sup>
- 24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Blue-tooth	Intel vPro (P)	Global (G) GMP	Ann Date (mm/yy)	
3448-8SG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S <sup>28</sup>	None	None	Finger	BT	vPro	G	Win8 Pro64	12/12
3448-8RG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	12/12
3448-7NG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	12/12
3448-7MG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	12/12
3448-C8G	i7-3667U	8GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	02/13
3448-C7G	i7-3667U	8GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	02/13
3448-C6G	i7-3667U	8GBx1	14.0" HD+ Multi	720p	256G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	02/13
3448-C5G	i7-3667U	8GBx1	14.0" HD+ Multi	720p	128G SSD	Intel 6205S	None	None	Finger	BT	vPro	G	Win8 Pro64	02/13

• A depot repair service 3-year limited warranty

Positioning Processor	<i>Ultra-light, durable, secure, and stylish Ultrabook™; one spindle Intel® Core™ i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.0GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</i>												
Memory	4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets												
Optical SATA disk msSATA™ SSD	None Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor None												
Widescreen display	<b>14.0" (355mm) HD+ (1600x900) TFT color</b> , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 400:1 contrast ratio, <b>MultiTouch</b> screen supports ten-finger gesture												
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus												
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display; <i>Max external resolution: 2560x1600 (Mini-DisplayPort)@60Hz</i>												
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch None												
Dimensions <sup>3</sup>	<b>14.0W" (WxDxH): 13.0" x 8.9" x 0.39-0.82"</b> ; 331mm x 226mm x 10.0-20.8mm												
Weight <sup>2</sup>	<b>Integrated battery:</b> from 3.4 lb (1.54kg)												
Case material	Display cover: Carbon Fiber; Bottom: Magnesium/Aluminum												
Battery - type	Integrated Lithium Polymer 4-cell RapidCharge battery												
Battery - life <sup>10</sup>	<b>Integrated battery (45.8Whr): up to 8.2 hr</b>												
Chipset	<b>Mobile Intel QS77 Express Chipset</b>												
Multicard reader	4-in-1 reader (SD, SDHC, SDXC, MMC)												
ExpressCard	None												
Ports	One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort)												
Monitor Cable	None												
PCIe Mini Card	Two PCI Express Mini Card slots												
PCIe WLAN <sup>4</sup>	11a/b/g/h, PCIe Small Form Factor Mini Card, Intel Centrino® Advanced-N 6205S, 2x2												
PCIe WWAN	None												
SIM card	None												
Modem	None												
Bluetooth™	Bluetooth 4.0 wireless												
Ethernet	None												
Intel AMT	Intel Active Management Technology (iAMT)												
Audio support	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack												
Security	Power-on password, hard disk password, supervisor password, security keyhole, reset switch												
Security chip	Trusted Platform Module, TCG 1.2-compliant												
Fingerprint reader	AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip												
Limited warranty <sup>12</sup>	<b>3-years/1-yr battery - depot repair service / service upgrades<sup>22</sup> available</b>												

See footnotes for more detailed information

#### Preloaded operating system<sup>20</sup>

- Windows® 8 Pro 64-bit

#### Preloaded applications<sup>5</sup> (only some listed)

##### - Windows 7 models

- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- ThinkVantage Power Manager
- Lenovo SimpleTap

##### - Windows 8 models

- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch

##### - All models

- Lenovo Solution Center
- Password Manager
- Fingerprint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded; purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

Supports ThinkVantage® technologies

90-watt AC Adapter (RapidCharge)

ThinkPad Roll Cage (bottom cover)

EPEAT™ Gold rating

ENERGY STAR® 5.2-compliant

ROHS-compliant

International Warranty Service<sup>17</sup>

24 hour x 7 day<sup>18</sup> toll-free support during the warranty period<sup>12</sup>

