Summary of Changes

This section describes the withdrawn products which are added in this edition and in previous editions.

May 27, 2014 - Version 454
► Withdrawn product(s)
 ThinkPad X131e is withdrawn and added in the book
 ThinkPad T430u is withdrawn and added in the book

June 18, 2014 - Version 455
► Changes in this update
 ThinkPad X131e is reactive and return into the book

August 19, 2014 - Version 458
► Withdrawn product(s)
 ThinkPad L430 is withdrawn and added in the book
 ThinkPad L530 is withdrawn and added in the book
 ThinkPad T430 is withdrawn and added in the book
 ThinkPad T430s is withdrawn and added in the book
 ThinkPad T431s is withdrawn and added in the book
 ThinkPad T530 is withdrawn and added in the book
 ThinkPad W530 is withdrawn and added in the book
 ThinkPad X230 is withdrawn and added in the book
 ThinkPad X230 Tablet is withdrawn and added in the book
 ThinkPad X1 Carbon is withdrawn and added in the book

January 7, 2015 - Version 466
► Withdrawn product(s)
 ThinkPad X131e is withdrawn and added in the book

April 15, 2015 - Version 471
► Withdrawn product(s)
 ThinkPad W540 is withdrawn and added in the book
### ThinkPad L430 2468 (TopSeller)

**Product Specifications Reference (PSREF)**

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<td>Pro 64</td>
<td>09/12</td>
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</table>

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

### Positioning

**Processor**
- Intel® Core™ i3-3238M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology
- Intel Core i3-3238M processor (2.40GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology
- Intel Core i5-3210M processor (2.5GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology

**Memory**
- 8GB max / 2 x PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical SATA disk**
- DVD burner, 12.7mm high, fixed, not removable, tray-in
  - Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable
  - Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™
- mSATA™ SSD
  - None

**Widescreen display**
- Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio
- Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio

**Camera**
- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

### Graphics

**Intel HD Graphics 3000**
- Supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort
- Supports dual independent display
- Maximum external resolution: 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)
- Supports up to 12.3 hr

**6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys**

**Touch Pad**
- TrackPoint® pointing device, Internet Scroll Bar®, magnifying glass

**Battery type**
- Lithium Ion 6-cell or 9-cell, HW Authentication
- 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr

**Dimensions**
- 14.0W (355mm) HD (1366x768) color, anti-glare, LED backlight
- 14.0W (1920x1200@60Hz (DisplayPort via optional Mini DP cable); 2048x1536@75Hz (VGA)
- 14.0" x 9.75" x 1.17–2.24"; 354mm x 243mm x 29.6–31.4mm

**Weight**
- 6-cell from 5.11 lb (2.32kg); 9-cell from 5.48 lb (2.49kg)
- 4.0W (65-80W, 7.5W saved)

**Operating System**
- Windows 7 Professional 64

**Ready to install applications**
- Some listed

**Preloaded applications**
- Some listed

- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- Finger Print Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Microsoft® Office preloaded
- Purchase a product key to activate Norton™ Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD:RW)

**Chips**
- Mobile Intel HM76 Express Chipset

**ExpressCard**
- Smart Card read None

**Multicard Reader Ports**
- 4-in-1 reader (MMC, SD, SDHC, SDXC)

**PCle Mini Card**
- Two PCI Express Mini Card slots
- Some: 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1

**PCle WAN**
- Some: Wireless WAN upgradeable
- Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS

**SIM card**
- Supports ThinkVantage technologies
- Supports ThinkVantage technologies

**Security**
- Password Manager
- Security keyhole
- Security chip
- Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**
- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip

**Limited warranty**
- 1-year - depot repair service / service upgrades available

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

**Positioning**

- Mainstream business performance; two spindles

**Processor**

- Intel\(^*\) Core\(^{TM}\) i3-3238M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology
- Intel Core i5-3250M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), HT technology
- Intel Core i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology
- 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

**Memory**

- 8GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SODIMM sockets
- *System automatically clocks down for processors with 1333MHz DDR3 memory controller*

**Widescreen display**

- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable, Active Protection System\(^*\)
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System\(^*\)

**Graphics**

- Intel HD Graphics 3000 or 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**

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys
- TrackPoint\(^*\) pointing device, Internet Scroll Bar\(^*\), magnifying glass
- UltraNav\(^*\), wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

**Dimensions**

- 14.0W" (WaWxD): 13.94" x 9.57" x 1.17--1.24"; 354mm x 243mm x 29.6--31.4mm

**Weight**

- 6-cell: from 5.11 lb (2.32kg); 9-cell: from 5.48 lb (2.49kg)

**Battery**

- Lithium Ion 6-cell or 9-cell, HW Authentication
- Battery life\(^*\): up to 7.5 hr; 9-cell (94W/hr): up to 12.3 hr

**Chipset**

- Mobile Intel HM76 Express Chipset
  - One slot (ExpressCard/34, ExpressCard/54)
  - Smart Card reader
  - 4-in-1 reader (MMC, SD, SDHC, SDXC)

**PCle Mini Card**

- Two PCI Express Mini Card slots
- Some: 11b/g/n, PCIe Half Mini Card, ThinkPad 11b/g/n, 1x1
- Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino\(^*\) Wireless-N 2200, 2x2

**PCle WAN**

- Wireless WAN Upgradeable
- Some: Wireless WAN, Ericsson\(^*\) H5321gw Mobile Broadband Module, PCle Half Mini Card, GPRS/WCDMA/HSUPA/HSUPA+, GPS

**SIM card**

- User selectable, contract required with service provider

**Modem**

- None

**Bluetooth\(^*\)**

- None

**Ethernet**

- Realtek\(^*\) RTL8111F Gigabit Network Connection

**Audio support**

- HD Audio, Realtek ALC2302 codec, Dolby\(^*\) Advanced Audio v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack

**Security**

- Power-on password, hard disk password, supervisor password, security keyhole

**Security chip**

- Trusted Platform Module, 720p@30fps

**Fingerprint reader**

- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip

**Limited warranty**

- 1-year - depot repair service / service upgrades\(^*\) available

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**See footnotes for more detailed information**
## ThinkPad L430 2468 (TopSeller) - Windows 8 - II

Product Specifications Reference (PSREF)

### Positioning

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<th>PCle Mini Card</th>
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<th>Battery - life</th>
<th>Battery - type</th>
<th>Weight</th>
<th>Touch pad</th>
<th>Camera</th>
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<tbody>
<tr>
<td>Intel Core i3-3120M (3 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000 DDR3 memory controller (up to 1600MHz), Hyper-Threading technology</td>
<td>4GBx1</td>
<td>720p</td>
<td>TP 11b/g/n</td>
<td>WWAN upg</td>
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<td>Express 54</td>
<td>10 hour</td>
<td>14.0&quot; HD+</td>
<td>250 nits, 16:9 aspect ratio, 400:1 contrast ratio</td>
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<tr>
<td>Intel Core i5-2520M (4 cores, 2.50GHz, 6MB cache), Intel HD Graphics 4000 DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</td>
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<td>720p</td>
<td>TP 11b/g/n</td>
<td>WWAN upg</td>
<td>None</td>
<td>Express 54</td>
<td>10 hour</td>
<td>14.0&quot; HD</td>
<td>1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)</td>
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<tr>
<td>Intel Core i3-3120M (3 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000 DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology</td>
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<td>1440x900@60Hz (10-bit, 2D color)</td>
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</table>

### Optical Sata disk

- DVD burner, 12.7mm high, fixed, not removable, tray-in
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System
- Some: Mainstream business performance; two spindles

### Widescreen display

- Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 1200 nits, 16:9 aspect ratio
- Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 40:1 contrast ratio

### Camera

- Camera resolution: 1280x1024, wide view angle, low light sensitive, face tracking, fixed focus
- Camera resolution: 1280x1024, 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); 1920x1080@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)
- 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); 1920x1080@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

### Keyboard

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys
- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys

### Touchpad

- TrackPoint® pointing device, Internet Scroll Bar®, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
- TrackPoint® pointing device, Internet Scroll Bar®, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

### Dimensions

- 14.0W" (WxHxD): 13.94" x 9.57" x 1.17–1.24"; 354mm x 243mm x 29.6–31.4mm
- 14.0W" (WxHxD): 13.94" x 9.57" x 1.17–1.24"; 354mm x 243mm x 29.6–31.4mm

### Weight

- 2.00 lbs, 16:9 aspect ratio
- 2.00 lbs, 16:9 aspect ratio

### Battery - type

- Battery - type
- Battery - type

### Battery - life

- 250 nits, 16:9 aspect ratio, 400:1 contrast ratio
- 250 nits, 16:9 aspect ratio, 400:1 contrast ratio

### Chipset

- Mobile Intel HM76 Express Chipset
- Mobile Intel HM76 Express Chipset

### ExpressCard

- One slot (ExpressCard/34, ExpressCard/54)
- One slot (ExpressCard/34, ExpressCard/54)

### Smart Card reader

- None
- None

### MultiCard Reader

- None
- None

### Ports

- One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)
- Two PCI Express Mini Card slots

### PCle Mini Card

- None
- None

### PCle Wlan

- None
- None

### PCle WWAN

- None
- None

### Sim card modem

- None
- None

### Bluetooth

- Bluetooth 4.0 wireless
- Bluetooth 4.0 wireless

### Ethernet

- Realtek® RTL8111F Gigabit Network Connection
- Realtek® RTL8111F Gigabit Network Connection

### Intel AMT

- None
- None

### Audio support

- HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio® v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack
- HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio® v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack

### Security

- Security software: Power-on password, hard disk password, supervisor password, security keyhole
- Security software: Power-on password, hard disk password, supervisor password, security keyhole

### Security chip

- Trusted Platform Module, TCG 1.2-compliant
- Trusted Platform Module, TCG 1.2-compliant

### Finger print reader

- Finger print reader Preload
- Finger print reader Preload

### Preloaded operating system

- Windows 7 Pro 64-bit
- Windows 7 Pro 64-bit

### Preloaded applications

- Windows 7 models
- Windows 7 models

### Additional features

- 1-year - depot repair service / service upgrades available
- 1-year - depot repair service / service upgrades available

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See footnotes for more detailed information

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### Type-model, Processor, Memory, Disk, Video, Graphics, Audio, Ethernet, SIM Card, PCI Express, WWAN, Finger print reader, Battery, Preload, and Ann Date (mm/yy)

<table>
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<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>disk Sata</th>
<th>PCIe Mini Card</th>
<th>PCIe Mini Card WWAN</th>
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<td>Finger BT 6</td>
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<td>06/13</td>
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</tbody>
</table>

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

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

### Preloaded Applications® (Only some listed)
- Lenovo® QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD±RW)
- Cyberlink PowerProducer (DVD±RW)
- Lenovo Support
- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- FingerPrint Software (fingerprint models)
- Lenovo Cloud Storage
- Microsoft® Office preloaded; purchase a product key to activate

* 65-watt AC adapter, ENERGY STAR® 5.0-compliant
* 24 hour x 7 day toll-free support during the warranty period

**See footnotes for more detailed information**

© Lenovo (G-CD1-9) June 2013
## Product Specifications Reference (PSREF)

### Preloaded operating system
- **Genuine Windows® 7 Professional 64**

### Ready to install applications
- **Rescue and Recovery™**
- **Password Manager**

### Preloaded applications
- **Lenovo Message Center Plus**
- **ThinkVantage Product Recovery**
- **Advanced Audio v2 / stereo speakers, 1.5W x 2 / Advanced Audio v2 / stereo speakers, 1.5W x 2 / Advanced Audio v2 / stereo speakers, 1.5W x 2**
- **ThinkVantage System Update**
- **Lenovo System Update**
- **Windows Live™ Essentials**
- **Core™ WinDVD®**
- **Core™ Burn. Now™**
- **Core™ MovieFactory™**

### Memory
- 8GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- * System automatically clocks down for processors with 1333MHz DDR3 memory controller

### Optical SATA disk
- DVD burner, 12.7mm high, fixed, not removable, tray-in:
  - **Some:** Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradeable
  - **Some:** Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradeable, Active Protection System™

### Widescreen display
- 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio
- 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio

### Camera
- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

### Graphics
- Intel HD Graphics 3000 or 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) / 2048x1536 @75Hz (VGA)

### Chipset
- **Mobile Intel HM76 Express Chipset**

### Ports
- Two PCI Express Mini Card slots
  - **Some:** 11b/g/n, PCiE Half Mini Card, ThinkPad 11b/g/n, 1x1
  - **Some:** 11b/g/n, PCiE Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2
  - **Some:** 11a/b/g/n, PCiE Half Mini Card, Intel Centrino Advanced-N 6205, 2x2
- **Some:** Wireless WAN upgradable
- **Some:** Wireless WAN, Ericsson® HS321gw Mobile Broadband Module, PCiE Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS

### SIM card
- **Some:** User selectable, contract required with service provider

### Bluetooth™
- **Some:** Bluetooth 4.0 wireless

### Ethernet
- Realtek® RTL8111F Gigabit Network Connection

### Audio support
- HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack

### Security chip
- Trusted Platform Module, TCG 1.2-compliant

### Fingerprint reader
- **Some:** AuthenTech fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip

### Limited warranty
- **3-years/1-year battery - depot repair service / service upgrades available**

---

### Other specifications
- **ThinkPad L430 2465**
- **Product Code:** 2465-5PG i5-2520M 2GBx1 14.0” HD 720p 320G 7200 TP 11b/g/n None None None Exp 54 Finger BT 6 Pro 64 10/12

---

### Footnotes
- See footnotes for more detailed information

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© Lenovo (G-CD1-2) August 2013
### Product Specifications Reference (PSREF)

**ThinkPad L430 2465 (Windows 8)**

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<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk</th>
<th>PCIe Mini Card</th>
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<td>7200</td>
<td>WWAN upg</td>
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<td>BT 6</td>
<td>G Win8 Pro64</td>
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<td>None</td>
<td>Finger</td>
<td>BT 6</td>
<td>G Win8 Pro64</td>
</tr>
</tbody>
</table>

* A depot repair service 3-year limited warranty

**Positioning**

- Mainstream business performance; two spindles
  - Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.0GHz), HT technology

**Memory**

- 6GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- * System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical SATA disk**

- DVD burner, 12.7mm high, fixed, not removable, tray-in
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5” wide, 7mm high, removable, upgradeable
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5” wide, 7mm or 9.5mm high, removable, upgradeable, Active Protection System

**Widescreen display**

- 14.0” (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio
- Some: 14.0” (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio

**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**

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys

**TrackPoint®**

- TrackPoint® pointing device, Internet Scroll Bar13, magnifying glass

**Touch pad**

- UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

**Dimensions3**

- 14.0W” (WxDxH) / 12.7W” (WxDxH): 13.94” x 9.57” x 1.17–1.24”; 354mm x 243mm x 29.6–31.4mm

**Weight4**

- 6-cell: from 5.11 lb (2.32kg); 9-cell: from 5.48 lb (2.49kg)

**Case material**

- Acrylonitrile-Butadiene-Styrene (ABS) plastic

**Battery - type**

- Lithium Ion 6-cell or 9-cell, HW Authentication

**Battery - life**

- 6-cell (37Whr): up to 7.5 hr; 9-cell (54Whr): up to 12.3 hr

**Chipset**

- Mobile Intel HM76 Express Chipset

**ExpressCard**

- None

**Smart Card read**

- None

**Multicard Reader**

- 4-in-1 reader (MMC, SD, SDHC, SDXC)

**Ports**

- One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**Pcie Mini Card**

- Two PCI Express Mini Card slots
- Some: 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2
- Some: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino Advanced-N 6205, 2x2

**Pcie WWAN**

- Wireless WAN upgradable

**SIM card**

- None

**Modem**

- None

**Bluetooth™**

- Some: Bluetooth 4.0 wireless

**Ethernet**

- Realtek® RTL8111F Gigabit Network Connection

**Intel AMT**

- None

**Audio support**

- HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack

**Security**

- Power-on password, hard disk password, supervisor password, security keyhole

**Security chip**

- Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

- Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip

**Limited warranty**

- 3-years/1-year battery - depot repair service / service upgrades available

---

**Preloaded operating system**

- Windows® 8 Pro 64-bit

**Preloaded applications** (only some listed)

- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD:RW)
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD:RW)
- Cyberlink PowerProducer (DVD:RW)
- All models
- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- FingerPrint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded; purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)
- Skype™

**Supports ThinkVantage® technologies**

- 65-watt AC adapter
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service (GMP (P))
- Lenovo Support (24 hour x 7 day18 toll-free support)

---

See footnotes for more detailed information © Lenovo (G-CQ1-6) October 2012
## ThinkPad L430 2465 (Optimus)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA GB</th>
<th>rpm</th>
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<td>Finger</td>
<td>BT</td>
<td>6</td>
<td>Pro 64</td>
<td>10/12</td>
</tr>
</tbody>
</table>

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

### Preloaded operating system
- Genuine Windows 

### Ready to install applications (only some listed)
- Rescue and Recovery
- IBM® Setup Utility
- Lenovo Media Center Plus
- ThinkVantage Productivity Center
- ThinkVantage Power Manager
- Microsoft® Office pre-loaded; purchase a product key to activate
- Norton Internet Security 2012
- Adobe® Reader
- Skype® for Windows
- Windows Live™ Essentials
- Corel® WinDVD®
- Corel™ Burn.Now™ Lenovo Edition
- Corel DVD MovieFactory® Lenovo Edition
- Lenovo Rescue and Recovery

### Preloaded applications (only some listed)
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections
- Fingerprint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Microsoft® Office pre-loaded; purchase a product key to activate
- Norton™ Internet Security 2012
- Adobe® Reader
- Skype® for Windows
- Windows Live™ Essentials
- Corel® WinDVD®
- Corel™ Burn.Now™ Lenovo Edition
- Corel DVD MovieFactory® Lenovo Edition
- Lenovo Rescue and Recovery

### International Warranty Service
- 3-years 1-yr battery - depot repair service / service upgrades available

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See footnotes for more detailed information
### Product Specifications Reference (PSREF)

<table>
<thead>
<tr>
<th>Type-model</th>
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</table>

### See footnotes for more detailed information

- **Part of the Global Models Plus program with limited onsite service**
- **3-year limited warranty**

### Positioning Processor

| 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 (3.0GHz), HT technology Intel Core i5-3360M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000. DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.0GHz), HT technology |

### Memory

- 8GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

### Optical Sata disk

- DVD burner, 12.7mm high, fixed, not removable, tray-in
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5” wide, 7mm high, removable, upgradable
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5” wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™

### Widescreen display

- Some: 14.0” (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16.9 aspect ratio, 400:1 contrast ratio
- Some: 14.0” (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16.9 aspect ratio, 400:1 contrast ratio

### Camera

- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

### Graphics

- Intel HD Graphics 4000 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

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys

### TrackPoint®

- TrackPoint® pointing device, Internet Scroll Bar®, magnifying glass

### ThinkLight®

- UltraNav® wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

### Dimensions (inches)

- 14.0W” (WxDxH): 13.94” x 9.57” x 1.17–1.24”
- 354mm x 243mm x 29.6–31.4mm

### Weight (in lbs)

- 6-cell: from 5.11 lb (2.32kg); 9-cell: from 5.48 lb (2.49kg)

### Case material

- Acrylonitrile-Butadiene-Styrene (ABS) plastic

### Battery - type

- Lithium Ion 6-cell or 9-cell, HW Authentication
- 6-cell (57Whr); up to 7.5 hr; 9-cell (94Whr); up to 12.3 hr

### Chipset

- Mobile Intel HM76 Express Chipset

### ExpressCard

- One slot (ExpressCard/34, ExpressCard/54)

### Smart Card reader

- Some: Smart Card reader

### Multicard Reader

- 4-in-1 reader (MMC, SD, SDHC, SDXC)

### Ports

- One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

### PCIe Mini Card

- Two PCI Express Mini Card slots

### PCIe WLAN

- 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

### PCIe WWAN

- Wireless WAN upgradable

### SIM card

- None

### Modem

- None

### Bluetooth®

- Bluetooth 4.0 wireless

### Ethernet

- Realtek® RTL8111F Gigabit Network Connection

### Intel AMT

- None

### Audio support

- HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio® v2 / stereo speakers, 1.5W x 2

### Security

- Power-on password, hard disk password, supervisor password, security keyhole

### Security chip

- Trusted Platform Module, TCG 1.2-compliant

### Fingerprint reader

- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip

### Limited warranty

- 3-years/1-year battery, limited onsite service, 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

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(G-CD1-3) June 2012

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**Preloaded operating system**

Genuine Windows® 7 Professional 64

**Ready to install applications** (only some listed)

- Rescue and Recovery™
- Password Manager

**Preloaded applications** (only some listed)

- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- Fingerprint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Microsoft® Office preloaded: purchase a product key to activate
- Norton™ Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype® for Windows
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD:RW)

**Part of the Global Models Plus program with limited onsite service**

**3-year limited warranty**

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**ŠSUPPORTS THINKVANTAGE TECHNOLOGIES**

- 65-watt AC adapter
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant

**INTERNATIONAL WARRANTY SERVICE**

- 24 hour x 7 day toll-free support during the warranty period**
**Part of the Global Models Plus program with limited onsite service** 3-year limited warranty

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<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>Memory</th>
<th>Screen</th>
<th>Keyboard</th>
<th>Display</th>
<th>Preload</th>
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<td>BT 6 G P</td>
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</table>

**Preloaded operating system**
- Windows 8 Pro 64-bit

**Preloaded applications** (only some listed)
- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap®
- Adobe® Reader®
- Windows Live™ Essentials
- Corel® WinDVD® (DVD±RW)
- Corel® MovieFactory® Lenovo Edition (DVD±RW)

**Windows 8 models**
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go® (DVD±RW)
- Cyberlink PowerProducer (DVD±RW)

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

**Supported ThinkVantage® technologies**
- 65-watt AC adapter
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant

**International Warranty Service**
- 24 hour x 7 day toll-free support during the warranty period

See footnotes for more detailed information

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(G-CD1-7) October 2012
### ThinkPad L530 2481 (TopSeller)

#### Product Specifications Reference (PSREF)

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<td>i3-2370M</td>
<td>4GBx1</td>
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<td>720p</td>
<td>500G</td>
<td>7200</td>
<td>TP 11b/g/n</td>
<td>WWAN upg</td>
<td>None</td>
<td>Finger</td>
<td>BT</td>
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<td>TP 11b/g/n</td>
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<td>Intel 2200</td>
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- **Small and medium business (SMB) model(s), part of the WE TopSeller™ Program**

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<th>mSATA™ SSD</th>
<th>Widescreen display</th>
<th>Camera</th>
<th>Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mainstream business performance; two spindles</td>
<td>*Intel® Celeron® B820 processor (2 cores, 1.70GHz, 2MB cache), Intel HD Graphics, DDR2 (up to 1333MHz)</td>
<td>8GB max / 3C-12800 1600MHz DDR3, non-parity, dual-channel capable, two 240-pin SO-DIMM sockets</td>
<td>DVD burner, 12.7mm high, fixed, not removable, tray-in</td>
<td>*Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5&quot; wide, 7mm high, removable, upgradeable</td>
<td>Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5&quot; wide, 7mm or 9.5mm high, removable, upgradeable, Active Protection System™</td>
<td>Some: mSATA Solid State Drive (SSD), via PCIe Mini Card slot</td>
<td>Intel HD Graphics, Intel HD Graphics 3000, or 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 via optional Mini DP cable; 2048x1536 via 75Hz (VGA)</td>
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<td>Preloaded operating system¹⁰</td>
<td><em>Genuine Windows® 7 Professional 64</em></td>
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<tr>
<td>Ready to install applications¹⁴</td>
<td><em>only some listed</em></td>
<td>- Rescue and Recovery™</td>
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<td>- Password Manager</td>
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<td>- Lenovo Message Center Plus</td>
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<td>- Access Connections³⁴</td>
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<td>- Fingerprint Software (fingerprint models)</td>
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<td>- Microsoft® Office preloaded; purchase a product key to activate</td>
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<td>- Norton™ Internet Security 2012 (30 days of virus definitions)</td>
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<td>- Adobe® Reader®</td>
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<td>- Windows Media Player™</td>
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<td>- Windows Live™ Essentials</td>
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<td>- Corel® WinDVD®³⁶ (DVD±RW)</td>
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<tr>
<td>- Corel® DVD MovieFactory™ Lenovo Edition (DVD±RW)</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Keyboard</th>
<th>Trackpad</th>
<th>Touchpad</th>
<th>ThinkLight™</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys</td>
<td>TrackPoint® pointing device, Internet Scroll Bar¹³, magnifying glass</td>
<td>UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dimensions²</th>
<th>Weight³</th>
<th>Case material</th>
<th>Battery - type</th>
<th>Battery - life¹⁰</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.6&quot;W (396mm) x 9.72&quot;H (247mm) x 0.76&quot;D (396mm)</td>
<td>2.85 lb (1.29kg)</td>
<td>Acrylonitrile-Butadiene-Styrene (ABS) plastic</td>
<td>Lithium Ion 6-cell or 9-cell, HW Authentication</td>
<td>up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chipset</th>
<th>ExpressCard</th>
<th>Smart Card read</th>
<th>Multicard Reader Ports</th>
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<tr>
<td>Mobile Intel HM76 Express Chipset</td>
<td>Some: One slot (ExpressCard/34, ExpressCard/54)</td>
<td>None</td>
<td>4-in-1 reader (MMC, SD, SDHC, SDXC)</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>PCie Mini Card</th>
<th>PCie WLAN⁴</th>
<th>PCie WWAN</th>
<th>SIM card</th>
<th>Modern</th>
<th>Bluetooth™</th>
<th>Ethernet</th>
<th>Intel AMT</th>
<th>Audio support</th>
<th>Security</th>
<th>Security chip</th>
<th>Security lock</th>
<th>Fingerprint reader</th>
<th>Battery</th>
<th>Preload</th>
<th>Ann Date (mm/yyyy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two PCI Express Mini Card slots</td>
<td>Some: 11b/g/n, PCie Half Mini Card, ThinkPad 11b/g/n, 1x1</td>
<td>Some: 11b/g/n, PCie Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2</td>
<td>Wireless WAN upgradeable</td>
<td>None</td>
<td>Bluetooth™ 4.0 wireless</td>
<td>Realtek® RTL8111F Gigabit Network Connection</td>
<td>None</td>
<td>HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio® v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack</td>
<td>Power-on password, hard disk password, supervisor password, security keyhole</td>
<td>Trusted Platform Module, TCG 1.2-compliant</td>
<td>Lenovo Fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

65-watt AC adapter
EPEAT® Gold rating
ENERGY STAR® 5.0-compliant
GREENGUARD® certified
RoHS-compliant
International Warranty Service¹⁷
24 hour x 7 day²⁰ toll-free support during the warranty period²¹

See footnotes for more detailed information © Lenovo (G-BF1-1) September 2012
**Positioning**

| Processor | Mainstream business performance; two spindles Intel® Pentium® B970 processor (2 cores, 2.30GHz, 2MB cache), Intel HD Graphics, DDR3 memory controller (up to 1333MHz) |

**Memory**

| 8GB max7 | / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets |

* System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical**

| DVD burner, 12.7mm high, fixed, not removable, tray-in |

Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable |

Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™

**mSATA™ SSD**

None

**Widescreen display**

| Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio |

Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio |

Camera HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

| Intel HD Graphics 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**

| 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys |

TrackPoint® pointing device, Internet Scroll Bar®, magnifying glass

Touch pad UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

ThinkLight™ None

**Dimensions³**

| 15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm |

6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg)

**Weight²**

| Case material Acrylonitrile-Butadiene-Styrene (ABS) plastic |

Battery - type Lithium Ion 6-cell or 9-cell, HW Authentication |

Battery - life¹⁰ | 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr |

**Chipset**

| Mobile Intel HM76 Express Chipset |

**ExpressCard** None

**Smart Card read** None

**Multicard Reader** 4-in-1 reader (MMC, SD, SDHC, SDXC)

**Ports** One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**PCle Mini Card** Two PCI Express Mini Card slots

**PCle WLAN⁴** 11b/g/n, PCle Half Mini Card, ThinkPad 11b/g/n, 1x1

**PCle WWAN Wireless WAN upgradable**

**SIM card** None

**Modern** None

**Bluetooth™** Bluetooth 4.0 wireless

**Ethernet** Realtek® RTL8111F Gigabit Network Connection

**Intel AMT** None

**Audio support** HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio® v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack

**Security** Power-on password, hard disk password, supervisor password, security keyhole

**Security chip** Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader** AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip

**Limited warranty¹²** 1-year - depot repair service / service upgrades²⁰ available

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See footnotes for more detailed information
### ThinkPad L530 2481 (TopSeller) - Windows 8 - II

#### Product Specifications Reference (PSREF)

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<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA</th>
<th>PCIe Mini Card WWAN</th>
<th>PCIe Mini Card mSATA</th>
<th>Card slot</th>
<th>Finger print reader</th>
<th>Battery - type</th>
<th>Case material</th>
<th>Weight</th>
<th>Preload</th>
<th>Ann Date (mmyy)</th>
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<tr>
<td>2481-52G</td>
<td>i3-3120M</td>
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<td>15.6&quot; HD 720p</td>
<td>500G 7200</td>
<td>TP 11b/g/n</td>
<td>WLAN upg</td>
<td>Express 54</td>
<td>Finger BT</td>
<td>6</td>
<td>Win7 Pro64</td>
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<td>2481-4ZG</td>
<td>i5-3230M</td>
<td>4GBx1</td>
<td>15.6&quot; HD 720p</td>
<td>500G 7200</td>
<td>TP 11b/g/n</td>
<td>WLAN upg</td>
<td>Express 54</td>
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<td>WLAN upg</td>
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<td>Finger BT</td>
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### Preloaded operating system

- Windows 7 Professional 64 bit (preinstalled through downgrade rights in Windows 8 Pro 64-bit)

### Preloaded applications

- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo Cloud Storage
  - AccuWeather
  - PC Device Stage
  - CyberLink Power2Go (DVD:RW)
  - CyberLink PowerProducer (DVD:RW)

- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo Cloud Storage
  - AccuWeather
  - PC Device Stage
  - CyberLink Power2Go (DVD:RW)
  - CyberLink PowerProducer (DVD:RW)

- All models
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - Preloaded operating systems
  - Norton Security (30 days of virus definitions)

### Cable and port specifications

- 1-year warranty

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### References

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- 65-watt AC adapter
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service 24 hour x 7 day toll-free support during the warranty period
Positioning
Processor
Mainstream business performance; two spindles
Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology

Memory
8GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

Optical
SATA disk
DVD burner, 12.7mm high, fixed, not removable, tray-in

mSATA™ SSD
None

Widescreen display
Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 500:1 contrast ratio

Camera
Some: 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 MiniDisplayPort; 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
6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys

Trackpoint®
Trackpoint® pointing device, Intel Scroll Bar™, magnifying glass

Touch pad
UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

ThinkLight™
None

Dimensions
15.6W (WxDxH): 14.96 x 9.72 x 1.25–1.31; 380mm x 247mm x 31.7–33.4mm

Weight
6-cell: from 5.69 lb (2.58kg); 9-cell: from 6.05 lb (2.75kg)

Battery - type
Lithium Ion 6-cell or 9-cell, HW Authentication

Battery - life
6-cell: (57Whr): up to 7.5 hr; 9-cell: (94Whr): up to 12.3 hr

Chipset
Mobile Intel HM76 Express Chipset

ExpressCard
Some: Smart Card reader

Multicard Reader
4-in-1 reader (MMC, SD, SDHC, SDXC)

Ports
One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

PCle Mini Card
Two PCI Express Mini Card slots

PCle WLAN
Some: 11a/b/g/n, PCle Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2

PCle WWAN
Wireless WAN upgradeable

SIM card
None

Modem
None

Bluetooth™
None

Ethernet
Realtek® RTL8111F Gigabit Network Connection

Intel AMT
None

Audio support
HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio® v2 to stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack

Security
Power-on password, hard disk password, supervisor password, security keyhole

Security chip
Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader
Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator

Limited warranty
3-years/1-yr battery - depot repair service / service upgrades available

Product Specifications Reference (PSREF)

See footnotes for more detailed information

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12 Limited warranty

13 A depot repair service 3-year limited warranty

14 Preloaded applications

15 Ready to install applications

16 Preloaded operating system

17 Ready to install applications

18 Preloaded applications

19 Ready to install applications

20 Preloaded applications

21 Ready to install applications

22 Ready to install applications

23 Ready to install applications

24 Ready to install applications

25 Ready to install applications

26 Ready to install applications

27 Ready to install applications
- **A depot repair service 3-year limited warranty**

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<th>Wide-screen display</th>
<th>Camera</th>
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| 2478-5FG  | i5-2520M  | 4GBx1  | 15.6” HD+ 720p | 12GB SSD | Intel 2200 Ericsson selectable | None | None | Exp 54 Finger BT 6 Pro 64 10/12
| 2478-5EG  | i5-2520M  | 4GBx1  | 15.6” HD+ 720p | 500G 7200 | Intel 2200 Ericsson selectable | None | None | Exp 54 Finger BT 6 Pro 64 10/12
| 2478-5DG  | i5-2520M  | 4GBx1  | 15.6” HD+ 720p | 5GB 7200 | Intel 2200 WWAN upg | None | Smart | Exp 54 Finger BT 6 Pro 64 10/12
| 2478-5CG  | i5-2520M  | 4GBx1  | 15.6” HD 720p | 500G 7200 | Intel 2200 WWAN upg | None | None | Exp 54 Finger BT 6 Pro 64 10/12
| 2478-5BG  | i5-2520M  | 4GBx1  | 15.6” HD 720p | 320G 7200 | Intel 2200 WWAN upg | None | None | Exp 54 Finger BT 6 Pro 64 10/12
| 2478-5AG  | i5-2520M  | 4GBx1  | 15.6” HD 720p | 500G 7200 | Intel 2200 WWAN upg | None | None | Exp 54 Finger BT 6 Pro 64 10/12
| 2478-59G  | i5-2520M  | 4GBx1  | 15.6” HD 720p | 320G 7200 | Intel 2200 WWAN upg | None | None | Exp 54 Finger BT 6 Pro 64 10/12
| 2478-57G  | i5-2520M  | 2GBx1  | 15.6” HD 720p | 320G 7200 | Intel 2200 WWAN upg | None | None | Exp 54 Finger BT 6 Pro 64 10/12

See footnotes for more detailed information
### ThinkPad L530 2478 (Windows 8)

#### Product Specifications Reference (PSREF)

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<td>10/12</td>
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#### Preloaded operating system
- Windows 8 Pro 64-bit

#### Preloaded applications
- only some listed
- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader
- Windows Live™ Essentials
- Corel® WinDVD™ (DVD:RW)
- Corel® WinDVDMovieFactory™ Lenovo Edition (DVD:RW)

#### Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD:RW)
- Cyberlink PowerProducer (DVD:RW)

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

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* A depot repair service 3-year limited warranty

---

**Positioning**

- Mainstream business performance; two spindles

**Processor**

- 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 (3.0GHz), HT technology

**Memory**

- 6GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
  - * System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical SATA disk**

- DVD burner, 12.7mm high, fixed, not removable, tray-in
  - Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5” wide, 7mm high, removable, upgradable
  - Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5” wide, 9.5mm high, removable, upgradable, Active Protection System™

**Battery**

- Type-model: GMP (P)
  - Lithium Ion 6-cell or 9-cell, HW Authentication

**Dimensions**

- 15.6W” (396mm) x 9.72” (247mm) x 1.25–1.31” (31.7–33.4mm)
- 380mm x 247mm x 31.7–33.4mm

**Weight**

- 6-cell: from 5.69 lb (2.58kg)
- 9-cell: from 6.05 lb (2.75kg)

**Case material**

- Acrylonitrile-Butadiene-Styrene (ABS) plastic

**Battery - type**

- Lithium Ion 6-cell or 9-cell, HW Authentication

**Keyboard**

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys

**TrackPoint®**

- TrackPoint® pointing device, Internet Scroll Bar®13, magnifying glass

**Touch pad**

- UltraNav®, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

**Chipset**

- Mobile Intel HM76 Express Chipset

**ExpressCard**

- None

**Smart Card read**

- None

**Multicard Reader**

- 4-in-1 reader (MMC, SD, SDHC, SDXC)

**Ports**

- One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**PCle Mini Card**

- Two PCI Express Mini Card slots

**PCle WLAN**

- Two PCI Express Mini Card slots

**PCle WWAN**

- Two PCI Express Mini Card slots

**SIM card**

- None

**Modem**

- None

**Bluetooth®**

- None: Bluetooth 4.0 wireless

**Ethernet**

- Realtek® RTL8111F Gigabit Network Connection

**Audio support**

- HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1.5W x 2 /
  - volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack

**Security**

- Power-on password, hard disk password, supervisor password, security keyhole

**Security chip**

- Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip

**Limited warranty**

- 3-years / 1-yr battery - depot repair service / service upgrades available

---

See footnotes for more detailed information

© Lenovo

(G-BF1-7) October 2012
### Product Specifications Reference (PSREF)

#### ThinkPad L530 2479 (Onsite)

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<th>Type-model</th>
<th>Processor</th>
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**Positioning Processor**: Mainstream business performance; two spindles Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache). Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology. Intel Core i5-3360M processor (2 cores, 2.80GHz, 3MB cache). Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology.

**Memory**: 8GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets. 

**Optical SATA disk**: DVD burner, 12.7mm high, fixed, not removable, tray-in.

**mSATA™ SSD**: None.

**Widescreen display**: Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220, 16.9 aspect ratio, 500:1 contrast ratio. Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220, 16.9 aspect ratio, 500:1 contrast ratio.

**Camera**: 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); 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.

