

Smarter technology for all

ThinkPad 2024

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Lenovo





Find most current specs updates here: psref.lenovo.com

Think Philosophy



Toughest test in the industry – 26 procedures from the Mil-Std 810h test suite. Topping up with special ThinkPad tests to prove better than the rest quality



All the industry standard security measures, plus some ThinkPad specialities in the area of security, privacy, transparency and secure supplychain



Building green machines with respect for the climate challenges. Offering CO₂ offset and green transport using ship and train. Local production of some systems in Europe, at our own factory

Trusted Quality

12 Mil-Spec Tests – 26 Procedures



ThinkPad MIL-STD 810H Testing – 12 Methods and 26 Procedures

- ThinkPad’s dedication to quality means rigorous testing for reliability and durability. In addition to our extensive in-house testing for real-world challenges, ThinkPad systems are tested against 12 MIL-STD 810H Methods and 26 Procedures.
- Updated ThinkPad MIL-STD testing to 810H Standard
- Dropped 1 Method/Procedure – 508.8 Fungus
- Added 1 New Method/Procedure – 524.1 Freeze/Thaw – Procedure III
- Added 5 New Procedures under existing Methods
- 501.7 High Temperature – Procedure III
- 514.8 Vibration – 514.8C-6 Cat4, 514.8C-8 Cat 5, and Procedure II
- 516.8 Shock – Procedure II

2024 ThinkPad
500.6 Low Pressure (2 procedures)
501.7 High Temperature (3 procedures)
502.7 Low Temperature (2 procedures)
503.7 Temperature Shock (2 procedures)
505.7 Solar Radiation (2 procedures)
507.6 Humidity (1 procedure)
510.7 Sand and Dust (2 procedures)
511.7 Explosive Atmosphere (1 procedure)
514.8 Vibration (4 procedures)
516.8 Shock (5 procedures)
524.1 Freeze/Thaw (1 procedure)
528.1 Vibrations of Shipboard (1 procedure)
Total Methods: 12
Total Procedures: 26

ThinkCentre M Mil-Spec testing – 12 Methods and 20 Procedures

ThinkPad 2019 Innovation: Foundational



2024 ThinkCentre M-Series

501.5 High Temperature (2 procedures)

502.5 Low Temperature (2 procedures)

503.5 Temperature Shock (3 procedures)

505.6 Solar Radiation (2 procedures)

507.5 Humidity (1 procedure)

508.7 Fungus (1 procedure)

510.5 Sand and Dust (1 procedures)

514.6 Vibration (2 procedures)

516.6 Shock (2 procedures)

Altitude (1 procedure)

Contermination by fluids (1 procedure)

Salt Fog (2 procedures)

Total Methods: 12

Total Procedures: 20





ThinkShield

**LENOVO'S
SECURITY BRAND**

FUTURE
RISK

FUTURE
RISK

COMPLIANCE

PASSWORDS

FUTURE
RISK

SOFTWARE
PATCHES

DEVICE
CONNECTIVITY

SUPPLY
CHAIN

FUTURE
RISK

END USER
DEVICE
SELECTION

DEVICE
LOSS

PRIVACY

FUTURE
RISK

TRUSTED
PARTNERS

FUTURE
RISK

ThinkShield Comprehensive List of Offerings

Data

- ThinkPad Privacy Guard
- Trusted Service
- Keep Your Drive service
- WinMagic
- Absolute
- OLDB (Online Data Backup)
- SED (Self-Encrypting Drives)
- BitLocker
- HDD Password
- Smart USB Protection
- Disk Wipe Tools
- Intel Remote Secure Erase
- Lenovo Asset Recovery Service
- USB Secure Hard Drive
- Full Drive Encryption
- ITC Image Verification
- Lenovo Asset Recovery Service

Identity

- Intel Authenticate Multifactor
- Match on Chip Fingerprint
- FIDO
- Broad SmartCard Support
- Secure NFC tap-to-login
- Absolute
- Windows Hello
- Intel Online Connect
- IR Camera
- Glance Presence & Gaze Detection

Online

- BufferZone (sandboxing)
- Coronet (WiFi Security)
- MobileIron
- Lenovo Unified Workspace
- Lenovo WiFi Security
- Intel vPro
- Intel Identity Protection Technology with PKI (Public Key Infrastructure)
- Intel Software Guard Extensions (SGX)

Device

Process

- Trusted Supplier Program
- Transparent Supply Chain
- PSIRT & FIRST
- Packaging Security
- ITC Image Verification
- Secure patch/update of drivers/firmware
- Spare Parts Handling
- BIOS Reading Room

Features

- Self-healing BIOS / Firmware Resiliency 3.0
- Certificate Based BIOS Authentication
- NIST Compliant BIOS (NIST SP800-193)
- TPM 2.0
- Pluton Security processor (Some AMD and Qualcomm)
- Password-less Power-on – USB FIDO device integration
- No backdoor Supervisor Password
- ThinkShutter
- Ready to Provision (RTP) Preload
- Kensington Lock / Tamper Switch
- Thunderbolt Security
- BIOS Asset Information Area
- Lenovo Patch with Self-Healing from Absolute Software
- Intel Boot Guard
- ITC First Boot Service / Anti Bridge Switch
- Asset Tagging Service / Device Registration
- Absolute Software
- LVFS and Windows Update Firmware Updates
- HVCI Compliant Drivers / One switch DeviceGuard
- Smart USB Protection



ThinkPad 2023 Innovation: UX, Security, Foundational

BIOS Signing with Hardware Security Module (HSM)

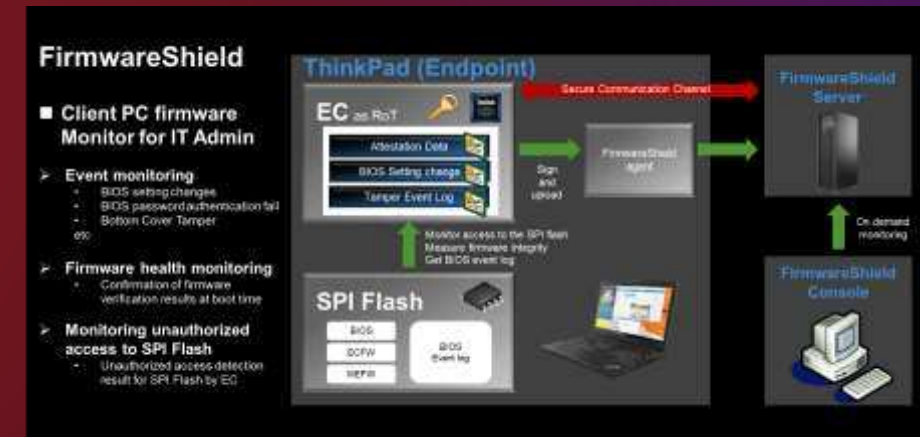
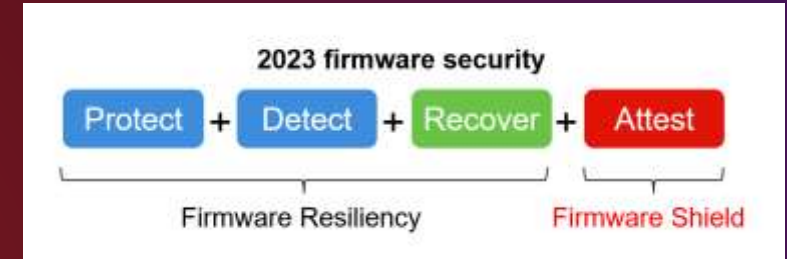
- What we did:
 - Developed an enhanced process for generating and verifying the digital signatures used for signing BIOS and firmware updates
 - The Hardware Security Module (HSM) will be used by the Lenovo Development/Security teams to generate both the private keys used to sign BIOS and firmware updates, as well as the public keys which are used to verify the integrity of these updates
- Why it matters:
 - The use of the HSM ensures that BIOS and firmware updates which customers apply to their systems are genuine and have not been tampered with



ThinkPad 2023 Innovation: UX, Security, Foundational

ThinkShield – Firmware Shield

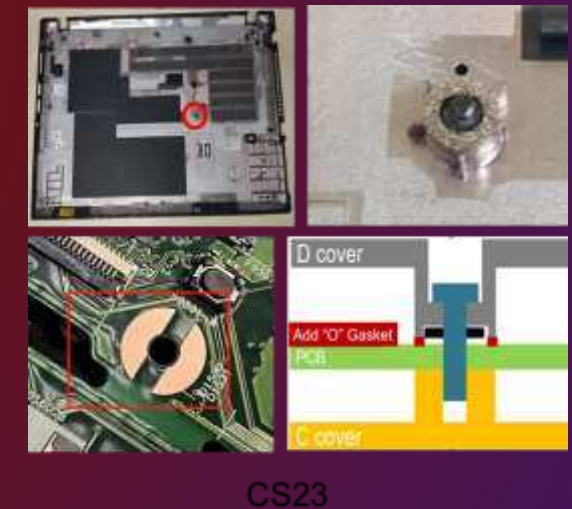
- What we did:
 - Developed a new firmware monitoring service (Firmware Shield) and corresponding application (Firmware Shield Console) to allow IT admins to monitor the state of BIOS and firmware related events/changes
 - Previous iterations of ThinkPad BIOS and firmware security progressively added Resiliency functions for Protection, Detection, and Recovery. Firmware Shield adds Attestation to these abilities
- Why it matters:
 - Gives IT Admins the ability to monitor BIOS and firmware related changes and events in order to assess the health and security of their ThinkPad systems



ThinkPad 2023 Innovation: UX, Security, Foundational

ThinkPad Bottom Cover Tamper Detection – Reliability Improvement

- What we did:
 - Improved the design of the bottom cover tamper switch on selected 2023 ThinkPad models
 - Previous implementations used a mechanical switch to detect opening of the ThinkPad bottom cover, but this was potentially vulnerable to being bypassed by a thin shim of material inserted between the system and bottom cover
 - Designed a new type of bottom cover tamper switch which is integrated into the screw pads used to attach the bottom cover
- Why it matters:
 - Improves tamper detection reliability and improves security



Available on

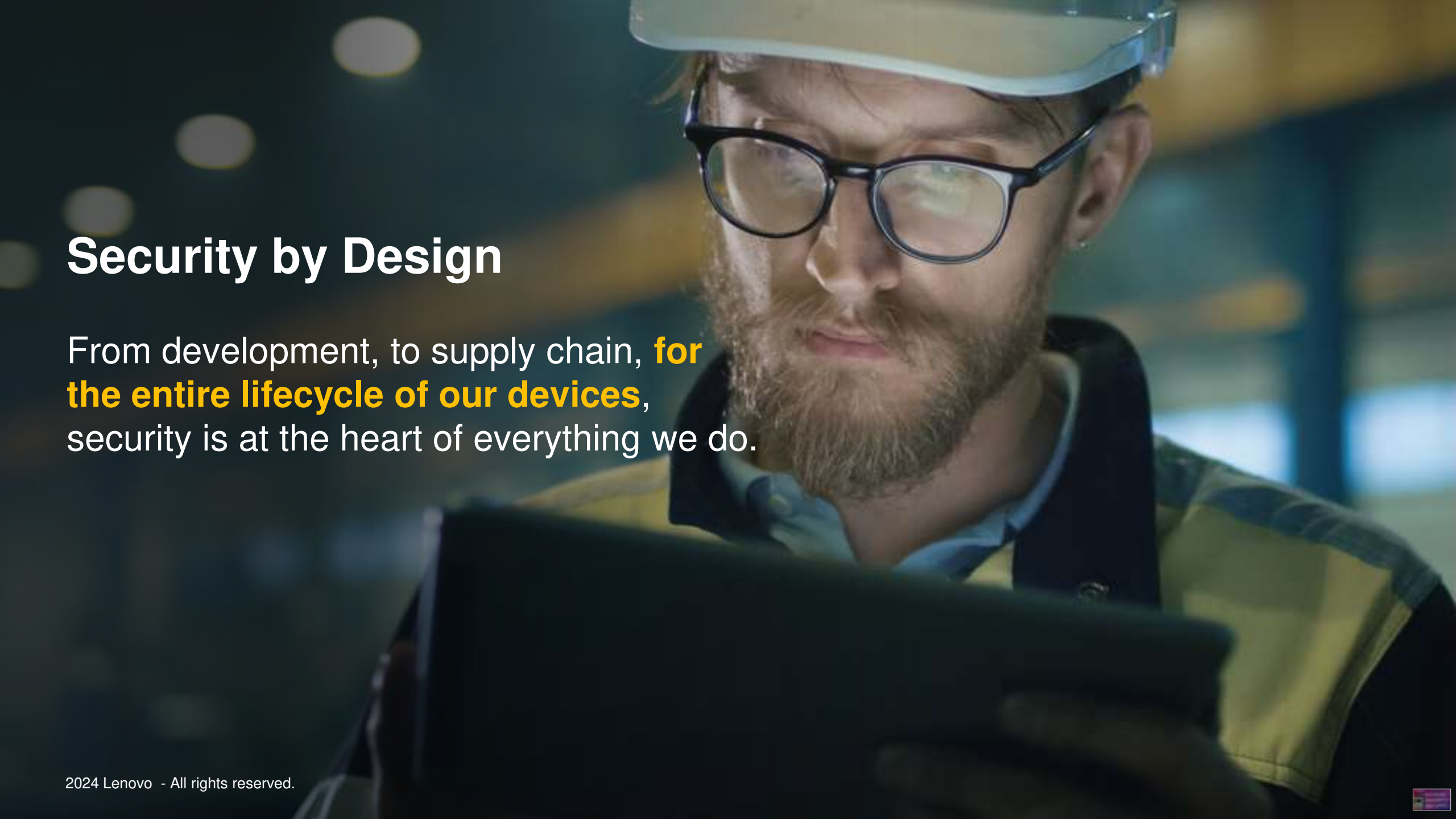
2023/2024 Lenovo ThinkPad X & T Series

Lenovo BIOS Reading Room

We want you to feel as confident in our source code as we are

- A premium service that allows customers to visually inspect Lenovo products' BIOS source code in a controlled physical environment.
- Nearly 2 MILLION lines of source code available for inspection*

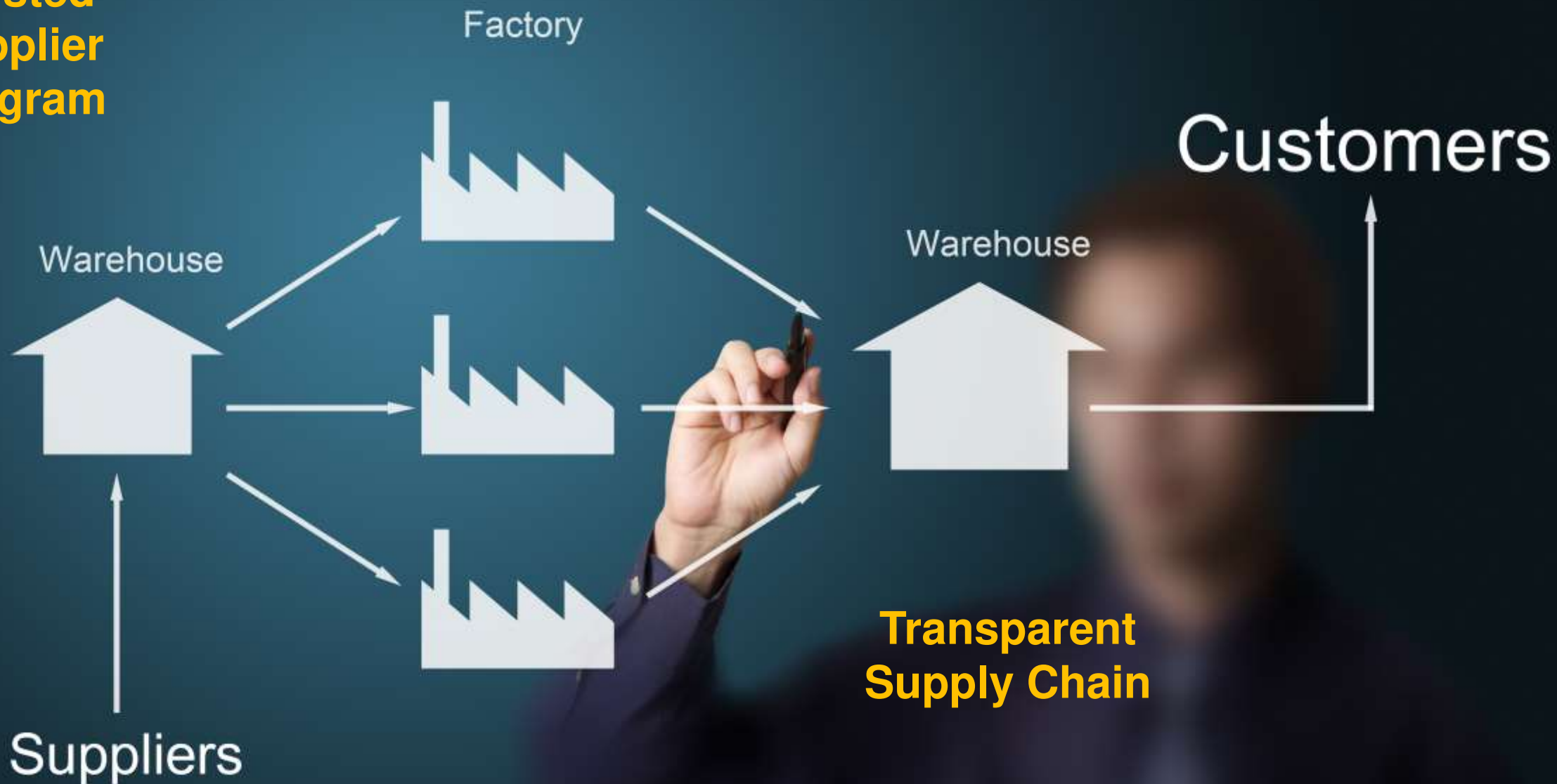




Security by Design

From development, to supply chain, **for the entire lifecycle of our devices**, security is at the heart of everything we do.

Trusted Supplier Program



Transparent Supply Chain

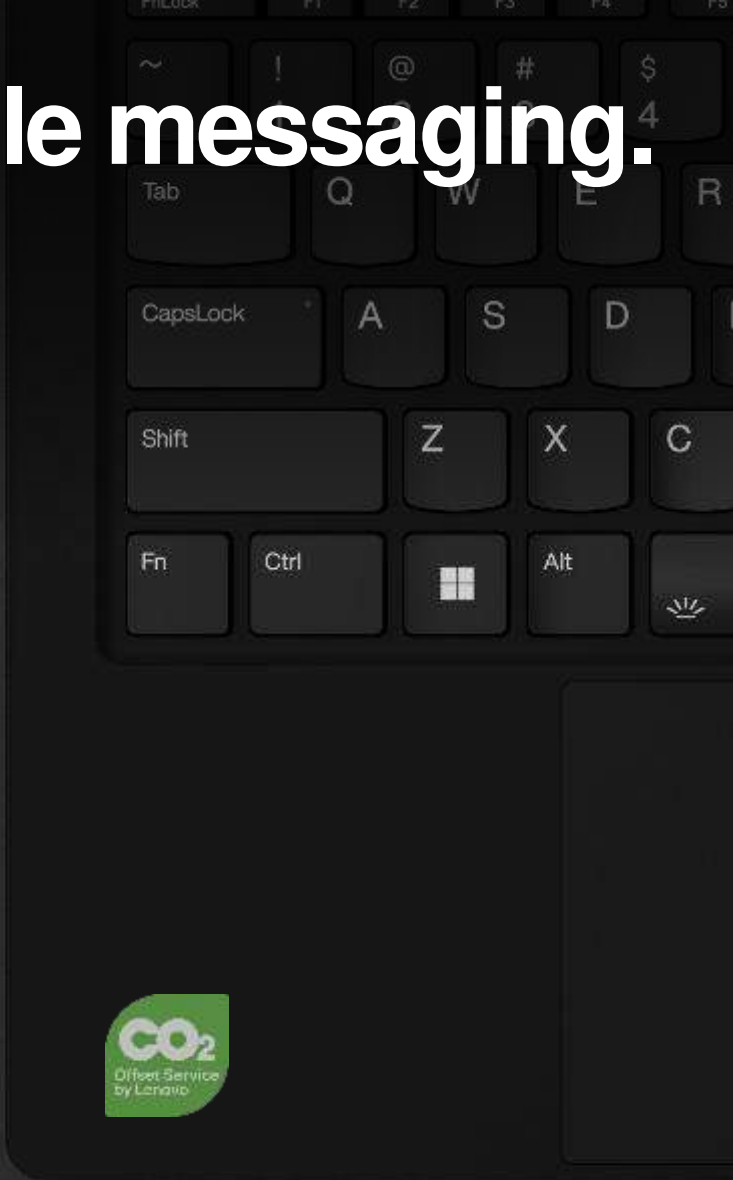
A leader in
sustainability



Lenovo sustainable messaging.



Products



Services

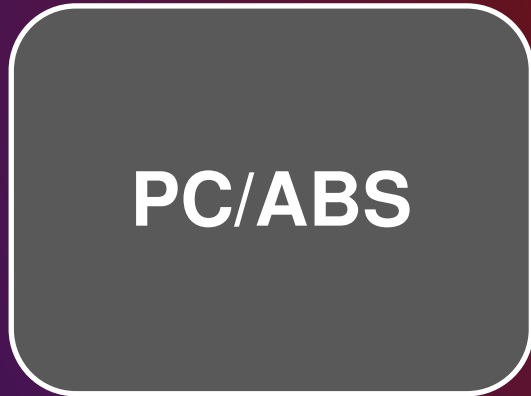
Net-Zero Emissions
by 2050

In addition to 2030 Science-Based targets, Lenovo will remove **one million tons of Green House Gas emissions** from its supply chain by FY 2025/26.

By 2025, **100% PC products** will contain post consumer recycled content.

Cooperate commitments

Materials used in the ThinkPad Portfolio 2024



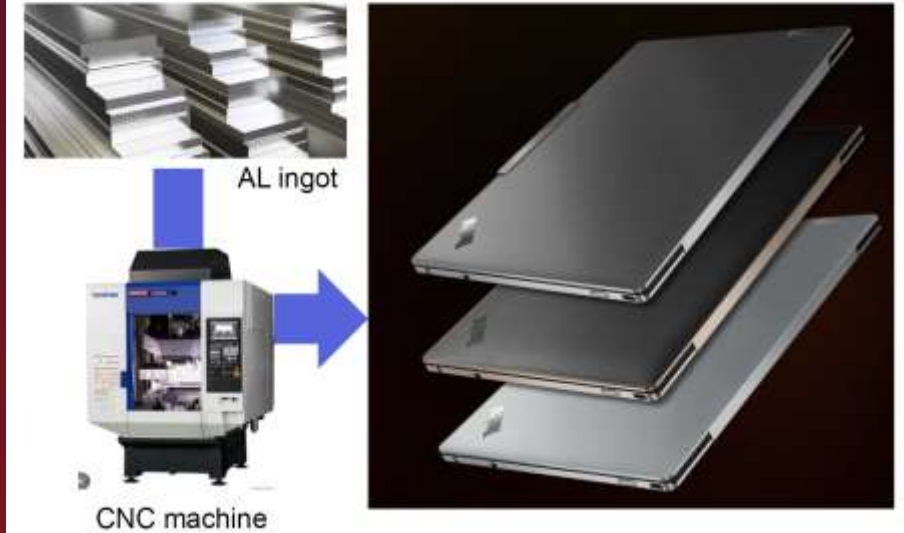
ThinkPad 2023 Innovation: ESG

Recycled Aluminum (Al) and Magnesium (Mg)

- What we did:
 - Leveraged Post-Industrial recycled content (PIC) Al and Mg in the chassis of several ThinkPad models
 - (Al) enabled recycled AL for stamped AL (55% - (50%PIC + 5%PCC))
 - (Al) enabled Forging + CNC with recycled AL (75% PIC)
 - (Mg) 90% PIC Mg adoption for more ThinkPad products
 - In some cases, the Al recycled material was produced using hydropower, improving the “Sustainability Index” of the material
 - Ensured the Al materials passed our standards for both mechanical strength and visual quality
- Why it matters:
 - Reduce landfill-bound material
 - Lower carbon impact
 - Reduce mining new Aluminum/Magnesium



75% Recycled Aluminum CNC Unibody



90% Recycled Magnesium Die-Casting



Available on

Multiple 2024 ThinkPad Models

ThinkPad 2023 Innovation: ESG

30% Post-Consumer Content (PCC) D-cover

- What we did:

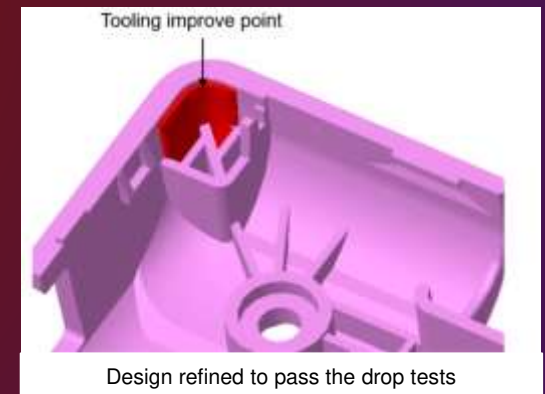
- In response to increasing customer requirements around sustainability, we replaced our previous polycarbonate plastic material in the D-cover with 30% post-consumer recycled content polycarbonate plastic
- Tested the new material and design to ensure it fully meets all ThinkPad mechanical/durability tests as well as long term reliability of the material itself

- Why it matters:

- The new material uses over 25,000 (pcs) recycled plastic bottles
- Reduces dependency on oil resources and carbon emissions
- No impact to traditional ThinkPad attributes of durability, reliability, color, etc.

