

ThinkPad®



Lenovo® ThinkPad X220



Lenovo ThinkPad X220



Lenovo® ThinkPad X220



Lenovo ThinkPad X220



Lenovo ThinkPad X220



Lenovo ThinkPad X220

ThinkPad® X220 (4290) - November 2011 - I - withdrawn

Personal Systems Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB ⁹ rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Carrier	Finger-print reader	Bat-tery cells	Global (G) Intel vPro (P)	Pre-load
4290-4XG	i7-2640M	4GBx1	12.5" HD Prem	720p	320G 7200	Optional	Opt	Intel 6205 ²⁸	WWAN upg		Fing	9	vPro	G Pro 64
4290-48G	i7-2620M	4GBx1	12.5" HD Prem		160G SSD	Optional	Opt	Intel 6300 ²⁸	WWAN upg		Fing	9	vPro	G Pro 64
4290-47G	i7-2620M	4GBx1	12.5" HD Prem		320G 7200	Optional	Opt	Intel 6300	WWAN upg		Fing	6	vPro	G Pro 64
4290-46G	i5-2520M	4GBx1	12.5" HD		320G 7200	Optional	Opt	Intel 6300	WWAN upg		Fing	6	vPro	G Pro 64
4290-45G	i7-2620M	4GBx1	12.5" HD		320G 7200	Optional	Opt	Intel 6300	WWAN upg		Fing	9	vPro	G Pro 64
4290-44G	i5-2520M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	Intel 6205	WWAN upg		Fing	6	vPro	G Pro 64
4290-43G	i5-2520M	4GBx1	12.5" HD	720p	128G SSD	Optional	Opt	Intel 6205	WWAN upg		Fing	6	vPro	G Pro 64
4290-42G	i5-2540M	4GBx1	12.5" HD Prem		128G SSD	Optional	Opt	Intel 6300	WWAN upg		Fing	6	vPro	G Pro 64
4290-3WG	i5-2520M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	Intel 6205	Ericsson	select	Fing	6	vPro	Pro 64
4290-3SG	i5-2540M	4GBx1	12.5" HD	720p	320G 7200	Optional	Opt	Intel 6205	Ericsson	select	Fing	6	vPro	Pro 64
Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-2520M processor (dual-core, 2.50GHz, 3MB Cache), DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i5-2540M processor (dual-core, 2.60GHz, 3MB Cache), DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-2620M processor (dual-core, 2.70GHz, 4MB Cache), DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology Intel Core i7-2640M processor (dual-core, 2.80GHz, 4MB Cache), DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology									Preloaded operating system²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications¹⁴ (only some listed) • Rescue and Recovery™ • Access Connections™ • Fingerprint Software (fingerprint models) • Password Manager (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • ThinkVantage Toolbox Preloaded applications¹⁴ (only some listed) • Norton™ Internet Security 2011 (30 days of virus definitions) • Adobe® Reader® • Skype™ for Windows • Microsoft Office 2010 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)				
Memory	8GB max ⁷ / PC3-10600 1333MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets									Supports ThinkVantage® technologies ThinkPad Ultrabase Series 3 • Provides desktop expansion and cable management for X220 and X220 Tablet • Easily connects to the bottom of the X220 or X220 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via optional cable) • 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 ENERGY STAR® 5.0-compliant ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹²				
Optical Ultrabay SATA disk	Option for ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 <i>Some:</i> Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3													
mSATA™ SSD	None													
Widescreen display	<i>Some:</i> 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> (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)													
Camera	<i>Some:</i> HD720p resolution, wider view angle, low light sensitive, fixed focus													
Graphics	Intel HD Graphics 3000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via DisplayPort (supports single-link DVI-D via optional cable); supports dual independent display; <i>Maximum external resolution:</i> 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @75Hz; 1920x1200 @60Hz (single-link DVI-D via optional cable)													
Keyboard TrackPoint® Touchpad ThinkLight™	7 row, 89-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													
Dimensions ³ Weight ² Case material Standard Battery External Battery Battery - life ¹⁰	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.36"; 305mm x 206.5mm x 19.0-34.6mm <i>4-cell:</i> from 2.97 lb (1.35kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy Lithium Ion 4-cell, 6-cell, or 9-cell, supports optional external battery as 2nd battery None <i>4-cell (28Whr):</i> up to 4.1 hr; <i>6-cell (62.4Whr):</i> up to 9.2 hr; <i>9-cell (99.9Whr):</i> up to 13.8 hr; <i>external battery (64Whr):</i> up to 9.4 hr; <i>9-cell plus external battery:</i> up to 23.2 hr													
Chipset	Mobile Intel QM67 Express Chipset													
Ultrabase Multicard reader ExpressCard Ports	<i>Option:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) <i>i7 model:</i> One USB 3.0, two USB 2.0 (one powered) <i>other model:</i> Three USB 2.0 (one powered) external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)													
PCIe Mini Card WLAN ⁴ WWAN	Two PCI Express Mini Card slots <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 <i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® F5521gw Mobile Broadband Module, PCIe Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS													
Carrier Modem Bluetooth™ Ethernet Intel AMT Audio support	<i>Some:</i> User selectable, contract required with service provider None Bluetooth 3.0 wireless, LED indicator Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Conexant 20672 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 UPEK Fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Security Security chip Fingerprint reader														
Limited warranty ¹²	3-years/1-yr battery - depot repair service / service upgrades ²² available													