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup>	rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Mini DP to VGA Cable	USB 2.0 Ethernet Adapter	Intel AMT	Intel vPro	Global (G) GMP (P)	Ann Date
3460-35G	i5-3427U	8GBx1	14.0" HD+	720p	256G SSD	Intel 6205S <sup>28</sup>	None	None	None	None	iAMT	vPro	G P	Pro 64	08/12
3460-34G	i5-3427U	8GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	None	None	iAMT	vPro	G P	Pro 64	08/12
3460-2SG	i5-3427U	8GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	Ericsson selectable	None	None	None	iAMT	vPro	Pro 64	08/12	
3460-25G	i7-3667U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	None	None	iAMT	vPro	G P	Pro 64	08/12
3460-24G	i7-3667U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	None	None	iAMT	vPro	G P	Pro 64	08/12
3460-23G	i5-3427U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	None	None	iAMT	vPro	G P	Pro 64	08/12
3460-22G	i5-3427U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	None	None	iAMT	vPro	G P	Pro 64	08/12
3460-B6G	i5-3317U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	None	mDP-VGA	Ethernet	None	No	Pro 64	11/12
3460-B5G	i5-3317U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	None	mDP-VGA	Ethernet	None	No	Pro 64	11/12
3460-B4G	i5-3317U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	Ericsson selectable	mDP-VGA	Ethernet	None	None	No	Pro 64	11/12	
3460-B3G	i5-3317U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	Ericsson selectable	mDP-VGA	Ethernet	None	None	No	Pro 64	11/12	
3460-CZG	i5-3337U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	Ericsson selectable	mDP-VGA	Ethernet	None	None	No	Pro 64	03/13	
3460-CYG	i5-3337U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	mDP-VGA	Ethernet	None	No	Pro 64	03/13	
3460-CXG	i5-3337U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	mDP-VGA	Ethernet	None	No	Pro 64	03/13	
3460-CWG	i5-3337U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	Ericsson selectable	mDP-VGA	Ethernet	None	None	No	Pro 64	03/13	

• Some models are part of the Global Models Plus program with limited onsite service<sup>24</sup> 3-year limited warranty

Positioning Processor	<b>Ultralight, durable, secure, and stylish Ultrabook™; one spindle Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology Intel Core i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology Intel Core i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.0GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</b>																											
Memory	4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets																											
Optical SATA disk msATA™ SSD	None Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor None																											
Widescreen display Camera	14.0" (355mm) HD+ (1600x900) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 400:1 contrast ratio HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																											
Graphics	Intel HD Graphics 4000 in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display; <i>Max external resolution: 2560x1600 (Mini-DisplayPort)@60Hz</i>																											
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch None																											
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.0" x 8.9" x 0.31-0.74"; 331mm x 226mm x 8.0-18.8mm Integrated battery: from 3.0 lb (1.36kg) Display cover: Carbon Fiber; Bottom: Magnesium/Aluminum																											
Battery - type Battery - life <sup>10</sup>	Integrated Lithium Polymer 4-cell RapidCharge battery <i>Integrated battery (45.8Wh): up to 8.2 hr</i>																											
Chipset Multicard reader ExpressCard Ports Monitor Cable	<b>Mobile Intel QS77 Express Chipset</b> 4-in-1 reader (SD, SDHC, SDXC, MMC) None One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort) <i>Some: Mini DisplayPort to VGA Monitor Cable (0A36536)</i>																											
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Small Form Factor Mini Card, Intel Centrino® Advanced-N 6205S, 2x2 <i>Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS</i>																											
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None Bluetooth 4.0 wireless Some: Lenovo USB 2.0 Ethernet Adapter Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole, reset switch Trusted Platform Module, TCG 1.2-compliant																											
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole, reset switch Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip																											
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available																											
Supports ThinkVantage® technologies																												
90-watt AC Adapter (RapidCharge) ThinkPad Roll Cage (bottom cover) EPEAT™ Gold rating ENERGY STAR® 5.2-compliant ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																												