Available on

Multiple 2024 ThinkPad Models



ThinkPad 2023 Innovation: ESG

Post-Consumer Content (PCC) in ThinkPad Keyboard Keycaps

- What we did:

- Introduced PCC materials in ThinkPad keyboards
 - 85% in selected backlit keyboard key caps
 - 70% in selected non-backlit keyboards caps
- Tested to ensure warpage, color variation etc. were not introduced as problems

Examples of color variation

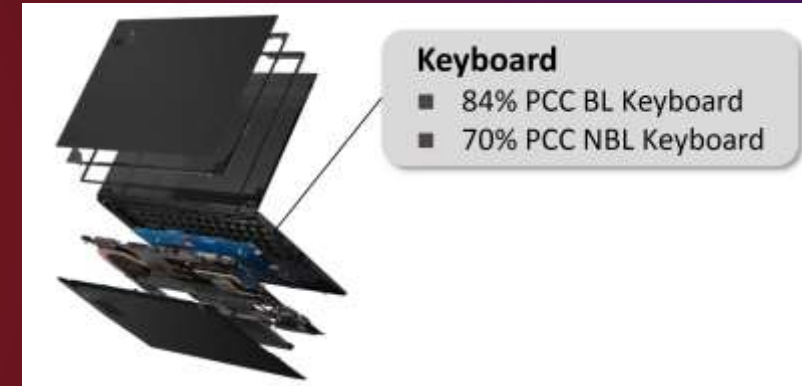


Example of warpage



- Why it matters:

- Reduces CO₂ emissions by 195.5 tons per 1M keyboards, equivalent to how much would be absorbed by 13.8K trees



Available on

Multiple 2024 ThinkPad Models

ThinkPad 2023 Innovation: ESG

Ocean-Bound Plastic (OBP) Use in System Components

- What we did:

- Used OBP in speakers, smart-card and SIM covers on several L Series models
- Ensured the material met our stringent manufacturing and durability requirements
- Worked with suppliers to mitigate technical difficulties with ocean-bound plastics, employing methods such as increasing molecular chain lengths, special manufacturing processes and updated structural designs

- Why it matters:

- Recycles approximately 119,000 (pcs) ocean-bound water bottles per year
- Reduces introduction of microplastics into the environment and food chain
- Reduces carbon emissions 44% vs. the non-recycled materials
- Less dependency on oil resources



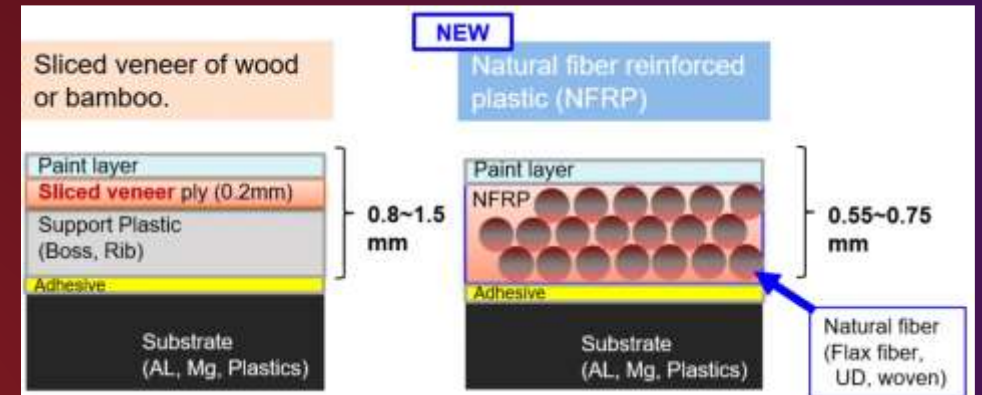
Available on

Multiple 2024 ThinkPad Models

ThinkPad 2023 Innovation: ESG

Natural Fiber Material (Flax fiber) Cover

- What we did:
 - In response to customer feedback requiring sustainable materials, we created a “tree-free” natural material for use in ThinkPad top covers
 - 50% Bio-based raw material
 - 3 layers for strength and to prevent warpage
 - 3 layers oriented at 0°, 90°, and again at 0°
- Why it matters:
 - Stylish and premium finish with sustainable materials



Available on

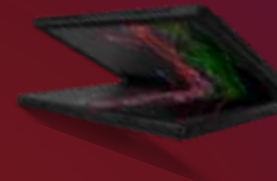
ThinkPad Z13 G2

ThinkPad Innovation: ESG, Foundational

Lenovo Low Temperature Solder (LTS)

- What we did:

- Lenovo engineers solved a decades-old problem in the global electronics industry. They discovered a way to lower the high temperatures required by the older surface mount soldering technology (SMT) used to make motherboards and other components.
- These high temperatures caused manufacturing fallout, excess power consumption, issues with long-term quality, etc.
- The Lenovo team spent over 2 years of empirical research and testing to develop the Lenovo Low Temperature Solder process, an innovative manufacturing breakthrough that lowers the heat necessary to make a ThinkPad by 70°C, from 250°C to 180°C.
- Lenovo is licensing this technology to the electronics industry free of charge.
- Lenovo is beginning to expand beyond ThinkPad motherboards to Memory, SSDs, Camera Modules, Fingerprint Readers, WLAN/WWAN Modules.



Lenovo ThinkPad X1 Fold



Lenovo ThinkPad X1 Carbon

Why it matters:

- Less energy and heat, thus less carbon emissions
- More long-term product reliability and less manufacturing fallout
- Lower temperatures in manufacturing allow components to be placed closer together, allowing for smaller, more compact products.

Available only on

All 2024 ThinkPad



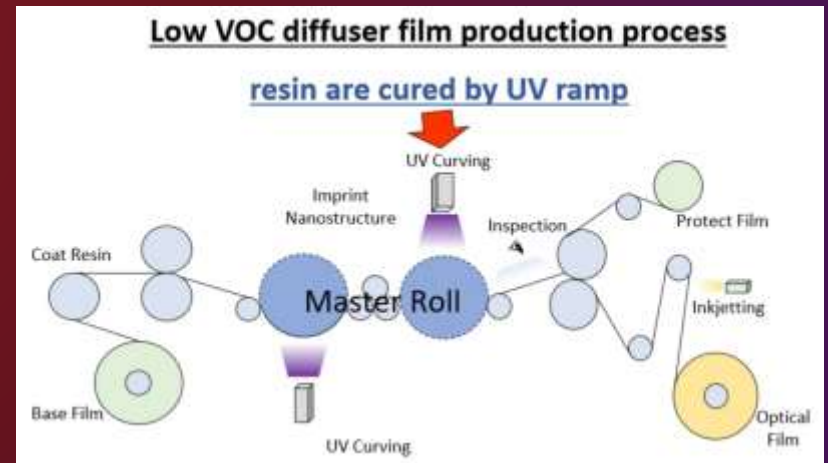
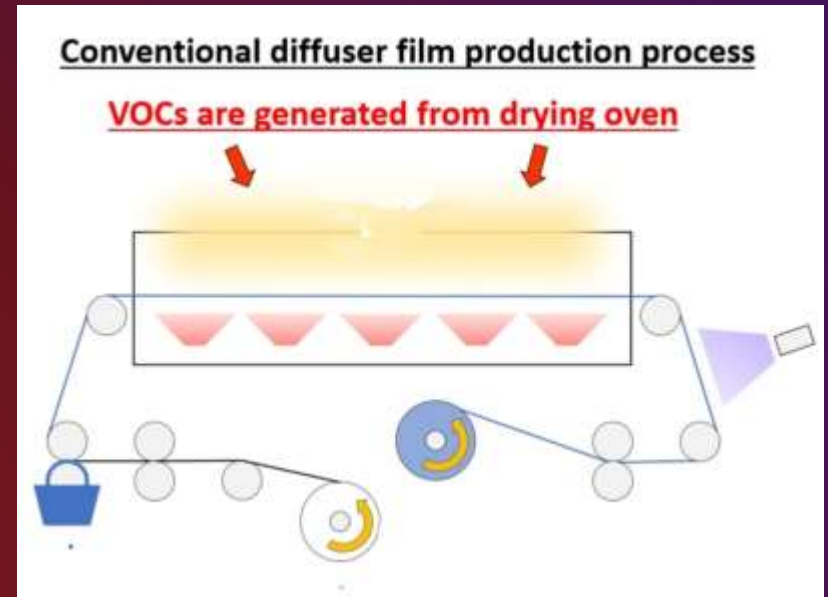
ThinkPad 2023 Innovation: ESG, UX, Foundational

Low VOC (Volatile Organic Compounds) Display

- What we did:
 - Implemented a Lenovo-exclusive method to reduce VOC/CO₂e (Carbon Dioxide equivalents) in the production of 14" WUXGA 400-nit LCD panels.
 - Replaced a drying oven used to cure the film in the traditional manufacturing with a resin that is cured with a UV lamp
 - Also uses Low Temperature Solder (LTS), a Lenovo innovation
- Why it matters:
 - Significant reduction in VOC/CO₂e produced (>9g CO₂e / display) and a 60% reduction in AC power for the UV vs. Heat process

Available on

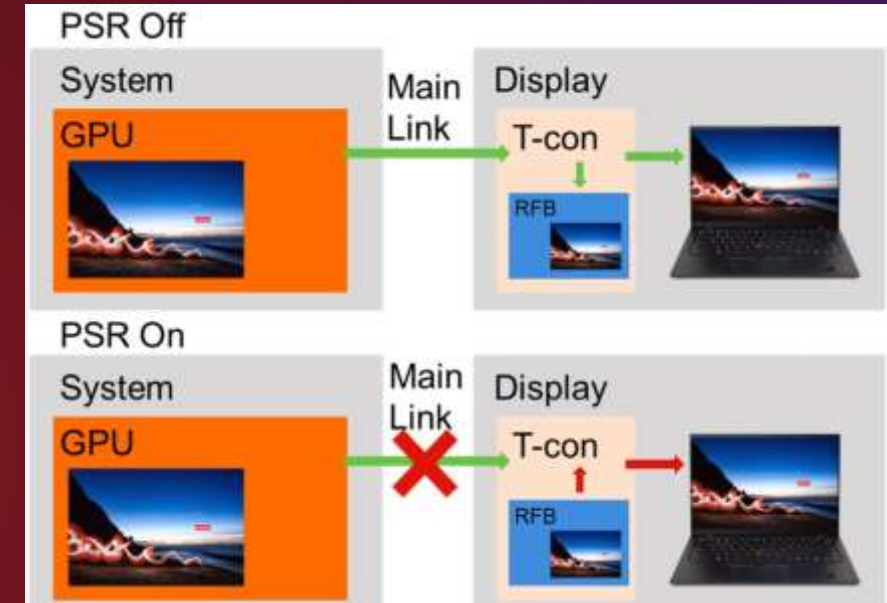
Multiple 2024 ThinkPad Models



ThinkPad 2023 Innovation: ESG, UX, Hybrid

Advanced Common Panel Self-Refresh (PSR)

- What we did:
 - Developed a method to deliver the same PSR power consumption savings currently offered only on Intel systems to the AMD-based Z13 Gen 2.
 - PSR is essentially the caching of the image on the display and reusing it when the image is static to reduce power consumption by reusing the cached image instead of re-processing it
 - Developed common firmware to be used in both the Intel and AMD implementations
- Why it matters:
 - Improves battery life without impacting usability
 - Depending on user activity, battery life may improve by as little as 10 minutes or as much as 80+ minutes



Available on

Lenovo ThinkPad Z13 G2

Recycled Carbon Fiber & Rare Earth Magnets

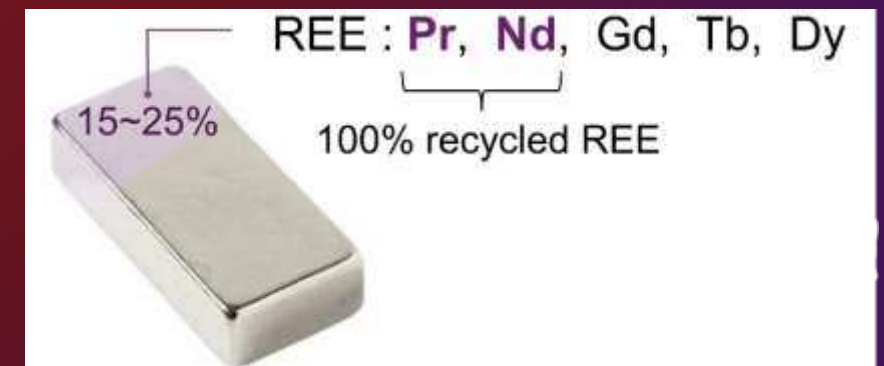
- Recycled Carbon

- We developed a process for incorporating recycled CF recovered from the aircraft manufacturing process into the 2024 X1 Carbon.
- The key challenge was determining the percentage of recycled Carbon Fiber which could be used and still pass the ThinkPad durability requirements.
- After extensive testing a 20% mix of recycled CF in the resin compound was determined to be optimal.
- Use of recycled materials reduces industrial waste, reduces landfill contribution, and reduces use of petroleum products.



- Rare Earth Magnets

- We introduced Post Consumer Recycled Content (PCC) Rare Earth Element magnets in more parts of 2024 ThinkPad systems.
- 100% Recycled Praseodymium (Pr) & Neodymium (Nd) are used, which make up 15-25% of the total magnet composition.
- New for 2024:
 - Speaker Transducers (min 15% total)
 - Hall Effect Sensors (min 25% total)
- Used since 2023:
 - Haptic TouchPad (min 25% total)



Plastic Free Packaging

Tapeless carton box

- FSC certified material
- Self-locking

Box security seal

- Kraft paper
- Anti-counterfeit

Publication kraft bag

- Kraft paper

Paper-based system bag

- Wood-fiber paper

Bamboo cushion

- 100% compostable
- Lightweight/Robust



Sustainability Next Step



Repairability

Collaboration with iFixit for leading repairability design

- Repairability assessment has been incorporated into the CS24 design
- Collaboration on CS24 T-Series to achieve industry leading repairability

iFixit assigns a score for each device on a 10-point scale to represent its overall repairability. Every year iFixit updates the scorecard



Usually means disassembly is catastrophically destructive or impossible. Don't get your hopes up You'll probably do more breaking than fixing



or above is a respectable score. We try to calibrate our scorecard so that below 5/10 is about where things start to tip from "You can probably fix this yourself" to "You might wanna consider calling a pro." At 4/10 maybe you can still fix it, but it's tougher than it needs to be.



Best in class. A very repairable device, with instructions and parts to match. We love to see it



T14 Gen4



T14 Gen5

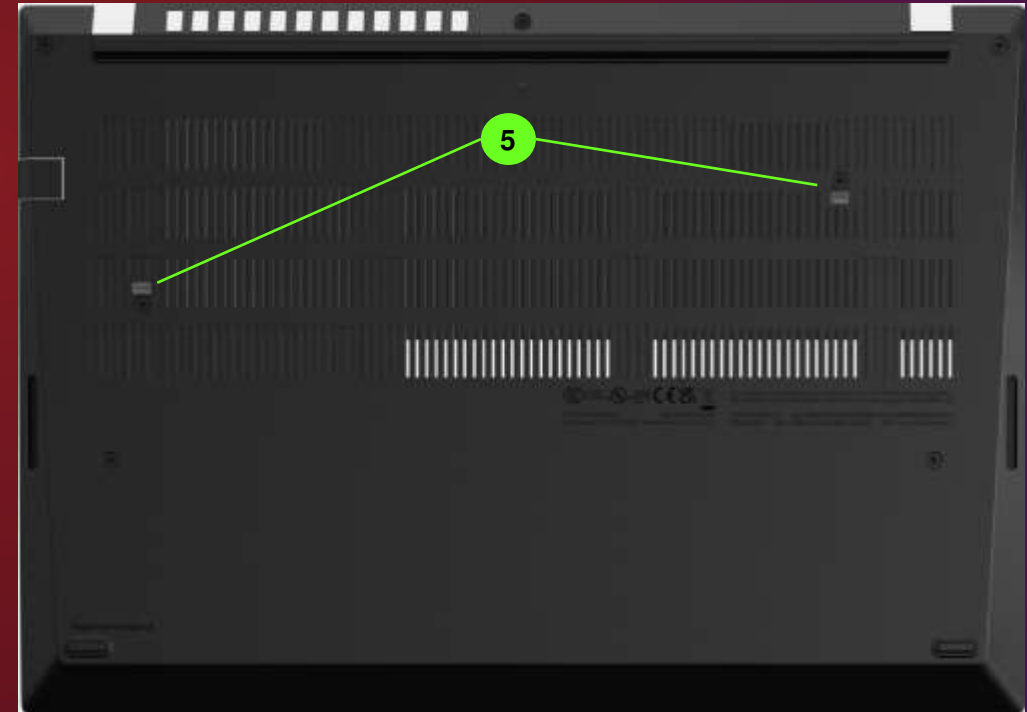
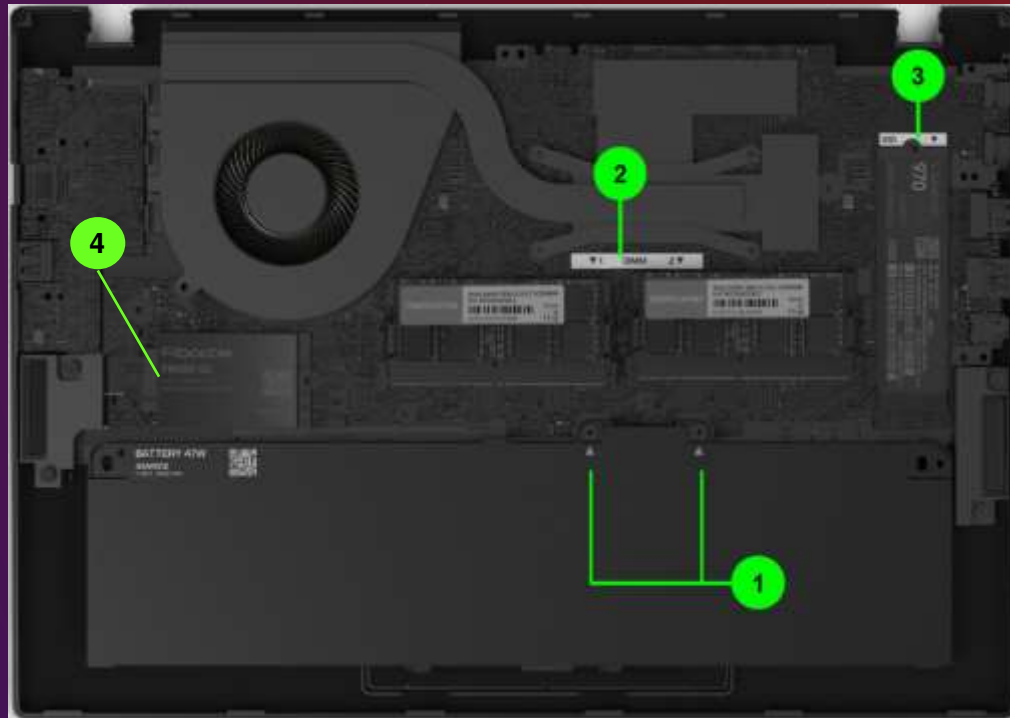


L14/L16 2024

ThinkPad T Series “CRU-ability”

Guide the user with white touch points to the CRU able parts for better useability and easier repairability

1. Battery
2. DIMM
3. SSD
4. WWAN
5. Keyboard

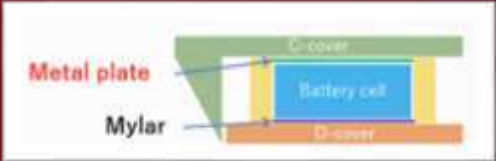


CRU Battery Design

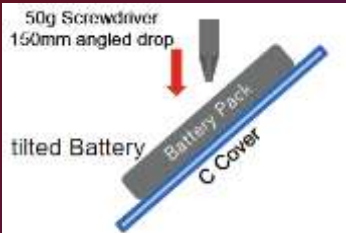
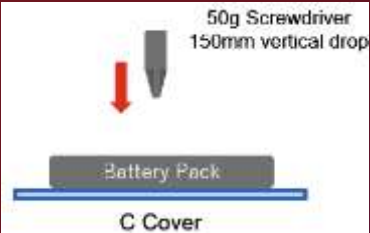
Battery pack protection by using a 0.2mm metal plate to meet product safety and regulations

	CS23 T series FRU only	CS24 T : CRU
Mylar color D-cover side	Black with information print 	Gray with print 
Mylar color C-cover side	Black no print 	Black w/information print 
Metal plate	NA	Yes, 0.2mm thin
Screw visibility on the battery top	Black 	Black, captured screw 

- Gray colored metal plate to create a contrast difference for easier discoverability of a foreign object such as a screw etc.
- QR code guides the user to the repair guide



- Protects battery pack to avoid swollen battery etc.
- Sustains ThinkPad CRU battery criteria
Bending test – 10x 5kg
Tool and screw impact