See footnotes for more detailed information

WE model(s) announced April 19, May 3, or October 4, 2011

WE model(s) withdrawn effective December 2012

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(G-DSH1-1) February 2013

ThinkPad® X220 (4290) - November 2011 - II - withdrawn

Personal Systems Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB ⁹ rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Carrier	Finger print reader	Blue-tooth	Battery cells	Ext Battery cells	Global (G) vPro	GMP (P)	Pre-load
4290-2WG	i5-2540M	4GBx1	12.5" HD	Prem	720p 320G 7200	DVD±RW	UltraB	Intel 6205 ²⁸	upg		Fing	BT	9		vPro	G	Pro 64
4290-2XG	i5-2540M	4GBx1	12.5" HD		720p 320G 7200	Optional	Opt	Intel 6205	upg				6		vPro	G	Pro 64
4290-2BG	i7-2620M	4GBx1	12.5" HD		720p 160G SSD	DVD±RW	UltraB	Intel 6205	Ericsson select	Fing	BT	9			vPro		Pro 64
4290-2AG	i5-2540M	4GBx1	12.5" HD		720p 320G 7200	Optional	Opt	Intel 6205	Ericsson select	Fing	BT	6	6		vPro		Pro 64
4290-29G	i5-2520M	2GBx2	12.5" HD		720p 320G 7200	Optional	Opt	Intel 6205	upg	Fing	BT	6			vPro		Pro 64
4290-28G	i5-2520M	2GBx1	12.5" HD		720p 250G 5400	Optional	Opt	Intel 6205	upg				6		vPro		Pro 64
4290-27G	i7-2620M	2GBx2	12.5" HD		320G 7200	Optional	Opt	Intel 6205	upg	Fing	BT	9	6		vPro	G	Pro 64
4290-26G	i5-2520M	2GBx1	12.5" HD		250G 5400	Optional	Opt	Intel 6205	upg	Fing	BT	6	6		vPro	G	Pro 64

- A depot repair service 3-year limited warranty
- Microsoft® Office 2010 Product Key Ready (O10PKR)

