### ThinkPad X230 Tablet (3437)

**Type-model** | **Processor** | **Memory** | **Widescreen display** | **Camera** | **Disk SATA** | **Optical in USB** | **ThinkPad Ultrabase Series** | **Backlit keyboard** | **PcLe Mini Card** | **PcLe Mini Card** | **Battery** | **Global (G)** | **Pre-load** | **Ann Date** |
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<td>i5-3320M</td>
<td>4GBx1</td>
<td>12.5&quot; HD Multi</td>
<td>720p</td>
<td>320G 7200</td>
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<td>None</td>
<td>Intel 6205</td>
<td>WWAN upg</td>
<td>vPro</td>
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<td>06/12</td>
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- **A depot repair service 3-year limited warranty**

**Positioning**

Convertible tablet ultraportable; one spindle

**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 (3.0GHz), HT technology

**Memory**

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

**Optical Ultrabay**

Some: DVD burner, removable from ThinkPad Ultrabase Series 3

**SATA disk**

Some: Solid State Drive (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™

**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, 1.2-2.5” RealFeel® keys, 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

**Camera**

HD720p resolution, wide angle view, 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**

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

**Touchpad**

ThinkLight™

None

**Dimensions**

Weight

without UltraBase: 3-cell: 12.0” x 9.0” x 1.1-1.23”; 305mm x 228.7mm x 27-31.3mm

3-cell: from 3.67 lb (1.66kg); 6-cell: from 3.97 lb (1.80kg)

**Case material**

Display cover: Magnesium + PCABS; Bottom: Magnesium alloy

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 hr; 6-cell plus external battery: up to 20.1 hr

**Chipset**

Mobile Intel QM77 Express Chipset

**USB**

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 Read**

None

**Ports**

Two USB 2.0, one powered USB 2.0, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)

**PcLe Mini Card**

Two PCI Express Mini Card slots

**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**

Intel Active Management Technology (IAMT)

**Audio support**

High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack

**Security**

Password protection, hard disk password, supervisor password, security keyhole

**Security chip**

Trusted Platform Module, TCG 1.2-compliant

**Fingerprint reader**

Authentic 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

- 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

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<table>
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<tr>
<th>Type-model</th>
<th>Processor</th>
<th>Memory</th>
<th>Widescreen display</th>
<th>Disk SATA</th>
<th>Optical in UltraBase</th>
<th>ThinkPad Ultrabase</th>
<th>PCIe Mini Card</th>
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<td>Intel 6205</td>
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<td>vPro G 06/12</td>
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Positioning:
- Convertible tablet ultraportable; one spindles
- Supports Ultrabay Slim devices in optional or standard ThinkPad Ultrabase Series 3
- Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- Hard 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

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
- Solid State Drive (SSD) / SATA 6.0Gb/s, 2.5" wide, 7mm high
- Hard Disk Drive / SATA 3.0Gb/s, 2.5" wide, 7mm high, Active Protection System™
- All: removable, upgradable, Shock Mounted Hard Drive, supports the second disk in optional or standard ThinkPad Ultrabase Series 3

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, multi-anti-reflection 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

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 displays
- Maximum external resolution: 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @75Hz; 1920x1200 @60Hz (single-link DVI-D via cable 45J7915)

Keyboard:
- 6-row, 84-key, ThinkVantage button, spill-resistant, multimedia Fn keys, optical LED backlight
- TrackPoint pointing device, “Press-to-Select,” Internet Scroll Bar™, magnifying glass
- UltraNav™, buttonless touchpad below keyboard, Tap Zones, multi-touch

Dimensions:
- Weight: without UltraBase: 3-cell: 12.0" x 9.0" x 1.1-1.23": 305mm x 228.7mm x 27-31.3mm
- 3-cell: from 3.67 lb (1.66kg); 6-cell: from 3.97 lb (1.80kg)
- Display cover: Magnesium + PCABS; Bottom: Magnesium alloy
- Li-Polymer 3-cell or Li-ion 6-cell, HW Authentication; optional external battery as 2nd battery
- 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
- Intel Centrino® Advanced-N 6205, 2x2
- Intel AMT
- Intel Active Management Technology (IAMT)