Smarter technology for all

CPU Transition



Lenovo

3 CPU vendors to choose from



- Intel
 - Core Ultra U 5 & 7
 - Core Ultra H 5 & 7
 - 14th Gen Core i



- AMD
 - Ryzen 8040
 - Ryzen 7040 U & H-Series
 - Ryzen 7035



- Qualcomm
 - Snapdragon X Elite

Meteor Lake

New **P-core & E-core**
microarchitectures



**3D Performance
Hybrid
Architecture**



Built-In
**NPU AI
Engine**

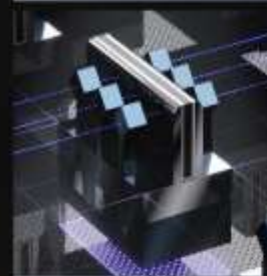


**FOVEROS
3D
packaging**

Latest **Media
& Display**
Standards



Thunderbolt 4



WiFi 7

**Low
Power
Island
E-cores**

First on
Intel 4

intel
ARC™

Power efficiency
& AI at scale

Intel Meteor Lake Processor Overview



New 3-Tier Hybrid

P-cores, E-cores, and **new LP E-cores**
Up to **24%** higher MT performance

Disaggregated Architecture

Tile architecture for performance
optimization across segments

Next Gen Graphics Engine

Xe LPG - up to 8 Xe-cores; DX12 Ultimate
Up to **1.9x** 3D Graphics performance

Low Power

11 hours Project Athena active battery life
New low power domain

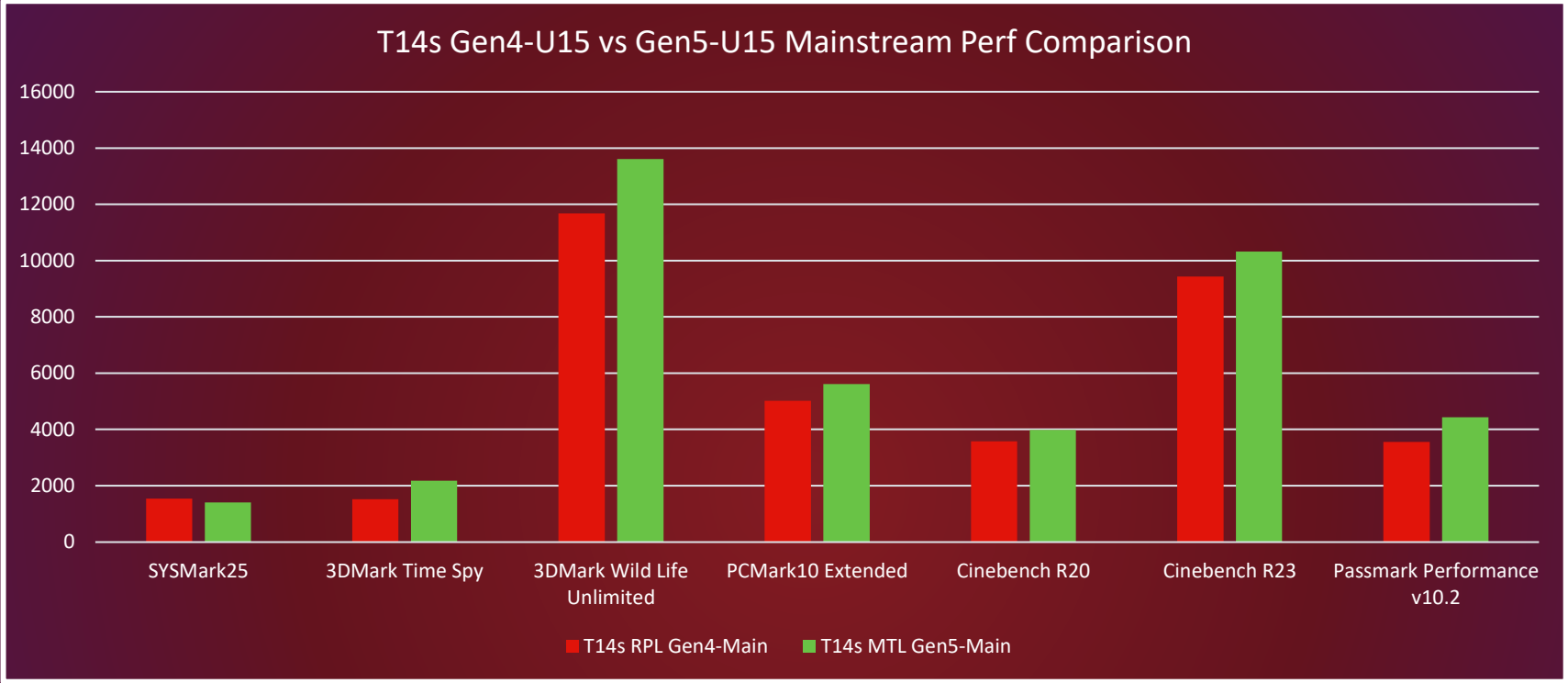
Integrated AI Acceleration

Intel VPU AI engine for CPU offload
Up to **8.2 eTOPS** performance

Security & Manageability

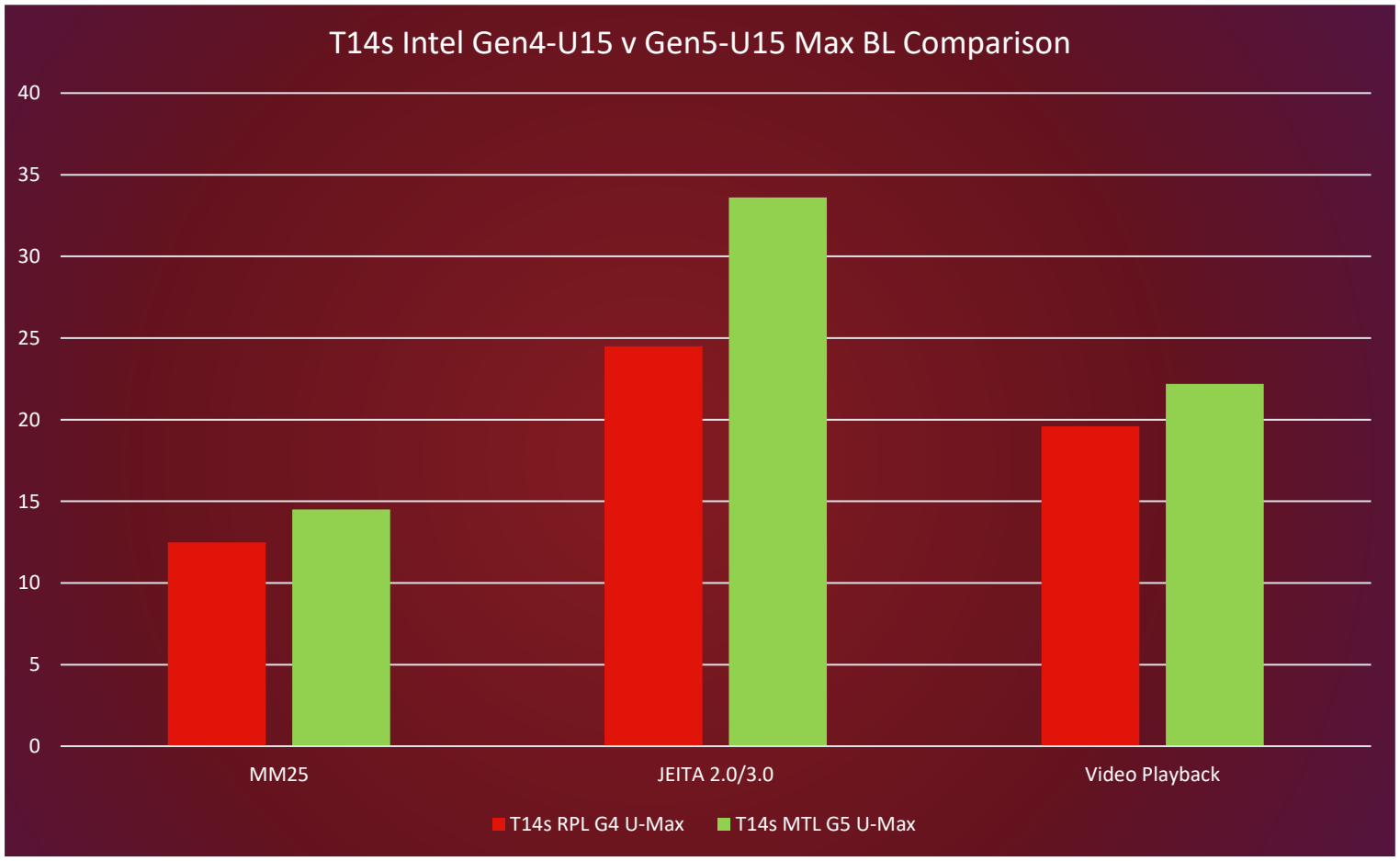
New ESE authenticates, loads new IP FW
New GSC handles DRM & Graphics security

T14s U-series Mainstream Performance Comparison



System	T14s RPL Gen4-Main	T14s MTL Gen5-Main	%
SYSMark25	1536	1403	-8.7%
3DMark Time Spy	1523	2177	42.9%
3DMark Wild Life Unlimited	11676	13612	16.6%
PCMark10 Extended	5013.0	5614	12.0%
Cinebench R20	3579.0	3987	11.4%
Cinebench R23	9430.0	10323	9.5%
Passmark Performance v10.2	3561.0	4429	24.4%

T14s Max Battery Life Comparison



System	T14s RPL G4 U-Max	T14s MTL G5 U-Max	%	Hr
MM25	12.48	14.5	16.2%	2.0
JEITA 2.0/3.0	24.5	33.6	37.1%	9.1
Video Playback	19.6	22.2	13.3%	2.6

Intel & AMD CPU Roadmap

	2022	2023	2024
			
Workstation	Alder lake HX CPU Gen 12	Raptor lake HX CPU Gen 13	Raptor lake HX R CPU Gen 14 P16
Mainstream	Alder lake U/P CPU Gen 12	Raptor lake U/P CPU Gen 13	Meteor lake U/H Core Ultra X1 2in1 G9 X1 C G12 X13 2in1 G5 X13 G5 X12 G2 T14 T14s G5 T16 G3 L14 G5 & L16 G1 L13 G5 & L13 2in1 G5 E14 G6 & E16 G2
			
Premium	Rembrandt H/U CPU Gen 6xxx	Phoenix H/U CPU Gen 704x	Hawk Point H/U CPU Gen 8xxx T14 G5 Phoenix H/U CPU Gen 704x T14s G4 T16 G2
Mainstream	Barcelo CPU Gen 5xxx	Barcelo R CPU Gen 703x	Rembrandt R H/U CPU Gen Xxxx L14 G5 & L16 G1 E14 G6 & E16 G2 Barcelo R CPU Gen 703x L13 G4 L13 2in1 G4

AI Capable CPUs

2022	2023	2024	
		Intel - Meteor Lake New CPU Line • High Performance & Efficiency • AI Acceleration: 11 NPU TOPS (34 total)	Intel - Lunar Lake New Premium Line • High Performance & Efficiency • AI Acceleration: 40+ NPU TOPS
	AMD – Phoenix (R7) Ryzen 7040 • Zen 4 and updated High Performance iGPU • AI Acceleration: 10 NPU TOPS (33 total)	AMD – Hawk Point (R7) Ryzen 8040 • Zen 4 and updated High Performance iGPU • AI Acceleration: 16 NPU TOPS (39 total)	AMD – Strix/Krackan New Premium Line • Zen 5 and updated High Performance iGPU • AI Acceleration: 45 NPU TOPS
Qualcomm 8cx Gen 3 • Good Performance, High Efficiency • AI Acceleration – 29 NPU TOPS		Qualcomm Snapdragon® X Elite Nuvia Based / High Perf • High Performance & Efficiency • AI Acceleration – 45 NPU TOPS (75 total)	

ThinkPad 2024

New innovations



New color standards – unified portfolio.

Eclipse Black

Luna Grey



ThinkPad Red

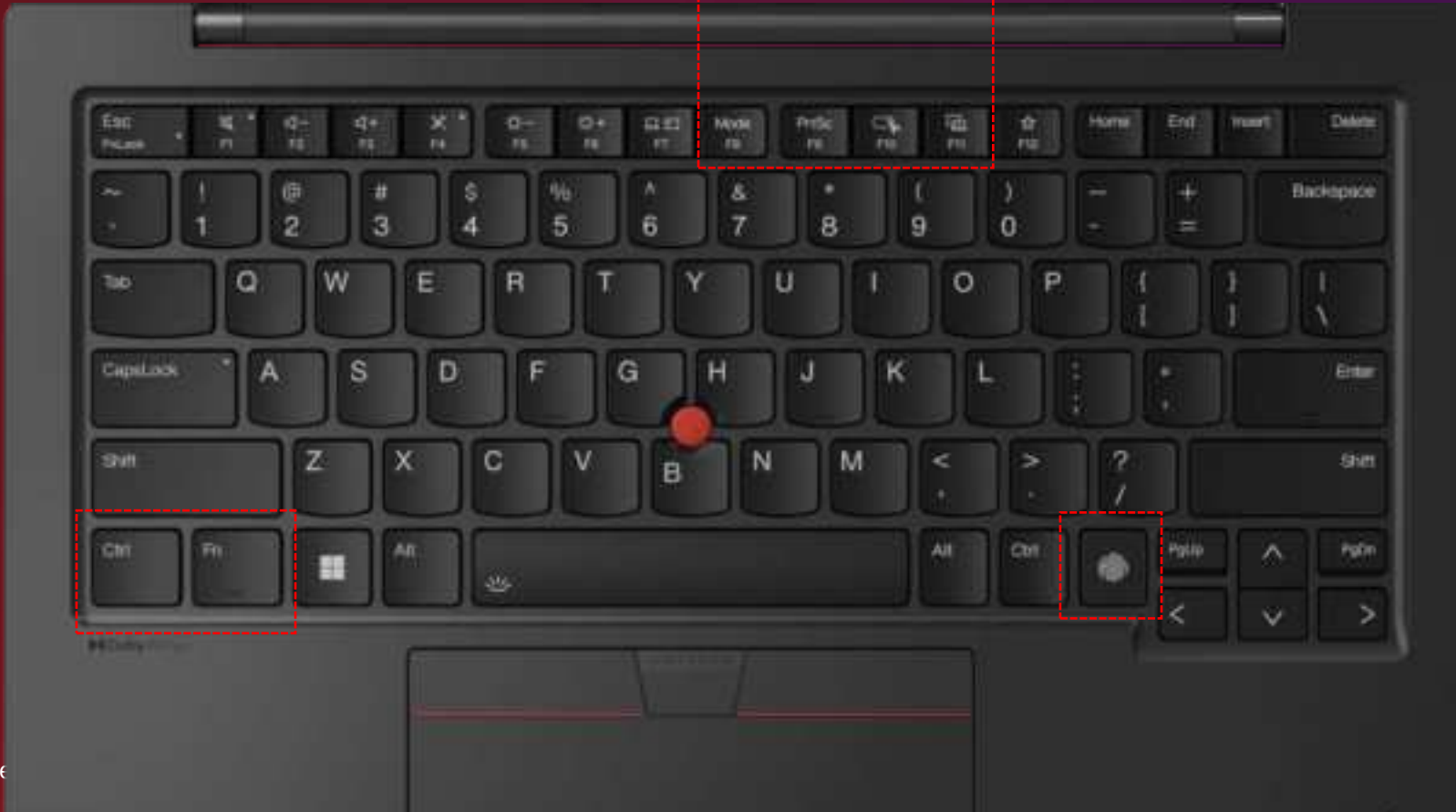
Keyboard changes 2024 models

Cleansheet models: T14 G5, T14s G5, T16 G3, L14 G5, L16 G1, X1 Carbon G12, X1 2-in-1 G9

2023



2024



Ctrl and FN keys are swapped.

Can be swapped back in BIOS/Vantage
Keys are now same size

Changes in Fn keys:

F8: Change Power mode
F9: Print Screen
F10: Snipping Tool
F11: Device Collaboration

Fingerprint reader in keyboard (X1 & Z)

- Larger sensor
- More Secure
- Increased Storage

Other models will have Windows Menu key and FPR in power

Copilot key

- **ThinkPads launching with Copilot key:**
 - L14 Gen5
 - L16 Gen1
 - T14s Intel Gen5
 - T14 Gen5
 - T16 Intel Gen3



Accessibility Enhancements for Visually Impaired/Blind Users

Incremental key bumps added for improved discoverability/usability



- New Bumps
- Current Bumps

Accessibility Enhancements for Visually Impaired/Blind Users

- ✓ LED bump next to power port
- ✓ Same size as Braille



3M Dual Brightness Enhancement Film (DBEF5)

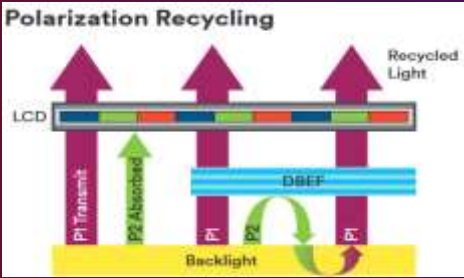
3M DBEF5 is a multilayer, reflective polarizer. DBEF5 polarizes the backlights output so that it can transmit through the liquid crystal panel.

3M DBEF5 increases both brightness and the amount of light available over the entire LCD

14” ThinkPad L and T Series will use **DBEF5** film technology that results in **higher brightness** and **lower energy**

DBEF5 in CS24 L14, T14, and T14s on the WUXGA 45% CG Non-Touch and Touch panels:

- 16.2% lower power consumption at same NITS
- 20% longer battery life (MM25)
- 33% increased brightness: 300nit → 400nit



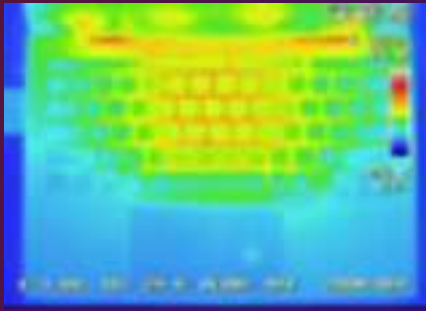
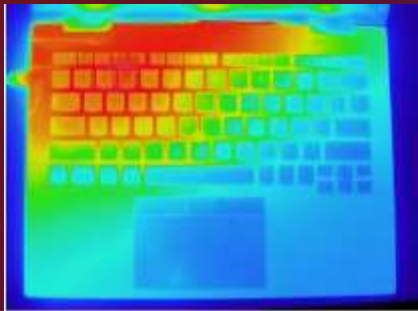
T14 Benchmark With Panel Backlight	2023	2024 DBEF5
Brightness	300nit	400nit (33% brighter)
Power Consumption (Idle mode)	~7W	~5.8W
Power Consumption @ 250nit (MM25 benchmark)	Baseline	16.2% lower
MM25 Battery Life (hrs)	8:15	9:51 (20% better)
UX Evaluation (In all conducted user research brightness is always mentioned as the most important requirement)	+	++

Improved Thermal Design - Rear Exhaust

T14 Gen5



X1 Carbon



Gen 11

Gen 12

Communication Bar



Camera Portfolio 2024

5MP is the most common camera in 2024 ThinkPads

8MP is an option in X1 Carbon and X1 2-in-1

FHD is still an option on a few models

The 8MP Camera Achieved Zoom “Premium Laptop”
Certification

As of Dec 2023, X1 Carbon & X1 2-in-1 are world’s first
and only laptops with this certification

Better IR camera with improved sensitivity and precision
For faster and more precise ‘Windows Hello’



USB-C “Restricted Mode” Security

New “power-only” mode for USB-C to block data cable-based attacks from public USB C charging points

Mode can only be toggled on/off by a key combination (Fn U + Fn S)

Data transfer capability is disabled at a hardware level (USB, DisplayPort, Thunderbolt), only Power Delivery will work

Status shown via an on-screen notification (OSD)

The power LED will blink 3 times if a device is attached when data is disabled to help avoid user confusion.



Wireless WAN 2024 – 4G and 5G

Many updates, please check psref.lenovo.com for latest info

	4G Cat 4	4G Cat 6	4G Cat 16	5G Cat 20
ThinkPad X1 Carbon Gen12			Intel	Intel
ThinkPad X1 2-in-1 Gen9			Intel	Intel
ThinkPad X1 Fold				Intel
ThinkPad Z13 Gen2	AMD		AMD	
ThinkPad X12 Detachable G2			Intel	
ThinkPad X13 Gen5 (AMD Gen4)	AMD	Intel	AMD	Intel
ThinkPad X13 2-in-1 Gen5		Intel	Intel	
ThinkPad X13s				Qualcomm
ThinkPad T14s Gen5 (AMD Gen4)	AMD	Intel	AMD	Intel, AMD
ThinkPad T14 Gen5		Intel, AMD		Intel, AMD
ThinkPad T16 Gen3 (AMD Gen2)	AMD	Intel	AMD	Intel
ThinkPad L13	AMD	Intel	Intel, AMD	
ThinkPad L13 2-in-1	AMD	Intel	Intel, AMD	
ThinkPad L14 Gen5		Intel, AMD	Intel, AMD	
ThinkPad L16 Gen1		Intel, AMD	Intel, AMD	

USB4 and Thunderbolt 4

- USB4
 - 40/80/120 Gbit/s
 - Tunnels DisplayPort, PCIe and USB
 - AMD ThinkPad L14, L16, T14, T16, T14s ,X13, Z Series and all Intel ThinkPads features USB4 (40Gbit/s)
- Thunderbolt 4
 - 40 Gbit/s
 - Tunnels DisplayPort, PCIe and USB
 - AMT/vPRO over Thunderbolt
 - All Intel ThinkPads features Thunderbolt 4



Wifi 7 and Bluetooth 5.3

- Wifi 7 is a substantial upgrade to Wifi
 - Much higher bandwidth
 - More devices on network
 - Lower latency
- Wifi 6E or Wifi 7 in 2024 ThinkPad
 - Wifi 7 only fully works with Windows 11 24H2
 - Wifi 6E only works with Windows 11
 - For Windows 10, both will work as Wifi6
- Bluetooth 5.3
 - Bluetooth 5.3 only works with Windows 11
 - For Windows 10 it will work as Bluetooth 5.1



Current ThinkPad USB-C and Thunderbolt Docks

2018 ... 2021 2022 2023 2024 ...