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-2520M processor (dual-core, 2.50GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i5-2540M processor (dual-core, 2.60GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-2620M processor (dual-core, 2.70GHz, 4MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology										Preloaded operating system²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications¹⁴ (only some listed) • Rescue and Recovery™ • Access Connections™ • Fingerprint Software (fingerprint models) • Password Manager (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • ThinkVantage Toolbox Preloaded applications¹⁴ (only some listed) • Norton™ Internet Security 2011 (30 days of virus definitions) • Adobe® Reader® • Skype™ for Windows • Microsoft Office 2010 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)						
Memory	8GB max ⁷ / PC3-10600 1333MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets																
Optical Ultrabay SATA disk	<i>Some:</i> DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 <i>Some:</i> Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3																
mSATA™ SSD	None																
Widescreen display	<i>Some:</i> 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> (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)																
Camera	<i>Some:</i> HD720p resolution, wider view angle, low light sensitive, fixed focus																
Graphics	Intel HD Graphics 3000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via DisplayPort (supports single-link DVI-D via optional cable); supports dual independent display; <i>Maximum external resolution:</i> 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @75Hz; 1920x1200 @60Hz (single-link DVI-D via optional cable)																
Keyboard TrackPoint® Touchpad ThinkLight™	7 row, 89-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions																
Dimensions ³ Weight ²	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.36"; 305mm x 206.5mm x 19.0-34.6mm <i>4-cell:</i> from 2.97 lb (1.35kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg)																
Case material	Display cover: Magnesium + PCABS; Bottom: Magnesium alloy																
Standard Battery	Lithium Ion 4-cell, 6-cell, or 9-cell, supports optional external battery as 2nd battery																
External Battery	<i>Some:</i> Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+)																
Battery - life ¹⁰	<i>4-cell (28Whr):</i> up to 4.1 hr; <i>6-cell (62.4Whr):</i> up to 9.2 hr; <i>9-cell (99.9Whr):</i> up to 13.8 hr; <i>external battery (64Whr):</i> up to 9.4 hr; <i>9-cell plus external battery:</i> up to 23.2 hr																
Chipset	Mobile Intel QM67 Express Chipset																
Ultrabase Multicard reader ExpressCard Ports	<i>Some:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) <i>i7 model:</i> One USB 3.0, two USB 2.0 (one powered) <i>other model:</i> Three USB 2.0 (one powered) external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)																
PCIe Mini Card WLAN ⁴ WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® F5521gw Mobile Broadband Module, PCIe Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS																
Carrier Modem	<i>Some:</i> User selectable, contract required with service provider																
Bluetooth™ Ethernet	None <i>Some:</i> Bluetooth 3.0 wireless, LED indicator Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1																
Intel AMT	Intel Active Management Technology (iAMT)																
Audio support	High Definition (HD) Audio, Conexant 20672 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack																
Security Security chip	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant																
Fingerprint reader	<i>Some:</i> UPEK Fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip																
Limited warranty ¹²	3-years/1-yr battery - depot repair service / service upgrades ²² available																

See footnotes for more detailed information
WE model(s) announced March 1, May 3, or July 19, 2011
WE model(s) withdrawn effective December 2012

