

Lenovo® ThinkPad X230



Lenovo ThinkPad X230



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Lenovo ThinkPad X230

## ThinkPad X230 (2320) - TopSeller

Type-model	Processor	Memory	Wide- screen display	Disk SATA GB <sup>®</sup> rpm	Optical 1 in U UltraBase	<b>Iltrabase</b>	e key-	PCle Mini Card WLAN	PCle Mini Card WWAN	Finger print reader	tery	Intel AMT	Intel vPro	Preload	Ann date (mm/yy)
2320-8VU	i5-3210M	4GBx1	12.5" HD	128G SSD	Optional	Opt	None	Intel 2200 <sup>28</sup>	WWAN upg	Fing	6	No	No	Pro 64	06/12
2320-33U	i5-3210M	4GBx1	12.5" HD	180G SSD	Optional	Opt	None	Intel 2200	WWAN upg	Fing	6	No	No	Pro 64	06/12
2320-32U	i5-3210M	4GBx1	12.5" HD	500G 7200	Optional	Opt	None	Intel 2200	WWAN upg	Fing	6	No	No	Pro 64	06/12
2320-2ZU	i5-3210M	4GBx1	12.5" HD	320G 7200	Optional	Opt	None	Intel 2200	WWAN upg	Fing	6	No	No	Pro 64	06/12
2320-A9U	i7-3520M	4GBx1	12.5" HD	180G SSD	DVD±RW	UltraB	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	Fing	6	iAMT	vPro	Pro 64	07/12
2320-A7U	i5-3320M	4GBx1	12.5" HD	500G 7200	DVD±RW	UltraB	Backlit	Intel 6205	WWAN upg	Fing	6	iAMT	vPro	Pro 64	07/12
2320-A5U	i5-3320M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	Fing	6	iAMT	vPro	Pro 64	07/12
2320-A3U	i5-3210M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Intel 2200	WWAN upg	Fing	6	No	No	Pro 64	07/12

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

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 (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	Preloaded operating system <sup>20</sup> - Genuine Windows® 7 Professional 64  Ready to install applications¹⁴ (only some listed) • Rescue and Recovery™ • Password Manager
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	Preloaded applications <sup>14</sup> (only some
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         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	listed)  • Access Connections™  • ThinkVantage Power Manager  • Fingerprint Software (fingerprint models)  • ThinkVantage System Update  • Microsoft® Office preloaded;
mSATA™ SSD	None	purchase a product key to activate
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	
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);	Cupposts Think/ontogo® to shool or inco
Keyboard	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, optional LED backlight	Supports ThinkVantage® technologies
TrackPoint® Touchpad ThinkLight™	TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar¹³, 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-lon 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
Chipset Ultrabase Multicard reader ExpressCard	Mobile Intel QM77 Express Chipset Some: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54)	Disks supported (some):  • 128GB SSD 6.0Gb/s 0A65629  • 180GB SSD 6.0Gb/s 0A65630  • 500GB Disk 7200 rpm 0A65632
Smart Card Read Ports	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
PCIe Mini Card PCIe WLAN⁴ PCIe WWAN Carrier Modem Bluetooth™ Ethernet	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  Bluetooth 4.0 wireless  Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1	<ul> <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>
	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  3-years/1-yr battery - depot repair service / service upgrades²² available	65-watt AC Adapter  EPEAT™ Gold rating  ENERGY STAR® 5.0-compliant  GREENGUARD® certified  ROHS-compliant  International Warranty Service¹7  24 hour x 7 day¹8 toll-free support  during the warranty period¹2

## ThinkPad X230 (2320) - TopSeller - II

Type-model	Processor	Memory	Wide- screen display	Camera	Disk SATA GB <sup>®</sup> rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	key-	PCIe Mini Card WLAN	PCle Mini Card WWAN	Carrier	Bat- tery cells	Intel vPro	Pre- load	Ann date (mm/yy)
2320-8UU	i5-3320M	4GBx1	12.5" HD	720p	128G SSD	DVD±RW	UltraB	None	Intel 6205 <sup>28</sup>	WWAN upg	None	6	vPro	Pro 64	06/12
2320-8TU	i7-3520M	4GBx1	12.5" HD	720p	128G SSD	DVD±RW	UltraB	None	Intel 6205	WWAN upg	None	6	vPro	Pro 64	06/12
2320-3BU	i5-3320M	4GBx1	12.5" HD	None	320G 7200	Optional	Opt	None	Intel 6205	Gobi 3000	select	6	vPro	Pro 64	06/12
2320-3AU	i7-3520M	4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Gobi 3000	select	6	vPro	Pro 64	06/12
2320-39U	i7-3520M	4GBx1	12.5" HD	720p	500G 7200	DVD±RW	UltraB	None	Intel 6205	WWAN upg	None	6	vPro	Pro 64	06/12
2320-38U	i7-3520M	4GBx1	12.5" HD	720p	180G SSD	DVD±RW	UltraB	None	Intel 6205	WWAN upg	None	6	vPro	Pro 64	06/12
2320-37U	i5-3320M	4GBx1	12.5" HD	720p	180G SSD	<b>DVD</b> ±RW	UltraB	None	Intel 6205	WWAN upg	None	6	vPro	Pro 64	06/12
2320-36U	i5-3320M	4GBx1	12.5" HD	720p	500G 7200	DVD±RW	UltraB	None	Intel 6205	WWAN upg	None	6	vPro	Pro 64	06/12
2320-35U	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	<b>DVD</b> ±RW	UltraB	None	Intel 6205	WWAN upg	None	6	vPro	Pro 64	06/12
2320-34U	i5-3320M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	None	Intel 6205	WWAN upg	None	6	vPro	Pro 64	06/12

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

Positioning Processor	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	Preloaded operating system <sup>20</sup> - Genuine Windows® 7 Professional 64 Ready to install applications <sup>14</sup> (only
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	some listed)  ■ Rescue and Recovery™  ■ Password Manager
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™ removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3	Preloaded applications¹⁴ (only some listed)  • Access Connections™  • ThinkVantage Power Manager  • ThinkVantage Tools  • Fingerprint Software (fingerprint
mSATA™ SSD	None	models)
Widescreen display Camera	<b>12.5</b> " (317.5mm) <b>HD (1366x768) TFT color</b> , 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	<ul> <li>ThinkVantage System Update</li> <li>Microsoft® Office preloaded; purchase a product key to activate</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;  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 Bar¹³, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	Supports ThinkVantage® technologies  ThinkPad Ultrabase Series 3  Provides desktop expansion and
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-lon 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	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
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset 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	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:
PCIe Mini Card PCIe WLAN <sup>4</sup> PCIe WWAN	external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)  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, Qualcomm® Gobi™ 3000 chipset, PCIe Mini Card, EV-DO Rev. A, GPRS/WCDMA/HSPA, GPS	<ul> <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> </ul>
Carrier Modem Bluetooth™ Ethernet	Some: User selectable, AT&T®, Verizon®, or Śprint®, contract required with service provider None Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1	<ul> <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>
	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	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service¹7 24 hour x 7 day¹8 toll-free support
Limited warranty <sup>12</sup>	<b>3-years</b> /1-yr battery - depot repair service / service upgrades <sup>22</sup> available	during the warranty period <sup>12</sup>

## ThinkPad X230 (2320) - TopSeller (Windows 8)

Type-model	Processor	Memory	Widescreen display	Disk SATA GB <sup>8</sup> rpm	Optical in UltraBase	Ultrabase	e key-	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	tery	Intel AMT	Intel vPro	Preload	Ann date (mm/yy)
2320-HQU	i7-3520M	4GBx1	12.5" HD	180G SSD	DVD±RW	UltraB	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	6	iAMT	vPro	Win7 Pro64	10/12
2320-HPU	i5-3320M	4GBx1	12.5" HD	500G 7200	DVD±RW	UltraB	Backlit	Intel 6205	WWAN upg	6	iAMT	vPro	Win7 Pro64	10/12
2320-HNU	i5-3320M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	6	iAMT	vPro	Win7 Pro64	10/12
2320-HMU	i5-3210M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Intel 2200	WWAN upg	6	No	No	Win7 Pro64	10/12
2320-AAU	i7-3520M	4GBx1	12.5" HD	180G SSD	DVD±RW	UltraB	Backlit	Intel 6205	WWAN upg	6	iAMT	vPro	Win8 Pro64	10/12
2320-A8U	i5-3320M	4GBx1	12.5" HD	500G 7200	DVD±RW	UltraB	Backlit	Intel 6205	WWAN upg	6	iAMT	vPro	Win8 Pro64	10/12
2320-A6U	i5-3320M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	6	iAMT	vPro	Win8 Pro64	10/12
2320-A4U	i5-3210M	4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Intel 2200	WWAN upg	6	No	No	Win8 Pro64	10/12
2320-JCU	i7-3520M	4GBx1	12.5" HD Prem	180G SSD	DVD±RW	UltraB	Backlit	Intel 6205	WWAN upg	6	iAMT	vPro	Win7 Pro64	10/12
2320-JBU	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	Backlit	Intel 6205	WWAN upg	6	iAMT	vPro	Win7 Pro64	10/12
2320-JAU	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	6	iAMT	vPro	Win7 Pro64	10/12
2320-J9U	i5-3210M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	Backlit	Intel 2200	WWAN upg	6	No	No	Win7 Pro64	10/12