**Touch pad ThinkLight™**: UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch.

**Dimensions**: 15.6W (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm.

**Weight**: 6-cell from 6.59 lb (2.58kg); 9-cell from 6.65 lb (2.75kg)

**Battery type**: Lithium Ion 6-cell or 9-cell, HW Authentication

**Battery life**: 6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr

**Chipset ExpressCard**: Mobile Intel HM76 Express Chipset

**Smart Card reader**: Some: One slot (ExpressCard/34, ExpressCard/54)

**Multicard Reader**: 4-in-1 reader (MMC, SD, SDHC, SDXC)

**Ports**: One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**PCle Mini Card**: Two PCI Express Mini Card slots

**PCle WWAN**: Wireless WAN upgradable

**SIM card**: None

**Security**: Power-on password, hard disk password, supervisor password, security keyhole

**Security chip**: Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip

**Limited warranty**: 3-years/1-year battery, limited onsite service*: 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

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*Some models are part of the Global Models Plus program with limited onsite service*: 3-year limited warranty

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- Preloaded operating system®: Genuine Windows® 7 Professional 64
- Ready to install applications®: Genuine Windows® 7 Professional
- Preloaded applications®: Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections®
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Microsoft® Office preloaded
- Norton® Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype® for Windows
- Windows Live® Essentials
- Corel® WinDVD® (DVD:RW)
- Corel DivxFactory® Lenovo Edition (DVD:RW)
- Lenovo Edition (DVD:RW)

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See footnotes for more detailed information © Lenovo

(G-BF1-3) August 2012

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*Footnotes:

1. Genuine Windows® 7 Professional 64
2. Ready to install applications® (only some listed)
3. Preloaded applications® (only some listed)
4. Lenovo Message Center Plus
5. ThinkVantage Product Recovery
6. Access Connections®
7. FingerPrint Software (fingerprint models)
8. ThinkVantage System Update
9. ThinkVantage Power Manager
10. Microsoft® Office preloaded
11. Norton® Internet Security 2012 (30 days of virus definitions)
12. Adobe® Reader®
13. Skype® for Windows
14. Windows Live® Essentials
15. Corel® WinDVD® (DVD:RW)
18. Lenovo Edition (DVD:RW)
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<td>7200</td>
<td>Intel 6205</td>
<td>WWAN upg</td>
<td>None</td>
<td>Finger BT</td>
<td>6 G P</td>
<td>Win8 Pro64</td>
<td>10/12</td>
<td></td>
<td></td>
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<tr>
<td>2479-64G</td>
<td>i5-3320M</td>
<td>4GBx1</td>
<td>15.6&quot; HD</td>
<td>720p</td>
<td>500G</td>
<td>7200</td>
<td>Intel 6205</td>
<td>WWAN upg</td>
<td>None</td>
<td>Finger BT</td>
<td>6 G P</td>
<td>Win8 Pro64</td>
<td>10/12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Part of the Global Models Plus program with limited onsite service³ 3-year limited warranty

Positioning

Processor  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

Memory  8GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

Optical SATA disk  DVD burner, 12.7mm high, fixed, not removable, tray-in

SDATA SSD  None

Widescreen display  Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio

Camera  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); 1920x1200 @60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536 @75Hz (VGA)

Keyboard  6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys

Touch pad  UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

ThinkLight™  None

Dimensions³  15.6W" (WxDxH): 14.96" x 9.72" x 1.25–1.31"; 380mm x 247mm x 31.7–33.4mm

Weight⁴  6-cell: | 1.69 lb (0.77kg) | 9-cell: | 2.09 lb (0.95kg) |

Battery - type  Lithium Ion 6-cell or 9-cell, HW Authentication

Battery - life⁵  6-cell (57Whr): up to 7.5 hr; 9-cell (94Whr): up to 12.3 hr

Chipset  Mobile Intel HM76 Express Chipset

ExpressCard  None

Smart Card read  None

Multicard Reader  4-in-1 reader (MMC, SD, SDHC, SDXC)

Ports  One USB 3.0, three USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

PCle Mini Card  Two PCI Express Mini Card slots

PCle WLAN⁶  11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

PCle WANW  Wireless WAN upgradable

SIM card  None

Modern  None

Bluetooth™  Bluetooth 4.0 wireless

Ethernet  Realtek® RTL8111F Gigabit Network Connection

Intel AMT  None

Audio support  HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio® v2 / stereo speakers, 1.5W x 2 / volume up, down, mute buttons / monaural digital mic, mic mute button, combo audio/mic jack

Security  Power-on password, hard disk password, supervisor password, security keyhole

Security chip  Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader  AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, supports the security chip

Limited warranty¹ 3-years/1-year battery, limited onsite service² 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

Preloaded operating system⁷ - Windows® 8 Pro 64-bit

Preloaded applications² (only some listed)

- Windows 7 models
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader®
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD:RW)

- Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD:RW)
- Cyberlink PowerProducer (DVD:RW)

- All models
- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- Fingerprint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync

- Microsoft® Office preloaded: purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

Supports ThinkVantage™ technologies

65-watt AC adapter

EPEAT® Gold rating

ENERGY STAR® 5.0-compliant

GREDGUARD™ certified

RoHS-compliant

International Warranty Service² 24 hour x 7 day¹⁸ toll-free support during the warranty period¹²

See footnotes for more detailed information
**ThinkPad T430 2344 (TopSeller)**

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

**Positioning**

- **Processor:** Premiere performance: two spindles
  - *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

**Memory**

- 16GB max * / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
  - * System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Ultrabay SATA disk**

- DVD burner, 12.7mm Ultrabay Enhanced, removable
  - One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, small form factor
  - Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
  - Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System
  - All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

**mSATA SSD**

- None

**Widescreen display**

- Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio: 300:1 contrast ratio
  - Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio

**Camera**

- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

- Intel HD Graphics 4000 in processor,
  - 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**

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

**Touchpad**

- UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

**ThinkLight™**

- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions²**

- 14.0W (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm
- 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg)

**Weight²**

- Display cover: Carbon-fiber / Glass-fiber hybrid
  - Bottom: Carbon-Fiber Reinforced Plastic

**Battery - type**

- Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication

**Battery - life¹⁰**

- 6-cell (57Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 32.5 hr

**Chipset**

- Mobile Intel GM77 Express Chipset
  - One slot (ExpressCard/34)
  - Smart Card reader
  - 4-in-1 reader (MMC, SD, SDHC, SDXC)
  - Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, Ethernet (RJ-45)

**Security**

- Power-on password, disk password, supervisor password, security keyhole

**Security chip**

- Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Limited warranty¹²**

- 3-years / 1-year battery - depot repair service / service upgrades¹² available

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See footnotes for more detailed information

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(G-NZ4-1) June 2012
## ThinkPad T430 2344 (TopSeller) - Windows 8

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

### Preloaded operating system
- Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

### Preloaded applications
- Windows 7 models
  - Lenovo Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe Reader
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD±RW)
  - Corel DVD MovieFactory® Lenovo Edition (DVD±RW)

### Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD±RW)
- Cyberlink PowerProducer (DVD±RW)
- All models
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - fingerprint Software (fingerprint models)
  - Lenovo Cloud Storage by SugarSync
  - Microsoft® Office preloaded; purchase a product key to activate
  - Norton™ Internet Security (30 days of virus definitions)

---

### Product Specifications Reference (PSREF)

#### Type-model
- 2344-BTG: i7-3520M 4GBx1 14.0" HD+ 720p 500G 7200 None Intel 6205™ WWAN upg
- 2344-BSG: i5-3210M 4GBx1 14.0" HD 720p 500G 7200 None Intel 2200 WWAN upg
- 2344-BJG: i5-3320M 4GBx1 14.0" HD+ 720p 500G 7200 None Intel 6205 WWAN upg

### Processor
- Intel® Core™ i5-3210M (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 HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology
- Intel Core i5-3520M processor (2 cores, 2.60GHz, 3MB cache)
- Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology

### Optical Ultrabay SATA disk
- DVD burner, 12.7mm Ultrabay Enhanced, removable
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- Some: Hard Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™
- All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

### Preloaded applications
- Mobile Internet Data Card
- Mobile Manager
- Norton® Internet Security (30 days of virus definitions)
- Lenovo 3000 Mobile Sync
- Lenovo Backup Software
- Lenovo Notebook Recovery CD
- Lenovo QuickLaunch
- Lenovo Support
- Lenovo System Update
- Messenger
- Norton® Antivirus

### Memory
- 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- * System automatically clocks down for processors with 1333MHz DDR3 memory controller

### 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)

### Chipset
- Mobile Intel QM77 Express Chipset
- One slot (ExpressCard/34)
- Supports Intel® vPro Technology

### Internal hard disk drive
- 7200 rpm
- 500GB
- 5400rpm
- 7200rpm

### Power
- 65-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)
- ENERGY STAR® 5.0-compliant
- RoHS-compliant
- International Warranty Service 17

---

**See footnotes for more detailed information**

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ThinkPad T430 2344 (Optimus) - TopSeller

Positioning
- PREMIUM PERFORMANCE: two spindles

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

Memory
- 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- System automatically clocks down for processors with 1333MHz DDR3 memory controller

Optical
- DVD burner, 12.7mm Ultrabay Enhanced, removable
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- 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, upgradeable, supports the second disk, Shock Mounted Hard Drive

Widescreen display
- 14.0” (355mm) HD (1366x768) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio

Camera
- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

Graphics
- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA NVS® 5400M, PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays
- Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@65Hz (VGA)

Keyboard
- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

Touchpad
- TrackPoint® pointing device, “Press-to-Select,” Internet Scroll Bar™, magnifying glass

Dimensions³
- 14.0W” (WxDxH): 13.4” x 9.13” x 1.17–1.18”; 340.5mm x 232.0mm x 29.8–29.9mm
- Weight: 3.89 lb (1.72kg); 1.77 lb (0.8kg)

Battery - type
- Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication

Battery - life (15)
- 6-cell (57Whr): up to 8.5 hr; 9-cell (94Whr): up to 11.5 hr

Chipset
- Mobile Intel QM77 Express Chipset

SUPPORTS THINKVANTAGE® TECHNOLOGIES
- 90-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service

Limited warranty
- 3-years/1-yr battery - depot repair service / service upgrades available

See footnotes for more detailed information

© Lenovo (G-NZA-2) June 2012
### ThinkPad T430 2344 (Optimus) - TopSeller (Windows 8)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Disk</th>
<th>Backlit keyboard</th>
<th>PCie Mini Card</th>
<th>PCie Mini Card WWAN/WWAN</th>
<th>Smart Card Reader</th>
<th>Finger reader</th>
<th>Battery</th>
<th>Intel AMT</th>
<th>Intel vPro</th>
<th>Preload</th>
<th>Ann Date (m/m/yyyy)</th>
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</thead>
<tbody>
<tr>
<td>2344-BUG</td>
<td>i7-3520M</td>
<td>4GBx2</td>
<td>14.0&quot; HD+</td>
<td>500G</td>
<td>None</td>
<td>Intel 6205a</td>
<td>WWAN upg</td>
<td>Smart Finger</td>
<td>9</td>
<td>I AMT</td>
<td>vPro</td>
<td>Win7 Pro</td>
<td>10/12</td>
<td></td>
</tr>
<tr>
<td>2344-BRG</td>
<td>i5-3210M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+</td>
<td>500G</td>
<td>None</td>
<td>Intel 2200</td>
<td>WWAN upg</td>
<td>Smart Finger</td>
<td>6</td>
<td>None</td>
<td>No</td>
<td>Win7 Pro</td>
<td>10/12</td>
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</table>

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

**Preloaded operating system**
- Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

**Preloaded applications** (only some listed)
- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD:RW)
  - Corel DVD MovieFactory™ Lenovo Edition (DVD:RW)

- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go (DVD:RW)
  - Cyberlink PowerProducer (DVD:RW)

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

**Chipset**
- Mobile Intel QM77 Express Chipset
  - One slot (ExpressCard/34)
  - Smart Card reader
  - MultiCard reader
  - 4-in-1 reader (MMC, SD, SDHC, SDXC)

**Ports**
- USB 3.0, USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)
- Two PCI Express Mini Card slots
- Two PCI Express Mini Card slots
- Wireless WAN upgradeable

**Audio support**
- HD Audio, Realtek® ALC2302 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

**Security**
- Power-on password, hard disk password, supervisor password, security keyhole

**Fingerprint reader**
- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Battery**
- Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery.

**Dimensions**
- 14.0"W (WxDxH): 13.4" x 9.13" x 1.17"-1.18"; 340.5mm x 232.0mm x 29.8-29.9mm

**Weight**
- 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg)

**Graphics**
- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics.

**.Stderr**
- 3-years1 yr battery - depot repair service / service upgrades2 available

---

See footnotes for more detailed information © Lenovo (G-NZ4-8) October 2012
### Product Specifications Reference (PSREF)

#### ThinkPad T430 2347

**Type-model** | **Processor** | **Memory** | **Wide-screen display** | **Camera** | **Disk SATA** | **Backlit keyboard** | **PCle Mini Card** | **PCle Mini Card WWAN/ mSATA** | **Fingerprint reader** | **Battery cells** | **Intel AMT** | **Global (G) ** | **Preload (P)** | **Ann Date** |
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
2347-GAG | i5-3320M | 4GBx1 | 14.0"HD+ | 720p | 180G SSD | None | Intel 6205™ WWAN upg | Finger | 6 | iAMT | vPro | G | Pro 64 | 06/12 |
2347-GBG | i5-3320M | 4GBx1 | 14.0"HD+ | 720p | 128G SSD | None | Intel 6205 WWAN upg | Finger | 6 | iAMT | vPro | G | Pro 64 | 06/12 |
2347-GBG | i7-3520M | 4GBx1 | 14.0"HD+ | 720p | 500G 7200 | None | Intel 6205 WWAN upg | Finger | 6 | iAMT | vPro | G | Pro 64 | 06/12 |
2347-GSG | i5-3320M | 4GBx1 | 14.0"HD+ | 720p | 500G 7200 | None | Intel 6205 WWAN upg | Finger | 6 | iAMT | vPro | G | Pro 64 | 06/12 |
2347-G3G | i7-3520M | 4GBx1 | 14.0"HD+ | 720p | 500G 7200 | None | Intel 6205 WWAN upg | Finger | 6 | iAMT | vPro | G | Pro 64 | 06/12 |
2347-G2G | i5-3320M | 4GBx1 | 14.0"HD | 720p | 320G 7200 | None | Intel 6205 WWAN upg | Finger | 6 | None | Pro 64 | 10/12 |
2347-KUG | i5-2520M | 4GBx1 | 14.0"HD | 720p | 500G 7200 | None | None | None | None | None | None | Pro 64 | 10/12 |

#### Key Features
- **Performance:** Intel® Core™ i5-3520M processor (2 cores, 2.6GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology
- **Display:** 14.0" HD+ (1600x900) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio
- **Battery:** 65-watt AC adapter
- **Operating System:** Genuine Windows® 7 Professional 64
- **Preloaded Applications:**
  - Lenovo® Solution Center
  - Lenovo Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - FingerPrint Software (fingerprint models)
  - ThinkVantage System Update
  - ThinkVantage Power Manager
  - Lenovo Cloud Storage
  - Norton™ Internet Security 2012 (30 days of virus definitions)
  - Adobe® Reader®
  - Skype™ for Windows
  - Evernote®
  - Intel Small Business Advantage
  - RapidBoot HDD Accelerator
  - Symantec™ VIP
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVDs:RW)
  - Corel® BurnNow™ Lenovo Edition (DVDs:RW)
  - Corel® DVD MovieFactory® Lenovo Edition (DVDs:RW)

### Footnotes
- 1. A depot repair service 3-year limited warranty
- 2. System automatically clocks down for processors with 1333MHz DDR3 memory controller
- 3. Some: Charger with ThinkVantage Power Manager
- 4. All:
  - 2560x1600@60Hz (DisplayPort via optional Mini DP cable);
  - supports dual independent display;
  - supports direct digital connection via HDMI, DVI-D (720p HD), or VGA
- 5. Power On Authentication, supports the security chip
- 6. Power-on password, hard disk password, supervisor password, security keyhole
- 7. Some:
  - Intel Active Management Technology (iAMT)
  - Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1
  - Intel® Small Business Advantage
- 8. Intel HD Graphics 3000
- 10. POWER ON AUTHENTICATION SOFTWARE 3 YEAR LIMITED WARRANTY
- 11. 5-year limited warranty
- 12. Power On Authentication, supports the security chip
- 13. 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication
- 14. During the warranty period12
- 15. Supports ThinkVantage® technologies
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- 19. 5.0-compliant certified
- 20. 65-watt AC adapter
- 21. 2012 ENERGY STAR® 5.0-compliant
- 22. RoHS-compliant certified
- 23. International Warranty Service17
- 24. 24 hour x 7 day18 toll-free support during the warranty period12
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<th>Backlit</th>
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<th>PCI Express</th>
<th>Finger</th>
<th>Battery</th>
<th>Global (G)</th>
<th>Preload</th>
<th>Ann Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 (3.0GHz), HT technology</td>
<td>16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets</td>
<td>14.0” HD+ 720p</td>
<td>500G 7200</td>
<td>None</td>
<td>Intel 6205™ WWAN upg</td>
<td>Finger BT</td>
<td>6 vPro G</td>
<td>Win8 Pro64 10/12</td>
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<th>mSATA™ SSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVD burner, 12.7mm Ultrabatray Enhanced, removable</td>
<td>One bay for removable devices, Ultrabatray Slim-compatible, 12.7mm high, bottom access</td>
<td>None</td>
</tr>
<tr>
<td>Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5” wide, 7mm high</td>
<td>Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5” wide, 7mm high, Active Protection System™</td>
<td>None</td>
</tr>
<tr>
<td>All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Widescreen display

<table>
<thead>
<tr>
<th>Widescreen display</th>
<th>Camera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some: 14.0” (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio</td>
<td>HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus</td>
</tr>
</tbody>
</table>

### Graphics

<table>
<thead>
<tr>
<th>Graphics</th>
<th>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)</th>
</tr>
</thead>
</table>

### Keyboards

<table>
<thead>
<tr>
<th>Keyboard</th>
<th>TrackPoint® pointing device, “Press-to-Select,” Internet Scroll Bar™, magnifying glass</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight</td>
<td>UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch</td>
</tr>
<tr>
<td>Illuminates the keyboard to improve visibility in low-light conditions</td>
<td></td>
</tr>
</tbody>
</table>

### Dimensions

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Case material</th>
<th>Battery - type</th>
<th>Battery - life</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.0&quot;W (WxDxH): 13.4” x 9.13” x 1.17–1.18”; 340.5mm x 232.0mm x 29.8–29.9mm</td>
<td>Carbon-fiber / Glass-fiber hybrid; Carbon-fiber Reinforced Plastic</td>
<td>Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication</td>
<td>6-cell (57Whr): up to 16.2 hr; 9-cell (94Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr, 0A36304): up to 32.5 hr</td>
</tr>
</tbody>
</table>

### Chipsets

<table>
<thead>
<tr>
<th>Chipset</th>
<th>ExpressCard</th>
<th>Smart Card read</th>
<th>Multicard reader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Intel QM77 Express Chipset</td>
<td>One slot (ExpressCard/34)</td>
<td>None</td>
<td>4-in-1 reader (MMC, SD, SDHC, SDXC)</td>
</tr>
</tbody>
</table>

### Ports

<table>
<thead>
<tr>
<th>PCIe Mini Card</th>
<th>PCIe WLAN®</th>
<th>PCI Express WWAN</th>
<th>SIM card</th>
<th>Modem</th>
<th>IEEE 1394</th>
<th>Bluetooth®</th>
<th>Ethernet</th>
<th>Intel AMT</th>
<th>Audio support</th>
<th>Security</th>
<th>Security chip</th>
<th>Fingerprint reader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two PCI Express Mini Card slots</td>
<td>11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2</td>
<td>Wireless WAN upgradable</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIex 1</td>
<td>Intel Active Management Technology (IAMP)</td>
<td>HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack</td>
<td>Power-on password, hard disk password, supervisor password, security keyhole</td>
<td>Trusted Platform Module, TCG 1.2-compliant</td>
<td>Authentec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip</td>
</tr>
</tbody>
</table>

### Limited warranty

- 3-years/1-yr battery - depot repair service / service upgrades available

---

![Lenovo Logo]

© Lenovo

(G-NZ4-9) October 2012
<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Backlit keyboard</th>
<th>PCle Mini Card</th>
<th>PCle Mini Card WWAN/sMATA</th>
<th>SIM card</th>
<th>Smart Card Reader</th>
<th>Finger print Reader</th>
<th>Battery cells</th>
<th>Intel vPro</th>
<th>Global (G)</th>
<th>Ann Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2347-GGG</td>
<td>i5-3520M</td>
<td>4GBx1</td>
<td>14.0” HD+ (1600x900)</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Finger</td>
<td>9 IAMT</td>
<td>Pro 64</td>
<td>06/12</td>
<td></td>
</tr>
<tr>
<td>2347-GGT</td>
<td>i5-3520M</td>
<td>4GBx1</td>
<td>14.0” HD+ (1600x900)</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Finger</td>
<td>9 IAMT</td>
<td>Pro 64</td>
<td>06/12</td>
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<td>2347-GGG</td>
<td>i5-3520M</td>
<td>4GBx1</td>
<td>14.0” HD+ (1600x900)</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Finger</td>
<td>9 IAMT</td>
<td>Pro 64</td>
<td>06/12</td>
<td></td>
</tr>
<tr>
<td>2347-G Bugs</td>
<td>i5-3520M</td>
<td>4GBx1</td>
<td>14.0” HD+ (1600x900)</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Finger</td>
<td>9 IAMT</td>
<td>Pro 64</td>
<td>06/12</td>
<td></td>
</tr>
<tr>
<td>2347-GGT</td>
<td>i5-3520M</td>
<td>4GBx1</td>
<td>14.0” HD+ (1600x900)</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Finger</td>
<td>9 IAMT</td>
<td>Pro 64</td>
<td>06/12</td>
<td></td>
</tr>
<tr>
<td>2347-GGG</td>
<td>i5-3520M</td>
<td>4GBx1</td>
<td>14.0” HD+ (1600x900)</td>
<td>None</td>
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<td>None</td>
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<td>None</td>
<td>Finger</td>
<td>9 IAMT</td>
<td>Pro 64</td>
<td>06/12</td>
<td></td>
</tr>
</tbody>
</table>

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

### Preloaded operating system
- Genuine Windows® 7
- Professional 64

### Ready to install applications (only some listed)
- Rescue and Recovery™
- Password Manager

### Preloaded applications (only some listed)
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage
- by SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded; purchase a product key to activate
- Norton® Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- Evernote
- Intel Small Business Advantage
- RapidBoot HDT Accelerator
- Symantec® VIP
- Windows Live™ Essentials
- CoreiWin®/DVD® (DVD:RW)
- Corei DualStream® Lenovo Edition (DVD:RW)
- Corei DVD MovieFactory® Lenovo Edition (DVD:RW)

---

### Dimensions

- **Weight:**
  - 14.0” (355mm) HD+ (1600x900) color: 200 nits, 16.9 aspect ratio, 300:1 contrast ratio
  - 14.0” HD (1366x768) color: 200 nits, 16.9 aspect ratio, 300:1 contrast ratio

### Battery type

- Lithium Ion 6-cell or 9-cell, optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.4 hr; 9-cell (94Whr): up to 15.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 31.6 hr

---

### Chipset

- Mobile Intel 775 Express Chipset

### ExpressCard

- One slot (ExpressCard/34)

### Smart Card read

- 4-in-1 reader (MMC, SDHC, SDXC)

### Ports

- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

### PCle Mini Card

- Two PCI Express Mini Card slots

### PCle WLAN

- Two PCI Express Mini Card slots

### PCle WWAN

- Two PCI Express Mini Card slots

### SIM card

- Some: User selectable, contract required with service provider

### Bluetooth

- None

### Ethernet

- Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1

### Power On Authentication

- Supports ThinkVantage technologies

---

**Limited warranty 3-years/1yr battery - depot repair service / service upgrades available**
**ThinkPad T430 2349 (Onsite)**

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk</th>
<th>SATA</th>
<th>Backlit key-board</th>
<th>PCle Card</th>
<th>PCle Mini Card WWAN/WWAN</th>
<th>SIM card</th>
<th>Smart Card Reader</th>
<th>Finger print reader</th>
<th>Battery Technology</th>
<th>Global (G)</th>
<th>Preload (mlyy)</th>
<th>Ann Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2349-HFG</td>
<td>i5-3220M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+ 720p</td>
<td>None</td>
<td>320G</td>
<td>7200</td>
<td>None</td>
<td>Intel</td>
<td>None</td>
<td>None</td>
<td>None</td>
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<td>None</td>
<td>P64</td>
<td>06/12</td>
<td></td>
</tr>
<tr>
<td>2349-HSG</td>
<td>i5-3220M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+ 720p</td>
<td>None</td>
<td>180G SSD</td>
<td>7200</td>
<td>None</td>
<td>Intel</td>
<td>Ericsson</td>
<td>Lenovo</td>
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<td>None</td>
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<td>06/12</td>
<td></td>
</tr>
<tr>
<td>2349-GFG</td>
<td>i7-3520M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+ 720p</td>
<td>None</td>
<td>500G</td>
<td>7200</td>
<td>None</td>
<td>Intel</td>
<td>Ericsson</td>
<td>Lenovo</td>
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<td>None</td>
<td>None</td>
<td>P64</td>
<td>06/12</td>
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<tr>
<td>2349-GDG</td>
<td>i5-3220M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+ 720p</td>
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<td>7200</td>
<td>None</td>
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<td>Ericsson</td>
<td>Lenovo</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>P64</td>
<td>06/12</td>
<td></td>
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<tr>
<td>2349-GAG</td>
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<td>4GBx1</td>
<td>14.0&quot; HD+ 720p</td>
<td>None</td>
<td>180G SSD</td>
<td>7200</td>
<td>None</td>
<td>Intel</td>
<td>Ericsson</td>
<td>Lenovo</td>
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<td>None</td>
<td>None</td>
<td>P64</td>
<td>06/12</td>
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<tr>
<td>2349-HNG</td>
<td>i5-3220M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+ 720p</td>
<td>None</td>
<td>500G</td>
<td>7200</td>
<td>None</td>
<td>Intel</td>
<td>Ericsson</td>
<td>Lenovo</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>P64</td>
<td>06/12</td>
<td></td>
</tr>
<tr>
<td>2349-LLG</td>
<td>i5-3220M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+ 720p</td>
<td>None</td>
<td>180G SSD</td>
<td>7200</td>
<td>None</td>
<td>Intel</td>
<td>Ericsson</td>
<td>Lenovo</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>P64</td>
<td>06/12</td>
<td></td>
</tr>
<tr>
<td>2349-LQG</td>
<td>i5-3220M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+ 720p</td>
<td>None</td>
<td>500G</td>
<td>7200</td>
<td>None</td>
<td>Intel</td>
<td>Ericsson</td>
<td>Lenovo</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>P64</td>
<td>06/12</td>
<td></td>
</tr>
</tbody>
</table>

**Positioning**

Premiere performance: two spindle Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology Intel Core i5-3210M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000, 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 3000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.00GHz), HT technology Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology

**Memory**

16GB max / PC3-12800 1600MHz DDR3, non-parity, dual channel capability, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Ultrabay SATA disk**

DVD burner, 12.7mm Ultrabay Enhanced, removable

One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access

Some: Solid State Drive (SSD) / SATA 6 Gb/s, wide, 7mm high

Some: Hard Drive Disk / SATA 3.0 Gb/s, 2.5" wide, 7mm high, Active Protection SystemTM

All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

**mSATA SSD**

None

**Widescreen display**

Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable);

Some: 14.0" (355mm) HD (1920x1080) color, anti-glare backlight, 250 nit, 16:9 aspect ratio, 300:1 contrast ratio

**Camera**

HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

Intel HD Graphics 3000 or 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);

supports dual independent display;

1920x1200@60Hz (single-link DVI-I via optional Mini DP cable);

2048x1536@75Hz (VGA)

**Keyboard TrackPoint®**

Touchpad

ThinkLight™

6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

TrackPoint® pointing device, “Press-to-Select,” Internet Scroll Bar®, magnifying glass

UltraThin® wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions²**

Weight³

Case material

Battery - type

Battery - life ¹⁰

14.0W² (WxDxH): 13.4" x 9.13" x 1.17"-1.18"; 340.5mm x 232.0mm x 29.8-29.9mm

6-cell: from 4.77 lb (2.17kg);

6-cell: from 5.13 lb (2.33kg)

Display cover: Carbon-fiber / Glass-fiber hybrid;

Bottom: Carbon-Fiber Reinforced Plastic

Lithium Ion 6-cell or 9-cell, supports optional Slide battery as 2nd battery, HW Authentication

6-cell (57Whr): up to 9.7 hr;

9-cell (94Whr): up to 16.2 hr;

9-cell plus 9-cell Slide battery (94Whr): up to 32.5 hr

**Chipset**

Mobile Intel QM77 Express Chipset

ExpressCard

One slot (ExpressCard/34)

Smart Card reader

Some: Smart Card reader

Multicard reader

4-in-1 reader (MMC, SD, SDHC, SDXC)

**PCle Mini Card**

Two PCI Express Mini Card slots

**PCle WLAN⁴**

11a/b/g/n, PCle Half Card Mini Card, Intel Centrino® Advanced-N 6205, 2x2

Some: Wireless W8N upgradable

**PCle WWAN⁵**

Some: Wireless W8N, Ericsson® H5231gw Mobile Broadband Module, PCle Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS

**SIM card**

Some: Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required

Use: User selectable, contract required with service provider

**Modern**

None

**IEEE 1394**

None

**Bluetooth™**

Wireless 4.0 wireless

**Ethernet**

Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1

**Audio support**

HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

**Security**

Power on password, supervisor password, supervisory password, security keyhole

**Security chip**

Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Limited warranty¹¹**

3-years/1-year battery, limited onsite service²³, 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

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See footnotes for more detailed information

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(G-N24) December 2013
ThinkPad T430 2349 (Onsite) - Windows 8

Product Specifications Reference (PSREF)

**Type-model** | **Processor** | **Memory** | **Screen size** | **Disk SATA** | **Backlit key-board** | **PCle Mini Card** | **PCle Mini Card WWAN/ mSATA** | **Finger print reader** | **Battery cells** | **Intel** | **Global (G) AMT** | **vPro** | **Preload** | **Ann Date**
---|---|---|---|---|---|---|---|---|---|---|---|---|---|---
2349-KDG | i5-3210M | 4GBx1 | 14.0" HD | 500G 7200 | Backlit Intel 6205a | None | Finger | None | No | No | Win7 Pro 64 10/12
2349-KCG | i5-3210M | 4GBx1 | 14.0" HD+ | 180G SSD | Backlit Intel 6205 | Ericsson | Lenovo | Finger | None | No | No | Win7 Pro 64 10/12
2349-JQG | i5-3210M | 4GBx1 | 14.0" HD | 500G 7200 | None | Intel 6205 WWAN upg | None | Finger | None | No | No | Win8 Pro 64 10/12
2349-JPG | i5-3320M | 4GBx1 | 14.0" HD+ | 180G SSD | Backlit Intel 6205 | Ericsson | Lenovo | Finger | None | No | No | Win8 Pro 64 10/12

*Some models are part of the Global Models Plus program with limited onsite service © 3-year limited warranty*

**Positioning Processor**

| Preime performance: two spinndies
| 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

**Memory**

- 16GB max / PC3-12800 1600MHz DDR3, non-parity,
- dual-channel capable, two 204-pin SO-DIMM sockets
- * System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Ultrabay**

- DVD burner, 12.7mm Ultrabay Enhanced, removable
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System®
- All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

**Widescreen display**

- Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio
- Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio

**Camera**

- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

- 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**

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- TrackPoint® pointing device, *Press-to-Select,* Internet Scroll Bar®, magnifying glass
- UltraNav®, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions® Weight®**

- 14.0W (WxD:H): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm
- 6-cell: from 4.77 lb (2.17kg); 9-cell: from 5.13 lb (2.33kg)
- Display cover: Carbon-fiber / Glass-fiber hybrid
- Bottom: Carbon-Fiber Reinforced Plastic

**Battery - type Battery - life®**

- Lithium Ion 6-cell or 9-cell, optional Support Slice battery as second battery, HW Authentication 6-cell (57Whr): up to 9.7 hr; 9-cell (94Whr): up to 16.2 hr; 9-cell plus 9-cell Slice battery (94Whr, 0A36304): up to 32.5 hr

**Chipset ExpressCard**

- Mobile Intel QM77 Express Chipset
- One slot (ExpressCard/34)
- None

**Smart Card read Multicard reader Ports**

- 4-in-1 reader (MMC, SD, SDHC, SDXC)
- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**PCle Mini Card PCle WLAN® PCle WWAN®**

- Two PCI Express Mini Card slots
- 11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2
- Some: Wireless WAN upgradable
- Some: Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GFS
- Some: Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required
- None

**SIM card Modern**

- None
- None
- None

**Ethernet Bluetooth® Audio support**

- Bluetooth 4.0 wireless
- IBM 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1
- Intel Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, microphone / microphone
- Security
- Power-on password, hard disk password, supervisor password, security keyhole
- Security chip
- Trusted Platform Module, TCG 1.2-compliant
- Security reader
- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator

**Limited warranty**

- 3-years/1-year battery, limited onsite service - 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

---

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See notes for more detailed information

Preloaded operating system®

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

Preloaded applications® (only some listed)

- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap™
- Adobe® Reader®
- Windows Live® Essentials
- Corel® WinDVD® (DVD:RW)
- Corel BurnNow® Lenovo Edition (DVD:RW)
- Corel DVD Factory Lenovo Edition (DVD:RW)

---

All models

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

### ThinkPad T430 2349 (Onsite) - Windows 8 - II

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Disk SATA GB</th>
<th>rpm</th>
<th>Backlit keyboard</th>
<th>PClé Mini Card</th>
<th>PClé Mini Card WWAN</th>
<th>mSATA</th>
<th>SIM card</th>
<th>Smart Card Reader</th>
<th>Finger print reader</th>
<th>Battery cells</th>
<th>Intel AMT</th>
<th>Intel vPro</th>
<th>Preload</th>
<th>Ann Date (mm/yyyy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2349-PHG</td>
<td>i5-3320M</td>
<td>4GBx1</td>
<td>14.0&quot; HD</td>
<td>500G</td>
<td>7200</td>
<td>Backlit</td>
<td>Intel 6205 upg</td>
<td>None</td>
<td>Smart</td>
<td>Finger 6</td>
<td>None</td>
<td>6</td>
<td>IAMT</td>
<td>vPro</td>
<td>Win7 Pro64</td>
<td>06/13</td>
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<td>Intel 6205 upg</td>
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<td>Finger 6</td>
<td>None</td>
<td>6</td>
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<td>vPro</td>
<td>Win8 Pro64</td>
<td>06/13</td>
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<tr>
<td>2349-N6G</td>
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<td>4GBx1</td>
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<td>500G</td>
<td>7200</td>
<td>Backlit</td>
<td>Intel 6205 upg</td>
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<td>Finger 6</td>
<td>None</td>
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<td>IAMT</td>
<td>vPro</td>
<td>Win8 Pro64</td>
<td>06/13</td>
<td></td>
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<tr>
<td>2349-Q5G</td>
<td>i5-3320M</td>
<td>4GBx1</td>
<td>14.0&quot; HD</td>
<td>500G</td>
<td>7200</td>
<td>Backlit</td>
<td>Intel 6205 upg</td>
<td>None</td>
<td>Smart</td>
<td>Finger 6</td>
<td>None</td>
<td>6</td>
<td>IAMT</td>
<td>vPro</td>
<td>Win8 Pro64</td>
<td>06/13</td>
<td></td>
</tr>
</tbody>
</table>

### Preloaded operating system

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

### Preloaded applications

- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader
  - Windows Live® Essentials
  - Corel® PremierePro® (DVD:RW)
- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go (DVD:RW)
  - Cyberlink PowerProducer (DVD:RW)
- All models
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - FingerPrint Software (fingerprint models)
  - Lenovo Cloud Storage by SugarSync
  - Microsoft® Office preloaded;
    - purchase a product key to activate
  - Norton™ Internet Security (30 days of virus definitions)

### Chipset

- **ExpressCard**: Mobile Intel QM77 Express Chipset
- **Smart Card read**: One slot (ExpressCard/34)
- **Multicard reader**: Smart Card reader
- **4-in-1 reader**: MMC, SD, SDHC, SDXC
- **Ports**: Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)
- **PClé Mini Card**: Two PCI Express Mini Card slots
- **PClé WWAN**: 11a/b/g/n, PClé Half Mini Card, Intel Centrino Advanced-N 6205, 2x2
- **Audio support**: HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack
- **Security**: Portkeys on password, hard disk password, security keyhole
- **Fingerprint reader**: Trusted Platform Module, TCG 1.2-compliant

### Limited warranty

- 3-years/1-year battery, limited onsite service
- 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

---

See footnotes for more detailed information © Lenovo (G-NZ4-12) August 2013
### ThinkPad T430 2349 (Optimus) - Onsite

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Screen Size</th>
<th>Display</th>
<th>Intel AMT</th>
<th>vPro</th>
<th>GPP</th>
<th>Preload</th>
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<tbody>
<tr>
<td>2349-H2G</td>
<td>i5-3210M</td>
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<tr>
<td>2349-G8G</td>
<td>i7-3520M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+</td>
<td>180G SSD</td>
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<tr>
<td>2349-G7G</td>
<td>i7-3520M</td>
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<td>14.0&quot; HD+</td>
<td>500G</td>
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<td>None</td>
<td>None</td>
<td>Pro 12</td>
</tr>
<tr>
<td>2349-G6G</td>
<td>i5-3320M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+</td>
<td>500G</td>
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<td>None</td>
<td>None</td>
<td>Pro 12</td>
</tr>
<tr>
<td>2349-G4G</td>
<td>i5-3320M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+</td>
<td>320G</td>
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<td>None</td>
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<td>Pro 12</td>
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<tr>
<td>2349-KMG</td>
<td>i7-3520M</td>
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<td>14.0&quot; HD+</td>
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<td>Pro 12</td>
</tr>
<tr>
<td>2349-LPG</td>
<td>i7-3520M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+</td>
<td>500G</td>
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<td>None</td>
<td>None</td>
<td>Pro 12</td>
</tr>
<tr>
<td>2349-LMG</td>
<td>i5-2520M</td>
<td>4GBx1</td>
<td>14.0&quot; HD+</td>
<td>500G</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Pro 12</td>
</tr>
</tbody>
</table>

**Preloaded operating system:** Genuine Windows® 7 Professional 64

**Ready to install applications:** (only some listed)
- Rescue and Recovery™
- Password Manager

**Preloaded applications:** (only some listed)
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage
- bySugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded:
  - purchase a product key to activate
  - Norton® Internet Security 2012
  - Adobe® Reader®
  - Skype® for Windows
  - Evernote®
  - Intel Small Business Advantage
  - RapidBud® MIO Accelerator
  - Symantec® VIP
- Windows Live™ Essentials
- Corel® WinDVD® (DVB:RW)

### Product Specifications Reference (PSREF)

**Battery - life10**

- **Dimensions3**
  - 11.9" (W:297mm) x 8.0" (D:205mm) x 0.5" (H:12.5mm)

**Camera**

- **Chipset**
  - Mobile Intel® QM77 Express Chipset

**Display cover:**

- 6-cell: from 5.13 lb (2.33kg)
- 9-cell: from 6.56 lb (2.96kg)

**Keyboard**

- 6-row, 84-key, TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar®, magnifying glass, UltraNav®, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

**Optical Ultrabay**

- DVD burner, 12.7mm

**Programmable Function keys**

- Some:
  - power-on password, hard disk password, supervisor password, security keyhole

**Power On Authentication**

- Supports the security chip

- 3-years

- 9-cell (94Whr):
  - Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication
  - IBM T430

**Security**

- Power-on password, hard disk password, supervisor password, security keyhole

**Security chip**

- Trusted Platform Module, TCG 1.2-compliant

### Limited warranty11

- 3-years/1-year battery, limited onsite service14:
  - 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays.
  - Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

---

See footnotes for more detailed information

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(G-NZ4-6) August 2013
### ThinkPad T430 2349 (Optimus) - Onsite (Windows 8)

**Product Specifications Reference (PSREF)**

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display memory</th>
<th>Discrete graphics memory</th>
<th>Disk</th>
<th>Backlit key-board</th>
<th>PCIe Mini Card</th>
<th>PCIe Mini Card WAN/WWAN</th>
<th>SIM card</th>
<th>Smart Card Reader</th>
<th>Fingerprint reader</th>
<th>Battery cells</th>
<th>Intel AMT</th>
<th>Preload</th>
<th>Ann Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2349-KBG</td>
<td>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 (3.20GHz), HT technology</td>
<td>4GBx1 14.0&quot; HD+ 1GB 500G 7200</td>
<td>Backlit</td>
<td>Ericsson</td>
<td>Lenovo</td>
<td>Smart</td>
<td>Finger</td>
<td>None</td>
<td>None</td>
<td>6</td>
<td>No</td>
<td>Win7 Pro64</td>
<td>10/12</td>
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<td>2349-KAG</td>
<td>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 (3.20GHz), HT technology</td>
<td>4GBx1 14.0&quot; HD+ 1GB 500G 7200</td>
<td>Backlit</td>
<td>Ericsson</td>
<td>Lenovo</td>
<td>Smart</td>
<td>Finger</td>
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<td>None</td>
<td>6</td>
<td>No</td>
<td>Win8 Pro64</td>
<td>10/12</td>
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<td>2349-JGG</td>
<td>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 (3.20GHz), HT technology</td>
<td>4GBx1 14.0&quot; HD+ 1GB 500G 7200</td>
<td>Backlit</td>
<td>Ericsson</td>
<td>Lenovo</td>
<td>Smart</td>
<td>Finger</td>
<td>None</td>
<td>None</td>
<td>6</td>
<td>No</td>
<td>Win8 Pro64</td>
<td>03/13</td>
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<tr>
<td>2349-NAG</td>
<td>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 (3.20GHz), HT technology</td>
<td>4GBx1 14.0&quot; HD+ 1GB 500G 7200</td>
<td>Backlit</td>
<td>Ericsson</td>
<td>Lenovo</td>
<td>Smart</td>
<td>Finger</td>
<td>None</td>
<td>None</td>
<td>6</td>
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<td>Win7 Pro64</td>
<td>10/12</td>
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<td>2349-PWG</td>
<td>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 (3.20GHz), HT technology</td>
<td>4GBx1 14.0&quot; HD+ 1GB 500G 7200</td>
<td>Backlit</td>
<td>Ericsson</td>
<td>Lenovo</td>
<td>Smart</td>
<td>Finger</td>
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<td>6</td>
<td>No</td>
<td>Win7 Pro64</td>
<td>06/13</td>
<td></td>
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</table>

### Preloaded operating system
- Some: Windows® 7 Professional 64 preinstalled through Windows 8 Pro 64-bit
- Some: Windows 8 Pro 64-bit