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(G-DSH1-2) February 2013

ThinkPad® X220 (4291) - Onsite (November 2011) - I - withdrawn

Personal Systems Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB ⁹ rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Battery Carrier	Intel AMT	Intel vPro	Global (G) GMP (P)	Pre-load
4291-4XG	i7-2640M	4GBx1	12.5" HD Prem	720p	320G 7200			Intel 6205 ²⁸	WWAN upg	9	iAMT	vPro	G P	Pro 64
4291-4CG	i7-2640M	4GBx1	12.5" HD Prem	720p	320G 7200	DVD±RW	UltraB	Intel 6205	Ericsson	select	9	iAMT	vPro	Pro 64
4291-4BG	i7-2640M	4GBx1	12.5" HD Prem	720p	160G SSD			Intel 6205	Ericsson	select	9	iAMT	vPro	Pro 64
4291-49G	i7-2620M	4GBx1	12.5" HD Prem	720p	160G SSD			Intel 6205	Ericsson	select	9	iAMT	vPro	Pro 64
4291-48G	i7-2620M	4GBx1	12.5" HD Prem		160G SSD			Intel 6300 ²⁸	WWAN upg	9	iAMT	vPro	G P	Pro 64
4291-47G	i7-2620M	4GBx1	12.5" HD Prem		320G 7200			Intel 6300	WWAN upg	6	iAMT	vPro	G P	Pro 64
4291-46G	i5-2520M	4GBx1	12.5" HD		320G 7200			Intel 6300	WWAN upg	6	iAMT	vPro	G P	Pro 64
4291-5DG	i5-2450M	4GBx1	12.5" HD	720p	320G 5400	DVD±RW	UltraB	Intel 6205	Ericsson	select	6			Pro 64
4291-53G	i5-2450M	4GBx1	12.5" HD	720p	320G 7200	DVD±RW	UltraB	Intel 6205	Ericsson	select	6			Pro 64
Positioning Processor	<i>An ultraportable for the executive on the move; one spindle</i> Intel® Core™ i5-2450M processor (dual-core, 2.50GHz, 3MB Cache). DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology Intel Core i5-2520M processor (dual-core, 2.50GHz, 3MB Cache). DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i7-2620M processor (dual-core, 2.70GHz, 4MB Cache). DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology Intel Core i7-2640M processor (dual-core, 2.80GHz, 4MB Cache). DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology									Preloaded operating system²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications¹⁴ (only some listed) • Rescue and Recovery™ • Access Connections™ • Fingerprint Software (fingerprint models) • Password Manager (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • ThinkVantage Toolbox Preloaded applications¹⁴ (only some listed) • Norton™ Internet Security 2011 (30 days of virus definitions) • Adobe® Reader® • Skype™ for Windows • Windows Live™ Essentials • Microsoft Office 2010 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)				
Memory	8GB max ⁷ / PC3-10600 1333MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets													
Optical Ultrabay SATA disk	<i>Some:</i> DVD burner, removable from ThinkPad Ultrabase Series 3 <i>Supports</i> Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 <i>Some:</i> Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradeable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3													
mSATA™ SSD	None													
Widescreen display	<i>Some:</i> 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> (Premium) 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, WideView (170° viewing) <i>Some:</i> HD720p resolution, wider view angle, low light sensitive, fixed focus													
Camera	<i>Some:</i> HD720p resolution, wider view angle, low light sensitive, fixed focus													
Graphics	Intel HD Graphics 3000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via DisplayPort (supports single-link DVI-D via optional cable); supports dual independent display; <i>Maximum external resolution:</i> 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @75Hz; 1920x1200 @60Hz (single-link DVI-D via optional cable)													
Keyboard TrackPoint® Touchpad ThinkLight™	7 row, 89-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													
Dimensions ³ Weight ² Case material Standard Battery External Battery Battery - life ¹⁰	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.36"; 305mm x 206.5mm x 19.0-34.6mm <i>4-cell:</i> from 2.97 lb (1.35kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy Lithium Ion 4-cell, 6-cell, or 9-cell, supports optional external battery as 2nd battery None <i>4-cell (28Whr):</i> up to 4.1 hr; <i>6-cell (62.4Whr):</i> up to 9.2 hr; <i>9-cell (99.9Whr):</i> up to 13.8 hr; <i>external battery (64Whr):</i> up to 9.4 hr; <i>9-cell plus external battery:</i> up to 23.2 hr													
Chipset	Mobile Intel QM67 Express Chipset													
Ultrabase Multicard reader ExpressCard Ports	<i>Some:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) <i>i7 model:</i> One USB 3.0, two USB 2.0 (one powered) <i>other model:</i> Three USB 2.0 (one powered) external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)													
PCIe Mini Card WLAN ⁴ WWAN	Two PCI Express Mini Card slots <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 <i>Some:</i> Wireless WAN upgradeable <i>Some:</i> Wireless WAN, Ericsson® F5521gw Mobile Broadband Module, PCIe Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS <i>Some:</i> User selectable, contract required with service provider													
Carrier Modem Bluetooth™ Ethernet Intel AMT Audio support	None Bluetooth 3.0 wireless, LED indicator Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 <i>Some:</i> Intel Active Management Technology (iAMT) High Definition (HD) Audio, Conexant 20672 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack													
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant UPEK Fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip													
Limited warranty ¹²	3-years/1-year battery, limited onsite service²⁴ , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available									65-watt AC Adapter ENERGY STAR® 5.0-compliant ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹²				

See footnotes for more detailed information

WE model(s) announced May 3, May 31, October 4, or December 13, 2011, or January 17, 2012

