

Lenovo P14s Gen 2

Version: 1.0 | 08/24/2021

DOWNLOADS

Description	P14s Gen 2 (AMD) HMM
Description	P14s Gen 2 (AMD) Drivers & Software

SECTION I: Platform Overview

Description	<p>ThinkPad P14s LENOVO'S LIGHTEST MOBILE WORKSTATION NOW WITH AN AMD PROCESSOR</p> <p>The ThinkPad® P14s, Lenovo's most mobile workstation, is now available with AMD Ryzen™ PRO processor with professional-level integrated Radeon™ Pro graphics all in a compact 14-inch chassis. Striking a balance between power and mobility, the ThinkPad P14s is perfect for highly mobile power users, allowing students, engineers, or designers to be creative anytime, anywhere. Built with an advanced, comprehensive suite of ThinkShield security features, the ThinkPad P14s has you protected from every angle—giving you the freedom to innovate fearlessly.</p>
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CPU

Processor Support	AMD Pro 5650U AMD Pro 5850U
Socket Type	BGA

Operating Systems

Preloaded	Windows 10 Pro 64 (20H2) Windows 10 Home 64 (20H2) Windows 10 Home Single Language 64(20H2) Windows 10 Home Chinese Language Edition 64(20H2) Windows 10 CMIT Government Edition Ubuntu (Version20.04)
Supported	Windows 10 Pro 64 (20H2) Windows 10 Home 64 (20H2) Windows 10 Home Single Language 64(20H2) Windows 10 Home Chinese Language Edition 64(20H2) Windows 10 CMIT Government Edition Ubuntu (Version20.04) Red Hat Enterprise Linux (Certification support, Version8.3)

Memory

Number of DIMM Slots	1 soldered-down DIMM + 1 DIMM slot
Channels	Single Channel w/ 1 soldered DIMM Dual Channel w/ 1 soldered DIMM + 1 add-in DIMM
Type	DDR4
ECC Support	No
Speed	3200 MHz
Max DIMM Size	32GB
Max System Memory	48GB
Min System Memory	16GB
Soldered Memory	16GB

Storage

Storage Slots	1 x M.2 2280
SATA	/
PCIe	Solid State Drive, OPAL2 PCIe-NVMe M.2 2280- TLC
SAS	None
Interface	Yes->PCIe
Security	PCIe->YES
Optional Hard Disk Drive Controllers	OPAL2 for NVMe SSD

Video

Integrated Graphics	AMD Radeon™ Pro Graphics
Discrete Graphics	N/A
Adapter	None

Bus Interface	NA
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Display

Resolutions	FHD/UHD
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Camera

Resolution	HD 720p
Frames per Second	30 fps
Focus	Fixed 50cm
Camera Interface	USB 2.0
IR Camera	Yes (optional) (with WWAN co-existence), Hybrid Camera

Keyboard

Number of Keys	US : 84 / UK : 85 / JP : 89
Numpad	No
Size	100% ISO
Function Key Features	Yes
Backlit	Yes
Keyboard size	CS20 KYB
Key stroke	1.8mm
Key pitch	19.05mm
Keyboard backlight	Standard
Keyboard thickness	Standard

Touchpad / Fingerprint Reader

TrackPoint Details	COMO TrackPoint module (t5.5mm)
Finger Print Reader Model	Synaprics Metallica 8x8 FPR, MoC
Multi-Touch	Yes
Resolution	DPI≈304
TouchPad/Trackpad thickness	3.3mm
TouchPad/Trackpad type	3 BCP
Trackpad size	100mm x 69 mm

Trackpad material/finish	Mylar surface
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I/O - Ports and Connectors

USB	2x USB Type-A 3.1 Gen1, 2x USB Type-C (DP 1.4, USB 3.1 Gen 2, PD)
Thunderbolt	N/A
HDMI	1x HDMI 2.0
Audio Combo Jack	1x Microphone & Headphone Combo Jack (3.5mm)
Media Card Reader	Dedicated MicroSD Card Reader (UHS-I) (MMC,SD,SDHC SDXC)
Smart Card Reader	Yes (optional)
Power Connector	DC-In
Docking Port	Docking Via Thunderbolt 3 / USB-C
VirtualLink	None
Network adapter	Gigabit Ethernet (RJ45)

Power Connector

Main	DC-In
USB-C	2x USB Type-C (DP 1.4, USB 3.1 Gen 2, PD)