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

Perloaded operating system* Intel® Core* Intel® 2009 in Processor (2 cores, 2606Hz, 3MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10CHz), HT technology intel Core In 74520M processor (2 cores, 2.90GHz, 3MB cache), Intel HD Graphics 4000, Intel Core In 74520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology intel Core In 74520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology intel Core In 74520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology intel Core In 74520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology intel Core In 74520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology intel Core In 74520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology intel Core In 74520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology intel Core In 74520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology intel Core In 74520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DRR memory controller (up to 1600MHz), Intel BD Graphics 4000, DRR memory controller (up to 1600MHz), Intel BD Graphics 4000, DRR memory controller (up to 1600MHz), Intel BD Graphics 4000, DRR memory controller (up to 1600Mz), Intel BD Graphics 4000, DRR memory controller (up to 1600Mz), In			
Copicial   Some: DVD burner, removable from ThinkPad Ultrabase Series 3   Some: DVD burner, removable from ThinkPad Ultrabase Series 3   Some: DVD burner, removable from ThinkPad Ultrabase Series 3   SATA disk   Some: Some: Some: Some: Some: Some: Some: Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide, 7mm high, Active Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide, 7mm high, Active Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide, 7mm high, Active Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide, 7mm high, Active Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide, 7mm high, Active Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide, 7mm high, Active Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide, 7mm high, Active Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide view and protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Disk Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Drive / SATA 3.0Gb/s. 2.5" wide view and protection of Sata Protection System* Hard Drive / Sata Protection System	Processor	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 (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	- Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit - Some: Windows 8 Pro 64-bit Preloaded applications⁵ (only some
Ultrabay Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A3932) Some: Solid State Drive (SSD) / SATA 6.005/s. 2.5" wide, 7mm high, Active Protection System™ All: removable, upgradable, Snock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3 (Nasgoverner of Standard			,
Some: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16.9 aspect ratio, 300.1 contrast ratio 30m; 16.9 aspect ratio, 300.1 contrast ratio, 30m; 16.9 aspect ratio, 300.1 contrast ratio, 10Ps, WideView (170° viewing) HD720p resolution, wide view angle, low light sensitive, face trackine, fixed focus supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports external analog monitor via VGA DB-15 and digital monitor via Mini DP cable); 1920x1200 €00Hz (single-link DVI-1 via optional Mini DP cable); 1920x1200 €00Hz (single-link DVI-1 via opt	Uİtrabay SATA disk	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 Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ removable, upgradable, Shock Mounted Hard Drive, supports the second disk	ThinkVantage Product Recovery ThinkVantage Power Manager Lenovo SimpleTap Windows 8 models
wildesfrein display  Some: (12.5° (317.5mm) HD (13662/768) The Color, anti-giare, LED backlight, 200 mist, 16.9° aspect ratio, 300.1° contrast ratio, IPS, WideVlew (170° viewing) HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus  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 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); 2048x1536@ 75Hz (VGA)  Keyboard TrackPoint's 1920x1200 @ 60Hz (DisplayPort via optional Mini DP cable); 2048x1536@ 75Hz (VGA)  Keyboard TrackPoint's 17rackPoint's 1000 @ 60Hz (DisplayPort via optional LED backlight TrackPoint's 1000 @ 75Hz (VGA)  Illuminates the keyboard to improve visibility in low-light conditions  UltraNav™, buttonless touchpad below keyboard, multi-fouch 4-cell: roru 2-39 ib (1,34kg); 6-cell: from 3.31 ib (1,50kg); 9-cell: from 3.67 ib (1,67kg)  Display cover: Magnesium + PCABS; Bottom: Magnesium alloy 2-230 Tablet for traveling 24cell (23.4Whr): up to 10.3 hr; 9-cell (3.6 Whr): up to 15.5 hr; external battery (64Whr); 0.436280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr  Chipset Ultrabase Mobile Intel QM77 Express Chipset  Some: ThinkPad Ultrabase Series 3 (see right side)  4-in-1 reader (SD, SDHC, SDXC, MMC)  Ports Some: ThinkPad Ultrabase Series 3 (see right side)  4-in-1 reader (SD, SDHC, SDXC, MMC)  Ports Some: ThinkPad Ultrabase Series 3 (see right side)  **None Some: ThinkPad Ultrabase Series 3 (see right side)  **None Some: ThinkPad Ultrabase Series 3 (see right side)  **None Some: ThinkPad Ultrabase Series 3 (see right side)  **TrackPointPade Series Series 3 (see right side)  **None Some: ThinkPad Ultrabase Series 3 (see right side)  **TrackPointPade Series Series 3 (see right side)  **TrackPointPade Series Series 3 (see right side)  **Trac	-		
Camera   HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus   Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports external inaloge monitor via VGA DB-15 and digital monitor via Mini DP cable); 12048x1536@75Hz (VGA)   Supports external inaloge monitor via VGA DB-15 and digital monitor via Mini DP cable); 12048x1536@75Hz (VGA)   Supports external inaloge monitor via VGA DB-15 and digital monitor via Mini DP cable); 12048x1536@75Hz (VGA)   Supports ThinkVantage button, splil-resistant, multifredia Fn keys, optional LED backlight TrackPoint* pointing device, *Press-to-Select,* Internet Scroll Bar³s, magnifying glass Ultrabase Stouchpad below keyboard, multi-touch under the vicinity of the		200 nits, 16:9 aspect ratio, 300:1 contrast ratio  Some: (Premium) 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight,	Lenovo QuickLaunch     All models
Majorita HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum existed tisplay; Maximum existed existed existed expansion and calculated active manality in the Maximum existed existed expansion and calculated existed existed existed expansion and calculated existed existed expansion and calculated existed exist	Camera		
From Service   Grow, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight   TrackPoint* prointing device, "Press-to-Select," Internet Scroll Bar¹³, magnifying glass   UltraNav*, buttonless touchpad below keyboard, multi-fluch under the provided below keyboard. Multi-fluch Ultriand below keyboard to improve visibility in low-light conditions   Weight?   Without UltriaBase; 4/6-cell: 120," 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)   Sizibiary cover: Magnesium + PCABS; Bottom: Magnesium alloy   Sizibiary   Sizibiar		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);	purchase a product key to activate
TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar¹³, magnifying glass Ultrahavi", buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions  Illuminates the keyboard to improve visibility in low-light conditions  Without Ultrabase; 4/6-cell: 12.0° x 8.13″ x 0.75-1.05″; 305mm x 206.5mm x 19.0-26.6mm  A-cell: from 2.96 lb (1.34kg); 6-cell: from 3.61 lb (1.67kg)  Display cover: Magnesium + PCABS; Bottom: Magnesium alloy  Standard Battery  External Battery  External Battery  Battery - life¹  Wohle Intel QM77 Express Chipset  Some: ThinkPad Ultrabase Series 3 (see right side)  4-cell (28.8 Whr): up to 4.6 hr; 6-cell (62.4 Whr): up to 10.3 hr; 9-cell glus external battery: up to 26.1 hr  Chipset  Ultrabase  Mobile Intel QM77 Express Chipset  Some: ThinkPad Ultrabase Series 3 (see right side)  4-in-1 reader (SD, SDHC, SDXC, MMC)  One slot (ExpressCard/34, ExpressCard/54)  Some: ThinkPad Ultrabase Series 3 (see right side)  4-in-1 reader (SD, SDHC, SDXC, MMC)  One slot (ExpressCard/34, ExpressCard/54)  Follow LAN¹  PCIe WLAN¹  PCIe WLAN¹  PCIe WHAN  Wireless WAN upgradable  None  Bluetooth¹™  Bluetooth¹M Eluetooth¹M  Bluetooth 4.0 wireless  Ethernet  Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1  Intel AMT  Some: Intel Active Management for X230 and x230 Tablet to tave and cable management for X230 and x230 Tablet of table obtomor fibe y230 robe. Intel Amtor with the decention of the x-cell: from 3.67 ib (6.167kg)  Power On password, hard disk password, supervisor password, security chip  Fingerprint reader  Fingerprint reader  Fingerprint reader on path medical on, supports the security chip  Fingerprint reader  Fingerprint reader on Authentication, supports the security chip  Fingerprint reader  Fingerprint reader on Authentication, supports the security chip  Fingerprint reader  Fingerprint reader on Authentication, supports the security chip  Fingerprint reader  Fingerprint reader  Fingerprint reader  Fingerprint re	Keyboard	, , , , , , , , , , , , , , , , , , , ,	- 11
Dimensions³ without UltraBase; 4/6-cell: 12.0° x 8.13° x 0.75-1.05°; 305mx x 206.5mm x 19.0-26.6mm x 19.0-26.6mm delta form 2.0° blook 11.67kg) form 3.3 if 0.1.50kg); 9-cell: from 3.6 if 0.1.67kg) Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Display cover: Magnesium + PCABS; Bottom: Magnesium alloy Ul-lon 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery as 2nd battery as 2nd battery acreal (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, 0.436280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr Display Cover: Magnesium + PCABS; Bottom: Magnesium alloy 11.5 hr; external battery (64Whr, 0.436280): up to 10.6 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr, 0.436280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 4.6 hr; 9-cell plus external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 4.6 hr; 9-cell plus external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 4.6 hr; 9-cell plus external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 4.6 hr; 9-cell plus external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 4.6 hr; 9-cell plus external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 4.6 hr; 9-cell plus external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr Display Portice 4-cell (28.8Whr): up to 10.6 hr; 9-cell (93.6Whr): up to 10.6 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery: up to 26.1 hr Display Portice 4-cell (28.6Whr): up to 10.6 hr; 9-cell (93.6Whr): up t	TrackPoint® Touchpad	TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar¹³, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch	Provides desktop expansion and cable management for X230 and
Chipset Ultrabase Some: ThinkPad Ultrabase Series 3 (see right side)  Multicard reader (SD, SDHC, SDXC, MMC)  ExpressCard One slot (ExpressCard/34, ExpressCard/54)  Mone Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)  PCle Mini Card PCle WLAN⁴ Some: 11b/g/n, PCle Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2 Some: 11a/b/g/n, PCle Half Mini Card, Intel Centrino Advanced-N 6205, 2x2  PCle WWAN Wireless WAN upgradable None None Modem None Bluetooth™ Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1 Intel AMT Audio support 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 Fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip  Pisks 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 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  EPEAT™ Gold rating  ENERGY STAR® 5.0-compliant International Warranty Service¹¹²  ROHS SSD 6.0Gb/s  • 500GB Disk 7200 rpm 0A65632  Other features:  • Power button (front)  • Security weyhole  • Security single-link DVI-D via cable 45J7915)  • 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  EPEAT™ Gold rating  ENERGY STAR® 5.0-comp	Weight <sup>2</sup> Case material Standard Battery External Battery	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-lon 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;	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
Ports Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)  PCIe Mini Card PCIe WLAN4 PCIe WLAN4 PCIe WLAN4 PCIe WLAN4 PCIe WLAN4 PCIe WLAN5 PCIe WLAN4 PCIe WLAN4 PCIe WLAN4 PCIe WLAN4 PCIe WLAN5 PCIe WWAN 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 POWER DISPLAYED (supports single-link PCIE WLAN5 POWER DISPLAYED PCIE WWAN POWER DISPLAYED PCIE WLAN5 POWER DISPLAYED PC	Ultrabase Multicard reader	Mobile Intel QM77 Express Chipset Some: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC)	Disks supported (some):  • 128GB SSD 6.0Gb/s 0A65629  • 180GB SSD 6.0Gb/s 0A65630
PCIe WLAN <sup>4</sup> Some: 11b <sup>1</sup> /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 Carrier None Modem None Bluetooth™ Bluetooth™ Bluetooth™ Bluetooth 4.0 wireless Ethernet Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Some: Intel AdTi Audio support Audio support 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 Fingerprint reader Fingerprint reader Fingerprint reader Fower On Authentication, supports the security chip  Power on Authentication, supports the security chip  Power on Authentication, supports the security chip  Power on Authentication, supports the security chip  Pisperprint reader  Power on Authentication, supports the security chip  Pisperprint reader  Pisperpr		Two USB 3.0, one powered USB 2.0	Power button (front)     Security key lock, security keyhole
Intel AMT  Audio support  Audio support  Some: Intel Active Management Technology (iAMT)  Audio support  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  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  AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip  65-watt AC Adapter  EPEAT™ Gold rating  ENERGY STAR® 5.0-compliant  ROHS-compliant  International Warranty Service¹¹²  24 hour x 7 day¹® toll-free support	PCIe WLAN <sup>4</sup> PCIe WWAN Carrier Modem Bluetooth™	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 Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1	<ul> <li>Analog VGÁ 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> </ul>
Limited warranty <sup>12</sup> <b>3-years</b> /1-yr battery - depot repair service / service upgrades <sup>22</sup> available during the warranty period <sup>12</sup>	Intel AMT Audio support Security Security chip Fingerprint reader	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	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service¹7 24 hour x 7 day¹8 toll-free support
	Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	during the warranty period <sup>12</sup>