WE model(s) withdrawn effective December 2012

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(G-DSH1-3) February 2013

ThinkPad® X220 (4291) - Onsite (November 2011) - II - withdrawn

Personal Systems Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB ¹ rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Carrier	Finger-print reader	Bat-tery cells	Intel vPro	Global (G) GMP (P)	Pre-load
4291-45G	i7-2620M	4GBx1	12.5" HD		320G 7200			Intel 6300 ²⁸	WWAN upg	Fing	9	vPro	G P	Pro 64	
4291-43G	i5-2520M	4GBx1	12.5" HD	720p	128G SSD			Intel 6205 ²⁸	WWAN upg	Fing	6	vPro	G P	Pro 64	
4291-44G	i5-2520M	4GBx1	12.5" HD	720p	320G 7200			Intel 6205	WWAN upg	Fing	6	vPro	G P	Pro 64	
4291-42G	i5-2540M	4GBx1	12.5" HD Prem		128G SSD			Intel 6300	WWAN upg	Fing	6	vPro	G P	Pro 64	
4291-37G	i5-2520M	4GBx1	12.5" HD	720p	320G 7200			Intel 6205	Ericsson	select	Fing	6	vPro		Pro 64
4291-36G	i7-2620M	4GBx1	12.5" HD	720p	320G 7200	DVD±RW	UltraB	Intel 6205	Ericsson	select	Fing	9	vPro		Pro 64
4291-35G	i7-2620M	4GBx1	12.5" HD	720p	160G SSD			Intel 6205	Ericsson	select	Fing	9	vPro		Pro 64

- Some models are part of the Global Models Plus program with limited onsite service²⁴ 3-year limited warranty
- Microsoft® Office 2010 Product Key Ready (O10PKR)

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-2520M processor (dual-core, 2.50GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i5-2540M processor (dual-core, 2.60GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-2620M processor (dual-core, 2.70GHz, 4MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology		Preloaded operating system ²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications ¹⁴ (only some listed) • Rescue and Recovery™ • Access Connections™ • Fingerprint Software (fingerprint models) • Password Manager (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • ThinkVantage Toolbox Preloaded applications ¹⁴ (only some listed) • Norton™ Internet Security 2011 (30 days of virus definitions) • Adobe® Reader® • Skype™ for Windows • Windows Live™ Essentials • Microsoft Office 2010 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
Memory	8GB max ⁷ / PC3-10600 1333MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets		
Optical Ultrabay SATA disk	<i>Some:</i> DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 <i>Some:</i> Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3		
mSATA™ SSD	None		
Widescreen display	<i>Some:</i> 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> (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)		
Camera	<i>Some:</i> HD720p resolution, wider view angle, low light sensitive, fixed focus		
Graphics	Intel HD Graphics 3000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via DisplayPort (supports single-link DVI-D via optional cable); supports dual independent display; <i>Maximum external resolution:</i> 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @75Hz; 1920x1200 @60Hz (single-link DVI-D via optional cable)		
Keyboard TrackPoint® Touchpad ThinkLight™	7 row, 89-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions		
Dimensions ³ Weight ² Case material Standard Battery External Battery Battery - life ¹⁰	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.36"; 305mm x 206.5mm x 19.0-34.6mm <i>4-cell:</i> from 2.97 lb (1.35kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg) <i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy Lithium Ion 4-cell, 6-cell, or 9-cell, supports optional external battery as 2nd battery None <i>4-cell (28Whr):</i> up to 4.1 hr; <i>6-cell (62.4Whr):</i> up to 9.2 hr; <i>9-cell (99.9Whr):</i> up to 13.8 hr; <i>external battery (64Whr):</i> up to 9.4 hr; <i>9-cell plus external battery:</i> up to 23.2 hr		
Chipset	Mobile Intel QM67 Express Chipset		
Ultrabase Multicard reader ExpressCard Ports	<i>Some:</i> ThinkPad Ultrabase Series 3 (see right side) 4-in-1 reader (SD, SDHC, SDXC, MMC) One slot (ExpressCard/34, ExpressCard/54) <i>i7 model:</i> One USB 3.0, two USB 2.0 (one powered) <i>other model:</i> Three USB 2.0 (one powered) external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)		
PCIe Mini Card WLAN ⁴ WWAN	Two PCI Express Mini Card slots <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Ultimate-N 6300, 3x3 <i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® F5521gw Mobile Broadband Module, PCIe Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS		
Carrier Modem Bluetooth™ Ethernet Intel AMT Audio support	<i>Some:</i> User selectable, contract required with service provider None Bluetooth 3.0 wireless, LED indicator Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Conexant 20672 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack		
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant UPEK Fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip		
Limited warranty ¹²	3-years/1-year battery, limited onsite service ²⁴ , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available		