Ports:
- Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)
- Two PCI Express Mini Card slots
- PCI Express Mini Card
- None
- 11a/b/g, PCI Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2
- Three USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45)
- WiFi, Wireless WAN, Ethernet USB 3.0 (Gigabit)
- Bluetooth® 4.0 wireless
- Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1
- Intel AMT
- Intel Active Management Technology (IAMT)
- Intel Bluetooth
- High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array microphone, combo audio/mic jack
- Power-on password, hard disk password, supervisor password, security keyhole
- Power on: 3 years, 1-year battery, limited onsite service 24 hour x 7 day toll-free support during the warranty period

Additional features:
- Power button (front)
- Security key lock, security keyhole
- Hardware password, 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; 690g

Supports ThinkVantage technologies:
- 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:
- Preloaded operating system™
- Genuine Windows® 7
- Professional 64
- Ready to install applications™
- (only some listed)
- 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

See footnotes for more detailed information

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(G-CMT2-2) August 2013
ThinkPad X230 Tablet (3438) - Onsite - II

Product Specifications Reference (PSREF)

| Type-model | Processor | Memory | Widescreen display | Disk | Optical in UltraBase | ThinkPad Ultrabase Series 3 | Backlit keyboard | PCIe Mini Card WLAN | PCIe Mini Card WWAN | Battery cells | Global (G) | GMP (P) | Preload | Ann Date (mm/yyyy) |
|------------|-----------|--------|--------------------|------|----------------------|---------------------------|----------------|---------------------|------------------|---------------|----------|--------|--------|----------|------------------|
| 3438-3SG | i5-3320M | 4GBx1 | 12.5" HD Out | 128GB SSD | Optional | Optional | Intel 6205® WWAN upg | 6 | vPro | G | P | Pro 64 | 07/12 |
| 3438-2RG | i7-3520M | 4GBx1 | 12.5" HD Multi | 128GB SSD | Optional | Optional | Intel 6205 WWAN upg | 6 | vPro | G | P | Pro 64 | 07/12 |

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

Positioning
Convertible tablet ultraportable; one spindle

Processor
Intel® Core™ i3-3220M processor (dual-core, 2.60GHz, 3MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology

Intel Core i7-3520M processor (dual-core, 2.90GHz, 4MB Cache), Intel HD Graphics 4000, DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.60GHz), HT technology

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 (0A39932)

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
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, multi-active 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

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

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

Touchpad
ThinkPoint® UltraNav™, buttonless touchpad below keyboard, Tap Zones, multi-touch

ThinkLight™ None

Dimensions3
without UltraBase: 3-cell: 12.0" x 9.0" x 1.1-1.23"; 305mm x 228.7mm x 27-31.3mm

Weight3
3-cell: from 3.67 lb (1.66kg); 6-cell: from 3.97 lb (1.80kg)

Case material
Display cover: Magnesium + PCABS; Bottom: Magnesium alloy

Battery - type
Li-Polymer 3-cell or Li-Ion 6-cell, HW Authentication; optional external battery as 2nd battery

Battery - life14
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

Ultrabase Option: ThinkPad Ultrabase Series 3 (see right side)

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

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

Smart Card Read None

Ports
Two USB 3.0, one powered USB 2.0, external monitor (VGA DB-15, 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 Wireless WAN upgradeable

SIM card None

Modern None

Bluetooth® 4.0 wireless

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

Intel AMT Intel Active Management Technology (iAMT)

Audio support High Definition (HD) Audio, Realtek® ALC3202 codec / stereo speakers, 1 watt x 2 /

volume up, down, mute buttons / dual array microphone, combo audio/mic jack

Security
Power-on password, 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 warranty15 3-years/1-year battery, limited onsite service® 3 years

See footnotes for more detailed information © Lenovo

(G-CMT2-3) July 2012