Disk Optical ThinkPad Backlit PCle PCle Mini Bat- Ann														
Type-model Proce	essor Memory	Widescreen display		in	Ultrabase Series 3	key-		'd Ca	ard WWAI /mSATA		Intel AMT	Intel vPro	Preload	date (mm/yy)
2320-JPU i5-32	30M 4GBx1	12.5" HD	500G 7200	Optional	Opt	Backlit	Intel 220	00	Finger	6	None	No	Win7 Pro64	02/13
2320-KMU i5-33			240G FDE SSD	Optional			Intel 620		Finger	6	iAMT	vPro	Win8 Pro64	
2320-KLU i5-33			180G SSD	Optional			Intel 620		Finger	6	iAMT	vPro	Win8 Pro64	
2320-KKU i5-32			180G SSD	Optional	•		Intel 220		Finger	6	None	No	Win7 Pro64	
2320-KJU i5-32 2320-KHU i5-32			180G SSD 500G 7200	Optional Optional			Intel 220 Intel 220		Finger Finger	6	None None	No No	Win8 Pro64 Win8 Pro64	
2320-K110 13-32 2320-L9U 17-35			320G 7200 OPAL				Intel 620		Finger	6	iAMT	vPro	Win7 Pro64	
2320-L8U i7-35			256G SSD	Optional			Intel 620		Finger	6	iAMT	vPro	Win7 Pro64	
2320-L7U i5-33			256G SSD	Optional	•		Intel 620		Finger	6	iAMT	vPro	Win7 Pro64	
2320-L6U i5-33	20M 4GBx1		320G 7200 OPAL	Optional	Opt	Backlit	Intel 620	05	Finger	6	iAMT	vPro	Win7 Pro64	04/13
2320-LVU i7-35			500G 7200	Optional	Opt		Intel 620		None	6	iAMT	vPro	Win7 Pro64	
2320-LUU i7-35			256G SSD	Optional	•		Intel 620		None	6	iAMT	vPro	Win7 Pro64	
2320-LTU i5-33			500G 7200	Optional			Intel 620		None	6	iAMT	vPro	Win7 Pro64	
2320-LSU i5-33		12.5" HD		Optional		Dackiii	Intel 620	Jo	None	_	iAMT		Win7 Pro64	
Positioning Processor	Intel® Core™ DDR3 memo Intel Core is DDR3 memo Intel Core is DDR3 memo Intel Core is	M i5-3230M pory controller 5-3320M property controller 5-3360M property controller 7-3520M property controller 7-3	executive on the mo processor (2 cores r (up to 1600MHz), rcessor (2 cores, 2 r (up to 1600MHz), rcessor (2 cores, 2 r (up to 1600MHz), rcessor (dual-core r (up to 1600MHz),	s, 2.60GH Intel Turb .60GHz, Intel Turb .80GHz, Intel Turb , 2.90GH	z, 3MB cand a Boost 2 3MB cacles o Boost 2 3MB cacles o Boost 2 2, 4MB Cacles o Boost 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0 (3.200 he), Inte 0 (3.300 he), Inte 0 (3.500 ache), Ir	GHz), HT I HD Gra GHz), HT I HD Gra GHz), HT itel HD G	tech phic tech phic tech tech	nnology s 4000, nnology s 4000, nnology hics 400	0, - , - , Pr	Some: \   	Window preinsta downgr Window Window	ating system ys® 7 Professi alled through ade rights in ys 8 Pro 64-bi ys 8 Pro 64-bi cations <sup>5</sup> (only	onal 64 t
Memory	16GB max <sup>7</sup>	PC3-12800	1600MHz DDR3, r ro 204-pin SO-DIMI	non-parity	/,	(0.00	<i>3112)</i> , 111	1001	mology		<b>Window</b> Lenovo		odels age Center Pl	us
Optical		•	abase Series 3	Joonete	,								Product Reco	
Ultrabay	Supports Ult	rabav Slim de	evices in optional or	standard	ThinkPac	l Ultraba	se Series	s 3 (0	DA33932		i ninkva Lenovo		Power Manag Tan	er
SATA disk	Some: S	olid State Di	rive (SSD) / SATA 6	.0Gb/s, 2	.5" wide,	7mm hig	h						•	
			ve / SATA 3.0Gb/s,								<b>Window</b> Lenovo			
			ogradable, Shock M standard ThinkPad				is the sec	cona	aisk		Lenovo			
mSATA™ SSD	None	optional of	standard Triiliki ad	Omabasc	, 001103 0						Lenovo			
Widescreen	<b>12.5</b> " (317.5	mm) <b>HD (13</b>	66x768) TFT color	. anti-gla	re. I FD b	acklight.				۱ - ا	All mod	lels		
display	200 nits, 16:	9 aspect rati	o, 300:1 contrast ra	tio	•	•							n Center	
Camera	HD720p res	olution, wide	view angle, low lig	nt sensitiv	ve, face tr	acking, f	ixed focu	s			Passwo			
Graphics			in processor,										ce preloaded; duct key to a	
	supports dua Maximum ex	al independe <i>ternal resol</i> t	ı monitor via VGA D ent display; ution: 2560x1600@ e-link DVI-I via opti	60Hz (Di	isplayPort	via optic	onal Mini	DP (	cable);			· 	antage® techn	
Keyboard			age button, spill-res								• •		trabase Serie	
TrackPoint®	TrackPoint p	ointing device	e, "Press-to-Select	" Interne	t Scroll Ba									
Touchpad			uchpad below keyb			-							op expansion nent for X230	
ThinkLight™			to improve visibility								X230 Ta			ana
Dimensions <sup>3</sup> Weight <sup>2</sup>			e <i>ll:</i> 12.0" x 8.13" x 4kg); <i>6-cell:</i> from										to the bottom	
Case material			um + PCABS;		Magnes			7 10	(1.07 kg)				Tablet for trave Pad to a two-	
Standard Battery	Li-lon 4-cell,		cell, HW Authentica					d bat	tery		system	with op	tional Ultraba	v Slim
External Battery	None	1/6=1 +0.4	6 hr. 6 aall (60 414)	h = 1 + a	10 0 hrs	0 0011 (0)	2 611/6=1	.n to	15 E b	8	accesso	ries in	right side:	<b>´</b>
Battery - life <sup>10</sup>			.6 hr; <i>6-cell (62.4W)</i> .0 <i>A36280):</i> up to 10							-			ard Drive	NIOATO
Chipset		<i></i>	ess Chipset	,	- 5 piao 0			0 2		$\dashv$			.dapter III    43 ted (some):	110412
Ultrabase			ase Series 3 (see ri	ght side)							• 1280	B ŠSE	0 6.0Gb/s	A65629
Multicard reader			S, SDXC, MMC)										0 6.0Gb/s 0/	
ExpressCard Smart Card Read		pressCard/3	4, ExpressCard/54	)						١.			c 7200 rpm 0 <i>F</i>	100032
Ports	Two USB 3.0	), one power	red USB 2.0								her feat Power b		ront)	
			B-15, Mini DisplayF	ort), ethe	ernet (RJ-	45)							ck, security ke	yhole
PCIe Mini Card	Two PCI Exp	ress Mini Ca	ard slots							• /	Analog ۱	vgá di	3-15 monitor	oort
PCIe WLAN⁴	Some: 11b/	g/n, PCIe Ha	alf Mini Card, Intel (	Centrino®	Wireless-	N 2200,	2x2						pports single 45J7915)	-link
PCIe WWAN	Some: 11a/ Wireless WA		Half Mini Card, Intel le	Centrino	Auvance	u-iv 620	o, ∠XZ				יי ט-ויטט Four US			
Carrier	None	upgraudb								• (	Gigabit (	etherne	et (RJ-45) por	
Modem	None												and headphor	
Bluetooth™ Ethernet	Bluetooth 4.0		etwork Connection	(ا صينصينا)	a) DLIV I						Require 1.39 lb;		or 90W AC ac	uapter
Intel AMT			etwork Connection agement Technolog		с), ГПY, I	- Cie X I				-			<b>.</b>	
Audio support	High Definiti	on (HD) Aud	io, Realtek® ALC32	02 codéc				(2/			-watt A0 PEAT™ (			
	volume up, de	own, múte bu	ittons / dual array mi	crophone	, combo a	udio/mic	jack			EV	NERGY	STAR®	5.0-complian	t
Security Security chip			d disk password, su , TCG 1.2-complian		password	, security	y keyhole	<del>!</del>		GF	REENG	UARD®	certified	
			print reader on pali		vipe senso	or. LFD i	ndicator				DHS-coi			17
	Pow	er On Authe	ntication, supports t	he securi	ity chip	,	>			int	lernatioi . hour y	iai vvar 7 dav <sup>18</sup>	ranty Service toll-free supp	ort
Limited warranty <sup>12</sup>	<b>3-years</b> /1-yr	battery - de	pot repair service /	service u	ogrades <sup>22</sup>	available	9			7	during t	he warı	ranty period <sup>12</sup>	
See footnotes for n													, ,	Lenovo