Ethernet

Vendor	Realtek
Count	x1
EEPROM	SPI ROM (Merge with BIOS/MEFW)
Speeds	10/100/1000 Mbps
Functions	Wake On LAN MAC Address Pass Through PXE Boot Flash Over LAN
Connectors	RJ45

WWAN

Model	Quectel CAT12 with eSIM
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Near Field Communications

Model	Yes, optional
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Audio

Vendor	Realtek
Type	High Definition Audio Codec
Internal Speaker	Yes, dual speakers
Connectors	Microphone & Headphone Combo Jack (3.5mm)
Chipset	ALC3287
Number of Channels	2-channel DAC, 2-channel ADC
Number of Bits/Audio Resolution	16/20/24-bit PCM format
Sampling Rate (Recording/Playback)	n
Signal to Noise Ratio	90dB Signal-to-Noise Ratio (A-weighting) for ADC input. 100dB Signal-to-Noise Ratio (A-weighting) for DAC output
Analog Audio	None
Dolby Digital	Yes
Digital Out (S/PDIF)	No
Speaker Power Rating	2W@4ohm/ch

Power adapter

Type	65W AC Adapter	45W AC Adapter
Dimensions	142cc (28.5 x 46 x 108 mm) 65W (*0)	113.6cc(94*41*29.5)
Input Voltage	100-240V	100-240V

Security

TPM	Yes, TPM2.0
Asset ID	Yes
AMD Pro Technology	Yes

Chassis Information

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Color	Black/Storm Grey
Thermal Solutions	Internal Single FAN, Intelligent Cooling
Dimensions	FAN 75*75*5.2mm Single outlet Three phase motor PWM control / 5 pins connector FDB (Fluid Dynamic Bearing) Heat pipe -D6*2 ,T=1.3~1.8mm, L=264mm Fin *1 - Cooper with black painting CPU block: Composite Cu, T=0.8mm FAN cover: Copper ,T=0.4mm Spring plate + screw: CPU*4, Painting area : bottom view (include : pipe, CPU block, spring plate, fan pillow, fin area) Grease ShinEtsu X23-7783D Mylar for prevention short.
Weight	with3 Cell 50WHr Battery, Min 3.24lbs/1.47kg

Packaging Parameters

Height (mm)	300
Height (inch)	11.8
Width (mm)	446
Width (inch)	17.6
Depth (mm)	81
Depth (inch)	3.1
Weight (kgs)	0.32kg
Weight (lbs)	0.71lbs

Security & Serviceability

Hardware Maintenance Manual	https://download.lenovo.com/pccbbs/mobiles_pdf/t14_gen1_p14s_gen1_hmm_en.pdf
Drivers & Software	https://pcsupport.lenovo.com/us/en/products/laptops-and-netbooks/thinkpad-p-series-laptops/p14s-type-20s4-20s5/downloads/driver-list
Self Healing BIOS	Yes
Access Panel	Removeable bottom cover
Number of Screws	6
Swappable Components	Base cover assembly, TrackPoint pointing stick, Lenovo factory recovery USB key, Power cord, ac power adapter (65W)
Storage Slots	1 storage slot
Memory	1 soldered down RAM + 1 SODIMM slot
System Board	1190 System Board. No self-service CRU.
Restore CD/DVD/USB Set	None. Purchase via Lenovo Customer Support Center

Cable Lock Support	Security-lock slot
Power-On Password	Yes
Hard Disk Password	Yes; User and Master hard disk password
Supervisor Password	Yes
NIC LEDs (integrated)	Yes (if it means the LED for Ethernet)
Security Chip	Yes (for TPM 2.0)
Access Panel Key Lock	Bottom Cover Tamper Detection
Boot Sequence Control	Yes

Operating Environment

Operating - Air Temperature	At altitudes up to 2438 m (8000 ft) - Operating: 5°C to 35°C (41°F to 95°F)
Non Operating - Air Temperature	At altitudes up to 2438 m (8000 ft) - Storage: 5°C to 43°C (41°F to 109°F)
Humidity	Operating: 8% to 95% at wet-bulb temperature 23°C (73°F) Storage: 5% to 95% at wet-bulb temperature 27°C (81°F)
Corrosive Gas	G1
Particulates	P1

SECTION II: Platform Detail

Supported Components

Processor	- -
Memory Support	DDR4 3200MHz SO-DIMM
Chipset (PCH)	Integrated Soc
Size of BIOS Flash	16 MB
Clock	Crystal
Audio	Realtek High Definition Audio
Ethernet	Realtek RTL8111EPV for Dock Lan Realtek RTL8111H for system Lan