# ThinkPad X1 Carbon (1st Gen) 3460 (Onsite) - Windows 8

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	Finger print reader	Blue-tooth	Intel AMT	Global (G) Intel vPro (P)	GMP	Ann Date (mm/yy)	Preload	
3460-8XG	i5-3427U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S <sup>28</sup>	Ericsson selectable	Finger	BT	iAMT	vPro	Win7 Pro	64	10/12		
3460-7XG	i5-3317U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	None	No	Win7 Pro	64	10/12	
3460-4KG	i5-3317U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	None	No	Win8 Pro	64	10/12	
3460-5CG	i7-3667U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-5DG	i7-3667U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-5BG	i5-3427U	8GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-5AG	i5-3427U	8GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-59G	i5-3427U	4GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-58G	i5-3427U	4GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-AYG	i7-3667U	8GBx1	14.0" HD+	720p	240G FDE SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-AXG	i7-3667U	8GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-AWG	i7-3667U	8GBx1	14.0" HD+	720p	256G SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-AVG	i7-3667U	8GBx1	14.0" HD+	720p	128G SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	10/12
3460-8YG	i5-3317U	4GBx1	14.0" HD	720p	120G SSD	Intel 6205S	None	None	Finger	BT	None	No	Win8 Pro	64	10/12	
3460-82G	i5-3427U	8GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	Ericsson selectable	Finger	BT	iAMT	vPro	Win7 Pro	64	10/12		
3460-7ZG	i7-3667U	8GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	Ericsson selectable	Finger	BT	iAMT	vPro	Win7 Pro	64	10/12		
3460-7YG	i5-3317U	4GBx1	14.0" HD+	720p	120G SSD	Intel 6205S	None	None	Finger	BT	None	No	Win7 Pro	64	10/12	
3460-7UG	i5-3427U	4GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	Ericsson selectable	Finger	BT	iAMT	vPro	Win7 Pro	64	10/12		
3460-5PG	i5-3317U	4GBx1	14.0" HD+	720p	120G SSD	Intel 6205S	None	None	Finger	BT	None	No	Win8 Pro	64	10/12	
3460-4MG	i5-3427U	8GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	Ericsson selectable	Finger	BT	iAMT	vPro	Win8 Pro	64	10/12		
3460-4LG	i7-3667U	8GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	Ericsson selectable	Finger	BT	iAMT	vPro	Win8 Pro	64	10/12		
3460-CBG	i5-3427U	4GBx1	14.0" HD+	720p	240G FDE SSD	Intel 6205S	None	None	Finger	BT	iAMT	vPro	G P	Win8 Pro	64	02/13
Positioning Processor	<i>Ultralight, durable, secure, and stylish Ultrabook™; one spindle Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology Intel Core i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.0GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</i>														Preloaded operating system <sup>20</sup>	
	<ul style="list-style-type: none"> <li>- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit</li> <li>- Some: Windows 8 Pro 64-bit</li> </ul>														Preloaded applications <sup>5</sup> (only some listed)	
Memory	4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets														Windows 7 models	
Optical SATA disk msATA™ SSD	None Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor None														• Lenovo® Message Center Plus • ThinkVantage Product Recovery • Access Connections™ • ThinkVantage Power Manager • Lenovo SimpleTap	
Widescreen display	<ul style="list-style-type: none"> <li>Some: 14.0" (355mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio</li> <li>Some: 14.0" (355mm) HD+ (1600x900) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 400:1 contrast ratio</li> </ul>														Windows 8 models	
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus														• Lenovo Support • Lenovo Companion • Lenovo QuickLaunch	
Graphics	Intel HD Graphics 4000 in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display; Max external resolution: 2560x1600 (Mini-DisplayPort)@60Hz														All models	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch None														• Lenovo Solution Center • Password Manager • ThinkVantage System Update • Fingerprint Software (fingerprint models) • Lenovo Cloud Storage by SugarSync • Microsoft® Office preloaded; purchase a product key to activate	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.0" x 8.9" x 0.31-0.74"; 331mm x 226mm x 8.0-18.8mm Integrated battery: from 3.0 lb (1.36kg) Display cover: Carbon Fiber; Bottom: Magnesium/Aluminum														Supports ThinkVantage® technologies	
Battery - type Battery - life <sup>10</sup>	Integrated Lithium Polymer 4-cell RapidCharge battery Integrated battery (45.8Whr): up to 8.2 hr														90-watt AC Adapter (RapidCharge) ThinkPad Roll Cage (bottom cover) EPEAT™ Gold rating ENERGY STAR® 5.2-compliant ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>	
Chipset Multicard reader ExpressCard Ports Monitor Cable	<b>Mobile Intel QS77 Express Chipset</b> 4-in-1 reader (SD, SDHC, SDXC, MMC) None One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort) None															
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Small Form Factor Mini Card, Intel Centrino® Advanced-N 6205S, 2x2 Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS															
SIM card Modem Bluetooth™ Ethernet Intel AMT	Some: User selectable, contract required with service provider None Bluetooth 4.0 wireless None Some: Intel Active Management Technology (iAMT)															
Audio support Security Security chip Fingerprint reader	HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole, reset switch Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip															
Limited warranty <sup>12</sup>	3-years/1-year battery, <b>limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available															