### Preloaded applications
- Only some listed
- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD:RW)
  - Corel® DVD MovieFactory® Lenovo Edition (DVD:RW)
- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink PowerGo2Go (DVD:RW)
  - Cyberlink PowerProducer (DVD:RW)
  - All models
    - Lenovo Solution Center
    - Password Manager
    - ThinkVantage System Update
    - Fingerprint Software (fingerprint models)
    - Lenovo Cloud Storage by SugarSync
    - Microsoft® Office preloaded; purchase a product key to activate
    - Norton® Internet Security (30 days of virus definitions)

### Chipset
- Mobile Intel® QM77 Express Chipset
- ExpressCard
- One slot (ExpressCard/34)
- Smart Card read
- 4-in-1 reader (MMC, SD, SDHC, SDXC)
- Multicard reader
- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

### PCle Mini Card
- Two PCI Express Mini Card slots
- 11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2
- Wireless WAN, Ericsson® HS321gw Mobile Broadband Module, PCle Half Mini Card, GoodRAM® M2PHMA/HSPA+, GPPS, A-GPS
- SIM card
- Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required
- User selectable, contract required with service provider

### Modern
- None
- IEEE 1394
- Bluetooth™
- Bluetooth 4.0 wireless

### Ethernet
- Intel 82597LM Gigabit Network Connection (Lewisville), PHY, PCle x1
- Intel AMT
- Some: Intel Active Management Technology (iAMT)
- Audio support
- HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack
- Security
- Power-on password, hard disk password, supervisor password, security keyhole
- Security chip
- Trusted Platform Module, TCG 1.2-compliant
- Fingerprint reader
- Authorize/Secure fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

### Limited warranty
- 3-years/1-year battery, limited onsite service*: 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

See footnotes for more detailed information © Lenovo (G-NZ4-11) August 2013

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

**Footnotes:**
1. Preload
2. Limited warranty
3. Fingerprint reader
4. Security chip
5. Audio support
6. Ethernet
7. IEEE 1394
8. Modem
9. PCIe WWAN
10. Battery - type
11. Weight
12. Positioning
13. Power On Authentication
14. Fingerprint Software (fingerprint
models)
15. Memory
16. Processor
17. Display cover
18. HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus
19. HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack
20. Security
21. Security chip
22. Fingerprint reader
23. Limited warranty
24. 3-years/1-year battery, limited onsite service*
ThinkPad T430i 2344 (TopSeller)

Product Specifications Reference (PSREF)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk</th>
<th>SATA</th>
<th>GB</th>
<th>rpm</th>
<th>Backlit</th>
<th>keyboard</th>
<th>PCIE Mini Card</th>
<th>WLAN</th>
<th>PCIE Mini Card</th>
<th>WWAN/mSATA</th>
<th>Finger print reader</th>
<th>Bluetooth</th>
<th>Battery cells</th>
<th>Intel vPro</th>
<th>Preload</th>
<th>Ann Date</th>
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<tbody>
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<td>2344-4UG</td>
<td>i3-2370M</td>
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</table>

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

Positioning
Processor
Intel® Core™ i3-2370M processor (2 cores, 2.40GHz, 3MB cache). Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology

Memory
16GB max (16GB max): PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
* System automatically clocks down for processors with 1333MHz DDR3 memory controller

Optical
Ultrabay
SATA disk
mSATA SSD

Wide-screen display
Optional

Camera
UltraSharp

Graphics
Intel HD Graphics 3000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

Keyboard
6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

TrackPoint

Touchpad
ThinkPad

Dimensions
14.0"W (WxDxH): 13.4" x 9.13" x 1.17–1.18"; 340.5mm x 232.0mm x 29.8–29.9mm

Battery - type
Lithium-Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, Shock Mounted Hard Drive

Battery - life
Maximum internal resolution:

Chipset
Mobile Intel QM77 Express Chipset

ExpressCard
One slot (ExpressCard/34)

Smart Card read
4-in-1 reader (MMC, SD, SDHC, SDXC)

Multicard reader Ports
Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

PCIE Mini Card
Two PCI Express Mini Card slots

PCIE WLAN
11b/g/n, PCIE Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2

PCIE WWAN
Wireless WAN upgradable

SIM card
None

Modern
None

IEEE 1394
None

Bluetooth®
Bluetooth 4.0 wireless

Ethernet
Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIE x1

Intel AMT
None

Audio support
HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

Security

Security chip
Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader
Authentic fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

Limited warranty
3-years/1-yr battery - depot repair service / service upgrades available

Preloaded operating system
Genuine Windows® 7 Professional 64

Ready to install applications
(only some listed)
- Rescue and Recovery™
- Password Manager

Preloaded applications
(only some listed)
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- Access Connections™
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage by SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded: purchase a product key to activate
- Norton™ Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- Evernote®
- Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec™ VIP
- Windows Live™ Essentials
- Corel® WinDVD® (DVD±RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD±RW)

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

See footnotes for more detailed information
© Lenovo
(G-NZ4i-1) June 2012
ThinkPad T430i 2344 (TopSeller) - Windows 8

Product Specifications Reference (PSREF)

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<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk</th>
<th>SATA</th>
<th>Backlit keyboard</th>
<th>PCIe Mini Card</th>
<th>PCIe Mini Card WWAN/ mSATA</th>
<th>Finger print reader</th>
<th>Battery cells</th>
<th>Intel vPro</th>
<th>Preload</th>
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</tr>
</tbody>
</table>

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

Positioning

Processor
Premiere performance: two spindles, Intel® Core™ i3-3110M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology

Intel Core i3-3120M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology

Memory
16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channelable, two 204-pin SO-DIMM sockets

System automatically clocks down for processors with 1333MHz DDR3 memory controller

Optical Ultrabay

SATA disk
DVD burner, 12.7mm Ultrabay Enhanced, removable

One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access

Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high

Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™

All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

mSATA™ SSD
None

Widescreen display
Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16.9 aspect ratio, 300:1 contrast ratio

Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16.9 aspect ratio, 300:1 contrast ratio

Camera
HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

Graphics
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
6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

Touchpad
Up to 9 touchpoints below keyboard, Tap Zones, scrolling, multi-touch

ThinkLight™
Illuminates the keyboard to improve visibility in low-light conditions

Dimensions³

Weight³

Case material

Display cover
Carbon-fiber / Glass-fiber hybrid;

Bottom: Carbon-Fiber Reinforced Plastic

Battery - type
Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication

Battery - life¹⁰
6-cell (57Whr): up to 9.7 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 32.5 hr

Chipset
Mobile Intel QM77 Express Chipset

ExpressCard
One slot (ExpressCard/34)

Smart Card reader
None

Multicard reader
4-in-1 reader (MMC, SD, SDHC, SDXC)

Ports
Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

PCIe Mini Card
Two PCI Express Mini Card slots

PCIe WLAN⁴
One slot (ExpressCard/34)

PCIe WWAN
Wireless WAN upgradable

SIM card
None

Modem
None

IEEE 1394
None

Bluetooth™
Bluetooth 4.0 wireless

Ethernet
Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1

Intel AMT
None

Audio support
HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

Security
Power-on password, hard disk password, supervisor password, security keyhole

Security chip
Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader
Some: AuthenTech fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

Limited warranty¹²
3-years/1-yr battery - depot repair service / service upgrades¹² available

Preloaded operating system¹²

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

Preloaded applications⁶ (only some listed)

- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
- Cyberlink Power2Go® (DVD:RW)
- Cyberlink PowerProducer (DVD:RW)

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

Supports ThinkVantage™ technologies

- 65-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service¹⁷ 24 hour x 7 day¹⁷ toll-free support during the warranty period¹⁷

See footnotes for more detailed information © Lenovo

(G-NZ4i-2) June 2013
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• A depot repair service 3-year limited warranty

Positioning

Premiere performance and ultraportability; two spindle grinders

Memory

16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, 2 204-pin SO-DIMM sockets.

Optical

DVD burner, 9.5mm Ultrabay slim, removable

Bay battery

One modular bay for interchangeable devices (right side), 9.5mm high, bottom access

SATA disk

Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, Active Protection System

All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

mSATA SSD

None

Wide-screen display

Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 30:1 contrast ratio

Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 30:1 contrast ratio

Camera

Some: 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); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

Keyboard

6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

Touchpad

ThinkLight

Touchpad pointing device, "Press-to-Select," Internet Scroll Bar, magnifying glass

UltralNav, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

Illuminates the keyboard to improve visibility in low-light conditions

Dimensions

14.0W (WxHxD): 13.5" x 9.05" x 0.83" - 1.02"; 343mm x 230mm x 21.2 - 26.0mm

Weight

6-cell: from 3.96 lb (1.79kg)

Case material

Display cover: Hybrid Carbon-fiber reinforced plastic;

Bottom: Magnesium alloy

Battery - life

Lithium Ion 6-cell, supports optional Ultrabay Slim battery as second battery, HW authentication

Battery - life

6-cell (43.2Whr) up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr) up to 13.2 hr

Chipset

Mobile Intel QM77 Express Chipset

ExpressCard

One slot (ExpressCard/34)

ExpressCard

Smart Card Reader

None

Multicard Reader

4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter

Ports

Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort (Mini DP / Thunderbolt combo port on 17" integrated model, switch via BIOS)

PCle Mini Card

Two PCI Express Mini Card slots

PCle WLN

11a/b/g/n, PCle Half Mini Card, Intel Centrino Advanced-N 6205, 2x2

PCle WWAN

None

SIM card

None

Modem

None

IEEE 1394

None

Bluetooth

Bluetooth 4.0 wireless

Ethernet

Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1

Intel AMT

Intel Active Management Technology (IAMT)

Audio support

HD Audio, Realtek® ALC2920 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

Security

Power-on password, hard disk password, supervisor password, security keyhole

Security chip

Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader

AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator

Power On Authentication, supports the security chip

Limited warranty

3-years 1/yr battery - depot repair service / service upgrades available

Preloaded system

Genuine Windows 7 Professional 64

Ready to install applications

• Rescue and Recovery™
• Password Manager

Preloaded applications

• Lenovo® Solution Center
• Lenovo Message Center Plus
• ThinkVantage Product Recovery
• Access Connections™
• FingerPrint Software (fingerprint models)
• ThinkVantage System Update
• ThinkVantage Power Manager
• Lenovo Cloud Storage by SugarSync
• Lenovo Simple Tap
• Microsoft® Office pre-loaded; purchase a product key to activate
• Norton™ Internet Security 2012 (30 days of virus definitions)
• Adobe® Reader®
• Skype™ for Windows
• Evernote®
• Intel Small Business Advantage
• RapidBoot HDD Accelerator
• Symantec™ VIP
• Windows Live™ Essentials
• Corel® WinDVD® (DVD:RW)
• Corel® Burn Now® Lenovo Edition (DVD:RW)
• Corel® DVD MovieFactory® Lenovo Edition (DVD:RW)

Supports ThinkVantage technologies

65-watt AC adapter

ThinkPad Roll Cage (one-piece magnesium frame)

EPEAT™ Silver rating

ENERGY STAR® 5.0-compliant

GREENGUARD® certified

RoHS-compliant

International Warranty Service during the warranty period

See footnotes for more detailed information

© Lenovo (G-SN4-1) November 2012
Positoning
Processor
Premiere performance and ultra portability; two spindles

Intel® Core™ i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology

Memory
16GB max† / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

* System automatically clocks down for processors with 1333MHz DDR3 memory controller

Optical Bay battery
DVD burner, 9.5mm Ultraday slim, removable

Ultrabay SATA disk
One modular bay for interchangeable devices (right side), 9.5mm high, bottom access

Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high

Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™

All: removable, upgradeable, supports the second disk, Shock Mounted Hard Drive

Display

Widescreen display
Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio

Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio

Camera
HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

Graphics

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);
2048x1366@75Hz (VGA)

Keyboard
6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

TrackPoint™ pointing device, “Press-to-Select,” Internet Scroll Bar™, magnifying glass

ThinkLight™ illuminates the keyboard to improve visibility in low-light conditions

Dimensions
14.0W“ (WxDxH): 13.5" x 9.05" x 0.83–1.02"; 343mm x 230mm x 21.2–26.0mm

343mm x 230mm x 21.2–26.0mm

Weight
6-cell: from 3.96 lb (1.79kg)

Case material
Display cover: Hybrid Carbon-fiber reinforced plastic;
Bottom: Magnesium alloy

Battery - type
Lithium Ion 6-cell; supports optional Ultraday battery as 2nd battery, HW authentication

Battery - life
6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Bay battery (31.3Whr, 0A36310): up to 13.2 hr

Chipset

ExpressCard
One slot (ExpressCard/34)

Smart Card Reader
None

Multicard Reader
4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter

Ports
Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort (Mini DP / Thunderbolt™ combo port on i7 integrated model, switch via BIOS)

Power Management

PCle Mini Card
Two PCI Express Mini Card slots

PCle WLAN6
11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

PCle WWAN
Wireless WAN upgradable

SIM card
None

Modern
None

IEEE 1394
None

Bluetooth™
Bluetooth 4.0 wireless

Ethernet
Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1

Intel AMT
Intel Active Management Technology (IATM)

Audio support
HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 /
volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

Security
Power-on password, hard disk password, supervisor password, security keyhole

Security chip
Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader
AuthenticTec fingerprint reader on palm rest, swipe sensor, LED indicator

Limited warranty
5-years/1-yr battery - depot repair service / service upgrades available

Preloaded operating system
- Windows® 8 Pro 64-bit

Preloaded applications
- Windows 7 applications
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD:/RW)
  - Corel DVD MovieFactory™ Lenovo Edition (DVD:/RW)

- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go (DVD:/RW)
  - Cyberlink PowerProducer (DVD:/RW)

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

Supports ThinkVantage® technologies
- 65-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)

EPEAT® Silver rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service
  - 24 hour x 7 day toll-free support during the warranty period

See footnotes for more detailed information

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(G-6N4-S) November 2012
### ThinkPad T430s 2355 (Optimus)

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<th>Memory</th>
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<th>Camera</th>
<th>Disk</th>
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<td>BT</td>
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<td>Pro</td>
<td>64</td>
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</table>

- **Preloaded operating system**: Genuine Windows 7 Professional 64

- **Ready to install applications**: (only some listed)
  - Rescue and Recovery™
  - Password Manager

- **Preloaded applications**: (only some listed)
  - Lenovo Solution Center
  - Lenovo Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections
  - FingerPrint Software (fingerprint models)
  - ThinkVantage System Update
  - ThinkVantage Power Manager
  - Lenovo Cloud Storage
  - Microsoft Office preloaded:
    - Norton™ Internet Security 2012 (30 days of virus definitions)
  - Adobe® Reader
  - Skype® for Windows
  - Evernote®
  - Intel Small Business Advantage
  - RapidBoot HDD Accelerator
  - Symantec® VIP
  - Windows Live™ Essentials
  - Corel® WinDVD® (Dvd:RW)
  - Corel Burn:Now™ Lenovo Edition (Dvd:RW)
  - Corel DVD MovieFactory® Lenovo Edition (Dvd:RW)

### Positioning

- Processor: *Premiere performance and upgradability; two spindles* Intel® Core™ i5-3320M 2 cores, 2.60GHz, 3MB cache, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.0GHz), HT technology

### Memory

- 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

- System automatically clocks down for processors with 1333MHz DDR3 memory controller

### Optical Bay battery

- DVD burner, 9.5mm Ultrabay slim, removable

### Widescreen display

- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high

### Camera

- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

### Graphics

- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA NVS™ 5200M, PCI Express™ x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort or Thunderbolt (8 integrated models); supports three independent displays; maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)

### Chipset

- Mobile Intel QM77 Express Chipset

### Ready to install applications**: (only some listed)

- Rescue and Recovery™
- Password Manager

### Preloaded applications**: (only some listed)

- Lenovo Solution Center
- Lenovo Message Center Plus
- Access Connections
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage
- Microsoft Office preloaded:
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- Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec® VIP
- Windows Live™ Essentials
- Corel® WinDVD® (Dvd:RW)
- Corel Burn:Now™ Lenovo Edition (Dvd:RW)
- Corel DVD MovieFactory® Lenovo Edition (Dvd:RW)

### Chipset

- Mobile Intel QM77 Express Chipset

### ExpressCard

- One slot (ExpressCard/34)

### Multicard Reader

- 4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter

### PCle Mini Card Ports

- Two PCI Express Mini Card slots

### PCle WLAN®

- Two PCI Express Mini Card slots

### SIM card

- None

### Bluetooth®

- Bluetooth 4.0 wireless

### Security

- Power-on password, hard disk password, supervisor password, security keyhole

### International Warranty Service

- 24 hour x 7 day toll-free support during the warranty period

See footnotes for more detailed information

© Lenovo

(G-SNA-2) November 2012
**ThinkPad T430s 2355 (Optimus) - Windows 8**

### Preload Applications

- Windows 7 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD+/-RW)
- Corel DVD MovieFactory
- Cyberlink PowerProducer (DVD+/-RW)
- All models
- Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD+/-RW)
- Cyberlink PowerProducer (DVD+/-RW)
- All models
- Lenovo Selection Center
- Password Manager
- ThinkVantage System Update
- FingerPrint Software (fingerPrint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft Office preloaded; purchase a product key to activate
- Norton Internet Security (30 days of virus definitions)

### Preloaded Operating System

- Windows 8 Pro 64-bit

### Product Specifications Reference (PSREF)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk</th>
<th>Satta GB rpm</th>
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### Note

* System automatically clocks down for processors with 1333MHz DDR3 memory controller

### Limited Warranty

- 3-years 1-yr battery - depot repair service / service upgrades available

### Positioning

- Thinkpad 2355 (Optimus)
- Windows 7 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD+/-RW)
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- All models
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### Preloaded operating system

- Windows 8 Pro 64-bit

### Preloaded applications

- Windows 7 models
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### Limited warranty

- 3-years 1-yr battery - depot repair service / service upgrades available

### See footnotes for more detailed information
Type-model | Processor | Memory | Wide-screen display | Camera | Disk | Optical or battery | Backlit key-board | PCie Mini Card WWAN/ mSATA | SIM card | Smart Card Reader | Finger print reader | Adapter Intel vPro | Global (G) GMP (P) | Ann Date | Preloadable (load) |
---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
2356-HCG | i5-3720M | 4GBx1 | 14.0” HD | 720p | 500G | 7200 | DVD:RW | None | upg | None | None | Finger | 65W | vPro | G | P | Pro 64 | 06/12 |
2356-HGB | i5-3720M | 4GBx1 | 14.0” HD+ | 720p | 320G | 7200 | DVD:RW | None | upg | None | None | Finger | 65W | vPro | G | P | Pro 64 | 06/12 |
2356-HAG | i5-3720M | 4GBx1 | 14.0” HD+ | 720p | 180G SSD | DVD:RW | None | upg | None | None | Finger | 65W | vPro | G | P | Pro 64 | 06/12 |
2356-GUG | i5-3720M | 4GBx1 | 14.0” HD+ | 720p | 320G | 7200 | DVD:RW | None | upg | None | None | Finger | 65W | vPro | G | P | Pro 64 | 06/12 |
2356-GTG | i5-3720M | 4GBx1 | 14.0” HD+ | None | 320G | 7200 | DVD:RW | None | upg | None | None | Finger | 65W | vPro | G | P | Pro 64 | 06/12 |
2356-GRG | i5-3720M | 4GBx1 | 14.0” HD+ | 720p | 128G SSD | DVD:RW | None | upg | None | None | Finger | 65W | vPro | G | P | Pro 64 | 06/12 |
2356-GPG | i5-3720M | 4GBx1 | 14.0” HD+ | 720p | 320G | 7200 | DVD:RW | Backlit | Ericsson selectable | Smart | Finger | 65W | vPro | G | P | Pro 64 | 06/12 |
2356-GTG | i5-3720M | 4GBx1 | 14.0” HD+ | 720p | 500G | 7200 | DVD:RW | None | upg | None | None | Finger | 65W | vPro | G | P | Pro 64 | 06/12 |
2356-GGB | i5-3720M | 4GBx1 | 14.0” HD+ | 720p | 180G SSD | Blank bezel | None | upg | None | Ericsson selectable | Smart | Finger | 65W | vPro | G | P | Pro 64 | 06/12 |
2356-GBG | i5-3720M | 4GBx1 | 14.0” HD+ | 720p | 128G SSD | DVD:RW | None | upg | None | Ericsson selectable | Smart | Finger | 65W | vPro | G | P | Pro 64 | 07/12 |
2356-GBG | i5-3720M | 4GBx1 | 14.0” HD+ | 720p | 128G SSD | DVD:RW | None | upg | None | Ericsson selectable | Smart | Finger | 65W | vPro | G | P | Pro 64 | 07/12 |

Positioning Processor Premiere performance and ultraportability; two spindles Intel Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology, Intel DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology

Memory 16GB max, / PCi-1280, 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

Optical Bay battery Ultrabay

SATA disk

mSATA™ SSD

Widescreen display

Camera

Graphics Intel HD Graphics 4000, 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™

Dimensions

Weight

Case material

Battery - type

Battery - life

Chipsset ExpressCard

Smart Card Reader

Multicard Reader Ports

Pcie Mini Card

Pcie WLAN

Pcie WWAN

SIM card

Modem

IEEE 1394

Bluetooth™

Intel AMT

Audio support

Security

Security chip

Fingerprint reader

Limited warranty

See footnotes for more detailed information © Lenovo (G-SN4-3) August 2013
**ThinkPad T430s 2356 (Onsite) - Windows 8**

Product Specifications Reference (PSREF)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
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- Preloading system - Some: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
- Preloading applications (only some listed)
- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader®
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
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- All models
- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- FingerPrint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded: purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

- Some models are part of the Global Models Plus program with limited onsite service§ - 3-year limited warranty

- Positioning: Processor: 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 (3.0GHz) H.T. 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
- Power On Authentication, supports the security chip
- Some: 16GB max / PC3-12800 1600MHz DDR3, non-parity, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology
- Intel HD Graphics 4000, i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000
- **Some:** Intel HD Graphics 4000
- Intel Premiere performance and ultraportability; two spindles:
- 65-watt AC adapter
- Fingerprint Software (fingerprint readers)
- Lenovo Solution Center
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- CyberLink Power2Go (DVD:RW)
- CyberLink PowerProducer (DVD:RW)
- All models
- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- FingerPrint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded: purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

- See footnotes for more detailed information 

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**ThinkPad T430s 2356 (Optimus) - Onsite**

**Product Specifications Reference (PSREF)**

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Widescreen display</th>
<th>Camera</th>
<th>Disk SATA</th>
<th>Gbps</th>
<th>Backlit keyboard</th>
<th>PCle Mini Card</th>
<th>PCle Mini Card</th>
<th>Finger print reader cells</th>
<th>Battery life</th>
<th>Global (G) Preload (mm/ly)</th>
<th>Ann Date</th>
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<tbody>
<tr>
<td>2356-H9G</td>
<td>i5-3320M</td>
<td>4GBx2</td>
<td>14.0” HD+ 720p</td>
<td>180G SSD</td>
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<td>Intel 6205</td>
<td>WWAN upg</td>
<td>None</td>
<td>Finger</td>
<td>6 vPro</td>
<td>G P</td>
<td>Pro 64</td>
<td>06/12</td>
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<td>Pro 64</td>
<td>06/12</td>
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<td>6 vPro</td>
<td>Pro 64</td>
<td>07/12</td>
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</tbody>
</table>

- **Some models are part of the Global Models Plus program with limited onsite service**
- **3-year limited warranty**

**Positioning Processor**  
Premiere performance and ultra-portability; two spindles  
*Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3-20GHz), HT technology*

**Memory**  
16GB max/  PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
* System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Bay battery**  
DVD burner, 9.5mm Ultrabay slim, removable
None

**Widescreen display**  
Some: 14.0” (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio
Some: 14.0” (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio

**Camera**  
HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**  
NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics,  
*Intel HD Graphics 4000 in processor, and NVIDIA NVS™ 5200M, PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort or Thunderbolt® (7 integrated models); supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)*

**Keyboard**  
6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

**Trackpoint Touchpad**  
ThinkPoint™ pointing device, “Press-to-Select,” Internet Scroll Bar™, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

**Dimensions**  
14.0W” (WxDxH): 13.5” x 9.05” x 0.83”-1.02”; 343mm x 230mm x 21.26-22.0mm

**Weight**  
6-cell: from 3.96 lb (1.79kg)

**Battery - type**  
Lithium Ion 6-cell, supports optional Ultrabay Slim battery as 2nd battery, HW authentication

**Chipset ExpressCard**  
Mobile Intel QM77 Express Chipset

**Smart Card Reader Ports**  
4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter

**PCle Mini Card**  
Two PCI Express Mini Card slots

**PCle WIFI**  
11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

**SIM card**  
Some: Wireless WAN upgradable
Some: Wireless WAN, Ericsson® HS321gw Mobile Broadband Module, PCle Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS

**Security**  
Power-on-password, hard disk password, supervisor password, secure keyhole

**Fingerprint reader**  
AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Limited warranty**  
3-years/1-year battery, **limited onsite service**®, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

See footnotes for more detailed information

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Supports ThinkVantage® technologies

90-watt AC adapter

ThinkPad Roll Cage (one-piece magnesium frame)

EPEAT® Silver rating

ENERGY STAR® 5.0-compliant

GREENGUARD® certified

RoHS-compliant

International Warranty Service®  
24 hour x 7 day® toll-free support during the warranty period®

Ready to install applications® (only some listed)
- Rescue and Recovery™
- Password Manager

Preloaded applications® (only some listed)
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections®
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage

Evernote®

Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec® VIP
- Windows Live™ Essentials

Core® WinDVD® (DVD:RW)

Core® Burn.Now™ Lenovo Edition (DVD:RW)

Core® DVD MovieFactory® Lenovo Edition (DVD:RW)

Adobe® Reader®

Skype® for Windows

Evernote®

Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec® VIP
- Windows Live™ Essentials

Core® WinDVD® (DVD:RW)

Core® Burn.Now™ Lenovo Edition (DVD:RW)

Core® DVD MovieFactory® Lenovo Edition (DVD:RW)
## ThinkPad T430s 2356 (Optimus) - Onsite (Windows 8)

### Preloaded operating system
- Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
- Windows 8 Pro 64-bit
- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader™
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD:RW)
  - Corel DVD MovieFactory® Lenovo Edition (DVD:RW)
- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go (DVD:RW)
  - Cyberlink PowerProducer (DVD:RW)
- All models
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - Fingerprint Software (fingerprint reader supported)
  - Lenovo Cloud Storage by SugarSync
  - Microsoft® Office preloaded; purchase a product key to activate
  - Norton™ Internet Security (30 days of virus definitions)

### Preloaded applications
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Cyberlink Power2Go (DVD:RW)
- Cyberlink PowerProducer (DVD:RW)

### Preloaded technologies
- 90-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)
- EPEAT™ Silver rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant

### International Warranty Service
- 3-years/1-year battery, limited onsite service®, 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

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### See footnotes for more detailed information

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<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Disk</th>
<th>Backlit keyboard</th>
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<th>PCIe Mini Card WWAN/ mSATA</th>
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<th>Battery cells</th>
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</tbody>
</table>

* Some models are part of the Global Models Plus program with limited onsite service® 3-year limited warranty

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**Positioning**

**Processor**

Preeminent performance and ultra-portability: two spindles Intel® Core™ i5-3520M 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

**Memory**

16GB max/ PC3-12800 1600MHz DDR3, non-parity, dual-channel system, two 20-pin SO-DIMM sockets

* System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Bay battery Ultrabay**

- DVD burner, 9.5mm UltraBay slim, removable
- None

**SATA disk**

- One modular bay for interchangeable devices (right side), 9.5mm high, bottom access
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™
- All: removable, upgradable, supports the second dock, Shock Mounted Hard Drive
- None

**Widescreen display**

- Some: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio
- Some: 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 300:1 contrast ratio

**Camera**

- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus
- None

**Graphics**

- NVIDIA® Optimus™-powerful, discrete graphics, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA® NVS® 5200M
- PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort or Thunderbolt (i7 integrated models)
- Supports three independent displays:
  - Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1080@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)

**Keyboard Touchpad**

- 6-row, 84-key, full-sized, multimedia Fn keys, optional LED backlight
- ThinkPad UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

**TrackPoint® ThinkLight™**

- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions³ Weight⁴**

- 14.0W" (WXDXH): 13.5" x 9.05" x 0.83--1.02"; 343mm x 230mm x 21.2--26.0mm
- 6-cell: from 3.96 lb (1.79kg)

**Battery type Battery - type Battery - life¹⁰**

- Lithium Ion 6-cell, supports optional UltraBay Slim battery as 2nd battery, HW authentication
- 6-cell (43.2Whr): up to 7.6 hr; 6-cell plus 3-cell Battery (31.5Whr, 0A36310): up to 13.2 hr

**Chipset ExpressCard Smart Card Reader**

- Mobile Intel QM77 Express Chipset
- One slot (ExpressCard/34)
- None

**Multicard Reader Ports**

- 4-in-1 reader (MMC, SD, SDHC, SDXC) via ExpressCard adapter
- Two USB 3.0, one powered USB 2.0, ethernet (RJ-45), VGA DB-15, Mini DisplayPort

**PCIe Mini Card**

- Two PCI Express Mini Card slots
- 11a/b/g/n, PCI Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2
- Wireless WAN upgradable
- Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS

**SIM card**

- User selectable, contract required with service provider
- None

**IEEE 1394**

- None

**Bluetooth™**

- Bluetooth 4.0 wireless

**Ethernet Intel AMT**

- Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1

**Audio support Audio support**

- HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack
- Security
  - Power-on password, hard disk password, supervisor password, security keyhole
  - Security chip
    - Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Limited warranty¹²**

- 3-years/1-year battery, limited onsite service®, 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

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See footnotes for more detailed information

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# ThinkPad T430u 8614 (TopSeller) - Windows 8

Product Specifications Reference (PSREF)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk</th>
<th>SATA GB rpm</th>
<th>PCIe Mini Card</th>
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<td>BT 3</td>
<td>Win7 Pro64</td>
<td>06/13</td>
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</table>

**Positioning**
- Mainstream Ultrabook™; one spindle
- **Small and medium business (SMB) model(s), part of the WE TopSeller™ Program**
- **A depot repair service 3-year limited warranty**

**Preloaded operating system**
- Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

**Preloaded applications**
- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader®
- Windows Live™ Essentials
- Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage

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

## Key Features

### Processor
Intel® Core™ i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology

### Memory
- 8GB max (up to 16GB max for certain special configuration models only) /
- PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

### Optical Sata disk
- None
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™

### mSATA™ SSD
- None

### Widescreen display
- 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio
- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

### Graphics
- Intel HD Graphics 4000 in processor, external digital monitor support via HDMI™ or Mini DisplayPort
- supports three independent displays;
- Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI) @ 60Hz

### Keyboard
- 6-row, spill-resistant, multimedia Fn keys
- UltraNav™, buttonless touchpad below keyboard, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

### Dimensions
- 14.6W” (WxDxH): 13.39” x 9.29” x 0.83”;
- 340mm x 236mm x 21mm

### Weight
- 3-cell: from 4.08 lb (1.85kg)

### Case material
- Display cover: Aluminum;
- Bottom: Glass-Fiber Reinforced Plastic

### Battery
- type: Integrated Li-Polymer 3-cell
- life: 3-cell (47Whr): up to 7.1 hr

### Chipset
- Mobile Intel UM77 Express Chipset

### ExpressCard
- None

### Smart Card reader
- None

### Multicard reader
- 4-in-1 reader (MMC, SD, SDHC, SDXC)

### Ports
- Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)

### Pcie Mini Card
- Two PCI Express Mini Card slots

### Pcie Wlan
- 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter

### Pcie Wwan
- Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCIe Half Mini Card, GPRS/WCDMA/HSPA/HSPA+, GPS

### Sim card
- User selectable, contract required with service provider

### Modern
- None

### IEEE 1394
- None

### Bluetooth™
- Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter

### Ethernet
- Realtek® RTL8111F Gigabit Network Connection

### Intel AMT
- None

### Audio support
- HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack

### Security
- Power-on password, hard disk password, supervisor password, security keyhole

### Security chip
- Trusted Platform Module, TCG 1.2-compliant

### Fingerprint reader
- Authentec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip

### Limited warranty
- 3-years 1-yr battery - depot repair service / service upgrades available
## ThinkPad T430u 8614 (Optimus) - TopSeller (Windows 8)

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

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

### Preloaded applications
- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader®
  - Windows Live™ Essentials
- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
- All models
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - Fingerprint Software (fingerprint models)
  - Lenovo Cloud Storage by SugarSync
  - Microsoft® Office preloaded; purchase a product key to activate
  - Norton™ Internet Security (30 days of virus definitions)

### Product Specifications Reference (PSREF)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA</th>
<th>PCIe Mini Card</th>
<th>PCIe Mini Card</th>
<th>Finger print reader</th>
<th>Bluetooth</th>
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<td>500G 7200</td>
<td>Intel 2230</td>
<td>24GB mSATA</td>
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<td>Win8 Pro64</td>
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<td>BT</td>
<td>3</td>
<td>Win7 Pro64</td>
<td>03/13</td>
</tr>
</tbody>
</table>

Limited warranty: 3-years/1-yr battery - depot repair service / service upgrades available

See footnotes for more detailed information

WE model(s) withdrawn effective January 2014

© Lenovo

(G-ABBA1-9) May 2014
**ThinkPad T430u 3353 (TopSeller) - Onsite**

### Product Specifications Reference (PSREF)

#### Type-model Processor Memory Wide-screen display Camera Disk SATA GB rpm PCIe Mini Card WLAN PCIe Mini Card WWAN/s mSATA SIM card Finger print reader Bluetooth Battery cells Preload Ann Date (mm/yy)
---
3353-38G i5-3317U 4GBx1 14.0" HD 720p 128G SSD Intel 2230 Ericsson selectable Finger BT 3 Pro 64 08/12
3353-37G i5-3317U 4GBx1 14.0" HD 720p 500G 7200 Intel 2230 24GB mSATA None Finger BT 3 Pro 64 08/12

---

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

- **Memory**: 8GB max (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- **Battery**: 6-cell (34Wh), up to 6.5 hr
- **Dimensions**: 336mm x 230mm x 25mm
- **Weight**: 1.55 kg
- **Operating System**: Windows 7 Professional or Windows 8 Pro
- **Security**: Trusted Platform Module, TCG 1.2-compliant
- **Drivers and Applications**: Lenovo System Update, Lenovo Support Assistant, Lenovo Cloud Storage, Lenovo Cloud Support, Lenovo Help Center, Lenovo Products Recovery, Lenovo ThinkVantage Toolbox, Lenovo ThinkVantage System Update, Lenovo ThinkVantage Productivity Center, Lenovo Support Center, Lenovo X1 Security
- **Certifications**: ENERGY STAR 5.0, EPEAT Silver, RoHS-compliant

---

### Preloaded operating system

- **Genuine Windows 7 Professional**
- **Genuine Windows 8 Pro**

### Ready to install applications

- **Rescue and Recovery**
- **Password Manager**

### Preloaded applications (only some listed)

- Lenovo® Solution Center
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage by SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded
- Norton® Internet Security
- Adobe® Reader
- Skype™ for Windows
- Evernote
- Intel Small Business Advantage
- RapidBoot HHD Accelerator
- Symantec™ VIP
- Windows Live™ Essentials

---

See footnotes for more detailed information © Lenovo

WE model(s) withdrawn effective January 2014 (G-ABBA1-1) May 2014

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**Footnotes**

1. Preload
2. Battery - life
3. Dimensions
4. Weight
5. Case material
6. Battery - type
7. Battery - life
8. Chipset
9. ExpressCard
10. Smart Card read
11. Multicard reader
12. Ports
13. PCle Mini Card
14. PCle WLAN
15. PCle WWAN
16. SIM card
17. Modem
18. Audio support
19. Security
20. Security chip
21. Fingerprint reader
22. Limited warranty
23. 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 T430u 3353 (TopSeller) - Onsite (Windows 8)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA</th>
<th>PCIe Mini Card</th>
<th>PCIe Mini Card WWAN/WLAN</th>
<th>SIM card</th>
<th>Finger print reader</th>
<th>Battery - life</th>
<th>Preload</th>
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<td>128G SSD</td>
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<td>500G</td>
<td>BT</td>
<td>3 Win7 Pro64</td>
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<td>selectable</td>
<td>Finger</td>
<td>500G</td>
<td>BT</td>
<td>3 Win8 Pro64</td>
</tr>
</tbody>
</table>

**Limited warranty**: 3-years/1-year battery, limited onsite service. 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.

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

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

- **Preloaded applications (only some listed)**: - Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader
  - Windows Live™ Essentials

- **Windows 8 models**: - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage

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

- **Supports ThinkVantage® technologies**: 65-watt AC adapter
  - ThinkPad Roll Cage (bottom cover)
  - EPEAT® Silver rating
  - ENERGY STAR® 5.0-compliant
  - GREENGUARD® certified
  - RoHS-compliant

- **International Warranty Service**: 24 hour x 7 day toll-free support during the warranty period.