Memory

System Capacity Options	R5 Pro-5650U 8C: 16GB soldered-down + 8/16/32GB
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	R7 Pro-5850U 8C: 16GB soldered-down + 8/16/32GB
non-ECC	8GB DDR4 3200 SDRAM/SoDIMM 16GB DDR4 3200 SDRAM/SoDIMM 32GB DDR4 3200 SoDIMM
Brand of non-ECC Memory	Samsung SK Hynix Micron Ramaxel
ECC	None
Brand of ECC Memory	N/A
Memory clock frequency(MHz)	3200 MHz

Storage

2.5" SAS Hard Disk Drive (HDD)	None
2.5" SATA Hard Disk Drive (HDD)	None
2.5" SATA Solid State Drive (SSD)	None
M.2 (NGFF) PCIe Solid State Drive (SSD)	256GB Opal 2 PCIe NVMe M.2 2280 512GB Opal 2 PCIe NVMe M.2 2280 1TB Opal 2 PCIe NVMe M.2 2280 2TB Opal 2 PCIe Gen4 NVMe M.2 2280
2.5" PCIe Solid State Drive (SSD)	None
Brand of Drive	Samsung UnionMem WD Hynix Kioxia
Intel Optane Storage Technology	No
RAID	Not Supported

Removeable Media

Media Card Reader Specifications	UHS-I
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SECTION III: Supported Component Detail

CPU Specifications

CPU	-	-
Integrated Graphics	-	-
# of Cores	-	-
# of Threads	-	-
Processor Base Frequency	-	-
Max Turbo Frequency	-	-
Cache	-	-
TDP	-	-
Spec Link	-	-

Display Specifications

Model	FHD	FHD w/oncell touch	FHD low power	FHD ePrivacy	UHD
Resolution	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	3840 x 2160
Diagonal	14"	14"	14"	14"	14"
Aspect Ratio	Ratio 16:9	Ratio 16:9	Ratio 16:9	Ratio 16:9	Ratio 16:9
Backlight	LED	LED	LED	LED	LED
PPI	157	157	157	157	315
Active Area	309.37 X 174.02	309.31 X 173.99	309.37 X 174.02	309.31 X 173.99	309.31 X 173.99
Refresh Rate	48 / 60 Hz	48 / 60 Hz	60Hz	60Hz	60Hz
Contrast Ratio	700:1 (TYP)	700:1 (TYP)	800:1 (TYP)	1000:1 (TYP)	1500:1 (TYP)
Viewing Angle	85/85/85/8 5 degree	85/85/85/8 5 degree	85/85/85/8 5 degree	85/85/85/8 5 degree	85/85/85/8 5 degree
Color gamut	45% NTSC	45% NTSC	72% NTSC	72% NTSC	100% DCI-P3
Brightness	300nit	300nit	400nit	500nit	500nit, HDR 400
Contrast	Ratio 700:1	Ratio 700:1	Ratio 800:1	Ratio 1000:1	Ratio 1500:1
Color Depth	16M	262K	16M	16M	1064M
Interface	eDP 1.2	eDP 1.2	eDP 1.3	eDP 1.4	eDP 1.4
Panel ID Recognition	EDID in BIOS Table	EDID in BIOS Table	EDID in BIOS Table	EDID in BIOS Table	EDID in BIOS Table
Weight	290g max	290g max	220g max	340g max	220g max
Color Calibrator	None	None	None	None	X-Rite Factory Color Calibration
Panel Technology	IPS, Anti-Glare	IPS, Anti-Glare	IPS, Anti-Glare	IPS, Anti-Glare	IPS, Anti-Glare

Touch Panel	None	YES	None	None	None
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HDD Specifications

2.5" SAS Hard Disk Drive (HDD)	N/A
2.5" SATA Hard Disk Drive (HDD)	N/A

HDD Storage Device Specifications

Connector	N/A
Transfer Rate (Gb/sec)	N/A

HDD Performance

Spindle Speed(RPM)	N/A
Power off to Spindle Stop(sec)	N/A
DC Power to Drive Ready(sec)	N/A
Receipt of Start Unit Command to Drive Ready(sec)	N/A
Average Latency(msec)	N/A

HDD Power Management

Input (VDC)	N/A
Typical (Watts)	N/A
Idle (Watts)	N/A

HDD Dimensions

Height (mm - Max)	N/A
Width (mm)	N/A
Depth (mm - Max)	N/A
Weight (grams)	N/A

HDD Temperature

Operating(C) Ambient	N/A
Operating(C) Base Casting	N/A
Non-Operating(C) Ambient	N/A
Gradient(C per Hour)	N/A