See footnotes for more detailed information

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Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup> rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	SIM card	USB 2.0 Ethernet Adapter	Intel AMT	Global (G) Intel vPro (P)	Ann Date (mm/yy)															
3460-CVG	i5-3427U	4GBx1	14.0" HD+	720p	180G SSD	Intel 6205S <sup>28</sup>	None	None	Ethernet	iAMT	vPro No Win8 Pro64	03/13															
3460-CUG	i5-3427U	4GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	None	None	Ethernet	iAMT	vPro No Win7 Pro64	03/13															
3460-CSG	i5-3337U	4GBx1	14.0" HD+	720p	120G SSD	Intel 6205S	None	None	Ethernet	None	No No Win8 64	03/13															
3460-CRG	i7-3667U	8GBx1	14.0" HD+	720p	240G FDE SSD	Intel 6205S	None	None	Ethernet	iAMT	vPro No Win8 64	03/13															
3460-CQG	i5-3427U	8GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	None	None	Ethernet	iAMT	vPro No Win8 64	03/13															
3460-CPG	i5-3337U	4GBx1	14.0" HD+	720p	120G SSD	Intel 6205S	None	None	Ethernet	None	No No Win8 Pro64	03/13															
3460-CNG	i5-3337U	4GBx1	14.0" HD+	720p	120G SSD	Intel 6205S	None	None	Ethernet	None	No No Win7 Pro64	03/13															
3460-CMG	i7-3667U	8GBx1	14.0" HD+	720p	240G FDE SSD	Intel 6205S	Ericsson selectable	Ethernet	iAMT	vPro No Win8 Pro64	03/13																
3460-CLG	i7-3667U	8GBx1	14.0" HD+	720p	240G FDE SSD	Intel 6205S	Ericsson selectable	Ethernet	iAMT	vPro No Win7 Pro64	03/13																
3460-CKG	i5-3427U	8GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	Ericsson selectable	Ethernet	iAMT	vPro No Win8 Pro64	03/13																
3460-CJG	i5-3427U	8GBx1	14.0" HD+	720p	180G SSD	Intel 6205S	Ericsson selectable	Ethernet	iAMT	vPro No Win7 Pro64	03/13																
3460-DPG	i7-3667U	8GBx1	14.0" HD+	720p	256G SSD OPAL	Intel 6205S	Ericsson selectable	Ethernet	iAMT	vPro No Win8 Pro64	06/13																
3460-DNG	i7-3667U	8GBx1	14.0" HD+	720p	256G SSD OPAL	Intel 6205S	Ericsson selectable	Ethernet	iAMT	vPro No Win7 Pro64	06/13																
Positioning Processor	<i>Ultralight, durable, secure, and stylish Ultrabook™, one spindle Intel® Core™ i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology Intel Core i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.0GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</i>									<b>Preloaded operating system<sup>20</sup></b>																	
										<ul style="list-style-type: none"> <li>- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit</li> <li>- Some: Windows 8 64-bit</li> <li>- Some: Windows 8 Pro 64-bit</li> </ul>																	
Memory	4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets																										
Optical SATA disk msATA™ SSD	None Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor None																										
Widescreen display	<p><i>Some: 14.0" (355mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio</i></p> <p><i>Some: 14.0" (355mm) HD+ (1600x900) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 400:1 contrast ratio</i></p>																										
Camera	HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus																										
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display; <i>Max external resolution: 2560x1600 (Mini-DisplayPort)@60Hz</i>																										
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch None																										
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	<p><i>14.0W" (WxDxH): 13.0" x 8.9" x 0.31-0.74"; 331mm x 226mm x 8.0-18.8mm</i></p> <p><i>Integrated battery: from 3.0 lb (1.36kg)</i></p> <p><i>Display cover: Carbon Fiber;</i></p> <p><i>Bottom: Magnesium/Aluminum</i></p>																										
Battery - type Battery - life <sup>10</sup>	<p>Integrated Lithium Polymer 4-cell RapidCharge battery</p> <p><i>Integrated battery (45.8Wh): up to 8.2 hr</i></p>																										
Chipset Multicard reader ExpressCard Ports Monitor Cable	<p><b>Mobile Intel QS77 Express Chipset</b></p> <p>4-in-1 reader (SD, SDHC, SDXC, MMC)</p> <p>None</p> <p>One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort)</p> <p>None</p>																										
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	<p>Two PCI Express Mini Card slots</p> <p>11a/b/g/n, PCIe Small Form Factor Mini Card, Intel Centrino® Advanced-N 6205S, 2x2</p> <p><i>Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS</i></p>																										
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	<p><i>Some: User selectable, contract required with service provider</i></p> <p>None</p> <p>Bluetooth 4.0 wireless</p> <p>Lenovo USB 2.0 Ethernet Adapter</p> <p><i>Some: Intel Active Management Technology (iAMT)</i></p> <p>HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack</p>																										
Security Security chip Fingerprint reader	<p>Power-on password, hard disk password, supervisor password, security keyhole, reset switch</p> <p>Trusted Platform Module, TCG 1.2-compliant</p> <p>AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</p>																										
Limited warranty <sup>12</sup>	<p><b>3-years/1-year battery, limited onsite service<sup>24</sup></b>, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available</p>																										
Supports ThinkVantage® technologies																											
90-watt AC Adapter (RapidCharge) ThinkPad Roll Cage (bottom cover) EPEAT™ Gold rating ENERGY STAR® 5.2-compliant ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>																											