Supports ThinkVantage® technologies	
ThinkPad Ultrabase Series 3 • Provides desktop expansion and cable management for X220 and X220 Tablet • Easily connects to the bottom of the X220 or X220 Tablet for traveling • Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side Other features: • Power button (front) • Security key lock, security keyhole • Analog VGA DB-15 monitor port • DisplayPort (supports single-link DVI-D via optional cable) • 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 ENERGY STAR® 5.0-compliant ROHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹²	

See footnotes for more detailed information
WE model(s) announced April 5 or May 3, 2011
WE model(s) withdrawn effective December 2012

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(G-DSH1-4) February 2013

ThinkPad® X220 (4291) - Onsite (November 2011) - III - withdrawn

Personal Systems Reference (PSREF)

Type-model	Processor	Memory	Widescreen display	Camera	Disk SATA GB ^o rpm	Optical in UltraBase	ThinkPad Ultrabase Series 3	PCIe Mini Card WLAN	PCIe Mini Card WWAN	Carrier	Finger print reader	Blue-tooth	Bat- tery cells	Ext Battery cells	Global (G) Intel vPro (P)	GMP (P)	Pre-load
4291-2XG	i5-2540M	4GBx1	12.5" HD	720p	320G 7200			Intel 6205 ²⁸	upg				6	vPro	G P	Pro 64	
4291-2WG	i5-2540M	4GBx1	12.5" HD Prem	720p	320G 7200	DVD±RW	UltraB	Intel 6205	upg		Fing	BT	9	vPro	G P	Pro 64	
4291-2BG	i7-2620M	4GBx1	12.5" HD	720p	160G SSD	DVD±RW	UltraB	Intel 6205	Ericsson	select	Fing	BT	9	vPro		Pro 64	
4291-2AG	i5-2540M	4GBx1	12.5" HD	720p	320G 5400			Intel 6205	Ericsson	select	Fing	BT	6	6	vPro		Pro 64
4291-29G	i5-2520M	2GBx2	12.5" HD	720p	320G 7200			Intel 6205	upg		Fing	BT	6		vPro		Pro 64
4291-28G	i5-2520M	2GBx1	12.5" HD	720p	250G 5400			Intel 6205	upg			BT	6		vPro		Pro 64
4291-26G	i5-2520M	2GBx1	12.5" HD		250G 5400			Intel 6205	upg		Fing	BT	6	6	vPro	G P	Pro 64
4291-27G	i7-2620M	2GBx2	12.5" HD		320G 7200			Intel 6205	upg		Fing	BT	9	6	vPro	G P	Pro 64
4291-5CG	i5-2520M	4GBx1	12.5" HD	720p	320G 5400			Intel 6205	Ericsson	select	Fing	BT	6		vPro		Pro 64

- Some models are part of the Global Models Plus program with limited onsite service²⁴ 3-year limited warranty
- Microsoft® Office 2010 Product Key Ready (O10PKR)