See footnotes for more detailed information © Lenovo

WE model(s) withdrawn effective January 2014

(G-ABBA1-8) May 2014
ThinkPad T430u 3353 (Optimus) - TopSeller (Onsite)

Product Specifications Reference (PSREF)

<table>
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<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk</th>
<th>SATA</th>
<th>GB</th>
<th>rpm</th>
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<th>PCIe Mini Card</th>
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<th>SIM card</th>
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<td>Pro 64</td>
<td>08/12</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

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

**Positioning**
- Mainstream Ultrabook™: one spindle
- Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology

**Memory**
- 8GB max (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

**Optical SATA disk**
- None
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Active Protection System™

**mSATA™ SSD**
- None

**Widescreen display Camera**
- 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio
- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**
- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA GeForce® GT 620M, PCI Express x16, 1GB memory, external digital monitor support via HDMI™ or Mini DisplayPort
- Supports three independent displays; Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz

**Keyboard**
- 6-row, spill-resistant, multimedia Fn keys

**TrackPoint® Thinkpad®**
- TrackPoint® pointing device, Internet Scroll Bar™
- UltraNav™, buttonless touchpad below keyboard, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions³**
- 14.0W (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm

**Weight²**
- 3-cell: from 4.12 lb (1.87kg)
- Bottom: Glass-Fiber Reinforced Plastic

**Battery - type**
- Integrated Li-Polymer 3-cell

**Battery - life¹⁰**
- 3-cell (47Whr): up to 6.6 hr

**Chipset**
- Mobile Intel UM77 Express Chipset

**Supports ThinkVantage™ technologies**
- 65-watt AC adapter
- ThinkPad Roll Cage (bottom cover)
- EPEAT® Silver rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service¹⁷

**Preloaded operating system²⁰**
- Genuine Windows® 7 Professional 64

**Ready to install applications¹⁴** (only some listed)
- Rescue and Recovery™
- Power Manager

**Preloaded applications¹⁴** (only some listed)
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™¹⁵
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage
- SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded: purchase a product key to activate
- Norton™ Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- Evernote
- Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec™ VIP
- Windows Live™ Essentials

**Skype® for Business**
- 24 hour x 7 day²⁸ toll-free support during the warranty period

See footnotes for more detailed information

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WE model(s) withdrawn effective January 2014

(G-ABBA1-2) May 2014
### Product Specifications Reference (PSREF)

#### ThinkPad T430u 3353 (Optimus) - TopSeller (Onsite) - Win 8

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Widescreen display</th>
<th>Camera</th>
<th>Disk SATA</th>
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<th>SIM card</th>
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<th>Bluetooth cells</th>
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<td>Finger</td>
<td>BT</td>
<td>3 cell</td>
<td>Win8 Pro</td>
<td>03/13</td>
</tr>
</tbody>
</table>

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

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**Positioning**

- Mainstream Ultrabook™: one spindle

**Processor**

- **Intel® Core™ i5-3317U** processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology
- **Intel Core i5-3337U processor** (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology

**Memory**

- 8GB max (up to 16GB max for certain special configuration models only) / PCI-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

**Optical**

- SATA disk
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradeable
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradeable, Active Protection System™

**mSATA SSD**

- None

**Widescreen display**

- 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio

**Camera**

- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics; **Intel HD Graphics 4000** in processor, and **NVIDIA GeForce® GT 620M**, PCI Express® x16, 1GB memory, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI®)@60Hz

**Keyboard**

- 6-row, spill-resistant, multimedia Fn keys

**Touchpad**

- UltraNav™, buttonless touchpad below keyboard, multi-touch

**ThinkLight™**

- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions**

- 14.0W" (WxDxH): 13.39" x 9.29" x 0.83", 340mm x 236mm x 21mm

**Weight**

- 3-cell: from 4.12 lb (1.87kg), 340g
- 4-cell: from 4.60 lb (2.09kg), 380g

**Battery - type**

- Integrated Li-Polymer 3-cell

**Battery - life**

- Integrated 3-cell: 47Whr; up to 6.6 hr

**Chipset**

- Mobile Intel® U77 Express Chipset

**ExpressCard**

- None

**Smart Card reader**

- None

**Multicard reader Ports**

- 4-in-1 reader (MMC, SD, SDHC, SDXC)

**PCie Mini Card**

- Two PCI Express Mini Card slots

**PCIe WWAN**

- 11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter

**SIM card**

- None

**Modem**

- None

**IEEE 1394**

- None

**Bluetooth™**

- Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter

**Ethernet**

- Realtek® RTL8111F Gigabit Network Connection

**Intel AMT**

- None

**Audio support**

- HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack

**Security**

- Power-on password, hard disk password, supervisor password, security keyhole

**Security chip**

- Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

- AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip

**Limited warranty**

- 3-years/1-year battery, limited onsite service®, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

Preloaded operating system®

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

Preloaded applications® (only some listed)

- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader®
  - Windows Live™ Essentials
- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
- All models
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - Fingerprint Software (fingerprint models)
  - Lenovo Cloud Storage by SugarSync
  - Microsoft® Office preloaded; purchase a product key to activate
  - Norton™ Internet Security (30 days of virus definitions)

Supports ThinkVantage® technologies

- 65-watt AC adapter
  - ThinkPad Roll Cage (bottom cover)
  - EPEAT® Silver rating
  - ENERGY STAR® 5.0-compliant
  - GREENGUARD® certified
  - RoHS-compliant

International Warranty Service®

- 24 hour x 7 day toll-free support during the warranty period®

See footnotes for more detailed information

WE model(s) withdrawn effective January 2014

© Lenovo (G-ABBA1-7) May 2014
### Product Specifications Reference (PSREF)

#### ThinkPad T430u 3352

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
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<th>Battery - type</th>
<th>Case material</th>
<th>Weight2</th>
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</tbody>
</table>

* A depot repair service 3-year limited warranty

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**Positioning**
- **Processor**: Mainstream Ultrabook™; one spindle
- **Memory**: 8GB max (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology

**Memory**
- **Optical SATA disk**: None
- **mSATA SSD**: None

**Audio support**
- **Audio**: HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack

**Security**
- **Intel AMT**: None
- **Audio support**: HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack
- **Security chip**: Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**: AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip

**Battery - life**: up to 7.1 hr

**Dimensions**: 14.0” (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio

**Camera**: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**
- **Graphics**: Intel HD Graphics 4000 in processor, supports three independent displays; Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz

**Chipset**
- **Mobile Intel UM77 Express Chipset**

**Processor**
- **Intel Core™ i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology**

**Preloaded operating system**
- **Genuine Windows® 7 Professional 64**

**Ready to install applications**
- **(only some listed)**
- Rescue and Recovery™
- Password Manager

**Preloaded applications**
- **(only some listed)**
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage by SugarSync
- Lenovo SimpleTap
- Norton™ Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- Evernote®
- Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec™ VIP
- Windows Live™ Essentials

**Supports ThinkVantage™ technologies**
- 65-watt AC adapter
- ThinkPad Roll Cage (bottom cover)
- EPEAT® Silver rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service

**Limited warranty**
- 3-years/1-yr battery - depot repair service / service upgrades available

See footnotes for more detailed information

WE model(s) withdrawn effective January 2014

© Lenovo (G-ABBA1-3) May 2014
<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA</th>
<th>SATA rpm</th>
<th>PCIe Mini Card</th>
<th>PCIe Mini Card WWAN</th>
<th>SIM card</th>
<th>Finger print reader</th>
<th>Battery life</th>
<th>Battery type</th>
<th>Case material</th>
<th>Weight</th>
<th>Worldwide Global warranty</th>
<th>Preload</th>
<th>Announcement</th>
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<tbody>
<tr>
<td>3352-3KG</td>
<td>i5-3427U</td>
<td>4GBx1</td>
<td>14.0&quot; HD</td>
<td>720p</td>
<td>128GB SSD</td>
<td>Intel 2230</td>
<td>Ericsson</td>
<td>None</td>
<td>Finger BT 3</td>
<td>BT 3</td>
<td>24GB mSATA</td>
<td>None</td>
<td>Aluminum; Glass-Fiber Reinforced Plastic</td>
<td>340mm x 236mm x 21mm</td>
<td>3-years/1-yr battery - depot repair service / service upgrades available</td>
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<td></td>
</tr>
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<td>14.0&quot; HD</td>
<td>720p</td>
<td>500GB</td>
<td>Intel 2230</td>
<td>Ericsson</td>
<td>None</td>
<td>Finger BT 3</td>
<td>BT 3</td>
<td>24GB mSATA</td>
<td>None</td>
<td>Glass-Fiber Reinforced Plastic</td>
<td>340mm x 236mm x 21mm</td>
<td>3-years/1-yr battery - depot repair service / service upgrades available</td>
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<td>3352-3CG</td>
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<td>14.0&quot; HD</td>
<td>720p</td>
<td>128GB SSD</td>
<td>Intel 2230</td>
<td>None</td>
<td>None</td>
<td>Finger BT 3</td>
<td>BT 3</td>
<td>24GB mSATA</td>
<td>None</td>
<td>Glass-Fiber Reinforced Plastic</td>
<td>340mm x 236mm x 21mm</td>
<td>3-years/1-yr battery - depot repair service / service upgrades available</td>
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</tr>
<tr>
<td>3352-3SG</td>
<td>i5-3427U</td>
<td>4GBx1</td>
<td>14.0&quot; HD</td>
<td>720p</td>
<td>500GB</td>
<td>Intel 2230</td>
<td>None</td>
<td>None</td>
<td>Finger BT 3</td>
<td>BT 3</td>
<td>24GB mSATA</td>
<td>None</td>
<td>Glass-Fiber Reinforced Plastic</td>
<td>340mm x 236mm x 21mm</td>
<td>3-years/1-yr battery - depot repair service / service upgrades available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Preloaded applications:
- Windows 7 models
  - Lenovo Roll Cage (bottom cover)
  - EPEAT® Silver rating
  - ENERGY STAR® 5.0-compliant
  - GREENGUARD® certified
  - RoHS-compliant
  - International Warranty Service (3 years)

Preloaded operating system:
- Windows 8 Pro 64-bit
- Windows 8 Pro 64-bit

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

A depot repair service 3-year limited warranty
<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA GB rpm</th>
<th>PCIe Mini Card WLAN</th>
<th>PCIe Mini Card WWAN/mSATA</th>
<th>Finger print reader</th>
<th>Bluetooth cells</th>
<th>Battery - Global (G)</th>
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<td>14.0&quot; HD</td>
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<td>128G SSD</td>
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<td>None</td>
<td>Finger</td>
<td>BT</td>
<td>3</td>
<td>G P</td>
<td>Pro 64</td>
</tr>
</tbody>
</table>

- **Part of the Global Models Plus program with limited onsite service**
  - 3-year limited warranty

**Positioning**
- **Processor**: Mainstream Ultrabook®; one spindle
  - **Intel® Core™ i5-3427U** processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology

**Memory**
- 8GB max (up to 16GB max for certain special configuration models) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

**Optical**
- **SATA disk**: None
- **mSATA SSD**: None

**Widescreen display**
- **14.0" (355mm) HD (1366x768) color**: anti-glace, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio

**Camera**
- **HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus**

**Graphics**
- **Intel HD Graphics 4000** in processor, external digital monitor support via HDMI™ or Mini DisplayPort supports three independent displays; **Maximum external resolution**: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz

**Keyboard**
- 6-row, spill-resistant, multimedia Fn keys

**TrackPoint®**
- Tracking device, Internet Scroll Bar®

**Touchpad**
- **UltraNav™**: buttonless touchpad below keyboard, multi-touch

**ThinkLight™**
- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions**
- **14.0W" (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm**

**Weight**
- **3-cell: 4.08 lb (1.85kg)**

**Battery - type**
- Integrated Li-Polymer 3-cell

**Battery - life**
- **3-cell (47Whr): up to 7.1 hr**

**Chipset**
- Mobile Intel UMT7 Express Chipset

**ExpressCard**
- None

**Smart Card reader**
- None

**Multicard reader**
- 4-in-1 reader (MMC, SD, SDHC, SDXC)

**Ports**
- Two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)

**PCIe Mini Card**
- Two PCI Express Mini Card slots

**PCIe WLAN**
- 11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + BT combo adapter

**PCIe WWAN**
- None

**SIM card**
- None

**Modern**
- None

**IEEE 1394**
- None

**Bluetooth™**
- Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter

**Ethernet**
- Realtek® RTL8111F Gigabit Network Connection

**Intel AMT**
- None

**Audio support**
- HD Audio, Realtek® ALC2302 codec, Dolby® Home Theater® v4 / stereo speakers, 2W x 2 / dual array microphone, combo audio/microphone jack

**Security**
- Power-on-password, hard disk password, supervisor password, security keyhole

**Security chip**
- Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**
- AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, supports the security chip

**Preloaded operating system**
- Genuine Windows® 7 Professional 64

**Ready to install applications**
- • Lenovo® Solution Center
  - Lenovo Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - Fingerprint Software (fingerprint models)
  - ThinkVantage System Update
  - ThinkVantage Power Manager
  - Lenovo Cloud Storage by SugarSync
  - Lenovo SimpleTap
  - Microsoft® Office preloaded: purchase a product key to activate
  - Norton™ Internet Security 2012 (30 days of virus definitions)
  - Adobe® Reader®
  - Skype™ for Windows
  - Evernote®
  - Intel Small Business Advantage
  - RapidBoot HDD Accelerator
  - Symantec™ VIP
  - Windows Live™ Essentials

**Supports ThinkVantage™ technologies**
- 65-watt AC adapter
- ThinkPad Roll Cage (bottom cover)
- EPEAT® Silver rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant

**International Warranty Service**
- 24 hour x 7 day toll-free support during the warranty period

**Limited warranty**
- 3-years/1-year battery, limited onsite service®, 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
<table>
<thead>
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<th>PCIe Mini Card WWAN</th>
<th>mSATA</th>
<th>Finger print reader</th>
<th>Bluetooth cells</th>
<th>Global (G)</th>
<th>Preload</th>
<th>Ann Date (mm/yy)</th>
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<td>4+2GB</td>
<td>14.0&quot; HD</td>
<td>720p</td>
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<td>None</td>
<td>Finger</td>
<td>BT 3 G P</td>
<td>Win8 Pro64</td>
<td>10/12</td>
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<td>i5-3427U</td>
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<td>14.0&quot; HD</td>
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<td>BT 3 G P</td>
<td>Win8 Pro64</td>
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<td>03/13</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

- Part of the Global Models Plus program with limited onsite service\(^3\) 3-year limited warranty

Positioning: Mainstream UltraBook\(^m\); one spindle

Processor: Intel\(^reg\)\(^ Core\(^m\)\) i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology

Memory: 8GB max\(^x\) (up to 16GB max for certain special configuration models only) / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

Optical SATA disk: None

SATA disk: Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable

mSATA\(^SS\) SSD: None

Wide-screen display: 14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 500:1 contrast ratio

Camera: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

Graphics: Intel HD Graphics 4000 in processor, external digital monitor support via HDMI\(^m\) or Mini DisplayPort supports three independent displays; Maximum external resolution: 2560x1600 (Mini-DisplayPort or HDMI)@60Hz

Keyboard: 6-row, spill-resistant, multimedia Fn keys

Touchpad: UltraNav\(^m\), buttonless touchpad below keyboard, multi-touch

TrackPoint\(^\text{®}\) \text{TouchPoint\(_{TM}\)}: Illuminates the keyboard to improve visibility in low-light conditions

Dimensions\(^x\): 14.0"W (WxDxH): 13.39" x 9.29" x 0.83"; 340mm x 236mm x 21mm

Weight\(^x\): 3-cell: from 4.08 lb (1.85kg)

Battery: type: Integrated Li-Polymer 3-cell

Battery - life\(^\text{®}\): 3-cell (47Whr): up to 7.1 hr

Chipset: Mobile Intel U77 Express Chipset

ExpressCard: None

Smart Card reader: None

Multicard reader: 4-in-1 reader (MMC, SD, SDHC, SDXC), two USB 3.0, external monitor (Mini DisplayPort, HDMI), ethernet (RJ-45)

PCle Mini Card: Two PCI Express Mini Card slots

PCle WLAN\(^x\): Some: Wireless LAN upgradable

PCle WWAN: Some: 11a/b/g/n, PCle Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + BT combo adapter

PCle Mini Card WLAN: Some: 11b/g/n, PCle Half Mini Card, Intel Centrino\(^\text{®}\) Wireless-N 2230, 2x2, Wi-Fi + Bluetooth combo adapter

Supports ThinkVantage\(^s\) technologies

Preloaded operating system\(^x\):
- Windows 7 models
- ThinkVantage Product Recovery
- Access Connections\(^\text{™}\)
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe\(^\text{®}\) Reader\(^\text{®}\)
- Windows Live\(^\text{™}\) Essentials

Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage

All models
- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- FingerPrint Software (fingerprint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft\(^\text{®}\) Office preloaded: purchase a product key to activate
- Norton\(^\text{®}\) Internet Security (30 days of virus definitions)

See footnotes for more detailed information

Limited warranty\(^x\) 3-years/1-year battery, limited onsite service\(^x\) 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

Ann Date (mm/yy): 03/13

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(G-ABBA1-8) May 2014
## ThinkPad T431s 20AA (TopSeller) - Onsite

### Product Specifications Reference (PSREF)

#### Type-model | Processor | Memory | Wide-screen Display | Disk | Backlit keyboard | M.2 Card | M.2 Card WWAN/WWAN | SIM card | Smart Card Reader | Intel AMT | Intel vPro | Preload | Ann Date (mm/yy)
|----------------|----------|--------|---------------------|------|------------------|---------|---------------------|--------|-------------------|----------|----------|---------|-----------|
| 20A000E++ | i5-3437U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | Backlit Intel 6235® | Ericsson | None | None | IAMT | vPro | Win7 Pro64 03/13
| 20A0012++ | i5-3437U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | Backlit Intel 6235® | Ericsson | None | None | IAMT | vPro | Win7 Pro64 03/13
| 20A0014++ | i5-3337U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | Backlit Intel 6235® | Ericsson | None | None | Smart | None | Win7 Pro64 03/13
| 20A0015++ | i5-3337U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | Backlit Intel 6235® | Ericsson | None | None | Smart | None | Win7 Pro64 03/13
| 20A0016++ | i5-3337U | 4GB | 14.0" HD+ | 500G 7200 | 24GB SSD | None | Smart | None | None | None | None | Win7 Pro64 03/13
| 20A0018++ | i5-3437U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | Backlit Intel 6235® | Ericsson | None | None | IAMT | vPro | Win8 Pro64 03/13
| 20A0019++ | i5-3437U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | Backlit Intel 6235® | Ericsson | None | None | Smart | None | Win8 Pro64 03/13
| 20A001A++ | i5-3337U | 4GB | 14.0" HD+ | 500G 7200 | 24GB SSD | None | Smart | None | None | None | None | Win8 Pro64 03/13
| 20A001C++ | i7-3687U | 4GB | 14.0" HD+ | 180G SSD | None | None | None | None | None | None | None | Win8 Pro64 03/13
| 20A001F++ | i5-3337U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | None | None | None | None | None | None | Win8 Pro64 03/13
| 20A001G++ | i5-3337U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | None | None | None | None | None | None | Win8 Pro64 03/13
| 20A001H++ | i5-3337U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | None | None | None | None | None | None | Win8 Pro64 03/13
| 20A001I++ | i5-3337U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | None | None | None | None | None | None | Win8 Pro64 03/13
| 20A001L++ | i5-3337U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | None | None | None | None | None | None | Win8 Pro64 03/13
| 20A001M++ | i5-3337U | 4GB | 14.0" HD+ | 8GB | 240G FDE SSD | None | None | None | None | None | None | Win8 Pro64 03/13

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

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

### Positioning
- **Processor**: Thin and light enterprise-class Ultrabook™; one spindle
- **Intel® Core™ i5-3337U processor (2 cores, 1.80GHz, 3MB cache)**, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology
- **Intel Core i5-3437U processor (2 cores, 1.90GHz, 3MB cache)**, Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.90GHz), HT technology

### Memory
- 12GB max / PC3-12800 1600MHz DDRL, non-parity, dual-channel capable, 4GB memory soldered to systemboard, one 204-pin SODIMM socket

### Optical
- **SATA disk**: None
- **Some**: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable
- **Some**: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Shock Mounted Hard Drive, Active Protection System™
- **Some**: M.2 Solid State Drive (SSD), via M.2 Card slot

### M.2 SSD
- 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio
- **Camera**: HD270p resolution, low light sensitive, face tracking, fixed focus

### Graphics
- Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort
- Supports dual independent display:
- Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable):
  - 1920x1200@60Hz (single-link DVI-I via optional Mini DP Cable):
  - 2048x1536@75Hz (VGA)

### Keyboard
- UltraNav™ pointing device and glass surface touchpad, integrated five buttons, multi-touch
- **None**

### Dimensions³
- 14.9" (WxHxD): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm
- 3-cell: 3.6 lb (1.63kg)

### Weight²
- **Graphite Black**

### Case color
- **Display cover**: Carbon-fiber / Glass-fiber hybrid; **Base**: Magnesium alloy
- **Integrated Li-Polymer 3-cell (47Whr)**, HW Authentication

### Battery - type
- **Battery - life**¹⁰

### Chipset
- **MultiCard reader**: Smart Card reader
- **Chipset**: Intel QM77 Express Chipset
- **Audio support**: Realtek® ALC269 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 /
- **Security**: Trusted Platform Module, TCG 1.2-compliant
- **Security chip**: Fingerprint reader on the keyboard bezel, swipe sensor, LED indicator

### Limited warranty
- **3-years/1-year battery, limited onsite service**: 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

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(G-ST1-2) August 2013

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

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

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


Supports ThinkVantage® technologies 45-watt AC adapter EPEAT® Silver rating ENERGY STAR® 5.0-compliant GREENGUARD® certified RoHS-compliant International Warranty Service® 24 hour x 7 day® toll-free support during the warranty period®

See footnotes for more detailed information © Lenovo (G-ST1-3) August 2013
## ThinkPad T431s 20AC

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

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

### Preloaded operating system
- Windows 8 Pro 64-bit

### Preloaded applications
- Windows 7 models
  - Lenovo Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader®
- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - All models
    - Lenovo Solution Center
    - Password Manager
    - ThinkVantage System Update
    - Fingerprint Software (fingerprint reader)
    - Lenovo Cloud Storage
      - SugarSync
      - Norton™ Internet Security
      - (30 days of virus definitions)
      - Skype®
      - AccuWeather
      - Amazon Kindle
      - Intel AppUp®
      - Nitro Pro
      - PC Device Stage
      - Eternote

### Product Specifications Reference (PSREF)

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<th>Disk</th>
<th>GB' rpm</th>
<th>Backlit keyboard</th>
<th>M.2 Card WLAN</th>
<th>M.2 Card WWAN/ SSD</th>
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<th>Battery cells</th>
<th>Intel vPro</th>
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<th>Ann Date (mm/yy)</th>
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<tr>
<td>20AC000A++</td>
<td>i5-3437U</td>
<td>4GB</td>
<td>14.0&quot; HD+</td>
<td>500G</td>
<td>7200</td>
<td>Backlit</td>
<td>Intel 6235a</td>
<td>24GB</td>
<td>Finger</td>
<td>BT</td>
<td>3</td>
<td>vPro</td>
<td>G</td>
<td>Win8 Pro64</td>
</tr>
</tbody>
</table>

### Positioning
- Thin and light enterprise-class Ultrabook™; one spindle

### Processor
- Intel® Core™ i3-3437U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.90GHz), HT technology

### Memory
- 12GB max’ / PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable, 4GB memory soldered to system board, one 204-pin SO-DIMM socket

### Optical SATA disk
- None
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high, removable, upgradable
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, removable, upgradable, Shock Mounted Hard Drive, Active Protection System™

### M.2 SSD
- M.2 Solid State Drive (SSD), via M.2 Card slot

### Widescreen display Camera
- 14.0" (355mm) HD+ (1600x900) color, anti-glare, LED backlight, 250 nits, 16:9 aspect ratio, 400:1 contrast ratio
- HD720p resolution, low light sensitive, face tracking, fixed focus

### Graphics
- Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display;
- Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

### Keyboard
- 6-row, spill-resistant, multimedia Fn keys, optional LED backlight
- TrackPoint® pointing device and glass surface touchpad, integrated five buttons, multi-touch

### Dimensions
- 14.0W" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm
- 3-cell: from 3.6 lb (1.63kg)

### Weight
- 14.0W" (WxDxH): 13.03" x 8.90" x 0.81"; 331mm x 226mm x 20.65mm
- 3-cell: from 3.6 lb (1.63kg)

### Case color
- Graphite Black
- Display cover: Carbon-fiber / Glass-fiber hybrid;
- Base: Magnesium alloy

### Battery type
- Integrated Li-Polymer 3-cell (47Whr), HW Authentication

### Battery life
- MobileMark® 2007: Windows 7: up to 9.0 hr
- MobileMark® 2012: Windows 7: up to 5.9 hr; Windows 8: up to 6.4 hr

### Chipset
- Mobile Intel QM77 Express Chipset

### ExpressCard
- None

### Smart Card reader
- None

### Multicard reader Ports
- Multi card reader (MMC, SD, SDHC, SDXC)
- 4-in-1 reader (MMC, SD, SDHC, SDXC)
- Two USB 3.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), Dock connector

### PCIe WLAN
- 11a/b/g/n, M.2 Card, Intel Centrioon™ Advanced-N 6235, 2x2, Wi-Fi + BT combo adapter

### PCIe WWAN
- None

### SIM card
- None

### Bluetooth
- Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter

### Ethernet
- Intel 82579LM Gigabit Network Connection (Hanksville), PHY, PCIe x1

### Intel AMT
- Intel Active Management Technology (iAMT)

### Audio support
- HD Audio, Realtek® ALC2302 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack

### Security
- Power-on password, hard disk password, supervisor password, security keyhole

### Security chip
- Trusted Platform Module, TCG 1.2-compliant

### Fingerprint reader
- AuthenTec fingerprint reader on the keyboard bezel, swipe sensor, LED indicator, Power On Authentication, supports the security chip

### Limited warranty
- 3-years / 1-yr battery - depot repair service / service upgrades available

See footnotes for more detailed information

© Lenovo (G-ST1-1) June 2013
**ThinkPad T530 2392 (TopSeller)**

**Product Specifications Reference (PSREF)**

| Type-model | Processor | Memory | Wide-screen display | Camera | Disk | Backlit keyboard | PCIe Mini Card | PCle Mini Card | Finger print reader | Battery | Blue-tooth cells | Intel | Preload | Date
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>2392-38G</td>
<td>i5-3210M</td>
<td>4GBx1</td>
<td>15.6” HD</td>
<td>720p</td>
<td>500G</td>
<td>7200</td>
<td>Intel 6205™</td>
<td>WWAN upg</td>
<td>None</td>
<td>Finger</td>
<td>BT</td>
<td>6</td>
<td>None</td>
<td>Pro 64 06/12</td>
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</table>

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

| Positioning 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 |
| Memory | 16GB max* / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets * System automatically clocks down for processors with 1333MHz DDR3 memory controller |
| Optical Ultrabay SATA disk | One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5” wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5” wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive |
| Widescreen display | Some: 15.6” (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: 15.6” (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: 15.6” (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16.9 aspect ratio, 500:1 contrast ratio, 95% Gamut |
| Camera | HD720p resolution, wide view angle, low light sensitive, face fixed focus |
| Graphics | Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA) |
| Keyboard | 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight |
| TrackPoint™ Touchpad | UltraNav™ pointing device, "Press-to-Select," Internet Scroll Bar®, magnifying glass |
| ThinkLight™ | Illuminates the keyboard to improve visibility in low-light conditions |
| Dimensions³ | 15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm |
| Weight⁴ | 6-cell: starting at 5.39 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg) |
| Case material | Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint |
| Battery - type Battery - life¹⁰ | Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 13.5 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 30.6 hr |
| Chipset Mobile Intel QM77 Express Chipset | Supports ThinkVantage® technologies |
| ExpressCard | One slot (ExpressCard/54) |
| Smart Card Read | None |
| Multicard Reader | 4-in-1 reader (MMC, SD, SDHC, SDXC) |
| Ports | Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45) |
| PCIe Mini Card | Two PCI Express Mini Card slots |
| PCIe WLAN® | 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 |
| PCIe WWAN® | Wireless WAN upgradable |
| SIM card | None |
| Modern | None |
| IEEE 1394 | None |
| Bluetooth™ | Bluetooth 4.0 wireless |
| Ethernet | Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 |
| Intel AMT | None |
| Audio support | HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack |
| Security Power-on password, hard disk password, supervisor password, security keyhole |
| Security chip | Trusted Platform Module, TCG 1.2-compliant |
| Fingerprint reader | AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip |
| Limited warranty¹² 3-years/1-yr battery - depot repair service / service upgrades¹² available |

See footnotes for more detailed information

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(G-KN4-1) June 2012
**Positioning**

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

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Disk</th>
<th>Backlit keyboard</th>
<th>PCIe Mini Card</th>
<th>PClé Mini Card</th>
<th>Smart Card Reader</th>
<th>Finger- print reader</th>
<th>Battery cells</th>
<th>Intel AMT</th>
<th>Intel vPro</th>
<th>Preload</th>
<th>Ann Date (mm/yyyy)</th>
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<tbody>
<tr>
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<td>i5-3320M</td>
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<td>None</td>
<td>Smart Fingerprint</td>
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<td>None</td>
<td>Win7 Pro64</td>
<td>10/12</td>
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<td>2392-AUG</td>
<td>i5-3210M</td>
<td>4GBx1</td>
<td>15.6'' HD</td>
<td>500G</td>
<td>None</td>
<td>WiFi</td>
<td>None</td>
<td>None</td>
<td>Smart Fingerprint</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Win7 Pro64</td>
<td>10/12</td>
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<tr>
<td>2392-EKG</td>
<td>i3-3120M</td>
<td>4GBx1</td>
<td>15.6'' HD+</td>
<td>180G</td>
<td>Backlit</td>
<td>USB</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Win7 Pro64</td>
<td>06/13</td>
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<tr>
<td>2392-EHG</td>
<td>i3-3120M</td>
<td>4GBx1</td>
<td>15.6'' HD</td>
<td>500G</td>
<td>Backlit</td>
<td>USB</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Win7 Pro64</td>
<td>06/13</td>
</tr>
<tr>
<td>2392-EGG</td>
<td>i3-3210M</td>
<td>4GBx1</td>
<td>15.6'' HD+</td>
<td>180G</td>
<td>Backlit</td>
<td>USB</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>Win7 Pro64</td>
<td>06/13</td>
</tr>
</tbody>
</table>

**Preloaded operating system††**

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

**Preloaded applications‡ (only some listed)**

- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD:RW)
  - Corel® DVD MovieFactory® Lenovo Edition (DVD:RW)

- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go® (DVD:RW)
  - Cyberlink PowerProducer

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

**Chipset**

- Mobile Intel® QM77 Express Chipset
- One slot (ExpressCard/34)

**Smart Card Reader**

- 4-in-1 reader (MMC, SD, SDHC, SDXC)

**USB Ports**

- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**PClé Mini Card**

- Two PCI Express Mini Card slots
- Some: 11b/g/n, PClé Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2
- Some: 11a/b/g/n, PClé Half Mini Card, Intel Centrino Advanced-N 6205, 2x2

**PClé WLAN**

- Wireless WAN upgradeable

**SIM card**

- None

**Modern**

- None

**IEEE 1394**

- None

**Bluetooth™**

- Bluetooth 4.0 wireless

**Ethernet**

- Intel 82579LM Gigabit Network Connection (Lewisia), PHY, PCIe x1
- Intel Active Management Technology (iAMT)

**Audio support**

- HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack
- Security
  - Power-on password, hard disk password, supervisor password, security keyhole
  - Trusted Platform Module, 16KB-2-compliant
- Security chip
  - Fingerprint reader: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Limited warranty**

- 3-years/1-yr battery - depot repair service / service upgrades available

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See footnotes for more detailed information © Lenovo (G-KN4-8) June 2013
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<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA GB' rpm</th>
<th>Backlit key-board</th>
<th>PCIe Mini Card WLAN</th>
<th>PCIe Mini Card WWAN</th>
<th>Finger print reader</th>
<th>Battery type</th>
<th>Preload</th>
<th>Ann Date</th>
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</thead>
<tbody>
<tr>
<td>2392-37G</td>
<td>i5-3210M</td>
<td>4GBx1</td>
<td>15.6&quot; HD+</td>
<td>720p</td>
<td>500G</td>
<td>7200</td>
<td>Intel 6205/4</td>
<td>Ericsson</td>
<td>Finger 6</td>
<td>10</td>
<td>06/12</td>
<td></td>
</tr>
</tbody>
</table>

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

### Positioning
- **Processor**: Premiere performance; two spindles
- **Memory**: 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

### Memory
- 16GB max*/ PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- *System automatically clocks down for processors with 1333MHz DDR3 memory controller

### Optical Ultrabat
- SATA disk
- DVD burner, 12.7mm Ultrabay Enhanced, removable
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™
- All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

### Display
- Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut
- Camera: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

### Graphics
- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA NVS® 5400M, PCI Express® x16, 1GB memory
- supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort;
- supports three independent displays;
- Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable);
- 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable);
- 2048x1536@85Hz (VGA)

### Keyboard
- TrackPoint® Touchpad
- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar™,
- magnifying glass
- UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

### Dimensions
- 15.6"Wx15.3"Dx1.20"H: 4.01 lbs (1.82kg); 372.8mm x 396.2mm x 30.5mm
- Weight:
- 6-cell: starting at 5.73 lb (2.60kg)
- 9-cell: starting at 6.10 lb (2.77kg)
- Display cover: Carbon-fiber / Glass-fiber hybrid
- Bottom: Glass-fiber reinforced plastic without paint
- Battery Type:
- Lithium ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication
- Battery: Full HD (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr

### Chipset
- Mobile Intel GM77 Express Chipset

### ExpressCard
- One slot (ExpressCard/34)
- Smart Card Reader
- 4-in-1 reader (MMC, SD, SDHC, SDXC)

### MultiCard Reader
- Ports
- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

### PCie Mini Card
- PCIe WLAN
- Two PCI Express Mini Card slots
- 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2
- Wireless WAN, Ericsson® H5321gw Mobile Broadband Module, PCie Half Mini Card, GPRSS/WCDMA/HSPA/HSPA+, GPS

### SIM card
- User selectable, contract required with service provider

### IEEE 1394
- IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)

### Bluetooth™
- Bluetooth 4.0 wireless

### Ethernet
- Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PClx 1
- None

### Audio support
- HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

### Security
- Power-on password, hard disk password, supervisor password, keyhole lock
- Trusted Platform Module, TCG 1.2-compliant

### Finger print reader
- Authentec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

### Battery - life
- 9-cell (94Whr): 9.28 lbs (4.20kg), starting at 8.20 lb (3.72kg)
- 6-cell: starting at 6.10 lb (2.77kg)
- 9-cell: starting at 6.10 lb (2.77kg)
- 1-yr battery - depot repair service / service upgrades available

### Preloaded operating system
- Genuine Windows® 7 Professional 64

### Ready to install applications
- Rescue and Recovery™
- Password Manager

### Preloaded applications
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage by SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded;
- Norton Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader™
- Skype™ for Windows
- Evernote®
- Intel Small Business Advantage
- RapidBoot HD Accelerator
- Symantec® AV for Windows
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD:RW)

### Limited warranty
- 3-years /1-yr battery - depot repair service / service upgrades available

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See footnotes for more detailed information © Lenovo (G-KN4-2) August 2013
### ThinkPad T530 2392 (Optimus) - TopSeller (Windows 8)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Widescreen display</th>
<th>Disk</th>
<th>Backlit keyboard</th>
<th>PCle Mini Card</th>
<th>PCle Mini Card WWAN</th>
<th>Smart Card Reader</th>
<th>Finger print reader</th>
<th>Battery cells</th>
<th>Intel AMT</th>
<th>Intel vPro</th>
<th>Preload</th>
<th>Ann Date (mm/yy)</th>
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<tbody>
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<td>2392-AVG</td>
<td>i5-3320M</td>
<td>4GBx1</td>
<td>15.6&quot; FHD</td>
<td>500G</td>
<td>None</td>
<td>Intel 6205™</td>
<td>WWAN upg</td>
<td>Smart</td>
<td>Finger</td>
<td>9</td>
<td>I AMT</td>
<td>v Pro</td>
<td>Win 7 Pro64</td>
<td>10/12</td>
</tr>
<tr>
<td>2392-AXG</td>
<td>i5-3210M</td>
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<td>5400</td>
<td>Smart</td>
<td>Finger</td>
<td>Intel 6205™</td>
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<td>Win 7 Pro64</td>
<td>10/12</td>
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<td>Finger</td>
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<td>v Pro</td>
<td>None</td>
<td>10/12</td>
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</table>

**Positioning**

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

**Memory**

- 16GB max* / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- * System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Ultrabay**

- SATA disk
- DVD burner, 12.7mm Ultrabay Enhanced, removable
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- Some: Solid State Drive (SSD) / SATA 6.0Gbs, 2.5" wide, 7mm high, Active Protection System™
- Some: HDD / SATA 3.0Gbs, 2.5" wide, 7mm or 9.5mm high, Active Protection System™
- All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

**Audio support**

- Intel HD Audio, Realtek® ALC2692 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

**System**

- Security
  - Power-on password, hard disk password, supervisor password, security keyhole
- Security chip
  - Trusted Platform Module, TCG 1.2-compliant
  - Fingerprint reader
  - AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator
  - Power On Authentication, supports the security chip

**Limited warranty**

- 3-years 1-yr battery - depot repair service / service upgrades available

---

**Preloaded operating system**

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

**Preloaded applications**

- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader®
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD:RW)
  - Corel DVD MovieFactory® Lenovo Edition (DVD:RW)

- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go® (DVD:RW)
  - Cyberlink PowerProducer® (DVD:RW)

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

---

See footnotes for more detailed information

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(G-KNN-9) October 2012
**ThinkPad T530 2394**

Product Specifications Reference (PSREF)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA GB</th>
<th>PClé Mini Card</th>
<th>PClé Mini WANN / mSATA</th>
<th>Smart Card Reader</th>
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<td>90V</td>
<td>Pro 64</td>
<td>10/12</td>
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</table>

- A depot repair service 3-year limited warranty

**Positioning**

Premiere performance; two spindles with Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology, 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 (3.60GHz), HT technology.

**Memory**

16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets.

**Optical Drive**

One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access.