ThinkPad Universal
USB-C Dock



ThinkPad Universal
Thunderbolt 4 Dock



ThinkPad Universal
Thunderbolt 4 WS Dock



ThinkPad Hybrid Dock



Universal USB-C and Thunderbolt 4 / WS docks

- Common features
 - 100W power, 230W on workstation version
 - Silent Firmware update
 - New management software
 - WMI reporting

- Universal USB C

- Support for 3 monitors
 - 2x 4k@60Hz
 - 3x 4k (1x 60hz + 2x 30Hz)

- Universal Thunderbolt 4/WS dock

- Support for 4 monitors and 8k monitors
 - 4x 4k@60Hz, 1x 8k@30Hz



Universal USB C dock



Universal Thunderbolt 4 / WS dock



Universal USB-C and Thunderbolt 4 smart docks

- Common features
 - Same ports/connections as the normal version
 - Same size/design as the normal version
- Smart features
 - Build in smart device that connects to Microsoft Azure Sphere
 - Does not need a connected ThinkPad
 - Enables firmware updates without connected laptop
 - See which ports is used, and for what
 - See if a dock is used or not, even with history

USB C dock monitors (2024)

- Full dock with USB-C
 - Power Delivery, Ethernet, USB hub
- Available in all sizes and formfactors
 - From 24" to 49"
- Limitations
 - Up to 4 monitors Daisy Chaining with DP 1.4, only 2 monitors with DP 1.2 (Both ThinkPad and all monitors needs to be DP 1.4)
 - Limited Ethernet/USB speed when Daisy Chaining 2 monitors using DP 1.2 and 3 or 4 monitors using DP 1.4



ThinkVision P27h-30



2024 Lineup

Commercial Notebook



2024 Commercial Notebook Portfolio Overview

ThinkBook

Premium

Cleansheet

TB Plus G5

Cleansheet

intel

TB 13x G4

Refresh

intel

TB 16p G5

Cleansheet

intel

TB 14 2in1 G4

Mainstream

Refresh

intel

AMD

TB 16 G7

Refresh

intel

AMD

TB 14 G7

AMD

ThinkPad

X1

X1 Carbon G12

Cleansheet

intel

X1 2-in-1 G9

Cleansheet

intel

X1 Fold 16

Extend

intel

Z Series

Z16 G2

Extend

AMD

Z13 G2

Extend

AMD

X Series

X13 G4/G5

Refresh

intel

Extend

AMD

X13 2-in-1 G5

Refresh

intel

X12 Detachable G2

Refresh

intel

T Series

T16 G2/G3

Cleansheet

intel

Extend

AMD

T14 G5

Cleansheet

intel

Cleansheet

AMD

T14s G4/G5

Cleansheet

intel

Extend

AMD

T14s

NEW

Cleansheet

Qualcomm

L Series

L16 G1

Cleansheet

intel

Cleansheet

AMD

L14 G5

Cleansheet

intel

Cleansheet

AMD

L13 G5

Refresh

intel

Extend

AMD

L13 2-in-1 G5

Refresh

intel

Extend

AMD

E Series

Refresh

intel

AMD

E16 G2

Refresh

intel

AMD

E14 G6

ThinkPad

P16

intel

refresh

P1

intel

refresh

P16v

intel

AMD

P16s

intel

AMD

refresh

P14s

intel

AMD

refresh

In this presentation

ThinkPad

X1

X1 Carbon G12	X1 2-in-1 G9	X1 Fold 16
Cleansheet intel	Cleansheet intel	Extend intel

Z Series

Z16 G2	Z13 G2
Extend AMD	Extend AMD

X Series

X13 G4/G5	X13 2-in-1 G5	X12 Detachable G2
Refresh intel	Refresh intel	Refresh intel
Extend AMD		

T Series

T16 G2/G3	T14 G5	T14s G4/G5	T14s NEW
Cleansheet intel	Cleansheet intel	Cleansheet intel	
Extend AMD	Cleansheet AMD	Extend AMD	Cleansheet Qualcomm

L Series

L16 G1	L14 G5	L13 G5	L13 2-in-1 G5
Cleansheet intel	Cleansheet intel	Refresh intel	Refresh intel
Cleansheet AMD	Cleansheet AMD	Extend AMD	Extend AMD

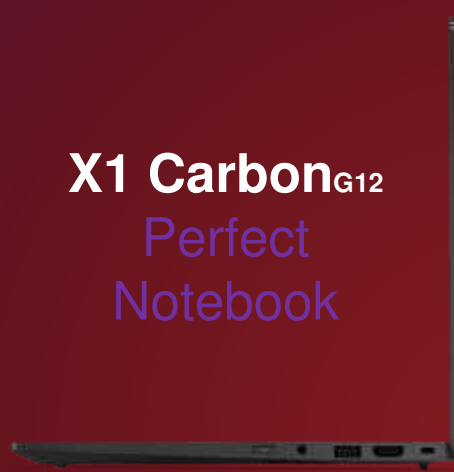
E Series

Refresh intel AMD	Refresh intel AMD
E16 G2	E14 G6

2023 ThinkPad 14" Positioning

- + 14.9mm, 1.09 kg
- + 57 Whr battery
- + Most Premium Materials
- + Intel Core Ultra
- + Faster memory (LPDDR5x)
- + 2.8k OLED 120 Hz display
- + Dual Thunderbolt 4
- + 57 Whr battery
- + 5G WWAN

X1 Carbon_{G12}
Perfect
Notebook



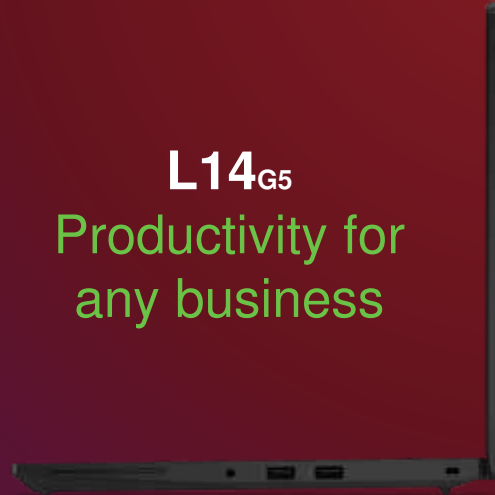
T14s_{G5}
Slim
Performance



- + 16.9mm, 1.24kg
- + 58 Whr battery
- + Premium Materials
- + Intel Core Ultra/AMD/Qualcomm
- + 2.8k OLED 120Hz Display
- + Faster memory (LPDDR5x)
- + 58 Whr battery
- + Dual Thunderbolt 4 (Intel)
- + USB4 (AMD)
- + 5G WWAN

- + 18.7 mm, 1.40/1.44kg
- + 47/57 Whr battery
- + Intel Core Ultra / AMD 7000
- + Dual DIMM (DDR5)
- + Dual Type C
- + 3 USB A
- + Thunderbolt 4 (Intel)
- + USB4 (AMD)
- + Full Ethernet
- + 4G WWAN

L14_{G5}
Productivity for
any business



T14_{G5}
Corporate
Workhorse



- + 17.7 mm, 1.31/1.38kg
- + 39/53 Whr battery
- + Intel Core Ultra / AMD 8000
- + Dual DIMM (DDR5)
- + 2.8k OLED 120Hz Display
- + 39/54 Whr battery
- + Dual Thunderbolt 4 (Intel)
- + Dual USB4 (AMD)
- + Ethernet
- + 5G WWAN

2023 Lenovo 14" Positioning

- + 18.7 mm, 1.40kg
- + Intel Core Ultra / AMD 7000
- + Dual DIMM (DDR5)
- + Dual Type C
- + 3 USB A
- + Thunderbolt 4 (Intel)
- + USB4 (AMD)
- + Full Ethernet
- + 4G WWAN

ThinkPad
L14_{G5}
Productivity for
any business



- + 18.0mm, 1.41 kg
- + Aluminium top cover
- + Intel Core Ultra / AMD 7000
- + Dual DIMM (DDR5)
- + Dual SSD
- + Thunderbolt 4 (Intel)
- + 47/57 Whr battery

ThinkPad E14_{G6}
Affordable
Notebook

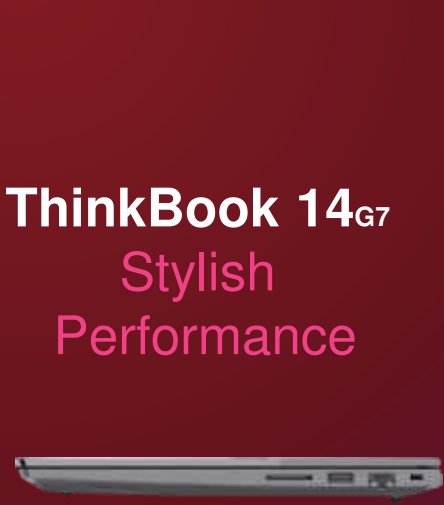


ThinkPad
T14_{G5}
Corporate
Workhorse



- + 17.7 mm, 1.31kg
- + Intel Core Ultra / AMD 8000
- + Dual DIMM (DDR5)
- + 2.8k OLED 120Hz Display
- + 39/54 Whr battery
- + Dual Thunderbolt 4 (Intel)
- + Dual USB4 (AMD)
- + Ethernet
- + 5G WWAN

ThinkBook 14_{G7}
Stylish
Performance



- + 16.9mm, 1.38kg
- + Intel Core Ultra/AMD 7000
- + Dual DIMM (DDR5)
- + Dual SSD
- + 2.8k OLED 120Hz Display
- + 45/60 Whr battery
- + Thunderbolt 4 (Intel)
- + USB4 (AMD)
- + Ethernet

ThinkPad[®] E Series

Mainstream

Lenovo

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ThinkPad E Series - affordable compact design



ThinkPad E14 G6 / E16 G2

Stay Productive

Elevated design

- Starting weight; 14" 1.53kg, 16" 1.77kg
- 16:10 Aspect Ratio. Above 90% STB ratio
- Fingerprint Reader on power button

Enhanced user experience

- HD , FHD RGB , FHR Hybrid IR camera options

Powerful performance

- Latest Intel Meteor lake U15+H28 Core Ultra CPUs
- Latest AMD Ryzen 7035 series Rembrandt Refresh
- Dual SSD slot 2242 + 2280

Work from anywhere

- 2 x USB-C, 2 x USB-A, HDMI
- Longer life battery: 57 Whr



ThinkPad E Series Gen 2 Gen

	ThinkPad E14 Gen 5 & E16 Gen 1	ThinkPad E14 Gen 6 & E16 Gen 2
Platform	Raptor Lake U15/P28 Barcelo-R U	Meteor Lake U15+H28 Rembrandt-R U+Hs
Memory	Onboard + DIMM, DDR4(SODIMM x1) Up to 40G (8GB onboard + 1x32GB module)	2 DIMM, DDR5(SODIMM x2) Up to 64G (2x32GB module)
GPU	MX550 2GB GDDR6, PCIe Gen4	UMA
Performance (Thermal)	UMA 28W DIS 38W	Intel 28W AMD 25W
Material	14" & 16", A/D metal, D plastic option	14" & 16", A/D metal, D plastic option
Display	E14: WUXGA(1920*1200) IPS 300nit 45%NTSC bent, touch option WUXGA+(2240*1400) IPS 300nit 100%sRGB bent E16: WUXGA(1920*1200) IPS 300nit 45%NTSC bent, touch option WUXGA(1920*1200) IPS 300nit 100%sRGB bent WQXGA(2560*1600) IPS 400nit 100%sRGB bent	E14: WUXGA(1920*1200) IPS 300nit 45%NTSC bent, touch option WUXGA+(2240*1400) IPS 300nit 100%sRGB bent E16: WUXGA(1920*1200) IPS 300nit 45%NTSC bent, touch option WUXGA(1920*1200) IPS 400nit 100%sRGB bent WQXGA(2560*1600) IPS 400nit 100%sRGB bent
Thickness Target	14" – 17.99 mm (Metal D) / 18.59mm(Plastic D) 16" – 19.85mm (metal D) / 20.20mm(Plastic D)	14" – 17.99 mm (Metal D) / 18.59mm(Plastic D) 16" – 19.85mm (metal D) / 20.20mm(Plastic D)
Panel (STB)	16:10, >90% STB	16:10, >90% STB
Weight	14" - 1.41kg (Plastic D) / 1.43kg(metal D) 16" – 1.77kg (Plastic D) / 1.81kg(metal D)	14" - 1.41kg (Plastic D) / 1.43kg(metal D) 16" – 1.77kg (Plastic D) / 1.81kg(metal D)
Touchpad/KBD	KBD: Bottom loading Keyboard TP: 14" 115x56, 16" 115x68	KBD: Bottom loading keyboard with TTS(Trackpoint quick Menu) TP: 14" 115x56, 16" 115x68
Battery	47wh/57wh	47wh/57wh
Camera	HD RGB/FHD RGB/FHD hybrid IR	HD RGB/FHD RGB/FHD hybrid IR
SSD	Intel: Dual SSD Slot Gen 3x4 2242+Gen 4x4 2242 AMD: Dual SSD slot Gen 3x4 2242+Gen 3x4 2280	Intel: Dual SSD Slot Gen4x4 2242+2280 AMD: Dual SSD slot Gen4x4 2242+2280
Speaker	2509*2 Non branded speaker, Dolby Atmos	2509*2 Audio by Harman, Dolby Atoms
I/O	Intel: 1xUSB-A 3.2 Gen1, 1xUSB-A 2.0, 1xTBT4, 1xUSB-C 3.2 Gen2, HDMI 2.1 TMDs, RJ45, Audio AMD: 2xUSB-A 3.2 Gen1, 1xUSB-C 3.2 Gen1, 1xUSB-C 3.2 Gen2, HDMI 1.4, RJ45, Audio	Intel: 1xUSB-A 3.2 Gen 1,1x USB-A 3.2 Gen 2,1xTBT4, 1xUSB-C 3.2 Gen2, HDMI 2.1, RJ45, Audio AMD: 1xUSB-A 3.2 Gen 1,1x USB-A 3.2 Gen 2, 1xUSB-C 3.2 Gen1, 1xUSB-C 3.2 Gen2, HDMI 2.1, RJ45, Audio

ThinkPad[®] L Series

Mainstream

Lenovo

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2024 ThinkPad Series



March 2024

September 2024

September 2025



L14 Gen5 / L16 Gen1 | Productivity for any Business



Enhanced User Experience

- Intel **Core Ultra** U15 & H28 or AMD **Rembrandt Refresh** with 22W TDP
- **16:10** panel with better STB ratio, **DBEF5** solution (14") with better brightness
- **Rear exhaust** thermal solution for better user experience
- Up to 2TB **2280** SSD and 64GB **DDR5** memory, **5 USB ports**
- Dolby Audio (SW+HW), Dolby Voice, **22% larger speakers**
- **20% larger ClickPad** for improved user input

Hybrid Work and Mobility

- New **5MP RGB + IR** Camera for optimized video experience
- 57 Whr battery option + DBEF5 (14") for improved battery life
- New Wi-Fi 7(intel) and multiple WWAN options
- L14 weight from 1.40kg, L16 weight from 1.81kg

Environmental, Social, Governance (ESG)

- 100% plastic free Packaging
- Increased use of PCC plastic in system, minimum 20%
- Updated keyboard w/ **Accessibility enhancements** for Visually Impaired
- Improved repairability & serviceability with CRU KB, DIMM slots, M.2 WWAN



ThinkPad L14 Gen5 and L16 Gen1



Attribute	ThinkPad L14 G4 Intel	ThinkPad L14 G5 Intel
Dimension (mm)	AL top + PC/CF bottom: 325.4 x 217 x 18.73 PC/ABS top + PC/CF bottom: 325.4 x 217 x 19.63 PC/ABS top + PC/ABS bottom: 325.4 x 217 x 19.83	aluminum A + PC/CF D 313.7x 226 x 18.66mm Aluminum A + PC/ABS D: 313.7x 226 x PC/ABS A + PC/CF D: 313.7x 226 x PC/ABS A + PC/ABS D: 313.7x 226 x
S / T / B Bezel Size (mm)	4.7 / 12.9 / 15.3	4.7 / 12.9 / 15.3
Screen Size & Ratio	14", 16:9, 81.8%	14.0", 16:10, 85.5%
Starting Weight (kg)	AL top + PC/CF bottom: 1.40kg PC/ABS top + PC/CF bottom: 1.44 kg	aluminum A + PC/CF D 1.40kg, PC/ABS A + PC/CF D
Color/Material	thunder black 50% recycled aluminum A, PC/ABS A , PC/ABS C/D, PC/CF D	Eclipse black aluminum A, PC/ABS A , PC/ABS C/D, PC/CF D
Resolutions/Color Gamut	14 HD 16:9 (1366x768) TN AG (220nit, 45% NTSC), 14 FHD 16:9 (1920x1080) IPS AG (250nit, 45% NTSC), 14 FHD 16:9 (1920x1080) IPS AG Low Power (400nit, 72% NTSC), 14 FHD 16:9 (1920x1080) IPS on cell Touch AG (300nit, 45% NTSC),	WUXGA IPS Non-touch, 400nit, 45% NTSC, AG, DBEF5 WUXGA IPS Touch, LBL, 400nit, 45% NTSC, AG, DBEF5 WUXGA IPS Non-touch, Low power, LBL, 400nit, 100% sRGB, AG
SoC	Intel Raptor Lake 13th Gen P28 + U15 22W, non vPro and vPro, vPro essentials	Intel MTL H28 + U15 22W, non vPro and vPro
Graphics	Intel UMA / Intel Iris Xe	Intel Arc Graphics-H CPUs Intel integrated Graphics –U CPUs
Memory	DDR4 8, 16, 32, 64GB -3200MHz Dual DIMM	8G, 16G, 32G, 64G-5600MHz DDR5, Dual SODIMM
Storage	up to 2TB PCIe Gen4x4 SSD (2242)	up to 2TB PCIe Gen4x4 SSD (2280)
Battery	97% PCC 46.5Whr, 57Whr, 63Whr; up to 95% PCC 45W,65W,100W USB-C	90% PCC 46.5Whr, 57Whr; up to 90% PCC 45W,65W
OS	Win 11DG (special bid) Win11 Pro, Linux	Win11 DG, Win11 Pro, Linux
Input Device	Standard and Backlit KBD w/ TrackPoint (1.5mm Key Travel), 115mm TrackPad	ThinkPad TrackPoint Keyboard (1.5mm travel), Three Button Clickpad
Docking	Thunderbolt 4, USB-C	Thunderbolt 4, USB-C
Ports	2x USB-A 3.2 G1, 1 x USB-C(Thunderbolt 4), 1x USB-C 3.2 G2, μSD, Audio, HDMI 2.1TMDS, SIM, RJ45	1x Thunderbolt 4, 1x USB-C 3.2 G2, 2x USB-A 3.2 Gen1, 1x USB-A 2.0, HDMI 2.0b, Full RJ45, Audio, SCR, NanoSIM
Audio	user facing Dolby Audio, Dolby Voice, 2 50% PCC speakers, 2 mics	user facing Dolby Audio, Dolby Voice, 50% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD Hybrid IR w/ webcam privacy shutter	HD RGB/ 5MP=IR camera w/ ThinkShutter
Connectivity	Wi-Fi 6, Wi-Fi 6E, LTE CAT4, CAT16 NFC, BT 5.1	Wi-Fi 7, Wi-Fi 6E, CAT16, CAT6, CAT4, BT 5.3
Security	FPR , FHD IR Cam, SCR, dTPM, Nano lock, NIST SP800-193, Secured-Core PC,	FPR, IR Cam, SCR, dTPM, NIST SP800-193, Secured-Core PC, Nano lock, ThinkShield

Attribute	ThinkPad L14 G4 AMD	ThinkPad L14 G5 AMD	
Dimension (mm)	AL top + PC/CF bottom: 325.4 x 217 x 18.73 PC/ABS top + PC/CF bottom: 325.4 x 217 x 19.63 PC/ABS top + PC/ABS bottom: 325.4 x 217 x 19.83		aluminum A + PC/CF D 313.7x 226 x 18.66mm Aluminum A + PC/ABS D: 313.7x 226 x PC/ABS A + PC/CF D: 313.7x 226 x PC/ABS A + PC/ABS D: 313.7x 226 x
Screen Size & Ratio	14", 16:9, 81.8%		14.0", 16:10, 85.5%
Starting Weight (kg)	AL top + PC/CF bottom: 1.40kg PC/ABS top + PC/CF bottom: 1.44 kg		aluminum A + PC/CF D 3.09lbs / 1.40kg PC/ABS A + PC/CF D:
Color/Material	thunder black 50% recycled aluminum A, PC/ABS A , PC/ABS C/D, PC/CF D		Eclipse black aluminum A, PC/ABS A , PC/ABS C/D, PC/CF D
Resolutions/Color Gamut	14 HD 16:9 (1366x768) TN AG (220nit, 45% NTSC), 14 FHD 16:9 (1920x1080) IPS AG (250nit, 45% NTSC), 14 FHD 16:9 (1920x1080) IPS AG Low Power (400nit, 72% NTSC), 14 FHD 16:9 (1920x1080) IPS on cell Touch AG (300nit, 45% NTSC),		WUXGA IPS Non-touch, 400nit, 45% NTSC, AG, DBEF5 WUXGA IPS touch, LBL, 400nit, 45% NTSC, AG, DBEF5 WUXGA IPS Non-touch, Low power, LBL, 400nit, 100% sRGB, AG
SoC	AMD Barcelo Refresh R5/R7 Pro / R3 to R7 Non pro (qualify only)		Rembrandt Refresh, Pro
Graphics	AMD integrated Radeon		AMD Integrated Graphics
Memory	DDR4 8, 16, 32, 64GB -3200MHz Dual DIMM		DDR5 8G, 16G, 32G, 64G-4800MHz Dual SODIMM
Storage	up to 2TB PCIe Gen4x4 SSD (2242)		up to 2TB PCIe Gen4x4 SSD (2280)
Battery	97% PCC 46.5Whr, 57Whr, 63Whr; up to 95% PCC 45W,65W,100W USB-C		90% PCC 46.5Whr, 57Whr; up to 90% PCC 45W,65W
OS	Win 11DG (special bid) Win11 Pro, Linux		Win11 DG, Win11 Pro, Linux
Input Device	Standard and Backlit KBD w/ TrackPoint (1.5mm Key Travel), 115mm TrackPad		ThinkPad TrackPoint Keyboard (1.5mm travel), Three Button Clickpad
Docking	USB-C		USB-C
Ports	2x USB-A 3.2 G1, 2x USB-C 3.2 G2, µSD, Audio, HDMI 2.0b, RJ45, SIM	USB4, USB-C 3.2 G2, 2x USB-A 3.2 Gen1, 1x USB-A 2.0, HDMI 2.0b, Full RJ45, Audio, SCR, NanoSIM	
Audio	user facing Dolby Audio, Dolby Voice, 2 50% PCC speakers, 2 mics		user facing Dolby Audio, Dolby Voice, 50% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD Hybrid IR w/ webcam privacy shutter		HD RGB/ 5MP=IR camera w/ ThinkShutter
Connectivity	Wi-Fi 6, Wi-Fi 6E, LTE CAT4, CAT16 NFC, BT 5.2		Wi-Fi 6E, CAT16, CAT6, BT 5.3
Security	FPR , FHD IR Cam, SCR, dTPM, Nano lock, ThinkShield, Tile Ready, Firmware Shield, NIST SP800-193, Secured-Core PC		FPR, IR Cam, SCR, dTPM, Nano lock, ThinkShield, NIST SP800-193, Secured-Core PC

Attribute	ThinkPad L15 G4 Intel	ThinkPad L16 G1 Intel
Dimension (mm)	360.2 x 237 x 19.93	357.2 x 253.4 x 20.7
Screen Size & Ratio	15.6", 16:9, 84.9%	16", 16:10 , 87.0%
Starting Weight (kg)	1.77kg	1.81 kg
Color/Material	thunder black PC/ABS A/C/D	Eclipse Black
Resolutions/Color Gamut	15.6" FHD IPS AG LCLW Touch (1920 x 1200) 300nits 45% NTSC 15.6" FHD IPS AG Non-Touch (1920 x 1200) 250nits 45% NTSC	WUXGA IPS Non-touch, 300nit, 45% NTSC, AG WUXGA IPS Touch, LBL, 300nit, 45% NTSC, AG WUXGA IPS Non-touch, Low power, LBL, 400nit, 100% sRGB, AG
SoC	Intel 13 th gen P28 + U15 22W, non vPro and vPro, vPro essentials	Intel Meteor Lake U/H, U: 21W, H:22W TDP
Graphics	Intel integrated UHD, Intel integrated Iris Xe NVIDIA MX550 2GB GDDR6	Intel Arc Graphics-H CPUs Intel integrated Graphics –U CPUs
Memory	Up to 64G 3200MHz DDR4, Dual SODIMM	Up to 64GB, 2x SODIMM, DDR5
Storage	up to 2TB PCIe Gen4x4 SSD (2242)	Up to 2TB, 2280
Battery	97% PCC 46.5Whr, 57Whr, 63Whr; up to 90% PCC 45W,65W,100W USB-C	90% PCC 46.5Whr, 57Whr; up to 90% PCC 45W,65W
OS	Win11 DG, Win11 Pro, Linux	Windows 11, Linux
Input Device	ThinkPad TrackPoint Keyboard (1.5mm travel), Three Button Clickpad	ThinkPad TrackPoint Keyboard (1.5mm travel), Three Button Clickpad
Docking	Thunderbolt 4, USB-C	Thunderbolt 4, USB-C
Ports	2x USB-A 3.2 G1, 1 x USB-C(Thunderbolt 4), 1x USB-C 3.2 G2, µSD, Audio, HDMI 2.0b, SIM, RJ45	1x Thunderbolt 4, 1x USB-C 3.2 G2, 2x USB-A 3.2 Gen1, 1x USB-A 2.0, HDMI 2.0b, Full RJ45, Audio, SCR, NanoSIM
Audio	user facing Dolby Audio, Dolby Voice, 50% PCC 2 speakers, 2 mics	Dolby Audio (SW+HW), Dolby Voice, Front firing
Camera	HD RGB, FHD RGB, FHD hybrid IR w/ webcam privacy shutter	HD / FHD Hybrid / 5MP+IR
Connectivity	Wi-Fi 6E R2, 4G LTE CAT4, CAT16, NFC, BT 5.1	Wifi 7,Wifi 6e, 4G (CAT 6,16), NFC
Security	FPR, IR Cam, SCR, dTPM, Nano lock, NIST SP800-193, Secured-Core PC	FPR, IR Cam, SCR, dTPM, Nano lock, NIST SP800-193, Secured-Core PC, ThinkShield