See footnotes for more detailed information

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# ThinkPad X1 Carbon (1st Gen) 3460 (Onsite) - Win 8 (MultiTouch)

Product Specifications Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>8</sup>	PCIe Mini Card WLAN	PCIe Mini Card WWAN/ mSATA	USB 2.0 Ethernet Adapter	Global (G) Intel AMT	Ann Date (mm/yy)
					rpm		SIM card	(P)	vPro	Preload
3460-ATG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	256G SSD	Intel 6205S <sup>28</sup>	Ericsson selectable	None	iAMT vPro	Win7 Pro64 12/12
3460-ASG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	256G SSD	Intel 6205S	Ericsson selectable	None	iAMT vPro	Win8 Pro64 12/12
3460-ARG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	Ericsson selectable	None	iAMT vPro	Win7 Pro64 12/12
3460-AQG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	Ericsson selectable	None	iAMT vPro	Win8 Pro64 12/12
3460-APG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	Ericsson selectable	None	iAMT vPro	Win7 Pro64 12/12
3460-ANG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	Ericsson selectable	None	iAMT vPro	Win8 Pro64 12/12
3460-AMG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	None	None	iAMT vPro G P	Win8 Pro64 12/12
3460-ALG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	None	None	iAMT vPro G P	Win8 Pro64 12/12
3460-9SG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	None	None	iAMT vPro G P	Win8 Pro64 12/12
3460-9RG	i5-3427U	4GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	None	None	iAMT vPro G P	Win8 Pro64 12/12
3460-CGG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	256G SSD	Intel 6205S	None	None	iAMT vPro G P	Win8 Pro64 02/13
3460-CEG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	None	None	iAMT vPro G P	Win8 Pro64 02/13
3460-CDG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	None	None	iAMT vPro G P	Win8 Pro64 02/13
3460-CCG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	128G SSD	Intel 6205S	None	None	iAMT vPro G P	Win8 Pro64 02/13
3460-D7G	i7-3667U	8GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	None	Ethernet	iAMT vPro	Win8 64 03/13
3460-D6G	i5-3337U	4GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	None	Ethernet	None No	Win8 64 03/13
3460-D5G	i7-3667U	8GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	Ericsson selectable	Ethernet	iAMT vPro	Win8 Pro64 03/13
3460-D4G	i7-3667U	8GBx1	14.0" HD+ Multi	720p	240G FDE SSD	Intel 6205S	Ericsson selectable	Ethernet	iAMT vPro	Win7 Pro64 03/13
3460-D3G	i5-3337U	4GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	Ericsson selectable	Ethernet	None No	Win8 Pro64 03/13
3460-D2G	i5-3337U	4GBx1	14.0" HD+ Multi	720p	180G SSD	Intel 6205S	Ericsson selectable	Ethernet	None No	Win7 Pro64 03/13
3460-DRG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	256G SSD OPAL	Intel 6205S	Ericsson selectable	Ethernet	iAMT vPro	Win8 Pro64 06/13
3460-DQG	i7-3667U	8GBx1	14.0" HD+ Multi	720p	256G SSD OPAL	Intel 6205S	Ericsson selectable	Ethernet	iAMT vPro	Win7 Pro64 06/13
Positioning Processor	<i>Ultralight, durable, secure, and stylish Ultrabook™; one spindle Intel® Core™ i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology Intel Core i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.0GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</i>								Preloaded operating system <sup>20</sup>	