## ThinkPad X230 (2324)

Type-model	Processor	Memory	Widescreen display	Disk SATA GB <sup>®</sup> rpm		ThinkPad Ultrabase Series 3		PCIe Mini Card I WLAN	PCIe Mini Card WWAN	l print	Blue-		Intel	obal GMP (P)	` Pre-	Ann date (mm/yy)
2324-4TU	i5-3320M		12.5" HD	180G SSD	Optional	Opt	None	Intel 620528	upg	Fing	ВТ	6	vPro	. ,		06/12
2324-3YU	i7-3520M	4GBx1	12.5" HD Prem	180G SSD	Optional	Opt	None	Intel 6205	upg	Fing	BT	9	vPro		Pro 64	06/12
2324-3XU	i7-3520M	4GBx1	12.5" HD	500G 7200	Optional	Opt	None	Intel 6205	upg	Fing	BT	9	vPro		Pro 64	06/12
2324-3WU	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	Optional	Opt	None	Intel 6205	upg	Fing	BT	6	vPro	G	Pro 64	06/12
2324-3VU	i5-3320M	4GBx1	12.5" HD Prem	500G 7200	DVD±RW	UltraB	None	Intel 6205	upg	Fing	BT	6	vPro	G	Pro 64	06/12
2324-3UU	i7-3520M	4GBx1	12.5" HD Prem	320G 7200	Optional	Opt	None	Intel 6205	upg	Fing	BT	9	vPro		Pro 64	06/12
2324-3TU	i5-3360M	4GBx1	12.5" HD	320G 7200	Optional	Opt	None	Intel 6205	upg	Fing	BT	9	vPro		Pro 64	06/12
2324-3SU	i5-3360M	4GBx1	12.5" HD	320G 7200	Optional	Opt	None	Intel 6205	upg	No	No	6	vPro		Pro 64	06/12
2324-3RU	i5-3360M	4GBx1	12.5" HD Prem	320G 7200	Optional	Opt	None	Intel 6205	upg	Fing	BT	9	vPro		Pro 64	06/12
2324-3QU	i5-3320M	4GBx1	12.5" HD Prem	320G 7200	Optional	Opt	None	Intel 6205	upg	Fing	BT	6	vPro	G	Pro 64	06/12
2324-3PU	i5-3320M	4GBx1	12.5" HD	320G 7200	DVD±RW	UltraB	None	Intel 6205	upg	Fing	BT	6	vPro	G	Pro 64	06/12
2324-5XU	i7-3520M	4GBx1	12.5" HD	500G 7200	DVD±RW	UltraB	Backlit	Intel 6205	upg	Fing	BT	6	vPro		Pro 64	07/12
2324-5VU	i5-3320M	4GBx1	12.5" HD	180G SSD	DVD±RW	UltraB	Backlit	Intel 6205	upg	Fing	BT	6	vPro		Pro 64	07/12

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

Positioning Processor	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,	Preloaded operating system <sup>20</sup> - Genuine Windows® 7 Professional 64  Ready to install applications <sup>14</sup> (only some listed)
Memory	DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology  16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity,	<ul> <li>Rescue and Recovery™</li> <li>Password Manager</li> </ul>
Optical Ultrabay SATA disk	dual-channel capable, two 204-pin SO-DIMM sockets  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™  removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3  None	Preloaded applications¹⁴ (only some listed)  Norton™ Internet Security 2012 (30 days of virus definitions)  Access Connections™  ThinkVantage Power Manager  ThinkVantage Tools  Fingerprint Software (fingerprint models)
Widescreen display	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)  HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	<ul> <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>
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)	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 Bar¹³, 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 Easily connects to the bottom of the
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-lon 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	<ul> <li>X230 or X230 Tablet for traveling</li> <li>Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side:</li> <li>Serial ATA Hard Drive</li> <li>9.5mm Bay Adapter III 43N3412</li> <li>Disks supported (some):</li> </ul>
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Two USB 3.0, one powered USB 2.0	<ul> <li>128GB SSD 6.0Gb/s 0A65629</li> <li>180GB SSD 6.0Gb/s 0A65630</li> <li>500GB Disk 7200 rpm 0A65632</li> <li>Other features:</li> <li>Power button (front)</li> <li>Security key lock, security keyhole</li> </ul>
PCIe Mini Card PCIe WLAN⁴ PCIe WWAN Carrier Modem Bluetooth™ Ethernet	external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)  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 Some: Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1	<ul> <li>Analog VGÅ 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>
Intel AMT Audio support Security Security chip Fingerprint reader	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  3-years/1-yr battery - depot repair service / service upgrades²² available	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service¹ 24 hour x 7 day¹8 toll-free support during the warranty period¹2

Type-model Processor I	Memory	Widescreen display	Camera	Disk SATA GB <sup>®</sup> rpm	Optical Think in Ultrab UltraBase Serie	ase key-	Mini Card	Card		Finger print reader	Blue-	tery I	Global ntel GM Pro (P)	P` Pre-	Ann date (mm/yy)
2324-3NU i5-3320M 4	4GBx1	12.5" HD	720p	320G 7200	Optional Opt	t None	Intel 6205	5 <sup>28</sup> Gobi	select	Fing	ВТ	6 v	Pro	Pro 64	06/12
2324-3MU i5-3320M 4	4GBx1	12.5" HD	No	320G 7200	Optional Opt	t None	Intel 6205	5 upg	None	No	No	6 v	Pro	Pro 64	06/12
2324-2LU i5-3320M 4	4GBx1	12.5" HD	720p	320G 7200	Optional Opt	t None	Intel 6205	5 upg	None	Fing	BT	6 v	Pro	Pro 64	06/12
2324-25U i5-3360M 4	4GBx1	12.5" HD Prem	720p	320G 7200	Optional Opt	t None	Intel 6205	5 upg	None	Fing	BT	6 v	Pro	Pro 64	06/12
2324-23U i7-3520M 4	4GBx1	12.5" HD Prem	n No	180G SSD	Optional Opt	t None	Intel 6300	D <sup>28</sup> upg	None	Fing	BT	<b>9</b> v	Pro G	Pro 64	06/12
2324-22U i5-3360M 4	4GBx1	12.5" HD	720p	320G 7200	Optional Opt	t None	Intel 6205	5 upg	None	No	No	6 v	Pro G	Pro 64	06/12
2324-5SU i5-3320M 4	4GBx1	12.5" HD Prem	720p	320G 7200	Optional Opt	t None	Intel 6205	5 upg	None	Fing	BT	6 v	Pro G	Pro 64	07/12
2324-5RU i5-3320M 4	4GBx1	12.5" HD	720p	500G 7200	DVD±RW Ultr	aB None	Intel 6205	5 upg	None	Fing	BT	6 v	Pro G	Pro 64	07/12
2324-5QU i5-3320M 4	4GBx1	12.5" HD	720p	180G SSD	Optional Opt	t None	Intel 6205	5 upg	None	Fing	BT	6 v	Pro G	Pro 64	07/12
2324-5NU i5-3320M 4	4GBx1	12.5" HD	720p	320G 7200	Optional Opt	t None	Intel 6205	5 upg	None	No	BT	6 v	Pro G	Pro 64	07/12
2324-5PU i5-3320M 4	4GBx1	12.5" HD	720p	320G 7200	DVD±RW Ultr	aB None	Intel 6205	5 upg	None	Fing	BT	6 v	Pro G	Pro 64	07/12

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

Positioning Processor	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	Preloaded operating system <sup>20</sup> - Genuine Windows <sup>®</sup> 7 Professional 64  Ready to install applications <sup>14</sup> (only some listed) • Rescue and Recovery <sup>™</sup> • Password Manager
Memory	16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets	Preloaded applications <sup>14</sup> (only some
Optical Ultrabay SATA disk	Some:DVD burner, removable from ThinkPad Ultrabase Series 3SupportsUltrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932)Some:Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm highSome: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 diskin optional or standard ThinkPad Ultrabase Series 3	listed)  • Norton™ Internet Security 2012 (30 days of virus definitions)  • Access Connections™  • ThinkVantage Power Manager  • ThinkVantage Tools  • Fingerprint Software (fingerprint
mSATA™ SSD	None	models)
Widescreen display	<ul> <li>Some: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio</li> <li>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)</li> <li>Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</li> </ul>	<ul> <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>
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 TrackPoint®	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	Supports ThinkVantage® technologies
Touchpad ThinkLight™	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> 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-lon 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	<ul> <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>
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read Ports	Mobile Intel QM77 Express Chipset Some: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) 2324-5PU model: 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)	- 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:
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	<ul><li>Power button (front)</li><li>Security key lock, security keyhole</li></ul>
PCIe WWAN	Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 Some: Wireless WAN upgradable Some: Wireless WAN, Qualcomm® Gobi™ 3000 chipset, PCIe Mini Card,	<ul> <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> </ul>
Carrier Modem Bluetooth™ Ethernet	EV-DO Rev. A, GPRS/WCDMA/HSPA, GPS  Some: User selectable, AT&T®, Verizon®, or Sprint®, contract required with service provider  None  Some: Bluetooth 4.0 wireless Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1	Gigabit ethernet (RJ-45) port  Gigabit ethernet (RJ-45) port  Microphone in and headphone out  Requires 65W or 90W AC adapter  1.39 lb; 630g
Intel AMT Audio support Security Security chip Fingerprint reader	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	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service¹7 24 hour x 7 day¹8 toll-free support
Limited warranty	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	during the warranty period <sup>12</sup>