Attribute	ThinkPad L15 G4 AMD	ThinkPad L16 G1 AMD
Dimension (mm)	360.2 x 237 x 19.93	357.2 x 253.4 x 20.7
Screen Size & Ratio	15.6", 16:9, 84.9%	16", 16:10 , 87.0%
Starting Weight (kg)	1.77kg	1.81 kg
Color/Material	Thunder Black PC/ABS A/C/D	Eclipse Black
Resolutions/Color Gamut	15.6" FHD IPS AG LCLW Touch (1920 x 1200) 300nits 45% NTSC 15.6" FHD IPS AG Non-Touch (1920 x 1200) 250nits 45% NTSC	WUXGA 300nits 45% WUXGA300nits 45% Touch LBL Eyesafe WUXGA 400nits 100% Low Power LBL Eyesafe
SoC	AMD Barcelo Refresh R3/R5/R7 Pro	AMD Rembrandt Refresh (R3,R5,R7 Pro), 22W TDP
Graphics	AMD integrated Radeon	AMD integrated Radeon
Memory	Up to 64G 3200MHz DDR4, Dual SODIMM	Up to 64GB, DDR5 4800MHz , 2x SODIMM
Storage	up to 2TB PCIe Gen4x4 SSD (2242)	Up to 2TB, (2280)
Battery	97% PCC 46.5Whr, 57Whr, 63Whr; up to 90% PCC 45W,65W,100W USB-C	90% PCC 46.5Whr, 57Whr; up to 90% PCC 45W,65W
OS	Win11 DG, Win11 Pro, Linux	Windows 11, Linux
Input Device	ThinkPad TrackPoint Keyboard (1.5mm travel), Three Button Clickpad	ThinkPad TrackPoint Keyboard (1.5mm travel), Three Button Clickpad
Docking	USB-C	USB-C
Ports	2x USB-A 3.2 G1,1x USB-C 3.2 G2, 1x USB-C 3.2 G1,µSD, Audio, HDMI 2.1 TMDS, SIM, RJ45	USB4, USB-C 3.2 G2, 2x USB-A 3.2 Gen1 , 1x USB-A 2.0 , HDMI 2.0b, Full RJ45, Audio, SCR, NanoSIM
Audio	user facing Dolby Audio, Dolby Voice, 50% PCC 2 speakers, 2 mics	Dolby Audio (SW+HW), Dolby Voice, Front firing
Camera	HD RGB, FHD RGB, FHD hybrid IR w/ webcam privacy shutter	HD / FHD Hybrid / 5MP+IR
Connectivity	Wi-Fi 6E R2, 4G LTE CAT4, CAT16, NFC, BT 5.1	Wifi 7 ,Wifi 6e, 4G (CAT 6 ,16), Bluetooth 5.3
Security	FPR, IR Cam, SCR, dTPM, Nano lock, NIST SP800-193, Secured-Core PC	FPR, IR Cam, SCR, dTPM, Nano lock, NIST SP800-193, Secured-Core PC, ThinkShield

Responsible Design – L14

	2023	2024
A Cover	PC/ABS (0% PCC) Aluminum (0% Recycled, Frame 30% PCC)	PC/ABS (0% PCC) Aluminum (50% Recycled, Frame 50% PCC)
B Sheet	PC/ABS + Rubber	PC (50% PCC) + Rubber
C Cover	PC/ABS	←
C Cover Frame	PC + 40% GF	PC + 20% CF
KBD Frame	0%	60% PCC
D Cover	1. PC/ABS (30% PCC, AMD only) 2. PC + 20% CF	1. PC/ABS 50% PCC 2. PC + 20% CF, 30% PCC
Speaker Enclosure	50% PCC OBP	←
Battery Pack Enclsoure	90% PCC	←
PCC Magnet	0%	25% Recycled Rare Earth Element (Speaker & Hall Sensor)
Rubber foot	PC+Rubber	←
Key Caps	BL : 85% non-BL: 70%	←
Packaging	Plastic Free	←
Dummy Door SCR, SIM Tray	50% PCC (45%PCC + 5%OBP)	←
65W Standard AC Adapter	95% PCC	90%PCC
Total PCC	Min:16.06%, Max: 25.07%	Min: 23.95%, Max: 35.57%
EPEAT	Gold	Gold
PCF (Product Carbon Footprint)	216kg of CO2e	205kg of CO2e (5% GtG improvement)
TEC (typical)	24.2 kWh/year	< 20 kWh/year (> 10% GtG improvement)

Responsible Design – L16

	2023	2024
A Cover	PC/ABS, 0% PCC	←
B Sheet	PC/ABS + Rubber	PC (50% PCC) + Rubber
C cover	PC / ABS	←
C Cover Frame	PC + 40% GF	←
KBD Frame	0%	60% PCC
D Cover	1. PC/ABS	PC/ABS 50% PCC
Speaker Enclosure	50% PCC OBP	←
Battery Pack Enclsoure	90% PCC	←
PCC Magnet	0%	25% Recycled Rare Earth Element (Speaker & Hall Sensor)
Rubber foot	PC + Rubber	←
Key Caps	BL : 85% non-BL: 70%	←
Packaging	Plastic Free	←
Dummy Door SCR, SIM Tray	50% PCC (45%PCC + 5%OBP)	←
65W Standard AC Adapter	95%	90%
Total PCC	Min: 9.09%, Max: 11.58%	Min: 21.92, Max: 23.69%
EPEAT	Gold	Gold
PCF (Product Carbon Footprint)	215kg of CO2e	204kg of CO2e (5% GtG improvement)
TEC (typical)	24.2 kWh/year	< 20 kWh/year (>10% GtG improvement)

ThinkPad L13 G4_{AMD}/G5_{Intel}

Mobility for Any Business



Elevated design

- Thin at 17.2 mm & light starting at 1.26 kg
- 16:10 display with narrow bezel and 82.7% Screen-to-body ration
- Fingerprint Reader on power button
- Larger 115 mm Touchpad
- Thunder black or Storm grey color

Sustainability

- 100% Plastic free packaging
- 90% PCC adapter
- 97% PCC battery

Enhanced user experience

- Intel Core Ultra U15 / AMD Barcelo-Refresh
- WUXGA Low power panel with LBL options
- HD , FHD RGB , FHR Hybrid IR camera options
- Up to 1TB PCIe Gen4 SSD and LPDDR5(intel)

Work from anywhere

- Long battery life with 46Whr battery
- 1.26kg(Clam)
- Fast wireless - WiFi 6E, 4G WWAN
- MOC Fingerprint Reader
- ThinkShutter



Attribute	ThinkPad L13 G4 Intel	ThinkPad L13 G5 Intel
Dimension (mm)	305 x 218 x 17.23 mm	305 x 218 x 17.23 mm
Screen Size & Ratio	13.3", 16:10, 82.7%	13.3", 16:10, 82.7%
Starting Weight (kg)	non touch 2.78lbs / 1.26 kg	non touch 2.78lbs / 1.26 kg
Color/Material	thunder black aluminum A, PC/ABS + GFRP C, GFRP D storm grey aluminum A, PC/ABS + GFRP C, GFRP D	thunder black aluminum A, PC/ABS + GFRP C, GFRP D storm grey aluminum A, PC/ABS + GFRP C, GFRP D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS AG (300nit, 100% sRGB) WUXGA (1920x1200) IPS OCT touch AG (300nit, 100%sRGB) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, TUV LBL)	WUXGA (1920x1200) IPS AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS AG (300nit, 100% sRGB) WUXGA (1920x1200) IPS OCT touch AG (300nit, 100%sRGB) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, TUV LBL, EyeSafe)
SoC	Intel RPL U15 15W, vPro, non vPro	Intel Meteor Lake U15 15W, vPro, non-vPro
Graphics	Intel integrated Iris Xe	Intel integrated
Memory	LPDDR5 8G, 16G, 32G-4800MHz soldered down (dual channel)	LPDDR5 8G, 16G, 32G- 6400 MHz soldered down (dual channel)
Storage	up to 1TB PCIe Gen4x4 SSD (2242)	up to 1TB PCIe Gen4x4 SSD (2280)
Battery	46 Whr	46Whr
OS	Win11 DG, Win11 Pro, Linux	Win11 DG, Win11 Pro, Linux
Input Device	CRUable	CRUable
Docking	Thunderbolt 4, USB-C	Thunderbolt 4, USB-C
Ports	2x USB-A 3.2 G1, 1 x Thunderbolt 4, 1x USB-C 3.2 G2, Audio, HDMI 2.0b, SIM	2x USB-A 3.2 G1, 1 x Thunderbolt 4, 1x USB-C 3.2 G2, Audio, HDMI 2.1, SIM
Audio	Dolby Audio (SW only), Dolby Voice, 50% PCC 2 speakers, 2 mics	Dolby Audio (SW+HW), Dolby Voice, 50% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD RGB, FHD hybrid IR, Thinkshutter	HD, FHD Hybrid, Thinkshutter
Connectivity	Wi-Fi 6E , 4G LTE CAT4, CAT16, NFC, BT 5.2	Wi-Fi 6e, 4G LTE CAT6 , NFC
Security	FPR in PWR, IR Cam, SCR, Privacy Shutter, dTPM, Nano lock, ThinkShield, Firmware Shield	FPR in PWR, IR Cam, SCR, Privacy Shutter, dTPM, Nano lock, ThinkShield, Firmware Shield,

Attribute	L13 G4 AMD
Dimension (mm/in)	305 x 218 x 17.23
S / T / B Bezel Size (mm)	7.77 / 11.66 / 24.94
Screen Size & Ratio	13.3", 16:10, 82.7%
Weight from (kg)	non touch 1.26 kg
Color/Material	thunder black aluminum A, PC/ABS + GFRP C, GFRP D storm grey aluminum A, PC/ABS + GFRP C, GFRP D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS AG (300nit, 100% sRGB) WUXGA (1920x1200) IPS OCT touch AG (300nit, 72% NTSC) WUXGA (1920x1200) IPS AG (400nit, 100% sRGB, TUV LBL)
SoC	AMD Barcelo Refresh
Graphics	AMD integrated Radeon
Memory	DDR4 8G, 16G, 32G-3200MHz soldered down (dual channel)
Storage	up to 2TB PCIe Gen4x4 SSD (2242)
Battery	97% PCC 46Whr; up to 90% PCC 45W,65W USB-C
OS	Win11 DG, Win11 Pro, Linux
Input Device	up to 85% PCC ThinkPad TrackPoint Keyboard (1.5mm travel), glass-like Three Button Clickpad
Docking	USB-C
Ports	2x USB-A 3.2 G1, 2x USB-C 3.2 G2, Audio, HDMI 2.0b, SIM
Audio	Dolby Audio, Dolby Voice, 50% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD RGB, FHD hybrid IR w/ webcam privacy shutter
Connectivity	Wi-Fi 6E R2, 4G LTE CAT4, CAT16, NFC, BT 5.1
Biometric / Security	FPR , IR Cam, SCR, Privacy Shutter, dTPM, Nano lock, ThinkShield
Additional Features	AMD Pro Manageability, MIL-SPEC 810H, NIST SP800-193, Secured-Core PC, Lenovo View 3.0 , 100% plastic free packaging

ThinkPad L13 Yoga G4_{AMD} / L13 2-in-1 G5_{Intel}

Mobility for Any Business



Elevated design

- Thin at 17.06 mm & light starting at 1.32kg
- 16:10 display with narrow bezel and 83.5% Screen-to-body ration
- Fingerprint Reader on power button
- Larger 115 mm Touchpad
- Thunder black or Storm grey color

Sustainability

- 100% Plastic free packaging
- 90% PCC adapter
- 97% PCC battery

Enhanced user experience

- Intel Core U / AMD Barcelo-Refresh
- WUXGA Low power panel with LBL options
- HD , FHD RGB , FHR Hybrid IR camera options
- Up to 2TB PCIe Gen4 SSD and LPDDR5(intel)

Work from anywhere

- Long battery life with 46Whr battery
- 1.32kg (Yoga/2-in-1)
- Fast wireless - WiFi 6E, 4G WWAN
- MOC Fingerprint Reader
- ThinkShutter



Attribute	ThinkPad L13 Yoga G4 Intel	ThinkPad L13 2-in-1 G5 Intel
Dimension (mm)	305 x 218 x 17.06 mm	305 x 218 x 17.06 mm
Screen Size & Ratio	13.3", 16:10, 83.5%	13.3", 16:10, 83.5%
Starting Weight (kg)	1.32 kg	1.32 kg
Color/Material	thunder black aluminum A, PC/ABS + GFRP C, GFRP D storm grey aluminum A, PC/ABS + GFRP C, GFRP D	thunder black aluminum A, PC/ABS + GFRP C, GFRP D storm grey aluminum A, PC/ABS + GFRP C, GFRP D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS OGS touch ARAS (300nit, 100% sRGB) WUXGA (1920x1200) IPS OGS touch AGAS (400nit, 100% sRGB, TUV LBL)	WUXGA (1920x1200) IPS OGS touch ARAS (300nit, 100% sRGB) WUXGA (1920x1200) IPS OGS touch AGAS (400nit, 100% sRGB, TUV LBL, EyeSafe)
SoC	Intel RPL U15 15W, vPro, non vPro	Intel Meteor Lake U15 15W, vPro, non-vPro
Graphics	Intel integrated Iris Xe	Intel integrated
Memory	LPDDR5 8G, 16G, 32G-4800MHz soldered down (dual channel)	LPDDR5 8G, 16G, 32G- 6400MHz soldered down (dual channel)
Storage	up to 1TB PCIe Gen4x4 SSD (2242)	up to 1TB PCIe Gen4x4 SSD (2280)
Battery	46 Whr	46Whr
OS	Win11 DG, Win11 Pro, Linux	Win11 Pro, Linux
Input Device	CRUable kbd, Digital Pen (opt)	CRUable kbd, Digital Pen (opt)
Docking	Thunderbolt 4, USB-C	Thunderbolt 4, USB-C
Ports	2x USB-A 3.2 G1, 1 x Thunderbolt 4, 1x USB-C 3.2 G2, Audio, HDMI 2.0b, SIM	2x USB-A 3.2 G1, 1 x Thunderbolt 4, 1x USB-C 3.2 G2, Audio, HDMI 2.1, SIM
Audio	Dolby Audio (SW only), Dolby Voice, 50% PCC 2 speakers, 2 mics	Dolby Audio (SW+HW), Dolby Voice, 50% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD RGB, FHD hybrid IR, Thinkshutter	HD, FHD Hybrid, Thinkshutter
Connectivity	Wi-Fi 6E , 4G LTE CAT4, CAT16, NFC, BT 5.2	Wi-Fi 6e, 4G LTE CAT6 , NFC
Security	FPR in PWR, IR Cam, SCR, Privacy Shutter, dTPM, Nano lock, ThinkShield, Firmware Shield	FPR in PWR, IR Cam, SCR, Privacy Shutter, dTPM, Nano lock, ThinkShield, Firmware Shield,

Attribute	L13 Yoga G4 AMD
Dimension (mm)	305 x 218 x 17.06
S / T / B Bezel Size (mm)	7.62 / 10.6 / 14.14
Screen Size & Ratio	13.3", 16:10, 83.5%
Starting Weight (kg)	touch 1.31 kg
Color/Material	thunder black aluminum A, PC/ABS + GFRP C, GFRP D storm grey aluminum A, PC/ABS + GFRP C, GFRP D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS OGS touch ARAS (300nit, 100% sRGB) WUXGA (1920x1200) IPS LP OGS touch AGAS (400nit, 100% sRGB, TUV LBL)
SoC	AMD Barcelo Refresh
Graphics	AMD integrated Radeon
Memory	DDR4 8G, 16G, 32G-3200MHz soldered down (dual channel)
Storage	up to 2TB PCIe Gen4x4 SSD (2242)
Battery	97% PCC 46Whr; up to 90% PCC 45W,65W USB-C
OS	Win11 DG, Win11 Pro, Linux
Input Device	up to 85% PCC ThinkPad TrackPoint Keyboard (1.5mm travel), glass-like Three Button Clickpad, Lenovo Integrated Pen
Docking	USB-C
Ports	2x USB-A 3.2 G1, 2x USB-C 3.2 G2, Audio, HDMI 2.0b, SIM
Audio	Dolby Audio, Dolby Voice, 50% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD RGB, FHD hybrid IR w/ webcam privacy shutter
Connectivity	Wi-Fi 6E R2 , 4G LTE CAT4, CAT16, NFC, BT 5.1
Biometric / Security	FPR , IR Cam, SCR, Privacy Shutter, dTPM, Nano lock, ThinkShield
Additional Features	AMD Pro Manageability, MIL-SPEC 810H, NIST SP800-193, Secured-Core PC, Lenovo View 3.0, 100% plastic free packaging

ThinkPad[®] T Series

The corporate workhorse



2024 ThinkPad T Series



March 2024

September 2024

September 2025



T14 Gen 5 – Intel + AMD | The Corporate Workhorse

Industry Leading Repairability and User Experience

- New Customer Replaceable 52.5Wh Battery- ifixit score of 9/10
- Power efficient WUXGA 400nit base panels with DBEF5
- New Dual DIMM design with DDR5 memory on both Intel and AMD
- New Intel Core Ultra CPUs (U15 and H28) with 21.5W and 23W TDP respectively
- New AMD Hawk Point Pro CPUs
- Communication Bar, Keyboard and LED bumps for greater accessibility
- 2 New colors – Eclipse Black and Luna Grey
- Premium OLED 120Hz panel addition for more efficient viewing
- Low Starting Weight of 1.31kg

Hybrid Work and Mobility

- 5MP RGB + IR and standalone 5MP camera for an immersive video experience
- User Facing Speakers
- **5G Sub6**, Wi-Fi 7 and Ultrasonic HPD enabled
- Trapdoor RJ45

Environmental, Social, Governance (ESG)

- 90% recycled Magnesium C cover frame and 50% recycled Aluminum A cover
- 100% Plastic free primary recyclable standard packaging enabled
- 90% PCC speaker enclosure and battery pack



T16 Gen 3 – Intel | The Corporate Productivity Platform

Industry Leading Repairability and User Experience

- New **Customer Replaceable 86Wh Battery** with an ifixit score of 9/10pts
- 87% STB ratio– 4 points over CS23
- New **Dual DIMM design with DDR5 memory**
- New **Intel Meteorlake CPUs** (H28 and U15) with 23W and 21.5W TDP respectively
- **Communication Bar**, Keyboard and LED bumps for greater accessibility
- Eclipse Black
- 4K OLED panel addition for more efficient viewing
- Low starting weight of just 1.66kgs (39whr battery)

Hybrid Work and Mobility

- 5MP RGB + IR and standalone 5MP camera for an immersive video experience
- Downward Facing Speakers
- **5G Sub6, Wi-Fi 7** and Ultrasonic HPD enabled
- Trapdoor RJ45

Environmental, Social, Governance (ESG)

- 90% recycled Magnesium C cover frame
- 100% Plastic free primary recyclable standard packaging enabled
- 90% PCC speaker enclosure and battery pack
- PCC in Adapters



T14 – Increased use of recyclable Materials

	2023	2024
A Cover	0%	Black: 30% PCC Luna Grey: 50% recycled AL
B Sheet	0%	Black & Luna Grey: 48% PCC
C Cover	0%	<-----
KBD Frame	0%	Black & Luna Grey: 90% recycled Mag
D Cover	0%	Black & Luna Grey: 30% PCC with WLAN 45% PCC with WWAN
Speaker Enclosure	98% PCC	90% PCC
Battery	97% PCC	90% PCC
PCC Magnet	0%	For Speaker and Hall Sensor
Rubber foot	0%	<-----
Key Caps	0%	85% PCC for Backlight 70% PCC for Non-Backlight
Packaging	Plastic Free Packaging	<-----
65W Standard AC Adapter	90% PCC	<-----
65W Slim AC Adapter	90% PCC	<-----
Total PCC	7.7%	Min: 20.35% Max: 24.60%

T16 – Increased use of recyclable Materials

	2023	2024
A Cover	0%	30% PCC
B Sheet	0%	<-----
C Cover	0%	<-----
KBD Frame	0%	90% recycled Mag
D Cover	0%	30% PCC
Speaker Enclosure	98% PCC	90% PCC
Battery	97% PCC	90% PCC
PCC Magnet	0%	For Speaker and Hall Sensor
Rubber foot	0%	<-----
Key Caps	0%	85% PCC for Backlight 70% PCC for Non-Backlight
Packaging	Plastic Free Packaging	<-----
65W Standard AC Adapter	90% PCC	<-----
65W Slim AC Adapter	90% PCC	<-----
Total PCC	8.2%	Min: 25.73% Max: 29.43%

Attribute	ThinkPad T14 G4 Intel	ThinkPad T14 G5 Intel
Dimension (mm)	317.7 x 226.9 x 17.9	315.9 x 223.7 x 17.7
S / T / B Bezel Size (mm)	7.45 / 12.97 / 13.07	6.55 / 11.32 / 11.07
Screen Size & Ratio	14.0", 16:10, 84%	14.0", 16:10, 85.8%
Starting Weight (kg)	Starting at 1.32kg. (Black PC+20%CF A cover with 2.4mm panel and 39.3Wh battery)	non touch 1.31kg CFRP eclipse black non touch 1.31kg aluminum luna grey
Color/Material	thunder black carbon fiber hybrid A, 90% recycled magnesium C frame, PPS D 55% recycled storm grey aluminum A, 90% recycled magnesium C frame, PPS D	eclipse black PC+20%CF A, 90% recycled magnesium C frame, PC+20%CF D lunar grey 50% recycled aluminum A, 90%recycled magnesium C frame, Painted PC+20%CF D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS OCT touch AG (300nit, 45% NTSC) 2.2K (2240x1400) IPS AG (300nit, 100% sRGB, TUV LBL) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, Eyesafe) 2.8K (2880x1800) OLED AGAR (400nit, 100% DCI-P3, Dolby Vis, Eyesafe, HDR True Black 500) WUXGA (1920x1200) IPS Privacy Guard OCT touch (500nit, 100%sRGB)	WUXGA (1920x1200) IPS AG (400nit, 45% NTSC, DBEF5) WUXGA (1920x1200) IPS OCT touch AG (400nit, 45% NTSC, DBEF5, Eyesafe) 2.2K (2240x1400) IPS AG (300nit, 100% sRGB, TUV LBL) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, Eyesafe) 2.8K (2880x1800) OLED AGAR (400nit, 120Hz,100% DCI-P3, Dolby Vision, Eyesafe, HDR True Black 500) WUXGA (1920x1200) IPS Privacy Guard OCT touch (500nit, 100%sRGB)
SoC	Intel RPL U15: i5, i7, i5 vPro, i7 vPro, ADL P28: i5, i7, i5 Essential, i7 Essential, i5 vPro, i7 vPro	Intel Core Ultra (U15/H28), vPro option
Graphics	Intel integrated UHD, Intel integrated Iris Xe NVIDIA MX550 4GB GDDR6	Intel integrated Arc Intel integrated graphics
Memory	DDR4 8G, 16G, 32G 3200MHz One DIMM One Down DDR5 8G, 16G – 4800MHz One DIMM One Down LPDDR5x 16G, 32G – 6400MHz soldered down (dual channel)	DDR5 8G, 16G, 32G, 64G-5600MHz Dual SODIMM
Storage	up to 2TB PCIe Gen4x4 SSD (2280)	up to 2TB PCIe Gen4x4 SSD (2280)
Battery	25-30%PCC 39.3Whr, 97% PCC 52.5Whr, 90% PCC 45W,65W, USB-C	25-30%PCC 39.3Whr, 97% PCC CRU 52.5Whr, 90% PCC 45W,65W, USB-C
OS	Win11 DG, Win11 Pro, Linux	Win11 Pro, Linux
Input Device	ThinkPad TrackPoint Keyboard (1.5mm travel); Three Button Clickpad	ThinkPad TrackPoint Keyboard (1.5mm travel), Three Buttons TrackPad; TrackPoint Quick Menu
Docking	TBT4, USB-C	TBT4, USB-C
Ports	2x USB-A 3.2 G1, 2 x USBC(TBT4), Audio, HDMI 2.1, RJ45, SIM	2x USB-A 3.2 G1, 2 x USBC(TBT4), Audio, HDMI 2.1, RJ45, SIM
Audio	user facing Dolby Audio Speaker System, Dolby Voice, 90% PCC 2 speakers, 2 mics	Side user facing Dolby Audio Speaker System, Dolby Voice, 90% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD hybrid IR, 5MP + IR USB w/ webcam privacy shutter, Lenovo View	5MP USB, 5MP + IR USB w/ webcam privacy shutter, Lenovo View
Connectivity	Wi-Fi 6E, 4G LTE CAT4, CAT16 eSIM, NFC (black), BT 5.3	Wi-Fi 7, Wi-Fi 6E, 4G LTE CAT4, CAT6 eSIM, CAT16 eSIM, 5G sub6 eSIM, NFC (black), BT 5.3
Security	FPR in PWR, IR Cam, RFID, SCR, dTPM, Secured-Core PC, Nano lock, ThinkShield	FPR in PWR, IR Cam, SCR, Secured-Core PC, , dTPM, Nano lock, ThinkShield