Memory	4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets								- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit	
Optical SATA disk msATA™ SSD	None Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor None								- Some: Windows 8 64-bit - Some: Windows 8 Pro 64-bit	
Widescreen display Camera	14.0" (355mm) HD+ (1600x900) TFT color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 400:1 contrast ratio, <b>MultiTouch</b> screen supports ten-finger gesture HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus								Preloaded applications <sup>5</sup> (only some listed)	
Graphics	<b>Intel HD Graphics 4000</b> in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display; <i>Max external resolution: 2560x1600 (Mini-DisplayPort)@60Hz</i>								<b>Windows 7 models</b>	
Keyboard TrackPoint® Touchpad ThinkLight™	6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar <sup>13</sup> UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch None								<b>Windows 8 models</b>	
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material	14.0W" (WxDxH): 13.0" x 8.9" x 0.39-0.82"; 331mm x 226mm x 10.0-20.8mm Integrated battery: from 3.4 lb (1.54kg) Display cover: Carbon Fiber; Bottom: Magnesium/Aluminum								<b>All models</b>	
Battery - type Battery - life <sup>10</sup>	Integrated Lithium Polymer 4-cell RapidCharge battery <i>Integrated battery (45.8Whr): up to 8.2 hr</i>								Lenovo Solution Center Password Manager ThinkVantage System Update Fingerprint Software (fingerprint models) Lenovo Cloud Storage by SugarSync Microsoft® Office preloaded; purchase a product key to activate Norton™ Internet Security (30 days of virus definitions)	
Chipset Multicard reader ExpressCard Ports Monitor Cable	<b>Mobile Intel QS77 Express Chipset</b> 4-in-1 reader (SD, SDHC, SDXC, MMC) None One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort) None									
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Small Form Factor Mini Card, Intel Centrino® Advanced-N 6205S, 2x2 Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS									
SIM card Modem Bluetooth™ Ethernet Intel AMT Audio support	Some: User selectable, contract required with service provider None Bluetooth 4.0 wireless Some: Lenovo USB 2.0 Ethernet Adapter Some: Intel Active Management Technology (iAMT) HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack								Supports ThinkVantage® technologies	
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole, reset switch Trusted Platform Module, TCG 1.2-compliant AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip								90-watt AC Adapter (RapidCharge) ThinkPad Roll Cage (bottom cover) EPEAT™ Gold rating ENERGY STAR® 5.2-compliant ROHS-compliant International Warranty Service <sup>17</sup> 24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>	
Limited warranty <sup>12</sup>	<b>3-years/1-year battery, limited onsite service<sup>24</sup></b> , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available									

See footnotes for more detailed information

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**Availability:** All offers subject to availability. Lenovo reserves the right to alter product offerings and specifications at any time, without notice. Lenovo is not responsible for photographic or typographic errors.