HDD Shock

Operating(Gs @ 2ms)	N/A
Non-Operating(Gs @ 2ms)	N/A

SSD Specifications

2.5" SATA Solid State Drive (SSD)	N/A
M.2 (NGFF) PCIe Solid State Drive (SSD)	1x M.2 2280 PCIe
2.5" PCIe Solid State Drive (SSD)	N/A
Intel Optane Storage Technology	N/A

Solid State Storage Devices

Supported Types	M.2
Dimensions inches/centimeters (W x D x H)	22.0 (+-0.15) x 80.0 (+-0.15) x 2.3 (max)
Size	M.2 2280S3
Interface Type	PCIe NVMe
Read/Write IOPS Specifications	Read: 250K (2TB, 1TB, 512GB), 200K (256GB) Write: 240K (2TB, 1TB, 512GB), 190K (256GB) Burst 4K Random IOPS , Measured by Crystal Disk Mark (QD32T1, Data size set 1GB)
Bandwidth Performance	PCIe Gen3x4 (8Gb/S)
Power Consumption (Max)	3.0A (duration for 10 us)
Active(AVG)	5W
Idle	5mW (L1.2)
Min MTBF	2,000,000 (h)
Min Sequential Read	3000MB/s (2TB, 1TB, 512GB), 2900MB/s (256GB)

Min Sequential Write	1600MB/s (2TB, 1TB/512GB), 900MB/s (256GB)
Hardware Encryption	Yes

Discrete Graphics Adapter

GPU Name	N/A
CUDA Processing Cores	N/A
GPU Memory	N/A
Memory Bandwidth	N/A
Memory Type	N/A
Memory Interface	N/A
TGP Max Power Consumption	N/A
Display Port	N/A
OpenGL	N/A
Shader Model	N/A
DirectX	N/A
PCIe Generation	N/A
Floating-Point Performance	N/A
VR Ready	N/A
Simultaneous Multi-Projection	N/A
NVIDIA FXAA/TXAA Antialiasing	N/A
NVIDIA nView Display Management Technology	N/A
GPU Direct for Video	N/A
Vulkan Support	N/A
NVIDIA Optimus	N/A
Disclaimers	N/A

WLAN

Model	1) Intel Cyclone Peak2 802.11AX (non vPro) M.2 socket based
Connector: Main, Aux/GNSS, GNSS	ANT1:AUX WiFi + BT; ANT2: Main WiFi
Antenna Diversity	Supported
MIMO	Not supported
GNSS Bian	N/A
Radio ON/OFF Control	Supported

Connector interface	PCIe
Operating Temperature (Adapter Shield)	0c to +80c
Humidity Non-Operating	50%~90% Rh non condensing (at temperatures of 25c to 35c)
Operating Systems	Microsoft Windows 7*, Microsoft Windows 8.1*, Microsoft Windows 10*, Linux* (limited feature support), Android
Wi-Fi Alliance	Wi-Fi CERTIFIED* a/b/g/n/ac, WMM*, WMM-PS*, WPA*, WPA2*, WPS2*, Protected Management Frames, Wi-Fi Direct* for peer to peer device connections, Wi-Fi Miracast* as Source.
IEEE WLAN Standard	IEEE 802.11a/b/g/n/ac, 802.11d, 802.11e, 802.11h, 802.11i, 802.11w; 802.11r, 802.11k, 802.11v pending OS support; Fine Timing Measurement based on 802.11REVmc
Roaming	Support seamless roaming between access points
Bluetooth*	Dual Mode Bluetooth® 5.0, BLE
Authentication	WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA, EAP-AKA
Authentication Protocols	PAP, CHAP, TLS, MS-CHAP*, MS-CHAPv2
Encryption	64-bit and 128-bit WEP, 128-bit AES-CCMP
Regulatory	For a list of country approvals, please contact your local Intel representatives.
US Government	FIPS10, FISMA
Product Safety	UL,C-UL,CB (IEC 60950-1)

Battery

Dimension	266.6 mm x 86.6 mm x 5.45 mm
Weight	240g
Type (Chemistry and Cell)	Li-ion Polymer
Voltage	11.52V
Battery Life	Max >14 hours battery life
Battery Capacity	Integrated 3-cell 50Wh battery
Charging Time	0% to 100% 0% to 80% Battery [Wh] 50 40 Battery Charging Time (in-operation) 2.42 hrs(45W adapter) TBC hr (65W adapter) 1.41 hrs(45W adapter) TBC hr (65W adapter) Battery Charging Time (off) 2.38hr(45W adapter) 2.1hrs (65W adapter) 1.19 hrs(45W adapter) 0.98 hr (65W adapter)
Operating Temperature Range	between 10°C (50°F) and 35°C (95°F)
Warranty	1 Year / 3 Year Available
Coin Cell Battery (Model)	CR2032