Disk Optical ThinkPad Backlit PCIe Finger Bat- Global (G) Ann															
Type-model Proces	Widescreen ssor Memory display	Disk SATA Camera GB <sup>®</sup> rpm		Ultrabase	e key-	Mini Card		Blue-		Global Intel GMF vPro (P)		Ann date (mm/yy)			
	0M 4GBx1 12.5" HD	No 320G 7200	Optional		None	Intel 2200			6 No		Nin8 Pro6				
2324-66U i7-352	0M 4GBx1 12.5" HD	720p 180G SSD	Optional	- '	None	Intel 6205									
	0M 4GBx1 12.5" HD	720p 500G 7200	Optional		None	Intel 6205					Nin8 Pro6				
	0M 4GBx1 12.5" HD	720p 180G SSD	Optional		None	Intel 6205					Nin8 Pro6				
	0M 4GBx1 12.5" HD 0M 4GBx1 12.5" HD	720p 500G 7200 720p 320G 7200	Optional Optional		None None	Intel 6205 Intel 6205					Nin8 Pro6 Nin8 Pro6				
	0M 4GBx1 12.5" HD	720p 520G 7200 720p 500G 7200	•			Intel 6205			6 iAMT		Nin8 Pro6				
	0M 4GBx1 12.5" HD	720p 180G SSD				Intel 6205			6 iAMT		Nin8 Pro6				
2324-8AU i7-352	0M 4GBx1 12.5" HD Prem	720p 256G SSD	Optional	Opt	Backlit	Intel 6205	Fing	ВТ	6 iAMT	vPro ۱	Nin7 Pro6	4 12/12			
	0M 4GBx1 12.5" HD Prem		•			Intel 6205			6 iAMT		Nin7 Pro6				
	0M 4GBx1 12.5" HD	720p 180G SSD 720p 256G SSD	Optional	- '		Intel 6205			6 iAMT		Nin7 Pro6				
	0M 4GBx1 12.5" HD 0M 4GBx1 12.5" HD	720p 236G SSD 720p 128G SSD	Optional Optional			Intel 6205 Intel 6205			6 iAMT 6 iAMT		Nin7 Pro6 Nin7 Pro6				
	0M 4GBx1 12.5" HD	720p 500G 7200	Optional			Intel 6205			6 iAMT		Win7 Pro6				
	0M 4GBx1 12.5" HD	720p 320G 7200	Optional	•		Intel 6205			6 iAMT		Nin7 Pro6				
2324-93U i5-332	0M 4GBx1 12.5" HD	720p 240G FDE SSI	Optional (	Opt	Backlit	Intel 6205	Fing	ВТ	6 iAMT	vPro \	Nin8 Pro6	4 02/13			
Positioning Processor		ocessor (dual-core, 2 (up to 1600MHz), Intelessor (dual-core, 2.9 (up to 1600MHz), Intel	60GHz, 3N Turbo Boo 0GHz, 4M Turbo Boo	IB Cach ost 2.0 (3 B Cach	3.30GH: <b>e)</b> , <b>Intel</b>	z), HT tech I <b>HD Grapl</b>	inology nics 40	00, -	Some: \	Windows® preinstalle downgrade Windows 8	3 Pro 64-b	ional 64			
Memory 16GB max <sup>7</sup> / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets - Some: Windows 8 Preloaded application															
Optical Ultrabay SATA disk	in optional or stand	vices in optional or star (SSD) / SATA 6.0Gb/s.	ndard Thinl 2.5" wide, de, 7mm h Hard Drive	kPad Ult mydel	gh ve Prote	ection Syst	em™	2) -	Lenovo® ThinkVa ThinkVa	ntage Pro	e Center P duct Reco ver Manag	overy			
mSATA™ SSD	None	UD (4000-700) TET -	-1	dava I.E	D b a ald	l'alat			Lenovo		.13				
Widescreen display	Some: <b>12.5</b> " (317.5mm)	ect ratio, 300:1 contra		jiare, ∟⊏	D Dacki	iignt,		•	Lenovo	Companio	on				
alopiay	Some: (Premium) <b>12.5</b> " (			<b>color</b> , ar	nti-glare	, LED back	dight,		All mod						
Camera	300 nits, 16:9 asp Some: HD720p resolution	ect ratio, 500:1 contra n, wide view angle, lov						•	<ul><li>Lenovo Solution Center</li><li>Password Manager</li></ul>						
Graphics	Intel HD Graphics 4000 is supports external analog supports dual independer Maximum external resoluting 1920x1200@60Hz (single	monitor via VGA DB-1 it display; <i>tion:</i> 2560x1600@60F	łz (Display	Port via	optiona	ıl Mini DP d	cable);		purchas	e a produ	oreloaded ct key to a age® techr	ctivate			
Keyboard	6-row, 84-key, ThinkVanta														
TrackPoint®	TrackPoint pointing device	, "Press-to-Select," In	ernet Scro	oll Bar <sup>13</sup> ,					<ul> <li>ThinkPad Ultrabase Series 3</li> <li>Provides desktop expansion and</li> </ul>						
Touchpad	UltraNav™, buttonless tou										nt for X230				
ThinkLight™	Illuminates the keyboard t				00 5	10 0 00		_	X230 Ta	blet					
Dimensions <sup>3</sup> Weight <sup>2</sup> Case material Standard Battery External Battery Battery - life <sup>10</sup>	without UltraBase; 4/6-cell 4-cell: from 2.96 lb (1.34) Display cover: Magnesiu Li-lon 4-cell, 6-cell, or 9-co None 4-cell (28.8Whr): up to 4.6	xg); 6-cell: from 3.3 m + PCABS; Bot ell, HW Authentication 5 hr; 6-cell (62.4Whr): 1	1 lb (1.50k tom: Mag optional e	g); <i>9-c</i> gnesium external l hr; <i>9-ce</i>	cell: fro alloy battery :	om 3.67 lb om as 2nd bat Whr): up to	(1.67kg) tery 15.5 hi	•	X230 or Converte system v accesso – Serial	X230 Tab s ThinkPa with optior ries in right ATA Hard	Drive	eling -spindle ay Slim			
Chipset	external battery (64Whr, 0		i, σ-celi βi	us exter	ııaı Vall	cry. up to z	-U. I III	$\dashv$		ı Bay Ada <sub>l</sub> supported	oter III 43	3N3412			
Ultrabase	Mobile Intel QM77 Expre Some: ThinkPad Ultrabas		side)						• 1280	BB SSD 6.	.0Gb/s 0	A65629			
Multicard reader	4-in-1 reader (SD, SDHC,	SDXC, MMC)	,								0Gb/s 0/				
ExpressCard Smart Card Read	One slot (ExpressCard/34	, ExpressCard/54)									200 rpm 0	A65632			
Ports	Two USB 3.0, one powere external monitor (VGA DB	ed USB 2.0 3-15. Mini DisplayPort)	ethernet	(RJ-45)				•		utton (fror	nt) security ke	ovholo			
PCIe Mini Card	Two PCI Express Mini Car	,		/				$\neg$	Analog \	/GA DB-1	5 monitor	port			
PCIe WLAN <sup>4</sup>	Some: 11b/g/n, PCIe Hal	f Mini Card, Intel Cent						•			orts single	-link			
PCIe WWAN	Some: 11a/b/g/n, PCIe H Wireless WAN upgradable		ILLILIO YONS	anced-N	o205, 2	:XZ				a cable 45 B 2.0 port					
Carrier	None	-						•	Gigabit of	ethernet (I	RJ-45) por				
Modem Bluetoeth™	None	loce									d headpho 90W AC a				
Bluetooth™ Ethernet	Some: Bluetooth 4.0 wire Intel 82579LM Gigabit Ne		visville). Pl	HY, PCI	x1				1.39 lb;		JUVV AU a	ααρισι			
Intel AMT	Some: Intel Active Manag	gement Technology (iA	MT)			= -		_		C Adapter					
Audio support	High Definition (HD) Audio volume up, down, mute but							E	EPEAT™ (	Gold rating	3				
Security	Power-on password, hard									STAR® 5.0 JARD® ce	0-compliar	nt			
Security chip	Trusted Platform Module,	TCG 1.2-compliant	ot oudes -	oncor !	ED :	ooto-		F	ROHS-cor	npliant					
ringerprint reader	Some: AuthenTec fingerp Power On Authen	rint reader on paim re tication, supports the s			בט וחמוי	caiUI,					ty Service				
Limited warranty <sup>12</sup>	3-years/1-yr battery - dep				ilable			-   2	durina t	7 uay™ t0l ne warran	l-free supp tv period <sup>12</sup>	יווטנו			
	Jours, i yi battery - dep	ot lopali del vide / del v	oo apgiad	oo ava	iabit		during the warranty period <sup>12</sup>								

# ThinkPad X230 (2324) - Windows 8 - II

Type-model Processor Memory	Widescreen display	Disk SATA GB <sup>®</sup> rpm		ThinkPad Ultrabase Series 3	key-	PCIe Mini Card WLAN	PCIe Mini Card WWAN /mSATA	Finger print reader	tery In	itel		Ann date (mm/yy)
2324-9CU i7-3520M 4GBx1	12.5" HD	320G 7200 OPAL	Optional	Optional	Backlit	Intel 6205 <sup>28</sup>	WWAN upg	Finger	6 vl	Pro	Win7 Pro64	04/13
2324-9BU i7-3520M 4GBx1	12.5" HD	256G SSD	Optional	Optional	Backlit	Intel 6205	WWAN upg	Finger	6 vl	Pro	Win7 Pro64	04/13
2324-9AU i5-3320M 4GBx1	12.5" HD	320G 7200 OPAL	Optional	Optional	Backlit	Intel 6205	WWAN upg	Finger	6 vl	ro	Win7 Pro64	04/13
2324-9YU i7-3520M 4GBx1	12.5" HD	256G SSD	Optional	Optional	Backlit	Intel 6205	WWAN upg	None	6 vl	ro	Win7 Pro64	07/13
2324-9XU i7-3520M 4GBx1	12.5" HD	500G 7200	Optional	Optional	Backlit	Intel 6205	WWAN upg	None	6 vl	ro	Win7 Pro64	07/13
2324-9WU i7-3520M 4GBx1	12.5" HD	128G SSD	Optional	Optional	Backlit	Intel 6205	WWAN upg	None	6 vl	ro	Win7 Pro64	07/13
2324-9VU i5-3320M 4GBx1	12.5" HD	500G 7200	Optional	Optional	Backlit	Intel 6205	WWAN upg	None	6 vl	ro	Win7 Pro64	07/13
2324-9UU i5-3320M 4GBx1	12.5" HD	128G SSD	Optional	Optional	Backlit	Intel 6205	WWAN upg	None	6 vl	ro	Win7 Pro64	07/13