**Warranty:** For a copy of applicable product warranties, go to [http://support.lenovo.com/en\\_US/product-service/warranty-status/WarrantyPolicies.page](http://support.lenovo.com/en_US/product-service/warranty-status/WarrantyPolicies.page). Lenovo makes no representation or warranty regarding third party products or services.

**Footnotes:**

- <sup>1</sup> Power management, including Intel® SpeedStep® Technology, reduces processor speed when in battery mode.
- <sup>2</sup> **Weight** includes battery and standard optical drive; weight may vary due to vendor components, manufacturing process and options.
- <sup>3</sup> **Thinness** may vary at certain points on the system.
- <sup>4</sup> **Wireless capability:** Requires compatible wireless-enabled options sold separately.
- <sup>5</sup> **TAA:** ThinkPad notebook is compliant with the U.S. Federal Government's country-of-origin requirements prescribed in 48 C.F.R. Subpart 25.4; Trade Act Agreement (TAA) model.
- <sup>6</sup> **Public network download modem speeds** are limited to 53Kbps. Upload speeds are limited to 48Kbps for V92 modems. Actual speeds depend on many factors and are often less than the maximum possible. V92 functions and speeds require compatible phone line and server equipment. Check with your telephone and ISP service providers for availability.
- <sup>7</sup> **Maximum memory capacity** may require the replacement of standard component with largest supported component available. On ThinkPad systems, even though it is possible to physically install 4GB of memory, the actual amount of memory addressable by a 32-bit operating system will be limited to 3GB. This limitation does not exist with 64-bit operating systems.
- <sup>8</sup> **Hard drive:** GB = billion bytes, TB = trillion bytes. Accessible capacity is less; up to 4GB is service partition.
- <sup>9</sup> **CD/DVD drive speeds** list maximum rates; rates are variable and are often less than the maximum.
- <sup>10</sup> **Battery:** These model numbers achieved the battery life based on MobileMark® 2007 during testing. For the ThinkPad X300, battery life is based on Business Winstone Battery Mark 2002. Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.
- <sup>11</sup> **External monitor:** This system supports a maximum of two external monitors. The integrated display(s) must be disabled to support two external monitors.
- <sup>12</sup> **Limited warranty:** Support unrelated to a warranty issue may be subject to additional charges.
- <sup>13</sup> **Internet access not included.**
- <sup>14</sup> **Included software** may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.
- <sup>15</sup> **Activating Verizon Wireless Service:** Lenovo customers will be contacted after purchase to activate service; requires separate agreement with Verizon Wireless and is subject to the Customer Agreement, Calling Plan, and credit approval. Service, airtime, and early termination charges may apply. Verizon Wireless, not Lenovo, is solely responsible for service. Service not available in all areas; purchaser is responsible for verifying that service is available for the intended location before purchasing a computer equipped with WAN card. Network details, coverage limitations, and maps at [www.verizonwireless.com](http://www.verizonwireless.com).
- <sup>16</sup> **International Warranty Service** is available in any country in which this product is sold and serviced. Service delivery methods and parts availability vary by country, may be different from that in the country of purchase, and are subject to change without notice. Fees and restrictions may apply in some countries.
- <sup>17</sup> **Telephone support** may be subject to additional charges, even during the limited warranty period. Response times may vary. May exclude some holidays. If a machine is listed as having "On-site service for select repairs", this means that onsite service is available only for the replacement of select parts. For all other warranty repairs, Lenovo will provide the customer a replacement part for customer installation. The parts for which onsite service is available varies by machine, but may include the processor, power supply, heat sink, system board, or base cover. For ThinkPad notebooks with Depot or Courier service, Lenovo will attempt to diagnose and resolve the problem remotely before sending a courier.
- <sup>18</sup> **Depot repair service:** The customer may be asked certain diagnostic questions before a courier is sent. Your ThinkPad purchase includes this depot repair service, available in the U.S. during the limited warranty period.
- <sup>19</sup> **Operating System:** Level of support varies by operating system. Operating systems not preloaded on the system may not provide full feature functionality. Refer to [lenovo.com/pc/support](http://lenovo.com/pc/support) and enter your machine type and model number for more information.
- <sup>20</sup> **For combination drives,** maximum possible speeds only are given in the following order: CD write, CD rewrite, CD read, DVD read.