Attribute	ThinkPad T14 G4 AMD	ThinkPad T14 G5 AMD
Dimension (mm)	317.7 x 226.9 x 17.9 / 12.51 x 8.93 x 0.70	315.9 x 223.7 x 17.7
S / T / B Bezel Size (mm)	7.45 / 12.97 / 13.07	6.55 / 11.32 / 11.07
Screen Size & Ratio	14.0", 16:10, 84%	14.0", 16:10, 85.8%
Starting Weight (kg)	1.32kg. (Black PC+20%CF A cover with 2.4mm panel and 39.3Wh battery)	1.31kg CFRP eclipse black 1.31kg aluminum luna grey
Color/Material	thunder black carbon fiber hybrid A, 90% recycled magnesium C frame, PPS D 55% recycled storm grey aluminum A, 90% recycled magnesium C frame, PPS D	eclipse black PC+20%CF A, 90% recycled magnesium C frame, PC+20%CF D lunar grey 50% recycled aluminum A, 90%recycled magnesium C frame, Painted PC+20%CF D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS OCT touch AG (300nit, 45% NTSC) 2.2K (2240x1400) IPS AG (300nit, 100% sRGB, TUV LBL) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, Eyesafe) 2.8K (2880x1800) OLED AGAR (400nit, 60Hz,100% DCI-P3, Dolby Vision, Eyesafe, HDR True Black 500) WUXGA (1920x1200) IPS Privacy Guard OCT touch (500nit, 100%sRGB)	WUXGA (1920x1200) IPS AG (400nit, 45% NTSC, DBEF5) WUXGA (1920x1200) IPS OCT touch AG (400nit, 45% NTSC, DBEF5, Eyesafe) 2.2K (2240x1400) IPS AG (300nit, 100% sRGB, TUV LBL) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, Eyesafe) 2.8K (2880x1800) OLED AGAR (400nit, 120Hz,100% DCI-P3, Dolby Vision, Eyesafe, HDR True Black 500) WUXGA (1920x1200) IPS Privacy Guard OCT touch (500nit, 100%sRGB)
SoC	AMD PHX-U R5 PRO, R7 PRO	AMD HWK-U R5 PRO, R7 PRO
Graphics	AMD Radeon graphics	AMD Radeon graphics
Memory	LPDDR5x 8GB, 16G, 32G- up to 7500MHz soldered down (dual channel)	DDR5 8G, 16G, 32G, 64G-5600MHz Dual SODIMM
Storage	up to 2TB PCIe Gen4x4 SSD (2280)	up to 2TB PCIe Gen4x4 SSD (2280)
Battery	25-30%PCC 39.3Whr, 97% PCC 52.5Whr, 90% PCC 45W,65W, USB-C	25-30%PCC 39.3Whr, 97% PCC CRU 52.5Whr, 90% PCC 45W,65W, USB-C
OS	Win11 DG, Win11 Pro, Linux	Win11 Pro, Linux
Input Device	ThinkPad TrackPoint Keyboard (1.5mm travel); Three Button Clickpad	ThinkPad TrackPoint Keyboard (1.5mm travel); Three Buttons TrackPad; TrackPoint Quick Menu
Docking	USB4, USB-C	USB4, USB-C
Ports	2x USB-A 3.2 G1, 1x USBC(USB4), Audio, HDMI 2.1, RJ45, SIM	2x USB-A 3.2 G1, 2 x USBC(USB4), Audio, HDMI 2.1, RJ45, SIM
Audio	user facing Dolby Audio Speaker System, Dolby Voice, 90% PCC 2 speakers, 2 mics	Side user facing Dolby Audio Speaker System, Dolby Voice, 90% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD hybrid IR, 5MP + IR USB w/ webcam privacy shutter, Lenovo View	5MP USB, 5MP + IR USB w/ webcam privacy shutter, Lenovo View
Connectivity	Wi-Fi 6E, 4G LTE CAT4, CAT16 eSIM, NFC (black), BT 5.3	Wi-Fi 7, Wi-Fi 6E, 4G LTE CAT6 eSIM, CAT16 eSIM, 5G sub6 eSIM, NFC (black), BT 5.3
Security	FPR in PWR, IR Cam, RFID, SCR, dTPM, NIST SP800-193Secured-Core PC, Nano lock	FPR in PWR, IR Cam, SCR, Secured-Core PC, NIST SP800-193, dTPM, Nano lock, ThinkShield

T16 Gen 3 – Intel | Comparison with T16 Gen 2

Attribute	T16 G2 Intel	T16 G3 Intel
Dimension (mm/in)	UMA thunder black, storm grey 361.9 x 255.5 x 20.5 SWG thunder black, storm grey 361.9 x 255.5 x 21.1	359.7 x 250.8 x 19.64
S / T / B Bezel (mm)	8.05 / 13.21 / 13.19	6.90 / 11.29 / 10.90
Screen Size & Ratio	16", 16:10, 85.4%	16", 16:10, 85.4%
Starting Weight (lbs/kg)	T16 Black UMA: 3.61lbs / 1.64 kg, T16 Black SWG: 3.93lbs / 1.78 kg T16 Storm Grey UMA: 3.92lbs / 1.77 kg	non touch 3.66lbs / 1.66kg
Color/Material	thunder black carbon fiber hybrid A, 90% recycled magnesium C, PPS D 50% recycled storm grey aluminum A, 90% recycled magnesium C, 55% recycled aluminum D (SWG)	Eclipse black PC+20%CF A, 90% recycled magnesium C frame, PC+20%CF D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS OCT touch AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, Eyesafe) WUXGA (1920x1200) IPS Privacy Guard OCT touch AG (500nit, 100%sRGB) WUQXGA (3840x2400) OLED 4K AGAR (500nit, 100% DCI-P3, HDR400, Dolby Vision, Eyesafe)	WUXGA (1920x1200) IPS AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS OCT touch AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, Eyesafe) WUXGA (1920x1200) IPS Privacy Guard OCT touch AG (500nit, 100%sRGB) WUQXGA (3840x2400) OLED 4K AGAR (500nit, 100% DCI-P3, HDR400, Dolby Vision, Eyesafe)
SoC	Intel RPL U15: i5, i7, i5 vPro, i7 vPro, ADL P28: i5, i7, i5 Essential, i7 Essential, i5 vPro, i7 vPro	Intel MTL U15: i5, i7, i5 vPro, i7 vPro; MTL H28
Graphics	Intel integrated UHD, Intel integrated Iris Xe NVIDIA MX550 4GB GDDR6	Intel integrated Arc Intel integrated graphics
Memory	DDR4 8G, 16G, 32G 3200MHz One DIMM One Down DDR5 8G, 16G – 4800MHz One DIMM One Down LPDDR5x 16G, 32G – 6400MHz soldered down (dual channel)	DDR5 8G, 16G, 32G, 64G-5600MHz Dual SODIMM
Storage	up to 2TB PCIe Gen4x4 SSD (2280)	up to 2TB PCIe Gen4x4 SSD (2280)
Battery	90% PCC 52.5Whr, 90% PCC 86Whr, 90% PCC 45W,65W, 135W USB-C	90% PCC 52.5Whr, 90% PCC CRU 86Whr, 90% PCC 45W,65W, 100W USB-C
OS	Win11 DG, Win11 Pro, Linux	Win11 Pro, Linux
Input Device	ThinkPad TrackPoint Keyboard w/ Numpad (1.5mm travel); Three Button Clickpad	ThinkPad TrackPoint Keyboard w/ Numpad (1.5mm travel); Three Button Clickpad TrackPoint Quick Menu
Docking	TBT4, USB-C	TBT4, USB-C
Ports	2x USB-A 3.2 G1, 2 x USBC(TBT4), Audio, HDMI 2.1, RJ45, SIM	1x USB-A 3.2 G1, 1xUSB-A 3.2 G1(always on), 2 x USBC(TBT4), Audio, HDMI 2.1, RJ45, SIM
Audio	user facing Dolby Audio Speaker System, Dolby Voice, 90% PCC 2 speakers, 2 mics	Dolby Audio Speaker System, Dolby Voice, 90% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD hybrid IR, 5MP + IR USB w/ webcam privacy shutter, Lenovo View	5MP USB, 5MP + IR USB w/ webcam privacy shutter, Lenovo View
Connectivity	Wi-Fi 6E, 4G LTE CAT4, CAT16 eSIM, NFC (black), BT 5.3	Wi-Fi 7, Wi-Fi 6E, 4G LTE CAT6 eSIM, 5G sub6 eSIM, NFC, BT 5.3
Biometric/ Security	FPR in PWR, IR Cam, RFID, SCR, Privacy Shutter, dTPM, Nano lock, ThinkShield,	FPR in PWR, IR Cam, SCR, Privacy Shutter, dTPM, Nano lock, ThinkShield
Additional Features	Ultrasonic HPD, MIL-SPEC 810H, EPEAT Gold, NIST SP800-193, Secured-Core PC, Glance, recycled	Ultrasonic HPD, MIL-SPEC 810H, EPEAT Gold, NIST SP800-193, Secured-Core PC, recycled packaging

Two DIMM modules

T14 Intel/AMD and T16 Intel have 2 SODIMM sockets for easy upgrade
But.... DIMMS should be used in a Dual DIMM config for best performance

Intel

Single channel Intel configs show a drop of 25-35% over their dual channel counterparts

DDR5	Single Channel 32GB + 0GB	Dual Channel 16GB + 16GB	Performance Delta
3DMark Time Spy	2623	3478	25%
3DMark Wildlife Extreme Unlimited	3594	5491	35%
3D Mark Wildlife Unlimited	13311	20389	35%

AMD

Single channel AMD configs show a drop of 37-41% over their dual channel counterparts

DDR5	Single Channel 32GB + 0GB	Dual Channel 16GB + 16GB	Performance Delta
3DMark Time Spy	1909	3076	38%
3DMark Wildlife Extreme Unlimited	3274	5229	37%
3D Mark Wildlife Unlimited	10220	17404	41%

T14s Intel Gen5 | The Corporate Gold Standard

AI Transformation

- Intel Core Ultra U/H processors with up to Intel Arc Graphics(H-series)
- Integrated AI Engine(NPU) with 11 TOPs supporting Windows Studio Effects
- Powerful and efficient LPDDR5x dual channel soldered memory, now up to **64GB**

Enhanced User Experience

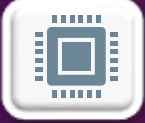
- Redesigned thermal direction to rear exhaust
- New 3M DBEF5 increases base WUXGA panels to 400nit
- Adoption of industry standard Ctrl-Fn key position
- New Communication Bar houses 5MP camera & allows for 88% STB
- Up to WiFi 7 & 5G connectivity
- Legacy Ports: 2 x USB-A, 2 x TBT4, HDMI, 3.5mm audio jack

Environmental, Social, Governance (ESG)

- Increased Post Consumer Content(PCC) plastic and recycled carbon fiber content
- New ThinkPad CS24 keyboard with additional accessibility & LED power-in tactile markings
- Plastic Free Packaging using FSC Certified paper
- EPEAT Gold, TCO certified, ENERGY STAR 9.0



T14s Gen 5 What's New?

	2023	2024	
	- Intel Raptorlake U and P28 - 21W TDP - Up to 32GB LPDDR5 - Evo certified	- Intel Meteorlake U 19W and H 22.5W TDP - Up to 64GB LPDDR5x - Evo certified	 2x more memory & bandwidth increase
	- Fan Exhaust: Side - WUXGA 300nit Base Panels 115mm x 61mm glass like mylar ClickPad	- Fan Exhaust: Rear - WUXGA 400nit Base Panels - Expanded Low Blue Light / Eyesafe - Swapped FN & CTRL & more marks to keys	 Improved User Experience Commitment to Workplace Wellness Better accessibility
	2023 ThinkShield Features	4k RSA support for TPM - Enhanced Tamper Protection	 Better repairability & serviceability Leading ifixit repair score
	20% PCC	>=24% PCC 20% reclaimed CF - Power Efficient WUXGA Base Panels (DBEF5)	 Use of more recycled plastic 16% lower power consumption & 20% longer battery life
	- Thunderblack & Storm Grey 85% STB - Dual Hinge 1.25kg / 2.75lbs - 16.9mm	- Eclipse Black & Luna Grey (all AL) 88% STB - One Bar Hinge - Cleaner Interior 1.24kg / 2.73lbs - 16.9mm (CFRP) 16.6mm (AL)	 Darker Black with improved tonal matching 20% brighter silver Modernized Design & Thinner appearance Easier to open lid & better accessibility
	- WiFi 6E 5G Sub6 & LTE - FHD, 5MP camera - User facing speakers	- WiFi 7 & 6E 5G Sub6 & LTE 5MP camera only - User Facing Speakers	 5x faster WiFi connectivity Better Collaboration Experience

T14 vs T14s

T14



T14s



19%
THINNER
TOP

17%
THINNER
SIDES

8%
THINNER
BOTTOM

T14 vs T14s

- 140g lighter w/ bigger battery
- 52 vs 58Whr
- 2mm thinner
- Memory down / Faster LP
- FRU Battery & Keyboard

T14s Gen5 Intel ESG Gen to Gen Comparison			
Attribute	T14s Intel Gen4		T14s Intel Gen5
Recycled Materials	A cover	Black- 22% recycled CF Grey – 50% recycled	Black- 30% recycled CF Grey – 50% recycled
	B Bezel	N/A	N/A
	C cover/Frame	Black – 90% recycled magnesium Grey 50% recycled Aluminum	Black/Grey – 90% recycled Magnesium
	D cover	55% recycled Aluminum	55% recycled Aluminum
	Keyboard (Frame)	N/A	N/A
	Keyboard (Keycaps)	N/A	BL KB – 85% PCC
	Speaker	90% PCC	90% PCC
	Battery Frame	90% PCC	90% PCC
	Adapter	45W/65W/65W Slim – 90% PCC	45W/65W/65W Slim – 90% PCC
	Cable/Antenna Holders	N/A	95% PCC
	Hall Sensor Magnet	N/A	25% recycled
Manufacturing	LTS Motherboard	Yes	Yes
	LTS SSD	Yes	Yes
	LTS DPY	Yes-ePrivacy	Yes-WUXGA 45% NTSC & ePrivacy
	LTS Memory	Yes	Yes
	LTS Click pad	N/A	N/A
	LTS WLAN Module	N/A	N/A

Attribute	ThinkPad T14s G4 Intel	ThinkPad T14s G5 Intel
Dimension (mm/in)	carbon fiber hybrid deep black A: 317.5 x 226.9 x 16.975 aluminum storm grey A: 317.5 x 226.9 x 16.975	carbon fiber hybrid black A: 313.6 x 219.4 x 16.9 aluminum grey A: 313.6 x 219.4 x 16.6
S / T / B Bezel Size (mm)	6.86 / 10.5 / 12.49	5.4 / 8.98 / 10.25
Screen Size & Ratio	14.0", 16:10, 85.4%	14.0" / 16:10 / 88%
Starting Weight (kg)	1.32kg (carbon fiber hybrid deep black + OLED) non touch 3.26lbs / 1.474kg (aluminum storm grey + WUXGA)	1.24kg (carbon fiber hybrid black + OLED) non touch TBD (aluminum grey + WUXGA)
Color/Material	Deep Black: 22% recycled carbon fiber hybrid A, 90% recycled magnesium C, 55% recycled aluminum D Storm Grey: 50% recycled aluminum A,C, 55% recycled aluminum D	Black: 30% recycled carbon fiber hybrid A, 90% recycled magnesium C, 55% recycled aluminum D Grey: 50% recycled aluminum A, 90% recycled magnesium C, 55% recycled aluminum D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS AG (300nit, 45% NTSC) WUXGA (1920x1200) IPS OCT touch AG (300nit, 45% NTSC) 2.2K (2240x1400) IPS AG (300nit, 100% sRGB, TUV LBL) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, Eyesafe) 2.8K (2880x1800) OLED AGARAS (400nit, 100% DCI-P3, Dolby Vision, Eyesafe, HDR True Black 500, 90Hz) WUXGA (1920x1200) IPS Privacy Guard OCT touch (500nit, 100%sRGB)	WUXGA (1920x1200) IPS AG (400nit, 45% NTSC, DBEF5) WUXGA (1920x1200) IPS OCT touch AG (400nit, 45% NTSC DBEF5) WUXGA (1920x1200) IPS LP AG (400nit, 100% sRGB, Eyesafe) 2.8K (2880x1800) OLED AGARAS (400nit, 100% DCI-P3, Dolby Vision, Eyesafe, HDR True Black 500, 90Hz) WUXGA (1920x1200) IPS Privacy Guard OCT touch (500nit, 100%sRGB)
SoC	Intel RPL P28 + U15 up to 21W	Intel MTL Core Ultra 5 & 7 U & H-series up to 21.5W
Graphics	Intel integrated Iris Xe	Intel Integrated on U-series / Intel ARC on H-series
Memory	LPDDR5X 16G, 32G-4800MHz soldered down (dual channel)	LPDDR5X 16G, 32G, 64GB-6400MHz soldered down (dual channel)
Storage	up to 2TB PCIe Gen4x4 SSD (2280)	up to 2TB PCIe Gen4x4 SSD (2280)
Battery	90% PCC 57Whr; 90% PCC 65W,45W USB-C	90% PCC 58Whr; 90% PCC 65W,45W USB-C
OS	Win11 DG, Win11 Pro, Linux	Win11 DG, Win11 Pro, Linux
Input Device	ThinkPad TrackPoint Keyboard (1.5mm travel); glass-like Three Button Clickpad	ThinkPad TrackPoint Keyboard (1.5mm travel); glass-like Three Button Clickpad
Docking	TBT4, USB-C	TBT4, USB-C
Ports	2x USB-A 3.2 G1, 2 x USBC(TBT4), Audio, HDMI 2.0b, SIM	2x USB-A 5Gbps, 2 x TBT4, Audio, HDMI 2.0b, SIM
Audio	user facing Dolby Audio Speaker System, Dolby Voice, 90% PCC 2 speakers, 2 mics	user facing Dolby Audio Speaker System, Dolby Voice, 90% PCC 2 speakers, 2 mics
Camera	FHD RGB, 5MP + IR w/ webcam privacy shutter	5MP RGB / 5MP + IR w/ webcam privacy shutter
Connectivity	Wi-Fi 6E, 4G LTE CAT4 (black), CAT16 (black), 5G sub6 eSIM (black), NFC (black), BT 5.1	Wi-Fi 6E/7, CAT6 ROW(black), 5G PRC + ROW(black), NFC(black), BT5.3(Win11), BT5.1(Win10)
Security	FPR in PWR, IR Cam, SCR, Secured-Core PC, , dTPM, Nano lock, ThinkShield, Tile Ready	FPR in PWR, IR Cam, SCR, Secured-Core PC, dTPM, Nano lock, ThinkShield

ThinkPad[®] X Series

Lenovo

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2024 ThinkPad X Series



March 2024

September 2024

September 2025



X13 Gen 5 Intel | Perfectly Mobile

Enhanced User Experience

- Latest **Intel MTL U15 and H28 CPU** options with 21W thermal design
- up to **64G LPDDR5x** memory
- Low Power displays with Eyesafe
- Rear exhaust and back venting design

Hybrid Work and Mobility

- 5MP RGB + IR camera
- Dolby Suite: Dolby Audio Premium, Dolby Voice
- New **Wi-Fi7** WLAN option
- Up to **5G WWAN** option

Environmental, Social, Governance (ESG)

- 90% recycled magnesium C & 55% recycled aluminum D
- **100% plastic free packaging**
- Adopting Post-Consumer Content (PCC) in battery pack, speaker enclosure and AC power adapter



Attribute	ThinkPad X13 G4 Intel	ThinkPad X13 G5 Intel	
Dimension (mm)	hybrid CF deep black A: 301.7 x 214.8 x 15.95 CFRP deep black A: 301.7 x 214.8 x TBD aluminum storm grey A: 301.7 x 214.8 x TBD	hybrid CF eclipse black A: 301.7 x 214.8 x 15.95 CFRP eclipse black A: 301.7 x 214.8 x 15.95	
S / T / B Bezel Size (mm)	7.21 / 10.6 / 13.71		7.21 / 10.6 / 13.71
Screen Size & Ratio	13.3", 16:10, 83.9%		13.3", 16:10, 83.9%
Starting Weight (kg)	non touch 2.41lbs / 1.09kg (CFRP deep black + OLED + 41Whr) non touch 2.47lbs / 1.12kg (CFRP deep black + WUXGA + 41Whr) non touch 2.76lbs / 1.25kg (aluminum storm grey + OLED + 41Whr)		non touch bs / 1.13kg (CFRP black + 41Whr)
Color/Material	deep black CFRP A, hybrid CF A, 90% recycled magnesium C, 55% recycled aluminum D storm grey WLAN 50% recycled aluminum A/C, 55% recycled aluminum D		Eclipse black CFRP A, hybrid CF A, 90% recycled magnesium C, 55% recycled aluminum D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS AG (300nit, 100% sRGB) WUXGA (1920x1200) IPS OCT touch AG (300nit, 100% sRGB) WUXGA (1920x1200) LP IPS AG (400nit, 100%sRGB, Eyesafe) 2.8K (2880x1800) OLED AGARAS (400nit, 100% DCI-P3, Dolby Vision, Eyesafe, HDR True Black 500, 90Hz)		WUXGA (1920x1200) IPS AG (300nit, 100% sRGB) WUXGA (1920x1200) IPS OCT touch AG (300nit, 100% sRGB) WUXGA (1920x1200) LP IPS AG (400nit, 100%sRGB, Eyesafe)
SoC	Intel Core RPL P28 21W + U15 15.5W		Intel Core Ultra (5/7) MTL H 21W + U15 15.5W
Graphics	Intel integrated Iris Xe		Intel ARC Graphics and intel integrated Graphics
Memory	LPDDR5 8G, 16G, 32G-4800MHz soldered down (dual channel)		LPDDR5x 16G, 32G, 64G 6400MHz soldered down (dual channel)
Storage	up to 2TB PCIe Gen4x4 SSD (2280)		up to 2TB PCIe Gen4x4 SSD (2280)
Battery	up to 90% PCC 41Whr, 54.7Whr; up to 90% PCC 45W,65W USB-C		up to 90% PCC 41Whr, 54.7Whr; up to 90% PCC 45W,65W USB-C
OS	Win11 DG, Win11 Pro, Linux		Win11 DG, Win11 Pro, Linux
Input Device	up to 85% PCC ThinkPad TrackPoint Keyboard (1.5mm travel), glass-like Three Button Clickpad	up to 85% PCC ThinkPad TrackPoint Keyboard (1.5mm travel), glass-like Three Button ClickPad, TrackPoint QuickMenu	
Docking	TBT4, USB-C		TBT4, USB-C
Ports	2x USB-A 3.2 G1, 2 x USB-C(TBT4), Audio, HDMI 2.0b, SIM		2x USB-A 3.2 G1, 2 x USB-C(TBT4), Audio, HDMI 2.1, SIM
Audio	user facing Dolby Audio Premium, Dolby Voice, 95% PCC 2 speakers, 2 mics		user facing Dolby Audio Premium, Dolby Voice, 90% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD RGB, 5MP + IR w/ webcam privacy shutter		5MP RGB, 5MP + IR w/ webcam privacy shutter
Connectivity	Wi-Fi 6E, 4G LTE CAT4 (black), CAT16 (black), 5G sub6 eSIM (black), NFC (black), BT 5.2		Wi-Fi 7, Wi-Fi 6E, 4G LTE CAT6 , 5G sub6 eSIM (black), NFC, BT 5.3
Security	FPR in PWR, IR Cam, RFID, SCR, dTPM, Secured-Core PC, Nano lock, ThinkShield		FPR in PWR, IR Cam, SCR, Secured-Core PC , dTPM, Nano lock, ThinkShield