SECTION IV: BIOS / Certifications / Standards /

Environmental

BIOS Specifications

WMI Support	Yes, if it is BIOS Setup change by WMI.
ROM-Based Setup Utility (F1)	Yes
Bootblock Recovery	N/A
Replicated Setup	Yes, it supported with SRSETUP tool.
Boot Control	Yes, it means Boot order change.
Memory Change Alert	N/A
Thermal Alert	N/A
Asset Tag	Yes
System/Emergency ROM Flash Recovery with Video	N/A
Remote Wakeup/Remote Shutdown	Yes, if Remote wakeup is Wake on LAN from S4/S5.
Keyboard-less Operation	N/A
Per-port Control	Yes, if it is I/O port enable/disable by BIOS Setup.
Adaptive Cooling	Yes, if it is thermal & fan control.
Security	Yes, BIOS password / Hard disk password / Finger print
AMD KVM	Yes
AMD Platform Security Processor	Yes
Memory Modes	N/A

EMC & Safety

EMC	Published, Certified Existing Reports EMC - Australia EMC - Canada EMC - China EMC - EU/EFTA EMC - Japan EMC - New Zealand EMC - South Korea EMC - Taiwan EMC - USA/Territories Not Applicable / Not Required EMC - Israel EMC - Moldova EMC - Serbia EMC - Turkey
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	EMC - Uzbekistan EMC - Vietnam
Safety	To access the latest User Guide and Safety and Warranty Guide, go to: https://support.lenovo.com Low Halogen Declaration of Conformance TNOT-2017-0040 Section 9 - Low Halogen Scorecard Izod Test - EPEAT Compliant Homologation PCR B Compliant In the following countries: Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belize, Benin, Bermuda, Bolivia, Botswana, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cape Verde, Cayman Islands, Central African Republic, Chad, China, Colombia, Comoros, Congo, Costa Rica, Djibouti, Dominican Republic, Egypt, El Salvador, Eritrea, Ethiopia, EU/EFTA, Fiji, Gabon, Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Haiti, Honduras, Hong Kong, India, Indonesia, Israel, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Laos, Lebanon, Liberia, Macau, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Morocco, Mozambique, Namibia, Nepal, New Zealand, Nicaragua, Niger, Nigeria, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Qatar, Russia, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Singapore, South Africa, South Korea, Sri Lanka, Swaziland, Taiwan, Tajikistan, Tanzania, Thailand, Togo, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, Uruguay, USA/Territories, Uzbekistan, Venezuela, Vietnam, Zambia, Zimbabwe, Brazil - Inmetro 170 Govt Bids, Guinea-Bissau, Lesotho

Environmentals

Energy Star	ENERGY STAR® Version 8.0 For more information about ENERGY STAR, go to: https://www.energystar.gov
EPEAT	EPEAT Declaration of Conformance For Machine Types: 20S4, 20S5
IT ECO declaration	The latest environmental information about Lenovo products is available at: https://www.lenovo.com/ecodeclaration
Hazardous Substances	The latest environmental information about Lenovo products is available at: https://www.lenovo.com/ecodeclaration European Union RoHS This Lenovo product, with included parts (cables, cords, and so on) meets the requirements of Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("RoHS recast" or "RoHS 2"). For more information about Lenovo worldwide compliance on RoHS, go to: https://www.lenovo.com/rohs-communication

Manageability

Industry Standard Specifications	This product meets the following industry standard specifications for manageability functionality: Intel LAN with AMT
Remote Manageability Software Solutions	Lenovo ThinkManagement Console Microsoft System Center Configuration Manager LANDesk Management Suite for ThinkVantage Technologies (www.landesk.com/lenovo)

System Software Manager	Lenovo ThinkPad supports software management tools from the Lenovo Vantage System Update suite: System Update Update Retriever
Service, Support, and Warranty	On-site Warranty and Service: Three-years, limited warranty and service offering delivers on-site, next business-day service for parts and labor and includes free telephone support 8am to 5pm. Global coverage ensures that any product purchased in one country and transferred to another, non-restricted country will remain fully covered under the original warranty and service offering.