**Widescreen display**

Some: 15.6” (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 50:1 contrast ratio, 60% Gamut

Some: 15.6” (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 50:1 contrast ratio, 60% Gamut

Some: 15.6” (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16.9 aspect ratio, 50:1 contrast ratio, 95% Gamut

**Camera**

Some: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

Intel HD Graphics 3000 or 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 1280x1024@60Hz (VGA)

**Keyboard**

6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight, TrackPoint® pointing device, “Press-to-Select,” Internet Scroll Bar®, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch. UltraNav™ illuminates the keyboard to improve visibility in low-light conditions

**Dimensions**

15.6” (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 50:1 contrast ratio, 60% Gamut

15.6” (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 50:1 contrast ratio, 60% Gamut

15.6” (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16.9 aspect ratio, 50:1 contrast ratio, 95% Gamut

**Battery**

Lithium ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 9.1 hr; 9-cell (94Whr): up to 30.6 hr

**Chipset**

Mobile Intel QM77 Express Chipset

**Preloaded operating system**

Genuine Windows® 7 Professional 64

**Ready to install applications**

(along with some listed)

- Rescue and Recovery™
- Password Manager

**Preloaded applications**

(along with some listed)

- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- Fingerprint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage by SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded; purchase a product key to activate
- Norton® Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- Evernote®
- Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec® VIP
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
- Corel Burn.Now™
- Corel DVD MovieFactory® Lenovo Edition (DVD:RW)
- Corel DVD MovieFactory®

**Chip ExpressCard**

One slot (ExpressCard/34)

**Smart Card Reader**

Some: Smart Card reader

**Multicard Reader**

4-in-1 reader (MMC, SD, SDHC, SDXC)

**Ports**

Two USB 3.0, two USB 2.0 (powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**Power**

65-watt AC adapter

ThinkPad Roll Cage (one-piece magnesium frame)

EPEAT® Gold rated

ENERGY STAR® 5.0-compliant

GREENGUARD® certified

RoHS-compliant

International Warranty Service17 24 hour x 7 day toll-free support during the warranty period18

See footnotes for more detailed information

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(G-KN4-3) November 2012
### ThinkPad T530 2394 (Windows 8)

#### Product Specifications Reference (PSREF)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA GB rpm</th>
<th>Backlit keyboard</th>
<th>PCle Mini Card WWAN</th>
<th>PCle Mini Card mSATA</th>
<th>Finger print reader</th>
<th>Battery Blue-tooth cells</th>
<th>Global GMP</th>
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<td>Finger BT</td>
<td>6</td>
<td>vPro G Win8 Pro</td>
<td>10/12</td>
<td></td>
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</table>

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

**Positioning**
- 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

**Memory**
- 16GB max*, PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- *System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Ultrabay**
- DVD burner, 12.7mm Ultrabay Enhanced, removable
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System

**mSATA SSD**
- None

**Widescreen display**
- Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 85% Gamut

**Camera**
- 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); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@767Hz (VGA)

**Keyboard**
- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar®3, magnifying glass

**Touchpad**
- UltraNav™, two touchpad below keyboard, Tap Zones, scrolling, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions**
- 15.6" (WxHxD): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm
- 6-cell: starting at 5.39 lb (2.45kg);
- 9-cell: starting at 5.76 lb (2.62kg)

**Weight**
- 6-cell: Carbon-fiber / Glass-fiber hybrid;
- 9-cell: Glass-fiber reinforced plastic without paint

**Battery - type**
- Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication
- 6-cell (57Whr): up to 9.1 hr;
- 9-cell (94Whr): up to 15.3 hr;
- 9-cell plus 9-cell Slice battery (94Whr, 0A36304): up to 30.6 hr

**Chipset**
- Mobile Intel QM77 Express Chipset

**ExpressCard**
- One slot (ExpressCard/34)

**Smart Card Read**
- None

**Multicard Reader**
- 4-in-1 reader (MMC, SD, SDHC, SDXC)

**Port**
- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**PCle Mini Card**
- Two PCI Express Mini Card slots

**PCle WAN**
- 11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

**PCle WWAN**
- Wireless WAN upgradable

**SIM card**
- None

**Modem**
- None

**IEEE 1394**
- None

**Bluetooth**
- 4.0 wireless

**Ethernet**
- Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1

**Intel AMT**
- Intel Active Management Technology (IATM)

**Audio support**
- HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

**Security**
- Power-on password, hard disk password, supervisor password, security keyhole

**Security chip**
- Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**
- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Limited warranty**
- 3-years/1-yr battery - depot repair service / service upgrades available

See footnotes for more detailed information © Lenovo (G-KN4-11) October 2012

- **Preloaded operating system**
  - Windows® 8 Pro 64-bit

- **Preloaded applications** (only some listed)
  - Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD:RW)
  - Corel DVD MovieFactory® Lenovo Edition (DVD:RW)

- **Windows 8 models**
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go (DVD:RW)
  - Cyberlink PowerProducer (DVD:RW)
  - Microsoft® Office preloaded; purchase a product key to activate
  - Norton® Internet Security (30 days of virus definitions)

- **All models**
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - FingerPrint Software (fingerprint models)
  - Lenovo Cloud Storage by SugarSync
  - Lenovo Support (3 years)
  - Lenovo Support (1 year)

- **Specifications**
  - 9-cell (94Whr): up to 15.3 hr;
  - 9-cell plus 9-cell Slice battery (94Whr, 0A36304): up to 30.6 hr

- **Supports ThinkVantage® technologies**
  - 85-watt AC adapter
  - ThinkVad Roll Case (one-piece magnesium frame)
  - EPEAT® Gold rating
  - ENERGY STAR® 5.0-compliant
  - GREENGUARD® certified
  - RoHS-compliant
  - International Warranty Service®
  - 24 hour x 7 day toll-free support during the warranty period®
## ThinkPad T530 2394 (Optimus)

### Type-model Processor Memory Wide-screen display Disk SATA GB rpm Backlit keyboard PCIe Mini Card WLAN PCIe Mini Card WWAN SIM card Smart Card Reader Finger print reader Battery cell Intel iAMT Intel GMP Global (G) Preload Anno Date

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<th>Disks</th>
<th>Backlit Key</th>
<th>PCIE</th>
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<th>Accessories</th>
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### Positioning

#### Processor

Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology

Intel Core® i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.00GHz), HT technology

### Memory

16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

* System automatically clocks down for processors with 1333MHz DDR3 memory controller

### Optical Ultrabay SATA disk

One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access

Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high

Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9mm high, Active Protection System™

All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

### Widescreen display

Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut

Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut

Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut

### Graphics

NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 3000 or 4000 in processor, and NVIDIA® NVS™ 5400M, PCI Express® x16, 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays;

- MDR External Resolution: 1920x1080@60Hz (DisplayPort via optional Mini DP cable);
- 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable);
- 2048x1536@85Hz (VGA)

### Keyboard

6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

ThinkPad® TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar®, magnifying glass

UltraNav®, wide touchpad below keyboard, Tap zones, scrolling, multi-touch, full-trackpad, wearable keyboard to improve visibility in low-light conditions

### Dimensions

15.6" (WxDxH): 14.68" x 9.65" x 1.25-1.40"

237.8mm x 245.1mm x 31.8-35.6mm

### Weight

6-cell: 1.45-1.60 lbs (650-730g)

9-cell: 2.30-2.40 lbs (1040-1090g)

### Battery - type

Lithium ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr

### Chipset

Mobile Intel QM77 Express Chipset

### ExpressCard

One slot (ExpressCard/34)

### WiFi Support

Wireless WAN, Ericsson selectable

### SIM card

Some: User selectable, contract required with service provider

### Preloaded applications

- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage® Product Recovery
- Access Connections™
- FingerPrint Software (fingerprint module)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage
- by SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded; purchase a product key to activate
- Norton® Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- Evernote
- Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec® VIP
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD:RW)

### Features

- Support for a Secure Chip
- USB 3.0 ports
- 9-cell plus 9-cell Slice battery for extended use
- Windows 7 Professional 64
- Preloaded operating system

- Genuine Windows 7 Professional 64

### Accessories

- Ready to install applications (only some listed)
- Rescue and Recovery™
- Password Manager

### Windows live essentials

- Office preloaded;
- purchase a product key to activate

### International Warranty Service

- 24 hour x 7 day toll-free support

### Ratings

- ENERGY STAR® 5.0-compliant
- EPEAT® Gold rating
- GREENGUARD® certified
- RoHS-compliant

### Limited warranty

- 3-years/1yr battery - depot repair service / service upgrades available

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See footnotes for more detailed information © Lenovo (K-N4-4) August 2013
## ThinkPad T530 2394 (Optimus) - Windows 8

Product Specifications Reference (PSREF)

### Key Features
- **Premiere performance; two spindle drives**
  - 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
- **Memory**
  - 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
  - * System automatically clocks down for processors with 1333MHz DDR3 memory controller
- **Display**
  - 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 60% Gamut
  - Available: 220 nits, 16:9 aspect ratio, 60% Gamut (some)
  - All: 220 nits, 16:9 aspect ratio, 60% Gamut (some)
- **Camera**
  - HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus
- **Graphics**
  - NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA NVS® 5400M, PCI Express® x16, 1GB memory
  - Supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort
  - Supports three independent displays:
    - Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)
- **Keyboard**
  - 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
  - TrackPoint® pointing device, “Press-to-Select,” Internet Scroll Bar™, magnifying glass
  - UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
  - Illuminates the keyboard to improve visibility in low-light conditions
- **Battery**
  - Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication
  - 6-cell (57Whr): up to 12.8 hr; 9-cell: up to 16.0 hr
  - 6-cell: 15.6W" (WxDxH): starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg)
- **Ports**
  - Two PCI Express Mini Card slots
  - Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)
  - Supports ThinkVantage® technologies

### Preloaded operating system
- Windows® 8 Pro 64-bit

### Preloaded applications
- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader®
- Windows Live™ Essentials
- Corel® WinDVD™ (DVD:RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD:RW)

### Additional Features
- **Limited warranty**
  - 3-years/1-yr battery - depot repair service / service upgrades available

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### Table of Specifications

<table>
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<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA GB</th>
<th>rpm</th>
<th>Backlit key-board</th>
<th>PCIe Mini Card</th>
<th>WWAN</th>
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* A depot repair service 3-year limited warranty

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See footnotes for more detailed information

© Lenovo (G-KN4-10) October 2012
ThinkPad T530 2429 (Onsite)

Type-model | Processor | Memory | Wide-screen display | Disk SATA | Backlit keyboard | PCle Mini Card WWAN | PCle Mini Card mSATA | SIM card | Smart Card Reader cells | Battery | Power Adapter | Intel | Global (G) | Preload (mnyy) | Ann Date
---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---
2429-2WG | i7-3520M 4GBx1 | 15.6" HD+ | 500G 7200 | Backlit Intel 6205™ Ericsson | selectable | None | 6 | 90W | I AMT vPro | Pro | 64 | 06/12
2429-5UG | i5-3320M 4GBx1 | 15.6" HD+ | 180G SSD | None | Intel 6205 | WWAN upg | None | 6 | 65W | I AMT vPro | G P | 64 | 06/12
2429-5VG | i5-3320M 4GBx1 | 15.6" HD+ | 128G SSD | None | Intel 6205 | WWAN upg | None | 6 | 85W | I AMT vPro | G P | 64 | 06/12
2429-5YG | i7-3520M 4GBx1 | 15.6" HD+ | 500G 7200 | None | Intel 6205 | WWAN upg | None | 6 | 65W | I AMT vPro | G P | 64 | 06/12
2429-62G | i5-3320M 4GBx1 | 15.6" HD+ | 500G 7200 | None | Intel 6205 | WWAN upg | None | 6 | 65W | I AMT vPro | G P | 64 | 06/12
2429-64G | i5-3320M 4GBx1 | 15.6" HD+ | 320G SSD | None | Intel 6205 | WWAN upg | None | 6 | 85W | I AMT vPro | G P | 64 | 06/12
2429-23G | i5-3320M 4GBx1 | 15.6" HD+ | 500G 7200 | None | Intel 6205 | Ericsson selectable | Smart | 6 | 90W | I AMT vPro | G P | 64 | 06/12
2429-22G | i5-3320M 4GBx1 | 15.6" HD+ | 320G SSD | None | Intel 6205 | WWAN upg | None | 6 | 85W | I AMT vPro | G P | 64 | 06/12
2429-70G | i5-3320M 4GBx1 | 15.6" HD+ | 320G SSD | None | Intel 6205 | WWAN upg | None | 6 | 85W | I AMT vPro | G P | 64 | 07/12
2429-74G | i5-2520M 4GBx1 | 15.6" HD | 320G 7200 | None | Intel 6205 | WWAN upg | None | 6 | 65W | I AMT vPro | G P | 64 | 10/12
2429-73G | i5-2520M 4GBx1 | 15.6" HD | 320G 7200 | None | Intel 6205 | WWAN upg | None | 6 | 65W | I AMT vPro | G P | 64 | 10/12

Positioning Processor
Premiere performance: two spindles
Intel® Core™ i5-3520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology
Intel Core i3-3220M processor (2 cores, 2.7GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.00GHz), HT technology

Memory 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

Optical Ultrabay SATA disk
DVD burner, 12.7mm Ultrabay Enhanced, removable
One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access

Some: Solid State Drive (SSD) / SATA 6,Gb/s, 2.5" wide, 7mm high
Some: HDD / SATA 3.0,Gb/s, 2.5" wide, 7mm or 9,5mm high, Active Protection System™
All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

mSATA™ SSD None

Wide-screen display Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16,9 aspect ratio, 500:1 contrast ratio, 60% Gamut
Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16,9 aspect ratio, 500:1 contrast ratio, 60% Gamut
Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16,9 aspect ratio, 16:9, 85% Gamut

Camera HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

Graphics Intel HD Graphics 3000 or 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

Keyboard 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

TrackPoint® pointing device, “Press-to-Select,” Internet Scroll Bar®, magnifying glass

Touchpad UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch illuminates the keyboard to improve visibility in low-light conditions

Dimensions³ 15.6"Wx(9x6)" 16:9x1.25-1.40; 33.2mm x 245,1mm x 31.9-35.6mm

Weight³ 6-cell: starting at 3.9 lb (2.45kg); 9-cell: starting at 5.76 lb (2.62kg)

Battery - type Lithium-Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Whr); up to 9.1 hr; 9-cell (94Whr); up to 15.3 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 30.6 hr

Chipset Mobile Intel QM77 Express Chipset

ExpressCard One slot (ExpressCard/34)

Smart Card Reader Some: Smart Card Reader

Multicard Reader Ports 4-in-1 reader (MMC, SD, SDHC, SDXC)

PCle Mini Card Two PCI Express Mini Card slots

PCle WLAN None

PCle WWAN None

SIM card None

Modem None

Bluetooth™ 4.0 wireless

Ethernet Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1

Audio support HD Audio, Realtek® ALC2802 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

Security Power-on password, hard disk password, supervisor password, security keyhole

Security chip Trusted Platform Module, TSS 1.2-compliant

Fingerprint reader None

Limited warranty³ 3-years/1-year battery, limited onsite service², 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

Preloaded operating system¹0 Genuine Windows® 7 Professional 64

Ready to install applications¹4 (only some listed)
• Rescue and Recovery™
• Password Manager

Preloaded applications¹4 (some listed)
• Lenovo® Solution Center
• Lenovo Message Center Plus
• ThinkVantage Product Recovery
• Access Connections™
• FingerPrint Software (fingerprint models)
• ThinkVantage System Update
• ThinkVantage Power Manager
• Lenovo Cloud Storage by SugarSync
• Lenovo SimpleTap
• Microsoft® Office preloaded;
purchase a product key to activate
• Norton™ Internet Security 2012 (30 days of virus definitions)
• Adobe® Reader
• Skype™ for Windows
• Evernote®
• Intel Small Business Advantage
• RapidBoot HDD Accelerator
• Symantec® VIP
• Windows Live™ Essentials
• Corel® WinDVD® (DVDxRW)
• Corel Burn.Now® Lenovo Edition (DVDxRW)
• Corel DVD MovieFactory® Lenovo Edition (DVDxRW)

Supplies ThinkVantage® technologies

65-watt or 90-watt AC adapter

ThinkPad Roll Cage (one-piece magnesium frame)

EPEAT® Gold rating

ENERGY STAR® 5.0-compliant

RoHS-compliant

International Warranty Service¹7 24 hour x 7 day¹8 toll-free support during the warranty period²

See footnotes for more detailed information © Lenovo (G-KN4-5) August 2013
Product Specifications Reference (PSREF)

ThinkPad T530 2429 (Onsite) - Windows 8

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- **Some models are part of the Global Models Plus program with limited onsite service**: 3-year limited warranty

**Positioning**

- 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 i5-3210M processor (2 cores, 2.50GHz, 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

**Memory**

- 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- * System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Ultrabay**

- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- **Some:** Solid State Drive (SSD) / SATA 6.0Gbps, 2.5" wide, 7mm high
- **Some:** HDD / SATA 3.0Gbps, 2.5" wide, 7mm or 9.5mm high, Active Protection System™
- **All:** removable, upgradeable, supports the second disk, Shock Mounted Hard Drive

**Widescreen display**

- **Some:** 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- **Some:** 15.6" (396mm) HD+ (1920x1080) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- **Some:** 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut

**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 (DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

**Keyboard**

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar®, magnifying glass

**Touchpad**

- UltrNav®, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions**

- 15.6"W (394mm) / 10.9"D (276mm) / 0.9"H (22mm)

**Weight**

- 6.55 lbs (2.97 kg)

**Battery**

- Lithium ion 6-cell or 9-cell, optional Slice battery as 2nd battery, HW Authentication
- 9-cell: (94Whr, 0A36304) up to 15.3 hr; 9-cell plus 9-cell battery (94Whr, 0A36304): up to 30.6 hr
- 6-cell: (57Whr) up to 9.1 hr; 6-cell plus 9-cell Slice battery (94Whr, 0A36304): up to 15.3 hr

**Chipset**

- Mobile Intel QM77 Express Chipset
- One slot (ExpressCard/34)
- 4-in-1 reader (MMC, SD, SDHC, SDXC)
- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)
- Supports ThinkVantage technologies

**Preloaded operating system**

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

**Preloaded applications** (only some listed)

- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader®
- Windows Live™ Essentials
- Corel® WinDVD® (DVD:RW)
- Corel® Burn:Now™ Lenovo Edition (DVD:RW)
- Corel® DVD MovieFactory® Lenovo Edition (DVD:RW)

**Windows 8 models**

- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- Lenovo Cloud Storage by SugarSync
- Microsoft® Office preloaded; purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

**ENERGY STAR® Gold rating**

65-watt AC adapter
ThinkPad Roll Cage (one-piece magnesium frame)
EPEAT® Gold rating
ENERGY STAR® 5.0-compliant
RoHS-compliant
International Warranty Service®

24 hour x 7 day toll-free support during the warranty period

See footnotes for more detailed information

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(G-KN4-12) August 2013
**Premiere performance; two spindles**

**Intel® Core™ i5-3230M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology**

**Widescreen display**

Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 500:1 contrast ratio, 60% Gamut
Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 500:1 contrast ratio, 60% Gamut
Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16.9 aspect ratio, 500:1 contrast ratio, 95% Gamut

**Camera**

HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

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**

6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar®, magnifying glass

**Dimension**

15.6W (WxDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm

**Weight**

6-cell starting at 5.93 lb (2.62kg); 9-cell starting at 6.76 lb (2.96kg)

**Battery**

Lithium Ion 6-cell or 9-cell, supports optional Slim battery as 2nd battery, HW Authentication 6-cell (57Whr); 9-cell (94Whr); up to 15.3 hr; 9-cell plus 9-cell Slim battery (94Whr, 0A36304); up to 30.6 hr

**Chipset**

Mobile Intel QM77 Express Chipset

**ExpressCard**

None

**Multicard Reader**

2-in-1 reader (MMC, SD, SDHC, SDXC)

**PCle Mini Card**

Two PCI Express Mini Card slots

**PCle WLAN**

11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

**PCle WWAN**

Wireless WAN upgradable

**SIM card**

None

**IEEE 1394**

None

**Bluetooth™**

Bluetooth 4.0 wireless

**Ethernet**

Intel 82579LM Gigabit Network Connection (Lewisville), PHY PCle x1

**Audio support**

HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

**Security**

Power-on password, hard disk password, security keyhole, Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Limited warranty**

3-years/1-year battery, limited onsite service®, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 8 pm will require an additional next business day for service dispatch / service upgrades available

---

Preloaded operating system®

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

Preloaded applications® (only some listed)

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

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

---

See footnotes for more detailed information

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(G-KN4-14) June 2013
### ThinkPad T530 2429 (Optimus) - Onsite

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### Positioning

**Processor**
Premiere performance; two spindles
Intel® Core™ i5-3320M processor (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000,
DDDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology
Intel Core i7-3520M processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000,
DDDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology

**Memory**
16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
* System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Ultrabay SATA disk**
One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
Some: SSD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™
All: removable, upgradeable, supports the second disk, Shock Mounted Hard Drive

**Widescreen display**
Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut

**Camera**
NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics,
Intel HD Graphics 4000 in processor, and
NVIDIA NVS™ 5400M, PCl Express™ x16, 1GB memory,
supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort;
supports three independent displays

**Graphics**
Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable);
1920x1200@60Hz (single-link DVI-I via optional Mini DP cable);
2048x1536@85Hz (VGA)

**Keyboard**
6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
TrackPoint® pointing device, “Press-to-Select,” Internet Scroll Bar®, magnifying glass
Touchpad: wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions**
15.6W" (396mm) x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm

**Battery - type**
Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication

**Chipset**
Mobile Intel QM77 Express Chipset

**Smart Card Reader**
None

**Ports**
Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**PCle Mini Card WWAN**
Two PCI Express Mini Card slots

**SIM card**
User selectable, contract required with service provider

**IEEE 1394**
IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)

**Ethernet**
Intel 8257LM Gigabit Network Connection (Lewisville), PHY, PCl x1

**Audio support**
HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

**Security**
Platform Module, TCG 1.2-compliant

**Limited warranty**
3-years/1-year battery, limited onsite service®; 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

**See footnotes for more detailed information**

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</table>

**Positioning**

- **Processor**: Intel® Core™ i5-2520M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology

**Memory**

- 16GB max / PCs-12800 1600MHz DDR3, non-parity, dual-channel, 24-pin SO-DIMM sockets
- System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Ultrabat**

- DVD burner, 12.7mm Ultrabay Enhanced, removable
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™
- All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

**Widescreen display**

- Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut

**Camera**

- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 3000 in processor, and NVIDIA® NVS™ 5400M, PCI Express® x16, 1GB memory
- Supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort: supports three independent displays
- Maximum external resolution: 2560x1600®@60Hz (DisplayPort via optional Mini DP cable); 1920x1200®@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536®@85Hz (VGA)

**Keyboard**

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- TrackPoint®: pointing device, “Press-to-Select,” Internet Scroll Bar®, magnifying glass
- Touchpad: UltraNav® wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
- ThinkLight™: illuminates the keyboard to improve visibility in low-light conditions

**Dimensions**

- 15.6W (WxHxD): 14.68" x 9.65" x 1.25-1.40; 372.8mm x 245.1mm x 31.8-35.6mm

**Weight**

- 6-cell: starting at 5.73 lb (2.60kg); 9-cell: starting at 6.10 lb (2.77kg)

**Battery**

- Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication
- Battery (57Whr): up to 7.7 hr; 9-cell (94Whr): up to 12.8 hr; 9-cell plus 9-cell Slice battery (94Whr): up to 25.6 hr

**Chipset**

- Intel® QM77 Express Chipset
- Supports ThinkVantage® technologies

**Preloaded operating system**

- Genuine Windows® 7 Professional 64

**Ready to install applications**

- (only some listed)
- Rescue and Recovery™
- Password Manager

**Preloaded applications**

- (only some listed)
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- Fingerprint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage
- SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded; purchase a product key to activate
- Norton™ Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype® for Windows
- Evernote®
- Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec™ VIP
- Windows Live™ Essentials
- Corel® WinDVD® (DVD+RW)
- Corel® DVD MovieFactory® Lenovo Edition (DVD+RW)

**Supplementary Information**

- 90-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service17 24 hour x 7 day18 toll-free support during the warranty period

* See footnotes for more detailed information

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<td>8GBx1</td>
<td>15.6&quot; HD+ 7200</td>
<td>Sata</td>
<td>6205</td>
<td>Smart 6</td>
<td>None</td>
<td>Smart 6 90W</td>
<td>Win7 Pro64</td>
<td>10/12</td>
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<td>2429-6LG</td>
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<td>4GBx1</td>
<td>15.6&quot; HD+ 7200</td>
<td>Sata</td>
<td>6205</td>
<td>Smart 6</td>
<td>None</td>
<td>Smart 6 90W</td>
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<td>Smart 6</td>
<td>None</td>
<td>Smart 6 90W</td>
<td>Win7 Pro64</td>
<td>10/12</td>
<td></td>
</tr>
</tbody>
</table>

Some models are part of the Global Models Plus program with limited onsite service 3-year limited warranty.

Positioning Processor
- Intel Core™ i3-3210M 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™ i7-3520M processor (4 cores, 2.50GHz, 6MB cache), Intel HD Graphics 4000.
- DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.00GHz), HT technology.

Intel Core™ i7-3630QM processor (4 cores, 2.60GHz, 6MB cache), Intel HD Graphics 4000.
- DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology.

Memory
- 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets.
- System automatically clocks down for processors with 1333MHz DDR3 memory controller.

Preloaded operating system

- Some: Windows 7 Pro 64-bit
- Some: Windows 8 Pro 64-bit

Preloaded applications

- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader™
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD:RW)
  - Corel® MovieFactory Lenovo Edition (DVD:RW)

- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - PC Device Stage
  - Cyberlink Power2Go (DVD:RW)
  - Cyberlink PowerProducer (DVD:RW)

- All models
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - FingerPoint Software (fingerprint models)
  - Lenovo Cloud Storage preloaded
  - purchase a product key to activate
  - Norton™ Internet Security (30 days of virus definitions)

Graphics
- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor and NVIDIA NVS™ 5400M, NVIDIA® Express x16. 1GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@75Hz (single-channel HDMI or 2 Mini DP cable); 2048x1536@60Hz (VGA)

Keyboard
- TouchPoint®  tracking device, “Press-to-Select,” Internet Scroll Bar®, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

Dimensions
- 15.6" (WxHDxH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm
- 6-cell: 90-watt or 135-watt AC adapter
- 9-cell: 90-watt or 135-watt AC adapter

Chipset
- Mobile Intel GM77 Express Chipset
  - One slot (ExpressCard/34)

Smart Card Reader
- MultiCard Reader Ports
  - Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

See footnotes for more detailed information

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(G-KN4-13) August 2013
Type-model | Processor | Memory | Wide-screen display | Disk SATA | GB rpm | Backlit keyboard | PCl e Mini Card | Mini Card WWAN | IM/Sim card | Smart Card Reader | Finger print reader | Battery cells | Power Adapter Input (v/w) | Preload | Ann Date \\
---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---
2429-82G | i5-3230M | 4GBx1 | 15.6" HD+ | 500G | 7200 | Backlit | 6205EM | Ericsson | selectable | Smart | Finger | 6 | 90W | No | Win7 Pro64 | 03/13 \\
2429-72G | i5-3230M | 4GBx1 | 15.6" HD+ | 500G | 7200 | Backlit | 6205EM | Ericsson | selectable | Smart | Finger | 6 | 90W | No | Win7 Pro64 | 03/13 \\
2429-72Y | i5-3230M | 4GBx1 | 15.6" HD+ | 500G | 7200 | Backlit | 6205EM | Ericsson | selectable | Smart | Finger | 6 | 90W | No | Win7 Pro64 | 03/13 \\
2429-7XG | i7-3630QM | 8GBx1 | 15.6" FHD | 240G | FDE SSD | Backlit | 6205EM | Ericsson | selectable | Smart | Finger | 6 | 90W | No | Win7 Pro64 | 03/13 \\
2429-8AG | i7-3630QM | 8GBx1 | 15.6" FHD | 240G | FDE SSD | Backlit | 6205EM | Ericsson | selectable | Smart | Finger | 6 | 90W | No | Win7 Pro64 | 03/13 \\
2429-89G | i5-3230M | 4GBx1 | 15.6" HD+ | 500G | 7200 | Backlit | 6205EM | Ericsson | selectable | Smart | Finger | 6 | 90W | No | Win7 Pro64 | 06/13 \\

Preloaded operating system
- Some: Windows 7 Professional 64 bit downgrade rights in Windows 8 Professional 64-bit 
- Some: Windows 8 Pro 64-bit

Preloaded applications
- Windows 7 models
  - Lenovo: Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections
  - ThinkVantage Power Manager
  - Lenovo Snoop SimpleTap
  - Adobe Reader
  - Windows Live Essentials
  - Corel WinDVD (DVD:RW)
  - Corel BurnNow (Lenovo Edition) (DVD:RW)
  - Corel DVD MovieFactory (Lenovo Edition) (DVD:RW)

- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go (DVD:RW)
  - Cyberlink PowerProducer (DVD:RW)

- All models
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - Fingerprint Software (fingerprint models)
  - Lenovo Cloud Storage by SugarSync
  - Microsoft Office preloaded; purchase a product key to activate
  - Norton Internet Security (30 days of virus definitions)
ThinkPad T530i 2392 (TopSeller)

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<th>Mini Card</th>
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<td>i3-2370M</td>
<td>4GBx1</td>
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<td>720p</td>
<td>320G</td>
<td>7200</td>
<td>Backlit</td>
<td>Intel 2200</td>
<td>WWAN upg</td>
<td>None</td>
<td>Finger BT 6</td>
<td>None</td>
<td>3-years</td>
</tr>
</tbody>
</table>

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

**Positioning Processor**

- Intel® Core™ i3-2370M processor (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 3000,
- DDR3 memory controller (up to 1333MHz), HT technology

**Memory**

- 16GB max1 / PC3-12800 1600MHz DDR3, non-parity,
- dual-channel capable, two 204-pin SO-DIMM sockets

* System automatically clocks down for processors with 1333MHz DDR3 memory controller

**Optical Ultrabay SATA disk**

- DVD burner, 12.7mm Ultrabay Enhanced, removable
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™
- All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive

**mSATA™ SSD**

- None

**Widescreen display**

- Some: 15.6" (396mm) HD (1366x768) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- Some: 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- Some: 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut

**Camera**

- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

- Intel HD Graphics 3000 in processor,
- supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort;
- supports dual independent display;
- Maximum external resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable);
- 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

**Keyboard TrackPoint® Touchpad ThinkLight™**

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar™, magnifying glass
- UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions³**

- 15.6W" (WXDVH): 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm
- 6-cell: starting at 5.39 lb (2.45kg);
- 9-cell: starting at 5.76 lb (2.62kg)
- Display cover: Carbon-fiber / Glass-fiber hybrid;
- Bottom: Glass-fiber reinforced plastic without paint
- Battery: type - life (days)
- Lithium Ion 6-cell or 9-cell, supports optional Slice battery as second battery, HW Authentication 6-cell (57Whr): up to 9.13 hr;
- 9-cell (94Whr): up to 15.3 hr;
- 9-cell plus 9-cell Slice battery (94Whr): up to 30.6 hr

**Chipset ExpressCard**

- Mobile Intel i77 Express Chipset
- One slot (ExpressCard/34)
- None
- 4-in-1 reader (MMC, SD, SDHC, SDXC)
- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**PCle Mini Card**

- Two PCI Express Mini Card slots
- PCle Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2
- None
- None
- Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1

**Audio support**

- HD Audio, Realtek® ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 1W x 2 /
- volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack

**Security Security chip Fingerprint reader**

- Power-on password, hard disk password, supervisor password, security keyhole
- Trusted Platform Module, TCG 1.2-compliant
- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator

**Limited warranty**

- 3-years 1-yr battery - depot repair service / service upgrades available

**Preloaded operating system**

- Genuine Windows® 7 Professional 64

**Ready to install applications**

- (only some listed)
- Rescue and Recovery™
- Password Manager

**Preloaded applications**

- (only some listed)
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage
- Lenovo SimpleTap
- Microsoft® Office preloaded;
- purchase a product key to activate
- Norton™ Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- Evernote®
- Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec™ VIP
- Windows Live™ Essentials
- Corel® WinDVD® (DVD±RW)
- Corel® DVD MovieFactory® Lenovo Edition (DVD±RW)

**Supports ThinkVantage technologies**

- 90-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service17 24 hour x 7 day²⁰ toll-free support during the warranty period²¹
ThinkPad T530i 2392 (TopSeller) - Windows 8

Product Specifications Reference (PSREF)

Type-model | Processor | Memory | Wide-screen display | Camera | Disk SATA | GRF rpm | Backlit key-board | PCI-e Mini Card | PCIe Mini Card | WWAN | mSATA | Finger print reader | Battery | Intel AMT | Intel Centrino | Preload | Ann Date (m/m/y)
2392-AHG | i3-3110M | 4GBx1 | 15.6” HD | 720p | 500G 7200 | Backlit | Intel 2200 | WWAN upg | Finger BT | 6 | None | Win7 Pro64 | 03/13
2392-5WG | i3-3110M | 4GBx1 | 15.6” HD | 720p | 500G 7200 | Backlit | Intel 2200 | WWAN upg | Finger BT | 6 | None | Win8 Pro64 | 03/13
2392-CMG | i3-3120M | 4GBx1 | 15.6” HD | 720p | 500G 7200 | Backlit | Intel 2200 | WWAN upg | Finger BT | 6 | None | Win8 Pro64 | 02/13
2392-E6G | i3-3120M | 4GBx1 | 15.6” HD+ | 720p | 180G SSD | Backlit | Intel 6205 | WWAN upg | Finger BT | 6 | None | Win8 Pro64 | 03/13
2392-45G | i3-3120M | 4GBx1 | 15.6” HD | 720p | 500G 7200 | Backlit | Intel 6205 | WWAN upg | Finger BT | 6 | None | Win8 Pro64 | 03/13
2392-ENG | i3-3120M | 4GBx1 | 15.6” HD+ | 720p | 256G SSD | Backlit | Intel 6205 | WWAN upg | Finger BT | 6 | None | Win8 Pro64 | 06/13
2392-EMG | i3-3120M | 4GBx1 | 15.6” HD+ | 720p | 256G SSD | Backlit | Intel 6205 | WWAN upg | Finger BT | 6 | None | Win7 Pro64 | 06/13

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

### Preloaded operating system
- **Some:** Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
- **Some:** Windows 8 Pro 64-bit

### Preloaded applications (only some listed)
- **Windows 7 models**
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
  - Adobe® Reader®
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD:RW)
  - Corel DVD MovieFactory® Lenovo Edition (DVD:RW)

- **Windows 8 models**
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - AccuWeather
  - PC Device Stage
  - Cyberlink Power2Go (DVD:RW)
  - Cyberlink PowerProducer (DVD:RW)

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

### Limited warranty
- **3-years/1-yr battery - depot repair service / service upgrades**

See footnotes for more detailed information © Lenovo

(G-KN4i-2) June 2013
Lenovo ThinkPad W530

Lenovo ThinkPad W530 with four displays
### Type-model Processor Memory Wide-screen display Discrete graphics Disk Sata/GT rpm RAID Backlit keyboard PCIe Mini Card PCIe Mini Card WAN/ mSATA Color Battery Intel Preload Ann Date (mm/yy)

| 2438-4GG | i7-3720QM | 4GBx1 | 15.6" HD | 1x500G | 7200 | None | None | Intel 6205 | WWAN upg | None | 6 | vPro | Win7 Pro64 | 10/12 |
| 2438-4FG | i7-3820QM | 4GBx1 | 15.6" HD | 1x500G | 7200 | None | None | Intel 6205 | WWAN upg | None | 6 | vPro | Win7 Pro64 | 10/12 |
| 2438-4EG | i7-3720QM | 4GBx1 | 15.6" HD | 1x320G | 7200 | None | None | Intel 6205 | WWAN upg | None | 6 | vPro | Win7 Pro64 | 10/12 |

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

### Positioning Processor

**Mobile workstation; two spindles**

- **Intel® Core™ i7-3720QM processor (4 cores, 2.60GHz, 6MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology**
- **Intel Core i7-3820QM processor (4 cores, 2.70GHz, 8MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology**

### Memory

- **dual-core model:** 160GB max.; two 204-pin SO-DIMM sockets
- **quad-core model:** 32GB max. four 204-pin SO-DIMM sockets
- **All:**
  - PC3-12800 1600MHz DDR3, non-parity, dual-channel capable

### Optical Ultrabay SATA disk

- **DVD burner, 12.7mm Ultrabay Enhanced, removable**
- **One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access**
  - **Some:** Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
  - **Some:** SSD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™
- **All:** removable, upgradeable, supports the second disk, Shock Mounted Hard Drive

### Widescreen display

- **14.0" (355mm) HD (1366x768) color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio**
- **15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut**
- **15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut**

### Color calibration Camera

- **HD720p resolution, wide angle view, low light sensitive, face tracking, fixed focus**

### Graphics

- **NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA Quadro® K1000M or K2000M, PCI Express® x16, 2GB memory**
- **supports three independent displays; Maximum external resolution:** 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@60Hz (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™, magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch**
- **ThinkLight™ Illuminates the keyboard to improve visibility in low-light conditions**

### Dimensions³ Weight³ Case material

- **15.6W" (WxDxH): 14.68" x 9.65" x 1.25-1.40."**: 372.8mm x 245.1mm x 31.8-35.6mm
- **6-cell: starting at 5.76 lb (2.62kg); 9-cell: starting at 6.19 lb (2.81kg)**
- **Display cover:** Carbon-fiber / Glass-fiber hybrid;
- **Bottom:** Glass-fiber reinforced plastic without paint

### Battery - type Battery - life³

- **Lithium ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication 6-cell (57Wh) up to 7.7 hr; 9-cell (94Wh) up to 12.8 hr; 9-cell plus 3-cell Slice battery (94Wh, 0A36304) up to 25.6 hr**

### Chipset ExpressCard Smart Card Reader

- **Mobile Intel QM77 Express Chipset**
- **One slot (ExpressCard/34)**

### Multicard Reader Ports

- **4-in-1 reader (MMC, SD, SDHC, SDXC)
- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)

### PCle Mini Card

- **Two PCI Express Mini Card slots
- 11a/b/g/n, PCIE Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2**

### PCle WAN³ PCle WWAN SIM card

- **Wireless WAN upgradeable**
- **None**

### PCle WWAN

- **Modern**
- **None**

### Bluetooth™

- **None**

### Ethernet

- **Internet 8257LM Gigabit Network Connection (Lewisville), PH, PCIxe 1x**

### Audio support

- **HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack**

### Security Security chip

- **Power-on authentication, hard disk password, supervisor password, security keyhole**
- **Trusted Platform Module, TCG 1.2-compliant**

### Fingerprint reader

- **Authentic fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip**

### Limited warranty³

- **3-years/1 yr battery - depot repair service / service upgrades² available**
ThinkPad W530 2441 (Optimus)  
Product Specifications Reference (PSREF)

Preloaded operating system\textsuperscript{10}  
Genuine Windows\textsuperscript{7} Professional 64

Ready to install applications\textsuperscript{14} (only some listed)  
• Rescue and Recovery\textsuperscript{™}  
• Password Manager

Preloaded applications\textsuperscript{14} (only some listed)  
• Lenovo\textsuperscript{®} Solution Center  
• Lenovo Message Center Plus  
• ThinkVantage Product Recovery  
• Access Connections\textsuperscript{™}  
• FingerPrint Software (fingerprint reader)  
• ThinkVantage System Update  
• ThinkVantage Power Manager  
• Lenovo Cloud Storage by SugarSync

• Lenovo SimpleTap  
• Microsoft\textsuperscript{®} Office preloaded; purchase a product key to activate  
• Norton\textsuperscript{™} Internet Security 2012 (30 days of virus definitions)  
• Adobe\textsuperscript{®} Reader\textsuperscript{®}  
• Skype\textsuperscript{™} for Windows  
• Evernote  
• Intel Small Business Advantage  
• RapidBoot HDD Accelerator  
• Symantec\textsuperscript{®} VLP  
• Windows Live\textsuperscript{®} Essentials  
• Corel\textsuperscript{®} WinDVD\textsuperscript{®} (DVD:RW)  
• Corel Burn,Now\textsuperscript{™} Lenovo Edition (DVD:RW)  
• Corel DVD MovieFactory\textsuperscript{®} Lenovo Edition (DVD:RW)  
• X-Rite\textsuperscript{®} Pantone\textsuperscript{®} Color Calibrator (color calibration models)

See footnotes for more detailed information

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(G-KN4W-1) February 2013
## ThinkPad W530 2441 (Optimus) - Windows 8

### Product Specifications Reference (PSREF)

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<th>PClie Mini Card WWAN/ mSATA</th>
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<td>K2000M</td>
<td>1x500G 7200</td>
<td>No</td>
<td>None</td>
<td>Intel 6205™</td>
<td>WWAN upgradable</td>
<td>Finger</td>
<td>9 vPro</td>
<td>G</td>
<td>Win8 Pro64 10/12</td>
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<tr>
<td>2441-46G</td>
<td>i7-3720QM</td>
<td>4GBx1</td>
<td>15.6&quot; HD+</td>
<td>K1000M</td>
<td>1x500G 7200</td>
<td>No</td>
<td>None</td>
<td>Intel 6205™</td>
<td>WWAN upgradable</td>
<td>Finger</td>
<td>9 vPro</td>
<td>G</td>
<td>Win8 Pro64 10/12</td>
</tr>
</tbody>
</table>

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

### Positioning

- **Processor**: Mobile workstation: two spindles
- **Memory**: dual-core model: 16GB max, two 204-pin SO-DIMM sockets
- **Color calibration**: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

### Optical

- **DVD burner**: 12.7mm UltraBay Enhanced, removable
- **One bay for removable devices**: UltraBay Slim-compatible, 12.7mm high, bottom access

### Features

- **Some**: Solid State Drive (SSD) / Sata 6.0Gb/s, 2.5" wide, 7mm high
- **Some**: HDD / Sata 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System

### Graphics

- **NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics**, Intel HD Graphics 4000 in processor, and NVIDIA Quadro™ K1000M or K2000M, Pci Express® x16, 2GB memory, supports external analog monitor via Vga DB-15 and digital monitor via Mini DisplayPort, supports three independent displays;
- **Maximum external resolution**: 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)

### Key Features

- **Keyboard**: 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- **TrackPoint® Touchpad**: UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch

### Chipset

- **Mobile Intel QM77 Express Chipset**

### ExpressCard

- **One slot (ExpressCard/34)**

### Multicard Reader

- **4-in-1 reader (MMC, SD, SDHC, SDXC)**

### Ports

- **Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45)**, IEEE 1394 Firewire 400 (4-pin connector; 1394a-2000 standard)

### Supporting Technologies

- **Lenovo Solution Center**
- **Password Manager**
- **ThinkVantage System Update**
- **Fingerprint Software (fingerprint models)**
- **Lenovo Cloud Storage**
- **Lenovo Mobile App Center**
- **Lenovo Support**
- **Microsoft® Office preloaded**
- **Lenovo Backup**
- **Lenovo Cloud Storage**
- **Windows® 8 Pro 64-bit**

### Preloaded Operating System

- **Windows® 8 Pro 64-bit**

### Preloaded Applications

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

### All Models

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

### Windows 7 Models

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

### All Models

- **Lenovo Support Center**
- **Password Manager**
- **ThinkVantage System Update**
- **Fingerprint Software (fingerprint models)**
- **Lenovo Cloud Storage**
- **Lenovo Mobile App Center**
- **Microsoft® Office preloaded**
- **Lenovo Backup**
- **Lenovo Cloud Storage**
- **Windows® 8 Pro 64-bit**
- **Lenovo Security (30 days of virus definitions)**

### Limited warranty

- **3-years/1-year battery - depot repair service / service upgrades available**

See footnotes for more detailed information

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(G-KN4W-5) October 2012
**Product Specifications Reference (PSREF)**

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen Discrete Graphics</th>
<th>Disk</th>
<th>SATA</th>
<th>Optical</th>
<th>Bluetooth™</th>
<th>Battery</th>
<th>Color calibrator</th>
<th>Graphics</th>
<th>Security</th>
<th>Audio</th>
<th>Fingerprint reader</th>
<th>Limited warranty</th>
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</table>
| 2447-44G  | i7-3720QM | 4GBx1  | HD+ K1000M                     | 1x500G 7200 | No DVD:RW | Backlit 6300™ upg | None | None | X-Rite 9 | NVIDIA Quadro | None | 3-years/1-year battery, limited onsite service
| 2447-43G  | i7-3720QM | 4GBx2  | FHD K2000M                     | 1x500G 7200 | No DVD:RW | Backlit 6300 upg | None | None | X-Rite 9 | NVIDIA Quadro | None | 3-years/1-year battery, limited onsite service
| 2447-3T9  | i7-3720QM | 4GBx1  | FHD K1000M                     | 2x500G 7200 | 1 None | None 6205™ upg | None | None | None | None | None | 3-years/1-year battery, limited onsite service
| 2447-3SG  | i7-3720QM | 4GBx1  | FHD K1000M                     | 2x500G 7200 | 0 None | None 6205 upg | None | None | None | None | None | 3-years/1-year battery, limited onsite service
| 2447-2EG  | i7-3610QM | 4GBx1  | HD+ K1000M                     | 1x500G 7200 | No DVD:RW | Backlit 6300 upg | None | None | None | None | None | 3-years/1-year battery, limited onsite service
| 2447-29G  | i7-3720QM | 4GBx2  | FHD K2000M                     | 1x180G SSD | None | None 6205 Ericsson | Lenovo | None | None | None | None | 3-years/1-year battery, limited onsite service
| 2447-23G  | i7-3820QM | 4GBx2  | FHD K2000M                     | 1x500G 7200 | No DVD:RW | Backlit 6300 upg | None | None | None | None | None | 3-years/1-year battery, limited onsite service
| 2447-22G  | i7-3720QM | 4GBx1  | HD+ K1000M                     | 1x320G 7200 | No DVD:RW | Backlit 6300 upg | None | None | None | None | None | 3-years/1-year battery, limited onsite service