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

Positioning Processor	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	Preloaded operating system <sup>20</sup> - 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	<b>Preloaded applications</b> <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) 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™ removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3	<ul> <li>Windows 7 models</li> <li>Lenovo® Message Center Plus</li> <li>ThinkVantage Power Manager</li> <li>Windows 8 models</li> <li>Lenovo Support</li> </ul>				
mSATA™ SSD	None	- All models				
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	Lenovo Solution Center     Password Manager     Microsoft® Office preloaded;				
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;	purchase a product key to activate				
	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)	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 Bar¹³, 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  Tool to the host of the host of the case of the cas				
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-lon 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 th X230 or X230 Tablet for traveling Converts ThinkPad to a two-spin system with optional Ultrabay Sli accessories in right side:     Serial ATA Hard Drive     9.5mm Bay Adapter III 43N34 Disks supported (some):				
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)	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				
PCIe Mini Card PCIe WLAN⁴ PCIe WWAN Carrier Modem Bluetooth™ Ethernet	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	<ul> <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>				
	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	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service¹7 24 hour x 7 day¹8 toll-free support				
Limited warranty <sup>12</sup>	3-years/1-yr battery - depot repair service / service upgrades <sup>22</sup> available	during the warranty period <sup>12</sup>				
	and detailed information					

Type-model Process	sor Memory	Widescreen display	Camera	Dis SA GB <sup>8</sup>	TA		ThinkPad Ultrabase Series 3	key- l	Mini Card I	PCIe /lini Car WWAN	d Carrie	Smart   Card r Reader	Finger print reader	Blue-	Bat- tery cells	Intel (	GMP`	G) Ann Date nm/yy)
2325-5JU i7-3520	OM 4GBx1	12.5" HD	720p	128G	SSD	Optional	Opt	None	620528		None		Fing					06/12
2325-2VU i7-3520	OM 4GBx1	12.5" HD Prem						None	6205		None		Fing			vPro		06/12
2325-2UU i5-3320						Optional		None	6205		None		Fing			_		06/12
2325-2TU i7-3520						•		None	6205		None		Fing			vPro		06/12
2325-2SU i5-3320 2325-2RU i5-3360						Ontional		None	6205 6205		None None		Fing			vPro		06/12 06/12
2325-20U i5-3320						•		None	6205		None		Fing					06/12
2325-2PU i5-3320				_		Optional	- '	None	6205	Gobi			Fing			vPro		06/12
2325-2NU i5-3320						Optional		None	6205		None		No	No		vPro		06/12
2325-23U i7-3520						Optional		None	630028		None		Fing					06/12
2325-22U i5-3360 2325-5PU i5-3320						Optional DVD±RV		None	6205 6205		None	None Gemplus	No	No BT		_		06/12
2325-5NU i5-3320						Optional		None	6205		None		No	BT		vPro		07/12
Positioning		ortable for the ex							0200	~P9		Prelo						
Processor		e™ i5-3320M pr						cache),	Intel HD	Graphi	cs 400		nuine \					
		mory controller											fessio	nal 64	1			
		i5-3360M prod mory controller										<sup>00,</sup> Ready	y to in	stall	appl	licatio	ns <sup>14</sup>	(only
		i7-3520M proc										o some				TM		
	DDR3 mer	mory controller	(up to	1600N	lHz),	Íntel Turb	o Boost 2	.0 (3.60	OGHz), H	techn	ology	- nes	scue a sword					
Memory		c <sup>7</sup> / PC3-12800											aded a		•		only	somo
- · · ·		nel capable, two										listed)		~hhiii	Janie	,ııə (	Orlly	301116
Optical		/D burner, remo							ooo Corio	o 2 (O A	22022		ton™ I					12
Ultrabay SATA disk		Jltrabay Slim de olid State Drive (							ase selle	S 3 (UA	.33932	, (00	days o				ns)	
<i>0, 11, 1</i> d.o.1		ard Disk Drive /							Protection	Syste	m™		nkVant				nadei	r
		movable, upgrad						ipports	the secor	nd disk		• Thir	าkVant	tage ∃	Tools	;	J	
mSATA™ SSD	None	optional or stand	aara ir	ıınkPa	a Uiti	abase Se	eries 3					• Fing		nt Sof	twar	e (fing	erpr	int
Widescreen		2. <b>5</b> " (317.5mm)	HD (13	66x76	8) TF	T color.	anti-glare	IFD	packlight.			• Thir	dels) nkVant	tage S	Svste	em Up	date	)
display	20	0 nits, 16:9 asp	ect rati	o, 300	:1 co	ntrast rati	0					• Add	be® R	eade	r®			
		remium) <b>12.5</b> " (									ght,		rosoft®					ivoto
Camera		10 nits, 16:9 asp D720p resolutio									115		chase pe™ fo				J act	ivale
Graphics		Graphics 4000 i	-		arigio	, low light	. 0011011140	, 1400 t	raoming, n	ACG 100	uo	-						
агартноо		external analog			GA D	B-15 and	digital m	onitor v	/ia Mini Di	splayPo	ort;							
	supports d	dual independer	t displa	ay;														
	1920x1200	external resolut 0@60Hz (single	1001: 2: -link D	060X10 VI-I vi:	500@ a onti	060HZ (Di onal Mini	SplayPort	via opi	tional Min x1536@7	DP ca 5Hz (V	ble); GA)							
Keyboard		key, ThinkVanta						, .				ht.						
TrackPoint®		pointing device									acking	_		:			-	la aia a
Touchpad	UltraNav™	¹, buttonless tou	chpad	below	keyb	oard, mul	ti-touch					H	orts Th					
ThinkLight™		s the keyboard t							F 40	2 0 00 0		Th	ninkPa	ad Uli	traba	ase S	eries	3
Dimensions <sup>3</sup> Weight <sup>2</sup>		<i>traBase; 4/6-cel</i> m 2.96 lb (1.34l											vides o					
Case material		<i>ver:</i> Magnesiu				Bottom:				77 10 (1	.or kg)		e mar 0 Tabl		nent	ior X2	30 a	ına
	Li-Ion 4-ce	ell, 6-cell, or 9-ce	ell, HW	Authe	entica	tion; optic	onal exter	nal bat	tery as 2n	d batte	ry	• Eas	ily con	nects				
External Battery Battery - life <sup>10</sup>	None	8Whr): up to 4.6	hr: 6-	cell (6:	2 111/1	hr): un to	10 3 hr	0-cell (	93 6Whr):	un to 1	5 5 hr		0 or X					
Battery inc		attery (64Whr, 0										00	em wi					
Chipset	Mobile Int	tel QM77 Expre	ss Ch	ipset			•			-		acce	essorie	es in l	right	side:		•
Ultrabase	Some: Th	inkPad Ultrabas	se Seri	es 3 (s	see ri	ght side)							erial A				401	10440
Multicard reader ExpressCard		der (SD, SDHC, ExpressCard/34				١							5mm E sks su					13412
Smart Card Read							slot					• 1	128GE	SSE	6.0	Gb/s	0A6	55629
Ports	Two USB 3	3.0, one powere	d USB	2.0,									180GE					
		onitor (VGA DE			playF	ort), ethe	rnet (RJ-	45)				_	500GE		720	iu rpm	I UA6	5632
PCIe Mini Card PCIe WLAN <sup>4</sup>	Two PCI E	Express Mini Ca a/b/g/n, PCIe H	rd slots	i Card	Intol	Contrina	® Advana	od.N.er	205 252				featur er but		ront\			
LOIG MEAN.	Some: 11	a/b/g/n, PCIe H a/b/g/n, PCIe H	an iviin alf Min	i Card	, miei , Intel	Centrino	Ultimate-	N 6300	200, 2x2 ), 3x3			• Sec	urity k	ey lòc	ck, se	ecurity		
PCIe WWAN	Some: Wi	ireless WAN up	gradab	le								• Ana	log VO	BÁ DE	3-15	monit	or pc	ort
	Some: Wi	ireless WAN, Qı /-DO Rev. A, GF	Jalcom	m® Go	bi™ 3	3000 chip	set, PCle	Mini C	ard,			Disp     DVI-	olayPo -D via					пк
Carrier		ser selectable, A					contract r	eguired	d with serv	rice pro	vider	• Fou	r USB	2.0 p	orts	,		
Modem	None	•			, 5.	-   ,		4				Giga	abit etl	herne	et (Ru			
Bluetooth™ Ethernet		uetooth 4.0 wire 9LM Gigabit Ne		Onno	ction	(Lowievill	م\ D⊔∨ ۱		ı			Mici     Req	rophor wires (	1e in 8 85W 4	and h or qo	neadp )W 🗚	none none	out onter
Intel AMT	Intel Active	e Management	Techno	logy (i	AMT	(remeall	<i>∪j</i> , ⊏111, ľ	OIG X	'				b; 63		J. JU	//	. aud	
Audio support	High Defin	nition (HD) Audio	o, Real	tek® A	LC32	02 codec				x 2 /		65-wa	tt AC	Adap	ter			
Security		down, mute but								2		EPEA	T™ Go	old rat	ting			
Security Security chip	Trusted Pla	password, hard atform Module,	TCG 1	.2-con	iu, su iplian	ibei visor   t	password	, secur	ity keynol	<del>-</del>		ENER	RGY S	TAR®	5.0-		iant	
Fingerprint reader	Some: Au	ithenTec fingerp	rint rea	ader o	n palı	m rest, sw		or, LED	indicator,				ENGUA S-comp			med		
		wer On Authen					<del>, , , , , , , , , , , , , , , , , , , </del>					Intern	ationa	l War	ranty			
Limited warranty <sup>12</sup>	3-years/1-	year battery, <b>lin</b>	nited o	nsite	servi	ce <sup>24</sup> , 8 ar	n - 5 pm,	Mon - I	Fri covera	ge		24 ho						rt
	excluding	holidays, next b	usines	s uay i	espo	rise time/	service t	upgrade	∍s— avalla	nie		auri	ing the	warr	anty	perio	u·-	