<sup>22</sup> **Lenovo Services:** These services are available for machines normally used for business, professional, or trade purposes, rather than personal, family, or household purposes. Not all machine types and models are covered. Service period begins with the equipment date of purchase. Service must be purchased during the original limited product warranty period. Service levels are response time objectives and are not guarantees. If the machine problem turns out to be a Customer Replaceable Unit (CRU), a part will be express shipped to you for quick replacement. Onsite 24x7x2-hour service is not available in all locations. For ThinkPad notebooks requiring LCD or other component replacement, Lenovo may choose to perform service at the depot repair center. Calls must be received by 5 pm local time in order to qualify for Next Business Day service. P&L means parts and labor. P/U means pick-up. See Lenovo Warranty Services terms and conditions for complete details and restrictions.

<sup>23</sup> **Activating AT&T Wireless Service:** Requires separate agreement with AT&T, subject to service agreement, rate plan and coverage maps. AT&T, not Lenovo, is solely responsible for service. Coverage not available in all areas; AT&T BroadbandConnect available in select metropolitan markets. Special credit and tenure restrictions and additional charges may apply to international roaming. A network connection, third-party software, additional hardware, and/or subscription to a third-party service may be required for certain solutions/applications. Additional restrictions apply, including early termination fee; see [www.wireless.att.com](http://www.wireless.att.com) for details. To activate call Lenovo Wireless Activation Hot Line at 1-877-299-4710.

<sup>24</sup> **Limited onsite service systems** are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts provided by Lenovo. Lenovo will only send a technician onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. Support unrelated to a warranty issue may be subject to additional charges. Lenovo onsite repair (LOR), 8 am to 5 pm, Monday through Friday coverage excluding holidays, next business day (NBD) response time.

<sup>26</sup> **Full-size keyboard:** As defined by ISO/IEC 15412.

<sup>27</sup> **Based on IEEE 802.11a and 802.11b.** A customer can not upgrade to a different wireless Mini PCI adapter due to FCC regulations. Security screws prevent removal of this adapter. This wireless LAN product has been designed to permit legal operation world-wide in regions which it is approved. This product has been tested and certified to be interoperable by the Wireless Ethernet Compatibility Alliance and is authorized to carry the Wi-Fi logo.

<sup>28</sup> **The IEEE 802.11n specification (MIMO)** has been finalized and is currently in IEEE 802.11n-2009 release. The maximum speed depends on the access point device and the number of integrated antenna used for connection. An adapter with 11a/b, 11a/b/g, 11b/g/n, or 11a/b/g/n can communicate on any of its supported formats.

<sup>30</sup> **Measures only maximum** data transfer rate, not application performance. Many factors affect application performance.

<sup>32</sup> **Wireless:** Based on IEEE 802.11a, 802.11b, and 802.11g respectively. An adapter with 11a/b, 11b/g, or 11a/b/g can communicate on either/any of these listed formats respectively, the actual connection will be based on the access point to which it connects.

<sup>36</sup> **Wireless upgradable** allows the system to be wireless-enabled with an optional wireless Mini PCI or Mini PCI Express card. Designed to operate only with Lenovo options.

<sup>37</sup> **Optimus graphics** Optimus only switches in Windows 7 environment. It performs as discrete graphics in Windows Vista or Windows XP Professional environment.

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