Attribute	ThinkPad X13 G4 AMD
Dimension (mm/in)	hybrid CF deep black A: 301.7 x 214.8 x 15.95 CFRP deep black A: 301.7 x 214.8 x TBD aluminum storm grey A: 301.7 x 214.8 x TBD
S / T / B Bezel Size (mm)	7.21 / 10.6 / 13.71
Screen Size & Ratio	13.3", 16:10, 84.2%
Starting Weight (lbs/kg)	non touch 2.63lbs / 1.19kg (CFRP deep black + WUXGA+ 41WHr) non touch 2.79lbs / 1.27kg (aluminum storm grey + WUXGA + 41WHr)
Color/Material	deep black CFRP A, hybrid CF A, 90% recycled magnesium C, 55% recycled aluminum D storm grey WLAN 50% recycled aluminum A/C, 55% recycled aluminum D; storm grey WWAN 50% recycled aluminum A, 90% recycled magnesium C, 55% recycled aluminum D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS AG (300nit, 100% sRGB) WUXGA (1920x1200) IPS OCT touch AG (300nit, 100% sRGB) WUXGA (1920x1200) LP IPS AG (400nit, 100%sRGB, Eyesafe)
SoC	AMD Ryzen 7040 u R5 Pro, R7 Pro
Graphics	AMD integrated RDNA3-Navi3
Memory	LPDDR5x 16G, 32G-6400MHz soldered down (dual channel)
Storage	up to 2TB PCIe Gen4x4 SSD (2280)
Battery	up to 97% PCC 41Whr, 54.7Whr; up to 95% PCC 45W,65W USB-C
OS	Win11 DG, Win11 Pro, Linux
Input Device	up to 85% PCC ThinkPad TrackPoint Keyboard (1.5mm travel), glass-like Three Button Clickpad
Docking	USB4, USB-C
Ports	2x USB-A 3.2 G1, 2 x USB-C(USB4), Audio, HDMI 2.0b, SIM
Audio	user facing Dolby Audio Speaker System, Dolby Voice, 95% PCC 2 speakers, 2 mics
Camera	HD RGB, FHD RGB, 5MP + IR w/ webcam privacy shutter
Connectivity	Wi-Fi 6E, 4G LTE CAT4 (black), CAT16 (black), NFC (black), BT 5.2
Biometric / Security	FPR in PWR, IR Cam, SCR, Privacy Shutter, dTPM, Nano lock, ThinkShield, MSFT Pluton, Tile Ready, Firmware Shield
Additional Features	Ultrasonic HPD, AMD Pro Manageability, MIL-SPEC 810H, EPEAT Gold, NIST SP800-193, Secured-Core PC, Glance, recycled packaging

X13 2-in-1 Gen 5 | Perfectly Mobile

Enhanced User Experience

- Latest Intel MTL U15 CPU options
- up to **64G LPDDR5x** memory
- Rear fan exhaust and back venting design
- Garaged pen with charging function

Hybrid Work and Mobility

- 5MP RGB + IR camera
- Dolby Suite: Dolby Audio Premium, Dolby Voice
- Low Power displays with Eyesafe certification
- New **Wi-Fi7 WLAN** option
- Multiple WWAN options(CAT4, CAT6, CAT16)

Environmental, Social, Governance (ESG)

- 90% recycled magnesium A/C/D
- **100% plastic free packaging**



Attribute	ThinkPad X13 Yoga G4 Intel	ThinkPad X13 2-in-1 G5 Intel	
Dimension (mm)	301.7 x 214.6 x 16.4	301.7 x 214.6 x 16.4	
S / T / B Bezel Size (mm)	7.21 / 9.4 / 13.71		7.21 / 9.4 / 13.71
Screen Size & Ratio	13.3" 16:10, 84.3%		13.3" 16:10, 84.3%
Starting Weight (kg)	touch 2.66lbs / 1.21kg		touch 2.66lbs / 1.21kg
Color/Material	deep black 90% recycled magnesium A/C/D storm grey 90% recycled magnesium A/C/D		Storm Grey/ Eclipse Black 90% recycled magnesium A/C/D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS OGS touch ARAS (300nit, 100% sRGB) WUXGA (1920x1200) IPS OGS touch AGAS (300nit, 100% sRGB) WUXGA (1920x1200) LP IPS AG (400nit, 100%sRGB, Eyesafe)		WUXGA (1920x1200) IPS OGS touch ARAS (300nit, 100% sRGB) WUXGA (1920x1200) IPS OGS touch AGAS (300nit, 100% sRGB) WUXGA (1920x1200) LP IPS AG (400nit, 100%sRGB, Eyesafe)
SoC	Intel Core RPL P28 21W + U15 15.5W		Intel Core Ultra (5/7) MTL U15 15.5W
Graphics	Intel integrated Iris Xe		Intel integrated Graphics
Memory	LPDDR5 8G, 16G, 32G-4800MHz soldered down (dual channel)		LPDDR5x 16G, 32G 64G 6400MHz soldered down (dual channel)
Storage	up to 2TB PCIe Gen4x4 SSD (2280)		up to 2TB PCIe Gen4x4 SSD (2280)
Battery	up to 97% PCC 41Whr, 54.7Whr; up to 95% PCC 45W,65W USB-C		up to 90% PCC 41Whr, 54.7Whr; up to 90% PCC 45W,65W USB-C
OS	Win11 DG, Win11 Pro, Linux		Win11 DG, Win11 Pro, Linux
Input Device	up to 85% PCC ThinkPad TrackPoint Keyboard (1.5mm travel), glass-like Three Button Clickpad, Lenovo integrated pen		up to 85% PCC ThinkPad TrackPoint Keyboard (1.5mm travel), glass-like Three Button Clickpad, Lenovo integrated pen, TrackPoint QuickMenu
Docking	TBT4, USB-C		TBT4, USB-C
Ports	2x USB-A 3.2 G1, 2 x USBC(TBT4), Audio, HDMI 2.0b, SIM		2x USB-A 3.2 G1, 2 x USBC(TBT4), Audio, HDMI 2.1, SIM
Audio	user facing Dolby Audio Premium, Dolby Voice, 95% PCC 2 speakers, 2 mics		user facing Dolby Audio Premium, Dolby Voice, 90% PCC 2 speakers, 2 mics
Camera	FHD RGB, 5MP + IR w/ webcam privacy shutter		5MP RGB, 5MP + IR w/ webcam privacy shutter
Connectivity	Wi-Fi 6E, 4G LTE CAT4 (black), CAT16 (black), 5G sub6 eSIM (black), NFC (black), BT 5.2		Wi-Fi 6E, WiFi 7 , 4G LTE CAT6 , CAT16, NFC (black), BT 5.3
Security	FPR in PWR, IR Cam, RFID, SCR, dTPM, Secured-Core PC, Nano lock, ThinkShield		FPR in PWR, IR Cam, SCR, Secured-Core PC , dTPM, Nano lock, ThinkShield

ThinkPad X13s

Smartphone experience, PC productivity

unmatched performance

- Qualcomm® Snapdragon™ 8cx Gen 3 Compute Platform
- Windows 11 Pro
- Enterprise-grade manageability
- ThinkShield™ & Microsoft Pluton Security ready

smarter collaboration

- Intelligent auto-framing with 5MP camera
- AI echo cancellation and noise suppression*
- Communications bar with MIPI camera
- Always-on user-detection and presence-tracker for login & smart power management
- AI-accelerated digital wellness feature

connected productivity

- First ThinkPad™ with 5G mmWave enabled, 5G Sub6 & 4G LTE backward compatible
- Connected standby/instant-on experience
- Multi-day battery life
- Computer Vision technology

enhanced sustainability

- Qualcomm platform & fanless design minimize heat ventilation
- Multi-day battery life minimizes plug time
- First ThinkPad made with 90% recycled magnesium
- PCC plastic utilized in system design



Lenovo

ThinkPad X13s key specs

Dimension (mm)	298.7 x 206.4 x 13.4
Sides / Top / Bottom Bezel Size (mm)	5.36 / 8.35 / 10.7
Screen Size & Ratio	13.3", 16:10, 87.17%
Weight (kg)	1.09
Color/Material	Thunder Black 90% Recycled magnesium A cover: Mg/AL, C cover: Mg/AL, D cover: GFRP
Resolutions/Color Gamut	13.3 WUXGA 16:10 (1920x1200) IPS AG (300nit, 100% sRGB), 13.3 WUXGA 16:10 (1920x1200) IPS on-cell touch ARAS (300nit, 72% CG), 13.3 WUXGA 16:10 (1920x1200) Low Power IPS AG (400nit, 100%sRGB, Low Blue Light)
CPU	Qualcomm Snapdragon 8CX Gen3
Graphics	Integrated Qualcomm graphics
Memory	LPDDR4x 8G, 16G, 32G-4267 soldered down (dual channel
Storage	up to 1TB PCIe Gen4
Battery Size, Life, Rapid Charge	30% PCC 49.5 Wh Li-ion polymer (video play back up to 27 hours), 30% PCC 65 Watt adapter
OS	Win11 Pro for ARM64
Keyboard	Standard and Backlit KBD w/ TrackPoint (1.35mm Key Travel), 115mm TrackPad
Docking	USB-C
Ports	2x USB-C 3.2 G2, Audio, SIM
Audio	user facing Dolby Audio Speaker System, 97% PCC 2 speakers , 2 mics
Camera	5MP RGB, 5MP IR MIPI w/ webcam privacy shutter, opt. Computer Vision
Wireless Communication	Wi-Fi 6E, 5G sub6 eSIM. 5G mmWave eSIM
Biometric / Security	FPR in PWR, HD IR Cam, Electric Shutter, dTPM
Additional Features	Modern Standby, MIL-SPEC 810H, NIST SP800-193, Secured-Core PC, 90% recycled and/or sustainable packaging
Certifications	EPEAT® Gold, registered in the U.S., Canada, and Germany, ENERGY STAR® certified, TCO certified v9.0
Monitor Connectivity	Dual 4k external monitor support

ThinkPad X12 Detachable

Durable portability for adaptable productivity

unmatched performance

- Core Ultra 5 & 7 vPro (U9)
- LPDDR5x Memory, up to 32GB
- 12.3" FHD IPS 400nit display with Corning® Gorilla® Glass 5 for added durability

smarter collaboration

- Detachable Folio backlight keyboard layout w/ Unified Communication controls
- Thunderbolt™ 4 port

connected productivity

- WiFi 6E and 4G CAT 16, NFC
- Modern standby for instant responsiveness
- IR camera with webcam privacy shutter and facial recognition*

enhanced sustainability

- >20% PCC for 2025 EPEAT Gold (Total PCC 27.9%)
- 90% recycled magnesium unibody and 50% recycled aluminum kickstand.
- 100% plastic free recycled packaging



Attribute	ThinkPad X12 Detachable G1	ThinkPad X12 Detachable G2
Dimension (mm)	Tablet: 283.3 x 203.5 x 8.8 mm Folio keyboard: 283.3 x 217.8 x 5.7 mm Total: 283.3 x 217.8 x 14.5 mm	Tablet: 283.3 x 203.5 x 8.8 mm Folio keyboard: 283.3 x 217.8 x 5.7 mm Total: 283.3 x 217.8 x 14.5 mm
Screen Size & Ratio	12.3", 3:2, 80%	12.3", 3:2, 80%
Starting Weight (kg)	tablet 0.76kg folio keyboard 0.34kg	tablet 0.76kg folio keyboard 0.34kg
Color/Material	Thunder black, magnesium A, aluminum stand	Thunder black, 90% recycled magnesium A, 50% recycled aluminum stand
Resolutions/Color Gamut	WUXGA (1920x1280) LP IPS OGS touch ARAS (400nit, 100% sRGB)	WUXGA (1920x1280) LP IPS OGS touch ARAS (400nit, 100% sRGB)
SoC	Intel 11 th Gen Core i5, i7, i5 vPro, i7 vPro	Intel Core Ultra 5 vPro & 7 vPro (U9)
Graphics	Intel integrated Iris Xe	Intel integrated graphics
Memory	LPDDR4x 4G, 8G, 16G 4266MHz soldered down (dual channel)	LPDDR5x 16G, 32G-6400MHz soldered down (dual channel)
Storage	up to 1TB PCIe Gen4x4 SSD (2242)	up to 1TB PCIe Gen4x4 SSD (2242)
Battery	42Whr; up to 90% PCC 45W,65W USB-C	25% PCC 42Whr; up to 90% PCC 45W,65W USB-C
OS	Win11 DG, Win11 Pro	Win11 Pro
Input Device	ThinkPad TrackPoint Keyboard (1.35mm travel), glass Three Button TrackPad Lenovo Precision pen, Lenovo digital pen	30% PCC ThinkPad TrackPoint Keyboard (1.35mm travel), glass Three Button TrackPad Lenovo Precision pen, Lenovo digital pen
Docking	Thunderbolt 4, USB-C	Thunderbolt 4, USB-C
Ports	1 x USB-C(Thunderbolt 4), 1 x USB-C 3.2 G2, Audio, SIM	1 x USB-C(Thunderbolt 4), 1 x USB-C(10Gbps), Audio, SIM
Audio	user facing Dolby Audio, Dolby Voice, speakers, 2 mics	user facing Dolby Audio, Dolby Voice, 30% PCC 2 speakers, 2 mics
Camera	8MP WFC, 5MP+IR USB w/ webcam privacy shutter	8MP WFC, 5MP+ R USB w/ webcam privacy shutter, Lenovo View
Connectivity	Wi-Fi 6, 4G LTE CAT9, NFC, BT 5.3	Wi-Fi 6E, 4G CAT16 eSIM, NFC, BT 5.3
Security	FPR, IR Cam, Privacy Shutter, dTPM, Nano lock, , NIST SP800-193, Secured-Core PC	FPR, IR Cam, Privacy Shutter, dTPM, Nano lock, , NIST SP800-193, Secured-Core PC

ThinkPad[®] X1 Series

Premium

Lenovo

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X1 Carbon Gen 12 | The Perfect Business Notebook

AI Transformation

- Intel® Core™ Ultra processor with Intel Arc graphics
- Integrated AI Engine (NPU) with 11 TOPs capable of Windows Studio Effects
- Computer Vision with Human Presence and Adaptive dimming saves battery life
- Low light video enhancement to improve video calls

Enhanced User Experience

- High quality 8MP MIPI camera
- Highest Performance ThinkPad notebook @ 25W
- Cool & quiet performance due to 44% larger thermal capability
- Smooth motion on premium OLED display with 120Hz refresh rate
- User choice of a larger TrackPad or Haptic TouchPad catering for different user types

Responsible Design

- New keyboard with tactile marking to assist visually impaired users navigate quicker and easier
- Extensive use of recycled materials (90% recycled mag C & 55% recycled aluminum + 45% hydro aluminum D, PCC in plastic parts)
- Packaging is made from 100% recyclable and compostable bamboo and sugarcane



X1 Carbon Gen 12 | ESG 2024 Plan

Category	Type
COVERS	
A Cover	recycled carbon fiber contained in plastic frame
B Cover	N/A
C Cover	90% recycled magnesium
D Cover	55% recycled aluminum 45% hydro aluminum
INTERNAL COMPONENTS	
Key Caps	85% PCC
Speaker Enclosure	90% PCC
Battery Pack Enclosure	90% PCC
Cable Holder	30% PCC
AC Adapter 45/65W	90% PCC

Category
PACKAGING
FSC Certified Plastic Free Packaging
Bamboo + Sugarcane Retail Packaging/Standard Cushions
CERTIFICATIONS
Energy Star
EPEAT Gold
TCO 9.0
CO2 offset
LOW-TEMPERATURE SOLDERING PROCESS
Motherboard
Memory
SSD
Fingerprint Reader Module



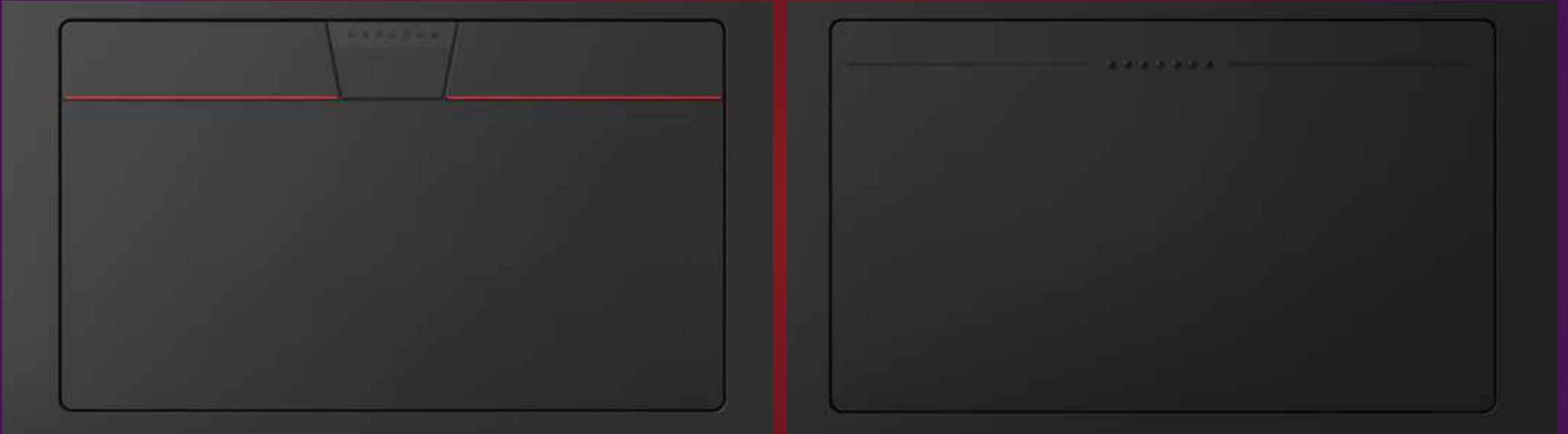
X1 Carbon G11 vs G12



X1 Carbon TrackPad or Haptic TouchPad



X1 Carbon TrackPad or Haptic TouchPad



Attribute	ThinkPad X1 Carbon G11 Intel	ThinkPad X1 Carbon G12 Intel
Dimension (mm/in)	315.6 x 222.5 x 15.07	312.8 x 214.75 x 14.96
S / T / B Bezel Size (mm)	6.4 / 10.1 / 19.0	5.1 / 6.4 / 9.5
Screen Size & Ratio	14.0", 16:10, 86.23%	14.0", 16:10, 89.20%
Starting Weight (kg)	1.12kg	1.09kg
Color/Material	deep black carbon fiber weave A, carbon fiber hybrid A, 90% recycled magnesium C, 55% recycled aluminum D	eclipse black 20% recycled carbon fiber hybrid A, 90% recycled magnesium C, 55% recycled aluminum and 45% hydro aluminium D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS LP AG (400nit, 100%sRGB, Eyesafe) WUXGA (1920x1200) IPS LP OCT touch AG (400nit, 100%sRGB, Eyesafe) WUXGA (1920x1200) IPS LP Privacy Guard OCT touch AG (500nit, 100%sRGB) 2.8k (2880x1800) OLED AGARAS (400nit, 100% DCI-P3, HDR True Black 500, Dolby Vision, Eyesafe, 90Hz)	WUXGA (1920x1200) IPS LP AG (400nit, 100%sRGB, Eyesafe) WUXGA (1920x1200) IPS LP OCT touch AG (400nit, 100%sRGB, Eyesafe) WUXGA (1920x1200) IPS Privacy Guard AG (500nit, 100%sRGB, 100%sRGB, Eyesafe) 2.8k (2880x1800) OLED AGARAS (400nit, 100% DCI-P3, HDR 500, Dolby Vision, Eyesafe, 120Hz) 2.8k (2880x1800) OLED AOFT touch AGARAS (400nit, 100% DCI-P3, HDR True Black 500, Dolby Vision, Eyesafe, 120Hz)
SoC	Intel RPL U15: i5, i7, i5 vPro, i7 vPro, RPL P28: i5, i7, i5 Essential, i7 Essential, i5 vPro, i7 vPro	Intel Core Ultra 5 & 7 (U15, vPro) ?? Intel Core Ultra 5 & 7 (H28, vPro Essential)
Graphics	Intel integrated Iris Xe	Intel integrated graphics, Intel integrated Arc
Memory	LPDDR5 16G, 32G, 64G 5200MHz soldered down (dual channel)	LPDDR5x 16G, 32G, 64G-6400MHz soldered down (dual channel)
Storage	up to 2TB PCIe Gen4x4 SSD	up to 2TB PCIe Gen4x4 SSD (2280)
Battery	97% PCC 57Whr; up to 95% PCC 65W USB-C Slim	90% PCC 57Whr; up to 90% PCC 45W,65W USB-C
OS	Win11 DG, Win11 Pro, Linux	Win11 Pro, Linux
Input Device	ThinkPad TrackPoint Keyboard (1.5mm travel), glass Three Button Clickpad	ThinkPad TrackPoint Keyboard (Key Caps 85% PCC), Haptic TouchPad, glass 120mm Three Buttons TrackPad; TrackPoint Quick Menu
Docking	Thunderbolt 4, USB-C	Thunderbolt 4, USB-C
Ports	2x USB-A 3.2 G1, 2 x USB-C(Thunderbolt 4), Audio, HDMI 2.0b, SIM	2 x USB-A(5Gbps), 2 x USB-C(Thunderbolt 4), Audio, HDMI 2.1, SIM
Audio	user facing Dolby ATMOS Speakers, Dolby Voice,95% PCC 4 speakers, 4 mics	Dolby ATMOS, Dolby Voice, 90% PCC 2 speakers, 2 mics
Camera	FHD RGB, FHD hybrid IR, FHD+IR MIPI, webcam privacy shutter, Computer Vision	FHD+IR USB, 8MP+IR MIPI, webcam privacy shutter, Computer Vision, Lenovo View
Connectivity	Wi-Fi 6E, 4G LTE CAT16, 5G sub6 eSIM, NFC, BT 5.2	Wi-Fi 7, Wi-Fi 6E, 4G LTE CAT4, CAT16 eSIM, 5G sub6 eSIM, NFC, BT 5.3
Security	FPR in PWR, IR Cam, Privacy Shutter, dTPM, Nano lock, ThinkShield NIST SP800-193, Secured-Core PC	FPR in KBD, IR Cam, Privacy Shutter, dTPM, Nano lock, ThinkShield NIST SP800-193, Secured-Core PC

X1 2-in-1 Gen 9 | The No Compromise Convertible

AI Transformation

- Intel® Core™ Ultra processor with Intel Arc graphics
- Integrated AI Engine (NPU) with 11 TOPs capable of Windows Studio Effects
- Computer Vision with Human Presence and Adaptive dimming saves battery life
- Low light video enhancement to improve video calls

Enhanced User Experience

- High quality 8MP MIPI camera
- New larger, more ergonomic magnetically attached pen
- Cool & quiet performance due to 44% larger thermal capability
- Smooth motion on premium OLED display with 120Hz refresh rate
- User choice of a larger TrackPad or Haptic TouchPad catering for different user types

Responsible Design

- New keyboard with tactile marking to assist visually impaired users navigate quicker and easier
- Extensive use of recycled materials (90% recycled mag C & 55% recycled aluminum + 45% hydro aluminum D, PCC in plastic parts)
- Packaging is made from 100% recyclable and compostable bamboo and sugarcane