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB <sup>®</sup> rpm		<b>Ultrabase</b>	e key-	PCIe Mini Card N WLAN							Ann Date mm/yy)
2325-5TU	i5-3320M	4GBx1	12.5" HD Prem	720p	320G 7200	DVD±RW	UltraB	None	Intel 6205 <sup>28</sup>	upg	Finger	6	vPro	GΡ	Pro 64	07/12
2325-3QU	i5-3320M	4GBx1	12.5" HD Prem	720p	320G 7200	Optional	Opt	None	Intel 6205	upg	Finger	6	vPro	GΡ	Pro 64	07/12
2325-5SU	i5-3320M	4GBx1	12.5" HD Prem	720p	500G 7200	DVD±RW	UltraB	None	Intel 6205	upg	Finger	6	vPro	GΡ	Pro 64	07/12
2325-5RU	i5-3320M	4GBx1	12.5" HD Prem	720p	500G 7200	Optional	Opt	None	Intel 6205	upg	Finger	6	vPro	GΡ	Pro 64	07/12

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

Positioning Processor	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	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)
Optical Ultrabay SATA disk	<ul> <li>Some: DVD burner, removable from ThinkPad Ultrabase Series 3</li> <li>Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932)</li> <li>Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high</li> <li>Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3</li> </ul>	<ul> <li>Rescue and Recovery<sup>™</sup></li> <li>Password Manager</li> <li>Preloaded applications<sup>™</sup> (only some listed)</li> <li>Access Connections<sup>™</sup></li> <li>ThinkVantage Power Manager</li> </ul>
mSATA™ SSD	None	Think variage Fower Manager     Think Vantage Tools
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	<ul> <li>Fingerprint Software (fingerprint models)</li> <li>ThinkVantage System Update</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;  Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable);	<ul> <li>Adobe® Reader®</li> <li>Microsoft® Office preloaded; purchase a product key to activate</li> <li>Skype™ for Windows</li> </ul>
	1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)	Supports ThinkVantage® technologies
Keyboard TrackPoint®	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	ThinkPad Ultrabase Series 3
Touchpad ThinkLight™	UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	<ul> <li>Provides desktop expansion and cable management for X230 and X230 Tablet</li> </ul>
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-lon 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	<ul> <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:         <ul> <li>Serial ATA Hard Drive</li> <li>9.5mm Bay Adapter III 43N3412</li> </ul> </li> </ul>
Chipset Ultrabase Multicard reader ExpressCard	Mobile Intel QM77 Express Chipset Some: ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54)	Disks supported (some):  • 128GB SSD 6.0Gb/s 0A65629  • 180GB SSD 6.0Gb/s 0A65630  • 500GB Disk 7200 rpm 0A65632
Smart Card Read Ports	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
PCIe Mini Card PCIe WLAN⁴ PCIe WWAN Carrier Modem Bluetooth™ Ethernet Intel AMT	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)	<ul> <li>Analog VGÁ DB-15 monifor 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>
Audio support Security Security chip	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	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service¹7
Limited warranty <sup>12</sup>	<b>3-years</b> /1-year battery, <b>limited onsite service</b> <sup>24</sup> , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time/service upgrades <sup>22</sup> available	24 hour x 7 day <sup>18</sup> toll-free support during the warranty period <sup>12</sup>

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

	Widescreen		Disk SATA	Optical T	hinkP Itraba	adBackli	t PCle Mini Card	Finger print BI	E ue- t	Bat- erv Intel	GI	obal (	(G)	Ann Date
Type-model Processor Memory		Camera		UltraBase S	Series	3 board	WLAN	reader to	othc	ells AMT	vPro	(P)	Preload	
2325-67U i5-3320M 4GBx1	12.5" HD	No	320G 7200	Optional	Opt	None	Intel 2200	None	No	6 No	No	GΡ	Win8 Pro6	4 10/12
2325-66U i7-3520M 4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	Intel 620528	Finger	BT	6 iAMT	vPro	GΡ	Win8 Pro6	4 10/12
2325-65U i7-3520M 4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6 iAMT	vPro	GΡ	Win8 Pro6	4 10/12
2325-64U i5-3320M 4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	None	Intel 6205	Finger	BT	6 iAMT	vPro	GΡ	Win8 Pro6	4 10/12
2325-63U i5-3320M 4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6 iAMT	vPro	GΡ	Win8 Pro6	4 10/12
2325-62U i5-3320M 4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	None	Intel 6205	Finger	BT	6 iAMT	vPro	GΡ	Win8 Pro6	4 10/12
2325-8AU i5-3320M 4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	Backlit	Intel 6205	Finger	BT	6 iAMT	vPro		Win7 Pro6	4 12/12
2325-89U i7-3520M 4GBx1	12.5" HD	720p	256G SSD	Optional	Opt	Backlit	Intel 6205	Finger	BT	6 iAMT	vPro		Win7 Pro6	4 12/12
2325-88U i7-3520M 4GBx1	12.5" HD Pren	n 720p	240G FDE SSI	Optional	Opt	Backlit	Intel 6205	Finger	BT	6 iAMT	vPro		Win7 Pro6	4 12/12
2325-87U i5-3320M 4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	Backlit	Intel 6205	Finger	BT	6 iAMT	vPro		Win7 Pro6	4 12/12
2325-86U i5-3320M 4GBx1	12.5" HD	720p	128G SSD	Optional	Opt	Backlit	Intel 6205	Finger	BT	6 iAMT	vPro		Win7 Pro6	4 12/12
2325-85U i5-3320M 4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	Backlit	Intel 6205	Finger	BT	6 iAMT	vPro		Win7 Pro6	4 12/12
2325-AAU i5-3320M 4GBx1	12.5" HD	720p	180G SSD	Optional	Opt	Backlit	Intel 6205	Finger	ВТ	6 iAMT	vPro		Win8 Pro6	4 02/13
2325-A7U i5-3320M 4GBx1	12.5" HD	720p	240G FDE SSI	Optional	Opt	Backlit	Intel 6205	Finger	ВТ	6 iAMT	vPro		Win8 Pro6	4 02/13

	• Some models are part of the Global Models Plus program with limited onsite service <sup>24</sup> 3-y	rear limited warranty
Positioning Processor	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	Preloaded operating system <sup>20</sup> - 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	<ul> <li>Some: Windows 8 Pro 64-bit</li> <li>Preloaded applications<sup>5</sup> (only some</li> </ul>
Optical Ultrabay SATA disk mSATA™ SSD	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™ removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3  None	listed) - Windows 7 models - Lenovo® Message Center Plus - ThinkVantage Product Recovery - ThinkVantage Power Manager - Windows 8 models
Widescreen display	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)  Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus	Lenovo Support     Lenovo Companion     Lenovo QuickLaunch     All models     Lenovo Solution Center     Password Manager
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)	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 Bar¹³, magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions	Supports ThinkVantage® technologies  ThinkPad Ultrabase Series 3  Provides desktop expansion and cable management for X230 and
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-lon 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	<ul> <li>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:         <ul> <li>Serial ATA Hard Drive</li> </ul> </li> </ul>
Chipset Ultrabase Multicard reader ExpressCard Smart Card Read		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
Ports PCle Mini Card	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
PCIe WINI Card PCIe WLAN <sup>4</sup> PCIe WWAN Carrier Modem Bluetooth <sup>TM</sup> Ethernet Intel AMT Audio support	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 None Some: 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 /	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
Security Security chip Fingerprint reade	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 r Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip  2 3-years/1-year battery, limited onsite service <sup>24</sup> , 8 am - 5 pm, Mon - Fri coverage excluding holidays, next business day response time / service upgrades <sup>22</sup> available	So-watt A dapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service¹7 24 hour x 7 day¹8 toll-free support during the warranty period¹2

Type-model	Processor	Memory	Widescree display		Disk SATA GB⁵rpm		Jitrabase	key-	PCIe Mini Card WLAN		d Blue- tooth			Preload	Ann Date (mm/yy)
2325-BNU	i7-3520M	4GBx1	12.5" HD	720p	256G SSD	Optional	Opt	Backlit	Intel 620528	WWAN upg	ВТ	6 \	vPro	Win7 Pro64	4 07/13
2325-BMU	i7-3520M	4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	BT	6 1	vPro	Win7 Pro64	4 07/13
2325-BKU	i5-3320M	4GBx1	12.5" HD	720p	128G SSD	Optional	Opt	Backlit	Intel 6205	WWAN upg	BT	6 ١	vPro	Win7 Pro64	4 07/13
2325-BJU	i5-3320M	4GBx1	12.5" HD	720p	500G 7200	Optional	Opt	Backlit	Intel 6205	WWAN upg	BT	6 1	vPro	Win7 Pro64	4 07/13

Positioning Processor	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	Preloaded operating system <sup>20</sup> - 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	<b>Preloaded applications</b> <sup>5</sup> (only some listed)
Optical Ultrabay SATA disk mSATA™ SSD	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 None	<ul> <li>Windows 7 models</li> <li>Lenovo® Message Center Plus</li> <li>ThinkVantage Power Manager</li> <li>Windows 8 models</li> <li>Lenovo Support</li> <li>Lenovo Companion</li> </ul>
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	<ul> <li>All models</li> <li>Lenovo Solution Center</li> <li>Password Manager</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;  Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable);	<ul> <li>Microsoft® Office preloaded; purchase a product key to activate</li> <li>Supports ThinkVantage® technologies</li> </ul>
Keyboard TrackPoint® Touchpad ThinkLight™	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, optional LED backlight TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar¹³, 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 Easily connects to the bottom of the
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-lon 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	<ul> <li>X230 or X230 Tablet for traveling</li> <li>Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side:         <ul> <li>Serial ATA Hard Drive</li> <li>9.5mm Bay Adapter III 43N3412</li> <li>Disks supported (some):</li> </ul> </li> </ul>
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)	<ul> <li>128GB SSD 6.0Gb/s 0A65629</li> <li>180GB SSD 6.0Gb/s 0A65630</li> <li>500GB Disk 7200 rpm 0A65632</li> <li>Other features:</li> <li>Power button (front)</li> <li>Security key lock, security keyhole</li> <li>Analog VGA DB-15 monitor port</li> </ul>
PCIe Mini Card PCIe WLAN⁴ PCIe WWAN Carrier Modem Bluetooth™ Ethernet	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	<ul> <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>
Intel AMT Audio support Security Security chip Fingerprint reader	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	65-watt AC Adapter EPEAT™ Gold rating ENERGY STAR® 5.0-compliant GREENGUARD® certified ROHS-compliant International Warranty Service¹7 24 hour x 7 day¹8 toll-free support
	excluding holidays, next business day response time/service upgrades <sup>22</sup> available	during the warranty period <sup>12</sup>