Preloaded operating system
- Genuine Windows® 7 Professional 64

Ready to install applications
- Rescue and Recovery™
- Password Manager

Preloaded applications
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Productivity Center
- Access Connections™
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage by SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded: purchase a product key to activate
- Norton® Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype® for Windows
- Evernote®
- Intel Small Business Advantage
- RapidBoot HDD Accelerator
- Symantec® VLP
- Windows Live™ Essentials
- Corel® WinDVD® (DVD+RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD+RW)
- X-Rite® Pantone® Color Calibrator (color calibration models)

Supports ThinkVantage® technologies
- 170-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)
- EPEAT® Gold rating
- ENERGY STAR® 6.0-compliant
- GREENGUARD® certified
- RoHS-compliant
- International Warranty Service
- 24 hour x 7 day toll-free support during the warranty period
## ThinkPad W530 2447 (Optimus) - Onsite - II

### Positioning
- Mobile workstation; two spindles

### Processor
- **Intel Core i7-3720QM processor (4 cores, 2.60GHz, 6MB cache), Intel HD Graphics 4000 DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology**

### Memory
- **dual-core model**: 16GB max, two 204-pin SO-DIMM sockets
- **quad-core model**: 32GB max, four 204-pin SO-DIMM sockets

### Optical Ultrabay
- DVD burner, 12.7mm Ultrabay Enhanced, removable

### SFF disk
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access

### SATA disk
- **Some**: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- **Some**: SSD / SATA 5.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™
- **All**: removable, upgradeable, supports the second disk, Shock Mounted Hard Drive

### Wireless display
- **Some**: 15.6" (396mm) HD+ (1600x900) color, anti-glide, LED backlight, 220 nits, 16.9 aspect ratio, 500:1 contrast ratio, 60% Gamut
- **Some**: 15.6" (396mm) Full HD (1920x1080) color, anti-glide, LED backlight, 270 nits, 16.9 aspect ratio, 500:1 contrast ratio, 95% Gamut

### Color calibration
- **Camera**: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator
- **Display**: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

### Graphics
- **NVIDIA® Optimus™ technology**, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and
- **NVIDIA Quadro® K1000M or K2000M**, PCI Express® x16, 2GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays:
  - Maximum external resolution: 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)

### Keyboard
- **TrackPoint®**, 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- **Touchpad**: UltraNav®, wide touchpad below keyboard, Tap Zones, scrolling, multi-touch illuminates the keyboard to improve visibility in low-light conditions

### Dimensions
- **Weight**
  - **6-cell (94Whr)**: starting at 5.76 lb (2.62kg); 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm
  - **9-cell (94Whr)**: up to 12.8 hr; 1920x1200@60Hz, non-parity, dual-channel capable

### Chipset
- **Mobile Intel QM77 Express Chipset**

### ExpressCard
- One slot (ExpressCard/34)

### Corel DVD MovieFactory
- **Edition (DVD +RW)**
  - **±**

### Windows Live
- **•**

### Symantec
- **•**

### Lenovo Edition
- **•**

### Evernote
- **•**

### Skype
- **for Windows**

### Lenovo Cloud Storage
- by SugarSync

### Lenovo SimpleTap
- **•**

### Lenovo Office preloaded;
- **Lenovo Support**
- **Lenovo Support**

### Windows Live Essentials
- **•**

### Lenovo Cloud Storage
- by SugarSync

### Lenovo System Update
- **•**

### Lenovo Rescue and Recovery
- **•**

### Lenovo Access Connections
- **•**

### Lenovo RapidBoot HDD Accelerator
- **•**

### Lenovo Support
- **•**

### Lenovo vPro Pro 64 07/12
- **Intel Active Management Technology (iAMT)**

### Energy Star
- **Gold rating**

### Recovery media
- **•**

### Modem
- **Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required**

### Preloaded operating system
- **Genuine Windows 7 Professional 64**

### Ready to install applications
- **(only some listed)**
  - Rescue and Recovery™
  - Password Manager

### Preloaded applications
- **(only some listed)**
  - Lenovo® Solution Center
  - Lenovo Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - Fingerprint Software (fingerprint models)
  - ThinkVantage System Update
  - ThinkVantage Power Manager
  - Lenovo Cloud Storage by SugarSync
  - Lenovo SimpleTap
  - Microsoft® Office preloaded;
  - purchase a product key to activate
  - Norton™ Internet Security 2012 (30 days of virus definitions)
  - Adobe® Reader
  - Skype® for Windows
  - Evernote®
  - Intel Small Business Advantage
  - RapidBoot HDD Accelerator
  - Symantec™ VSP
  - Windows Live™ Essentials
  - Corel® WinDVD® (DVD+RW)
  - Corel® Drive MovieFactory® Lenovo Edition (DVD+RW)
  - X-Rite® Pantone® Color Calibrator (color calibration models)

### Limited warranty
- **3-years/1-year battery, limited onsite service**, 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

### Preload load (mm/yy)
- **Pro 64 07/12**

### See footnotes for more detailed information

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(G-KN4W-3) August 2012

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**See footnotes for more detailed information**
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<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
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<th>Discrete graphics</th>
<th>Disk SATA</th>
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</table>

- **Some models are part of the Global Models Plus program with limited onsite service**
- **3-year limited warranty**

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

**Preloaded applications**
- Some: Windows® 7 models
- Lenovo® Message Center Plus
- ThinkVantage® Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader
- Windows Live™ Essentials
- Corel® WinDVD® (DVD+RW)
- Corel® DVD MovieFactory® Lenovo Edition (DVD+RW)

**Windows® 8 models**
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- AccuWeather
- PC Device Stage
- CyberLink Power2Go (DVD+RW)
- CyberLink PowerProducer (DVD+RW)

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

**Limited warranty**
- 3-years/1-year battery, limited onsite service:
  - 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch/service upgrades available

See footnotes for more detailed information © Lenovo

(G-KN4W-6) October 2012
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**Preloaded operating system**
- Windows 7 Professional 64-bit
- Windows 8 Pro 64-bit
- Windows 8 Pro 64-bit

**Preloaded applications**
- Adobe Reader
- Corel WinDVD (D9) / RW
- Cyberlink Powerproducer (D9) / RW
- Lenovo Cloud Storage
- Norton Internet Security

**All models**
- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- FingerPrint Software (fingerPrint models)
- Lenovo Cloud Storage by SugarSync
- Microsoft Office preloaded; purchase a product key to activate
- Norton Internet Security

**Limited warranty**
- 3-years: 1-year battery, limited onsite service, 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

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[product specifications]

- **Processor**
  - 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 (3.40GHz), HT technology

- **Memory**
  - dual-core model: 16GB max, 204-pin SO-DIMM sockets
  - quad-core model: 32GB max, four 204-pin SO-DIMM sockets

- **Graphics**
  - NVIDIA Optimus technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000 in processor, and NVIDIA Quadro K1000M or K2000M, PCI Express x16, 2GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays; Maximum external resolution: 3840x2160 @60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)

- **Dimensions**
  - 15.6W" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16.9 aspect ratio, 500:1 contrast ratio, 60% Gamut

- **Weight**
  - 8.94 kg (19.71 lbs)

- **Battery**
  - 6-cell (57Whr): Lithium Ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, Shock Mounted Hard Drive

- **Screen**
  - 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@85Hz (VGA)

- **Power**
  - 170W iAMT vPro G P Win8 Pro64 05/13

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See footnotes for more detailed information

© Lenovo (G-KN4W-7) May 2013
**Positioning**

- Mobile workstation: two spindles
- **Intel® Core™ i7-3740QM processor (4 cores, 2.70GHz, 6MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.70GHz), HT technology**
- **Intel Core i7-3740QM processor (4 cores, 2.80GHz, 8MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.80GHz), HT technology**

**Memory**

- dual-core model: 16GB max\(^2\), two 204-pin SO-DIMM sockets
- quad-core model: 32GB max, four 204-pin SO-DIMM sockets
- All: PCIe-12800 1600MHz DDR3, non-parity, dual-channel capable

**Optical**

- Sled burner, 12.7mm Ultrabay Enhanced, removable
- One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access
- **Some:** Solid State Drive (SSD) / SATA 6.0Gbps, 2.5" wide, 7mm high
- **Some:** HDD / SATA 3.0Gbps, 2.5" wide, 7mm or 9.5mm high, Active Protection System™
- **All:** removable, upgradable, supports the second disk, Solid State Drive (SSD)
- **Some:** mSATA Solid State Drive (SSD), via PCIe Mini Card slot

**Widescreen display**

- **Some:** 15.6" (396mm) HD+ (1600x900) color, anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 59% Gamut
- **Some:** 15.6" (396mm) Full HD (1920x1080) color, anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut

**Color calibration**

- Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator on/off switch
- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4000, and NVIDIA Quadro® K1000M or K2000M, PCI Express® x16, 2GB memory, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports three independent displays;
- **Maximum external resolution:** 3840x2160@60Hz (DisplayPort via optional Mini DP cable); 2048x1536@85Hz (VGA)

**Keyboard**

- 6-row, 64-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional backlighted LED keys
- **UltraNav®** wide touchpad below keyboard, Tap Zones, scrolling, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions\(^3\)**

- **Weight\(^3\):**
- **Case material:**
- **Battery - type Battery - life\(^16\):** Lithium ion 6-cell or 9-cell, supports optional Slice battery as 2nd battery, HW Authentication
- **6-cell (57Whr):** up to 7.7 hr; **9-cell (94Whr):** up to 12.8 hr; **9-cell plus 9-cell Slice battery (94Whr, 0A36304):** up to 25.6 hr

**Chipset**

- **Mobile Intel GM77 Express Chipset**
- One slot (ExpressCard/34)

**SATA disk**

- **mSATA\(^8\) SSD**

**Smart Card Reader**

- **4-in-1 reader (MMC, SD, SDHC, SDXC)**

**Ports**

- Two USB 3.0, two USB 2.0 (one powered), VGA DB-15, Mini DisplayPort, ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)

**PCIe Mini Card**

- Supports ThinkVantage® technologies
- 135-watt or 170-watt AC adapter
- ThinkPad Roll Cage (one-piece magnesium frame)
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- RoHS-compliant

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

**Product Specifications Reference (PSREF)**

- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Adobe® Reader
- Windows Live Essentials
- Corel® WinDVD® (DVD:RW)
- Corel DVD MovieFactory® Lenovo Edition (DVD:RW)
- Lenovo® Support
- Lenovo Solution Center
- Password Manager
- ThinkVantage System Update
- Fingerprint Software (fingerprint module)
- Lenovo Cloud Storage
- Microsoft® Office preloaded:
  - purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)

See footnotes for more detailed information © Lenovo (G-KN4W-8) June 2013
## ThinkPad W540 Platform Specifications

### Positioning
- Mobile workstation: two spindles

### Processor
- 4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor

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<tr>
<th>Processor Number</th>
<th># of Cores</th>
<th># of Threads</th>
<th>Base Frequency</th>
<th>Max Turbo Frequency</th>
<th>Cache</th>
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<td>DDR3L-1600</td>
<td>Intel HD Graphics 4600</td>
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</tbody>
</table>

### Memory
- dual-core model: 16GB max, two 204-pin SO-DIMM sockets
- quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4+4, 8+8, 4+4+4+4, and 8+8+8+8 combinations supported

| All: | | | | | | |
| PC3-12800 1600MHz DDR3L, non-parity, dual-channel capable

### Optical (optional)
- DVD burner, 9.5mm Ultraball slim, removable
- One modular bay for removable devices (right side, cold swap), 9.5mm high, bottom access

### Storage
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5” wide, 7mm high
- Some: Hard Disk Drive (HDD) / SATA 6.0Gb/s, 2.5” wide, 7mm or 9.5mm high, Active Protection System™

| All: | | | | | | |
| removable, upgradeable, supports the second disk, Shock Mounted

### M.2 SSD
- Some: M.2 Solid State Drive (SSD), via M.2 card slot, exclusive with WWAN card

### Widescreen display
- Some: 15.6” (396mm) FHD (1920x1080), anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio
- Some: 15.6” (394mm) 3K (2880x1620), anti-glare, LED backlight, 350 nits, 16:9 aspect ratio, 1000:1 contrast ratio, IPS

### Multi-touch
- None

### Color calibration
- Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest, LED indicator

### Camera (optional)
- HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

### Graphics
- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory, supports external analog monitor via VGA and digital monitor via Mini DisplayPort / Thunderbolt™; supports three independent displays, Max external resolution: 3840x2160 @ 60Hz (DisplayPort via MiniDP cable); 3840x2160 @ 60Hz (Thunderbolt); 1920x1200 @ 60Hz (VGA)

### Keyboard
- UltraNav™ 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight TrackPoint® pointing device and Mylar touchpad, integrated five buttons, multi-touch

### ThinkLight™
- None

### Dimensions
- 15.6W" (WxDxH): 14.83” x 9.77” x 1.10-1.16”; 376.6mm x 248.1mm x 27.9-29.5mm
- 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)

### Weight
- Glass-Fiber Reinforced Plastic

### Battery type
- Li-Ion 6-cell (35Wh) or 9-cell (99.9Wh), HW Authentication

### Max battery life
- 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr

### AC adapter
- dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter

### Chipset
- Mobile Intel QM87 Express Chipset

### ExpressCard
- One slot

### Smart card reader
- Optional: Smart card reader

### Media reader
- 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card

### Ports
- Two USB 3.0, two USB 2.0 (one Always On); VGA, Mini DisplayPort / Thunderbolt, Ethernet ( RJ-45), Dock connector

### Audio support
- HD Audio, Realtek® ALC2322 codec, Dolby® Home Theater v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack

### WLAN
- One of the following, configurable by model:
  - ThinkPad 11bg/n, 2x2, Wi-Fi + Bluetooth combo adapter, M.2 card
  - Intel Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card
  - Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card
  - Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT combo adapter, M.2 card

### WWAN (optional)
- One of the following, configurable by model (mutually exclusive with M.2 SSD):
  - Wireless WAN upgradeable
  - Wireless WAN, Sierra Wireless EM7355, Qualcomm® Gobi™ 4G LTE / HSPA+/EVDO/GSM/GPRS/EDGE, GPS, M.2 card (US models)
  - Wireless WAN, Ericsson® N5321, HSPA+ 21Mbps/GSM/GPRS/EDGE, GPS, M.2 card (WE models)
  - Wireless WAN, Sierra Wireless EM7345, Intel 4G LTE/HSPA/GSM/GPRS/EDGE, GPS, M.2 card (WE models)

### SIM card (optional)
- One of the following, configurable by model:
  - AT&T® or Verizon® LTE (4G), contract required with service provider (US models)
  - Lenovo SIM, out-of-box service, pay-as-you-go via credit card, no contract required (WE models)
  - User selectable, contract required with service provider

### Bluetooth™
- Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter

### NFC
- Optional: Near Field Communication

### Security
- Power-on password, hard disk password, supervisor password, security keyhole

### Security chip
- Trusted Platform Module, TCG 1.2-compliant

### Fingerprint reader
- Optional: Fingerprint reader on the palm rest, swipe sensor

### Limited warranty
- One of the following, configurable by model:
  - 1-year depot repair service
  - 3-year/1-year battery depot repair service
  - 3-year/1-year battery limited onsite service
  - 3-year/1-year battery limited onsite service, IWS (International Warranty Service)³

### Preload
- Windows® 7 Professional 64 preinstalled through downgrade rights in Windows® 8 / 8.1 Pro 64-bit
- Lenovo Solution Center
- ThinkVantage Product Recovery
- Rescue and Recovery™
- ThinkVantage System Update
- Lenovo Cloud Storage by SugarSync
- CD Drive Stage
- Adobe® Reader®
- Nitro Pro
- Evernote®
- Skype™
- Microsoft® Office preloaded: purchase a product key to activate
- Norton™ Internet Security (30 days of virus definitions)
- Cyberlink PowerDVD PowerGo (DVD±RW)
- Cyberlink PowerProducer (DVD±RW)
- Cyberlink PowerProducer (DVD±RW)
- Cyberlink PowerProducer (DVD±RW)

### Environment
- EPEAT® Gold, ENERGY STAR® 6.0, GREENGUARD®; RoHS-compliant

### For ISV certifications, please visit www.lenovo.com/support/ISV
| Model         | Processor   | vPro | Graphics | Memory | Display  | Storage | RAID | Optical   | WLAN & Bluetooth | WWAN / M.2 | SIM card | Smart card reader | Camera reader | Backlight keyboard | Finger- print reader | Color calibration | Battery adapter | Power adapter | Preload | Base warranty | Glob- al (m/v) | Ann date |
|-------------|-------------|------|----------|--------|----------|---------|------|-----------|-----------------|-------------|-----------|------------------|---------------|-------------------|-------------------|-------------------|----------------|-------------|-------------|---------|---------------|-------------|---------|
| 20BG003X++  | i7-4810MQ   | vPro | K1100M   | 8GBx2  | 15.6" FHD| 1T 5400| No   | DVD+RW   | 7260 a/b/g/n/ BT| Upp         | None      | Smart 720p       | None          | Finger            | None              | 8GB              | None           | None        | 9 170W     | Win8.1 DG     | Win7 3-depot | No 06/14 |
| 20BG004Y++  | i7-4810MQ   | vPro | K1100M   | 8GBx1  | 15.6" FHD| 512G SSD| No   | DVD+RW   | 7260 a/b/g/n/ BT| Upp         | None      | Smart 720p       | None          | Finger            | None              | 1T 5400           | None           | None        | 9 170W     | Win8.1 DG     | Win7 3-depot | No 06/14 |
| 20BG0040++  | i7-4810MQ   | vPro | K1100M   | 8GBx1  | 15.6" FHD| 1T 5400| No   | DVD+RW   | 7260 a/b/g/n/ BT| Upp         | None      | Smart 720p       | None          | Finger            | None              | 1T 5400           | None           | None        | 9 170W     | Win8.1 DG     | Win7 3-depot | No 06/14 |
| 20BG0041++  | i7-4810MQ   | vPro | K1100M   | 8GBx2  | 15.6" FHD| 512G SSD| No   | DVD+RW   | 7260 a/b/g/n/ BT| Upp         | None      | Smart 720p       | None          | Finger            | None              | 8GB              | None           | None        | 9 170W     | Win8.1 DG     | Win7 3-depot | No 06/14 |

**ThinkPad W540 20BG (Optimus) - TopSeller**

### Processor

- **4th Generation Intel® Core™ i5 / i7 / i9 Extreme Processor**
- **Processor**: Various models with different specifications.
- **# of Cores**: 2 or 4.
- **Base Frequency**: 2.4 GHz to 3.9 GHz.
- **Max Turbo Frequency**: 3.5 GHz to 3.9 GHz.
- **Cache Memory**: 3MB to 8MB.
- **Speed**: DDR3L-1600.

### Memory

- **Type**: dual-core: 16GB max., quad-core: 32GB max.
- **Dimensions**: 15.6W” (WxWxH): 14.83” x 9.77” x 1.10-1.16”.
- **Weight**: 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg).
- **Media reader**: HD Audio, Realtek® ALC2322 codec, Dolby® Home Theater® v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack.
- **Smart card reader**: Optional.
- **Case material**: Glass-Fiber Reinforced Plastic.
- **Battery type**: Li-Ion 6-cell (36Wh) or 9-cell (99.9Wh), HW Authentication.
- **Country Code**: AT (Austria), FR (France), GB (Germany w/ English OS), GE (Germany w/ German OS), IV (Israel), IW (Iceland), IX (Italy), MB (Belgium), MD (Denmark), MH (Netherlands), ML (Luxembourg), MN (Norway), MS (Sweden), MZ (Switzerland), NX (Netherlands), PG (Portugal), SP (Spain), UK (United Kingdom).

### Optical (optional) Ultrabay Storage
- **DVD burner**: 9.5mm UltraBay slim, removable.
- **M.2 SSD (opt)**: 32GB max, four 204-pin SO-DIMM sockets.

### Widescreen display
- **Color calibration Camera**: Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest.
- **Color calibration Camera (optional)**: Optional: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus.

### Graphics
- **NVIDIA® Optimus™ technology**: Auto-switch between discrete and integrated graphics.
- **NVIDIA® Quadro®**: K1100M or K2100M, PCI Express® x16, 2GB memory.

### Keyboard
- **UltrNav™**: 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight.
- **ThinkLight™**: None.

### Security
- **Security**: Power-on password, hard disk password, supervisor password, security keyhole.
- **Fingerprint reader**: Optional: Fingerprint reader on the palm rest, swipe sensor.
- **Preload**: Win8 / 8.1 DG Win7; Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit.
- **Limited warranty**: 1-year - depot / 3-years - (1-year battery) - depot / 3-years - (1-year battery) onsite.

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See footnotes for more detailed information. (G-KM1W-1) © Lenovo
### Model Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Processor</th>
<th>vPro Graphics/Memory</th>
<th>Display</th>
<th>Storage</th>
<th>RAID</th>
<th>Optical</th>
<th>WLAN &amp; Bluetooth</th>
<th>WWAN / USB</th>
<th>Smart card</th>
<th>Camera</th>
<th>Backlit</th>
<th>Finger-print reader</th>
<th>Color</th>
<th>Battery</th>
<th>Power adapter</th>
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<th>Base warranty Glob- (year)</th>
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<td>i7-4710MQ</td>
<td>K1100M 4GBx1 15.6&quot; FHD</td>
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</table>

### Dimensions

- Height: 15.6" (396mm) x 9.77" (248.1mm) x 27.9-29.5mm
- Weight: 6.05 lb (2.75kg)
- Power consumption: 190W max, 86W typical, 20W idle

### Memory

- Dual-channel DDR3L-1600, 16GB max
- Option: Dual-channel DDR3L-1600, 8GB max
- Option: Dual-channel DDR3L-1600, 4GB max
- Option: Dual-channel DDR3L-1600, 2GB max
- Option: Dual-channel DDR3L-1600, 1GB max

### Optical Drive

- DVD burner, 9.5mm slim, removable
- Option: Blu-ray drive, 8.5mm slim, removable

### Operating System

- Windows 8 Pro 64-bit / 8.1 Pro 64-bit
- Option: Windows 8 Pro 32-bit / 8.1 Pro 32-bit
- Option: Linux (64-bit)

### Selectable Features

- ThinkPad Enhanced Security Features
- Intel vPro Technology
- Power-on password, hard disk password, supervisor password, security keyhole
- Smart card reader
- NFC
- Near Field Communication
- Bluetooth 4.0 wireless
- Intel Wireless-N 7260, 2x2, Wi-Fi + BT
- Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT
- Intel 4G LTE/HSPA/GSM/EDGE/GPRS, GPS
- Wi-Fi + Bluetooth combo adapter
- Intel Wi-Fi Connection (127-LM (Clarkville)
- Intel Wireless-N 7260, 2x2, Wi-Fi + BT
- Intel Dual Band Wireless-AC 7260, 2x2, Wi-Fi + BT

### Warranty

- 1 year / 3 years

### Preload

- Win8 / 8.1 / Win7
- Intel 64-bit
- Windows 8.1 / 8.1 / 8

### See more information

(G-KM1W-2) © Lenovo
ThinkPad W540 20BG (Optimus) - TopSeller (Onsite) - II

Product Specifications Reference (PSREF)

20BG001U++ i7-4600M vPro K1100M 8GBx1 15.6" FHD 256G SSD eDrive
20BG0043++ i7-4810MQ vPro K2100M 8GBx1 15.6" FHD 256G SSD eDrive
20BG001D++ i7-4800MQ vPro K2100M 8GBx1 15.6" FHD 256G SSD eDrive

ThinkLight®
Keyboard
Graphics NVIDIA®

See footnotes for more detailed information

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

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

Processor 4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor

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<th># of Cores</th>
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<th>Max Turbo Frequency</th>
<th>Cache</th>
<th>Memory Speed</th>
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<td>i7-4710MQ</td>
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<td>2.4 GHz</td>
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<td>6MB</td>
<td>DDR3L-1600</td>
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</table>

Memory dual-core: 16GB max, quad-core: 32GB max, SODIMM sockets supported

Optical (optional) DVD burner, 9.5mm Ultrabay slim, removable

Storage M.2 SSD (opt) 128GB max, four 244-pin SO-DIMM sockets supported

Widescreen display Optional: Pantone® color calibrator by X-Rite®, color calibration sensor in palm rest

Color calibration camera Optional: HD720p resolution, wide view angle, light sensitive, face tracking, fixed focus

Graphics NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel® HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2100M, PCI Express® x16, 2GB memory

Keyboard 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight

UltraNav™ TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch

ThinkLight™ None

For detailed platform specifications, please see ThinkPad W540 Platform Specifications sheet

Dimensions 15.6"W (WxDxH): 14.83" x 9.77" x 1.10-1.16"; 376.6mm x 248.1mm x 27.9-29.5mm
Weight 6-cell: starting at 5.57 lb (2.53kg); 9-cell: starting at 5.95 lb (2.70kg)

Case material Glass-Fiber Reinforced Plastic

Battery type Li-Ion 6-cell (36Wh) or 9-cell (99.9Wh), HW Authentication

Max battery life 6-cell: up to 6.2 hr; 9-cell: up to 11.1 hr

AC adapter dual-core: 135-watt AC adapter; quad-core: 170-watt AC adapter

Audio support HD Audio, Realktek® ALC3232 codec, Dolby® Home Theater 4 v4 / stereo speakers, 1W x 2 / dual array microphone, combo audio/microphone jack

Chipset Mobile Intel® GM87 Express Chipset

ExpressCard One slot (ExpressCard/34)

Smart card reader Optional: Smart card reader

Media reader 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card

Ports Two USB 3.0, two USB 2.0 (one Always On), VGA, Mini DisplayPort / Thunderbolt, Ethernet (RJ-45), Dock connector

Lan 11b/g/n/BT: ThinkPad 11b/g/n, 2x2, Wi-Fi + BT, M.2 card

WLAN (optional) 7260 b/g/n/BT: Intel Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card

WWAN (optional) 7260 a/b/g/n+B: Intel Dual Band Wireless-N 7260, 2x2, Wi-Fi + BT, M.2 card

SIM card (opt) Lenovo: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required

Security Power-on password, hard disk password, supervisor password, security keyhole

Security chip Lenovo SIM, out-of-box service, pay-as-you-go, no contract required

Fingerprint reader Optional: Fingerprint reader on the palm rest, swipe sensor

Preload Win8 / 8.1 DG Win7: Windows® 7 Professional 64 preinstalled through downgrade rights in Windows 8 / 8.1 Pro 64-bit

Limited warranty 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-year battery) onsite

(G-KM1W-5) © Lenovo
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<tr>
<th>Model</th>
<th>Processor</th>
<th>vPro</th>
<th>Graphics</th>
<th>Memory</th>
<th>Display</th>
<th>Storage</th>
<th>RAID</th>
<th>Optical</th>
<th>WLAN &amp; Bluetooth</th>
<th>WWAN / M.2 SSD</th>
<th>SIM card</th>
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<th>Backlight</th>
<th>Fingerprint reader</th>
<th>Color calibrator</th>
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Note: models listed above might not be available in all WE countries

For detailed platform specifications, please see ThinkPad W540 Platform Specifications sheet

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### Processor

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<th>Processor</th>
<th>4th Generation Intel® Core™ i3 / i5 / i7 / i9 Extreme Processor</th>
<th>Memory</th>
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<td>2-way core, 2.4 GHz / 2.6 GHz / 2.8 GHz / 3.0 GHz / 3.2 GHz</td>
<td>dual-core: 16GB max, two 204-pin SO-DIMM sockets</td>
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<td>only 4x4 / 8x8 / 4x8 combinations supported</td>
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<td>All: PC-31280 1600MHz DDR3L, non-parity, dual-channel capable</td>
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### Optical (optional)

- Ultrabay Storage: DVD burner, 9.5mm Ultrabay slim, removable
- M.2 SSD (opt): One modular bay for removable devices (right side, cold swap), 9.5mm high
- Some: SSD / Sata 6.0Gbps, 2.5" wide, 7mm high
- Some: HDD / SATA 6.0Gbps, 2.5" wide, 7mm or 9.5mm high, APS M.2 Solid State Drive (SDD), via M.2 card slot, exclusive with WWAN card

### Widescreen display

- 15.6" (396mm) FHD (1920x1080)
- 300 nits, 50:1 contrast ratio

### Color calibration

- Optional: Pantone color calibration by X-Rite color calibration sensor in palm rest

### Graphics

- NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1100M or K2000M, PCI Express® x16, 2GB memory

### Security

- Security chip: Lenovo SIM, out-of-box service, pay-as-you-go, no contract required

### Bluetooth™

- Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter

### Power Adapter

- 170-watt AC adapter

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See footnotes for more detailed information

(©LENIVO)
**ThinkPad W540 20BH (Optimus) - Onsite (Windows 8)**

**Product Specifications Reference (PSREF)**

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<td>None</td>
<td>None</td>
<td>None</td>
<td>170W</td>
<td>Win8 P64</td>
</tr>
</tbody>
</table>

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

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### For detailed platform specifications, please see ThinkPad W540 Platform Specifications sheet

**Processor**

| Processor | 4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor | Memory | dual-core model: 16GB max, two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4x4, 8x8, 4x4x4, and 8x8x8 combinations supported
| Processor | 4th Generation Intel® Core™ i5 / i7 / i7 Extreme Processor | Memory | dual-core model: 16GB max, two 204-pin SO-DIMM sockets quad-core model: 32GB max, four 204-pin SO-DIMM sockets, only 4x4, 8x8, 4x4x4, and 8x8x8 combinations supported

---

### Optical (optional) Ultrabay Storage DVD burner, 9.5mm Ultrabay slim, removable

### M.2 SSD (opt) Some: 15.6" (396mm) FHD (1920x1080), 300 nits, 50:1 contrast ratio Other: 15.5" (394mm) 3K (2880x1620), 350 nits, 1000:1 contrast ratio, IPS 4-in-1 reader (MMC, SD, SDHC, SDXC), supports UHS-II SD card

### Color calibration Optional: Pantone® color calibrator by X-Rite® color calibration sensor in palm rest

### Graphics NVIDIA Optimus™ technology, switch between discrete and integrated graphics, Intel HD Graphics 4600 in processor, and NVIDIA Quadro® K1000M or K2000M

### Keyboard 6-row, spill-resistant, multimedia Fn keys, numeric keypad, optional LED backlight

### UltraNav™ TrackPoint® pointing device and Mylar surface touchpad, integrated five buttons, multi-touch

---

### Security

- Power-on password, hard disk password, supervisor password, security keyhole
- Trusted Platform Module, TCG 1.2 compliant

### Fingerprint reader

- Optional: Fingerprint reader on the palm rest, swipe sensor

### Warranty

- Limited warranty: 1-year - depot / 3-years (1-yr battery) - depot / 3-years (1-yr battery) onsite

---

**See footnotes for more detailed information**

(G-KM1W-4) © Lenovo
ThinkPad X131e

Lenovo® ThinkPad X131e

Lenovo ThinkPad X131e

Lenovo ThinkPad X131e

Lenovo ThinkPad X131e

Lenovo ThinkPad X131e

Lenovo ThinkPad X131e
### ThinkPad X131e 3368 (Intel) - TopSeller

**Product Specifications Reference (PSREF)**

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA GB</th>
<th>rpm</th>
<th>PCIe Mini Card</th>
<th>PCIe Mini Card WWAN</th>
<th>SIM card</th>
<th>Finger print reader</th>
<th>Bluetooth cells</th>
<th>Battery upgrade</th>
<th>Preload</th>
<th>Ann Date</th>
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<tr>
<td>3368-2NG</td>
<td>i3-2367M</td>
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<td>WWAN upg</td>
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<td>Black</td>
<td>None</td>
<td>6-cell</td>
<td>BT 6</td>
<td>Pro 64</td>
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<td>4GBx1</td>
<td>11.6” HD</td>
<td>720p</td>
<td>320G</td>
<td>7200</td>
<td>TP 11a/b/g/n</td>
<td>WWAN upg</td>
<td>None</td>
<td>Black</td>
<td>None</td>
<td>6-cell</td>
<td>BT 6</td>
<td>Pro 64</td>
</tr>
</tbody>
</table>

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

| Positioning | Processor | Entry ultraportable for excellent usability and reliability; one spindle Intel® Core™ i3-3272U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), HT technology
| Memory      | 8GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets. * System automatically clocks down for processors with 1333MHz DDR3 memory controller
| Optical SATA disk | None (use optional USB-based optical drive) Some: Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5” wide, 7mm, upgradable Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5” wide, 7mm, upgradable, Active Protection System™
| mSATA SSD™ SSD | None
| Widescreen display | 11.6” (295mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio
| Camera      | HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus
| Graphics    | Intel HD Graphics 3000 or 4000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display; Maximum external resolution: 2048x1536 (VGA) @75Hz; 1920x1200 (HDMI) @60Hz
| Keyboard    | 6-row, spill-resistant, multimedia Fn keys
| TrackPoint | TrackPoint pointing device, Internet Scroll Bar®
| Touch pad   | UltraNav™, buttonless touchpad below keyboard, multi-touch
| ThinkLight™ | None
| Dimensions  | 11.6W” (WxDxH): 11.6” x 8.5” x 1.27”; 293.4mm x 216mm x 32.3mm
| Weight      | 6-cell from 3.92 lb (1.78kg)
| Case color  | Midnight black or Heatwave red (top): black bottom
| Case material | Acrylonitrile-Butadiene-Styrene (ABS) plastic
| Battery - type | Lithium Ion 6-cell, HW Authentication
| Battery - life | 6-cell (62.4Whr): up to 8.5 hr
| Chipset     | Mobile Intel HM77 Express Chipset
| Multicard reader | 4-in-1 reader (MMC, SD, SDHC, SDXC)
| ExpressCard | None

- Preloaded operating system®
  - Genuine Windows® 7 Professional 64
- Ready to install applications® (only some listed)
  - Rescue and Recovery™
  - Password Manager
- Preloaded applications® (only some listed)
  - Lenovo® Solution Center
  - Lenovo Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage System Update
  - ThinkVantage Power Manager
  - Lenovo Cloud Storage by SugarSync
  - Lenovo SimpleTap
  - Microsoft® Office preloaded; purchase a product key to activate Norton™ Internet Security 2012 (30 days of virus definitions)
  - Adobe® Reader®
  - Skype™ for Windows
  - Evernote®,
  - Intel Small Business Advantage
  - Symantec® VIP
  - Windows Live™ Essentials

- Supports ThinkVantage® technologies
  - 65-watt AC Adapter
  - EPEAT® Gold rating
  - ENERGY STAR® 6.0-compliant
  - GREENGUARD® certified
  - ROHS-compliant
  - International Warranty Service™
  - 24 hour x 7 day® toll-free support during the warranty period®

See footnotes for more detailed information © Lenovo (G-JT1-1) June 2014
### ThinkPad X131e 3368 (Intel) - TopSeller (Windows 8)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SataGB</th>
<th>rpm</th>
<th>PCIe Mini Card WLAN</th>
<th>PCIe Mini Card WWAN</th>
<th>Slim card</th>
<th>Top color</th>
<th>Finger print reader</th>
<th>Battery - type</th>
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<td>11.6&quot; x 8.5&quot; x 0.7&quot;</td>
<td>BT</td>
<td>03/14</td>
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* Small and medium business (SMB) model(s), part of the WE TopSeller™ Program

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

Preloaded applications* (only some listed)
- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - PC Device Stage

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

Supports ThinkVantage® technologies
- 65-watt AC Adapter
- Energy Star® 6.0-compliant
- Energy Star® 6.0-certified
- EPEAT® Gold rating
- ROHS-compliant
- International Warranty Service

Limited warranty** 1-year - depot repair service / service upgrades available

See footnotes for more detailed information © Lenovo (G-JT1-3) June 2014
**Small and medium business (SMB) model(s), part of the WE TopSeller Program**

Positioning

Processor

Entry ultraportable for excellent usability and reliability; one spindle

Intel® Core™ i3-3227U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), HT technology

Memory

8GB max / PC3-12800 1600MHz DDR3, non-parity; dual-channel capable, two 204-pin SO-DIMM sockets

* System automatically clocks down for processors with 1333MHz DDR3 memory controller

Optical

SATA disk

None (use optional USB-based optical drive)

mSATA SSD

None

Widescreen display

11.6" (295mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio

Camera

HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

Graphics

Intel HD Graphics 4000 in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display;

Maximum external resolution: 2048x1536 (VGA)@75Hz; 1920x1200 (HDMI)@60Hz

Keyboard

6-row, spill-resistant, multimedia Fn keys

Touch pad

UltraNav™, buttonless touchpad below keyboard, multi-touch

ThinkLight™

None

Dimensions

11.6W" (WxDxH): 11.6" x 8.5" x 1.27"; 293.4mm x 216mm x 32.3mm

Weight

6-cell: from 3.92 lb (1.78kg)

Case color

Midnight black or Heatwave red (top); black bottom

Battery - type

Lithium Ion 6-cell, HW Authentication

Battery - life

6-cell (62.4Whr): up to 8.5 hr

Chipset

Mobile Intel HM77 Express Chipset

Multicard reader

4-in-1 reader (MMC, SD, SDHC, SDXC)

ExpressCard

None

PCIe Mini Card

Two PCI Express Mini Card slots

PCIe WLAN

11b/g/n, PCIe Half Mini Card, Intel Centrino® Wireless-N 2230, 2x2, Wi-Fi + BT combo adapter

PCIe WWAN

Wireless WAN upgradable

SIM card

None

Modem

None

Bluetooth™

Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter

Ethernet

Realtek® RTL8111F Gigabit Network Connection

Intel AMT

None

Audio support

HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 2 watt x 2 / monaural digital microphone, combo audio/mic jack

Security

Power-on password, hard disk password, supervisor password, security keyhole

Security chip

Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader

None

Limited warranty

1-year - depot repair service / service upgrades available

Preloaded operating system

- DOS-Lic.
| Positioning | Entry ultraportable for excellent usability and reliability; one spindle |
| Processor | Intel® Celeron® 1007U processor (2 cores, 1.50GHz, 2MB cache), Intel HD Graphics, DDR3 memory controller (up to 1600MHz) |
| Memory | 8GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets |
| * System automatically clocks down for processors with 1333MHz DDR3 memory controller |
| Optical | None (use optional USB-based optical drive) |
| SATA disk | Some: Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable |
| mSATA™ SSD | Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm, upgradable, Active Protection System™ |
| Widescreen display | 11.6" (295mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio |
| Camera | HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus |
| Graphics | Intel HD Graphics in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display; Maximum external resolution: 2048x1536 (VGA) @75Hz; 1920x1200 (HDMI) @60Hz |
| Keyboard | 6-row, spill-resistant, multimedia Fn keys |
| TrackPoint® | TrackPoint pointing device, Internet Scroll Bar® |
| Touch pad | UltraNav™, buttonless touchpad below keyboard, multi-touch |
| ThinkLight™ | None |
| Dimensions³ | 11.6W" (WxDxH): 11.6" x 8.5" x 1.27"; 293.4mm x 216mm x 32.3mm |
| Weight³ | 6-cell: from 3.92 lb (1.78kg) |
| Case color | Midnight black or Heatwave red (top); black bottom |
| Case material | Acrylonitrile-Butadiene-Styrene (ABS) plastic |
| Battery - type | Lithium Ion 6-cell, HW Authentication |
| Battery - life¹⁰ | 6-cell (62.4Whr): up to 8.5 hr |
| Chipset | Mobile Intel HM77 Express Chipset |
| Multicard reader | 4-in-1 reader (MMC, SD, SDHC, SDXC) |
| ExpressCard | None |
| Ports | Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, HDMI), ethernet (RJ-45) |
| PCIe Mini Card | Two PCI Express Mini Card slots |
| PCIe WLAN⁴ | 11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter |
| PCIe WWAN | Wireless WAN upgradable |
| SIM card | None |
| Modern | None |
| Bluetooth⁴ | Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter |
| Ethernet | Realtek® RTL8111F Gigabit Network Connection |
| Intel AMT | None |
| Audio support | HD Audio, Realtek ALC3202 codec, Dolby® Advanced Audio™ v2 / stereo speakers, 2 watt x 2 / monaural digital microphone, combo audio/mic jack |
| Security | Power-on password, hard disk password, supervisor password, security keyhole |
| Security chip | Trusted Platform Module, TCG 1.2-compliant |
| Finger print reader | None |
| Limited warranty¹² | 1-year - depot repair service / service upgrades²⁰ available |