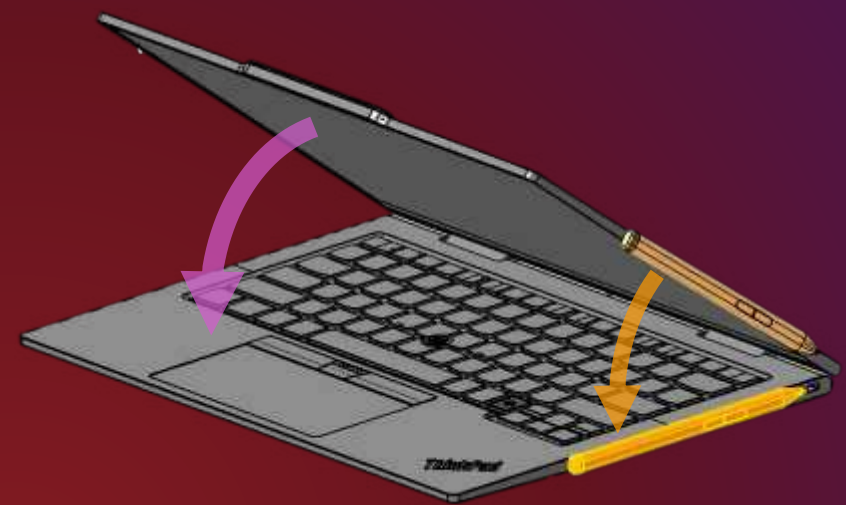
ThinkPad X1 2-in-1 G9



X1 2-in-1 G8 vs G9

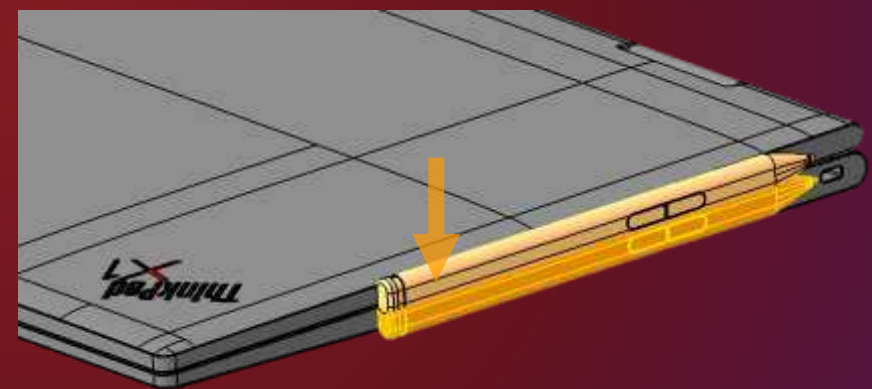


New improved magnetic pen

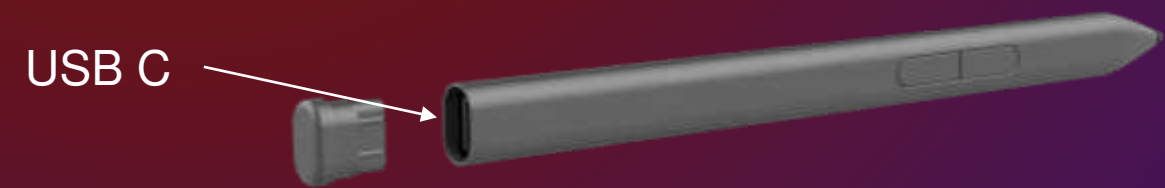


Temporary position

Carry position



Move automatically



USB C

Attribute	ThinkPad X1 Yoga G8 Intel	ThinkPad X1 2-in-1 G9 Intel
Dimension (mm/in)	314.4 x 222.3 x 15.53	312.8 x 214.75 x 15.49
S / T / B Bezel Size (mm)	6.4 / 10.1 / 19.0	5.1 / 6.8 / 12.5
Screen Size & Ratio	14.0", 16:10, 86%	14.0", 16:10, 87.80%
Starting Weight (kg)	1.38kg	touch 1.32kg
Color/Material	storm grey aluminum A/C, 55% recycled aluminum D	luna grey 75% recycled aluminum A, 90% recycled magnesium (WWAN) /75% recycled aluminum (WLAN) C 55% recycled aluminum D
Resolutions/Color Gamut	WUXGA (1920x1200) IPS OGS touch ARAS (400nit, 100% sRGB, Eyesafe) WUXGA (1920x1200) IPS OGS touch AGAS (400nit, 100% sRGB, Eyesafe) WUXGA (1920x1200) IPS LP Privacy Guard touch AGAS (500nit, 100% sRGB) WUQXGA (3840x2400) OLED LP OGS touch ARAS (500nit, 100% DCI-P3, HDR400, Dolby Vision, Eyesafe)	WUXGA (1920x1200) IPS OGS touch ARAS (400nit, 100% sRGB, Eyesafe) WUXGA (1920x1200) IPS OGS touch AGAS (400nit, 100% sRGB, Eyesafe) WUXGA (1920x1200) IPS LP Privacy Guard OGS touch AGAS (500nit, 100% sRGB) 2.8k (2880x1800) OLED OGS touch ARAS (400nit, 100% DCI-P3, HDR True Black 500, Dolby Vision, Eyesafe, 120Hz)
SoC	Intel 13th Gen U15: i5, i7, i5 vPro, i7 vPro, RPL P28: i5, i7, i5 Essential, i7 Essential, i5 vPro, i7 vPro	Intel Core Ultra 5 & 7 (U15, vPro)
Graphics	Intel integrated Iris Xe	Intel integrated graphics
Memory	LPDDR5 16G, 32G, 64G 5200MHz soldered down (dual channel)	LPDDR5x 16G, 32G, 64G-6400MHz soldered down (dual channel)
Storage	up to 2TB PCIe Gen4x4 SSD	up to 2TB PCIe Gen4x4 SSD
Battery	97% PCC 57Whr; up to 95% PCC 65W USB-C Slim	90% PCC 57Whr; up to 90% PCC 45W,65W USB-C
OS	Win11 DG, Win11 Pro, Linux	Win11 Pro, Linux
Input Device	ThinkPad TrackPoint Keyboard (1.5mm travel), glass Three Button Clickpad, Lenovo integrated pen	ThinkPad TrackPoint Keyboard (Key Caps 85% PCC), Haptic TouchPad, glass 120mm Three Buttons TrackPad; TrackPoint Quick Menu, External pen
Docking	Thunderbolt 4, USB-C	Thunderbolt 4, USB-C
Ports	2x USB-A 3.2 G1, 2 x USBC(Thunderbolt 4), Audio, HDMI 2.0b, SIM	2x USB-A(5Gbps), 2 x USB-C(Thunderbolt 4), Audio, HDMI 2.1, SIM
Audio	user facing Dolby ATMOS Speakers, Dolby Voice,95% PCC 4 speakers, 4 mics	Dolby ATMOS, Dolby Voice, 90% PCC 2 speakers, 2 mics
Camera	FHD RGB, FHD hybrid IR, FHD+IR MIPI, webcam privacy shutter, Computer Vision	FHD+IR USB, 8MP+IR MIPI, webcam privacy shutter, Computer Vision
Connectivity	Wi-Fi 6E, 4G LTE CAT16, 5G sub6 eSIM, NFC, BT 5.2	Wi-Fi 7, Wi-Fi 6E, 4G CAT16 eSIM, 5G sub6 eSIM, NFC, BT 5.2
Security	FPR in PWR, IR Cam, Privacy Shutter, dTPM, Nano lock, ThinkShield NIST SP800-193, Secured-Core PC	FPR in KBD, IR Cam, Privacy Shutter, dTPM, Nano lock, ThinkShield NIST SP800-193, Secured-Core PC

ThinkPad[®] Z Series

Premium

Lenovo

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ThinkPad Z13 G2

Progressive design & mobility

enhanced user experience

- Progressive design focused on broadening the appeal of ThinkPad
- Modern aesthetic with Arctic Grey recycled aluminum or sustainable Flax/Linen A-Cover
- Ultra-narrow bezel design translates to a 91.6% Screen-to-Body ratio
- Dolby Atmos/Voice + FHD/IR cameras for premium audio/visual experience

unmatched performance

- The latest AMD Ryzen™ 7000 U-series processors with integrated Radeon(Navi 3) graphics
- LPDDR5x dual channel soldered memory, up to **64GB at 6400Mhz**
- 18W thermal design for boosted performance

connected portability

- Ultrathin at 14mm thin; 1.19 kg
- 18+ hrs battery life on MM18 with 51.5Whr battery
- Wi-Fi 6E with simultaneous dual-band capability
- 4G LTE CAT16 & CAT4

environmental, social, governance (ESG)

- Sustainable Flax/Linen A-cover
- Optional 75% recycled aluminum Arctic Grey A-cover
- New 55% recycled aluminum D-cover
- PCC percentage increases in Speaker enclosures/AC adapter
- Plastic Free & Bamboo





Attribute	ThinkPad Z13 Gen1	ThinkPad Z13 Gen2
Dimension (mm)	294.4mm x 199.6mm x 13.99mm (Marketing Z-height)	294.4mm x 199.6mm x 13.99mm (Marketing Z-height)
Sides / Top / Bottom Bezel Size (mm)	3.65mm/6.35mm/5.18mm	3.65mm/6.35mm/5.18mm
Screen Size & Ratio	13.3" 16:10 aspect ratio 91.6% STB	13.3" 16:10 aspect ratio 91.6% STB
Weight (lbs/kg)	1.19 kg	1.19 kg
Color/Material	Black Recycled PET Vegan Leather/Bronze AL, Arctic Grey Recycled AL, Black Recycled AL	Flax Fiber Bronze AL , Arctic Grey Recycled AL
Resolutions/Color Gamut	13.3" 16:10 2.0t bent PCB WUXGA IPS 400nit Low Power, 100% sRGB, Non-Touch & Touch WQXGA 2.8k OLED 400nit, 100% CG, Touch, Dolby Vision Color Calibration; Low Blue Light; TUV certified	13.3" 16:10 2.0t bent PCB WUXGA IPS 400nit Low Power, 100% sRGB, Non-Touch & Touch WQXGA 2.8k OLED 400nit, 100% CG, Touch, Dolby Vision Color Calibration; Low Blue Light; TUV certified
CPU	AMD Ryzen 6000 U-series APU R5 PRO, R7 PRO, R7 PRO-Z	AMD Ryzen 7040 U-series APU R5 PRO, R7 PRO
Graphics	Integrated AMD Radeon(Navi 2) Graphics	Integrated AMD Radeon (Navi 3) Graphics
Memory	LPDDR5(6400MHz) Dual Channel Soldered Down 16GB, 32GB	LPDDR5x(6400MHz) Dual Channel Soldered Down 16GB, 32GB, 64GB
Storage	Up to 1TB PCIe Gen4 SSD	Up to 2TB PCIe Gen4 SSD
Battery Size, Life, Rapid Charge	51.5Whr, Up to 18.3hrs(MM18), Rapid Charge (80% in 60mins)	51.5Whr, Up to 18.3hrs (MM18), Rapid Charge (80% in 60mins)
Keyboard	Edge to Edge, Backlit, 1.35mm travel, 120mm Haptic Forcepad	Edge to Edge, Backlit, 1.35mm travel, 120mm Haptic Touchpad (Sensel)
Docking	USB-C	USB-C
Ports	2 x USB-C (USB4), 3.5mm Audio Jack, Multiple in-box dongle options	2 x USB-C (USB4), 3.5mm Audio Jack, Multiple in-box dongle options
Audio	Dolby Atmos Speaker System Dolby Voice 2 far-field mics	Dolby Atmos Dolby Voice 2 far-field mics
Wireless Communication	Wifi 6E, BT 5.2, LTE CAT 16, LTE CAT4	Wifi 6E, BT 5.2, LTE CAT 16, LTE CAT4
Biometric / Security	MOC FPR in KB, IR Camera standard, FHD RGB + IR or FHD Hybrid Camera, dTPM 2.0, Camera eShutter (F9), MSFT Pluton	MOC FPR in KB, IR Camera standard, FHD RGB + IR or FHD Hybrid Camera, dTPM 2.0, Camera eShutter (F9), MSFT Pluton
Additional Features	Modern Standby, Glance, Windows 11, TrackPoint Communications Quick Menu	Modern Standby, Glance, Windows 11, TrackPoint Communications Quick Menu

ThinkPad Z16 G2

Progressive performance

sophisticated design

- Modern aesthetic with Arctic Grey recycled aluminum
- Ultranarrow 4mm-6mm bezels for 92.3% screen-to-body ratio
- FHD RGB + IR camera for a higher-resolution picture
- Large user-facing speakers with Dolby Atmos Premium audio

competitive performance

- AMD Ryzen™ PRO 7000 H-series processors
- LPDDR5x dual channel soldered memory, up to 64GB at 6400Mhz
- 50W thermal design
- Optional AMD Radeon™ Navi24+ discreted graphics with SmartShift technology

connected mobility

- Super-portable at 15.8mm thin and 1.81 kg
- Up to 20 hours of battery life on MM18 with 72Whr battery
- W-Fi 6E with simultaneous dual-band capability

environmental, social, governance (ESG)

- 75% recycled aluminum Arctic Grey A-cover
- New 55% recycled aluminum D-cover
- PCC percentage increases in Speaker enclosures/AC adapter
- Plastic Free & Bamboo + Sugarcane fiber packaging



Attribute	ThinkPad Z16 Gen1	ThinkPad Z16 Gen2
Dimension (mm)	354.4mm x 237.4mm x 15.8mm (Marketing Z-height)	354.4mm x 237.4mm x 15.8mm (Marketing Z-height)
Sides / Top / Bottom Bezel Size (mm)	4.36mm/7.16mm/5.00mm	4.36mm/7.16mm/5.00mm
Screen Size & Ratio	16" 16:10 92.3% STB	16" 16:10 92.3% STB
Weight (lbs/kg)	1.81kg	1.81 kg
Color/Material	Arctic Grey Recycled AL	Arctic Grey Recycled AL
Resolutions/Color Gamut	16.0" 16:10 bent PCB for 4mm bezels WUXGA IPS 400nit Low Power, 100% sRGB, Non-Touch & Touch WQUXGA 4k OLED 400nit, 100% CG, Touch, Dolby Vision Color Calibration; Low Blue Light; TUV certified	16.0" 16:10 bent PCB for 4mm bezels WUXGA IPS 400nit Low Power, 100% sRGB, Non-Touch & Touch WQUXGA 4k OLED 400nit, 100% CG, Touch, Dolby Vision Low Blue Light; TUV certified
CPU	AMD Ryzen 6000 H-series APU R5 PRO, R7 PRO, R9 PRO	AMD Ryzen 7040 H-series APU R5 PRO, R7 PRO, R9 PRO
Graphics	Integrated AMD Radeon(Navi 2) Graphics or AMD Radeon RX 6500M dGPU w/ SmartShift	Integrated AMD Radeon (Navi 3) Graphics or AMD Radeon Navi24+ dGPU w/ SmartShift
Memory	LPDDR5(6400MHz) Dual Channel Soldered Down 16GB, 32GB	LPDDR5x (6400MHz) Dual Channel Soldered Down 16GB, 32GB 64GB
Storage	Up to 2TB PCIe Gen4 Performance SSD	Up to 2TB PCIe Gen4 Performance SSD
Battery Size, Life, Rapid Charge	72Whr, Up to 20.5hrs (MM18), Rapid Charge (80% in 60mins)	72Whr, Up to 20.5hrs (MM18), Rapid Charge (80% in 60mins)
Keyboard	Backlit, 1.35mm travel, 120mm Haptic Forcepad	Backlit, 1.35mm travel, 120mm Haptic Touchpad (Senseel)
Docking	USB-C	USB-C
Ports	2x USB-C (USB4), 1x USB-C (USB3.2 Gen2), 3.5mm Audio Jack, SD Card Reader, Multiple in-box dongle options	2x USB-C (USB4), 1x USB-C (USB3.2 Gen2), 3.5mm Audio Jack, SD Card Reader, Multiple in-box dongle options
Audio	Dual user facing Dolby Atmos Speaker System Dolby Voice 2 far-field mics	Dual user facing Dolby Atmos Dolby Voice 2 far-field mics
Wireless Communication	Wifi 6E(802.11AX), BT 5.2, LTE CAT 16, LTE CAT4(PRC/WW)	Wifi 6E(802.11AX), BT 5.2
Biometric / Security	MOC FPR in KB, IR Camera standard, FHD Hybrid, FHD RGB + IR, dTPM 2.0, Camera eShutter F9, MSFT Pluton	MOC FPR in KB, IR Camera standard, FHD Hybrid or FHD RGB + IR, dTPM 2.0, Camera eShutter F9, MSFT Pluton
Additional Features	Modern Standby, Glance, Windows 11, TrackPoint Communication Quick Menu	Modern Standby, Glance, Windows 11, TrackPoint Communication Quick Menu

ThinkPad X1 Fold

Grab-and-go multimode productivity

premium performance

- Up to 12th generation Intel® i7 vPro® and non-vPro processors
- Built for what IT needs and users want with Intel vPro®, an Intel® Evo™ Design, with 12th Gen Intel® Core™ i7 processor
- Up to 32GB LPDDR5 memory and up to 1TB PCIe storage

intuitive UX

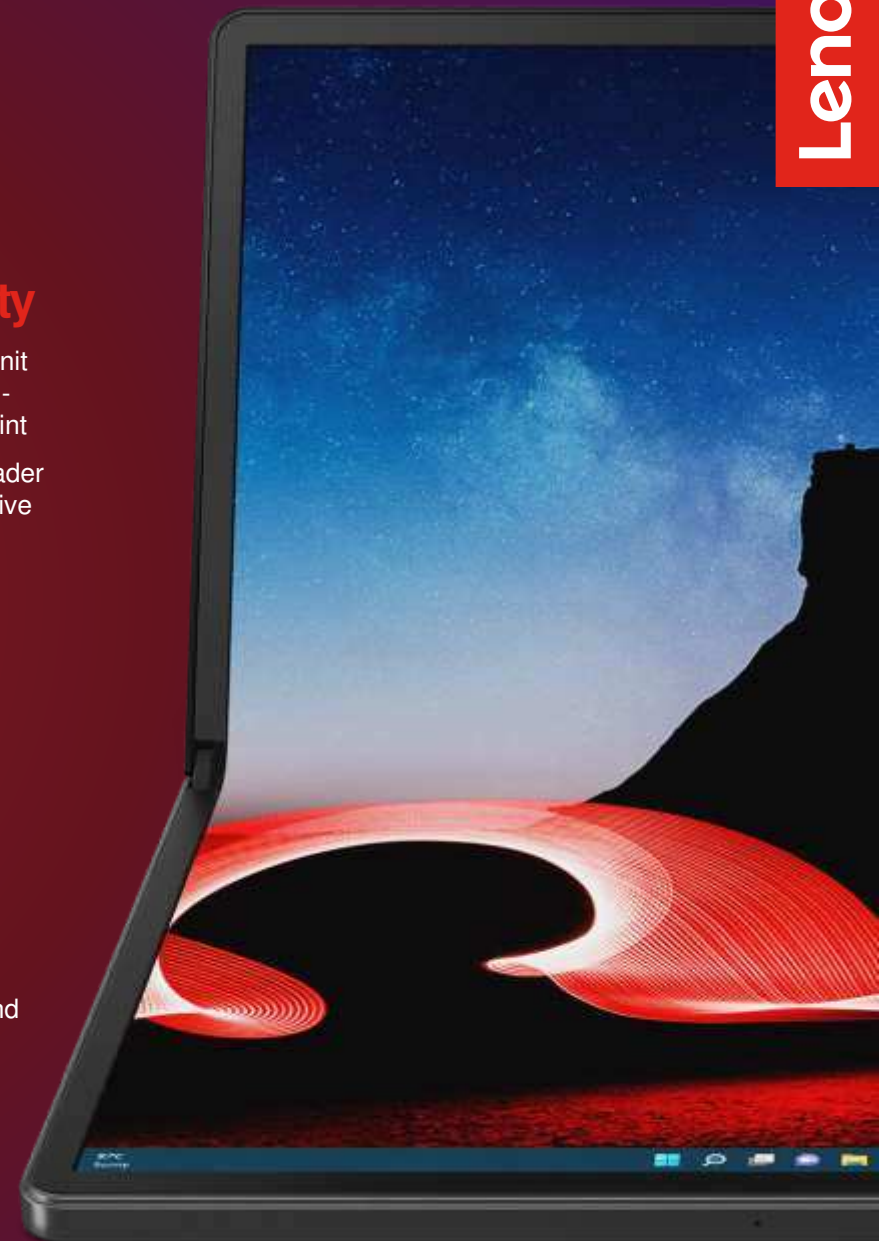
- Intuitive desktop layouts and organization, plus large touch targets, swipeable menus and widgets, and new integrated pen features
- Smooth, fast screen rotations and Mode Switcher
- Choose between physical or onscreen keyboard
- Latest Windows 11 features, including snapping layouts to optimize multi-application use, especially on dual 12" panels

game-changing usability

- Bright, seamless 16.3" 4:3 folding 600nit OLED HDR screen and attachable full-size Bluetooth keyboard with TrackPoint
- Transforms from laptop to tablet to reader and so much more—including innovative portrait mode
- Perfect fold-flat design and magnet-attached Precision Pen

modern ultra-mobile design

- Massive 16" display and full-size keyboard that folds to carry like a small book
- Just 1.3 kg
- All-day 64Wh battery plus Wi-Fi 6E and optional global 5G* connectivity



ThinkPad X1 Fold 16



ThinkPad X1 Fold key specs

Dimensions	Unfolded: 276.2 x 345.7 x 8.6mm Folded: 176.4mm x 276.2mm x 17.4mm
Display	16.3" foldable 4:3 2024x2560 OLED Anti-smudge, 600nits HDR, Oncell Touch; 400nit SDR / 600nit HDR, DCI-P3 100%, Dolby Vision; 16.3" when open; 12" when folded; 8mm bezels
Weight	Starting at 1.26 kg system; 1.89 kg with stand and keyboard
Color	Performance Black
CPU	Up to Intel 12th Gen U9 i5 and i7 vPro® and non-vPro®
Graphics	Intel® Iris® Xe graphics
Memory	Up to 32GB LPDDR5
Storage	Up to 1TB PCIe Gen 4
Battery	48 Whr (plus optional 16 Whr based on configuration; 11.2-hr life in MM18 with dual battery); Rapid Charge with 65W AC; 4 hrs battery with 30-min charge
OS	Up to Windows 11 Pro
Keyboard	Full-size backlit keyboard with TrackPoint and Haptic Touchpad; Fingerprint reader; Bluetooth
Ports	2x Thunderbolt 4; 1x USB-C 3.2 Gen 2; Nano-SIM card tray
Audio	3x speakers; 4x mics; Dolby Atmos; Dolby Voice
Camera	5MP RGB + IR; Intel® Visual Sensing Controller (optional)
Wireless Communication	Wi-Fi 6E ¹ ; optional 5G Sub 6 (LTE supported); Bluetooth 5.2
Biometric / Security	Touch fingerprint reader (on keyboard); Windows Hello Face login Win 11r; Intel vPro® security (on select processors); Computer Vision with HPD with IR camera; Intel® Visual Sensing Controller (optional)
Sustainability	Recycled PET Woven Performance fabric cover; 97% PCC recycled plastic used in speaker enclosure; 97% PCC recycled plastic used in the 49.5 Whr and 16 Whr battery; at least 90% PCC recycled plastic used in standard 65-watt adaptor; low-temperature solder; 90% recycled and/or sustainable packaging ² ; EPEAT® Gold registered in U.S., Canada, and Germany, ENERGY STAR® certified; TCOv9

¹16GHz Wi-Fi 6E operation is dependent on the support of the operating system, routers/ APs/Gateways that support Wi-Fi 6E, and the regional regulatory certifications and spectrum allocation.

²Product packaging shall contain, on average, a minimum total percentage of 90% by weight of any combination of the following materials: Recycled content, biobased plastic, non-wood biobased fiber material, and/or sustainably forested material.



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thanks.