See footnotes for more detailed information

### ThinkPad X230 Accessories

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Memory 200 P00 10000 DD00 CODIMM	Batteries Think Pod Potton: 44 (4 coll)
2GB PC3-12800 DDR3 SODIMM 0A65722 ann 06/05/12 4GB PC3-12800 DDR3 SODIMM 0A65723 ann 06/05/12	
8GB PC3-12800 DDR3 SODIMM 0A65724 ann 06/05/12	ThinkPad Battery 44++ (9-cell) 0A36307 ann 06/05/12
0.0012+ all 00/00/12	ThinkPad Battery 19+ (6-cell, Slim External) <sup>43</sup> 0A36280 <i>ann</i> 03/01/11
Ultrabay Slim 9.5mm	<sup>43</sup> To be used along with system battery for all-day computing;
Most Ultrabay Slim accessories supported in ThinkPad Ultrabase Series 3	attaches under ThinkPad using docking connector (not supported
Serial ATA Hard Drive 9.5mm Bay Adapter III 43N3412 ann 06/23/09 DVD ROM Ultrabay Slim Drive III 43N3412 ann 06/05/12	when using Series 3 Port Replicator, Ultrabase, or Docks)
DVD ROM Ultrabay Slim Drive III 0A65628 ann 06/05/12 DVD Burner Ultrabay Slim Drive III 0A65626 ann 06/05/12	More information at www.lenovo.com/alldaycomputing
5.15 5um 6.100520 am 6.100520 am 60,007.2	ThinkPad 65W AC Adapter 40Y7696 <i>ann 01/05/06</i>
Storage and removable storage	ThinkPad 90W AC Adapter 40Y7659 ann 09/20/05
ThinkPad 16GB mSATA Solid State Cache Drive 0B47309 ann 12/11/12	90W Ultraslim AC/DC Combo Adapter 41R4493 ann 09/22/09
500GB 5400rpm SATA 3.0Gb/s 7mm 4K HDD <sup>41</sup> 0A65631 <i>ann 06/05/12</i> 500GB 7200rpm SATA 3.0Gb/s 7mm 4K HDD <sup>41</sup> 0A65632 <i>ann 06/05/12</i>	More info at www.lenovo.com/support/poweradapters
320GB 7200rpm SATA 3.0Gb/s 7mm 4K HDD <sup>41</sup> 0A65635 ann 06/05/12	Charging tips for 90W Ultraslim AC/DC Combo Adapter 41R4493
320GB 7200rpm SATA 3.0Gb/s 7mm	•iPod and iPhone Charge Tip (L10a) 41R4481 ann 12/18/07
Self Encrypting (SED) OPAL Capable HDD <sup>41</sup> 0A65636 ann 08/21/12	•Generic Micro USB charge tip (L18) 41R4490 ann 01/06/09
128GB SATA 6.0Gb/s 7mm Solid State Drive <sup>41</sup> 0A65629 ann 06/05/12 180GB SATA 6.0Gb/s 7mm Solid State Drive <sup>41</sup> 0A65630 ann 06/05/12	More information at www.lenovopowertips.com
256GB 2.5" SATA 6.0Gb/s OPAL-capable SSD <sup>41</sup> 0A65620 ann 05/15/12	Occurred to the Occurred
<sup>41</sup> Can be used as the main HDD or with Serial ATA Hard Drive	Carrying Cases Up to 12.5" widescreen models:
9.5mm Bay Adapter III 43N3412 in ThinkPad Ultrabase Series 3	ThinkPad 12.5" Ultrabook Topload <sup>72</sup> 0B47416 ann 12/04/12
USB 2.0 Portable 500GB Hard Disk 45K1690 ann 05/26/09	<sup>72</sup> Not compatible when using <i>ThinkPad Battery 44++ (9-cell) 0A36307</i>
USB 3.0 Secure 500GB Hard Drive 0A65619 <i>ann</i> 11/29/11	Up to 15.6" widescreen models:
USB 3.0 Secure 750GB Hard Drive 0A65616 <i>ann</i> 11/29/11 USB 3.0 Secure 1TB Hard Drive 0A65621 <i>ann</i> 08/28/12	Lenovo Messenger Max 41U5253 ann 05/01/07
Lenovo Slim USB Portable DVD Burner 0A03021 ann 06/14/11	Lenovo Performance BackPack 41U5254 ann 05/01/07
201010 01111 002 1 0110210 2 1 2 2 2 1 1 1 1	ThinkPad Business Topload Case 43R2476 ann 05/13/08 ThinkPad Business Backpack 43R2482 ann 05/13/08
Wireless WAN (Mini PCI Express)	ThinkPad Deluxe Expander Case 43R2478 ann 05/13/08
Only WWAN upgradable models:	ThinkPad Executive Leather Case 43R2480 ann 05/13/08
ThinkPad Gobi™ Mobile Broadband Option 0A36185 ann 04/12/11 ThinkPad Gobi 4000 Mobile Broadband - AT&T® 0A36320 ann 06/05/12	Lenovo Sport Backpack - Red 0A33896 ann 02/28/12
ThinkPad Gobi 4000 Mobile Broadband - Verizon® 0A36318 ann 06/26/12	Lenovo Sport Slimcase - Red 0A33897 ann 02/28/12
	Lenovo Sport Messenger - Red 0A33898 ann 02/28/12
ThinkPad Expansion	More information at www.lenovo.com/support/cases
Lenovo® Essential Notebook Stand 45J9292 ann 05/12/09 ThinkPad Ultrabase Series 3 0A33932 ann 03/01/11	Lenovo luxury cases at www.lenovoluxurycases.com
ThinkPad Offiabase Series 3 with USB 3.0 433615W ann 06/05/12	Monitors
ThinkPad Mini Dock Series 3 w/ USB 3.0 - 90W 433715U ann 06/05/12	
TP Mini Dock Plus Series 3 w/ USB 3.0 - 90W 433815U ann 06/05/12	ThinkVision L2251x Wide 22" (VGA, DP) 2578HB6 ann 10/20/09
TP Mini Dock Plus Series 3 w/ USB 3.0 - 170W 433835U ann 06/05/12	69 DisplayPort cable is not included. ThinkVision LT1421 Wide 14" Mobile Monitor
Keyboard	with Protective Screen Cover (USB 2.0) 1452DS6 ann 08/16/11
TrackPoint Cap Collection 73P2698 ann 12/16/03	ThinkVision LT1421 Wide 14" Mobile Monitor
Ultraslim Plus Wireless Keyboard and Mouse <sup>52</sup> 0A34032 ann 04/05/11	with Protective Case (USB 2.0) 1452DB6 ann 08/16/11
USB Numeric Keypad 33L3225 <i>ann</i> 05/01/00	More information at www.lenovo.com/support/monitors
Preferred Pro USB Keyboard 73P5220 ann 06/21/05 Enhanced Performance USB Keyboard 73P2620 ann 03/23/04	
ThinkPad USB Keyboard with TrackPoint 55Y9003 ann 08/18/09	Monitor Accessories <sup>46</sup>
Lenovo® USB Fingerprint Keyboard 73P4730 ann 02/22/05	Lenovo USB 3.0 to DVI/VGA Monitor Adapter 0B47072 ann 08/14/12 Lenovo USB Soundbar 0A36190 ann 05/01/12
Lenovo USB Smartcard Keyboard 51J0155 ann 03/24/09	Mini-DisplayPort to DisplayPort Monitor Cable 0847091 ann 07/24/12
<sup>52</sup> Wireless via 2.4GHz technology using a micro-size USB receiver.	Kensington MicroSaver Cable Lock 73P2582 ann 12/29/03
Mouse	Kensington Twin Head Cable Lock 45K1620 ann 09/30/08
Lenovo Optical Mouse (USB) 06P4069 ann 05/21/03	Lenovo Security Cable Lock 57Y4303 ann 08/24/10 Lenovo Easy Reach Monitor Stand 55Y9258 ann 09/22/09
Lenovo Laser Mouse (USB) 41U3074 ann 01/23/07	46 Compatible on selected Lenovo and ThinkVision monitors.
ThinkPad USB Laser Mouse 57Y4635 ann 12/15/09	·
Lenovo ScrollPoint® Mouse (USB, Optical) 31P7405 ann 08/27/02 ThinkPad Travel Mouse (USB, Optical) 31P7410 ann 06/04/02	More information at www.lenovo.com/support/monitoraccessories
ThinkPad Bluetooth Laser Mouse 0A36407 ann 06/26/12	
Lenovo Wireless Laser Mouse <sup>52</sup> 0A36188 ann 12/20/11	For more information on accessories:
Multimodia	www.lenovo.com/accessories
Multimedia ThinkPad In-Ear Headphones with microphone 57Y4488 ann 01/07/10	Purchase Lenovo accessories
Thinki au in-Lai Tieauphones with microphone 37 14400 ann 01/07/10	www.lenovo.com/support/accessories
Security	Product specifications on Lenovo Support
3M 12.5W Privacy Filter from Lenovo 0A61770 ann 04/05/11	www.lenovo.com/accessoriesguide
Kensington® MicroSaver® Cable Lock 73P2582 ann 12/29/03	Option Compatibility Matrix (OCM) and accessory brochures
Kensington Twin Head Cable Lock 45K1620 ann 09/30/08 Lenovo Security Cable Lock 57Y4303 ann 08/24/10	
USB Gemplus GemPC Smart Card Reader 41N3040 ann 02/21/06	An Options Compatibility Configurator for Lenovo systems
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