See footnotes for more detailed information

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(G-JT1-2) June 2014
**ThinkPad X131e 3372 (AMD) - TopSeller**

### Product Specifications Reference (PSREF)

| Type-model | Processor | Memory | Wide-screen display | Camera | Disk SATA | PCIe Mini Card | PCIe Mini Card WWAN | SIM card | Top color | Finger print reader | Battery type | Weight | Dimensions | Chipset | Multicard reader | ExpressCard | Ports | PCIe Mini Card | PCIe WLAN | PCle WWAN | SIM card | Modern | Bluetooth™ | Ethernet | Audio support | Security | Security chip | Fingerprint reader | **Load** | **Ann Date** | **Preload** | **Date** |
|------------|-----------|--------|---------------------|--------|-----------|--------------|---------------------|----------|-----------|---------------------|--------------|---------|-------------|--------|----------------|------------|-------|---------------|----------|----------|----------|--------|------------|-----------------|---------|------------|------------|--------|
| 3372-2KG   | E2-1800   | 4GBx1  | 11.6” HD            | 720p   | 320G      | TP 11a/b/g/h | WWAN upg          | None     | Red       | None                | Lithium Ion 6-cell, HW Authentication | 6-cell (62.4Whr): up to 8.5 hr | 11.6”x 8.5” x 1.27” | 293.4mm x 216mm x 32.3mm | ThinkPad A68M FCH Chipset | 4-in-1 reader (MMC, SD, SDHC, SDXC) | None | Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, HDMI), ethernet (RJ-45) | Two PCI Express Mini Card slots | 11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter | Wireless WAN upgradable | None | None | Bluetooth 4.0 wireless, integrated in Wi-Fi + Bluetooth combo adapter | Realtek® RTL8111F Gigabit Network Connection | Dolby® Advanced Audio™ v2 / stereo speakers, 2 watt x 2 / monaural digital microphone, combo audio/mic jack | Power-on password, hard disk password, supervisor password, security keyhole | None | None | None | **Supports ThinkVantage® technologies** |

### Features

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

### Preloaded applications

- Genuine Windows® 7 Professional 64
- Ready to install applications
  - Rescue and Recovery™
  - Password Manager
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage by SugarSync

### Preloaded applications

- Lenovo® SimpleTap
- Microsoft® Office preloaded: purchase a product key to activate
- Norton™ Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype™ for Windows
- Evernote®
- Symantec® VIP
- Windows Live™ Essentials

### Warranty

- **Limited warranty** 1-year - depot repair service / service upgrades available

See footnotes for more detailed information

© Lenovo (G-JT11-1) June 2014
**Positioning**
Entry ultraportable for excellent usability and reliability; one spindle

**Processor**
AMD Accelerated Processor E1-1200 (2 cores, 1.40GHz, 1MB L2 cache), integrated AMD Radeon HD 7310 Graphics, integrated DDR3 memory controller (up to 1066MHz)

**Memory**
8GB max / PC3-12800 1600MHz DDR3, non-parity, two 204-pin SO-DIMM sockets

**Optical SATA disk**
None (use optional USB-based optical drive)

**mSATA SSD**
None

**Graphics**
AMD Radeon HD 7310 graphics in processor, external analog monitor support via VGA DB-15 connector and digital monitor support via HDMI™ (supporting HDCP to output protected content); supports dual independent display; Maximum external resolution: 1920x1080 (VGA or HDMI)

**Keyboard**
6-row, spill-resistant, multimedia Fn keys

**TrackPoint**
TrackPoint pointing device, Internet Scroll Bar

**Touch pad**
UltraNav™, buttonless touchpad below keyboard, multi-touch

**Screen**
11.6" (295mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio

**Case color**
11a/b/g/h: Midnight black or Heatwave red (top); black bottom

**Battery cells**
6-cell (62.4Whr): up to 8.5 hr

**Battery - life**
11a/b/g/n, PCIe Half Mini Card, ThinkPad 11a/b/g/n, 2x2, Wi-Fi + Bluetooth combo adapter

**Security**
Power-on password, hard disk password, supervisor password, security keyhole

**Security chip**
None

**Fingerprint reader**
None

**Limited warranty**
1-year - depot repair service / service upgrades available

---

**Type-model**
3371-8HG

**Processor**
E1-1200

**Memory**
4GBx1

**Wide-screen display**
11.6" HD

**Camera**
720p

**PCIe Mini Card WWAN**
TP 11a/b/g/h

**SIM card**
None

**Top color**
Red

**BT**
6

**Preload**
Win7 Pro64

**Preload operating system**
Windows 8 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit

**Preloaded applications** (only some listed)
- Windows 7 models
  - Lenovo™ Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections
  - ThinkVantage Power Manager

- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch

- All models
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage System Update
  - Lenovo Cloud Storage by SugarSync
  - Microsoft® Office preloaded; purchase a product key to activate
  - Skype™

---

See footnotes for more detailed information

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(G-JT11-2) June 2014
### ThinkPad X230 (2324)

**Product Specifications Reference (PSREF)**

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<th>Processor</th>
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<th>Widescreen display</th>
<th>Camera</th>
<th>Disk</th>
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<th>Optical in UltraBase Series 3</th>
<th>ThinkPad Backlit keyboard</th>
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* A depot repair service 3-year limited warranty

**Positioning Processor**

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 (3.50GHz), HT technology

**Memory**

16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

**Optical Ultrabay SATA disk**

Some: DVD burner, removable from ThinkPad Ultrabase Series 3

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

**mSATA™ SSD**

None

**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)

**Camera**

Some: 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); 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

**Touchpad ThinkLight™**

UltraNav®, buttonless touchpad below keyboard, multi-touch illuminates the keyboard to improve visibility in low-light conditions

**Dimensions® Weight**

without UltraBase: 4.6/6-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)

**Case material**

Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery

**Standard Battery**

4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr

**Chipset Mobile Intel QM77 Express Chipset**

**Ultrasound**

Some: ThinkPad Ultrabase Series 3 (see right side)

**Multicard reader**

4-in-1 reader (SD, SDHC, SDXC, MMC)

**ExpressCard Smart Card Reader**

One slot (ExpressCard/34, ExpressCard/54)

**Smart Card Read Ports**

Some: Gemplus Smart Card Reader in ExpressCard slot

**PCle Mini Card**

Two PCI Express Mini Card slots

**PCle WLAN®**

Some: 11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

**PCle WWAN**

Some: Bluetooth 4.0 wireless

**Ethernet**

Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1

**Intel AMT**

Intel Active Management Technology (AMT) 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

**Security fingerprint reader**

Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Security chip**

Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Preloaded operating system**

- Genuine Windows® 7

**Ready to install applications**

(only some listed)

- Rescue and Recovery™

- Password Manager

**Preloaded applications**

(only some listed)

- Norton® Internet Security 2012 (30 days of virus definitions)

- Access Connections™

- ThinkVantage Power Manager

- ThinkVantage Tools

- Fingerprint Software (fingerprint models)

- ThinkVantage System Update

- Adobe® Reader®

- Microsoft® Office preloaded

- purchase a product key to activate

- Skype™ for Windows

**Supports ThinkVantage technologies**

ThinkPad Ultrabase Series 3

- Provides desktop expansion and cable management for X230 and X230 Tablet

- Easily connects to the bottom of the X230 or X230 Tablet for traveling

- Converts ThinkPad to a two-spindle system with optional Ultrabase Slim accessories in right side

**Other features:**

- Power button (front)

- Security key lock, security keyhole

- Analog VGA DB-15 monitor port

- DisplayPort (supports single-link DVI-D via cable 45U9715)

- 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

- 24 hour x 7 day toll-free support

- ENERGY STAR® Gold rating

- 65-watt AC Adapter

- PEAT™ Gold rating

- GREENGUARD® certified

- ROHS-compliant

- International Warranty Service

- 3-years/1yr battery - depot repair service / service upgrades available

See footnotes for more detailed information © Lenovo (G-DSH2-1) July 2012
### ThinkPad X230 (2324) - Windows 8

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<th>Camera</th>
<th>Disk</th>
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- **A depot repair service 3-year limited warranty**

Positioning

Processor

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 (3.60GHz), 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

Memory

16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

Optical Ultrabay

Option for ThinkPad Ultrabase Series 3

SATA disk

Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high

All removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3

mSATA™ SSD

None

Widescreen display

12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16.9 aspect ratio, 300:1 contrast ratio

Camera

HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

Graphics

Intel HD Graphics 4000 in processor, 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); 1920x1080@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

Keyboard

6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

Touchpad

TrackPoint pointing device, “Press-to-Select,” Internet Scroll Bar®, magnifying glass

ThinkLight™

Illuminates the keyboard to improve visibility in low-light conditions

Dimensions

Weight

with UltraBase: 4.669 lb; 2.12kg

4-cell: from 2.96 lb (1.34kg); 6-cell: from 3.31 lb (1.50kg); 9-cell: from 3.67 lb (1.67kg)

Case material

Standard Battery

None

External Battery

Battery life

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

Chipset

Mobile Intel QM77 Express Chipset

Ultrabase

Opt: ThinkPad Ultrabase Series 3 (see right side)

Multicard reader

4-in-1 reader (SD, SDHC, SDXC, MMC)

ExpressCard

One slot (ExpressCard34, ExpressCard54)

Smart Card Read

None

Ports

Two USB 3.0, one powered USB 2.0 external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)

PCile Mini Card

Two PCI Express Mini Card slots

PCile WLAN

Some: 11b/g/n, PCile Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2

Some: 11a/b/g/n, PCile Half Mini Card, Intel Centrino Advanced-N 6205, 2x2

PCile WWAN

Wireless WAN upgradeable

SIM card

None

Modem

None

Bluetooth™

Some: Bluetooth 4.0 wireless

Ethernet

Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1

Intel AMT

Some: Intel Active Management Technology (AMT)

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

Power-on password, hard disk password, supervisor password, security keyhole

Security chip

Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader

Some: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

Limited warranty

3-years 1yr battery - depot repair service / service upgrades available

---

**Preloaded applications** (only some listed)

- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- ThinkVantage Power Manager
- Lenovo SimpleTap

- Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch

- All models
- Lenovo Solution Center
- Password Manager
- Microsoft® Office preloaded; purchase a product key to activate

**Preloaded operating system**

- Windows® 8 Pro 64-bit

- Windows® 7 Pro 64-bit

**Other features**

- Provides desktop expansion and cable management for X230 and X230 Tablet
- Easily connects to the bottom of the X230 or X230 Tablet for traveling
- Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side:
  - Serial ATA Hard Drive
  - 9.5mm Bay Adapter

**Disks supported (some):**

- 128GB SSD 6.0Gb/s 0A65629
- 180GB SSD 6.0Gb/s 0A65630
- 500GB Disk 7200 rpm 0A65632

**ROHS-compliant**

- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- Intertek Golden级 certified

**International Warranty Service**

24 hour x 7 day toll-free support during the warranty period

See footnotes for more detailed information

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(G-DSH2-4) October 2012
see footnotes for more detailed information
ThinkPad X230 (2325) - Onsite - II

Product Specifications Reference (PSREF)

- Limited onsite 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 (3.0GHz), 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 (3.0GHz), HT technology**

Memory: 16GB max

- **Some:** DVD burner, removable from ThinkPad Ultrabase Series 3

- **Supports Ultraslim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932)**

- **Some:** Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm thick

- **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

- **mSATA™ SSD:** None

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, 300nits, 16:9 aspect ratio, 300:1 contrast ratio, IPS, WideView (170° viewing)

Camera: 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);

- **Maximum external resolution:** up to 26.1 hr

- **Maximum external resolution:** up to 10.3 hr

- **Maximum external resolution:** up to 4.6 hr; 6-cell (62.4Whr): up to 15.5 hr; 9-cell (93.6Whr): up to 15.5 hr

- **Maximum external resolution:** 2560x1600@60Hz (DisplayPort via optional Mini DP cable);

- **Maximum external resolution:** 2048x1536@75Hz (VGA)

Keyboard:

- **TrackPoint®:** UltraNav™, buttonless touchpad below keyboard, multi-touch

- **Touchpad:** Illuminates the keyboard to improve visibility in low-light conditions

Dimensions: with UltraBase:

- 4/6-cell: 12.0" x 8.13" x 0.75-1.05"; 392mm x 206.5mm x 19.0-26.6mm

- 4-cell: from 2.96 lb (1.34kg);

- 6-cell: from 3.31 lb (1.50kg);

- 8-cell: from 3.67 lb (1.67kg)

Weight:

- **Display cover:** Magnesium alloy

- **Lid:** 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery

- **Slim external lithium-ion battery:** ThinkPad Battery 19+, 0A36280

- **4-cell (28.6Whr): up to 4.6 hr; 6-cell (62.6Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr

Chipset: Mobile Intel GM77 Express Chipset

- **Some:** ThinkPad Ultrabase Series 3 (see right side)

- **Some:** (only some)

- **Some:** 4-in-1 reader (SD, SDHC, SDXC, MMC)

- **Some:** Gigabit ethernet (RJ-45)

- **Some:** Provides desktop expansion and cable management for X230 and X230 Tablet

- **Some:** Easily connects to the bottom of the X230 or X230 Tablet for traveling

- **Some:** Converts ThinkPad to a two-spindle system with optional Ultrabase Slim accessories in right side

PCle Mini Card: Two PCI Express Mini Card slots

- **Some:** 11a/bgn, PCie Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

- **Some:** 802.11w and 802.11ac wireless

- **Some:** Wireless WAN USB adapter

- **Some:** Wireless WAN, Ericsson® HS21gw Mobile Broadband Module, PCie Half Card Module, GPRS/WCDMA/HSPA/HSPA+, GPS

SIM card: Some:

- **User selectable, contract required with service provider**

- **None**

- **Bluetooth™:** None

- **Intel AMT:** None

- **Audio support:** None

Security: Power-on password, hard disk password, supervisor password, security keyhole

- **Security chip:** Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader: None

- **Some:** AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

Limited warranty™ 3-years/1-year battery, limited onsite service™, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

See footnotes for more detailed information

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(G-DSH2-3) August 2013

- Preloaded operating system™
  - Genuine Windows® 7 Professional 64

- Ready to install applications™ (only some listed)
  - *Some: Rescue and Recovery™*
  - *Password Manager*

- Preloaded applications™ (only some listed)
  - *Access Connections™*
  - *ThinkVantage Power Manager*
  - *ThinkVantage Tools*
  - *Fingerprint Software (fingerprint models)*
  - *ThinkVantage System Update*
  - *Microsoft® Office preloaded; purchase a product key to activate*
  - *Skype™ for Windows*

- Supports ThinkVantage™ technologies

- ThinkPad Ultrabase Series 3

- 65-watt AC Adapter

- EPEAT® Gold rating

- ENERGY STAR® 5.0-compliant

- GREENGUARD® certified

- ROHS-compliant

International Warranty Service™

- 24 hour x 7 day 14 toll-free support during the warranty period14
## ThinkPad X230 (2325) - Onsite (Windows 8)

### Product Specifications Reference (PSREF)

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

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<th>Optical in Ultrabase</th>
<th>ThinkPad Ultrabase 3</th>
<th>PCIe Mini Card WWAN</th>
<th>SIM card</th>
<th>Battery Cells</th>
<th>Battery Type</th>
<th>Intel Micro Preload</th>
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### Positioning

Processor: An ultraportable for the executive on the move; one spindle Intel® Core™ i3-3210M processor (2 cores, 2.5GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.10GHz), HT technology Intel Core i5-3330Q 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 i7-3520Q 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

### Memory

16GB max / PC2-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

### Optical Ultrabay

SATA disk: Some: DVD burner, removable from ThinkPad Ultrabase Series 3

### Ultrabase

Some: DVD burner, removable from ThinkPad Ultrabase Series 3

### Camera

Display: 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: 2560×1600@60Hz (DisplayPort via optional Mini DP cable); 1920×1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048×1536@75Hz (VGA)

### Keyboard

6-row 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight TrackPoint pointing device, “Press-to-Select,” Internet Scroll Bar, magnifying glass Touchpad: UltraNav™, buttonless touchpad below keyboard, multi-touch Touchpad: UltraNav™, buttonless touchpad below keyboard, multi-touch

### Display

Dimensions: Without Ultrabase: 4/6:12: 12.0” x 8.13” x 0.75-1.05”, 350mm x 206.5mm x 19.0-26.6mm

### Case material

Weight: 4-cell: from 2.26 lb (1.45kg) - 6-cell: from 3.31 lb (1.50kg), 8-cell: from 3.67 lb (1.67kg)

### Standard Battery

8-cell: from 3.67 lb (1.67kg)

### External Battery

Battery: Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as second battery

### Battery life

Maximum external resolution: 2560×1600@60Hz (DisplayPort via optional Mini DP cable); 1920×1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048×1536@75Hz (VGA)

### Chipset

Mobile Intel QM77 Express Chipset

### Ultrabase

Some: ThinkPad Ultrabase Series 3 (see right side)

### Multicard reader

4-in-1 reader (SD, SDHC, SDXC, MMC)

### ExpressCard

One slot (ExpressCard/34, ExpressCard/54)

### Smart Card Reader

None

### Ports

Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)

### PCiE Mini Card

PCiE WLAN: Two PCI Express Mini Card slots

### PCiE WWAN

PCiE Mini Card: Advanced-N 6205, 2x2

### SIM card

User selectable, contract required with service provider

### Modem

None

### Bluetooth

Bluetooth 4.0 wireless

### Ethernet

Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1

### Audio support

High Definition (HD) Audio, Realtek® ALC2302 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack

### Security

Power-on password, hard disk password, supervisor password, security keyhole

### Security chip

Trusted Platform Module, TCG 1.2-compliant

### FingerPrint reader

AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

### Limited warranty

3-years/1-year battery, limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

---

See footnotes for more detailed information © Lenovo (G-DSH2-5) August 2013

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**Preloaded operating system**

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

**Preloaded applications**

- Windows 7 models
- Windows 7 Message Center Plus
- ThinkVantage Product Recovery
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch
- All models
- Lenovo Solution Center
- Password Manager
- Microsoft® Office preloaded: purchase a product key to activate

**ThinkPad Ultrabase Series 3**

- Provides desktop expansion and cable management for X230 and X230 Tablet
- Easily connects to the bottom of the X230 or X230 Tablet for traveling
- Converts ThinkPad Ultrabase system with optional Ultrabase Slim accessories in right side:
  - Serial ATA Hard Drive
  - 9.5mm Bay Adapter I
  - 43N3412 Disks supported (some): 128GB SSD 6.0Gbps 0A56529, 180GB SSD 6.0Gbps 0A56530, 500GB Disk 7200 rpm 0A56532

**Other features**

- Power button (front)
- Security key lock, security keyhole
- Analog VGA DB-15 monitor port
- DisplayPort (supports single-link DVI-D via cable 45J97915)
- 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

**ENERGY STAR® Gold rating**

**65-watt AC Adapter**

EPEAT® Gold rating

**GREENGUARD® certified**

ROHS-compliant

International Warranty Service

24 hour x 7 day toll-free support during the warranty period
### ThinkPad X230 (2325) - Onsite (Windows 8) - II

**Product Specifications Reference (PSREF)**

**Limited warranty**

1. 3-years/1-year battery, limited onsite service
   - 8 am - 5 pm, Mon - Fri
   - Covers public and national holidays
   - Calls received after 3 pm will require an additional next business day for service dispatch
   - Service upgrades available during the warranty period

**Preloaded operating system**
- Windows 8 Pro 64-bit

**Preloaded applications** (only some listed)
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- ThinkVantage Power Manager
- Lenovo Solution Center
- Lenovo Companion
- Lenovo QuickLaunch
- Microsoft® Office preloaded; purchase a product key to activate

**Part of the Global Models Plus program with limited onsite service** 3-year limited warranty

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<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Widescreen display</th>
<th>Camera</th>
<th>Disk</th>
<th>Optical in UltraBase Series 3</th>
<th>Backlit keyboard</th>
<th>PCle Mini Card</th>
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<th>Battery</th>
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<td>Win8 Pro64</td>
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</table>

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**Positioning**
An ultraportable for the executive on the move; one spindle
- Intel Core® 3rd or 4th Generation i5-3320M processor (dual-core, 2.6GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.0GHz), HT technology
- Intel Core i7-3520M processor (dual-core, 2.9GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.0GHz), HT technology

**Memory**
- 16GB max / PC3-12800 DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

**Optical Ultrabay SATA disk**
- Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabay Series 3 (0A39393)
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System
- All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabay Series 3

**mSATA™ SSD**
- None

**Widescreen display**
- 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio

**Camera**
- Some: 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 x 60Hz (DisplayPort via optional Mini DP cable); 1920x1200 @60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@768Hz (VGA)

**Keyboard**
- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- TrackPoint pointing device, “Press-to-Select”, Internet Scroll Tap, magnifying glass

**Touchpad**
- UltraNav™, buttonless touchpad below keyboard, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions**
- without Ultrabay: 4.6/6-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 (1.39kg)
- 6-cell: from 3.31 lb (1.50kg)
- 9-cell: from 3.67 lb (1.67kg)

**Weight**
- 1.39 lb; 630g
- 1.43 lb; 650g
- 1.50 lb; 680g
- 1.57 lb; 710g
- 1.67 lb; 750g
- 1.76 lb; 800g
- 1.84 lb; 850g
- 1.92 lb; 900g
- 2.00 lb; 980g
- 2.09 lb; 990g
- 2.12 lb; 990g
- 2.20 lb; 1000g

**Camera**
- 2.3 megapixel HD (1280x720)
- Webcam
- 1080p HD (1920x1080)
- Video recording: supports video capture up to 1080p@30 fps
- Supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display:
  - Maximum external resolution: 2560x1600 x 60Hz (DisplayPort via optional Mini DP cable); 1920x1200 @60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@768Hz (VGA)

**Chipset**
- Mobile Intel GM77 Express Chipset
- Option: ThinkPad Ultrabay Series 3 (see right side)

**Ultraslim reader (nVME)**
- One slot (ExpressCard/34, ExpressCard/54)
- None

**Ports**
- Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort, ethernet (RJ-45)

**Other features:**
- Power button (front)
- Security key lock, security keyhole
- Analog VGA DB-15 monitor port
- DisplayPort (supports single-link DVI-D via cable 4G7915)
- Four USB 2.0 ports
- Gigabit ethernet (RJ-45 port)
- Microphone in and headphone output
- Requires 65W or 90W AC adapter
- 1.39 lb; 630g
- 65-watt AC Adapter

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See footnotes for more detailed information

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

| Type-model | Processor | Memory | Widescreen display | Disk | Optical in Ultrabase | ThinkPad Backlit keyboard | PCIE Mini Card | Battery cells | Ext Battery | Intel AMT | Intel vPro | Preload (mm/dd) | Ann Date |
|------------|-----------|--------|--------------------|------|----------------------|--------------------------|----------------|--------------|-------------|------------|----------|-------------|---------------|---------|
| 2325-ALG  | i5-3320M  | 4GBx1  | 12.5" HD Prem      | 500G  | 7200                 | Optional Opt Backlit WWAN upg None | 6 | No | iAMT vPro | Win8 Pro64 | 03/13 |
| 2325-AKG  | i5-3320M  | 4GBx1  | 12.5" HD Prem      | 180G  | SSD                  | Optional Opt Backlit Ericsson selectable | 6 | No | None | Win8 Pro64 | 03/13 |
| 2325-AJG  | i5-3320M  | 4GBx1  | 12.5" HD Prem      | 180G  | SSD                  | Optional Opt Backlit Ericsson selectable | 6 | No | None | Win7 Pro64 | 03/13 |
| 2325-AGH  | i5-3320M  | 4GBx1  | 12.5" HD Prem      | 500G  | 7200                 | Optional Opt Backlit WWAN upg None | 6 | No | None | Win8 Pro64 | 03/13 |
| 2325-AFG  | i5-3320M  | 4GBx1  | 12.5" HD Prem      | 500G  | 7200                 | Optional Opt Backlit Ericsson selectable | 6 | No | None | Win7 Pro64 | 03/13 |
| 2325-AGD  | i5-3320M  | 4GBx1  | 12.5" HD Prem      | 500G  | 7200                 | Optional Opt Backlit WWAN upg None | 6 | No | None | Win7 Pro64 | 03/13 |
| 2325-ACG  | i5-3320M  | 4GBx1  | 12.5" HD Prem      | 500G  | 7200                 | Optional Opt Backlit WWAN upg None | 6 | No | None | Win7 Pro64 | 03/13 |
| 2325-B3G  | i5-3380M  | 4GBx1  | 12.5" HD          | 500G  | 7200                 | Optional Opt Backlit WWAN upg None | 6 | No | iAMT vPro | Win7 Pro64 | 05/13 |

### Preloaded operating system
- Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
- Some: Windows 8 Pro 64-bit

### Preloaded applications (only some listed)
- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
- All models
  - Lenovo Solution Center
  - Password Manager
  - Microsoft® Office preloaded: purchase a product key to activate

### Supports ThinkVantage® technologies
- ThinkPad Ultrabase Series 3
  - Provides desktop expansion and cable management for X230 and X230 Tablet
  - Easily connects to the bottom of the X230 or X230 Tablet for traveling
  - Converts ThinkPad X230 or X230 Tablet to a two-spindle system with optional Ultrabay Slim accessories in right side:
    - Serial ATA Hard Drive (9.5mm Bay Adapter III 43N3412)
    - Disks supported (some):
      - 128GB SSD 6.0Gbps 0A65629
      - 180GB SSD 6.0Gbps 0A65630
      - 500GB Disk 7200 rpm 0A65632

### Other features:
- Power button (front)
- Security key lock, security keyhole
- Analog VGA DB-15 monitor port
- DisplayPort (supports single-link DVI-D via cable 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

###wrap-up

For more detailed information, see footnotes. This document is subject to change without notice. © Lenovo (G-DSH2-7) August 2013
## ThinkPad X230 (2325) - Onsite (Windows 8) - IV

**Product Specifications Reference (PSREF)**

### Preloaded operating system
- **Some:** Windows® 7 Professional 64-bit preinstalled through downgrade rights in Windows 8 Pro 64-bit
- **Some:** Windows 8 Pro 64-bit

### Preloaded applications
- **Windows 7 model**
  - Lenovo Message Center Plus
  - ThinkVantage Product Recovery
  - ThinkVantage Power Manager
  - Lenovo SimpleTap
- **Windows 8 models**
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
- **All models**
  - Lenovo Solution Center
  - Password Manager
  - Microsoft® Office preloaded: purchase a key product to activate

**Supports ThinkVantage® technologies**

ThinkPad Ultrabase Series 3
- Provides desktop expansion and cable management for X230 and X230 Tablet
- Easily connects to the bottom of the X230 or X230 Tablet for traveling
- Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side:
  - Series ATA Hard Drive
  - 9.5mm Bay Adapter III (G-DSH2-8) August 2013

### System Model Information

<table>
<thead>
<tr>
<th>Type-model Processor</th>
<th>Memory</th>
<th>Disk</th>
<th>Optical Drive</th>
<th>Backlit keyboard</th>
<th>Backlit keyboard key</th>
<th>PCie Mini Card</th>
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### System Descriptions

**Positioning Processor**
- **Intel® Core™ i5-3320M processor** (2 cores, 2.60GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), 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 (3.0GHz), HT technology Intel Core i5-3320M processor (2-core, 2.90GHz, 4MB Cache). Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.0GHz), 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 (3.0GHz), HT technology

**Memory**
- 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

**Graphics**
- Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort, supports dual independent displays
- Maximum resolution: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

**Keyboard**
- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- Trackpoint® pointing device, “Press-to-Select,” Internet Scroll Bar®
- Touchpad UltraNav™, buttonless touchpad below keyboard, multi-touch

**Dimensions³**
- **Width²** without UltraBase: 46.5” x 12.6” x 0.80” (1180 x 320 x 20mm)
- **Height** from 2.96 lb (1.4kg)
- **Depth** from 3.67 lb (1.67kg)

**Display**
- Display cover: Magnesium + PCABS; Bottom: Magnesium alloy
- Standard Battery Li-Ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery
- Battery life: up to 15.5 hr; external battery (6Whr, 0A63280): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr

**Chipset**
- Mobile Intel QM77 Express Chipset
- Supports ThinkPad Ultrabase Series 3 (see right side)
- 4-in-1 reader (SD, SDHC, SDXC, MMC)
- ExpressCard One slot (ExpressCard/34, ExpressCard/54)
- Card Slot Read None

**Ports**
- Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)
- Two PCI Express Mini Card slots
- Two PCI Express Mini Card slots
- Two PCI Express Mini Card slots
- Two PCI Express Mini Card slots

**Power⁴**
- 65-watt AC Adapter
- DVI-D via cable (45J7915)
- Dual-channel capable, two 204-pin SO-DIMM sockets

**Security**
- Power-on password, hard disk password, supervisor password, secure keyhole
- Security key lock, security keyhole
- Security chip
- Security chip

**Other features**
- Power button (front)
- Security key lock, security keyhole
- Analog VGA DB-15 monitor port
- Support for wireless keyboard (only some listed)
- Security Manager
- Requires 65W or 90W AC adapter

**ENERGY STAR® certified**
- Limited warranty⁵ 3-years/1-year battery, limited onsite service⁶, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional business day for service dispatch / service upgrades available
- 24 hour x 7 day 10-furlow support during the warranty period

### See footnotes for more detailed information

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(G-DSH2-8) August 2013
<table>
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<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Wide-screen display</th>
<th>Camera</th>
<th>Disk SATA GB</th>
<th>rpm</th>
<th>Optical ThinkPad Ultrabase Series 3</th>
<th>Backlight keyboard</th>
<th>PClé Mini Card WLAN</th>
<th>PClé Mini Card WWAN</th>
<th>Finger print reader</th>
<th>Battery-life</th>
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<td>upg</td>
<td>None</td>
<td>Pro 64</td>
<td>06/12</td>
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- **Small and medium business (SMB) model(s), part of the WE TopSeller™ Program**
- **A depot repair service 3-year limited warranty**

### Positioning

- **Processor**: An ultraportable for the executive on the move; one spindle Intel® Core™ i3-2370M processor (dual-core, 2.40GHz, 3MB Cache), Intel HD Graphics 3000, DDR3 memory controller (up to 1333MHz), HT technology

### Optical Ultrabay SATA disk

- **Option for ThinkPad Ultrabase Series 3**
- Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A3932)
- **Some**: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5” wide, 7mm high
- **All**: 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

### mSATA™ SSD

- **None**

### Widescreen display

- **12.5” (317.5mm) HD (1366x768) TFT color**, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio

### Camera

- **HD720p resolution**, wide view angle, low light sensitive, face tracking, fixed focus

### Graphics

- **Intel HD Graphics 3000** in processor, supports external analog monitor via VGA DB-15 and digital monitor via Mini DisplayPort; supports dual independent display; **Maximum external resolution**: 2560x1600@60Hz (DisplayPort via optional Mini DP cable); 1920x1200@60Hz (single-link DVI-I via optional Mini DP cable); 2048x1536@75Hz (VGA)

### Keyboard

- **TrackPoint®**: 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- **ThinkLight™**: TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar®, magnifying glass illuminates the keyboard to improve visibility in low-light conditions

### Dimensions

- **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

### Weight

- **Li-ion 4-cell, 6-cell, 9-cell, HW Authentication; optional external battery as 2nd battery
- **Battery - life**

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<th>Weight</th>
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<tr>
<td>9-cell</td>
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<td>from 3.67 lb (1.67kg)</td>
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### Chipset

- **Mobile Intel GM77 Express Chipset**

### Ultrabase

- **Option for ThinkPad Ultrabase Series 3** (see right side)

### Multicard reader

- **4-in-1 reader** (SD, SDHC, SDXC, MMC)

### ExpressCard

- **One slot** (ExpressCard/34, ExpressCard/54)

### Smart Card Reader

- **None**

### Ports

- **Two USB 3.0, one powered USB 2.0**
- **external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)**

### PClé Mini Card

- **Two PCI Express Mini Card slots**

### PClé WLAN

- **11a/b/g/n, PClé Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2**

### PClé WWAN

- **Wireless WAN upgradable**

### SIM card

- **None**

### Bluetooth™

- **Bluetooth 4.0 wireless**

### Ethernet

- **Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PClé x1**

### Intel AMT™

- **None**

### 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

- **Power-on password, hard disk password, supervisor password, security keyhole**

### Security chip

- **Trusted Platform Module, TCG 1.2-compliant**

### Fingerprint reader

- **AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip**

### Limited warranty

- **3-years/1-yr battery - depot repair service / service upgrades** available

---

See footnotes for more detailed information

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(G-DSH2i-1) July 2012
Positioning Processor | An ultraportable for the executive on the move; one spindle Intel® Celeron® 877 processor (2 cores, 1.40GHz, 2MB cache), Intel HD Graphics, DDR3 memory controller (up to 1333MHz)

Memory | 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

Optical Ultrabay | Option for ThinkPad Ultrabase Series 3

SATA disk | Option for ThinkPad Ultrabase 3 Series 3 (0A39332)

Some: Solid State Drive (SSD) / SATA 6.0Gbps, 2.5" wide, 7mm high

Some: Hard Disk Drive / SATA 3.0Gbps, 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

mSATA™ SSD | None

Widescreen display | 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio

Camera | HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

Graphics | Intel® HD Graphics 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 | 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia F keys, optional LED backlight

Touchpad | UltraNav™, buttonless touchpad below keyboard, multi-touch

TrackPoint | 6-in-1 reader (SD, SDHC, SDXC, MMC)

ThinkLight™ | Button presses for easy visibility in low-light conditions

Dimensions | 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 (1.45kg); 9-cell: from 3.67 lb (1.67kg)

Case material | Magnesium + PCABS

Weight | Li-ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery

Standard Battery | None

External Battery | 4-cell (28.8Whr): up to 4.6 hr; 6-cell (62.4Whr): up to 10.3 hr; 9-cell (93.6Whr): up to 15.5 hr; external battery (64Whr): up to 10.6 hr; 9-cell plus external battery: up to 26.1 hr

Chipset | Mobile Intel QM77 Express Chipset

Ultrabay | Option: ThinkPad Ultrabase Series 3 (see right side)

Multicard reader | 4-in-1 reader (SD, SDHC, SDXC, MMC)

ExpressCard | One slot (ExpressCard/34, ExpressCard/54)

Smart Card Read | None

Ports | Two USB 3.0, one powered USB 2.0

external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)

PCle Mini Card | Two PCI Express Mini Card slots

PCle WLAN | 11b/g/n, PCle Half Mini Card, Intel Centrino® Wireless-N 2200, 2x2

PCle WWAN | Wireless WAN upgradable

SIM card | None

Modern | None

Bluetooth™ | Bluetooth 4.0 wireless

Ethernet | Intel 82579LM Gigabit Network Connection (Louisville), PHY, PCIe x1

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 | Power-on password, hard disk password, supervisor password, security keyhole

Security chip | Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader | AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

Limited warranty | 3-years/1-yr battery - depot repair service / service upgrades available

---

* A depot repair service 3-year limited warranty

Preloaded operating system | - Genuine Windows® 7 Professional 64

Ready to install applications | (only some listed)

- Rescue and Recovery™

- Password Manager

Preloaded applications | (only some listed)

- Norton™ Internet Security 2012 (30 days of virus definitions)

- Access Connections™

- ThinkVantage Power Manager

- ThinkVantage Tools

- Fingerprint Software (fingerprint models)

- ThinkVantage System Update

- Adobe® Reader

- Microsoft® Office preloaded; purchase a product key to activate

- Skype™ for Windows

Supports ThinkVantage® technologies

ThinkPad Ultrabase Series 3 | Provides desktop expansion and cable management for X230 and X230 Tablet

- Easily connects to the bottom of the X230 or X230 Tablet for traveling

- Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side

Other features:

- Power button (front)

- Security key lock, security keyhole

- Analog VGA DB-15 monitor port

- DisplayPort (supports single-link DVI-D via cable 45J915)

- Four USB 2.0 ports

- Gigabit ethernet (RJ-45) port

- Microphone in and headphone out

- Requires 65W or 90W AC adapter

- 1.39 lb; 630g

65-watt AC Adapter

EPEAT™ Gold rating

(except Celeron models)

ENERGY STAR® 5.0-compliant

(except Celeron models)

GREENGUARD® certified

(except Celeron models)

ROHS-compliant

International Warranty Service

24 hour x 7 day toll-free support during the warranty period

See footnotes for more detailed information

© Lenovo

(G-DH2i-4) March 2013
### Positioning

- **An ultraportable for the executive on the move:** one spindle

### Processor

- **Intel® Core™ i3-3120M processor** (2 cores, 2.40GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology

### Memory

- 16GB max* / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets
- * System automatically clocks down for processors with 1333MHz DDR3 memory controller

### Optical Ultrabay SATA disk

- Option for ThinkPad Ultrabase Series 3
- Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A33932)

### mSATA™ SSD

- None

### Widescreen display

- **12.5” (317.5mm) HD (1366x768) TFT color,** anti-glare, LED backlight,
- 200 nits, 16:9 aspect ratio, 300:1 contrast ratio

### 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

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight

### Trackpoint

- TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar®, magnifying glass

### Touchpad

- **UltraNav**, buttonless touchpad below keyboard, multi-touch
- Touchpad
- Illuminates the keyboard to improve visibility in low-light conditions

### Weight

- **4-cell (28.8Whr):** up to 4.6 hr; 9-cell (93.6Whr): up to 15.5 hr; 9-cell plus external battery: up to 26.1 hr

### Case material

- **Magnesium + PCABS; Display cover:** Magnesium + PCABS; Bottom: Magnesium alloy
- **Standard Battery:** Li-ion 4-cell, 6-cell, or 9-cell, HW Authentication; optional external battery as 2nd battery

### External Battery

- **Battery - life:** 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;
- **9-cell plus external battery:** up to 26.1 hr

### Chipset

- **Mobile Intel QM77 Express Chipset**

### Ultrabase

- **Option:** ThinkPad Ultrabase Series 3 (see right side)

### Multicard reader

- 4-in-1 reader (SD, SDHC, SDXC, MMC)

### ExpressCard

- One slot (ExpressCard/34, ExpressCard/54)

### Smart Card Reader

- None

### Ports

- **Two USB 3.0, one powered USB 2.0**
- external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)

### PCle Mini Card

- Two PCI Express Mini Card slots

### PCle WLAN

- 11a/b/g/n, PCle Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

### PCle WWAN

- Wireless WAN upgradable

### SIM card

- None

### Modem

- None

### Bluetooth

- **Bluetooth 4.0 wireless**

### Ethernet

- **Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCle x1**

### Intel AMT

- None

### 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

- Power-on password, hard disk password, supervisor password, security keyhole

### Security chip

- Trusted Platform Module, TCG 1.2-compliant

### Fingerprint reader

- **Some:** AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

### Limited warranty

- **3-years/1-yr battery - depot repair service / service upgrades available**

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* A depot repair service 3-year limited warranty

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

**Preloaded applications** (only some listed)
- Windows 7 models
  - Lenovo® Message Center Plus
  - ThinkVantage Product Recovery
  - ThinkVantage Power Manager
  - Lenovo® System Tap
- Windows 8 models
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch
  - All models
    - Lenovo Solution Center
    - Password Manager
    - Microsoft® Office preloaded; purchase a product key to activate

Supports ThinkVantage® technologies
- ThinkPad Ultrabase Series 3
  - Provides desktop expansion and cable management for X230 and X230 Tablet
  - Easily connects to the bottom of the X230 or X230 Tablet for traveling
  - Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side

Other features:
- Power button (front)
- Security key lock, security keyhole
- Analog VGA DB-15 monitor port
- DisplayPort (supports single-link DVI-D via cable 45J79151)
- Four USB 2.0 ports
- Gigabit ethernet (RJ-45) port
- Microphone in and headphone out
- Requires 65W or 90W AC adapter
- 1.39 lb; 630g

65-watt AC Adapter
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GRENGUARD® certified
- ROHS-compliant
- International Warranty Service
  - 24 hour x 7 day full-fare support during the warranty period

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See footnotes for more detailed information

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(G-DSH2i-2) June 2013
## ThinkPad X230i (2325) - Onsite (Windows 8)

### Product Specifications Reference (PSREF)

**Type-model**  | **Processor**  | **Memory**  | **Widescreen display**  | **Disk**  | **Optical**  | **ThinkPad Ultrabase**  | **Backlit keyboard**  | **PCIe Mini Card WLAN**  | **PCIe Mini Card WWAN**  | **Battery cells**  | **Intel vPro**  | **Preload**  | **Ann Date**
---|---|---|---|---|---|---|---|---|---|---|---|---|---
2325-A9G | i3-3130M | 4GBx1 | 12.5" HD | 500G 7200 | Optional | Opt | Intel 6205® WWAN upg | None | 6 | None | 02/13
2325-A9G | i3-3120M | 4GBx1 | 12.5" HD | 500G 7200 | Optional | Opt | Intel 6205® WWAN upg | None | 6 | None | 02/13

**Positioning**

- An ultraportable for the executive on the move; one spindle moment and one spindle drive.