Positioning Processor	An ultraportable for the executive on the move; one spindle Intel® Core™ i5-2520M processor (dual-core, 2.50GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i5-2540M processor (dual-core, 2.60GHz, 3MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-2620M processor (dual-core, 2.70GHz, 4MB Cache) , DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology		Preloaded operating system ²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications ¹⁴ (only some listed) <ul style="list-style-type: none">• Rescue and Recovery™• Access Connections™• Fingerprint Software (fingerprint models)• Password Manager (fingerprint models)• ThinkVantage System Update• ThinkVantage Power Manager• ThinkVantage Toolbox Preloaded applications ¹⁴ (only some listed) <ul style="list-style-type: none">• Norton™ Internet Security 2011 (30 days of virus definitions)• Adobe® Reader®• Skype™ for Windows• Windows Live™ Essentials• Microsoft Office 2010 preloaded; purchase product key to activate• Corel® WinDVD® (DVD±RW)• Corel Burn.Now™ Lenovo Edition (DVD±RW)• Corel DVD MovieFactory® Lenovo Edition (DVD±RW)
Memory	8GB max ⁷ / PC3-10600 1333MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets		
Optical Ultrabay SATA disk	<i>Some:</i> DVD burner, removable from ThinkPad Ultrabase Series 3 Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 <i>Some:</i> Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm high <i>Some:</i> Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™ <i>All:</i> removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3		
mSATA™ SSD	None		
Widescreen display	<i>Some:</i> 12.5" (317.5mm) HD (1366x768) TFT color , anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio <i>Some:</i> (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)		
Camera	<i>Some:</i> HD720p resolution, wider view angle, low light sensitive, fixed focus		
Graphics	Intel HD Graphics 3000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via DisplayPort (supports single-link DVI-D via optional cable); supports dual independent display; <i>Maximum external resolution:</i> 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @75Hz; 1920x1200 @60Hz (single-link DVI-D via optional cable)		
Keyboard TrackPoint® Touchpad ThinkLight™	7 row, 89-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, buttonless touchpad below keyboard, multi-touch Illuminates the keyboard to improve visibility in low-light conditions		
Dimensions ³ Weight ²	<i>without UltraBase; 4/6-cell:</i> 12.0" x 8.13" x 0.75-1.36"; 305mm x 206.5mm x 19.0-34.6mm <i>4-cell:</i> from 2.97 lb (1.35kg); <i>6-cell:</i> from 3.31 lb (1.50kg); <i>9-cell:</i> from 3.67 lb (1.67kg)		
Case material	<i>Display cover:</i> Magnesium + PCABS; <i>Bottom:</i> Magnesium alloy		
Standard Battery	Lithium Ion 4-cell, 6-cell, or 9-cell, supports optional external battery as 2nd battery		
External Battery	<i>Some:</i> Slim external Lithium Ion 6-cell battery (ThinkPad Battery 19+)		
Battery - life ¹⁰	<i>4-cell (28Whr):</i> up to 4.1 hr; <i>6-cell (62.4Whr):</i> up to 9.2 hr; <i>9-cell (99.9Whr):</i> up to 13.8 hr; <i>external battery (64Whr):</i> up to 9.4 hr; <i>9-cell plus external battery:</i> up to 23.2 hr		
Chipset	Mobile Intel QM67 Express Chipset		
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PCIe Mini Card WLAN ⁴ WWAN	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 <i>Some:</i> Wireless WAN upgradable <i>Some:</i> Wireless WAN, Ericsson® F5521gw Mobile Broadband Module, PCIe Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS		
Carrier Modem	<i>Some:</i> User selectable, contract required with service provider None		
Bluetooth™ Ethernet Intel AMT Audio support	<i>Some:</i> Bluetooth 3.0 wireless, LED indicator Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT) High Definition (HD) Audio, Conexant 20672 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack		
Security Security chip Fingerprint reader	Power-on password, hard disk password, supervisor password, security keyhole Trusted Platform Module, TCG 1.2-compliant <i>Some:</i> UPEK Fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip		
Limited warranty ¹²	3-years/1-year battery, limited onsite service ²⁴ , 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available		

| | | | **ThinkPad Ultrabase Series 3** - Provides desktop expansion and cable management for X220 and X220 Tablet - Easily connects to the bottom of the X220 or X220 Tablet for traveling - Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side Other features: - Power button (front) - Security key lock, security keyhole - Analog VGA DB-15 monitor port - DisplayPort (supports single-link DVI-D via optional cable) - 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 ENERGY STAR® 5.0-compliant ROHS-compliant International Warranty Service¹⁷ 24 hour x 7 day¹⁸ toll-free support during the warranty period¹² |

See footnotes for more detailed information

WE model(s) announced March 1, May 3, July 19, or December 13, 2011

WE model(s) withdrawn effective December 2012

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