**Processor**

- Intel® Core™ i3-3130M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology
- Intel Core i3-3120M processor (2 cores, 2.50GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Hyper-Threading technology

**Memory**

- 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

**Optical Ultrabay SATA disk**

- Option for ThinkPad Ultrabase Series 3
- Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3 (0A39392)

**SATA disk**

- 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

**mSATA™ SSD**

- None

**Widescreen display**

- 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 300:1 contrast ratio

**Camera**

- H.264 codec, wide view angle, low light sensitive, face tracking, fixed focus

**Graphics**

- 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**

- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight
- TrackPoint pointing device, “Press-to-Select,” Internet Scroll Bar®, magnifying glass

**Touchpad**

- UltraNav™, buttonless touchpad below keyboard, multi-touch
- Illuminates the keyboard to improve visibility in low-light conditions

**Dimensions**

- 11.2 x 7.5 x 0.75-1.05" (286.4 x 191.4 x 19.0-26.6mm)

**Weight**

- 2.96 lb (1.34kg)

**Case material**

- Magnesium + PCABS

**Standard Battery**

- None

**Battery - life**

- 6-cell: (28.9Whr): 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

**Chipset**

- Mobile Intel QM77 Express Chipset

**Ultrabay**

- Option: ThinkPad Ultrabase Series 3 (see right side)

**Multicard reader**

- 4-in-1 reader (SD, SDHC, SDXC, MMC)

**ExpressCard**

- One slot (ExpressCard/34, ExpressCard/54)

**Smart Card Read**

- None

**Ports**

- Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, Mini DisplayPort), ethernet (RJ-45)

**PCIe Mini Card**

- Two PCIe Mini Card slots

**PCIe WLAN**

- 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

**SIM card**

- None

**Modern**

- None

**Bluetooth™**

- Bluetooth 4.0 wireless

**Ethernet**

- Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1

**Intel AMT**

- None

**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**

- Power-on password, hard disk password, supervisor password, security keyhole

**Security chip**

- Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

- AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Limited warranty**

- 3-years 1-year battery, limited onsite service, 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 / services upgrades available

**Preloaded operating system**

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

**Preloaded applications** (only some listed)

- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- ThinkVantage Power Manager
- Lenovo SimpleTap

**ThinkPad Ultrabase Series 3**

- Provides desktop expansion and cable management for X230 and X230 Tablet
- Easily connects to the bottom of the X230 or X230 Tablet for traveling
- Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side:
  - Serial ATA Hard Drive
  - 9.5mm Bay Adapter III 43N3412
  - Disks supported (some):
    - 128GB SSD 6.0Gb/s 0A65629
    - 190GB SSD 6.0Gb/s 0A65630
    - 500GB Disk 7200 rpm 0A65632

**Other features:**

- Power button (front)
- Security key lock, security keyhole
- Analog VGA DB-15 monitor port
- DisplayPort (supports single-link DVI-D via cable 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

**ENERGY STAR®**

- 65-watt AC Adapter
- EPEAT® Gold rating
- ENERGY STAR® 5.0-compliant
- GREENGUARD® certified
- ROHS-compliant

**International Warranty Support**

- 24 hour x 7 day toll-free support during the warranty period

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See footnotes for more detailed information

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(G-DSH2i-3) February 2013
ThinkPad X230 Tablet (3437)

Product Specifications Reference (PSREF)

Type-model | Processor | Memory | Widescreen display | Camera | Disk SATA | GB rpm | Optical in UltraB | ThinkPad Ultrab Series 3 | Backlit keyboard | PCl e Mini Card | PCl e Mini Card | Battery | Global (G) | Preload | Ann Date
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
3437-3LG | i5-3320M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205\[10\] | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-2YG | i7-3520M | 4GBx1 | 12.5" HD Multi | 720p | 500G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-22G | i5-3320M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-2AG | i5-3320M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-2 TG | i7-3520M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-23G | i5-3320M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-3KG | i7-3520M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-22G | i5-3320M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-2AG | i5-3320M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-2 TG | i7-3520M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-23G | i5-3320M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-3KG | i7-3520M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12
3437-22G | i5-3320M | 4GBx1 | 12.5" HD Multi | 720p | 320G 7200 | Optional | None | Intel 6205 | WWAN upg | 6 | vPro | G | Pro 64 | 06/12

* A depot repair service 3-year limited warranty

Positioning: Convertible tablet ultraportable; one spindle

Processor: Intel Core™ i3-3320M 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

Memory: 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

Optical Ultrabay: Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3

SATA disk: Some: DVD burner, removable from ThinkPad Ultrabase Series 3

Some: Solid State Drive (SSD) / SATA 6.0Gbs / 2.5" wide, 7mm high

Some: Hard Disk Drive / SATA 3.0Gbs / 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

mSATA SSD: None

Widescreen display: Outdoor: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare display with scratch resistant Corning® Gorilla® Glass, LED backlight 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, 1-2% reflectivity, multiple anti-reflectivity layers, IPS

MultiTouch: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, MultiTouch screen supports pen & five-finger gesture

All: WideView (170° viewing), anti-reflective and anti-glare protective coatings, write on screen with standard digitizer pen, pen holder in side base (right), rotate and swivel hinge, power, reset, and rotation buttons on display bottom

Camera: HD720p resolution, wide view angle, low light sensitivity, face tracking, fixed focus

Graphics: Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via DisplayPort; supports dual independent display; Maximum external resolution: 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @75Hz; 1920x1200@60Hz (single-link DVI-D via cable 45J7915)

Keyboard: TrackPoint® None

Touchpad: ThinkLight™ None

Dimensions3: (b) 12.0" x 9.0" x 1.1-1.23"; (c) 305mm x 228.7mm x 27-31.3mm

Weight: 3-cell: from 1.39 lb; 630g

Case material: without UltraBase; 3-cell: from 3.67 lb (1.66kg); 6-cell: from 3.97 lb (1.80kg)

Battery - type: Li-Polymer 3-cell or Li-Ion 6-cell, HW Authentication; optional external battery as 2nd battery

Battery - life: 3-cell (30Whr): up to 7.4 hr; 6-cell (60Whr): up to 16.3 hr; external battery (64Whr): up to 10.2 hr; 6-cell plus external battery: up to 20.1 hr

Chipset: Mobile Intel GM77 Express Chipset

Ultrabase: ThinkPad Ultrabase Series 3 (see right side)

Multicard Reader: 4-in-1 reader (SD, SDHC, SDXC, MMC)

ExpressCard: One slot (ExpressCard/34, ExpressCard/54)

Smart Card Reader: None

Ports: Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)

PCIe Mini Card: Two PCI Express Mini Card slots

PCIe WLAN: 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2

PCIe WWAN: Wireless WAN upgradable

SIM card: None

Modem: None

Bluetooth™: Bluetooth 4.0 wireless

Ethernet: Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1

Intel AMT: Intel Active Management Technology (AMT)

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: Password protection, hard disk password, supervisor password, security keyhole

Security chip: Trusted Platform Module, TCG 1.2-compliant

Fingerprint reader: AuthenTec fingerprint reader (right base of display), used in tablet/notebook mode, LED indicator, Power On Authentication, supports the security chip

Limited warranty: 3-years/1-yr battery - depot repair service / service upgrades available

Preloaded operating system: Genuine Windows® 7 Professional 64

Ready to install applications: (only some listed)

- Rescue and Recovery™
- Password Manager

Preloaded applications: (only some listed)

- Norton™ Internet Security 2012 (30 days of virus definitions)
- Access Connections™
- ThinkVantage Power Manager
- ThinkVantage Tools
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- Adobe® Reader
- Microsoft® Office preloaded; purchase a product key to activate
- Skype™ for Windows

Supports ThinkVantage™ technologies

ThinkPad Ultrabase Series 3

Features:

- Provides desktop expansion and cable management for X230 and X230 Tablet
- Easily connects to the bottom of the X230 or X230 Tablet for traveling
- Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side

Other features:

- Power button (front)
- Security key lock, security keyhole
- Analog VGA DB-15 monitor port
- DisplayPort (supports single-link DVI-D via cable 45J7915)
- Four USB 2.0 ports
- Gigabit ethernet (RJ-45) port
- Microphone in and headphone out
- Requires 65W or 90W AC adapter
- 1.39 lb; 630g

65-watt AC Adapter EPEAT® Gold rating

ENERGY STAR® 5.0-compliant

GREENGUARD® certified

ROHS-compliant

International Warranty Service 24 hour x 7 day toll-free support during the warranty period

See footnotes for more detailed information

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## ThinkPad X230 Tablet (3438) - Onsite

**Product Specifications Reference (PSREF)**

### Type-model Processor Memory Disk SATA Optical in ThinkPad PCI Express Mini Card PCI Express Mini Card SIM card Battery cells Global (G) Ann Date
3438-3UG i5-3320M 4GBx1 12.5” HD Multi 320G 7200 DVD+RW UltraBase None Intel 6205*5 WWAN upg None 6 vPro G P 06/12
3438-3TG i5-3320M 4GBx1 12.5” HD Multi 320G 7200 Optional Optional None Intel 6205*6 WWAN upg None 6 vPro G P 06/12
3438-2BG i5-3320M 4GBx1 12.5” HD Multi 500G 7200 Optional Optional Backlit Intel 6205 Ericsson selectable 6 vPro 06/12
3438-2AG i5-3320M 4GBx1 12.5” HD Multi 180G SSD Optional Optional Backlit Intel 6205 Ericsson selectable 6 vPro 06/12
3438-27G i5-3320M 4GBx1 12.5” HD Out 320G 7200 Optional Optional None Intel 6205 WWan upg None 6 vPro G P 06/12
3438-26G i5-3320M 4GBx1 12.5” HD Multi 320G 7200 Optional Optional None Intel 6205 WWan upg None 6 vPro G P 06/12
3438-25G i7-3520M 4GBx1 12.5” HD Multi 500G 7200 Optional Optional None Intel 6205 WWan upg None 6 vPro G P 06/12
3438-24S i5-3320M 4GBx1 12.5” HD Multi 500G 7200 Optional Optional None Intel 6205 WWan upg None 6 vPro G P 06/12
3438-23G i7-3520M 4GBx1 12.5” HD Multi 180G SSD DVD+RW UltraBase None Intel 6205 WWan upg None 6 vPro G P 06/12
3438-22G i5-3320M 4GBx1 12.5” HD Out 320G 7200 DVD+RW UltraBase None Intel 6205 WWan upg None 6 vPro G P 06/12

### Preloaded operating system
- Genuine Windows® 7 Professional 64

### Preloaded applications
- Rescue and Recovery™
- Password Manager

### Preloaded applications
- Norton™ Internet Security 2012 (30 days of virus definitions)
- Access Connections™
- ThinkVantage Power Manager
- ThinkVantage Tools
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- Adobe® Reader
- Microsoft® Office preloaded: purchase a product key to activate
- Skype™ for Windows

### Supports ThinkVantage® technologies
- Provides desktop expansion and cable management for X230 and X230 Tablet
- Easily connects to the bottom of the X230 or X330 Tablet for traveling
- Converts ThinkPad to a two-spindle system with optional Ultrabay Slim accessories in right side

### Other features:
- Power button (front)
- Security key lock, security keyhole
- Analog VGA DB-15 monitor port
- DisplayPort (supports single-link DVI-D via cable 45J9715)
- Four USB 2.0 ports
- Gigabit ethernet (RJ-45) port
- Microphone in and headphone out
- Requires 65W or 90W AC adapter
- 1.39 lb; 690g

### Limited warranty
3-years/1-year battery, limited onsite service®. 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will add an additional next business day for service dispatch / service upgrades available

### See footnotes for more detailed information

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(G-CMT2-2) August 2013

### Positions

#### Processor
- Convertible tablet ultraportable; one spindle
- Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology
- Intel Core 17-3520M 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

#### Memory
- 16GB max / PC3-12800 1600MHz DDR3, non-parity, dual-channel capable, two 204-pin SO-DIMM sockets

#### 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 (0A39392)
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5” wide, 7mm high
- All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3

#### mSATA® SSD
- None

### Widescreen display
- Outdoor: 12.5” (317.5mm) HD (1366x788) TFT color, anti-glare display with scratch resistant Corning® Gorilla® Glass, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, 1.2% reflectivity, multiple anti-reflectivity layers, IPS
- MultiTouch: 12.5” (317.5mm) HD (1366x788) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS,
- MultiTouch screen supports pen & five-finger gesture
- All: WideView (170° viewing), anti-reflective and anti-glare protective coatings, write on screen with standard digitizer pen, pen holder in side base (right), rotate and swirl hinge, power, reset, and rotation buttons on display bottom

### Graphics
- Intel HD Graphics 4000 in processor, supports external analog monitor via VGA DB-15 and digital monitor via DisplayPort; supports dual independent display
- Maximum external resolution: 2560x1600 (DisplayPort) @ 60Hz; 2048x1536 (VGA) @ 75Hz; 1920x1200 @ 60Hz (single-link DVI-D via cable 45J9715)

### Keyboard
- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia F keys, optional LED backlight
- TrackPoint pointing device, “Press-to-Select,” Internet Scroll Bars®, magnifying glass
- ThinkLight™

### Dimensions
- 3-cell: 12.0” x 9.0” x 1.1-1.23”; 305mm x 228.7mm x 27-31.3mm
- 3-cell: from 3.67 lb (1.66kg); 6-cell: from 3.97 lb (1.80kg)
- Weight
- Case material
- Battery - type
- Battery - life

### Chipset
- Mobile Intel GM77 Express Chipset
- Multicard Reader
- ExpressCard
- Smart Card Reader

### PClé Mini Card
- Two PClé Express Mini Card slots
- PClé Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2
- Some: Wireless LAN upgradable
- Some: Wireless LAN, Ericsson® F5521gw Mobile Broadband Module, PClé Mini Card, GPRS/WCDMA/HS/HPA+, GPS
- SIM card
- Modern
- Bluetooth™
- Ethernet
- Audio support
- Security
- Security chip
- FingerPrint reader
- High Definition (HD) Audio
- Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mbl button / dual array microphone, combo audio/mic jack
- Power-on password, hard disk password, supervisor password, security keyhole
- Trusted Platform Module, TCG 1.2-compliant
- AuthenTec fingerPrint reader (right base of display), used in tablet/notebook mode, LED indicator, Power On Authentication, supports the security chip

### Limited warranty
3-years/1-year battery, limited onsite service®. 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will add an additional next business day for service dispatch / service upgrades available

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See footnotes for more detailed information

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(G-CMT2-2) August 2013
### Product Specifications Reference (PSREF)

#### ThinkPad X230 Tablet (3438) - Onsite - II

<table>
<thead>
<tr>
<th>Type/model</th>
<th>Processor</th>
<th>Memory</th>
<th>Disk</th>
<th>Optical</th>
<th>ThinkPad</th>
<th>Backlit</th>
<th>PCIe Mini Card</th>
<th>PCIe Mini Card</th>
<th>Battery</th>
<th>Global (G)</th>
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<td>Optional</td>
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<td>G</td>
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<td>WWAN upg</td>
<td>vPro</td>
<td>G</td>
<td>07/12</td>
<td></td>
</tr>
</tbody>
</table>

*Part of the Global Models Plus program with limited onsite service® 3-year limited warranty*

---

**Positioning**

- **Processor**: Convertible tablet ultraportable, one spindle; Intel® Core™ i5-3320M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000.
- **Memory**: 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.

**Optical Ultrabay SATA disk**

- Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabay Series 3 (0A33932).
- Some: Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high.
- Some: Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™.
- All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabay Series 3.

**mSATA/SSD None**

**WideScreen display**

- **Outdoor**: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare display with scratch resistant Corning® Gorilla® Glass, LED backlight, 300 nits, 16:9 aspect ratio, 1.2% reflectivity, multiple anti-reflectivity layers, IPS.
- **MultiTouch**: 12.5" (317.5mm) HD (1366x768) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 500:1 contrast ratio, IPS, MultiTouch screen supports pen & five-finger gesture.
- **All**: WideView (170° viewing), anti-reflective and anti-glare protective coatings, write on screen with standard digitizer pen, pen holder in side base (right), rotate and swivel hinge, power, reset, and rotation buttons on display bottom.

**Camera**

- 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 DisplayPort; supports dual independent display.
- Maximum external resolution: 2560x1600 (DisplayPort)@60Hz; 2048x1536 (VGA) @75Hz; 1920x1200 @60Hz (single-link DVI-D via cable 45J7915).

**Keyboard**

- TrackPoint® Touchpad: 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optional LED backlight.
- TrackPoint pointing device, "Press-to-Select," Internet Scroll Bar®, magnifying glass.
- UltraNav™, buttonless touchpad below keyboard, Tap Zones, multi-touch.
- ThinkLight™: None.

**Dimensions**

- **Weight**: 3-cell: from 3.67 lb (1.66kg); 6-cell: from 3.97 lb (1.80kg).
- **Battery - type**: Li-Polymer 3-cell or Li-Ion 6-cell, HW Authentication; optional external battery as 2nd battery.
- **Battery - life**: 3-cell (30Whr): up to 4.7 hr; 6-cell (66Whr): up to 9.9 hr; external battery (64Whr): up to 10.2 hr; 6-cell plus external battery: up to 20.1 hr.

**Chipset**

- Mobile Intel® GM77 Express Chipset.
- Ultrabay Series: Option: ThinkPad Ultrabay Series 3 (see right side).

**Multicard Reader**

- 4-in-1 reader (SD, SDHC, SDXC, MMC).
- One slot (ExpressCard/34, ExpressCard/54).

**Smart Card Reader**

- None.
- Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45).

**Other features:**

- Power button (front).
- Security key lock, security keyhole.
- Analog VGA DB-15 monitor port.
- DisplayPort (supports single-link DVI-D via cable 45J7915).
- Four USB 2.0 ports.
- Gigabit ethernet (RJ-45) port.
- Microphone in and headphone out.
- Requires 65W or 90W AC adapter.
- 1.39 lb; 630g.
- Requires 65W or 90W AC adapter.

**Limited warranty**

- 3-years/1-year battery, limited onsite service®. 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.

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See footnotes for more detailed information © Lenovo (G-CMT2-3) July 2012
ThinkPad X1 Carbon (1st Gen)
ThinkPad X1 Carbon (1st Gen) 3444 (TopSeller)

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

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

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Widescreen display</th>
<th>Camera</th>
<th>Disk</th>
<th>SATA</th>
<th>GB</th>
<th>rpm</th>
<th>PCle Mini Card</th>
<th>WLAN</th>
<th>PCle Mini Card</th>
<th>WWAN/</th>
<th>SIM card</th>
<th>Finger print reader</th>
<th>Blue tooth</th>
<th>Intel AMT</th>
<th>Intel vPro</th>
<th>Preload</th>
<th>Date</th>
<th>Preload operating system</th>
<th>Ready to install applications</th>
<th>Preloaded applications</th>
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<tbody>
<tr>
<td>3444-57G</td>
<td>i7-3667U</td>
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<td>BT</td>
<td>IAMT</td>
<td>vPro</td>
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<td>08/12</td>
<td></td>
<td>Some: Genuine Windows 7</td>
<td>Home Premium 64</td>
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<tr>
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<td>BT</td>
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<td>None</td>
<td>Prem 64</td>
<td>10/12</td>
<td></td>
<td>Some: Genuine Windows 7</td>
<td>Professional 64</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</table>

- **Positoning Processor**: Intel® Core™ i5-3317U processor (2 cores, 2.1GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology
- **Memory**: 4GB or 8GB / PC3-10600 / soldered to system board, no sockets
- **Optical Sata disk mSATA SSD**: None
- **Widescreen display**: 14.0" (355mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio
- **Camera**: HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus
- **Chipset**: Mobile Intel QS77 Express Chipset
- **Preloaded operating system**: Some: Genuine Windows 7
- **Ready to install applications**: (only some listed)
  - Rescue and Recovery™
  - Password Manager
- **Preloaded applications**: (only some listed)
  - Lenovo© Solution Center
  - Lenovo Message Center Plus
  - ThinkVantage Product Recovery
  - Access Connections™
  - Fingerprint Software (fingerprint models)
  - ThinkVantage System Update
  - ThinkVantage Power Manager
  - Lenovo Cloud Storage
  - Norton™ Internet Security 2012
  - Adobe® Reader
  - Skype™ for Windows
  - Evernote™
  - Symantec™ VIP
  - Windows Live™ Essentials

See footnotes for more detailed information © Lenovo (G-GS1-3) November 2012
**ThinkPad X1 Carbon (1st Gen) 3444 (TopSeller) - Windows 8**

Product Specifications Reference (PSREF)

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<th>PCIe Mini Card</th>
<th>PCIe Mini Card WWAN/ mSATA</th>
<th>SIM card</th>
<th>Finger print reader</th>
<th>Blue-tooth</th>
<th>Intel AMT</th>
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<td>None</td>
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<td>10/12</td>
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</table>

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

Preloaded operating system
- Windows 8 Pro 64-bit

Preloaded applications (only some listed)
- Windows 7 models
- Lenovo Message Center
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap

- Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch

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

Mobile Intel QS77 Express Chipset

- MS-9660
- Intel 82801DD I/O Controller Hub

Other Features

Preloaded applications (only some listed)
- Lenovo Solution Center
- ThinkVantage System Update
- Fingerprint Software (fingerprint models)
- Lenovo Cloud Storage
- Microsoft Office preloaded: purchase a product key to activate

Lenovo Support
- Lenovo QuickLaunch

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

- Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch

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

Limited warranty 3-years/1-yr battery - depot repair service / service upgrades available

See footnotes for more detailed information

© Lenovo (G-GS1-6) November 2012
### ThinkPad X1 Carbon (1st Gen) 3448

**Product Specifications Reference (PSREF)**

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<thead>
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<th>PCle Mini Card mSATA</th>
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<th>Blue-tooth</th>
<th>Intel vPro</th>
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<td>vPro</td>
<td>G</td>
<td>Pro</td>
<td>64</td>
<td>08/12</td>
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</table>

### Additional Specifications

- **Positioning**: Intel® Core™ i5-3427U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.90GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology
- **Memory**: 4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets
- **Optical**: Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor
- **Widescreen display**: 14.0" (355mm) HD+ (1600x900) TFT color, anti- glare, LED backlight, 300 nits, 16:9 aspect ratio, 400:1 contrast ratio
- **Graphics**: Intel HD Graphics 4000 in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display; Max external resolution: 2560x1600 (Mini-DisplayPort) @ 60Hz
- **Keyboard**: 6-row, ThinkVantage button, LED backlight, spill-resistant, multimedia Fn keys
- **TrackPoint**: TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar®
- **Touchpad**: UltraNav™, buttonless glass surface touchpad below keyboard, multi-touch
- **Dimensions**: 14.0W (WxDxH): 13.0" x 8.9" x 0.31-0.74"; 331mm x 226mm x 8.0-18.8mm
- **Battery**: Integrated lithium polymer 4-cell RapidCharge battery
- **Battery lifetime**: Integrated battery (45.8Whr): up to 8.2 hr
- **Battery type**: Built-in battery
- **Weight**: Integrated, battery from 3.0 lb (1.36kg)
- **Chipset**: Mobile Intel GS77 Express Chipset
- **Multicard reader**: 4-in-1 reader (SD, SDHC, SDXC, MMC)
- **Ports**: One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort)
- **Monitor Cable**: None
- **PCIe Mini Card**: Two PCI Express Mini Card slots
- **PCIe WWAN**: None
- **PCIe WLAN**: None
- **SIM card**: None
- **Modem**: None
- **Bluetooth**: Bluetooth 4.0 wireless
- **Ethernet**: None
- **Audio support**: HD Audio, Realtek® ALC3202 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, mic mute button, combo audio/mic jack
- **Security**: Finger print reader: AuthenTec fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

**Preloaded operating system**: Genuine Windows® 7 Professional 64

**Ready to install applications** (only some listed)
- Rescue and Recovery®
- Password Manager

**Preloaded applications** (only some listed)
- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections®
- Fingerprint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage by SugarSync
- Lenovo SimpleTap
- Microsoft® Office preloaded; purchase a product key to activate
- Norton® Internet Security 2012 (30 days of virus definitions)
- Adobe® Reader®
- Skype® for Windows
- Evernote®
- Symantec® VIP
- Windows Live™ Essentials

**Supports ThinkVantage® technologies**

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

See footnotes for more detailed information © Lenovo (G-GS1-1) August 2012
### ThinkPad X1 Carbon (1st Gen) 3448 (Windows 8)

**Product Specifications Reference (PSREF)**

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Widescreen display</th>
<th>Camera</th>
<th>Disk SATA/T mechanical/SSD</th>
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<th>PCIe Mini Card WWAN/ mSATA SIM card</th>
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<td>Win8 Pro64</td>
<td>02/13</td>
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</table>

### Features

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

### Preloaded operating system

- Windows® 8 Pro 64-bit

### Preloaded applications (only some listed)

- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch

### Additional Information

- **ENERGY STAR® Gold rating**
- **EPEAT® Gold rating**
- **Lenovo Solution Center**
- **Supports ThinkVantage® technologies**
- **90-watt AC Adapter (RapidCharge)**
- **ThinkPad Roll Cage (bottom cover)**
- **24 hour 7 day toll-free support** during the warranty period

See footnotes for more detailed information © Lenovo (G-GS1-4) February 2013
### Product Specifications Reference (PSREF)

**ThinkPad X1 Carbon (1st Gen) 3448 (Windows 8) - MultiTouch**

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<thead>
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### Preloaded operating system
- Windows® 8 Pro 64-bit

### Preloaded applications
- Norton™ Antivirus
- ThinkVantage Productivity Center
- ThinkVantage Power Manager
- ThinkVantage Access Connections

### Additional features
- **MultiPoint** screen supports ten-finger gesture
- **ThinkLight™** buttonless glass surface touchpad below keyboard, multi-touch
- **ThinkPad® UltraNav™**

### Widescreen display
- 14.0" (355mm) HD+ (1600x900) TFT color, anti-glare, LED backlight,

### Memory
- 4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets

### Optical Sata disk
- None
- Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor

### Preloaded applications (only some listed)
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- ThinkVantage Power Manager
- Lenovo SimpleTap

### Certification and compliance
- ENERGY STAR® Gold rating
- EPEAT® Gold rated
- RoHS-compliant

### Processor
- Intel® Core™ i5-3427U processor (2 cores, 2.0GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology

### Graphics
- Intel HD Graphics 4000 in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536); supports dual independent display;
- Max external resolution: 2560x1600 (Mini-DisplayPort)@60Hz

### Keyboard
- 6-row, ThinkVantage button, LED backlit, spill-resistant, multimedia Fn keys
- TrackPoint® pointing device, “Press-to-Select,” Internet Scroll Bar®

### Battery
- Integrated battery (45.8Whr): up to 8.2 hr
- Integrated Lithium Polymer 4-cell RapidCharge battery

### Chipset
- Mobile Intel QS77 Express Chipset
- Supports ThinkVantage® technologies

### Limited warranty
- 3-years/1-yr battery - depot repair service / service upgrades available

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*See footnotes for more detailed information*
ThinkPad X1 Carbon (1st Gen) 3460 (Onsite)

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**Positioning**

- **Processor**
  - Intel® Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology
  - Intel Core i5-3337U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.70GHz), HT technology
  - Intel Core i5-3337U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.80GHz), HT technology
  - Intel Core i7-3667U processor (2 cores, 1.90GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.00GHz), HT technology

**Memory**

- 4GB or 8GB / PC3-10600 1333MHz DDR3L / soldered to systemboard, no sockets

**Graphics**

- Intel HD Graphics 4000 in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536);

**Chipset**

- Mobile Intel Q57 Express Chipset

**Operating system**

- Genuine Windows 7 Professional8

**Ready to install applications**

- Rescue and Recovery™
- Password Manager

**Preloaded applications**

- Lenovo® Solution Center
- Lenovo Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- FingerPrint Software (fingerprint models)
- ThinkVantage System Update
- ThinkVantage Power Manager
- Lenovo Cloud Storage
- by SugarSync
- Lenovo SimpleTap
- Office preloaded; purchase a product key to activate
- Norton™ Internet Security 2012 (30 days of virus definitions)
- McAfee® Reader
- Skype™ for Windows
- Evernote®
- Symantec™ VIP
- Windows Live™ Essentials

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*Some models are part of the Global Models Plus program with limited onsite service® 3-year limited warranty*
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Positioning Processor | Intel Core™ i5-3317U processor (2 cores, 1.70GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology Intel Core i7-3667U processor (2 cores, 1.80GHz, 3MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (2.60GHz), HT technology Intel Core i7-3667U processor (2 cores, 2.0GHz, 4MB cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.20GHz), HT technology

Memory | 4GB or 8GB / PC3-10600 1333Mhz DDR3L / soldered to systemboard, no sockets

Optical SENSEN® mSATA SSD | Solid State Drive (SSD) / SATA 6.0Gb/s, Small Form Factor

Widescreen display | Some: 14.0" (355mm) HD (1366x768) TFT color, anti-glare, LED backlight, 200 nits, 16:9 aspect ratio, 400:1 contrast ratio Some: 14.0" (355mm) HD+ (1600x900) TFT color, anti-glare, LED backlight, 300 nits, 16:9 aspect ratio, 400:1 contrast ratio

Camera | HD720p resolution, wide view angle, low light sensitive, face tracking, fixed focus

Graphics Intel HD Graphics 4000 in processor, external digital monitor support via Mini DisplayPort (supports VGA analog monitor via Mini DisplayPort to VGA Monitor Cable 0A36536), supports dual independent display; Max external resolution: 2560x1600 (Mini-DisplayPort) @ 60Hz

Keyboard | 6-row, ThinkVantage button, LED backlight, spill-resistant, multimedia Fn keys

Trackpad | Touchpad

ThinkLight™ | None

Dimensions | 14.0W" (355mm)

Weight | 313 mm x 226 mm x 8.0-18.8mm

Case material | Display cover: Carbon Fiber; Bottom: Magnesium/Aluminum

Battery | Integrated Lithium Polymer 4-cell RapidCharge battery

Battery life | Integrated battery (45.6Whr): up to 8.2 hr

Chipset Mobile Intel QS77 Express Chipset

Multicard reader | 4-in-1 reader (SD, SDHC, SDXC, MMC)

ExpressCard | None

Ports | One USB 3.0, one powered USB 2.0, external monitor (Mini DisplayPort)

Monitor Cable | None

PCle Mini Card | Two PCI Express Mini Card slots

PCle WLAN™ | 11a/b/g/n, PCle Small Form Factor Mini Card, Intel Centrino® Advanced-N 6205S, 2x2

PCle WWAN | Some: Wireless WAN, Ericsson® HS321gw Mobile Broadband Module, PCle Half Mini Card, GPRS/WCDMA/HSPPA+, GPS

SIM card | Some: User selectable, contract required with service provider

Modem | None

Bluetooth™ | Bluetooth 4.0 wireless

Ethernet | None

Intel AMT | None

Audio support HD Audio, Realtek® ALC2302 codec, Dolby® Home Theater® v4 / stereo speakers, 2 watt x 2 / volume up, down, mute buttons / dual array microphone, microphone, combo audio/mic jack

Security | Power-on password, hard disk password, supervisor password, security keyhole, reset switch

Security chip | Trusted Platform Module, TC 1.2-compliant

Fingerprint reader | Authentic fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip

Limited warranty | 3-years/1-year battery, limited onsite service, 8 am - 5 pm, Mon - Fri coverage excluding public and national holidays. Calls received after 3 pm will require an additional next business day for service dispatch / service upgrades available

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

Preloaded applications | (only some listed)

- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections™
- ThinkVantage Power Manager
- Lenovo SimpleTap

- Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch

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

Supports ThinkVantage® technologies

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

Product Specifications Reference (PSREF)

(8-GS1-5) August 2013

See footnotes for more detailed information
## ThinkPad X1 Carbon (1st Gen) 3460 (Onsite) - Windows 8 - II

### Product Specifications Reference (PSREF)

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Widescreen display</th>
<th>Camera</th>
<th>Disk Sata</th>
<th>PCIe Mini Card</th>
<th>USB 2.0 Ethernet Adapter</th>
<th>Global (G) Intel GMP</th>
<th>Preload</th>
<th>Ann Date (m/m/y)</th>
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<tbody>
<tr>
<td>3460-CVG</td>
<td>Core i5-3427U</td>
<td>4GBx1</td>
<td>14.0&quot; HD+ 720p</td>
<td>180G SSD</td>
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<td>vPro</td>
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<td>3460-DPG</td>
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<td>iAMT</td>
<td>vPro</td>
<td>No</td>
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</table>

### Preload applications
- Windows 7 models
- Lenovo® Message Center Plus
- ThinkVantage Product Recovery
- Access Connections®
- ThinkVantage Power Manager
- Lenovo SimpleTap

### Windows 8 models
- Lenovo Support
- Lenovo Companion
- Lenovo QuickLaunch

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

### Preloaded operating system
- Some: Windows 7 Professional 64 preinstalled through downgrade rights in Windows 8 Pro 64-bit
- Some: Windows 8 Pro 64-bit
- Some: Windows 8 Pro 64-bit

### Product Notes
- 3-years/1-year battery, limited onsite service**: 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

### Additional features
- Supports ThinkVantage® technologies
- 90-watt AC Adapter (RapidCharge)
- ThinkPad Roll Cage (bottom cover)
- EPEAT® Gold rating
- ENERGY STAR® 5.2-compliant
- ROHS-compliant
- International Warranty Service 24 hour x 7 days toll-free support during the warranty period

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See footnotes for more detailed information

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

**Product Specifications Reference (PSREF)**

<table>
<thead>
<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Disk</th>
<th>PCIe Mini Card</th>
<th>PCIe Mini Card WWAN/ mSATA</th>
<th>SIM card</th>
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</tbody>
</table>

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

### Preloaded applications
- **Windows 7 models**
  - Lenovo® Message Center Plus
  - ThinkVantage® Product Recovery
  - Access Connections™
  - ThinkVantage® Power Manager
  - Lenovo® SimpleTap

- **Windows 8 models**
  - Lenovo Support
  - Lenovo Companion
  - Lenovo QuickLaunch

- **All models**
  - Lenovo Solution Center
  - Password Manager
  - ThinkVantage® System Update
  - Lenovo® Preloaded Features
  - purchase a product key to activate
  - Norton® Internet Security
  - (30 days of virus definitions)

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Accessible capacity is 8TB = trillion bytes. On ThinkPad 764 models, even though it is possible to install 4GB of memory, the actual amount of memory addressable by a 32-bit operating system will be limited to 3GB. This limitation does not exist with 64-bit operating systems.

**Footnotes:**

1. Power management, including Intel SpeedStep Technology, reduces processor speed when in battery mode.

2. Includes battery and standard optical drive; weight may vary due to vendor components, manufacturing process and options.

3. May vary at certain points on the system.

4. Requires compatible wireless-enabled options sold separately.

5. The ThinkPad notebook is compliant with the U.S. Federal Government’s country-of-origin requirements prescribed in 48 C.F.R. Subpart 25.4; Trade Act Agreement (TAA) model.

6. Public network download modem speeds are limited to 53Kbps. Upload speeds are limited to 48Kbps for V.92 modems. Actual speeds depend on many factors and are often less than the maximum possible. V.92 functions and speeds require compatible phone line and server equipment. Check with your telephone and ISP service providers for availability.

7. Maximum memory capacity may require the replacement of standard component with largest supported component available. On ThinkPad systems, even though it is possible to physically install 4GB of memory, the actual amount of memory addressable by a 32-bit operating system will be limited to 3GB. This limitation does not exist with 64-bit operating systems.

8. Hard drive: GB = billion bytes, TB = trillion bytes. Accessible capacity is less; up to 4GB is service partition.

9. CD/DVD drive speeds list maximum rates; rates are variable and are often less than the maximum.

10. Battery: These model numbers achieved the battery life based on MobileMark 2007 during testing. For the ThinkPad X300, battery life is based on Business Winstone Battery Mark 2002. Battery life (and recharge times) will vary based on many factors including screen brightness, applications, features, power management, battery conditioning, and other customer preferences.

11. External monitor: This system supports a maximum of two external monitors. The integrated display(s) must be disabled to support two external monitors.

12. Limited warranty: Support unrelated to a warranty issue may be subject to additional charges.

13. Internet access not included.

14. Included software may differ from its retail version (if available), and may not include user manuals or all program functionality. Software license agreements may apply.

15. Activating Verizon Wireless Service: Lenovo customers will be contacted after purchase to activate service; requires separate agreement with Verizon Wireless and is subject to the Customer Agreement, Calling Plan, and credit approval. Service, airtime, and early termination charges may apply. Verizon Wireless, not Lenovo, is solely responsible for service. Service not available in all areas; purchaser is responsible for verifying that service is available for the intended location before purchasing a computer equipped with WAN card. Network details, coverage limitations, and maps at www.verizonwireless.com.

16. Telephone support may be subject to additional charges, even during the limited warranty period. Response times may vary. May exclude some holidays. If a machine is listed as having "On-site service for select repairs", this means that onsite service is available only for the replacement of select parts. For all other warranty repairs, Lenovo will provide the customer a replacement part for customer installation. The parts for which onsite service is available vary by machine, but may include the processor, power supply, heat sink, system board, or base cover. For ThinkPad notebook models with Depot or Courier service, Lenovo will attempt to diagnose and resolve the problem remotely before sending a courier.

17. Depot repair service: The customer may be asked certain diagnostic questions before a courier is sent. Your ThinkPad purchase includes this depot repair service, available in the U.S. during the limited warranty period.

18. Operating System: Level of support varies by operating system. Operating systems not preloaded on the system may not provide full feature functionality. Refer to lenovo.com/pc/support and enter your machine type and model number for more information.

19. For combination drives, maximum possible speeds only are given in the following order: CD write, CD rewrite, CD read, DVD read.
Limited onsite service systems are designed to be repaired during the applicable warranty period primarily with customer-replaceable parts provided by Lenovo. Lenovo will only send a technician onsite to perform a repair if (a) remote telephone diagnosis and/or customer part replacement are unable to resolve the problem, or (b) the part is one of the few designated by Lenovo for onsite replacement. For a list of onsite replaceable parts, contact Lenovo. Support unrelated to a warranty issue may be subject to additional charges. Lenovo onsite repair (LOR), 8 am to 5 pm, Monday through Friday coverage excluding holidays, next business day (NBD) response time.

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

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

Measures only maximum data transfer rate, not application performance. Many factors affect application performance.
32 Wireless: Based on IEEE 802.11a, 802.11b, and 802.11g respectively. An adapter with 11a/b, 11b/g, or 11a/b/g can communicate on either/any of these listed formats respectively, the actual connection will be based on the access point to which it connects.

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

37 Optimus graphics Optimus only switches in Windows 7 environment. It performs as discrete graphics in Windows Vista or Windows XP Professional environment.

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